



NEWCASTLE PEPPER AVENUE INDUSTRIAL PROJECT

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 Newcastle Pepper Avenue Industrial Project (Project) which is located on the east side of Pepper Avenue south of State Route (SR) 210 in the City of Rialto (City). The proposed Project would construct 226,731 square feet (SF) of speculative warehouse building and 9,073 SF of retail space (fast food restaurant with drive-through, and gas station with convenience store and car wash). The Project site is currently vacant.

The following intersections and roadway segments comprise the study area.

Study Area Intersections:

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

Study Area Roadway Segments

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

AM and PM peak hour traffic operations were evaluated at the study area intersections for the following scenarios:

- Existing Conditions
- Project Opening Day (Existing + Ambient Growth)
- Project Opening Day With Project
- Future Conditions (Project 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 following intersection:

2. Pepper Avenue/SR-210 WB Ramps

This intersection would be impacted by the project in the General Plan with Project scenario. 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

A queueing analysis was conducted for intersections where queueing applies. Most of the intersections would provide sufficient queueing length; however, at the following intersections, the left-turn queue storage would be exceeded (see Table 7.1):

1. Pepper Avenue/Highland Avenue
2. Pepper Avenue/SR-210 WB
6. Pepper Avenue/Baseline Road

Summary of Improvements

The Project would be responsible for the following improvements (see Table 8.1):

- Pepper Avenue/Highland Avenue: Adding an additional (second) northbound left-turn lane and restripe the westbound left-turn lanes to 230 ft provide the required storage length.
- Pepper Avenue/SR-210 Westbound Ramps: Modify the intersection's phasing to split phase in the north-south direction and change 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.
- Pepper Avenue/Baseline Road: 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. Additionally, the left-turn lanes at Pepper Avenue/Baseline Road should be restriped to the following queue storage provide the required storage length:
 - NBL: 740 ft.
 - SBL: 740 ft.
 - EBL: 280 ft.

2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the proposed Newcastle Pepper Avenue Industrial Project (Project) which is generally located on the east side of Pepper Avenue south of State Route-210E (APNs 0264-191-02, and -04) in the City of Rialto (City). The Project is part of the Pepper Avenue Specific Plan. The Project would construct 226,731 SF of speculative warehouse building and 9,105 SF of retail (fast food restaurant with drive through, gas station with convenience store and car wash). The development project site is currently vacant. 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 with 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

The proposed Project is located on a currently vacant 11.64-acre site on the east side of Pepper Avenue, south of the SR-210 freeway (Assessor's Parcel Numbers [APNs] 0264-191-02, and -04). The proposed Project is part of the Pepper Avenue Specific Plan. The project is located within the Pepper Avenue Specific Plan and is consistent with the specific Plan as amended in 2023. The location of the Project site is shown in Figure 2.1 and the proposed Project site plan is shown in Figure 2.2 & Figure 2.3.

The Project proposes the construction of 226,731 SF of speculative warehouse building and 9,073 SF of retail space. The Project will be accessible via one driveway on Pepper Avenue, which would be signalized and support all movements.

Figure 2.1: Project Location



VICINITY MAP

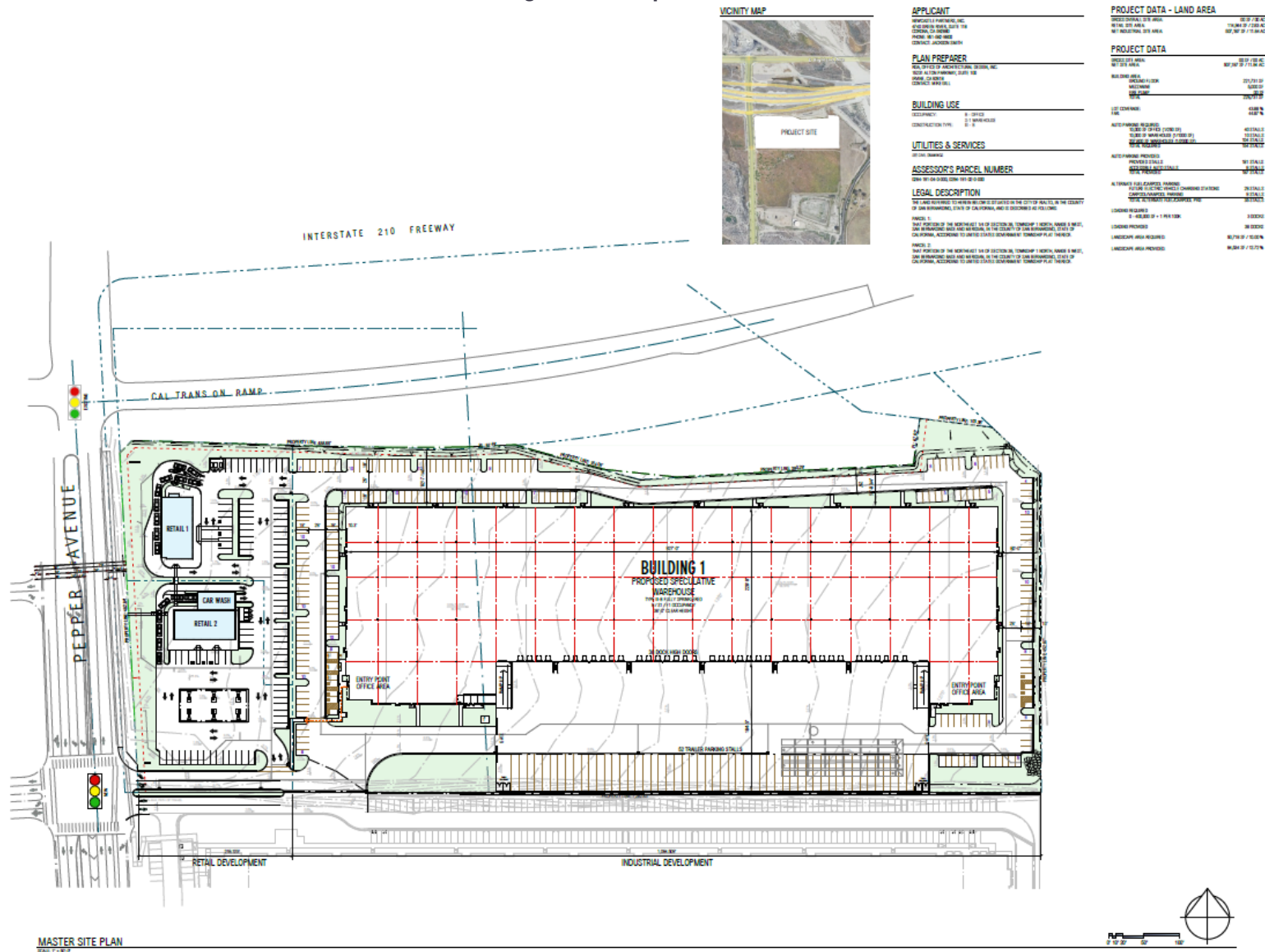
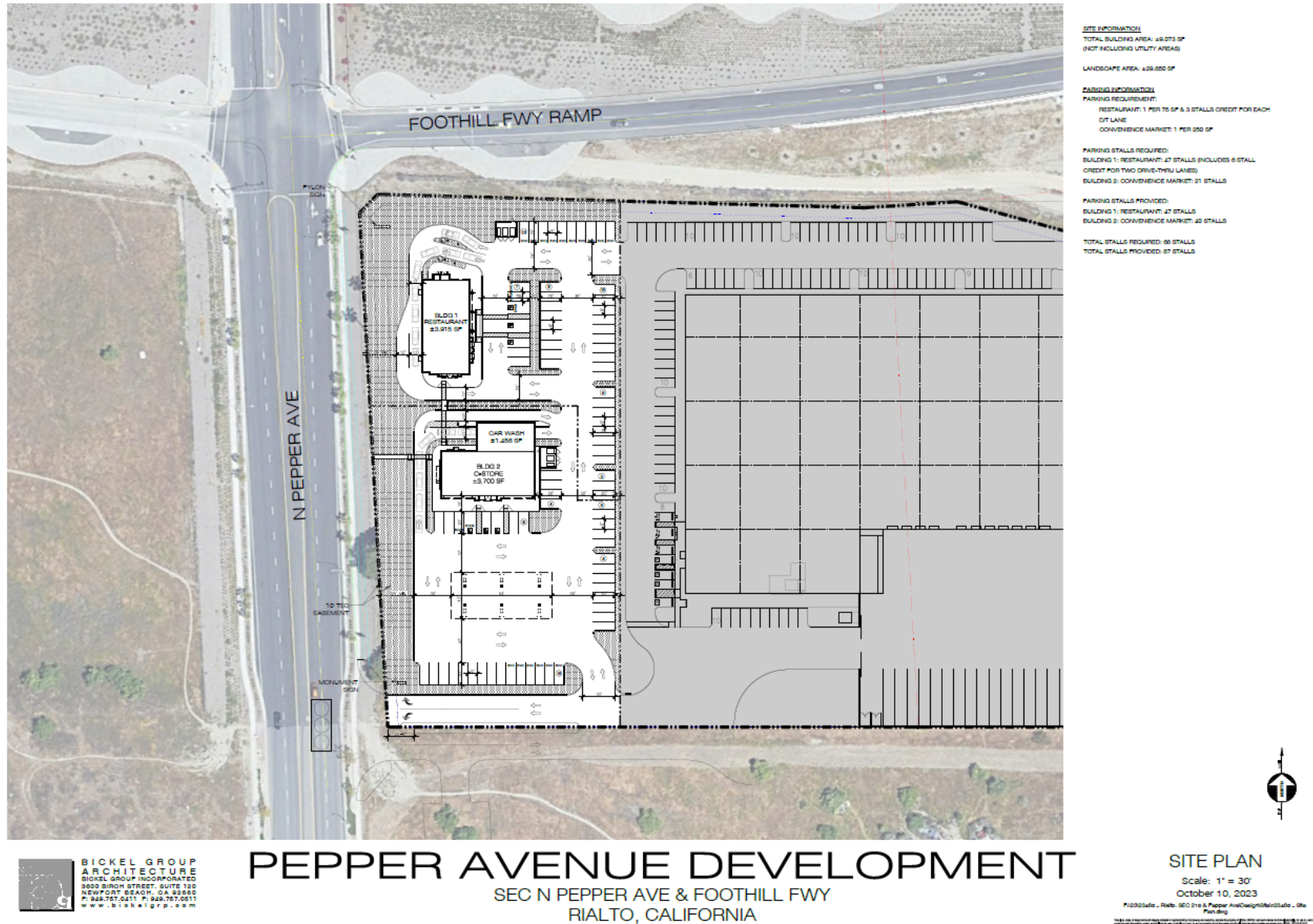


Figure 2.3: Project Site Plan(continued)



2.2 Study Area and Analysis Scenarios

The *City of Rialto TIA Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS)* provides thresholds for determining when a TIA is needed and guidance on selecting study area intersections. According to the 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. Passenger car equivalent (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 roadway. This includes the following signalized and two-way stop-controlled intersections:

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

The following roadway segments were included in the analysis:

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

The study area is shown on Figure 2.4, *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 collect traffic counts at the study area intersections and roadway segments, which were collected on August 22, 2023. At the time counts were

collected, schools and businesses were operating under normal conditions, and no adjustments would be necessary. The traffic count data is provided in Appendix B.

Figure 2.4: 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, generally the best operating conditions. LOS F indicates extremely congested traffic conditions 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)*, 7th 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 2.1 shows the relationship between control delay and LOS.

Table 2.1: Relationship Between Control Delay and LOS at 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 2.2.

Table 2.2: Relationship Between Delay and LOS at 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 TIA Guidelines provide the following criteria for the determination of unsatisfactory traffic effects.

The City's General Plan recommends an LOS standard of at least D. Intersections already operating at worse than LOS D would be required to implement improvements to reduce delay caused by the Project to acceptable operations according to increases in delay shown in Table 2.3.

Table 2.3: 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

Table 2.4 lists the City's roadway segment capacities and corresponding LOS for acceptable operations. For roadways under the Congestion Management Program (described below), LOS E is acceptable.

Table 2.4: City of Rialto Roadway Segment Capacity ¹

Roadway Classification	No. of Lanes	Two-Way Traffic Volume (ADT) ²		
		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 +

Notes:

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 an LOS standard of at least E for intersections or roadway segments on the CMP system of roadways. LOS E would apply as the standard at the following study area intersections:

6. Pepper Avenue/Baseline Road

There are no roadway segments within the Project study area 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) requires that State Highway facilities be analyzed when Project traffic is added to the facility. LOS D is the required standard at intersections under the jurisdiction of Caltrans. In response to implementation of Senate Bill (SB) 743, Caltrans released the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*, on May 20, 2020.

According to this guide, 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 forecasted to occur in the future without the proposed Project.

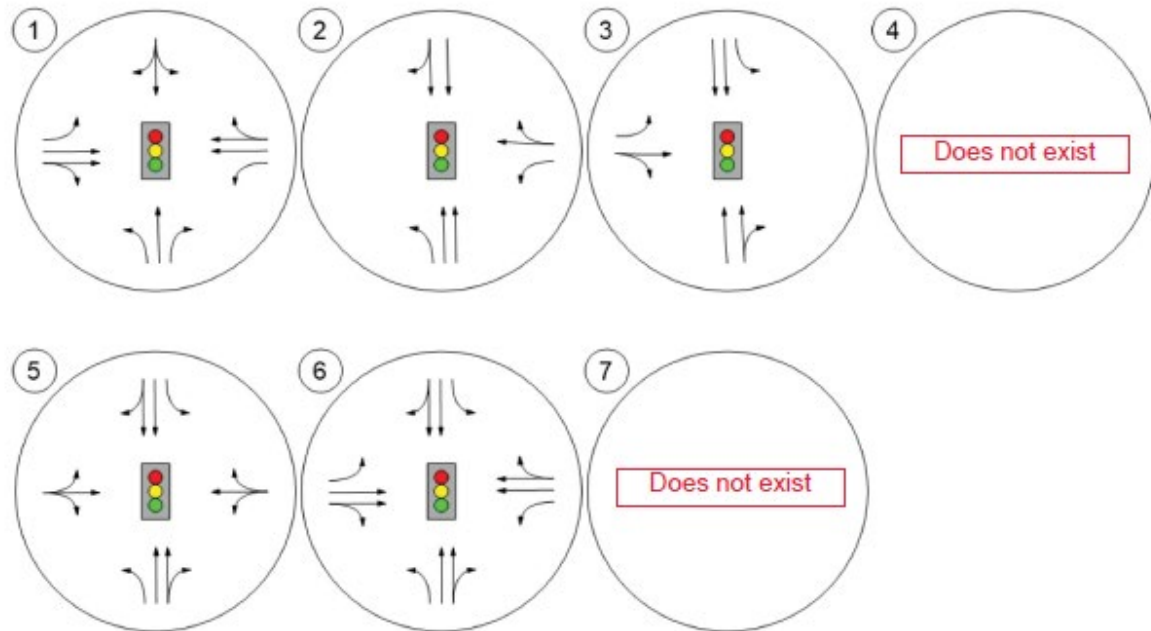
3.1 Existing Transportation System

The posted speed limit on Pepper Avenue, which provides access to the Project site, is 45 miles per hour (mph). Regional access to the Project site is provided by SR-210, which connects to Interstate 215 approximately 2.5 miles east of the Project site.

There are currently sidewalks with landscaping along the Project site frontage on Pepper Avenue. There are no marked bicycle lanes on Pepper Avenue at this location and parking is not allowed on Pepper Avenue between Winchester Drive-Terrace Road and SR 210. 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 3.1.

Figure 3.1: 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 3.2 and 3.3. The existing LOS at the study area intersections were determined using the HCM methodology, as described previously in Section 2.3. Table 3.1 shows the existing AM and PM peak hour levels of service at the study intersections. All LOS calculations are provided in Appendix C.

As shown in Table 3.1, all of the study area intersections operate at a satisfactory LOS D or better under the Existing Conditions scenario.

Table 3.1: Existing Conditions AM and PM Peak Hour Level of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Pepper Avenue/Highland Avenue	Signal	27.5	C	24.2	C
2. Pepper Avenue/SR-210 WB Ramps	Signal	30.9	C	25.3	C
3. Pepper Avenue/SR-210 EB Ramps	Signal	19.0	B	22.0	C
4. Pepper Avenue/Project Driveway (future)	Signal	-	-	-	-
5. Pepper Avenue/Winchester Drive - Terrace Road	Signal	12.7	B	5.5	A
6. Pepper Avenue/Baseline Road	Signal	24.0	C	23.8	C
7. Project Driveway (future)/Retail Driveway (future)	TWSC	-	-	-	-

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

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 3.2 shows the existing LOS for daily roadway segments. As shown in Table 3.2, all roadway segments operate at satisfactory levels above the LOS D threshold.

Table 3.2: Existing Conditions Roadway Segment Analysis

Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	Existing Roadway ADT	Deficient
1. Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	21,414	No
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp	Modified Arterial	LOS D	32,999	22,847	No

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 3.2: Existing Conditions AM Peak Hour Traffic Volumes

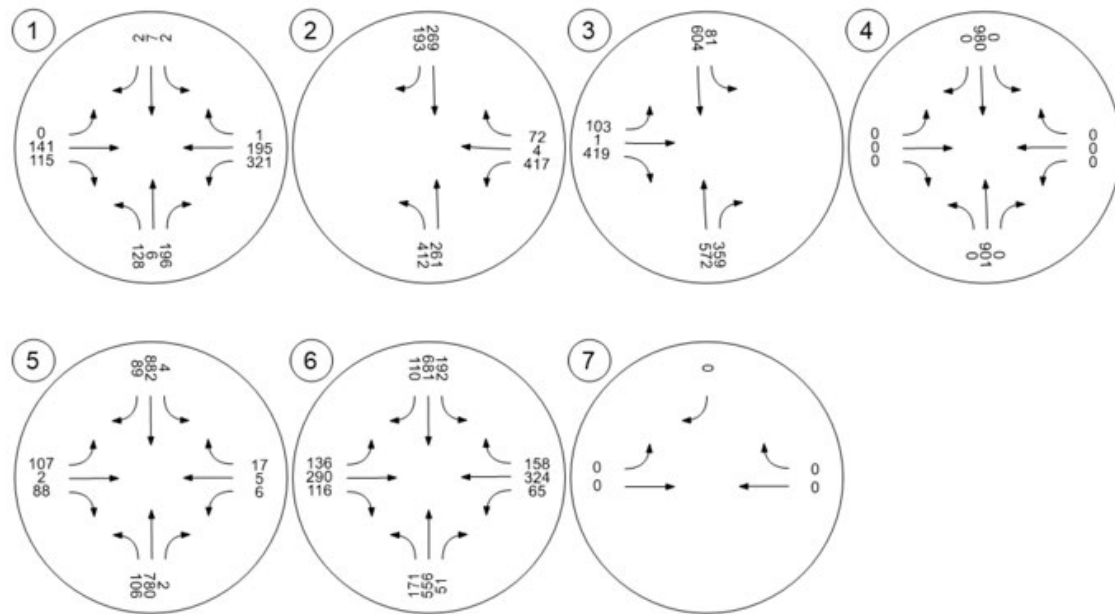
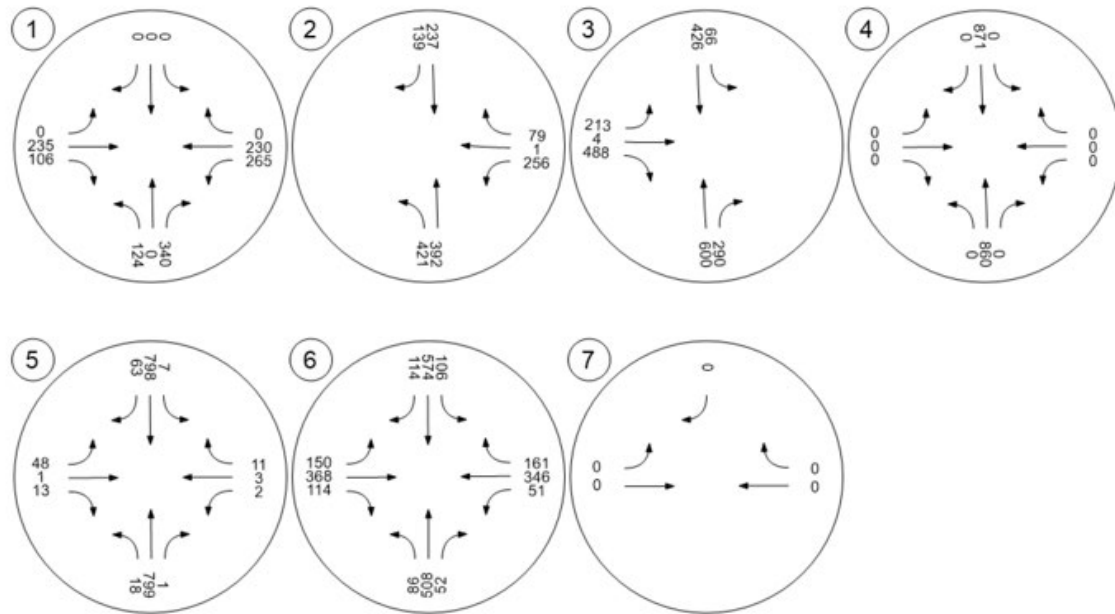


Figure 3.3: Existing Conditions PM Peak Hour Traffic Volumes



3.4 Project Opening Day Traffic Volumes and Intersection Operations

Project Opening Day (2026) traffic volumes were developed by applying a growth rate of two percent per year to the existing (2023) traffic volumes. The Project Opening Day Baseline traffic volumes are illustrated in Figures 3.4 and 3.5. Table 3.3 below shows the Project Opening Day AM and PM peak hour LOS at the study intersections. As shown in Table 3.3, all study area intersections would operate with a satisfactory LOS under the Project Opening Day condition.

Table 3.3: Project Opening Day AM and PM Peak Hour Level of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Pepper Avenue/Highland Avenue	Signal	32.3	C	34.5	C
2. Pepper Avenue/SR-210 WB Ramps	Signal	32.3	C	25.7	C
3. Pepper Avenue/SR-210 EB Ramps	Signal	19.4	B	24.7	C
4. Pepper Avenue/Project Driveway (future)	Signal	-	-	-	-
5. Pepper Avenue/Winchester Drive - Terrace Road	Signal	13.5	B	5.6	A
6. Pepper Avenue/Baseline Road	Signal	25.1	C	24.3	C
7. Project Driveway (future)/Retail Driveway (future)	TWSC	-	-	-	-

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

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 3.4 shows the Project Opening Day LOS for daily roadway segments. As shown in Table 3.4, all roadway segments operate at satisfactory levels above the LOS D threshold.

Table 3.4: Project Opening Day Roadway Segment Analysis

Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	Opening Year Roadway ADT*	Deficient
1. Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	22,699	No
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp	Modified Arterial	LOS D	32,999	24,218	No

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% Growth applied to existing ADT

Figure 3.4: Project Opening Day AM Peak Hour Traffic Volumes

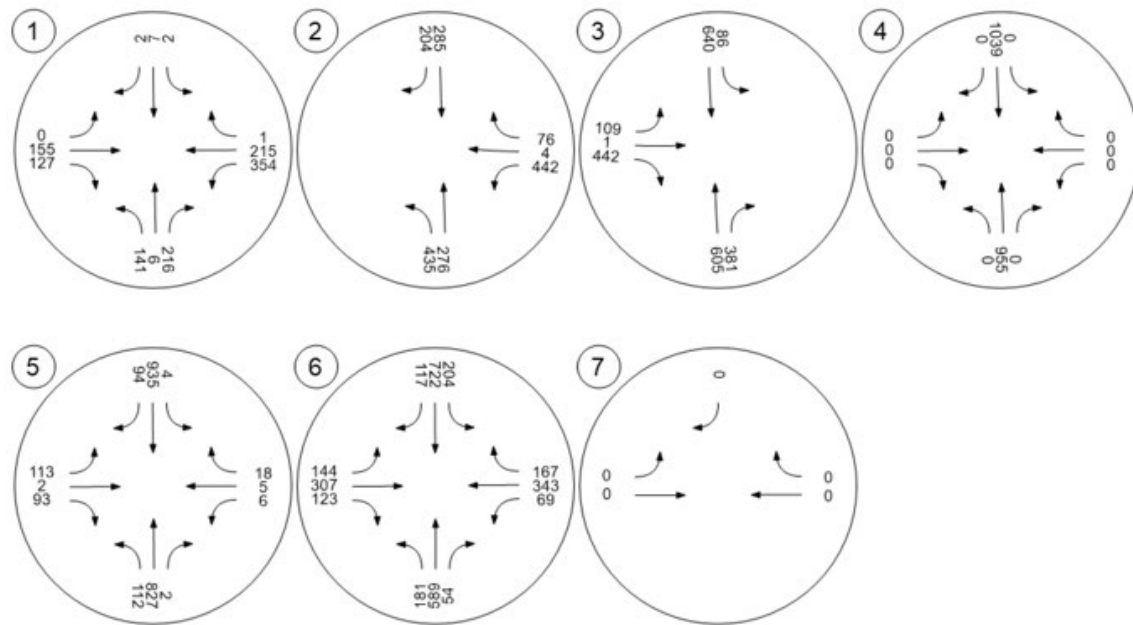
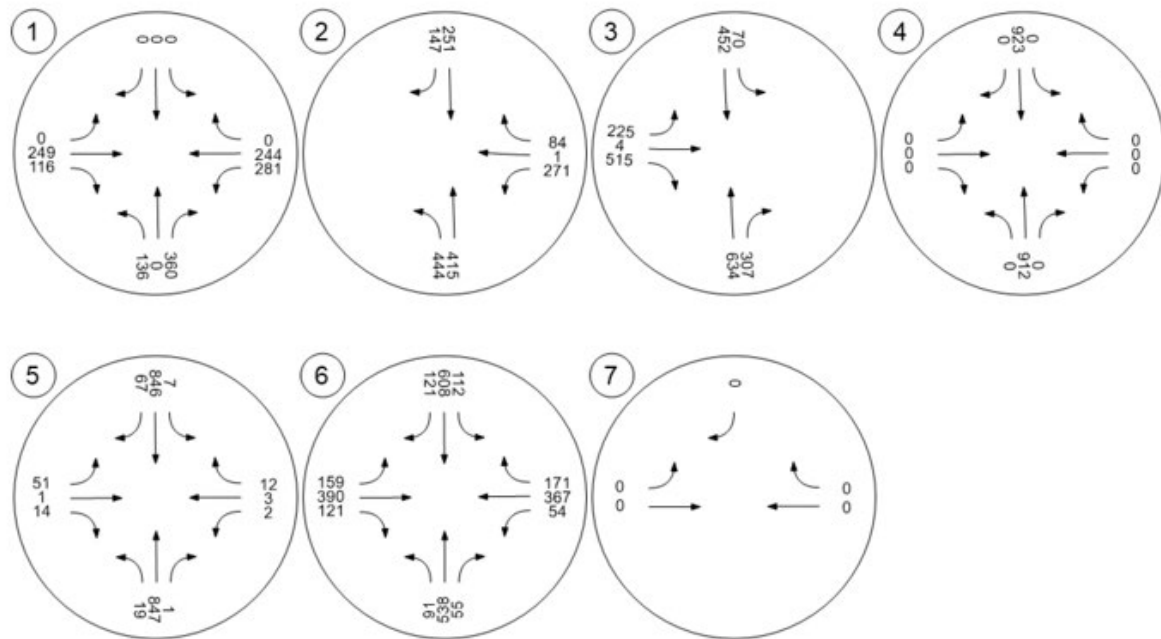


Figure 3.5: Project Opening Day PM Peak Hour Traffic Volumes



3.6 General Plan Condition Traffic Volumes and Intersection Operations

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 SR 210 freeway. The average growth on these two parallel 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 one percent per year linear growth rate was identified and applied to the existing traffic volumes. A growth of 24 percent was applied to the existing 2023 traffic volumes to forecast future 2040 General Plan conditions.

EPD also examined 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 under either 2016 or 2040 conditions. Therefore, in addition to a 24 percent growth, the traffic from cumulative projects 7 and 8 (Pepper Avenue Industrial Development and Foothill Freeway Commerce Center; see Table 5.3, *Cumulative Projects Trip Generation*) were also included in the General Plan buildout traffic volumes.

The General Plan buildout traffic volumes are illustrated in Figures 3.6 and 3.7. Table 3.5 shows the General Plan AM and PM peak hour LOS at study intersections. As shown in Table 3.5, all intersections would continue to operate at a satisfactory LOS.

Table 3.5: General Plan AM and PM Peak Hour Level of Service

Intersection	Control Type	AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1. Pepper Avenue/Highland Avenue	Signal	35.1	D	40.2	D
2. Pepper Avenue/SR-210 WB Ramps	Signal	53.8	D	29.9	C
3. Pepper Avenue/SR-210 EB Ramps	Signal	22.7	C	27.0	C
4. Pepper Avenue/Project Driveway (future)	Signal	-	-	-	-
5. Pepper Avenue/Winchester Drive - Terrace Road	Signal	18.6	B	6.7	A
6. Pepper Avenue/Baseline Road	Signal	45.7	D	29.1	C
7. Project Driveway (future)/Retail Driveway (future)	TWSC	-	-	-	-

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

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 3.6 shows the General Plan LOS for daily roadway segments. As shown in Table 3.6, all roadway segments would operate at satisfactory levels above the respective LOS D or E thresholds.

Table 3.6: General Plan Buildout Roadway Segment Analysis

General Plan Buildout Roadway Analysis					
Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	GP Buildout Roadway ADT*	Deficient
1. Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	26,553	No
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp	Modified Arterial	LOS D	32,999	28,330	No

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.

* 24% Growth applied to existng ADT plus remaining Specific Plan projects.

Figure 3.6: General Plan AM Peak Hour Traffic Volumes

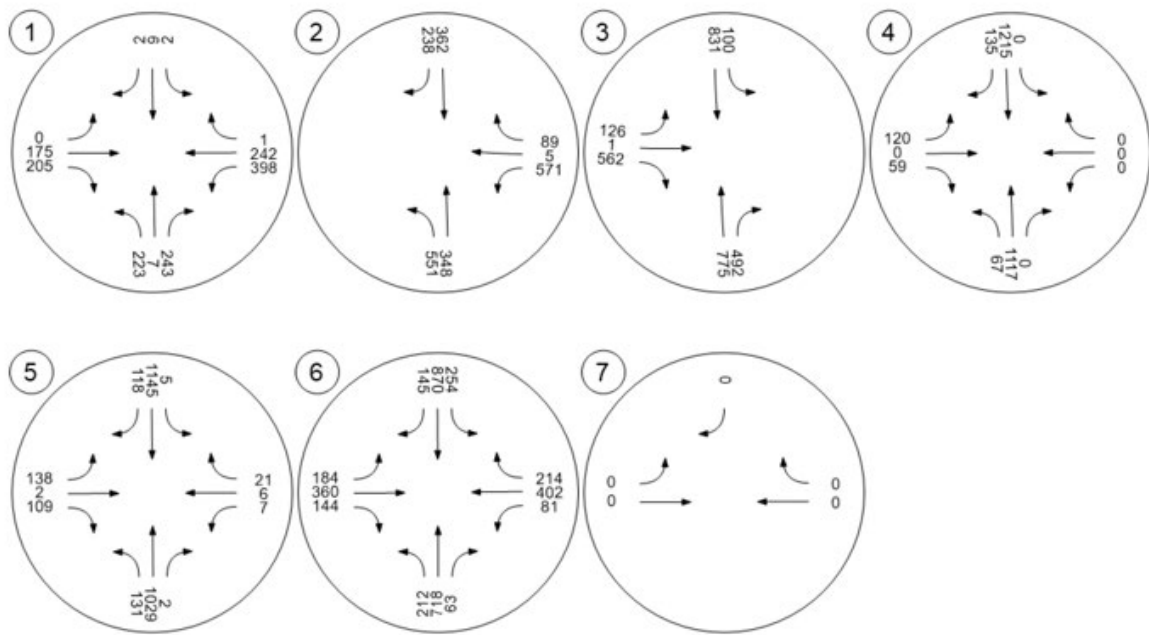
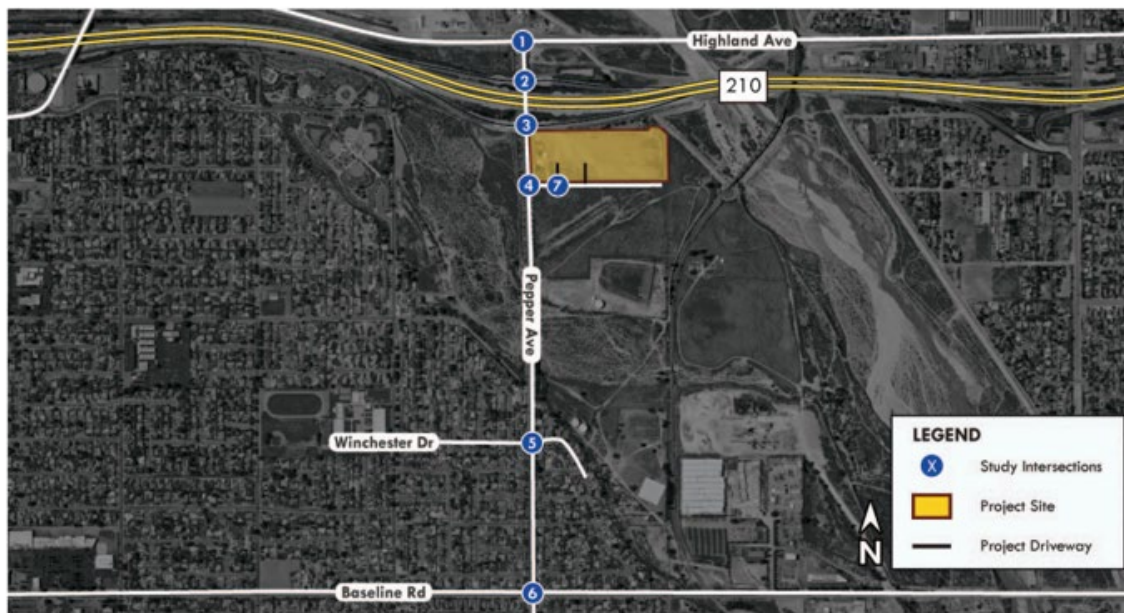
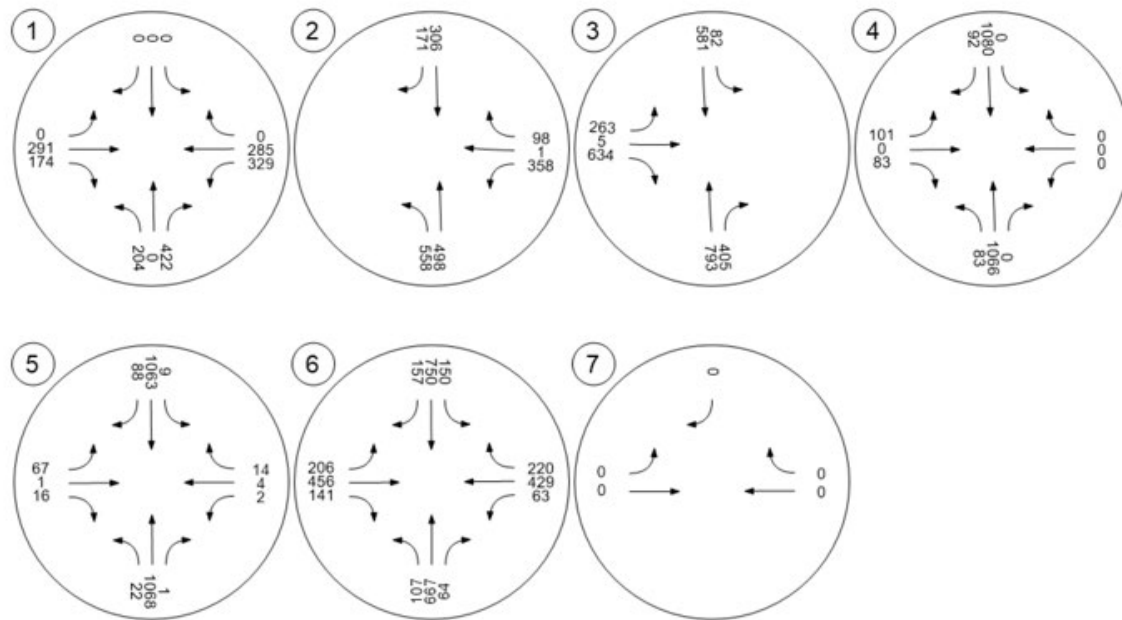


Figure 3.7: General Plan PM Peak Hour Traffic Volumes



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 Manual (11th Edition, 2021)*, a vehicle mix from the *City of Rialto Traffic Impact Analysis Report Guidelines*, 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 4.1. The proposed Project would generate approximately 2,879 daily PCE trips, including 261 AM peak hour trips and 240 PM peak hour 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 Project site. Project truck trips would not be allowed to travel south of the Project site on Pepper Avenue and would travel to and from SR 210 only. This is consistent with the truck route moratorium passed by the City on December 13, 2022. Under the moratorium, Pepper Avenue between the SR 210 Freeway and Rialto Avenue would no longer be classified as a truck route.

Project trips were assigned to the study area intersections by multiplying the Project trip generation by the trip distribution percentage at each location. As noted in the Project description, the Project will be accessible via one driveway on Pepper Avenue. The Project driveway would be signalized.

The Project trip distribution for the passenger cars is shown in Figure 4.1. The Project trip distribution for the trucks associated with the warehouse building is shown in Figure 4.2. The Project trip assignment for AM and PM peak hours are shown in Figure 4.3 and Figure 4.4, respectively.

Table 4.1: Project Trip Generation

Land Use		Units	Daily	AM Peak Hour			PM Peak Hour			
				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	
Fast Food Restaurant with Drive-Through Window ²		TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03	
Automated Car Wash ³		TSF	142.00	7.10	7.10	14.20	7.10	7.10	14.20	
Convenience Store/Gas Station ⁴		TSF	700.43	28.26	28.26	56.52	27.26	27.26	54.52	
Warehouse	226,731	TSF	388	30	9	39	11	30	41	
Vehicle Mix (Foothill Freeway Commerce Center Warehouse) ⁵			Percent							
	Passenger Vehicles		60.00%	233	18	5	23	7	18	25
	2-Axle Trucks		0.80%	3	0	0	0	0	0	0
	3-Axle Trucks		11.20%	43	3	1	4	1	3	5
	4+-Axle Trucks		28.00%	109	8	2	11	3	8	12
			100%	388	30	9	39	11	30	41
PCE Trip Generation (Foothill Fwy Commerce Center Warehouse) ⁶			PCE Factor							
	Passenger Vehicles		1.0	233	18	5	23	7	18	25
	2-Axle Trucks		1.5	5	0	0	0	0	0	0
	3-Axle Trucks		2.0	87	7	2	9	3	7	10
	4+-Axle Trucks		3.0	326	25	7	32	10	25	35
Total Warehouse PCE Trip Generation				650	50	15	65	19	50	70
McDonald's Fast Food Restaurant with Drive-Through Window	3,915	TSF	1,830	89	86	175	67	62	129	
Pass-By Trips (49%) ⁷			-897	-44	-42	-85	-33	-30	-64	
Automated Car Wash	1,458	TSF	207	10	10	21	10	10	21	
Pass-By Trips (25%) ⁸			-52	-3	-3	-6	-3	-3	-6	
Convenience Store/Gas Station	3,700	TSF	2,592	105	105	209	101	101	202	
Pass-By Trips (56%) ⁹			-1,451	-59	-59	-118	-56	-56	-113	
Total Project Trip Generation			2,616	128	106	234	97	113	210	
Total Project PCE Trip Generation			2,879	149	112	261	106	134	240	

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- Warehousing.² Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.³ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 948 - Automated Car Wash. No rate provided for the AM peak hour so PM peak hour rate is used. No rate provided for the daily so PM peak hour rate times ten is used as daily rate.⁴ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 945 - Convenience Store/Gas Station (VFP (9-15)).⁵ Vehicle Mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013.⁶ Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016⁷ Pass-by rates from the Institute of Transportation Engineers, *Trip Generation Handbook, 3rd Edition, 2017*. Land Use Code 934 - Fast Food Restaurant with Drive-Through Window.⁸ Pass-by rates assumed to be 25% based on neighboring land uses.⁹ Pass-by rates from the Institute of Transportation Engineers, *Trip Generation Handbook, 3rd Edition, 2017*. Land Use Code 945 - Convenience Store/Gas Station.

Figure 4.1: Project Passenger Car Trip Distribution



Figure 4.2: Project Truck Trip Distribution



Figure 4.3: Project AM Peak Hour Trip Assignment

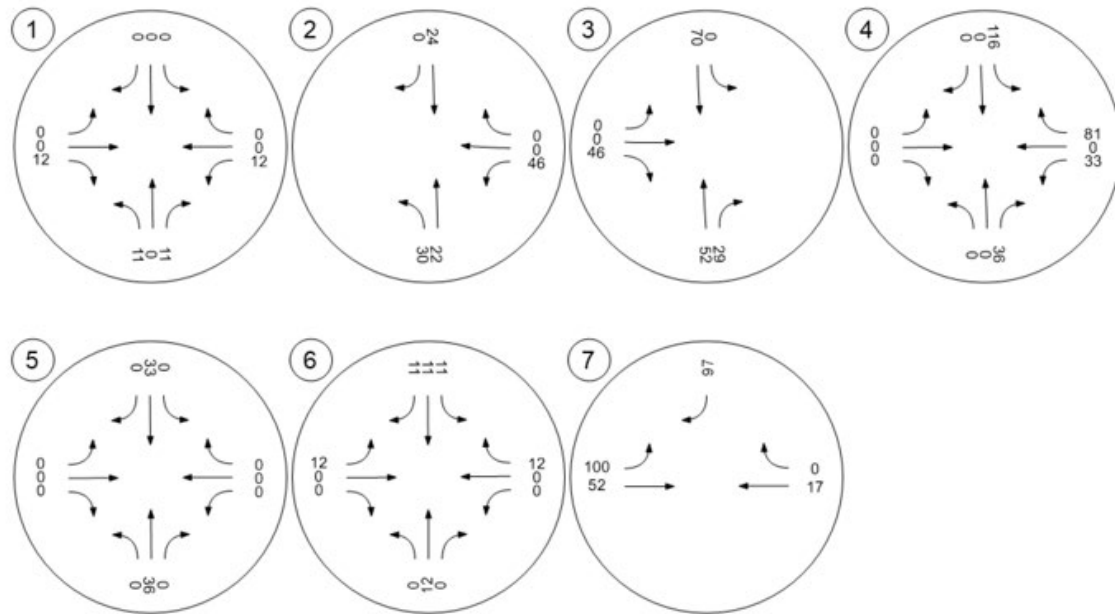
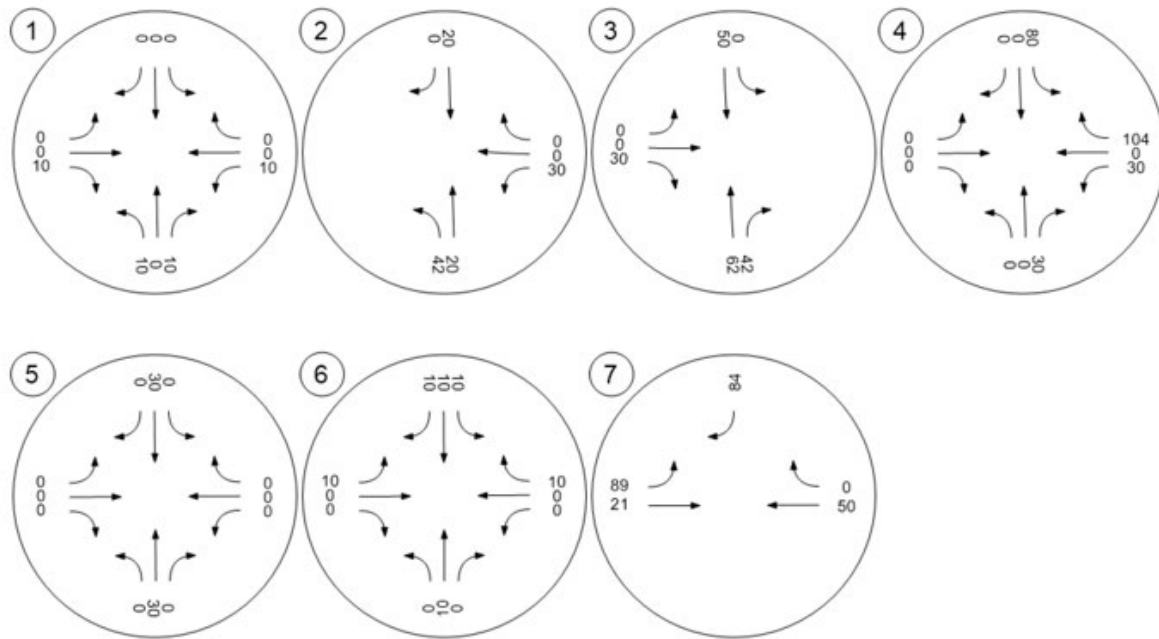


Figure 4.4: Project PM Peak Hour Trip Assignment



4.3 Project Parking and On-site Circulation

The industrial portion of the Project, which totals approximately 226,731 SF, would include a total of 187 parking spaces for automobiles, which is above the minimum required number of 154 automobile parking spaces. The industrial portion of the Project would also include 26 spaces for future electric vehicle charging stations and 9 spaces for carpool/vanpool parking. The industrial portion of the Project proposed to provide 38 loading docks for trucks, which is above the minimum requirement of 3 loading docks (1 dock for 100 TSF of building area).

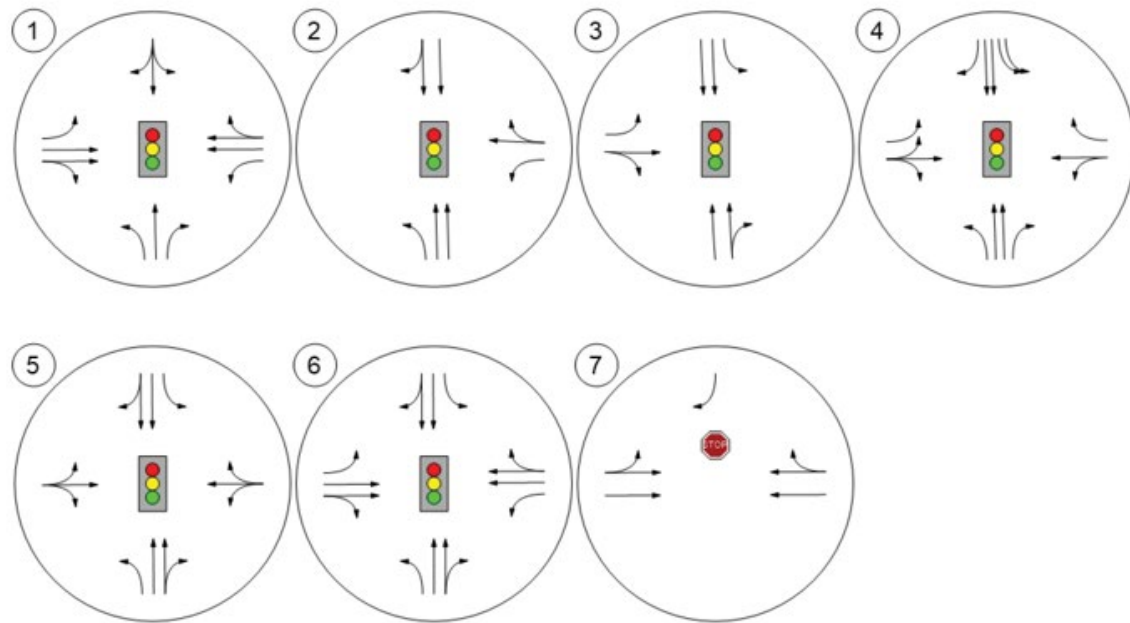
The retail portion of the Project, which totals approximately 9,073 SF, would include a total of 87 parking spaces for automobiles, which is above the minimum required number of 68 automobile parking spaces.

The project would include a total of 274 parking spaces for automobiles, and 38 loading docks for trucks,

Access to the retail portion of the site would be provided from the retail driveway, which is located approximately 218 feet east of the intersection of Pepper Avenue/Project Driveway. Access to the industrial portion of the site would be provided along the main project driveway, as shown on Figure 2.2, Site Plan.

The plus Project traffic control and intersection geometrics at study area intersections are shown in Figure 4.5.

Figure 4.5: Plus Project Conditions Lane Geometries and Traffic Control



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 5.1 and 5.2. LOS at the study area intersections were determined using the HCM methodology, described previously in Section 2.3. Table 5.1 shows the Opening Day Plus Project AM and PM peak hour LOS at study intersections. All LOS calculations are provided in *Appendix C*. As shown in Table 5.1, all intersections would operate with a satisfactory LOS, and no mitigation measures would be required.

Table 5.1: Project Opening Day With Project AM and PM Peak Hour Level of Service

Intersection	Control Type	Project Opening Day				Project Opening plus Project				Increase in Delay		Impact	
		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1. Pepper Avenue/Highland Avenue	Signal	32.3	C	34.5	C	32.4	C	35.4	D	0.1	0.9	No	No
2. Pepper Avenue/SR-210 WB Ramps	Signal	32.3	C	25.7	C	37.5	D	28.7	C	5.2	3.0	No	No
3. Pepper Avenue/SR-210 EB Ramps	Signal	19.4	B	24.7	C	20.5	C	24.8	C	1.1	0.1	No	No
4. Pepper Avenue/Project Driveway (future)	Signal	-	-	-	-	9.9	A	11.7	B	-	-	No	No
5. Pepper Avenue/Winchester Drive - Terr	Signal	13.5	B	5.6	A	13.6	B	5.7	A	0.1	0.1	No	No
6. Pepper Avenue/Baseline Road	Signal	25.1	C	24.3	C	26.8	C	24.8	C	1.7	0.5	No	No
7. Project Driveway (future)/Retail Driveway	TWSC	-	-	-	-	8.7	A	8.9	A	-	-	No	No

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

Figure 5.1: Project Opening Day With Project AM Peak Hour Volumes

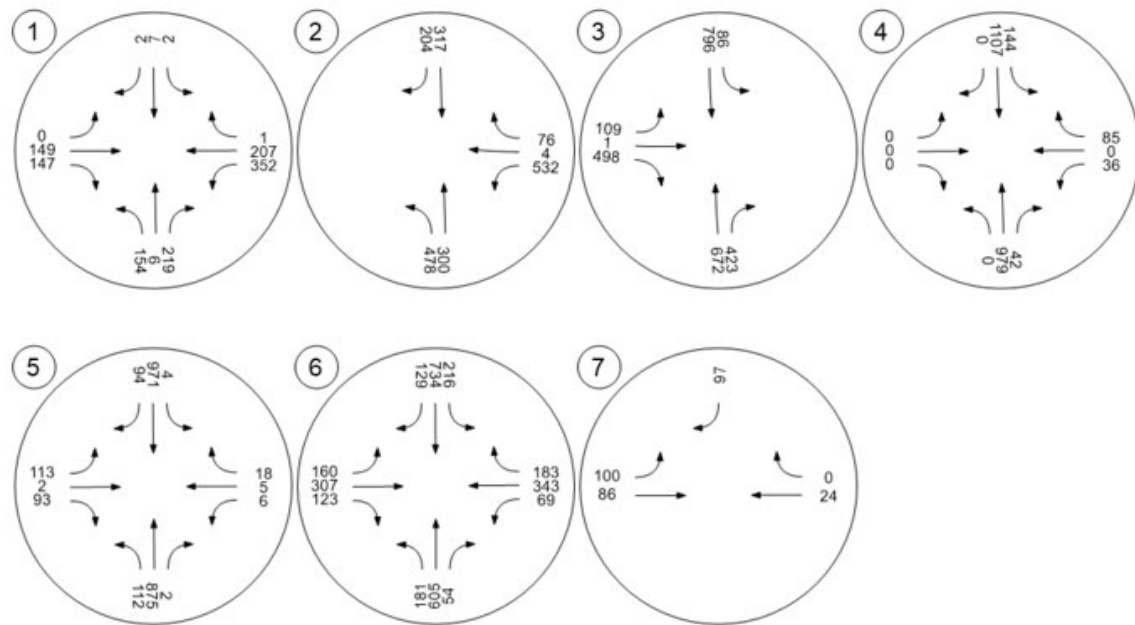
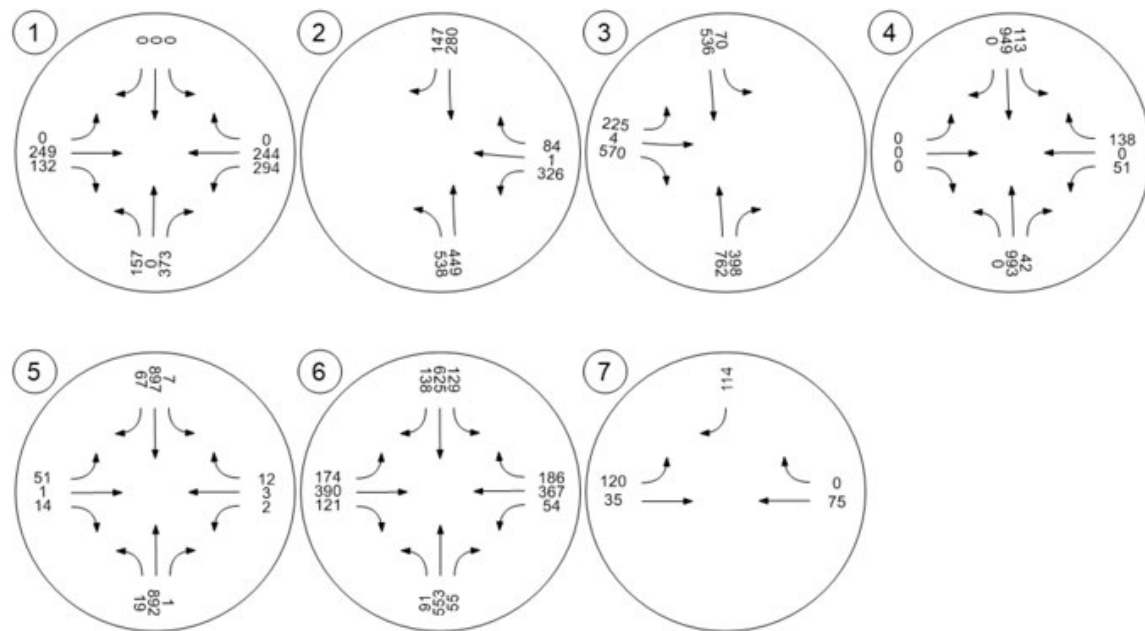


Figure 5.2: Project Opening Day With Project PM Peak Hour Volumes



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 5.2 shows the General Plan LOS for daily roadway segments. As shown in Table 5.2, all roadway segments would operate at satisfactory levels above the respective LOS D or E threshold, and no impacts are expected.

Table 5.2: Project Opening Day With Project Roadway Segment Level of Service

Roadway Segment	Typed of Roadway	Threshold of Significance	Threshold Capacity	Opening Year Roadway ADT*	Project Volume on Roadway Segment	Opening Year Roadway ADT + Project Volume	Impact
1. Pepper Avenue: Baseline to Winchester-Terrace	Modified Arterial	LOS D	32,999	22,699	739	23,437	No
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp	Modified Arterial	LOS D	32,999	24,218	2,879	27,097	No

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% Growth applied to existing ADT

5.3 Future Conditions (Opening Day With Project Plus Cumulative Projects) Traffic Volumes and Intersection Operations

A total of 10 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 *City of San Bernardino 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.¹ The locations of the cumulative projects are shown in Figure 5.3. The project trip generation for each cumulative project was calculated using trip rates from the *Institute of Transportation Engineers, Trip Generation Manual, 11th Edition*, or taken from each project's respective traffic study. Table 5.3 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 5.4 and 5.5.

As noted in Table 5.3, 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 Pepper Avenue Industrial Project (Cumulative Project #8), which is the project located south of and adjacent to the proposed Project. The shared Project driveway would be the northern driveway for the Pepper Avenue Industrial Project. All automobile and truck traffic entering the Pepper Avenue Industrial Project from the north would enter through the shared signalized driveway (Study Intersection 4). Outbound truck traffic from the Pepper Avenue Industrial Project would also use Study Intersection 4. The full project trip generation for the Pepper Avenue Industrial Project, was added to the inbound and outbound turn movements in Study Intersection #4.

Table 5.4 shows the Future Conditions AM and PM peak hour levels of service at study intersections. All intersections would operate with a satisfactory LOS, and no mitigation measures would be required.

¹ City of San Bernardino. (2023). *Development Projects* [map].

https://www.sbcity.org/city_hall/community_economic_development/development_projects, accessed October 17, 2023.

Table 5.3: Cumulative Projects Trip Generation

Land Use		Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<u>Trip Rates</u>									
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	1283.38	45.68	45.68	91.35	39.48	39.48	78.95	
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 (<40 TSF) 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	
Retail Shopping Center ⁸	TSF	42.70	0.60	0.36	0.96	1.78	1.93	3.71	
Automated Car Wash ⁹	Tunnels	775.00	38.75	38.75	77.50	38.75	38.75	77.50	
Mini-Warehouse ¹⁰	TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15	
<u>Cumulative Projects Trip Generation</u>									
1. Olive Avenue Development Project (Industrial) ¹¹	679.607	TSF	1,981	149	45	194	58	157	215
2. Fitzgerald Avenue Warehouse	60.000	TSF	103	8	2	10	3	8	11
<u>Vehicle Mix (Fitzgerald Ave Warehouse)¹²</u>			<u>Percent</u>						
Passenger Vehicles	60.00%	62	5	1	6	2	5	6	
2-Axle Trucks	0.80%	1	0	0	0	0	0	0	
3-Axle Trucks	11.20%	11	1	0	1	0	1	1	
4+-Axle Trucks	28.00%	29	2	1	3	1	2	3	
	100%	103	8	2	10	3	8	11	
<u>PCE Trip Generation (Fitzgerald Ave Warehouse)¹³</u>			<u>PCE Factor</u>						
Passenger Vehicles	1.0	62	5	1	6	2	5	6	
2-Axle Trucks	1.5	1	0	0	0	0	0	0	
3-Axle Trucks	2.0	23	2	1	2	1	2	2	
4+-Axle Trucks	3.0	86	7	2	9	3	7	9	
Total PCE Trip Generation (Fitzgerald Ave Warehouse)		172	13	4	17	5	13	18	
3. Renaissance Residential	1,229	DU	5580	105	350	455	292	187	479
4. Lytle Creek Specific Plan (SFR) ¹⁴	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 (Pepper Ave Specific Plan PA 5)									
Convenience Store/Gas Station	4.600	TSF	5904	210	210	420	182	182	363
Automated Car Wash	1	Tunnel	775	39	39	78	39	39	78
Fast Food Restaurant with Drive-Through Window	4.800	TSF	2244	109	105	214	82	76	159
Strip Retail Plaza	6.500	TSF	354	9	6	15	21	21	43
Pass-By Trips ¹⁵			-4461	-208	-206	-414	-177	-174	-351
Total Pepper Avenue Development			4815	159	154	314	147	144	291

Table 5.3 (continued): Cumulative Projects Trip Generation

8. Pepper Avenue Industrial										
	Warehouse ¹	485.000	TSF	829	63	19	82	24	63	87
	<u>Vehicle Mix (Pepper Avenue Industrial Warehouse)¹²</u>		<u>Percent</u>							
	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
	<u>PCE Trip Generation (Pepper Avenue Industrial Warehouse)¹³</u>		<u>PCE Factor</u>							
	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 Warehouse PCE Trip Generation			1390	106	32	138	41	105	146
	Total PCE Trip Generation (Foothill Freeway Commerce Center)			1390	106	32	138	41	105	146
9. Pepper Avenue Development (Pepper Ave Specific Plan PA's 6, 7, 8)										
	Commercial Retail ⁸	69.350	TSF	2961	42	25	67	123	134	257
10. Eucalyptus Self-Storage ¹⁰		107	TSF	155	6	4	10	8	9	16
Total Cumulative Trip Generation				18508	2697	3601	6299	5059	4468	9527

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 (16-24 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 Trip rates from the Institute of Transportation Engineers, *Trip Generation*, 11th Edition, 2021. Land Use Code 948 - Automated Car Wash. No rate provided for the AM peak hour so PM peak hour rate is used. No rate provided for the daily so PM peak hour rate times ten is used as daily rate.¹⁰ Trip rates from the Institute of Transportation Engineers, *Trip Generation*, 11th Edition, 2021. Land Use Code 151 - Mini-Warehouse¹¹ Project Trip Generation from Rialto Olive Avenue Development, Traffic Impact Study, November 2021. Project trips shown in PCE.¹² Vehicle Mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013.¹³ Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016¹⁴ Project Trip Generation from Traffic Impact Analysis Report for the Lytle Creek Ranch Planned Development Project, Crain & Associates, February 2008. No daily trip generation is provided in the TIA.¹⁵ 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. The lower peak hour pass-by is used as Daily pass-by.

Figure 5.3: Cumulative Project Location Map

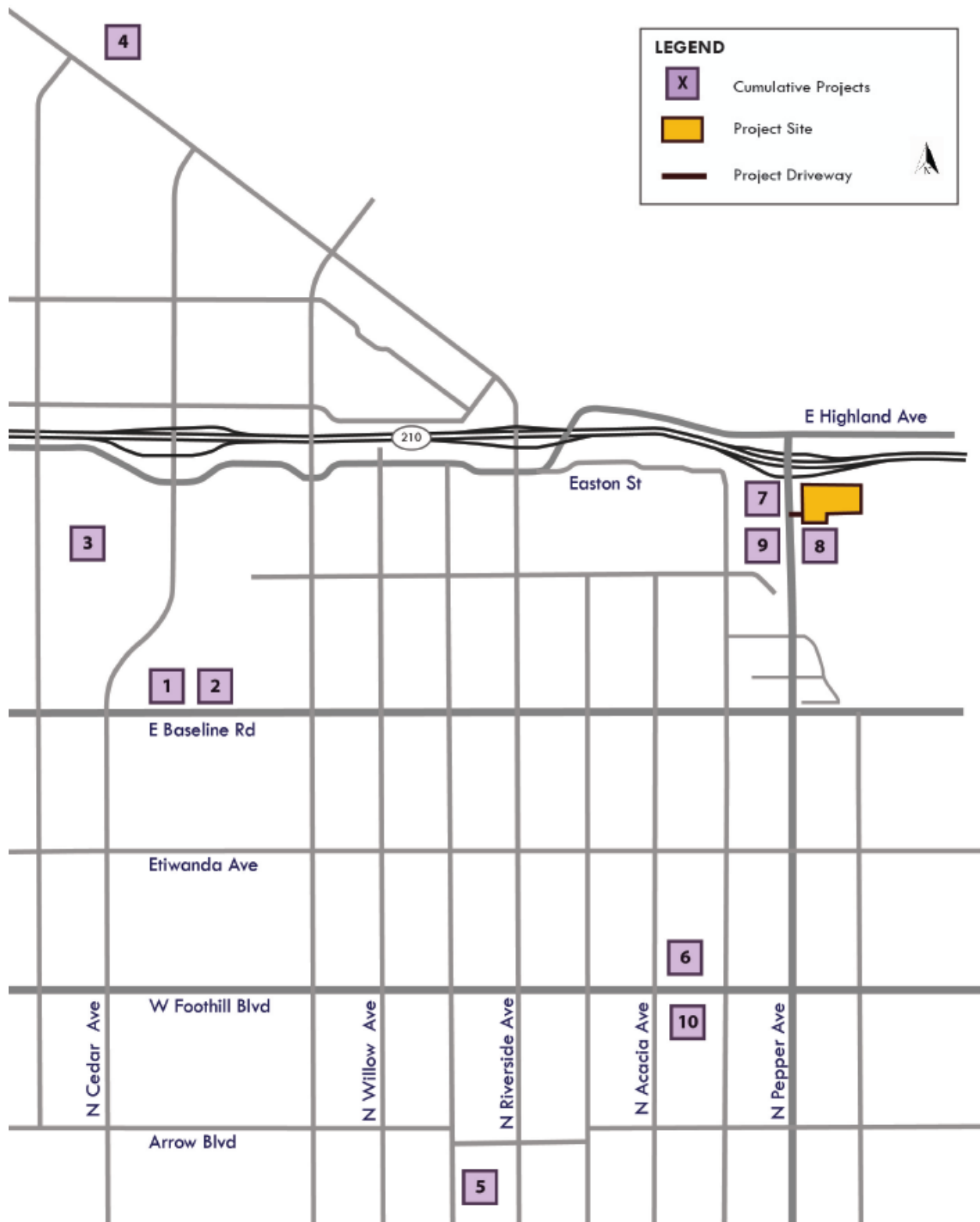


Figure 5.4: Future Conditions AM Peak Hour Volumes

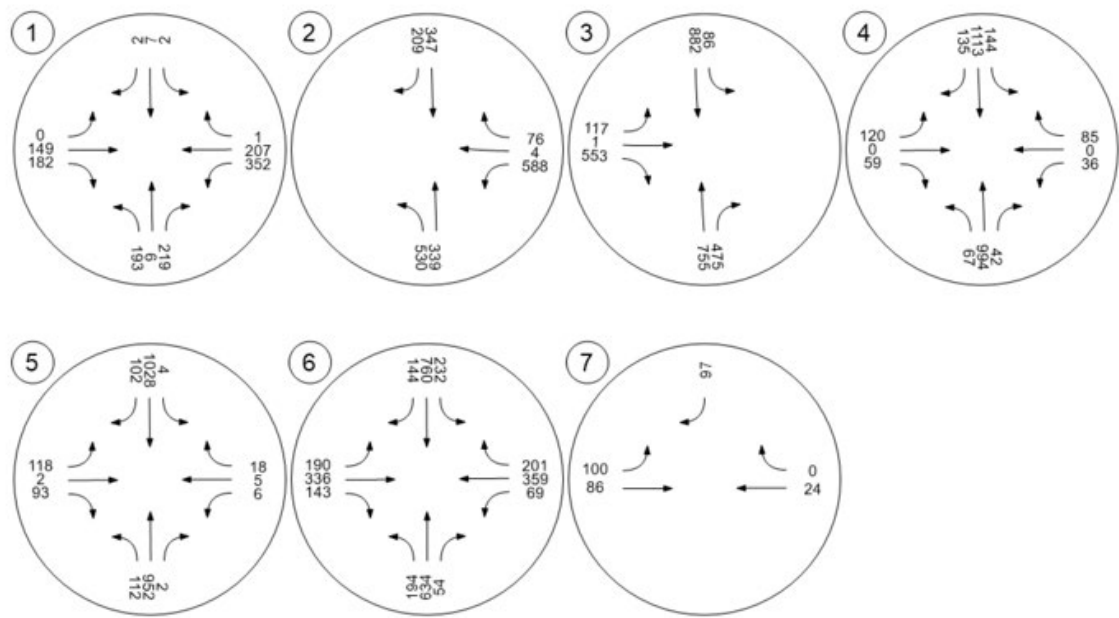


Figure 5.5: Future Conditions PM Peak Hour Volumes

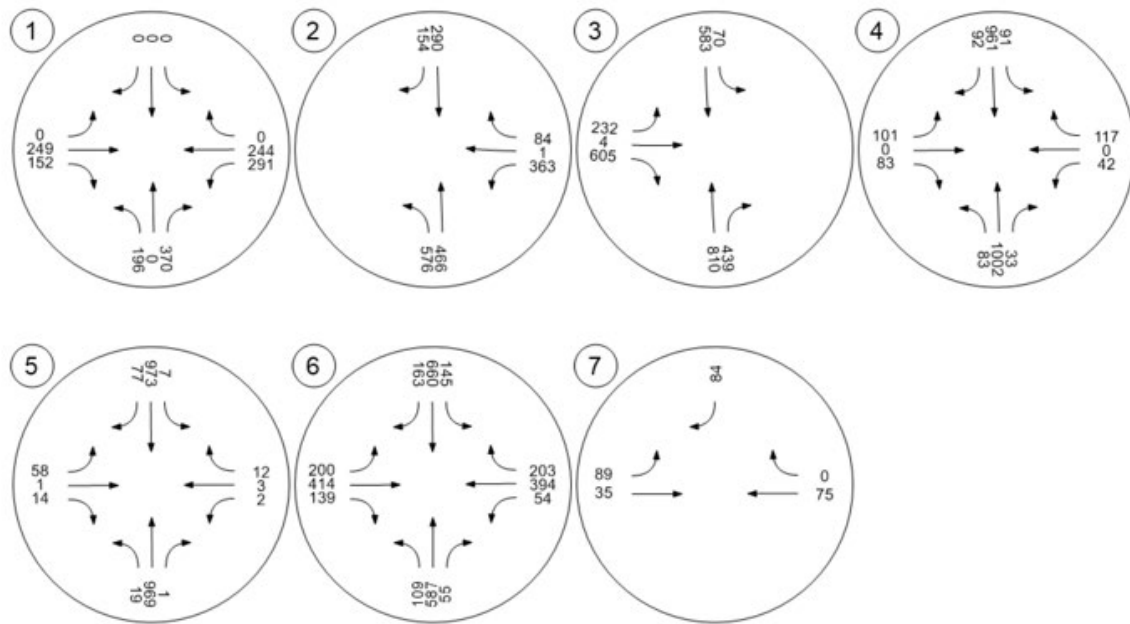


Table 5.4: Future Conditions AM and PM Peak Hour Level of Service

Intersection	Control Type	AM Peak		PM Peak		Impact	
		Delay	LOS	Delay	LOS	AM	PM
1. Pepper Avenue/Highland Avenue	Signal	32.7	C	35.5	D	No	No
2. Pepper Avenue/SR-210 WB Ramps	Signal	51.1	D	30.8	C	No	No
3. Pepper Avenue/SR-210 EB Ramps	Signal	21.4	C	24.3	C	No	No
4. Pepper Avenue/Project Driveway (future)	Signal	15.1	B	16.6	B	No	No
5. Pepper Avenue/Winchester Drive - Terrace Road	Signal	14.3	B	6.0	A	No	No
6. Pepper Avenue/Baseline Road	Signal	32.4	C	27.1	C	No	No
7. Project Driveway (future)/Retail Driveway (future)	TWSC	8.7	A	8.8	A	No	No

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

5.4 Future Conditions (Opening Day With Project Plus Cumulative Projects) Roadway Segment Analysis

Table 5.5 shows the Future Conditions LOS for daily roadway segments. As shown, all roadway segments operate at satisfactory levels above the respective LOS D or E threshold, and no impacts are expected.

5.5 General Plan With Project Traffic Volumes and Intersection Operations

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 With Project traffic volumes are illustrated in Figures 5.6 and 5.7. Table 5.6 shows the General Plan With Project AM and PM peak hour LOS at the study intersections. As shown in Table 5.6, Study Intersection 2 (Pepper Avenue/SR-210 Westbound Ramps) would operate at an unsatisfactory LOS F with the addition of the Project. Recommended improvements at this intersection are discussed in Section 8 of this report.

Table 5.5: Future Conditions 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	26,196	739	26,934	No
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp	Modified Arterial	LOS D	32,999	27,715	2,879	30,594	No

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% Growth applied to existing ADT plus Cumulative Projects

Table 5.6: General Plan With Project AM and PM Peak Hour Level of Service

		General Plan				General Plan plus Project								Recommended Improvements	General Plan plus Project 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		Delay	LOS	Delay	LOS	
1. Pepper Avenue/Highland Avenue	Signal	35.1	D	40.2	D	36.1	D	41.7	D	1.0	1.5	No	No	Change intersection phasing to split phase in the north-south direction and change the northbound lane geometry to one left, one left-through lane, and one through lane.	-	-	-	-	No
2. Pepper Avenue/SR-210 WB Ramps	Signal	53.8	D	29.9	C	82.5	F	34.9	C	28.7	5.0	Yes	No		46.1	D	-	-	No
3. Pepper Avenue/SR-210 EB Ramps	Signal	22.7	C	27	C	25.7	C	30.7	C	3.0	3.7	No	No		-	-	-	-	No
4. Pepper Avenue/Project Driveway (future)	Signal	-	-	-	-	15.9	B	7.6	A	-	-	No	No		-	-	-	-	No
5. Pepper Avenue/Winchester Drive - Terrace Road	Signal	18.6	B	6.7	A	19.4	B	6.8	A	0.8	0.1	No	No		-	-	-	-	No
6. Pepper Avenue/Baseline Road	Signal	45.7	D	29.1	C	59.3	E	29.7	C	13.6	0.6	No	No		-	-	-	-	No
7. Project Driveway (future)/Retail Driveway (future)	TWSC	-	-	-	-	8.7	A	8.8	A	-	-	No	No		-	-	-	-	No

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

Figure 5.6: General Plan With Project AM Peak Hour Volumes

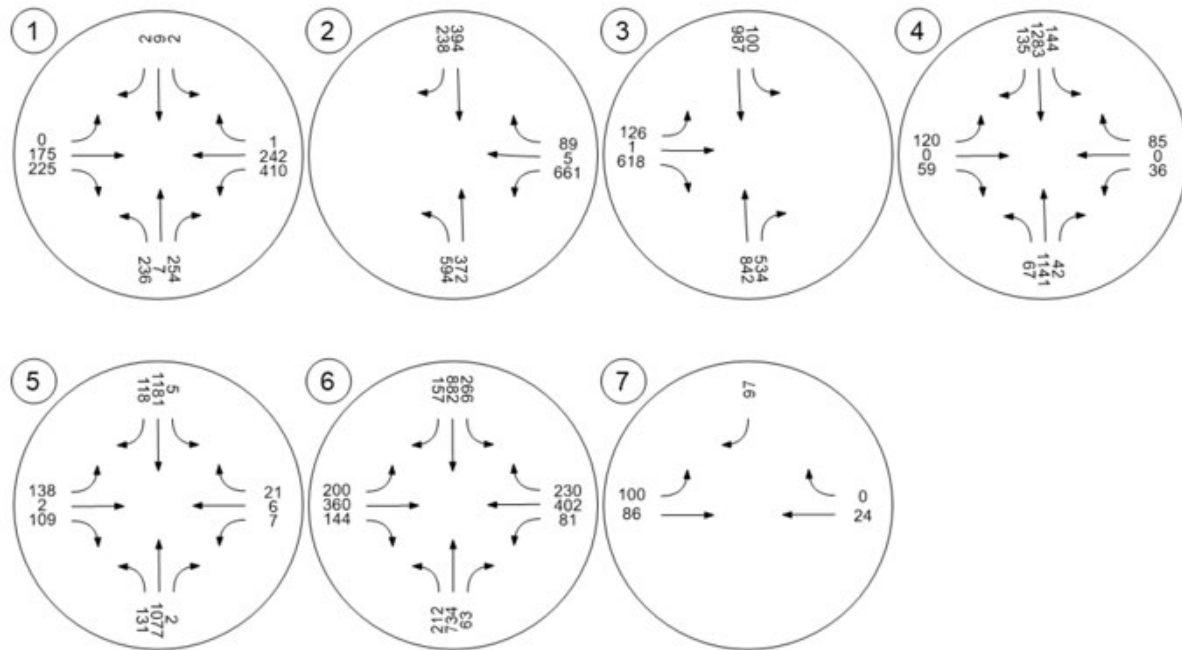
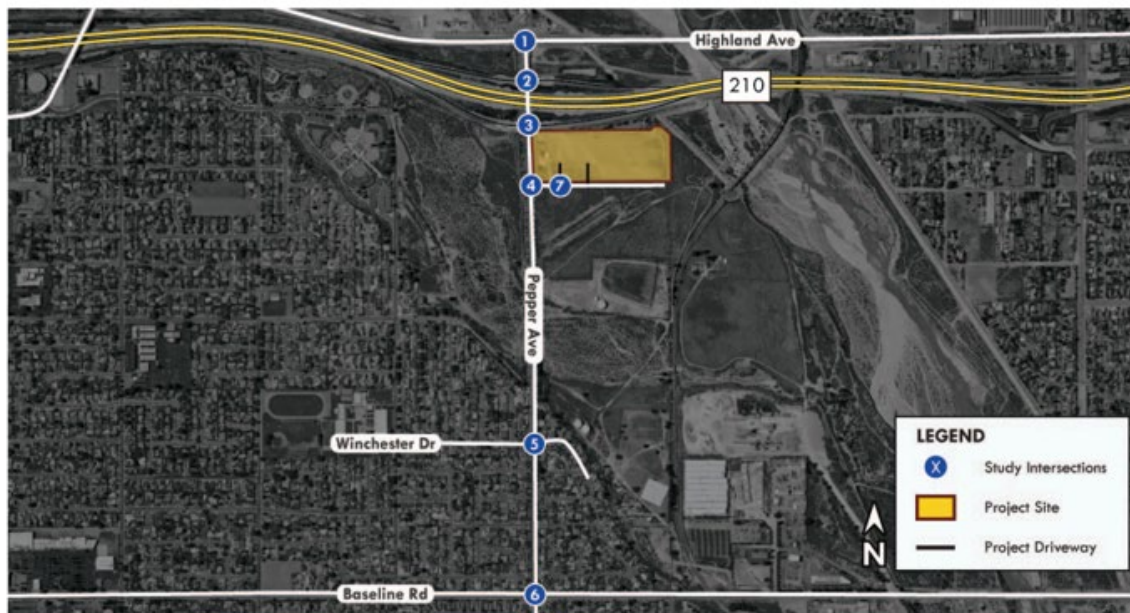
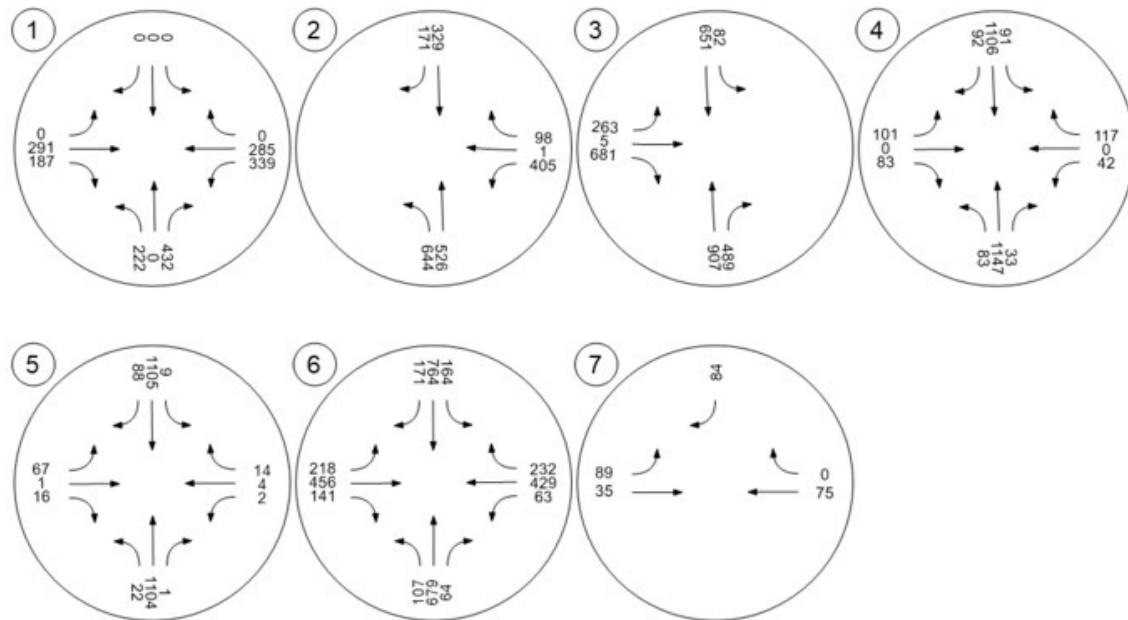


Figure 5.7: General Plan With Project PM Peak Hour Volumes



5.6 General Plan With Project Roadway Segment Analysis

Table 5.7 shows the Future Conditions LOS for daily roadway segments. As shown, all segments would operate at satisfactory levels above the respective LOS D or E thresholds.

Table 5.7: 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	26,553	739	27,292	No
2. Pepper Ave: Winchester-Terrace to I-210 EB Ramp	Modified Arterial	LOS D	32,999	28,330	2,879	31,209	No

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.

* 24% Growth applied to existing ADT plus remaining Specific Plan projects.

6 VMT ANALYSIS AND CONSISTENCY WITH PEPPER AVENUE SPECIFIC PLAN MITIGATION

The previously approved Pepper Avenue Specific Plan and EIR includes VMT analysis that may be applicable to the proposed Project. The Specific Plan was screened out of a full VMT analysis based on the Low VMT Area Screening Criteria. Because the Specific Plan has an approved CEQA document and the project is consistent with the Specific Plan, no further analysis of VMT would be required.

The previously approved Pepper Avenue Specific Plan and EIR² also included design features that may be applicable to the proposed Project, 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 Development Project Applicability: Design Feature DF TRAF-1 is not applicable to the proposed industrial development as it is not proposed to be built as part of the project and the analysis provided in this traffic study has demonstrated that the project traffic can be accommodated by the shared signalized driveway. Furthermore, this driveway is located within Caltrans right-of-way so Caltrans approval would be required.

² ESA. (March 2017). *Pepper Avenue Specific Plan Draft Environmental Impact Report* (State Clearinghouse No. 2016021047).

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 Development Project Applicability: Design Feature DF TRAF-1 is included as part of the proposed Project. Lane geometrics have been modified to accommodate the proposed industrial development as well as other planned developments in the Specific Plan. The revised intersection geometrics are as follows:

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

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 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 Development Project Applicability: Design Feature DF TRAF-4 is not applicable to the proposed development as it is not located on the site of the proposed development project. However, it has been included in the design of the Pepper Avenue Industrial Project, located south of and adjacent to the proposed project.

The following mitigation measure was 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 for the proposed Project. The Project applicant would also participate in the City of Rialto Development Impact Fee (DIF) Program by paying applicable fees.

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 does 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.

Note: The above improvements at Pepper Avenue/Winchester Drive have been constructed and are part of the existing condition evaluated in this study.

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 Projects within the Pepper Avenue Specific plan 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.

The recommended improvement shown in Table 5.6 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 Table 5.6, this would improve operations at the intersection to an acceptable LOS D under the General Plan With Project condition.

The remaining improvements identified in Mitigation Measure TRAF-1 would be provided when required for future additional development. Table 6.1 shows the fair share by project area for each improvement in TRAF-1.

Table 6.1: Fair Share for Specific Plan Improvements

Intersection	Improvement	Improvement Cost ¹	Existing ²	Project Trips	General Plan Buildout With Project ²	Project Fair Share	Project Cost
Riverside Avenue/Easton Street	Participate in the signal modification to provide separate right turn overlap signal phasing for the existing westbound right turn lane.						
	AM Peak Hour	\$ 75,000	3,377	8	4,663	0.61%	\$ 456.65
	PM Peak Hour		3,645	7	5,334	0.43%	\$ 319.72
Pepper Avenue/Highland Avenue	Northbound Approach: Restripe through lane to 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.						
	AM Peak Hour	\$ 125,000	1,114	46	1,563	10.24%	\$ 12,806.24
	PM Peak Hour		1,300	40	1,756	8.77%	\$ 10,964.91
Pepper Avenue/SR-210 WB Ramps	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.						
	AM Peak Hour	\$ 575,000	1,779	122	2,611	14.66%	\$ 84,314.90
	PM Peak Hour		1,566	112	2,356	14.17%	\$ 81,467.43
Pepper Avenue/SR-210 EB Ramps	Northbound Approach: Provide separate right turn lane. Eastbound Approach: Provide additional (second) right turn lane.Add SB Right-Turn Lane						
	AM Peak Hour	\$ 975,000	2,060	183	3,208	15.91%	\$ 155,167.68
	PM Peak Hour		2,008	168	3,078	15.70%	\$ 153,084.11
Pepper Avenue/Mariposa Drive	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.						
	AM Peak Hour	\$ 190,000	404	78	1,951	5.06%	\$ 9,616.68
	PM Peak Hour		161	72	2,220	3.50%	\$ 6,644.00
Pepper Avenue/Baseline Road	SB Approach: Provide separate right turn lane.						
	AM Peak Hour	\$ 25,000	2,957	69	3,731	8.91%	\$ 2,228.68
	PM Peak Hour		2,722	60	3,488	7.83%	\$ 1,956.95
Pepper Avenue/Etiwanda Avenue	Participate in construction of a traffic signal.						
	AM Peak Hour	\$ 90,000	1,237	16	2,240	1.56%	\$ 1,405.18
	PM Peak Hour		877	14	2,375	0.96%	\$ 865.15
Pepper Avenue/Foothill Boulevard	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.						
	AM Peak Hour	\$ 102,500	1,237	10	2,240	1.04%	\$ 1,066.90
	PM Peak Hour		877	10	2,375	0.64%	\$ 656.88
Total Project Fair Share							\$ 266,791.18
Total Project Fair Share at Caltrans Ramps							\$ 239,482.59

¹ Cost estimate from *Pepper Avenue Specific Plan Fee Program*, KTGy Architecture + Planning, January 2018.² Traffic volumes for intersections outside of the project study area are taken from *Pepper Avenue Specific Plan Traffic Impact Analysis*, Urban Crossroads, January 13, 2016.³ Project trips were taken from Project Trip Assignment. Project trips for remaining PAs and at intersections outside of the study area were calculated by multiplying the trip generation by the project distribution in the *Pepper Avenue Specific Plan Traffic Impact Analysis*, Urban Crossroads, January 13, 2016.

7 QUEUEING ANALYSIS

The queue length for left 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). As noted in Table 7.1, the queue length would exceed the available storage at the following intersections:

1. Pepper Avenue/Highland Avenue
2. Pepper Avenue/SR-210 WB Ramps (the improvements recommended for intersection delay would also resolve the queuing at this location).
6. Pepper Avenue/Baseline Road

Recommended improvements at these intersections are discussed in Section 8 of this report.

Table 7.1: 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/Highland Avenue	WBL	330	418	322
	EBL	330	0	0
	NBL	200	226	212
2. Pepper Avenue/SR-210 WB Ramps	NBL	310	752	579
	WBL	750	1115	412
3. Pepper Avenue/SR-210 EB Ramps	SBL	310	257	110
	EBL	750	102	214
5. Pepper Avenue/Winchester Drive - Terrace Road	NBL	100	100	17
	SBL	100	5	8
6. Pepper Avenue/Baseline Road	NBL	80	733	200
	SBL	100	737	194
	EBL	130	272	207
	WBL	100	65	66

Indicates queueing required greater than storage available

8 SUMMARY OF PROJECT IMPROVEMENTS

Utilizing the methodology discussed in Section 2.3, *Methodology*, and Section 2.4, *Significance Criteria*, one intersection (Pepper Avenue/SR-210 Westbound Ramps) was found to have a significant LOS impact and a queueing impact in the General Plan Plus Project scenario during the AM peak hour only. The impact of the intersection is a cumulative impact, therefore AM & PM peak hour fair share was calculated for this intersection, and the higher peak hour fair share was used. Additionally, two other intersections were also found to have a queueing impact in the General Plan Plus Project scenario. Table 8.1 outlines the improvement recommended for the following intersections:

1. Pepper Avenue/Highland Avenue
2. Pepper Avenue/SR-210 WB Ramps (the improvements recommended for intersection delay would also resolve the queueing at this location).
6. Pepper Avenue/Baseline Road

With implementation of the proposed improvements, the Project's impact at the intersections would be reduced to less than significant.

The project's fair share at Pepper Avenue/Highland Avenue would be 10.24% for the mitigation of the queueing impact.

The project's fair share at Pepper Avenue/I-210 Westbound Ramps would be 14.66% for both the LOS impact improvement and the queueing impact improvement.

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 23.66%. Finally, the left-turn lanes at Pepper Avenue/Baseline Road should be restriped to provide the required storage length. The Project's fair-share of the restriping would be 8.91%.

Table 8.1: Project Mitigation and Fair Share

Intersection	Improvement	Existing	Project	General Plan Buildout With Project	Project % of Future Traffic
1. Pepper Avenue/Highland Avenue (AM Peak Hour)	Extend Westbound Left-Turn lanes to 230 ft to provide required queue storage, provide additional (second) NB Left-Turn Lane	1,114	46	1,563	10.24%
1. Pepper Avenue/Highland Avenue (PM Peak Hour)	Extend Westbound Left-Turn lanes to 230 ft to provide required queue storage, provide additional (second) NB Left-Turn Lane	1,300	40	1,756	8.77%
2. Pepper Avenue/SR-210 Westbound Ramps (AM Peak Hour)	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. Improvements would address both LOS and queuing deficiencies.	1,779	122	2,611	14.66%
2. Pepper Avenue/SR-210 Westbound Ramps (PM Peak Hour)	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. Improvements would address queuing deficiency.	1,566	112	2,356	14.17%
6. Pepper Avenue/Baseline Road (AM Peak Hour)	Add SB Right-Turn Lane	111	11	157	23.66%
6. Pepper Avenue/Baseline Road (PM Peak Hour)	Add SB Right-Turn Lane	120	10	171	19.42%
6. Pepper Avenue/Baseline Road (AM Peak Hour)	Extend Left-Turn lanes to provide the following queue storage: NBL: 740 ft. SBL: 740 ft. EBL: 280 ft.	2,957	69	3,731	8.91%
6. Pepper Avenue/Baseline Road (PM Peak Hour)	Extend Left-Turn lanes to provide the following queue storage: NBL: 740 ft. SBL: 740 ft. EBL: 280 ft.	2,722	60	3,488	7.83%

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. MC 2022-0022

Related Cases -

SP No. _____

EIR No. _____

GPA No. _____

ZC No. _____

Project Name: Newcastle Pepper Avenue Industrial Project

Project Address: E side of Pepper Ave south of I-210. APNs 0264-191-02, and -04

Project Description: 226,731 SF speculative warehouse building and 9,105 SF retail (fast food restaurant with drive through and coffee shop with drive through.

Consultant

Developer

Name: EPD Solutions, Inc.

Newcastle Partners

Address: 2 Park Plaza, Suite 1120, Irvine, CA 92614

4740 Green River Road, Suite 110, Corona, CA 92878

Telephone: 949-794-1186

951-582-9800

Fax: _____

ITE 11th Edition:

Land Use Code 150 - Warehouse, Vehicle Mix and PCE taken from City's TIA Guidelines.

Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

Land Use Code 937 - Coffee/Donut Shop with Drive-Through Window.

1. Trip Generation Source:

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: 3,951 PCE

Current Trip Generation			Proposed Trip Generation (PCE)		
In	Out	Total	In	Out	Total
AM Trips			240	197	437
PM Trips			140	165	305
Internal Trip Allowance	No	(	% Trip Discount)		
Pass-By Trip Allowance	Yes	(	25% % 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: 2026 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. <u>Pepper Ave/Highland Ave</u> | 6. <u>Pepper Ave/Base Line Rd</u> |
| 2. <u>Pepper Ave/I-210 WB Ramps</u> | 7. <u>Project Driveway/Retail Driveway</u> |
| 3. <u>Pepper Ave/I-210 EB Ramps</u> | 8. _____ |
| 4. <u>Pepper Ave/Project Driveway</u> | 9. _____ |
| 5. <u>Pepper Ave/Winchester Dr - Terrace Rd</u> | 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. <u>Pepper Ave: Baseline to Winchester-Terrace</u> | 6. _____ |
| 2. <u>Pepper Ave: Winchester-Terrace to I-210 EB Ramp</u> | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 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: 2023

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 _____

Scoping Agreement Submittal date July 20, 2023

EPD Solutions, Inc., Meghan Macias, TE	July 20, 2023
Applicant/Engineer	Date

Land Use Concurrence:

Development Services Department
Date

Approved by:

Justin P. Schley 8/14/23
Public Works Department Date

NOTE:

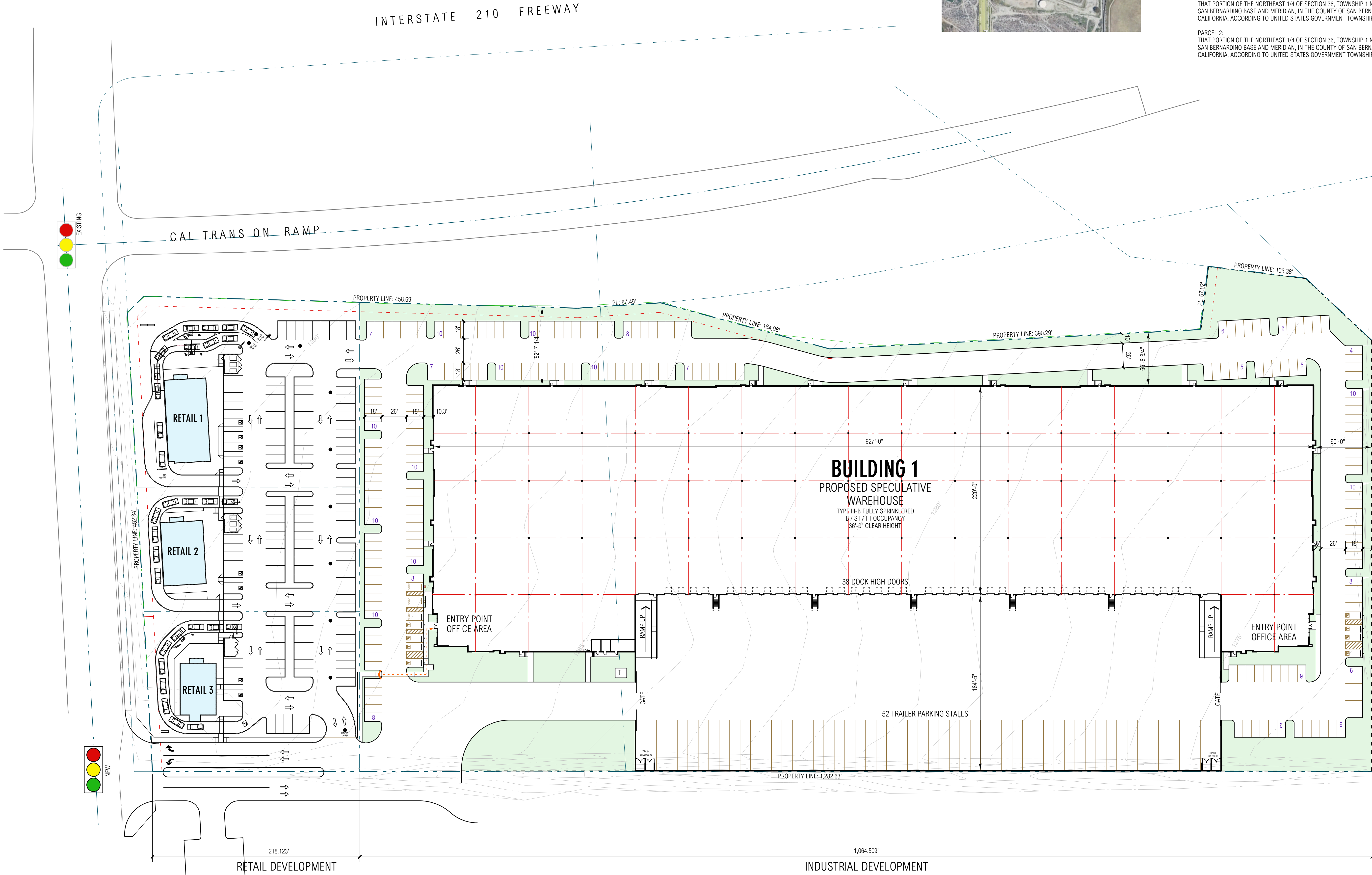
The Applicant/Engineer acknowledges that the Scoping Agreement is intended to assist in the preparation of any required TIA. It is preliminary in nature and the City does not have sufficient data to determine the ultimate conditions that may be imposed for the project. It does not provide nor limit the 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.
- A discussion of conformance with Caltrans standards within their jurisdiction.
- A discussion of conformance with Pepper Avenue Specific Plan.
- A discussion of any differences and/or proposed changes to the MMRP for the Pepper Avenue Specific Plan.

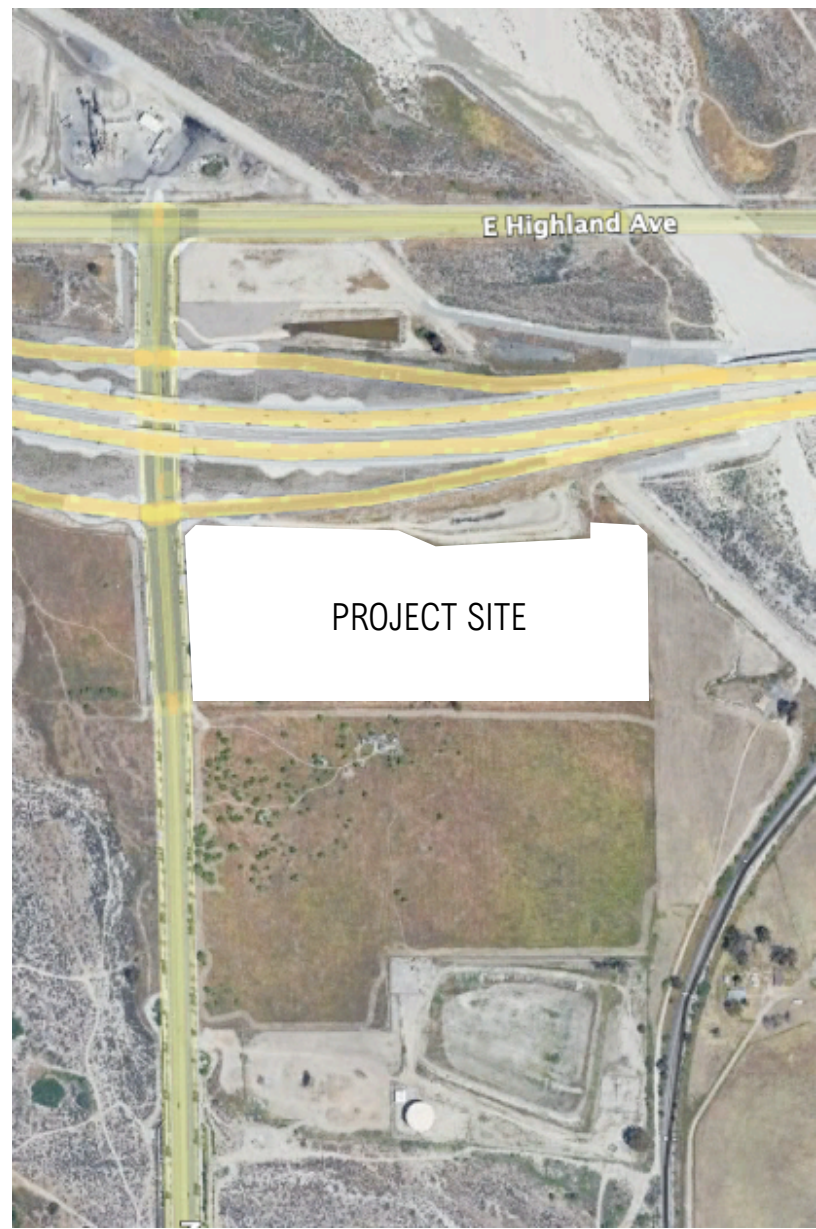
Scenarios to be Evaluated in the Study:

- 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



MASTER SITE PLAN
SCALE: 1" = 50'-0"

VICINITY MAP



APPLICANT

NEWCASTLE PARTNERS, INC.
4740 GREEN RIVER, SUITE 118
CORONA, CA 92680
PHONE: 951-582-9800
CONTACT: JACKSON SMITH

PLAN PREPARER

RGA, OFFICE OF ARCHITECTURAL DESIGN, INC.
15231 ALTON PARKWAY, SUITE 100
IRVINE, CA 92618
CONTACT: MIKE GILL

BUILDING USE

OCCUPANCY: B - OFFICE
S-1 WAREHOUSE
CONSTRUCTION TYPE: III - B

UTILITIES & SERVICES

SEE CIVIL DRAWINGS

ASSESSOR'S PARCEL NUMBER

0264-191-04-0-000, 0264-191-02-0-000

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF RIALTO, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:
THAT PORTION OF THE NORTHEAST 1/4 OF SECTION 36, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF.

PARCEL 2:
THAT PORTION OF THE NORTHEAST 1/4 OF SECTION 36, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO UNITED STATES GOVERNMENT TOWNSHIP PLAT THEREOF.

PROJECT DATA - LAND AREA

GROSS OVERALL SITE AREA: 00 SF / 00 AC
RETAIL SITE AREA: 114,944 SF / 2.63 AC
NET INDUSTRIAL SITE AREA: 507,187 SF / 11.64 AC

PROJECT DATA

GROSS SITE AREA: 00 SF / 00 AC
NET SITE AREA: 507,187 SF / 11.64 AC

BUILDING AREA:
GROUND FLOOR: 221,731 SF
MEZZANINE: 5,000 SF
FIRE PUMP: 00 SF
TOTAL: 226,731 SF

LOT COVERAGE: 43.88 %
FAR: 44.87 %

AUTO PARKING REQUIRED:
10,000 SF OFFICE (1/250 SF): 40 STALLS
10,000 SF WAREHOUSE (1/1000 SF): 10 STALLS
237,830 SF WAREHOUSE (1/2000 SF): 104 STALLS
TOTAL REQUIRED: 154 STALLS

AUTO PARKING PROVIDED:
PROVIDED STALLS: 181 STALLS
ACCESSIBLE AUTO STALLS: 6 STALLS
TOTAL PROVIDED: 187 STALLS

ALTERNATE FUEL CARPOOL PARKING:
FUTURE ELECTRIC VEHICLE CHARGING STATIONS: 26 STALLS
CARPOOL/VANPOOL PARKING: 9 STALLS
TOTAL ALTERNATE FUEL/CARPOOL PKG: 35 STALLS

LOADING REQUIRED:
0 - 400,000 SF + 1 PER 100K: 3 DOCKS

LOADING PROVIDED: 38 DOCKS

LANDSCAPE AREA REQUIRED: 50,718 SF / 10.00 %

LANDSCAPE AREA PROVIDED: 64,534 SF / 12.72 %

RGA

Office of Architectural Design

15231 Alton Parkway, Suite 100
Irvine, CA 92618

T 949-341-0920
FX 949-341-0922

CONSULTANT

PROFESSIONAL SEALS

PEPPER AVENUE
DEVELOPMENT

0000 PEPPER AVENUE
RIALTO, CA

Newcastle PARTNERS

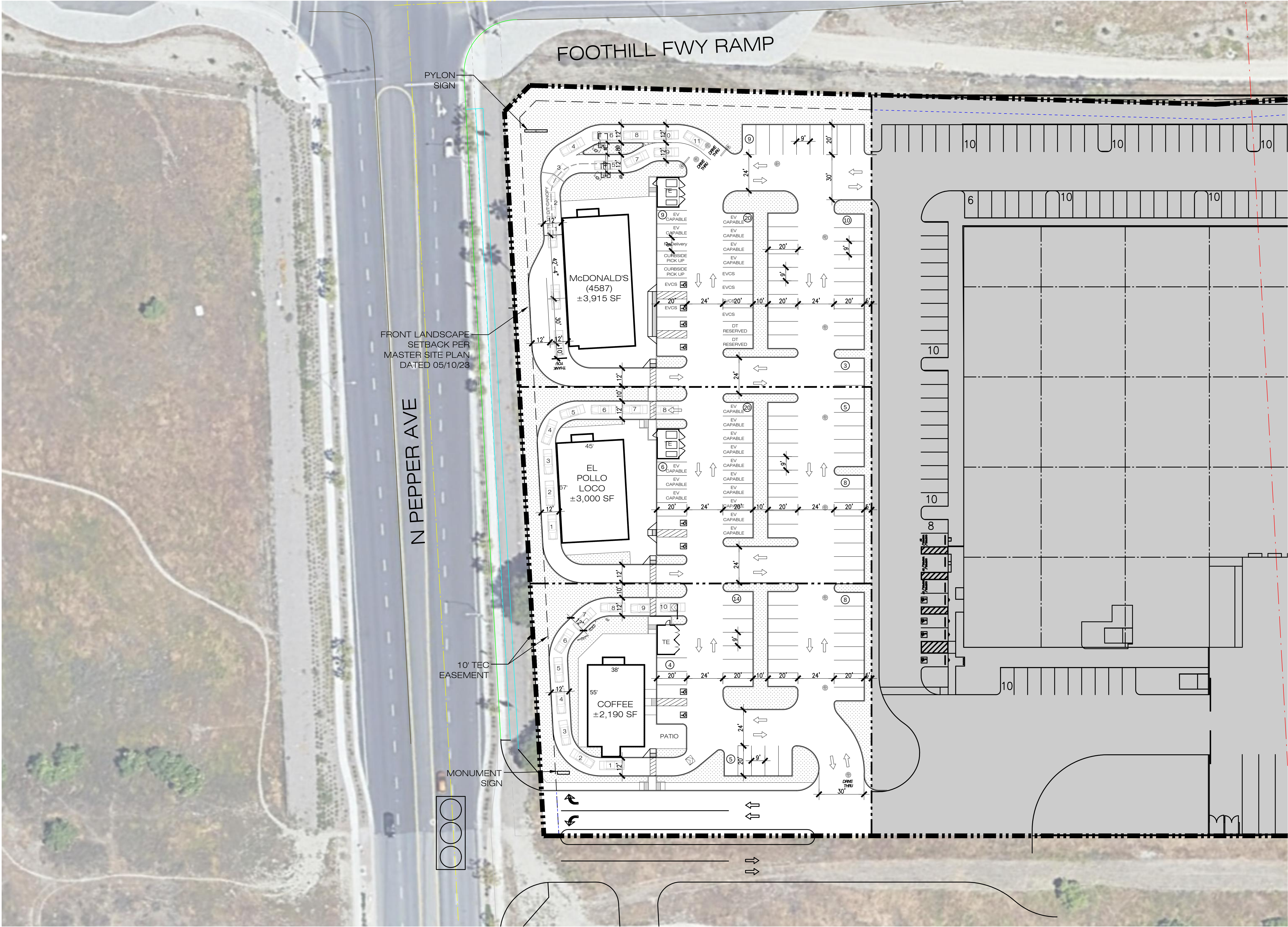
4740 GREEN RIVER, SUITE 110
CORONA, CA 92680
951-582-9800

MARK	DATE	DESCRIPTION
CD		
BID		
FC		
DD		
SD	7/12/23	SCHEMATIC DESIGN
MARK	DATE	DESCRIPTION

RGD PROJECT NO:	21126.00
OWNER PROJECT NO:	00000.00
CAD FILE NAME:	21126-00-A1-1P-option 2
DRAWN BY:	MG
CHK'D BY:	CS
COPYRIGHT	RGD, OFFICE OF ARCHITECTURAL DESIGN

SHEET TITLE

SITE PLAN



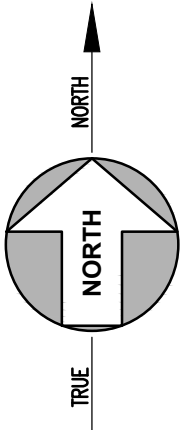
SITE INFORMATION
TOTAL BUILDING AREA: ±9,105 SF
(NOT INCLUDING UTILITY AREAS)

PARKING INFORMATION
PARKING REQUIREMENT: 1/75 SF &
3 STALLS CREDIT FOR EACH D/T LANE
STALLS REQUIRED: 113 STALLS
STALLS PROVIDED: 121 STALLS

MULTI-TENANT

SEC N PEPPER AVE & FOOTHILL FWY

RIALTO, CA



SITE PLAN

Scale: 1" = 30'
June 15, 2023

P:\23\23460 - Rialto, SEC 210 & Pepper Ave\Design\Site\23460 - Site Plan.dwg

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Project Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour				
		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	
Fast Food Restaurant with Drive-Through Window	TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03	
Coffee/Donut Shop with Drive-Through Window	TSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99	
Warehouse	226,731	TSF	388	30	9	39	11	30	41
<u>Vehicle Mix (Foothill Freeway Commerce Center Warehouse)⁴</u>		<u>Percent</u>							
	Passenger Vehicles	60.00%	233	18	5	23	7	18	25
	2-Axle Trucks	0.80%	3	0	0	0	0	0	0
	3-Axle Trucks	11.20%	43	3	1	4	1	3	5
	4+-Axle Trucks	28.00%	109	8	2	11	3	8	12
		100%	388	30	9	39	11	30	41
<u>PCE Trip Generation (Foothill Fwy Commerce Center Warehouse)⁵</u>		<u>PCE Factor</u>							
	Passenger Vehicles	1.0	233	18	5	23	7	18	25
	2-Axle Trucks	1.5	5	0	0	0	0	0	0
	3-Axle Trucks	2.0	87	7	2	9	3	7	9
	4+-Axle Trucks	3.0	326	25	7	32	10	25	35
Total Warehouse PCE Trip Generation			650	50	15	65	19	50	69
McDonald's Fast Food Restaurant with Drive-Through Window	3,915	TSF	1,830	89	86	175	67	62	129
	Pass-By Trips (25%)		-458	-22	-21	-43	-17	-16	-33
El Pollo Loco Fast Food Restaurant with Drive-Through Window	3,000	TSF	1,402	68	66	134	52	48	100
	Pass-By Trips (25%)		-351	-17	-16	-33	-13	-12	-25
Coffee/Donut Shop with Drive-Through Window	2,190	TSF	1,169	96	92	188	43	43	86
	Pass-By Trips (25%)		-292	-24	-23	-47	-11	-11	-22
Total Project Trip Generation			3,688	219	191	410	132	144	276
Total Project PCE Trip Generation			3,951	240	197	437	140	165	305

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- Warehousing.

² Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

³ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 937 - Coffee/Donut Shop with Drive-Through Window.

⁴ Vehicle Mix from the Rialto Traffic Impact Analysis Report Guidelines, December 2013.

⁵ 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

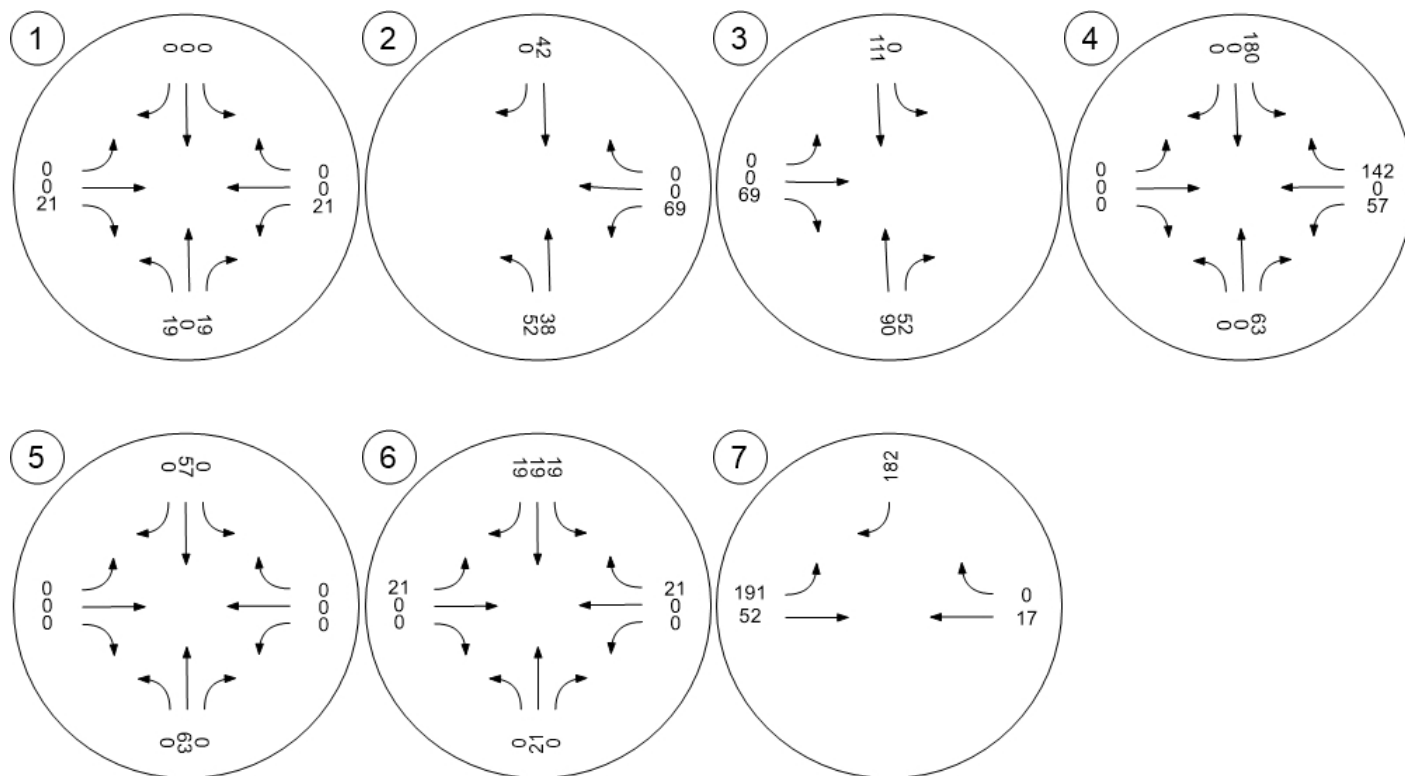


Truck Trip Distribution



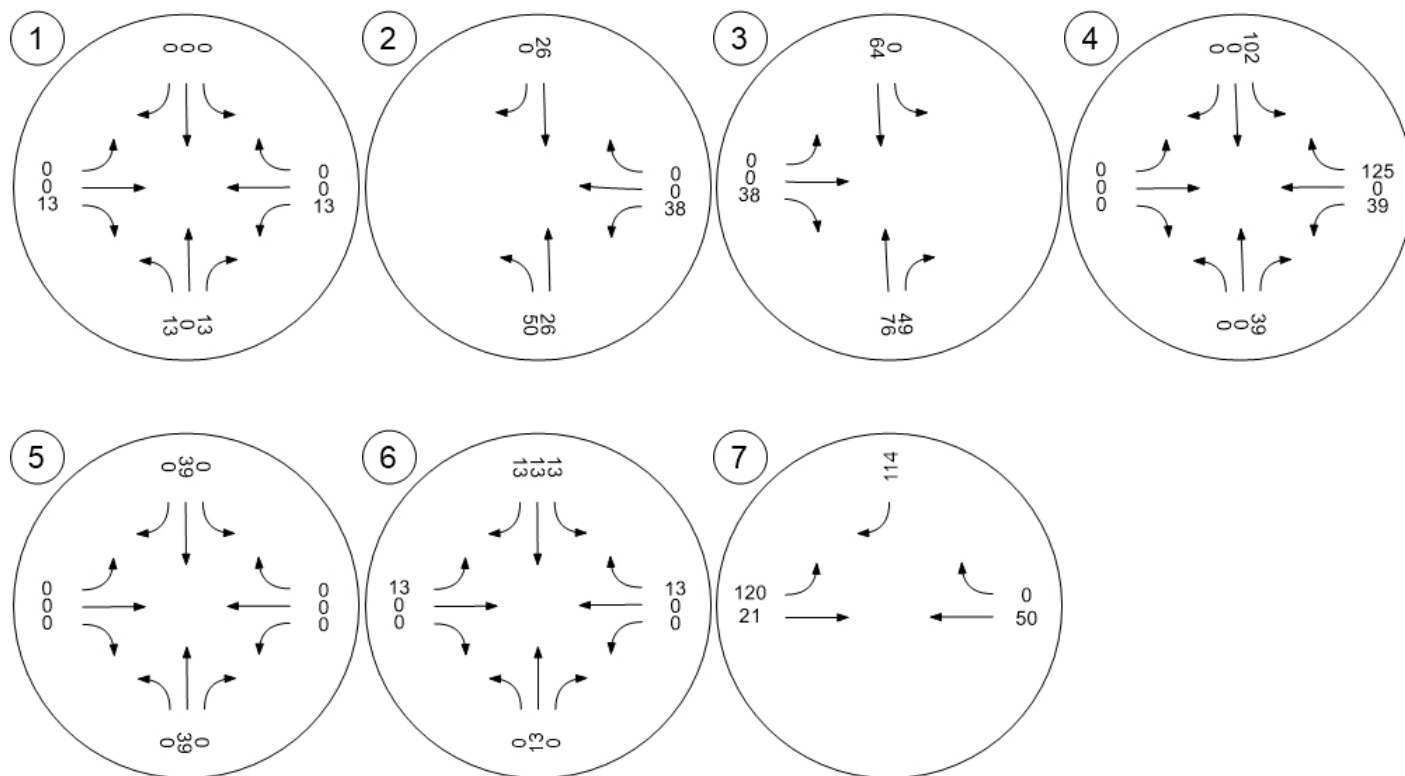
Version 2023 (SP 0-7)

Traffic Volume - Net New Site Trips



Version 2023 (SP 0-7)

Traffic Volume - Net New Site Trips



APPENDIX B – COUNT SHEETS

A16123

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 22, 2023**CITY:** Rialto**JOB #:** SC4165**LOCATION:** DWY1 Western dwy south of Bear Valley Rd (west of Mall Blvd)

AM TIME	NB							PM Time	NB						
	1	2	3	4	5	6	TOTAL		1	2	3	4	5	6	TOTAL
0:00	21	0	0	0	0	0	21	12:00	91	5	1	0	0	0	97
0:15	20	1	1	0	0	0	22	12:15	97	4	1	1	0	0	103
0:30	14	0	0	0	0	0	14	12:30	134	10	1	4	0	0	149
0:45	12	0	0	1	0	0	13	12:45	130	3	4	1	0	0	138
1:00	17	0	0	0	0	0	17	13:00	99	4	3	1	0	0	107
1:15	14	0	0	0	0	0	14	13:15	112	3	0	0	0	0	115
1:30	19	0	0	0	0	0	19	13:30	116	4	0	1	0	2	123
1:45	14	0	0	0	0	0	14	13:45	120	4	2	1	0	2	129
2:00	12	0	0	0	0	0	12	14:00	147	4	0	1	0	1	153
2:15	14	0	0	0	0	0	14	14:15	186	4	0	2	0	1	193
2:30	18	0	1	1	0	0	20	14:30	194	7	1	1	0	2	205
2:45	15	0	0	1	0	0	16	14:45	182	10	1	0	0	0	193
3:00	19	0	0	0	0	0	19	15:00	180	8	2	2	0	0	192
3:15	27	0	0	0	0	0	27	15:15	189	10	1	2	0	2	204
3:30	43	1	0	0	0	0	44	15:30	196	7	1	2	0	0	206
3:45	37	0	0	1	0	0	38	15:45	235	6	2	1	0	0	244
4:00	49	0	0	1	0	0	50	16:00	215	11	2	4	0	0	232
4:15	57	3	0	1	0	0	61	16:15	175	4	1	1	0	0	181
4:30	97	3	0	0	0	0	100	16:30	198	8	2	0	0	0	208
4:45	84	2	0	1	0	0	87	16:45	188	7	1	1	0	0	197
5:00	80	4	0	1	0	0	85	17:00	184	4	1	1	0	0	190
5:15	107	6	1	1	0	0	115	17:15	198	5	0	2	0	0	205
5:30	128	4	0	4	0	0	136	17:30	183	11	1	0	0	0	195
5:45	112	2	1	1	0	0	116	17:45	157	4	1	1	0	0	163
6:00	102	7	0	3	0	0	112	18:00	172	5	0	0	0	0	177
6:15	113	6	0	0	0	0	119	18:15	150	2	2	1	0	0	155
6:30	113	5	2	0	0	0	120	18:30	134	2	0	1	0	0	137
6:45	151	7	0	1	0	0	159	18:45	132	5	0	2	0	0	139
7:00	144	5	2	0	0	0	151	19:00	140	2	0	0	0	0	142
7:15	184	6	1	2	0	0	193	19:15	103	1	0	0	0	0	104
7:30	220	6	2	2	0	1	231	19:30	106	1	1	1	0	0	109
7:45	229	12	0	3	0	1	245	19:45	110	3	1	0	0	0	114
8:00	206	9	0	4	0	0	219	20:00	121	2	0	2	0	0	125
8:15	164	5	2	1	0	0	172	20:15	118	2	0	0	0	0	120
8:30	130	7	2	2	0	1	142	20:30	92	2	0	0	0	0	94
8:45	117	5	0	5	0	1	128	20:45	82	2	0	1	0	0	85
9:00	101	5	0	1	0	0	107	21:00	78	1	0	0	0	0	79
9:15	97	2	1	2	0	0	102	21:15	80	1	0	1	0	0	82
9:30	121	3	1	1	0	0	126	21:30	73	0	1	0	0	0	74
9:45	111	3	2	1	0	0	117	21:45	54	0	0	0	0	0	54
10:00	102	5	2	0	0	0	109	22:00	44	1	0	1	0	0	46
10:15	110	5	0	0	0	0	115	22:15	51	2	0	0	0	0	53
10:30	87	4	0	1	0	0	92	22:30	45	0	0	0	0	0	45
10:45	118	7	1	0	0	1	127	22:45	51	0	0	1	0	0	52
11:00	107	5	1	2	0	0	115	23:00	33	1	0	1	0	0	35
11:15	92	7	2	2	0	0	103	23:15	31	0	0	0	0	0	31
11:30	105	6	0	2	0	0	113	23:30	25	2	0	1	0	0	28
11:45	111	4	1	5	0	0	121	23:45	25	3	0	0	0	0	28
TOTAL	4,165	162	26	54	0	5	4,412	TOTAL	5,956	187	34	43	0	10	6,230
AM PEAK HOUR							7:15 AM	AM PEAK HOUR							3:15 PM
AM PEAK VOLUME							888	AM PEAK VOLUME							886

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	10,121	349	60	97	15	10,642
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	95.1%	3.3%	0.6%	0.9%	0.0%	0.1%
CLASS 3	3-AXLE TRUCKS							
CLASS 4	4 OR MORE AXLE TRUCKS							
CLASS 5	RV	TOTAL: ALL	20,389	711	104	180	0	21,414
CLASS 6	Buses	% OF TOTAL	95.2%	3.3%	0.5%	0.8%	0.0%	0.1%

A16123

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 22, 2023
JOB #: SC4165

CITY: Rialto
LOCATION: DWY1 Western dwy south of Bear Valley Rd (west of Mall Blvd)

AM TIME	SB							PM Time	SB						
	1	2	3	4	5	6	TOTAL		1	2	3	4	5	6	TOTAL
0:00	33	0	0	0	0	0	33	12:00	100	6	0	2	0	0	108
0:15	32	1	0	0	0	0	33	12:15	104	5	0	2	0	0	111
0:30	28	0	0	1	0	0	29	12:30	139	4	1	2	0	0	146
0:45	25	0	0	0	0	0	25	12:45	113	4	0	1	0	0	118
1:00	20	0	1	1	0	0	22	13:00	116	5	0	1	0	1	123
1:15	21	0	0	0	0	0	21	13:15	121	2	1	1	0	0	125
1:30	11	0	0	0	0	0	11	13:30	144	7	0	3	0	1	155
1:45	17	0	0	0	0	0	17	13:45	156	8	1	0	0	0	165
2:00	6	0	0	0	0	0	6	14:00	141	11	1	1	0	0	154
2:15	21	1	0	0	0	0	22	14:15	155	7	0	2	0	0	164
2:30	27	2	0	0	0	0	29	14:30	149	2	0	1	0	2	154
2:45	17	1	0	0	0	0	18	14:45	241	5	0	2	0	0	248
3:00	16	0	0	0	0	0	16	15:00	190	10	0	1	0	1	202
3:15	12	0	0	0	0	0	12	15:15	182	9	0	0	0	0	191
3:30	20	0	0	0	0	0	20	15:30	194	10	0	1	0	1	206
3:45	17	2	3	0	0	0	22	15:45	223	9	2	1	0	1	236
4:00	23	1	0	0	0	0	24	16:00	197	8	0	0	0	0	205
4:15	24	0	1	0	0	0	25	16:15	190	7	2	0	0	0	199
4:30	41	2	0	0	0	0	43	16:30	194	7	1	3	0	1	206
4:45	43	1	1	0	0	0	45	16:45	192	7	3	1	0	0	203
5:00	36	2	0	1	0	0	39	17:00	174	10	0	1	0	0	185
5:15	42	3	0	0	0	0	45	17:15	194	3	0	1	0	0	198
5:30	56	2	0	0	0	0	58	17:30	172	2	0	0	0	0	174
5:45	62	0	0	1	0	0	63	17:45	181	7	0	0	0	0	188
6:00	42	2	0	2	0	0	46	18:00	190	10	0	0	0	0	200
6:15	80	2	3	1	0	0	86	18:15	167	6	0	0	0	0	173
6:30	110	1	0	2	0	0	113	18:30	171	9	0	1	0	0	181
6:45	110	1	0	1	0	0	112	18:45	134	7	0	2	0	0	143
7:00	140	4	1	1	0	0	146	19:00	176	1	1	0	0	0	178
7:15	216	8	1	3	0	2	230	19:15	123	2	0	0	0	0	125
7:30	267	6	2	1	0	0	276	19:30	135	2	1	1	0	0	139
7:45	251	6	1	1	0	2	261	19:45	131	1	0	0	0	0	132
8:00	200	5	3	1	0	0	209	20:00	112	2	0	2	0	0	116
8:15	189	5	1	2	0	0	197	20:15	121	5	0	2	0	0	128
8:30	150	4	1	1	0	0	156	20:30	124	4	0	2	0	0	130
8:45	133	9	1	2	0	0	145	20:45	140	3	0	0	0	0	143
9:00	99	6	0	5	0	0	110	21:00	96	2	0	0	0	0	98
9:15	78	9	1	2	0	2	92	21:15	116	5	0	0	0	0	121
9:30	109	5	1	1	0	0	116	21:30	85	2	0	0	0	0	87
9:45	111	7	0	0	0	0	118	21:45	94	3	1	0	0	0	98
10:00	93	5	1	3	0	0	102	22:00	67	1	0	0	0	0	68
10:15	90	4	0	2	0	0	96	22:15	73	1	1	0	0	0	75
10:30	120	4	0	1	0	0	125	22:30	66	0	0	0	0	0	66
10:45	100	3	0	1	0	0	104	22:45	65	1	0	0	0	0	66
11:00	91	7	1	4	0	0	103	23:00	60	1	0	1	0	0	62
11:15	93	6	1	2	0	0	102	23:15	44	1	0	0	0	0	45
11:30	97	4	1	2	0	0	104	23:30	45	1	0	0	0	0	46
11:45	105	6	2	0	0	1	114	23:45	47	0	0	0	0	0	47
TOTAL	3,724	137	28	45	0	7	3,941	TOTAL	6,544	225	16	38	0	8	6,831
							AM PEAK HOUR 7:15 AM								AM PEAK HOUR 2:45 PM
							AM PEAK VOLUME 976								AM PEAK VOLUME 847

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	10,268	362	44	83	0	15	10,772
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	95.3%	3.4%	0.4%	0.8%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	BUS								

A16123

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 22, 2023**CITY:** Rialto**JOB #:** SC4165**LOCATION:** CLASS2 Pepper between Winchester and I-210 EB Ramp

AM TIME	NB							PM Time	NB						
	1	2	3	4	5	6	TOTAL		1	2	3	4	5	6	TOTAL
0:00	25	0	0	0	0	0	25	12:00	102	5	1	0	0	0	108
0:15	20	1	1	0	0	0	22	12:15	103	3	1	1	0	0	108
0:30	15	0	0	0	0	0	15	12:30	142	10	1	4	0	0	157
0:45	12	0	0	1	0	0	13	12:45	141	3	4	1	0	0	149
1:00	18	0	0	0	0	0	18	13:00	111	4	3	1	0	0	119
1:15	14	0	0	0	0	0	14	13:15	121	2	0	0	0	0	123
1:30	21	0	0	0	0	0	21	13:30	127	4	0	1	0	2	134
1:45	14	0	0	0	0	0	14	13:45	131	3	2	1	0	2	139
2:00	12	0	0	0	0	0	12	14:00	150	5	0	1	0	1	157
2:15	17	0	0	0	0	0	17	14:15	184	5	0	3	0	1	193
2:30	21	0	1	1	0	0	23	14:30	185	8	1	1	0	1	196
2:45	20	0	0	1	0	0	21	14:45	168	9	1	0	0	0	178
3:00	19	0	0	0	0	0	19	15:00	199	9	2	2	0	0	212
3:15	34	0	0	0	0	0	34	15:15	202	10	1	2	0	2	217
3:30	47	1	0	0	0	0	48	15:30	218	6	1	2	0	1	228
3:45	43	0	0	1	0	0	44	15:45	246	6	2	1	0	0	255
4:00	53	0	0	1	0	0	54	16:00	231	11	2	4	0	0	248
4:15	64	3	0	1	0	0	68	16:15	182	4	1	1	0	0	188
4:30	111	3	0	0	0	0	114	16:30	207	8	2	0	0	1	218
4:45	95	2	0	1	0	0	98	16:45	195	7	1	1	0	0	204
5:00	86	5	0	1	0	0	92	17:00	200	4	1	1	0	0	206
5:15	115	6	1	1	0	0	123	17:15	212	6	0	2	0	0	220
5:30	141	4	0	4	0	0	149	17:30	192	12	1	0	0	0	205
5:45	127	2	1	1	0	0	131	17:45	173	3	1	1	0	0	178
6:00	113	7	0	3	0	0	123	18:00	183	6	0	0	0	0	189
6:15	125	9	0	0	0	0	134	18:15	162	2	2	1	0	0	167
6:30	132	5	2	0	0	0	139	18:30	149	3	0	1	0	0	153
6:45	169	7	0	1	0	0	177	18:45	143	5	0	3	0	0	151
7:00	166	5	2	1	0	0	174	19:00	151	3	0	0	0	0	154
7:15	212	5	2	2	0	0	221	19:15	119	1	0	0	0	0	120
7:30	199	6	2	2	0	1	210	19:30	117	1	1	1	0	0	120
7:45	224	13	0	3	0	2	242	19:45	126	3	1	0	0	0	130
8:00	217	10	0	4	0	0	231	20:00	125	2	0	2	0	0	129
8:15	183	7	2	1	0	0	193	20:15	125	2	0	0	0	0	127
8:30	144	7	2	2	0	1	156	20:30	101	2	0	0	0	0	103
8:45	126	5	0	5	0	1	137	20:45	87	2	0	1	0	0	90
9:00	108	5	0	1	0	0	114	21:00	88	1	0	0	0	0	89
9:15	113	3	1	2	0	0	119	21:15	81	1	0	1	0	0	83
9:30	132	2	1	1	0	0	136	21:30	86	0	1	0	0	0	87
9:45	120	3	2	1	0	1	127	21:45	57	0	0	0	0	0	57
10:00	108	4	2	0	0	0	114	22:00	53	1	0	1	0	0	55
10:15	125	5	0	0	0	0	130	22:15	53	2	0	0	0	0	55
10:30	102	4	0	1	0	0	107	22:30	47	0	0	0	0	0	47
10:45	130	7	1	0	0	1	139	22:45	55	0	0	1	0	0	56
11:00	112	5	1	2	0	0	120	23:00	34	1	0	1	0	0	36
11:15	102	7	2	2	0	0	113	23:15	32	0	0	0	0	0	32
11:30	112	6	0	1	0	0	119	23:30	25	2	0	1	0	0	28
11:45	121	3	1	5	0	0	130	23:45	28	3	0	0	0	0	31
TOTAL	4,539	167	27	54	0	7	4,794	TOTAL	6,349	190	34	45	0	11	6,629

AM PEAK HOUR 7:15 AM
AM PEAK VOLUME 904

AM PEAK HOUR 3:15 PM
AM PEAK VOLUME 948

CLASS 1 PASSENGER VEHICLES	TOTAL: AM+PM	10,888	357	61	99	0	18	11,423
CLASS 2 2-AXLE TRUCKS	% OF TOTAL	95.3%	3.1%	0.5%	0.9%	0.0%	0.2%	100.0%
CLASS 3 3-AXLE TRUCKS								
CLASS 4 4 OR MORE AXLE TRUCKS								
CLASS 5 RV	TOTAL: ALL	21,789	733	107	182	0	36	22,847
CLASS 6 Buses	% OF TOTAL	95.4%	3.2%	0.5%	0.8%	0.0%	0.2%	100.0%

A16123

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, August 22, 2023
JOB #: SC4165CITY: Rialto
LOCATION: CLASS2 Pepper between Winchester and I-210 EB Ramp

AM TIME	SB							PM Time	SB						
	1	2	3	4	5	6	TOTAL		1	2	3	4	5	6	TOTAL
0:00	39	0	0	0	0	0	39	12:00	105	6	0	2	0	0	113
0:15	36	1	0	0	0	0	37	12:15	108	5	0	2	0	0	115
0:30	28	0	0	1	0	0	29	12:30	152	5	1	2	0	1	161
0:45	27	0	0	0	0	0	27	12:45	123	4	0	1	0	0	128
1:00	21	0	1	1	0	0	23	13:00	127	4	0	1	0	1	133
1:15	22	0	0	0	0	0	22	13:15	127	3	1	1	0	0	132
1:30	14	0	0	0	0	0	14	13:30	151	7	0	3	0	1	162
1:45	17	0	0	0	0	0	17	13:45	168	9	1	0	0	0	178
2:00	7	0	0	0	0	0	7	14:00	157	12	1	1	0	0	171
2:15	23	1	0	0	0	0	24	14:15	173	7	0	2	0	1	183
2:30	30	2	0	0	0	0	32	14:30	155	2	0	1	0	2	160
2:45	17	1	0	0	0	0	18	14:45	197	5	0	2	0	0	204
3:00	18	0	0	0	0	0	18	15:00	193	11	0	1	0	1	206
3:15	13	0	0	0	0	0	13	15:15	200	9	0	0	0	0	209
3:30	19	0	0	0	0	0	19	15:30	206	12	0	1	0	1	220
3:45	19	2	3	0	0	0	24	15:45	241	8	2	1	0	1	253
4:00	22	1	0	0	0	0	23	16:00	206	9	0	0	0	0	215
4:15	25	0	1	0	0	0	26	16:15	203	7	2	0	0	0	212
4:30	43	2	0	0	0	0	45	16:30	212	8	1	2	0	1	224
4:45	45	1	1	0	0	0	47	16:45	207	6	3	1	0	0	217
5:00	39	2	0	1	0	0	42	17:00	187	10	0	1	0	0	198
5:15	43	2	0	0	0	0	45	17:15	218	4	0	1	0	0	223
5:30	57	2	0	0	0	0	59	17:30	186	2	0	0	0	0	188
5:45	63	0	0	1	0	0	64	17:45	193	7	0	0	0	0	200
6:00	44	2	0	2	0	0	48	18:00	213	11	0	0	0	0	224
6:15	85	3	3	1	0	0	92	18:15	185	7	0	0	0	0	192
6:30	114	1	0	2	0	0	117	18:30	192	9	0	1	0	0	202
6:45	116	1	1	1	0	0	119	18:45	143	8	0	2	0	0	153
7:00	151	4	1	1	0	0	157	19:00	197	1	1	0	0	0	199
7:15	223	9	1	3	0	2	238	19:15	139	3	0	0	0	0	142
7:30	270	6	2	1	0	0	279	19:30	148	1	1	1	0	0	151
7:45	236	7	2	1	0	2	248	19:45	153	1	0	1	0	0	155
8:00	200	6	3	1	0	0	210	20:00	130	2	0	2	0	0	134
8:15	200	5	1	2	0	0	208	20:15	131	5	0	2	0	0	138
8:30	154	4	1	1	0	0	160	20:30	136	5	0	2	0	0	143
8:45	135	10	1	2	0	0	148	20:45	150	3	0	0	0	0	153
9:00	102	5	0	5	0	0	112	21:00	103	1	0	0	0	0	104
9:15	88	10	1	2	0	2	103	21:15	120	5	0	0	0	0	125
9:30	111	5	1	1	0	0	118	21:30	92	2	0	0	0	0	94
9:45	113	7	0	0	0	0	120	21:45	108	3	1	0	0	0	112
10:00	100	5	1	3	0	0	109	22:00	77	1	0	0	0	0	78
10:15	93	5	0	1	0	0	99	22:15	80	1	1	0	0	0	82
10:30	119	3	0	1	0	1	124	22:30	70	0	0	0	0	0	70
10:45	102	3	0	1	0	0	106	22:45	72	1	0	0	0	0	73
11:00	97	7	1	4	0	0	109	23:00	66	1	0	1	0	0	68
11:15	103	6	1	3	0	0	113	23:15	49	1	0	0	0	0	50
11:30	104	4	1	2	0	0	111	23:30	47	1	0	0	0	0	48
11:45	108	6	2	0	0	1	117	23:45	50	0	0	0	0	0	50
TOTAL	3,855	141	30	45	0	8	4,079	TOTAL	7,046	235	16	38	0	10	7,345
AM PEAK HOUR							7:15 AM	AM PEAK HOUR							3:45 PM
AM PEAK VOLUME							975	AM PEAK VOLUME							904

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	10,901	376	46	83	0	18	11,424
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	95.4%	3.3%	0.4%	0.7%	0.0%	0.2%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	BUS								

INTERSECTION TURNING MOVEMENT COUNTS

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

T050223

DATE: Tue, Aug 22, 23	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Highland	PROJECT #: LOCATION #: CONTROL:	SC4165 1 SIGNAL
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NOTES:

AM PM MD OTHER RTOR	▲ N ◀ W S ▼	▶ E
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Highland			WESTBOUND Highland			TOTAL
LANES:	NL 1	NT 1	NR 1	SL 0.3	ST 0.3	SR 0.3	EL 1	ET 1.5	ER 0.5	WL 1	WT 1.5	WR 0.5	

AM	7:00 AM	35	3	17	0	3	0	0	20	17	66	31	0	192
	7:15 AM	34	3	38	0	1	0	0	19	27	91	45	0	258
	7:30 AM	27	1	45	1	2	2	0	27	34	88	59	0	286
	7:45 AM	34	3	53	0	2	0	0	48	33	65	48	0	286
	8:00 AM	35	1	51	0	3	0	0	36	27	76	39	0	268
	8:15 AM	32	1	47	1	0	0	0	30	21	92	49	1	274
	8:30 AM	33	0	39	0	1	0	0	45	18	58	51	0	245
	8:45 AM	34	1	34	0	1	0	0	29	21	47	39	0	206
	VOLUMES	264	13	324	2	13	2	0	254	198	583	361	1	2,020
	APPROACH %	44%	2%	54%	12%	76%	12%	0%	56%	44%	62%	38%	0%	
APP/DEPART		605	/	14	17	/	798	453	/	580	945	/	628	0
BEGIN PEAK HR		7:30 AM												
VOLUMES		128	6	196	2	7	2	0	141	115	321	195	1	1,114
APPROACH %		39%	2%	59%	18%	64%	18%	0%	55%	45%	62%	38%	0%	
PEAK HR FACTOR		0.917			0.550			0.790			0.879			0.974
APP/DEPART		330	/	7	11	/	443	256	/	339	517	/	325	0
PM	4:00 PM	35	0	86	0	0	0	0	61	28	71	61	0	342
	4:15 PM	31	0	85	0	0	0	0	56	19	62	58	0	311
	4:30 PM	30	0	91	0	0	0	0	62	26	71	51	0	331
	4:45 PM	28	0	78	0	0	0	0	56	33	61	60	0	316
	5:00 PM	27	0	64	0	0	0	0	66	25	51	59	0	292
	5:15 PM	40	0	88	0	0	0	0	72	17	67	65	0	349
	5:30 PM	31	0	75	0	0	0	0	70	24	52	56	0	308
	5:45 PM	29	1	76	0	0	0	0	46	19	56	75	0	302
	VOLUMES	251	1	643	0	0	0	0	489	191	491	485	0	2,552
	APPROACH %	28%	0%	72%	0%	0%	0%	0%	72%	28%	50%	50%	0%	
APP/DEPART		896	/	1	0	/	683	680	/	1,132	976	/	736	0
BEGIN PEAK HR		4:00 PM												
VOLUMES		124	0	340	0	0	0	0	235	106	265	230	0	1,300
APPROACH %		27%	0%	73%	0%	0%	0%	0%	69%	31%	54%	46%	0%	
PEAK HR FACTOR		0.959			0.000			0.958			0.938			0.950
APP/DEPART		464	/	0	0	/	371	341	/	575	495	/	354	0

Pepper

NORTH SIDE

Highland

WEST SIDE

EAST SIDE

Highland

SOUTH SIDE

Pepper

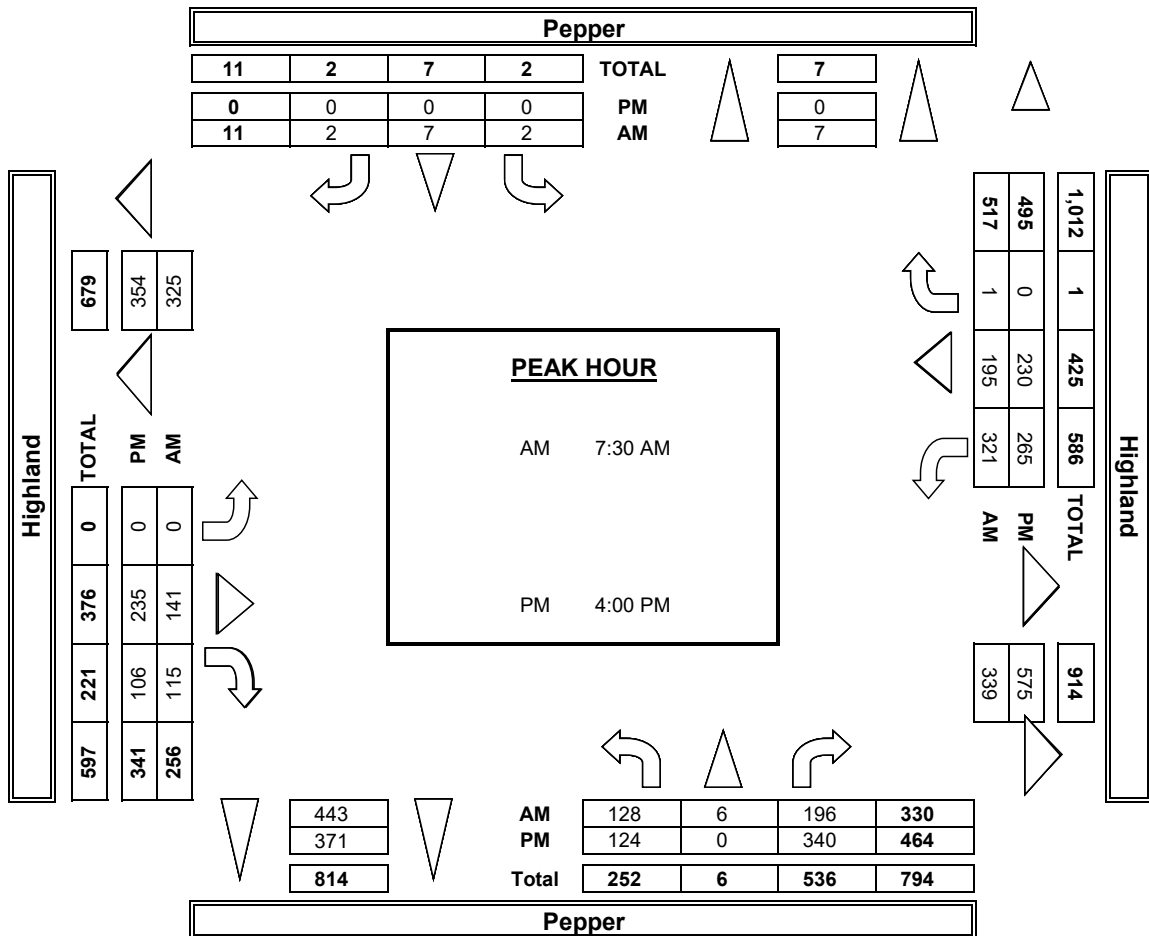
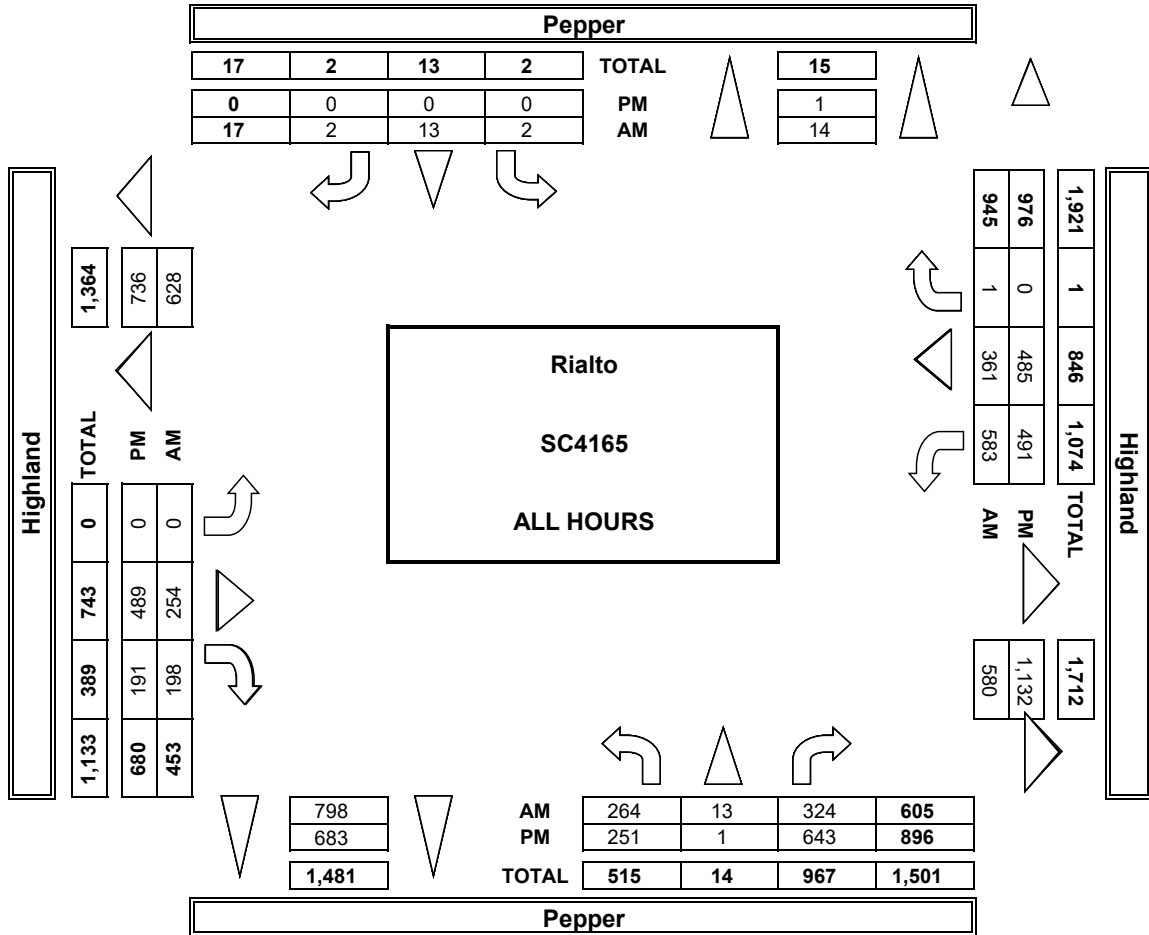
AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	TOTAL	
	4:00 PM	
PM	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

ALL PED AND BIKE				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	1	2
0	1	0	0	1
0	0	0	0	0
0	0	1	0	1
0	1	2	2	5
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
0	2	0	2	4
0	0	0	0	0
0	0	0	0	0
0	2	2	2	6

PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	2	1	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
0	2	0	2	4
0	0	0	0	0
0	0	0	0	0
0	2	2	2	6

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

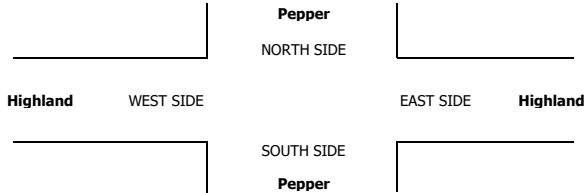
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Highland	PROJECT #: LOCATION #: CONTROL:	SC4165 1 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER	▲ N S ▼	◀ W E ▶
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Highland			WESTBOUND Highland			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

AM	7:00 AM	22	0	17	0	0	0	0	18	10	60	25	0	152
	7:15 AM	24	0	38	0	0	0	0	19	19	86	42	0	228
	7:30 AM	20	0	42	0	0	0	0	23	23	80	58	0	246
	7:45 AM	24	0	51	0	0	0	0	44	24	60	45	0	248
	8:00 AM	25	0	46	0	0	0	0	32	21	73	37	0	234
	8:15 AM	27	0	45	1	0	0	0	28	12	88	47	1	249
	8:30 AM	20	0	36	0	0	0	0	40	13	57	49	0	215
	8:45 AM	24	0	32	0	0	0	0	26	12	44	38	0	176
	VOLUMES	186	0	307	1	0	0	0	230	134	548	341	1	1,753
	APPROACH %	37%	0%	62%	100%	0%	0%	0%	63%	37%	62%	38%	0%	
PM	APP/DEPART	497	/	1	1	/	686	365	/	538	890	/	528	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	96	0	184	1	0	0	0	127	80	301	187	1	977
	APPROACH %	34%	0%	66%	100%	0%	0%	0%	61%	39%	62%	38%	0%	
	PEAK HR FACTOR	0.933												
	APP/DEPART	280	/	1	1	/	381	207	/	312	489	/	283	0
	4:00 PM	31	0	79	0	0	0	0	58	24	67	57	0	316
	4:15 PM	29	0	81	0	0	0	0	53	16	59	56	0	294
	4:30 PM	25	0	85	0	0	0	0	61	22	65	50	0	308
	4:45 PM	25	0	74	0	0	0	0	54	30	57	58	0	298
	5:00 PM	26	0	61	0	0	0	0	63	25	50	59	0	284
	5:15 PM	39	0	84	0	0	0	0	68	17	67	65	0	340
	5:30 PM	27	0	67	0	0	0	0	68	24	51	54	0	291
	5:45 PM	29	1	71	0	0	0	0	44	19	54	74	0	292
	VOLUMES	231	1	602	0	0	0	0	469	177	470	473	0	2,424
	APPROACH %	28%	0%	72%	0%	0%	0%	0%	73%	27%	50%	50%	0%	
	APP/DEPART	835	/	1	0	/	648	646	/	1,071	943	/	704	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	110	0	319	0	0	0	0	226	92	248	221	0	1,216
	APPROACH %	26%	0%	74%	0%	0%	0%	0%	71%	29%	53%	47%	0%	
	PEAK HR FACTOR	0.975												
	APP/DEPART	429	/	0	0	/	340	318	/	545	469	/	331	0



U-TURNS				
NB	SB	EB	WB	TTL

2	0	1	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
4	0	1	0	5

RTOR			
NRR	SRR	ERR	WRR

10	0	6	0
10	0	14	0
24	0	3	0
24	0	9	0
33	0	2	0
30	0	5	0
19	0	4	0
13	0	6	0
163	0	49	0

111	0	19	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1

26	0	9	0
46	0	8	0
48	0	10	0
34	0	9	0
30	0	8	0
33	0	5	0
55	0	7	0
38	0	10	0
310	0	66	0

154	0	36	0
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PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

CLASS 2:	NOTES:	AM		▲	
2-AXLE		PM			
WORK		MD	◀ W		E ▶
VEHICLES/		OTHER		S	
TRUCKS		OTHER		▼	

RTOR			
NRR 0	SRR 0	ERR 0	WRR X

0	0	0	0
0	0	0	0
0	2	0	0
0	0	0	0
0	0	0	0
0	0	1	0
1	0	0	0
0	0	1	0
1	2	2	0

1	0	0	0
1	0	0	0
2	0	1	0
2	0	1	0
0	0	0	0
1	0	0	0
4	0	0	0
3	0	0	0
14	0	2	0

6	0	2	0
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		Pepper	
		NORTH SIDE	
Highland	WEST SIDE		EAST SIDE
		SOUTH SIDE	
		Pepper	

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Highland	PROJECT #: LOCATION #: CONTROL:	SC4165 1 SIGNAL
CLASS 3: 3-AXLE TRUCKS	NOTES:		AM PM MD OTHER ▲ ◀ ▶ ▼ N W E S	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Highland			Highland			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	0.3	0.3	0.3	1	1.5	0.5	1	1.5	0.5	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	X

AM	7:00 AM	4	0	0	0	0	0	0	1	3	1	0	9
	7:15 AM	1	2	0	0	1	0	0	0	0	0	0	4
	7:30 AM	2	0	1	0	0	0	0	1	0	1	0	5
	7:45 AM	1	0	0	0	0	0	0	1	2	1	0	5
	8:00 AM	3	1	0	0	0	0	0	0	0	0	0	4
	8:15 AM	0	0	0	0	0	0	0	1	1	0	0	2
	8:30 AM	3	0	0	0	1	0	0	0	0	0	0	4
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	1
	VOLUMES	14	4	1	0	2	0	0	1	3	7	2	34
	APPROACH %	74%	21%	5%	0%	100%	0%	0%	25%	75%	78%	22%	0%
PM	APPROACH %	19	4	2	12	4	2	9	16	0			
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	6	1	1	0	0	0	0	1	3	4	1	16
	APPROACH %	75%	13%	13%	0%	0%	0%	0%	33%	67%	80%	20%	0%
	PEAK HR FACTOR	0.500			0.000			0.750			0.417		
	APPROACH %	8	1	0	6	3	2	5	7	0			
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	2	0	0	0	0	0	0	1	0	3
	APPROACH %	0	0	0	0	0	0	0	1	0	0	0	1
	APPROACH %	1	0	0	0	0	0	0	0	1	0	0	2
PM	4:45 PM	0	0	0	0	0	0	0	0	1	1	0	2
	5:00 PM	0	0	1	0	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1
	VOLUMES	1	0	3	0	0	0	0	3	0	2	2	11
	APPROACH %	25%	0%	75%	0%	0%	0%	0%	100%	0%	50%	50%	0%
	APPROACH %	4	0	0	2	3	6	4	3	0			
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	1	0	2	0	0	0	0	1	0	2	2	8
PM	APPROACH %	33%	0%	67%	0%	0%	0%	0%	100%	0%	50%	50%	0%
	PEAK HR FACTOR	0.375			0.000			0.250			0.500		
	APPROACH %	3	0	0	2	1	3	4	3	0			
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0	0	0	0	0	0	0	1	0	0	0	1
	APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0
	PEAK HR FACTOR	0.375			0.000			0.250			0.500		
	APPROACH %	3	0	0	2	1	3	4	3	0			
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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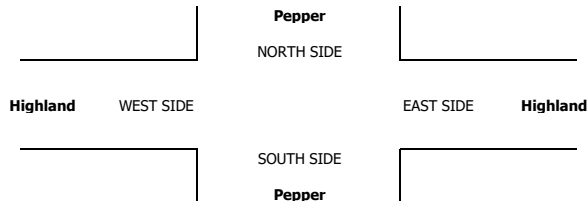
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0	0	0	0
0	0	0	0
1	0	1	0

1	0	0	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Highland	PROJECT #: LOCATION #: CONTROL:	SC4165 1 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	APB PM MD OTHER: OTHER:	▲ N S ▼	◀ W E ▶
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	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Highland			Highland			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	1	1	0.3	0.3	0.3	1	1.5	0.5	1	1.5	0.5	

U-TURNS					
NB	SB	EB	WB	TTL	

RTOR			
NRR	SRR	ERR	WRR
0	0	0	X

AM	7:00 AM	4	0	0	0	0	0	0	6	2	1	0	13
	7:15 AM	8	0	0	0	0	0	0	6	0	1	0	15
	7:30 AM	3	0	1	0	0	0	0	10	2	0	0	16
	7:45 AM	6	0	0	0	2	0	0	8	1	0	0	17
	8:00 AM	5	0	1	0	0	0	0	6	2	0	0	14
	8:15 AM	3	0	1	0	0	0	0	6	0	1	0	11
	8:30 AM	7	0	0	0	0	0	0	4	0	1	0	12
	8:45 AM	10	0	0	0	0	0	1	7	1	0	0	19
	VOLUMES	46	0	3	0	2	0	0	1	8	4	0	117
	APPROACH %	94%	0%	6%	0%	100%	0%	0%	2%	67%	33%	0%	
PM	APP/DEPART	49	/	0	2	/	63	54	/	4	12	/	50
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	17	0	3	0	2	0	0	0	30	5	1	58
	APPROACH %	85%	0%	15%	0%	100%	0%	0%	0%	100%	83%	17%	0%
	PEAK HR FACTOR	0.833											
	APP/DEPART	20	/	0	2	/	37	30	/	3	6	/	18
	04:00 PM	0	0	2	0	0	0	0	1	1	1	0	5
	4:15 PM	0	0	1	0	0	0	0	0	1	1	1	4
	4:30 PM	0	0	3	0	0	0	0	0	2	1	0	6
	4:45 PM	0	0	1	0	0	0	0	0	0	2	0	3
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	1	0	0	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1
	5:45 PM	0	0	1	0	0	0	0	0	0	0	0	1
	VOLUMES	0	0	9	0	0	0	0	1	4	6	1	21
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	20%	80%	86%	14%	0%
	APP/DEPART	9	/	0	0	/	10	5	/	10	7	/	1
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	7	0	0	0	0	1	4	5	1	18
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	20%	80%	83%	17%	0%
PM	PEAK HR FACTOR	0.583											
	APP/DEPART	7	/	0	0	/	9	5	/	8	6	/	1

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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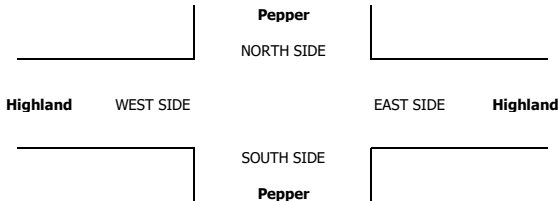
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0	0	1	0
2	0	14	0

2	0	10	0
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1	0	1	0
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0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
4	0	1	0

3	0	1	0
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PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

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

CLASS 5:	NOTES:	AM		▲	
RV		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Highland			Highland			
LANES:	NL 1	NT 1	NR 1	SL 0.3	ST 0.3	SR 0.3	EL 1	ET 1.5	ER 0.5	WL 1	WT 1.5	WR 0.5	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR X

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	PEAK HR FACTOR	0.000			0.000			0.000			0.000		
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0
	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.000			
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	

[illegible][illegible]

0	0	0	0
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Highland	WEST SIDE	EAST SIDE	Highland
	SOUTH SIDE		
	Pepper		

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Highland	PROJECT #: SC4165 LOCATION #: 1 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
BUSES			

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Highland			Highland			
LANES:	NL 1	NT 1	NR 1	SL 0.3	ST 0.3	SR 0.3	EL 1	ET 1.5	ER 0.5	WL 1	WT 1.5	WR 0.5	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR X

AM	7:00 AM	0	0	0	0	0	0	1	0	0	1	0	2
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1
	8:00 AM	0	0	0	0	0	0	1	0	0	0	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	1	0	0	0	1	0	0	0	0	2
	VOLUMES	0	0	1	0	0	0	3	0	0	2	0	6
	APPROACH %	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%	
PM	APPROACH %	1	/	0	0	/	0	3	/	4	2	/	2
	APP/DEPART	1	/	0	0	/	0	3	/	4	2	/	2
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	0	0	0	0	0	0	1	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.000			0.250			0.250		
	PEAK HR FACTOR	0.000			0.000			0.250			0.250		
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1
	VOLUMES	0	0	0	0	0	0	2	0	0	4	0	6
PM	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	2	/	2	4	/	4
	APP/DEPART	0	/	0	0	/	0	2	/	2	4	/	4
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	0	0	1	0	0	3	0	4
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR	0.000			0.000			0.250			0.375		
	PEAK HR FACTOR	0.000			0.000			0.250			0.375		
	APP/DEPART	0	/	0	0	/	0	1	/	1	3	/	3
	APP/DEPART	0	/	0	0	/	0	1	/	1	3	/	3

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0

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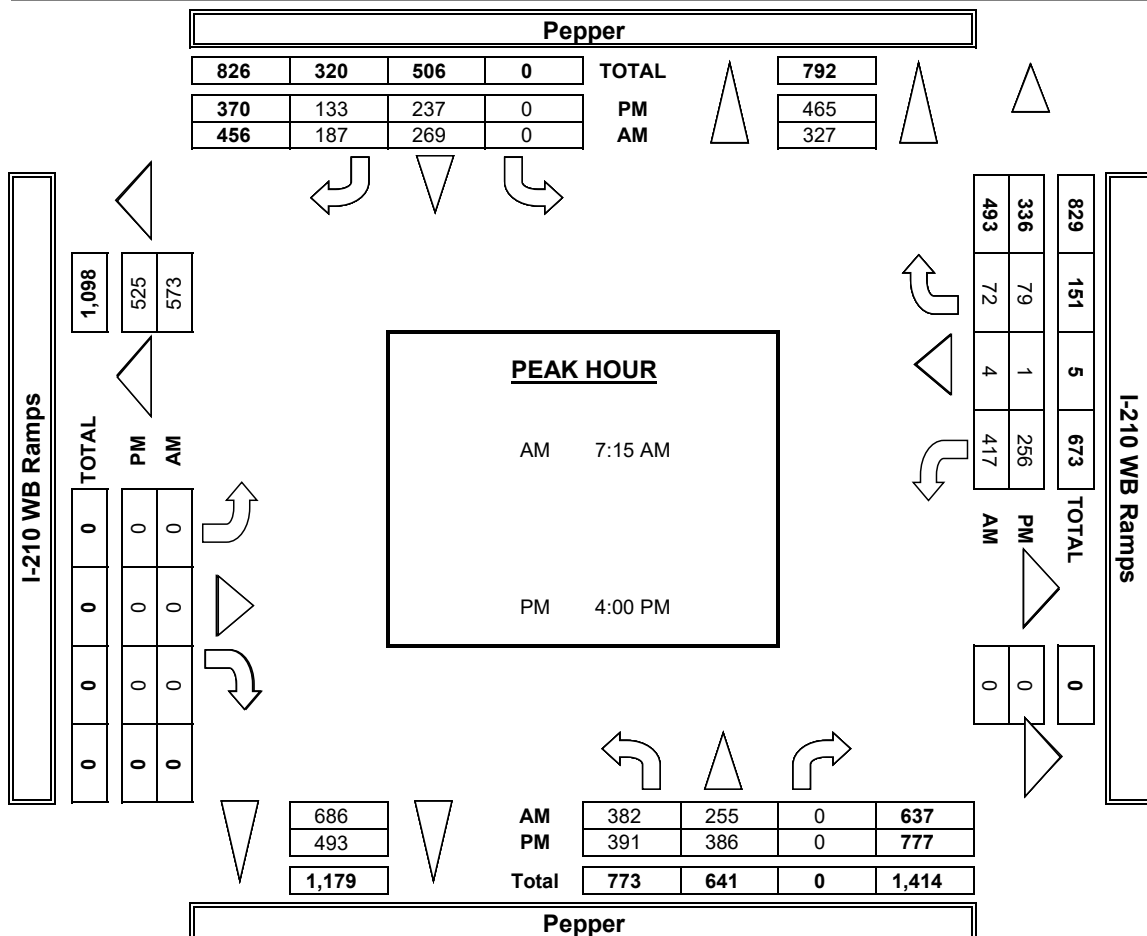
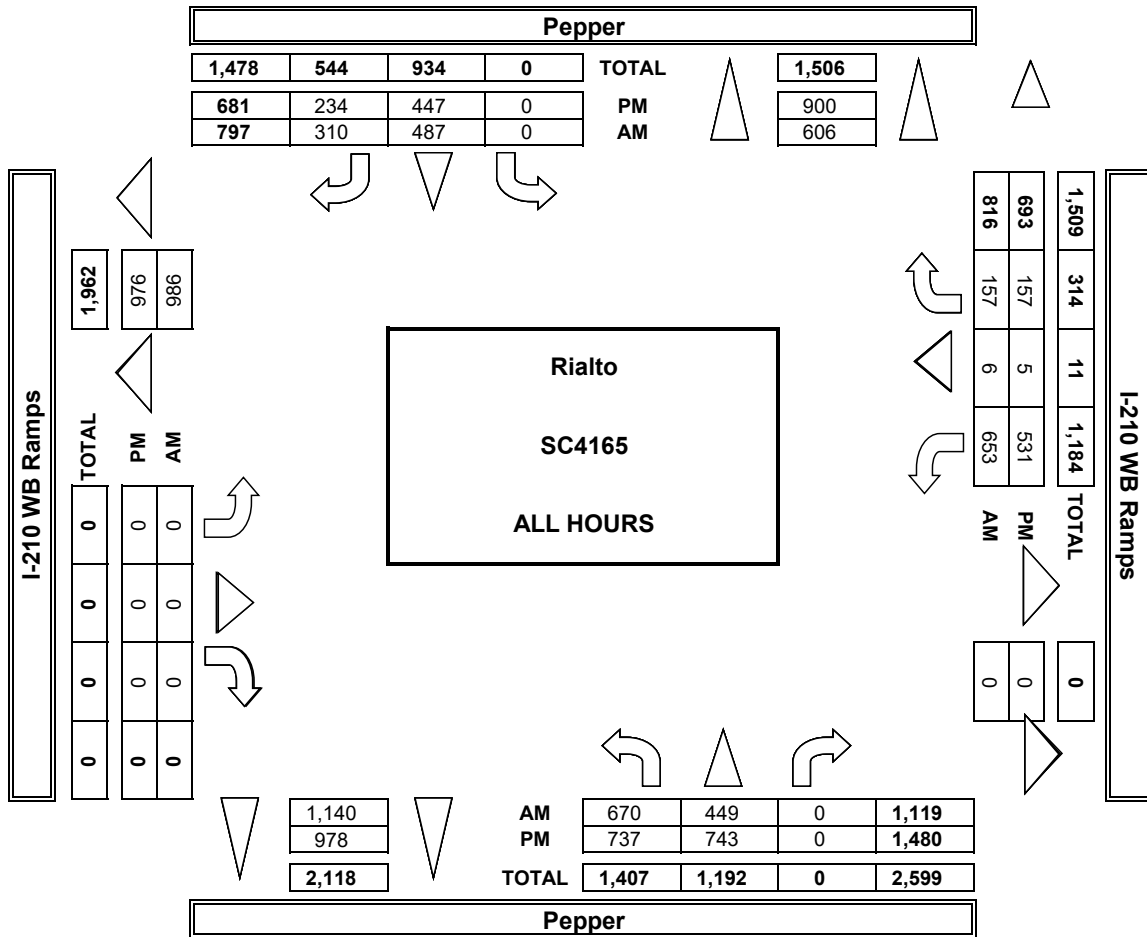
0	0	0	0
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	Pepper	
	NORTH SIDE	
Highland	WEST SIDE	EAST SIDE
	Highland	
	SOUTH SIDE	
	Pepper	

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

T050223

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 WB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 2 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▶ E ▼
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND I-210 WB Ramps			WESTBOUND I-210 WB Ramps			
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

AM	7:00 AM	95	27	0	0	29	39	0	0	0	66	0	20	276
	7:15 AM	92	51	0	0	35	53	0	0	0	104	1	15	351
	7:30 AM	91	52	0	0	72	46	0	0	0	123	1	13	398
	7:45 AM	106	60	0	0	58	30	0	0	0	117	1	11	383
	8:00 AM	69	58	0	0	66	31	0	0	0	63	1	14	302
	8:15 AM	62	57	0	0	79	19	0	0	0	66	0	9	292
	8:30 AM	56	43	0	0	43	26	0	0	0	42	0	13	223
	8:45 AM	53	41	0	0	35	24	0	0	0	52	1	14	220
	VOLUMES	624	389	0	0	417	268	0	0	0	633	5	109	2,445
	APPROACH %	62%	38%	0%	0%	61%	39%	0%	0%	0%	85%	1%	15%	
PM	APP/DEPART	1,013	/	498	685	/	1,050	0	/	0	747	/	897	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	358	221	0	0	231	160	0	0	0	407	4	53	1,434
	APPROACH %	62%	38%	0%	0%	59%	41%	0%	0%	0%	88%	1%	11%	
	PEAK HR FACTOR	0.872			0.828			0.000			0.847			0.901
	APP/DEPART	579	/	274	391	/	638	0	/	0	464	/	522	0
	4:00 PM	99	96	0	0	55	31	0	0	0	57	0	19	357
	4:15 PM	95	89	0	0	42	32	0	0	0	67	0	16	341
	4:30 PM	96	90	0	0	58	31	0	0	0	66	1	21	363
	4:45 PM	85	80	0	0	66	24	0	0	0	56	0	19	330
	5:00 PM	67	78	0	0	48	28	0	0	0	67	1	14	303
	5:15 PM	100	97	0	0	58	27	0	0	0	72	1	26	381
	5:30 PM	91	79	0	0	51	21	0	0	0	56	2	18	318
	5:45 PM	77	77	0	0	51	23	0	0	0	64	0	20	312
	VOLUMES	710	686	0	0	429	217	0	0	0	505	5	153	2,705
	APPROACH %	51%	49%	0%	0%	66%	34%	0%	0%	0%	76%	1%	23%	
	APP/DEPART	1,396	/	839	646	/	934	0	/	0	663	/	932	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	375	355	0	0	221	118	0	0	0	246	1	75	1,391
	APPROACH %	51%	49%	0%	0%	65%	35%	0%	0%	0%	76%	0%	23%	
	PEAK HR FACTOR	0.936			0.942			0.000			0.915			0.958
	APP/DEPART	730	/	430	339	/	467	0	/	0	322	/	494	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR

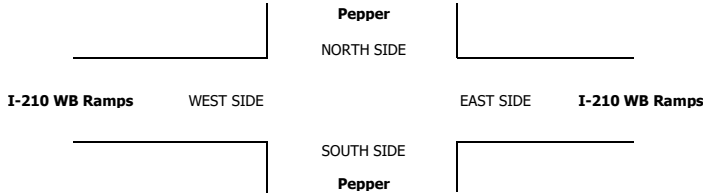
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0	4	0	2
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0	7	0	6
0	5	0	5
0	9	0	4
0	67	0	42

0	39	0	17
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0	0	0	0	0

0	9	0	10
0	13	0	7
0	16	0	9
0	3	0	11
0	16	0	5
0	16	0	12
0	9	0	10
0	15	0	12
0	97	0	76

0	41	0	37
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CLASS 2:	NOTES:	AM		▲	
2-AXLE		PM		N	
WORK		MD	◀ W		E ▶
VEHICLES/ TRUCKS		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 WB Ramps			I-210 WB Ramps			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	X	X	1.5	0.5	X	X	X	1	0.5	0.5	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR X	SRR 0	ERR X	WRR 0

AM	7:00 AM	3	3	0	0	2	2	0	0	0	1	0	5	16
	7:15 AM	2	2	0	0	2	5	0	0	0	1	0	0	12
	7:30 AM	1	4	0	0	3	5	0	0	0	2	0	0	15
	7:45 AM	7	6	0	0	1	1	0	0	0	2	0	2	19
	8:00 AM	2	5	0	0	2	2	0	0	0	2	0	1	14
	8:15 AM	3	3	0	0	3	2	0	0	0	3	0	1	15
	8:30 AM	4	5	0	0	2	0	0	0	0	1	0	1	13
	8:45 AM	1	1	0	0	2	3	0	0	0	4	0	0	11
	VOLUMES	23	29	0	0	17	20	0	0	0	16	0	10	115
	APPROACH %	44%	56%	0%	0%	46%	54%	0%	0%	0%	62%	0%	38%	
APP/DEPART	52	/	39	37	/	33	0	/	0	26	/	43	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	12	17	0	0	8	13	0	0	0	7	0	3	60	
APPROACH %	41%	59%	0%	0%	38%	62%	0%	0%	0%	70%	0%	30%		
PEAK HR FACTOR	0.558													
APP/DEPART	29	/	20	21	/	15	0	/	0	10	/	25	0	
PM	04:00 PM	1	6	0	0	3	2	0	0	0	2	0	1	15
	4:15 PM	3	5	0	0	1	3	0	0	0	2	0	0	14
	4:30 PM	4	6	0	0	5	2	0	0	0	2	0	1	20
	4:45 PM	0	5	0	0	2	2	0	0	0	2	0	1	12
	5:00 PM	1	3	0	0	1	0	0	0	0	7	0	0	12
	5:15 PM	1	4	0	0	0	0	0	0	0	2	0	0	7
	5:30 PM	3	12	0	0	0	0	0	0	0	0	0	0	15
	5:45 PM	3	4	0	0	1	1	0	0	0	6	0	0	15
	VOLUMES	16	45	0	0	13	10	0	0	0	23	0	3	110
	APPROACH %	26%	74%	0%	0%	57%	43%	0%	0%	0%	88%	0%	12%	
APP/DEPART	61	/	48	23	/	36	0	/	0	26	/	26	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	8	22	0	0	11	9	0	0	0	8	0	3	61	
APPROACH %	27%	73%	0%	0%	55%	45%	0%	0%	0%	73%	0%	27%		
PEAK HR FACTOR	0.750													
APP/DEPART	30	/	25	20	/	19	0	/	0	11	/	17	0	

[illegible]

0	0	0	1
0	2	0	0
0	2	0	0
0	0	0	2
0	0	0	0
0	0	0	0
0	0	0	1
0	1	0	0
0	5	0	4

0	4	0	2
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[illegible]

0	0	0	0
0	1	0	0
0	2	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	4	0	1

0	3	0	1
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NORTH SIDE

EAST SIDE I-210 WB Ramps

Pepper

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 WB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 2 SIGNAL
CLASS 3: 3-AXLE TRUCKS	NOTES:		AM PM MD OTHER ▲ ◀ ▶ ▼ N W E S	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 WB Ramps			I-210 WB Ramps			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	X	X	1.5	0.5	X	X	X	1	0.5	0.5	
7:00 AM	1	3	0	0	2	1	0	0	0	0	0	2	9
7:15 AM	1	3	0	0	1	0	0	0	0	0	0	1	6
7:30 AM	1	3	0	0	1	0	0	0	0	0	0	0	5
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	3	5
8:15 AM	2	0	0	0	2	1	0	0	0	0	0	0	5
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	2	4
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
VOLUMES	6	11	0	0	9	3	0	0	0	0	0	8	37
APPROACH %	35%	65%	0%	0%	75%	25%	0%	0%	0%	0%	0%	100%	
APP/DEPART	17	/	19	12	/	9	0	/	0	8	/	9	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	2	7	0	0	5	0	0	0	0	0	0	4	18
APPROACH %	22%	78%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	
PEAK HR FACTOR	0.563			0.625			0.000			0.333			0.750
APP/DEPART	9	/	11	5	/	5	0	/	0	4	/	2	0
04:00 PM	2	2	0	0	1	1	0	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:45 PM	1	0	0	0	0	0	0	0	0	1	0	0	2
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	4	3	0	0	1	1	0	0	0	1	0	1	11
APPROACH %	57%	43%	0%	0%	50%	50%	0%	0%	0%	50%	0%	50%	
APP/DEPART	7	/	4	2	/	2	0	/	0	2	/	5	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	3	2	0	0	1	1	0	0	0	1	0	1	9
APPROACH %	60%	40%	0%	0%	50%	50%	0%	0%	0%	50%	0%	50%	
PEAK HR FACTOR	0.313			0.250			0.000			0.500			0.375
APP/DEPART	5	/	3	2	/	2	0	/	0	2	/	4	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
X	0	X	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	1
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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Pepper

NORTH SIDE

I-210 WB Ramps WEST SIDE

EAST SIDE I-210 WB Ramps

SOUTH SIDE

Pepper

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 WB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 2 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	APB PM MD OTHER:	▲ N S ▼	◀ W E ▶
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND I-210 WB Ramps			WESTBOUND I-210 WB Ramps			TOTAL
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	

AM	7:00 AM	1	2	0	0	6	1	0	0	0	0	0	2	12
	7:15 AM	1	2	0	0	6	2	0	0	0	0	0	6	17
	7:30 AM	3	3	0	0	8	4	0	0	0	0	0	1	19
	7:45 AM	1	3	0	0	6	4	0	0	0	0	0	3	17
	8:00 AM	4	2	0	0	5	4	0	0	0	1	0	2	18
	8:15 AM	1	3	0	0	3	2	0	0	0	0	1	3	13
	8:30 AM	2	1	0	0	2	1	0	0	0	1	0	5	12
	8:45 AM	3	3	0	0	8	1	0	0	0	0	0	8	23
	VOLUMES	16	19	0	0	44	19	0	0	0	2	1	30	131
	APPROACH %	46%	54%	0%	0%	70%	30%	0%	0%	0%	6%	3%	91%	
PM	APP/DEPART	35	/	49	63	/	46	0	/	0	33	/	36	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	9	10	0	0	25	14	0	0	0	1	0	12	71
	APPROACH %	47%	53%	0%	0%	64%	36%	0%	0%	0%	8%	0%	92%	
	PEAK HR FACTOR	0.792			0.813			0.000			0.542			0.934
	APP/DEPART	19	/	22	39	/	26	0	/	0	13	/	23	0
	04:00 PM	3	2	0	0	0	2	0	0	0	0	0	0	7
	4:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	4
	4:30 PM	0	3	0	0	2	1	0	0	0	0	0	0	6
	4:45 PM	1	1	0	0	0	2	0	0	0	0	0	0	4
	5:00 PM	1	0	0	0	0	0	0	0	0	1	0	0	2
	5:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	2
	5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	7	9	0	0	4	6	0	0	0	1	0	0	27
	APPROACH %	44%	56%	0%	0%	40%	60%	0%	0%	0%	100%	0%	0%	
	APP/DEPART	16	/	9	10	/	5	0	/	0	1	/	13	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	5	7	0	0	4	5	0	0	0	0	0	0	21
	APPROACH %	42%	58%	0%	0%	44%	56%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR	0.600			0.750			0.000			0.000			0.750
	APP/DEPART	12	/	7	9	/	4	0	/	0	0	/	10	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR X	SRR 0	ERR X	WRR 0

0	0	0	1
0	0	0	3
0	0	0	1
0	1	0	0
0	0	0	0
0	0	0	2
0	0	0	0
0	0	0	2
0	1	0	9

0	1	0	4
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	2	0	0

0	1	0	0
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	Pepper	
	NORTH SIDE	
I-210 WB Ramps	WEST SIDE	EAST SIDE
		I-210 WB Ramps
	SOUTH SIDE	
	Pepper	

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

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 WB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 2 SIGNAL
CLASS 5:	NOTES:		AP PM MD OTHER OTHER	▲ ◀ W S N E ▶
RV				

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 WB Ramps			I-210 WB Ramps			
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

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR X	SRR 0	ERR X	WRR 0

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0	
BEGIN PEAK HR	7:15 AM														
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	
PEAK HR FACTOR	0.000				0.000				0.000				0.000		
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0	
PM	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0	
BEGIN PEAK HR	4:00 PM														
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	
PEAK HR FACTOR	0.000				0.000				0.000				0.000		
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0	

[illegible][illegible]

0	0	0	0
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[illegible][illegible]

0	0	0	0
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Pepper

I-210 WB Ramps WEST SIDE

EAST SIDE I-210 WB Ramps

Pepper

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 WB Ramps	PROJECT #: SC4165 LOCATION #: 2 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
BUSES			

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 WB Ramps			I-210 WB Ramps			
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

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR X	SRR 0	ERR X	WRR 0

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	
	7:30 AM	1	0	0	0	0	0	0	0	0	0	0	1	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	1	
	VOLUMES	1	1	0	0	0	0	0	0	2	0	0	4	
	APPROACH %	50%	50%	0%	0%	0%	0%	0%	0%	100%	0%	0%		
APP/DEPART	2	/	1	0	/	2	0	/	0	2	/	1	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	1	0	0	0	0	0	0	0	2	0	0	3		
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%			
PEAK HR FACTOR	0.250													
APP/DEPART	1	/	0	0	/	2	0	/	0	2	/	1	0	
PM	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	VOLUMES	0	0	0	0	0	0	0	0	1	0	0	1	
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%		
	APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	0	0	0	0	0	0	0	1	0	0	1	
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%		
	PEAK HR FACTOR	0.000												
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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Pepper

NORTH SIDE

I-210 WB Ramps

WEST SIDE

EAST SIDE

I-210 WB Ramps

SOUTH SIDE

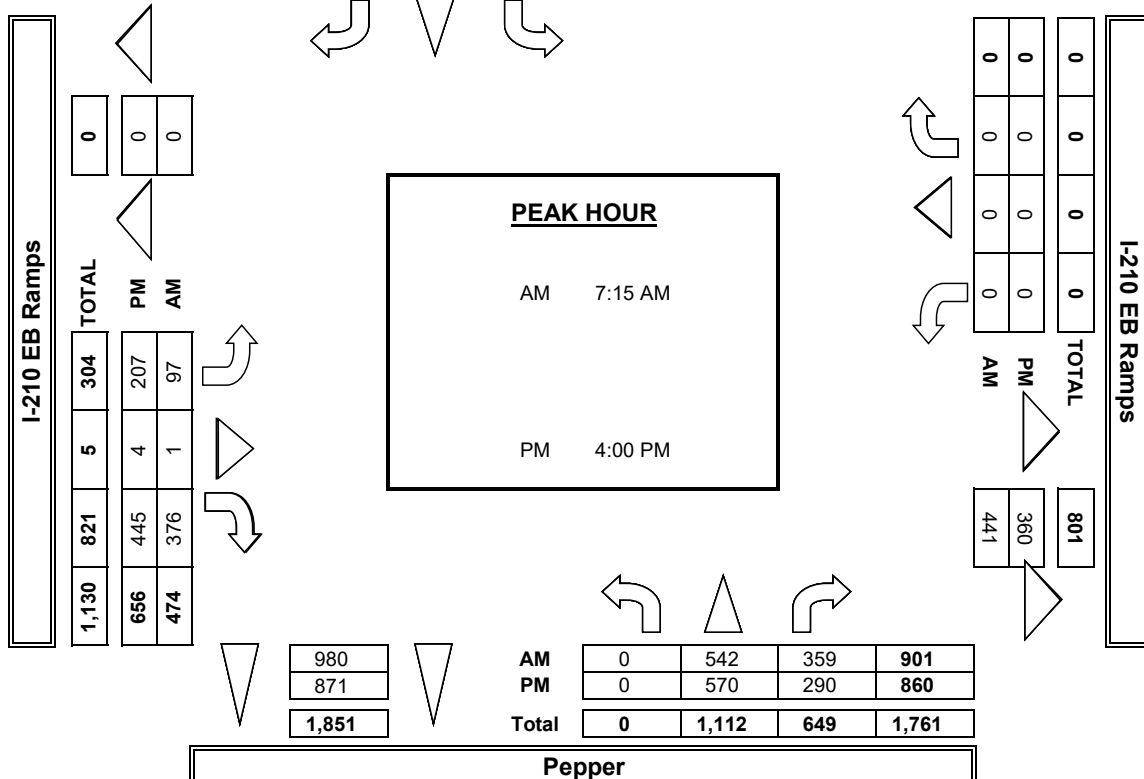
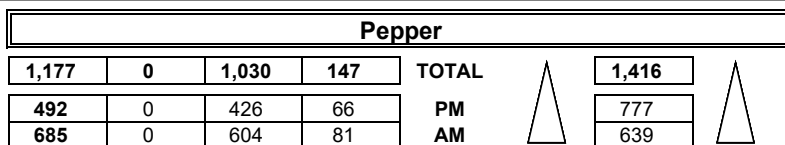
Pepper

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

T050223

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
1	2	0	0	3
0	0	0	0	0
0	0	0	0	0
1	4	0	0	5

Pepper					
2,113	0	1,863	250	TOTAL	2,604
976	0	858	118	PM	1,482
1,137	0	1,005	132	AM	1,122



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 EB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 3 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▶ E ▼
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND I-210 EB Ramps			WESTBOUND I-210 EB Ramps			
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

AM	7:00 AM	0	109	57	9	86	0	13	0	62	0	0	0	336
	7:15 AM	0	126	74	5	134	0	19	0	98	0	0	0	456
	7:30 AM	0	122	82	21	173	0	21	1	90	0	0	0	510
	7:45 AM	0	147	93	16	159	0	19	0	80	0	0	0	514
	8:00 AM	0	112	93	14	115	0	15	0	85	0	0	0	434
	8:15 AM	0	98	82	6	139	0	21	0	67	0	0	0	413
	8:30 AM	0	86	66	6	79	0	14	1	73	0	0	0	325
	8:45 AM	0	74	45	6	79	0	20	0	56	0	0	0	280
	VOLUMES	0	874	592	83	964	0	142	2	611	0	0	0	3,268
	APPROACH %	0%	60%	40%	8%	92%	0%	19%	0%	81%	0%	0%	0%	
	APP/DEPART	1,466	/	1,016	1,047	/	1,575	755	/	677	0	/	0	0
	BEGIN PEAK HR	7:15 AM												
PM	VOLUMES	0	507	342	56	581	0	74	1	353	0	0	0	1,914
	APPROACH %	0%	60%	40%	9%	91%	0%	17%	0%	82%	0%	0%	0%	
	PEAK HR FACTOR	0.884			0.821			0.915			0.000			0.931
	APP/DEPART	849	/	581	637	/	934	428	/	399	0	/	0	0
	04:00 PM	0	153	66	12	100	0	42	0	109	0	0	0	482
	4:15 PM	0	134	64	11	98	0	50	1	107	0	0	0	465
	4:30 PM	0	132	68	14	109	0	54	1	101	0	0	0	479
	4:45 PM	0	121	79	16	106	0	44	2	100	0	0	0	468
	5:00 PM	0	105	81	16	99	0	40	0	94	0	0	0	435
	5:15 PM	0	153	68	6	124	0	44	0	88	0	0	0	483
	5:30 PM	0	133	64	16	91	0	37	1	84	0	0	0	426
	5:45 PM	0	110	65	12	102	0	46	1	103	0	0	0	439
	VOLUMES	0	1,041	555	103	829	0	357	6	786	0	0	0	3,677
	APPROACH %	0%	65%	35%	11%	89%	0%	31%	1%	68%	0%	0%	0%	
	APP/DEPART	1,596	/	1,398	932	/	1,615	1,149	/	664	0	/	0	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	540	277	53	413	0	190	4	417	0	0	0	1,894
	APPROACH %	0%	66%	34%	11%	89%	0%	31%	1%	68%	0%	0%	0%	
	PEAK HR FACTOR	0.933			0.947			0.967			0.000			0.982
	APP/DEPART	817	/	730	466	/	830	611	/	334	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR 0	SRR X	ERR 0	WRR X

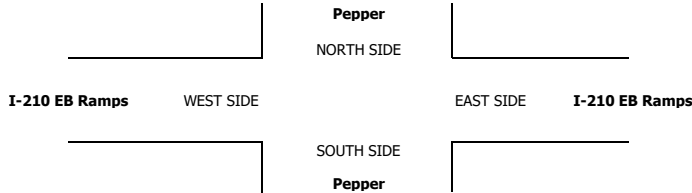
15	0	44	0
24	0	59	0
15	0	48	0
22	0	50	0
25	0	54	0
11	0	37	0
10	0	55	0
10	0	32	0
132	0	379	0

86	0	211	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

16	0	67	0
19	0	52	0
21	0	51	0
16	0	45	0
12	0	40	0
21	0	44	0
12	0	44	0
17	0	48	0
134	0	391	0

72	0	215	0
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PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

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

CLASS 2:	NOTES:	AM		▲	
2-AXLE		PM		N	
WORK		MD	◀ W		E ▶
VEHICLES/ TRUCKS		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 EB Ramps			I-210 EB Ramps			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	1.5	0.5	1	2	X	1	0.5	0.5	X	X	X	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR X	ERR 0	WRR X

AM	7:00 AM	0	5	1	2	1	0	1	0	2	0	0	0	12
	7:15 AM	0	2	2	0	3	0	2	0	6	0	0	0	15
	7:30 AM	0	3	3	2	3	0	2	0	4	0	0	0	17
	7:45 AM	0	10	4	0	3	0	3	0	2	0	0	0	22
	8:00 AM	0	6	4	0	4	0	1	0	3	0	0	0	18
	8:15 AM	0	2	6	1	5	0	4	0	1	0	0	0	19
	8:30 AM	0	6	1	1	2	0	3	0	2	0	0	0	15
	8:45 AM	0	0	3	0	6	0	2	0	4	0	0	0	15
	VOLUMES	0	34	24	6	27	0	18	0	24	0	0	0	133
	APPROACH %	0%	59%	41%	18%	82%	0%	43%	0%	57%	0%	0%	0%	
APP/DEPART	58	/	52	33	/	51	42	/	30	0	/	0	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	0	21	13	2	13	0	8	0	15	0	0	0	72	
APPROACH %	0%	62%	38%	13%	87%	0%	35%	0%	65%	0	0%	0%		
PEAK HR FACTOR	0.607			0.750			0.719			0.000			0.818	
APP/DEPART	34	/	29	15	/	28	23	/	15	0	/	0	0	
PM	04:00 PM	0	4	6	2	3	0	3	0	5	0	0	0	23
	4:15 PM	0	6	0	3	0	0	2	0	7	0	0	0	18
	4:30 PM	0	7	1	2	5	0	3	0	5	0	0	0	23
	4:45 PM	0	4	2	3	1	0	1	0	5	0	0	0	16
	5:00 PM	0	2	2	1	7	0	2	0	4	0	0	0	18
	5:15 PM	0	3	0	0	2	0	2	0	1	0	0	0	8
	5:30 PM	0	11	4	0	0	0	4	0	1	0	0	0	20
	5:45 PM	0	2	0	1	6	0	5	0	1	0	0	0	15
	VOLUMES	0	39	15	12	24	0	22	0	29	0	0	0	141
	APPROACH %	0%	72%	28%	33%	67%	0%	43%	0%	57%	0%	0%	0%	
APP/DEPART	54	/	61	36	/	53	51	/	27	0	/	0	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	21	9	10	9	0	9	0	22	0	0	0	80	
APPROACH %	0%	70%	30%	53%	47%	0%	29%	0%	71%	0	0%	0%		
PEAK HR FACTOR	0.750			0.679			0.861			0.000			0.870	
APP/DEPART	30	/	30	19	/	31	31	/	19	0	/	0	0	

[illegible]

0	0	2	0
0	0	4	0
0	0	3	0
0	0	1	0
0	0	2	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	13	0

0	0	10	0
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NORTH SIDE

EAST SIDE I-210 EB Ramps

Pepper

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 EB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 3 SIGNAL
CLASS 3: 3-AXLE TRUCKS	NOTES:		AM PM MD OTHER ▲ ◀ ▶ ▼ N W S E	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 EB Ramps			I-210 EB Ramps			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	1.5	0.5	1	2	X	1	0.5	0.5	X	X	X	
7:00 AM	0	2	0	1	1	0	2	0	0	0	0	0	6
7:15 AM	0	1	0	1	0	0	3	0	1	0	0	0	6
7:30 AM	0	3	0	0	1	0	1	0	1	0	0	0	6
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	1	0	1	0	2	0	0	0	4
8:15 AM	0	1	1	1	1	0	1	0	0	0	0	0	5
8:30 AM	0	1	1	0	0	0	0	0	1	0	0	0	3
8:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	2
VOLUMES	0	8	2	3	6	0	9	0	6	0	0	0	34
APPROACH %	0%	80%	20%	33%	67%	0%	60%	0%	40%	0%	0%	0%	
APP/DEPART	10	/	17	9	/	12	15	/	5	0	/	0	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	4	0	1	4	0	5	0	4	0	0	0	18
APPROACH %	0%	100%	0%	20%	80%	0%	56%	0%	44%	0%	0%	0%	
PEAK HR FACTOR	0.333			0.625			0.563			0.000			0.750
APP/DEPART	4	/	9	5	/	8	9	/	1	0	/	0	0
04:00 PM	0	2	0	1	0	0	2	0	0	0	0	0	5
4:15 PM	0	0	1	0	0	0	0	0	2	0	0	0	3
4:30 PM	0	0	2	0	0	0	0	0	1	0	0	0	3
4:45 PM	0	1	0	0	1	0	0	0	2	0	0	0	4
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
VOLUMES	0	5	4	1	1	0	2	0	5	0	0	0	18
APPROACH %	0%	56%	44%	50%	50%	0%	29%	0%	71%	0%	0%	0%	
APP/DEPART	9	/	7	2	/	6	7	/	5	0	/	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	3	3	1	1	0	2	0	5	0	0	0	15
APPROACH %	0%	50%	50%	50%	50%	0%	29%	0%	71%	0%	0%	0%	
PEAK HR FACTOR	0.750			0.500			0.875			0.000			0.750
APP/DEPART	6	/	5	2	/	6	7	/	4	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	X	0	X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
1	0	0	0
0	0	2	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
2	0	2	0

1	0	2	0
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Pepper
NORTH SIDE

I-210 EB Ramps WEST SIDE

EAST SIDE I-210 EB Ramps

SOUTH SIDE
Pepper

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

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

CLASS 4:	NOTES:	AM		▲	
4 OR MORE AXLE TRUCKS		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
		OTHER		▼	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			1-210 EB Ramps			1-210 WB Ramps			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	1.5	0.5	1	2	X	1	0.5	0.5	X	X	X	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR X	ERR 0	WRR X

AM	7:00 AM	0	1	0	6	0	0	2	0	1	0	0	0	10
	7:15 AM	0	2	0	4	2	0	1	0	1	0	0	0	10
	7:30 AM	0	3	0	8	0	0	3	0	1	0	0	0	15
	7:45 AM	0	1	1	6	0	0	3	0	0	0	0	0	11
	8:00 AM	0	3	1	4	2	0	3	0	0	0	0	0	13
	8:15 AM	0	3	0	3	0	0	1	0	2	0	0	0	9
	8:30 AM	0	1	0	2	1	0	2	0	0	0	0	0	6
	8:45 AM	0	3	0	7	1	0	3	0	1	0	0	0	15
	VOLUMES	0	17	2	40	6	0	18	0	6	0	0	0	89
	APPROACH %	0%	89%	11%	87%	13%	0%	75%	0%	25%	0%	0%	0%	
PM	APP/DEPART	19	35	46	/	12	24	/	42	0	/	0	0	
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	9	2	22	4	0	10	0	2	0	0	0	49
	APPROACH %	0%	82%	18%	85%	15%	0%	83%	0%	17%	0%	0%	0%	
	PEAK HR FACTOR	0.688			0.813			0.750			0.000			0.817
	APP/DEPART	11	/	19	26	/	6	12	/	24	0	/	0	0
	04:00 PM	0	4	0	0	0	0	1	0	0	0	0	0	5
	4:15 PM	0	1	0	1	1	0	1	0	0	0	0	0	4
4:30 PM	0	0	0	1	1	0	3	0	0	0	0	0	5	
4:45 PM	0	1	0	0	0	0	1	0	1	0	0	0	3	
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	
5:15 PM	0	2	0	0	0	0	0	0	1	0	0	0	3	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	
VOLUMES	0	10	0	2	3	0	6	0	2	0	0	0	23	
APPROACH %	0%	100%	0%	40%	60%	0%	75%	0%	25%	0%	0%	0%		
APP/DEPART	10	/	16	5	/	5	8	/	2	0	/	0	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	6	0	2	2	0	6	0	1	0	0	0	17	
APPROACH %	0%	100%	0%	50%	50%	0%	86%	0%	14%	0%	0%	0%		
PEAK HR FACTOR	0.375			0.500			0.583			0.000			0.850	
APP/DEPART	6	/	12	4	/	3	7	/	2	0	/	0	0	

[illegible]

0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	2	0

0	0	1	0
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NORTH SIDE

EAST SIDE I-210 EB Ramps

Pepper

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 EB Ramps	PROJECT #: LOCATION #: CONTROL:	SC4165 3 SIGNAL
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CLASS 5:	NOTES:	AM PM MD OTHER:	▲ N S ▼	◀ W E ▶
RV				

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 EB Ramps			I-210 EB Ramps			
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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR 0	SRR X	ERR 0	WRR X
0	0	0	0

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	APP/DEPART	0	/	0	0	/	0	/	0	0	/	0	0
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	PEAK HR FACTOR	0.000			0.000			0.000			0.000		
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0
	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	PEAK HR FACTOR	0.000			0.000			0.000			0.000		
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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Pepper

NORTH SIDE

I-210 EB Ramps

WEST SIDE

EAST SIDE

I-210 EB Ramps

SOUTH SIDE

Pepper

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper I-210 EB Ramps	PROJECT #: SC4165 LOCATION #: 3 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
BUSES			

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			I-210 EB Ramps			I-210 EB Ramps			
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

U-TURNS					
NB	SB	EB	WB	TTL	

RTOR			
NRR 0	SRR X	ERR 0	WRR X

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	2	0	0	0	0	0	0	2
	7:30 AM	0	1	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	0	2	0	0	0	0	2	0	0	0	4
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	1	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	1	0	0	0	1	0	0	0	0	2
	VOLUMES	0	1	4	0	2	0	1	0	2	0	0	10
	APPROACH %	0%	20%	80%	0%	100%	0%	33%	0%	67%	0%	0%	0%
PM	APP/DEPART	5	/	2	2	/	4	3	/	4	0	/	0
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	0	1	2	0	2	0	0	0	2	0	0	7
	APPROACH %	0%	33%	67%	0%	100%	0%	0%	0%	100%	0%	0%	0%
	PEAK HR FACTOR	0.375			0.250			0.250			0.000		
	APP/DEPART	3	/	1	2	/	4	2	/	2	0	/	0
	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	1	0	0	0	0	0	0	1
	4:30 PM	0	0	1	0	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	0	1	0	0	0	0	0	0	2
	APPROACH %	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%
	APP/DEPART	1	/	0	1	/	1	0	/	1	0	/	0
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	1	0	1	0	0	0	0	0	0	2
	APPROACH %	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%
	PEAK HR FACTOR	0.250			0.250			0.000			0.000		
	APP/DEPART	1	/	0	1	/	1	0	/	1	0	/	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	1	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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Pepper

NORTH SIDE

I-210 EB Ramps

WEST SIDE

EAST SIDE

I-210 EB Ramps

SOUTH SIDE

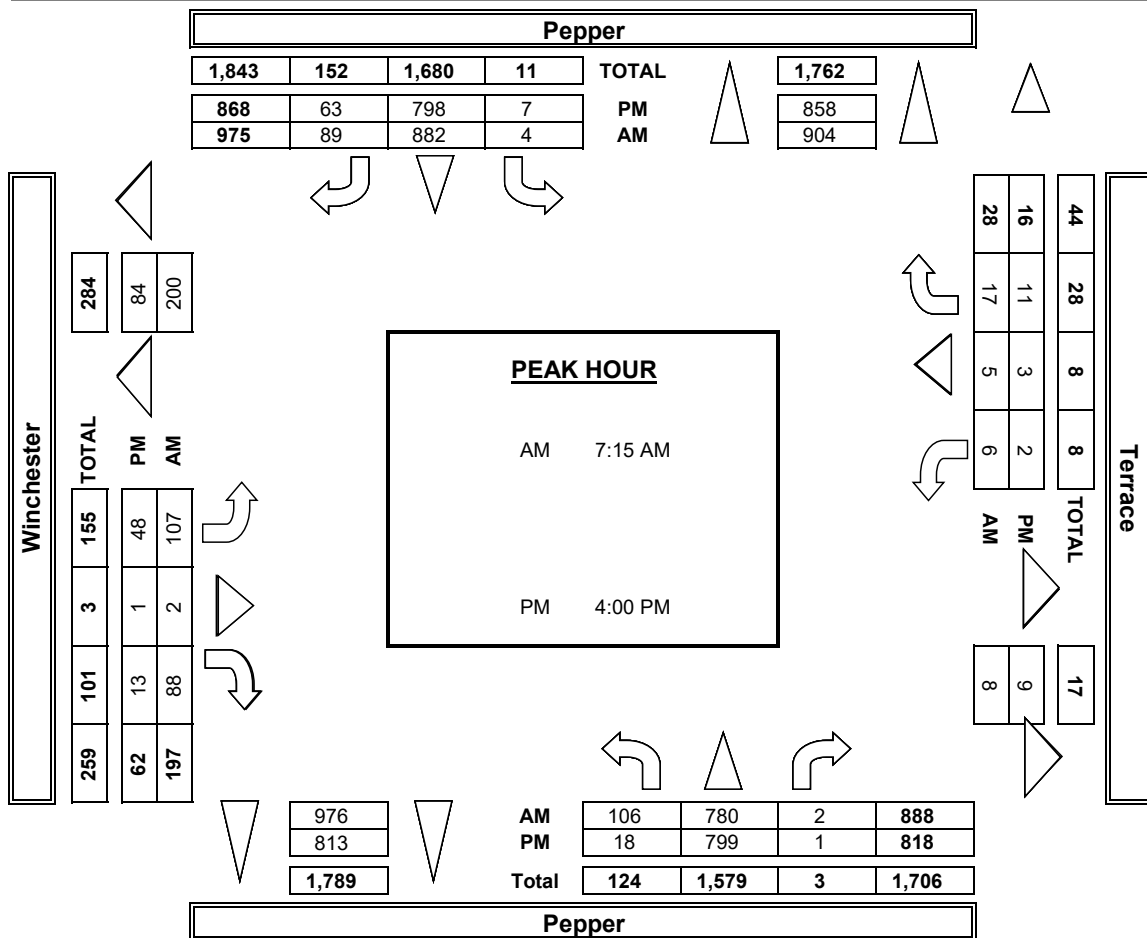
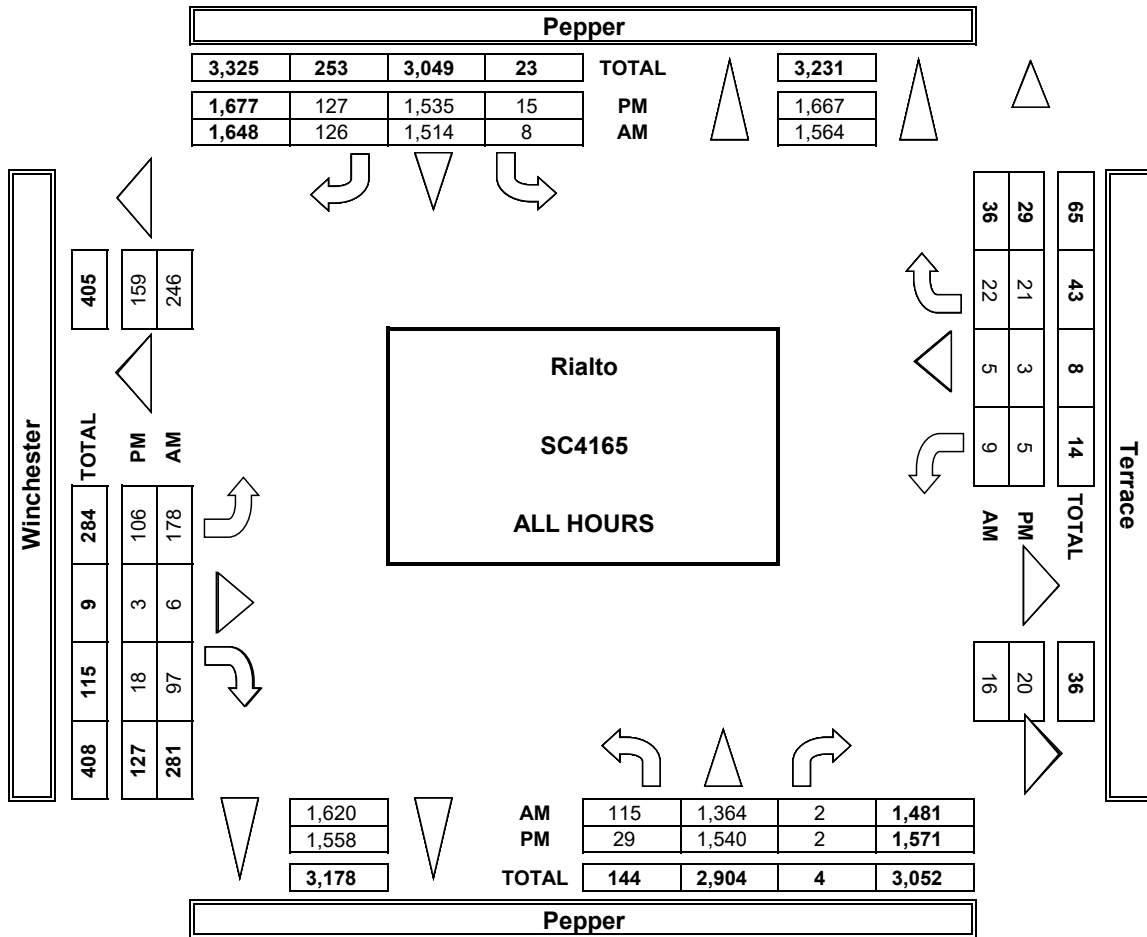
Pepper

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

T050223

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Winchester	PROJECT #: LOCATION #: CONTROL:	SC4165 4 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▶ E ▼
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Winchester			WESTBOUND Winchester			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

AM	7:00 AM	1	143	0	0	136	15	23	0	3	1	0	0	322
	7:15 AM	9	173	2	0	208	15	31	1	7	1	2	8	457
	7:30 AM	49	171	0	0	239	31	25	0	26	2	0	3	546
	7:45 AM	34	195	0	0	207	29	26	0	42	2	2	3	540
	8:00 AM	13	193	0	2	187	11	22	1	12	1	1	2	445
	8:15 AM	3	161	0	3	188	9	20	1	1	0	0	2	388
	8:30 AM	3	127	0	0	146	8	15	1	3	1	0	2	306
	8:45 AM	2	115	0	1	130	4	10	2	2	1	0	1	268
	VOLUMES	114	1,278	2	6	1,441	122	172	6	96	9	5	21	3,272
	APPROACH %	8%	92%	0%	0%	92%	8%	63%	2%	35%	26%	14%	60%	
	APP/DEPART	1,394	/	1,471	1,569	/	1,546	274	/	14	35	/	241	0
	BEGIN PEAK HR	7:15 AM												
PM	VOLUMES	105	732	2	2	841	86	104	2	87	6	5	16	1,988
	APPROACH %	13%	87%	0%	0%	91%	9%	54%	1%	45%	22%	19%	59%	
	PEAK HR FACTOR	0.916												
	APP/DEPART	839	/	852	929	/	934	193	/	6	27	/	196	0
	04:00 PM	2	213	0	1	195	10	15	0	2	0	1	3	442
	4:15 PM	6	169	0	2	185	16	11	0	5	0	2	2	398
	4:30 PM	3	194	1	2	190	20	10	1	2	2	0	3	428
	4:45 PM	7	181	0	2	190	15	11	0	2	0	0	3	411
	5:00 PM	2	182	0	3	173	11	16	1	0	1	0	2	391
	5:15 PM	3	194	1	3	192	23	17	0	2	0	0	1	436
	5:30 PM	2	181	0	1	172	13	7	1	0	0	0	4	381
	5:45 PM	3	154	0	1	176	16	16	0	3	2	0	3	374
	VOLUMES	28	1,468	2	15	1,473	124	103	3	16	5	3	21	3,261
	APPROACH %	2%	98%	0%	1%	91%	8%	84%	2%	13%	17%	10%	72%	
	APP/DEPART	1,498	/	1,592	1,612	/	1,494	122	/	20	29	/	155	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	18	757	1	7	760	61	47	1	11	2	3	11	1,679
	APPROACH %	2%	98%	0%	1%	92%	7%	80%	2%	19%	13%	19%	69%	
	PEAK HR FACTOR	0.902												
	APP/DEPART	776	/	815	828	/	773	59	/	9	16	/	82	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR

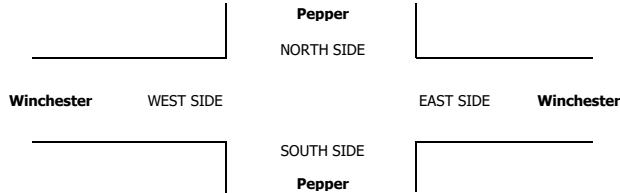
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0	2	3	3
0	2	5	1
0	1	9	1
0	1	6	1
0	0	0	1
0	1	1	1
0	0	1	0
0	9	25	8

0	6	23	6
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	1	3
0	1	2	1
0	2	2	1
0	1	1	2
0	1	0	2
0	2	2	1
0	2	0	2
0	0	2	3
0	9	10	15

0	4	6	7
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Winchester	PROJECT #: LOCATION #: CONTROL:	SC4165 4 SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AP PM MD OTHER OTHER	▲ N ◀ W S ▼	E ▶
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Winchester			WESTBOUND Winchester			
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

U-TURNS				
NB	SB	EB	WB	TTL

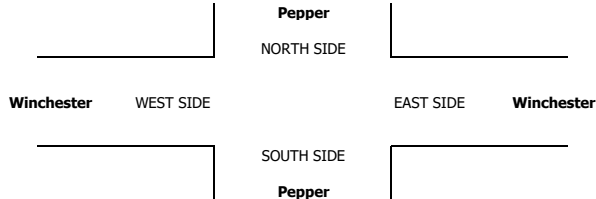
RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	5	0	0	4	0	0	0	0	0	0	9	
	7:15 AM	1	5	0	0	8	1	0	0	0	0	0	15	
	7:30 AM	0	6	0	0	6	0	0	0	0	0	0	12	
	7:45 AM	0	12	0	2	5	0	0	0	1	0	0	21	
	8:00 AM	0	9	0	0	5	1	1	0	0	0	0	16	
	8:15 AM	0	5	0	0	5	0	2	0	0	0	0	12	
	8:30 AM	0	7	0	0	4	0	0	0	0	0	0	11	
	8:45 AM	0	5	0	0	9	1	0	0	0	0	0	15	
	VOLUMES	1	54	0	2	46	3	3	0	1	0	0	1	111
	APPROACH %	2%	98%	0%	4%	90%	6%	75%	0%	25%	0%	0%	100%	
APP/DEPART	55	/	58	51	/	47	4	/	2	1	/	4	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	1	32	0	2	24	2	1	0	1	0	0	1	64	
APPROACH %	3%	97%	0%	7%	86%	7%	50%	0%	50%	0%	0%	100%		
PEAK HR FACTOR	0.688			0.778			0.500			0.250			0.762	
APP/DEPART	33	/	34	28	/	25	2	/	2	1	/	3	0	
PM	04:00 PM	0	11	0	0	8	1	0	0	0	0	0	20	
	4:15 PM	0	4	0	0	7	0	0	0	0	0	0	11	
	4:30 PM	0	8	0	0	7	1	0	0	0	0	0	16	
	4:45 PM	0	7	0	0	6	0	0	0	1	0	0	14	
	5:00 PM	0	4	0	0	10	0	0	0	0	0	0	14	
	5:15 PM	0	5	0	0	3	1	1	0	0	0	0	10	
	5:30 PM	0	11	0	0	2	0	1	0	0	0	0	14	
	5:45 PM	1	3	0	0	7	0	0	0	0	0	0	11	
	VOLUMES	1	53	0	0	50	3	2	0	1	0	0	0	110
	APPROACH %	2%	98%	0%	0%	94%	6%	67%	0%	33%	0%	0%	0%	
	APP/DEPART	54	/	55	53	/	51	3	/	0	0	/	4	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	30	0	0	28	2	0	0	1	0	0	0	61
	APPROACH %	0%	100%	0%	0%	93%	7%	0%	0%	100%	0%	0%	0%	
PEAK HR FACTOR	0.682			0.833			0.250			0.000			0.763	
APP/DEPART	30	/	30	30	/	29	1	/	0	0	/	2	0	

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0
0	0	0	0
0	1	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	1	0

0	1	1	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Winchester	PROJECT #: LOCATION #: CONTROL:	SC4165 4 SIGNAL
CLASS 3: 3-AXLE TRUCKS	NOTES:		AM PM MD OTHER ▲ ◀ ◻ ▼ N W S E	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Winchester			Winchester			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	0	2	0	0	1	0	0	0	0	0	0	3
	7:15 AM	0	1	0	0	1	0	1	0	0	0	0	3
	7:30 AM	0	2	0	0	2	0	0	0	0	0	0	4
	7:45 AM	0	0	0	0	1	1	0	0	0	0	0	2
	8:00 AM	0	0	0	0	3	0	0	0	0	0	0	3
	8:15 AM	0	2	0	0	1	0	0	0	0	0	0	3
	8:30 AM	0	2	0	0	1	0	0	0	0	0	0	3
	8:45 AM	0	0	0	0	1	0	0	0	0	0	0	1
	VOLUMES	0	9	0	0	11	1	1	0	0	0	0	22
	APPROACH %	0%	100%	0%	0%	92%	8%	100%	0%	0%	0%	0%	
PM	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
	APPROACH %	9	/	10	12	/	11	1	/	0	0	/	1
PM	7:15 AM	0	3	0	0	7	1	1	0	0	0	0	12
	7:30 AM	0	3	0	0	7	1	1	0	0	0	0	12
	7:45 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:00 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:15 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:30 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:45 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:00 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:15 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:30 AM	0	3	0	0	7	1	1	0	0	0	0	12
	8:45 AM	0	3	0	0	7	1	1	0	0	0	0	12
PM	4:00 PM	0	2	0	0	0	0	0	0	0	0	0	2
	4:15 PM	0	1	0	0	2	0	0	0	0	0	0	3
	4:30 PM	0	2	0	0	1	0	0	0	0	0	0	3
	4:45 PM	0	1	0	0	3	0	0	0	0	0	0	4
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	1
	VOLUMES	0	9	0	0	6	0	0	0	0	0	0	15
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	
PM	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
	APPROACH %	9	/	9	6	/	6	0	/	0	0	/	0
PM	4:00 PM	0	6	0	0	6	0	0	0	0	0	0	12
	4:15 PM	0	6	0	0	6	0	0	0	0	0	0	12
	4:30 PM	0	6	0	0	6	0	0	0	0	0	0	12
	4:45 PM	0	6	0	0	6	0	0	0	0	0	0	12
	5:00 PM	0	6	0	0	6	0	0	0	0	0	0	12
	5:15 PM	0	6	0	0	6	0	0	0	0	0	0	12
	5:30 PM	0	6	0	0	6	0	0	0	0	0	0	12
	5:45 PM	0	6	0	0	6	0	0	0	0	0	0	12
	VOLUMES	0	6	0	0	6	0	0	0	0	0	0	12
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	
PM	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0
	APPROACH %	6	/	6	6	/	6	0	/	0	0	/	0

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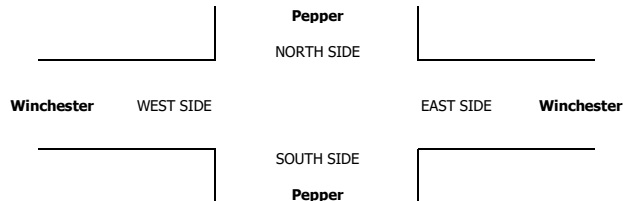
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0	0	0	0
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0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Winchester	PROJECT #: LOCATION #: CONTROL:	SC4165 4 SIGNAL
CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:		APB PM MD OTHER: ▲ ◀ W S ▼ N E ▶	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Winchester			Winchester			
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

AM	7:00 AM	0	0	0	0	1	0	1	0	0	0	0	0	2
	7:15 AM	0	2	0	0	3	0	0	0	0	0	0	0	5
	7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	7:45 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
	8:00 AM	0	4	0	0	1	0	0	0	0	0	0	0	5
	8:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
	8:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	8:45 AM	0	5	0	0	2	0	0	0	0	0	0	0	7
	VOLUMES	0	19	0	0	12	0	1	0	0	0	0	0	32
	APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	
PM	APP/DEPART	19	/	20	12	/	12	1	/	0	0	/	0	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	0	11	0	0	6	0	0	0	0	0	0	0	17
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR	0.688												
	APP/DEPART	11	/	11	6	/	6	0	/	0	0	/	0	0
	04:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
	4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	2	0	0	0	1	0	0	0	3
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
	5:15 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	0	10	0	0	5	0	0	0	1	0	0	0	16
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	
	APP/DEPART	10	/	10	5	/	6	1	/	0	0	/	0	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	0	6	0	0	3	0	0	0	1	0	0	0	10
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	PEAK HR FACTOR	0.375												
	APP/DEPART	6	/	6	3	/	4	1	/	0	0	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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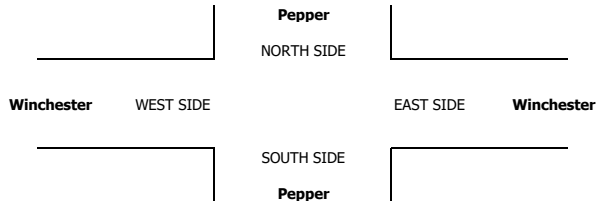
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0	0	0	0
0	0	0	0

0	0	1	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Winchester	PROJECT #: LOCATION #: CONTROL:	SC4165 4 SIGNAL
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CLASS 5:	NOTES:	AM PM MD OTHER:	▲ N ◀ W S ▼	▶ E
RV				

	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Winchester			WESTBOUND Winchester			TOTAL
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	

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	APP/DEPART	0	0	0	0	0	0	0	0	0	0	0	0
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	PEAK HR FACTOR	0.000			0.000			0.000			0.000		
	APP/DEPART	0	0	0	0	0	0	0	0	0	0	0	0
	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	APP/DEPART	0	0	0	0	0	0	0	0	0	0	0	0
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	PEAK HR FACTOR	0.000			0.000			0.000			0.000		
	APP/DEPART	0	0	0	0	0	0	0	0	0	0	0	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR

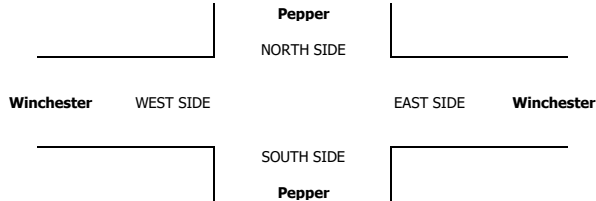
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0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Winchester	PROJECT #: SC4165 LOCATION #: 4 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
BUSES			

	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Winchester			WESTBOUND Winchester			
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

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	2	0	0	0	0	0	0	2
	7:30 AM	0	1	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	1	0	0	2	0	1	0	0	0	0	4
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	1
	VOLUMES	0	4	0	0	4	0	1	0	0	0	0	9
	APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	
PM	APP/DEPART	4	/	5	4	/	4	1	/	0	0	/	0
	BEGIN PEAK HR	7:15 AM											
	VOLUMES	0	2	0	0	4	0	1	0	0	0	0	7
	APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	
	PEAK HR FACTOR	0.500											
	APP/DEPART	2	/	3	4	/	4	1	/	0	0	/	0
	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	1	0	0	0	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	1	0	1	0	0	0	0	2
	APPROACH %	0%	0%	0%	0%	100%	0%	100%	0%	0%	0%	0%	
	APP/DEPART	0	/	1	1	/	1	1	/	0	0	/	0
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	1	0	1	0	0	0	0	2
	APPROACH %	0%	0%	0%	0%	100%	0%	100%	0%	0%	0%	0%	
PM	PEAK HR FACTOR	0.000											
	APP/DEPART	0	/	1	1	/	1	1	/	0	0	/	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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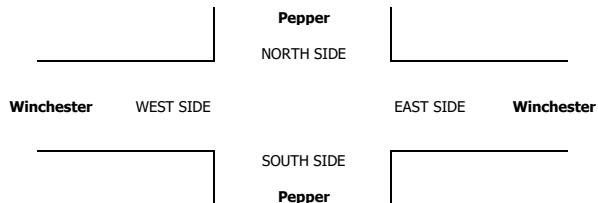
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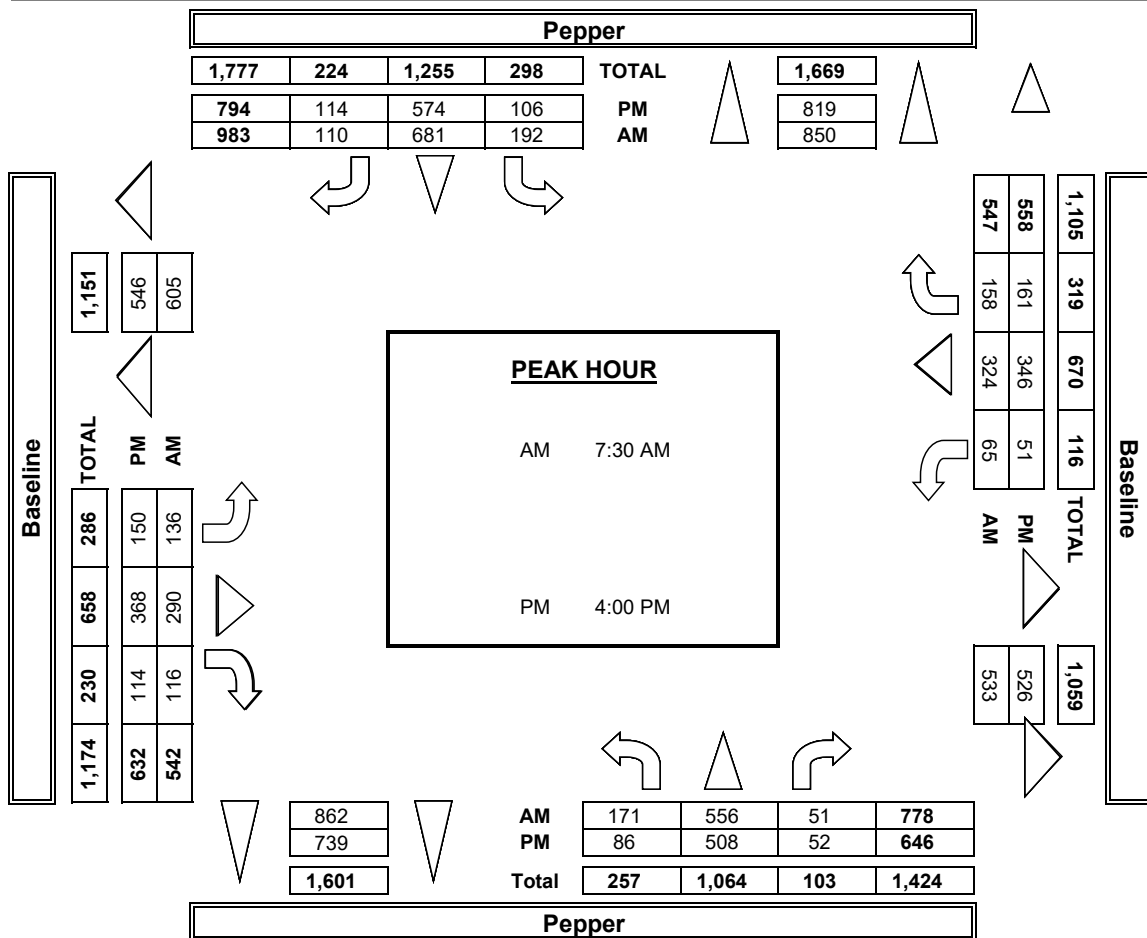
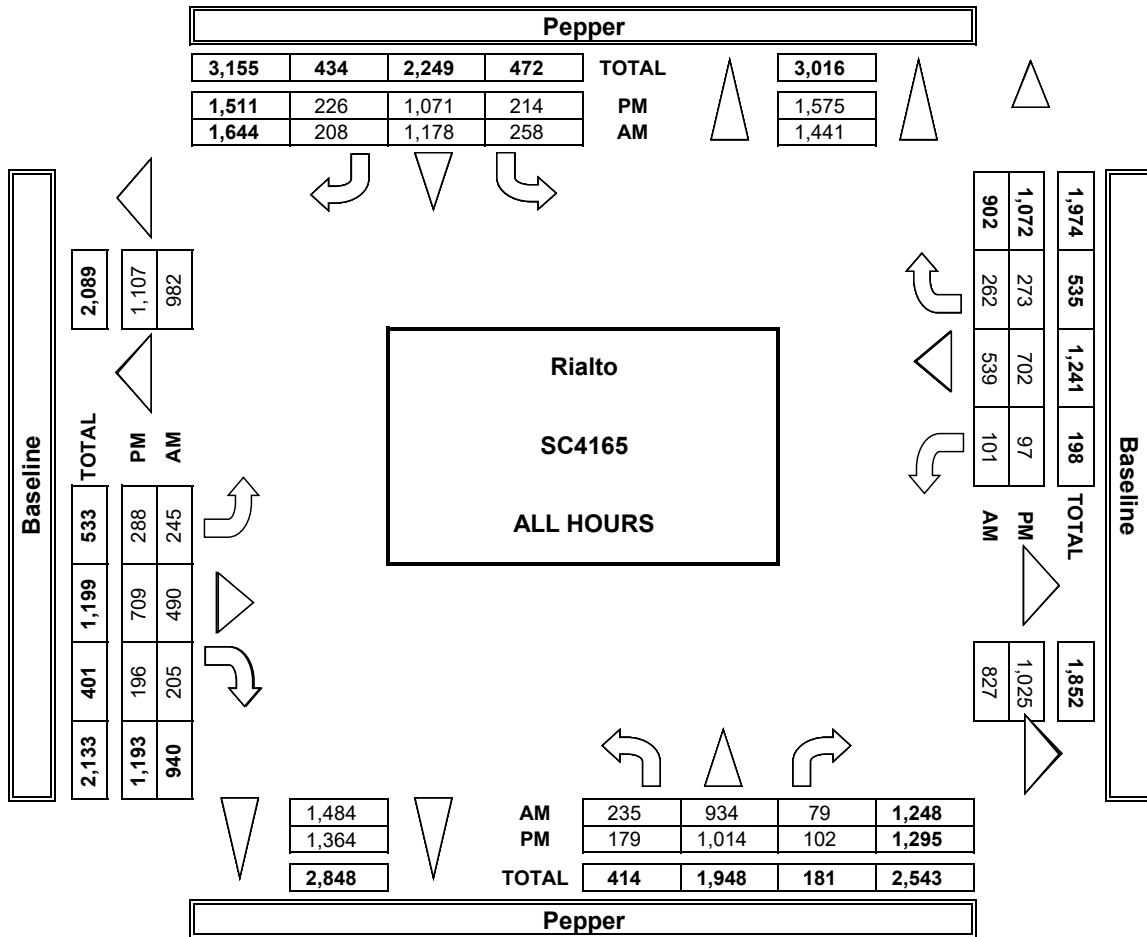


PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

T050223

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	1	1
0	0	0	0	0
1	0	0	0	1
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	1	3
0	0	1	0	1
0	0	1	0	1
0	2	1	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	2	4	0	6

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Baseline	PROJECT #: LOCATION #: CONTROL:	SC4165 5 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▶ E ▼
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Baseline			WESTBOUND Baseline			
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

AM	7:00 AM	7	94	4	7	107	20	24	35	10	3	27	28	366
	7:15 AM	17	106	5	16	173	22	35	35	25	9	50	35	528
	7:30 AM	33	131	11	40	194	34	33	67	26	20	91	47	727
	7:45 AM	52	164	9	44	184	37	41	86	31	12	69	36	765
	8:00 AM	44	124	16	49	142	19	30	72	31	14	59	38	638
	8:15 AM	36	102	12	57	127	19	25	57	27	15	89	29	595
	8:30 AM	19	81	7	27	92	27	25	58	27	10	63	20	456
	8:45 AM	16	73	9	9	100	27	19	65	22	6	59	12	417
	VOLUMES	224	875	73	249	1,119	205	232	475	199	89	507	245	4,492
	APPROACH %	19%	75%	6%	16%	71%	13%	26%	52%	22%	11%	60%	29%	
	APP/DEPART	1,172	/	1,352	1,573	/	1,407	906	/	797	841	/	936	0
	BEGIN PEAK HR	7:30 AM												
PM	VOLUMES	165	521	48	190	647	109	129	282	115	61	308	150	2,725
	APPROACH %	22%	71%	7%	20%	68%	12%	25%	54%	22%	12%	59%	29%	
	PEAK HR FACTOR	0.816			0.882			0.832			0.821			0.891
	APP/DEPART	734	/	800	946	/	823	526	/	520	519	/	582	0
	04:00 PM	16	117	8	31	132	27	35	110	31	14	92	48	661
	4:15 PM	22	112	12	21	154	20	38	75	24	10	72	37	597
	4:30 PM	22	128	16	26	133	23	28	78	29	12	89	35	619
	4:45 PM	25	123	14	23	128	36	44	92	27	14	79	32	637
	5:00 PM	22	112	14	20	125	21	38	100	24	18	72	22	588
	5:15 PM	25	143	10	31	116	45	32	92	15	9	105	33	656
	5:30 PM	19	118	12	25	113	20	36	93	26	10	83	26	581
	5:45 PM	26	108	11	28	123	25	31	49	17	7	86	26	537
	VOLUMES	177	961	97	205	1,024	217	282	689	193	94	678	259	4,876
	APPROACH %	14%	78%	8%	14%	71%	15%	24%	59%	17%	9%	66%	25%	
	APP/DEPART	1,235	/	1,502	1,446	/	1,311	1,164	/	991	1,031	/	1,072	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	85	480	50	101	547	106	145	355	111	50	332	152	2,514
	APPROACH %	14%	78%	8%	13%	73%	14%	24%	58%	18%	9%	62%	28%	
	PEAK HR FACTOR	0.926			0.967			0.868			0.867			0.951
	APP/DEPART	615	/	777	754	/	708	611	/	506	534	/	523	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR

0	7	3	8
1	3	6	13
4	11	15	18
1	5	6	15
1	1	6	11
1	5	9	8
2	5	5	9
1	10	8	8
11	47	58	90

7	22	36	52
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	4	5	11
2	6	5	16
2	7	8	16
5	5	6	16
4	4	8	5
0	23	4	18
1	3	3	10
2	10	6	11
17	62	45	103

10	22	24	59
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	Pepper	
	NORTH SIDE	
Baseline	WEST SIDE	EAST SIDE
	Baseline	
	SOUTH SIDE	
	Pepper	

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Baseline	PROJECT #: LOCATION #: CONTROL:	SC4165 5 SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AP PM MD OTHER: OTHER:	▲ N ◀ W S ▼	▶ E
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	NORTHBOUND Pepper			SOUTHBOUND Pepper			EASTBOUND Baseline			WESTBOUND Baseline			
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

AM	7:00 AM	1	1	0	0	3	0	2	0	0	1	1	2	11
	7:15 AM	0	4	0	0	6	0	1	1	1	0	2	1	16
	7:30 AM	1	6	0	1	3	0	1	0	0	0	1	1	14
	7:45 AM	0	7	1	1	5	0	3	0	0	1	4	0	22
	8:00 AM	0	7	0	0	6	1	1	2	0	1	4	1	23
	8:15 AM	0	5	0	0	5	0	0	0	0	2	1	0	13
	8:30 AM	0	3	1	1	2	1	2	1	0	3	4	1	19
	8:45 AM	2	5	0	4	3	1	0	1	0	1	2	1	20
	VOLUMES	4	38	2	7	33	3	10	5	1	9	19	7	138
	APPROACH %	9%	86%	5%	16%	77%	7%	63%	31%	6%	26%	54%	20%	
PM	APP/DEPART	44	/	55	43	/	43	16	/	14	35	/	26	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	1	25	1	2	19	1	5	2	0	4	10	2	72
	APPROACH %	4%	93%	4%	9%	86%	5%	71%	29%	0%	25%	63%	13%	
	PEAK HR FACTOR	0.844			0.786			0.583			0.667			0.783
	APP/DEPART	27	/	32	22	/	23	7	/	5	16	/	12	0
	4:00 PM	0	7	0	0	4	2	0	2	0	0	3	2	20
	4:15 PM	0	2	0	1	7	1	3	1	2	0	3	0	20
	4:30 PM	1	6	0	1	4	3	0	1	0	0	5	3	24
	4:45 PM	0	7	0	1	4	1	1	2	0	0	1	0	17
PM	5:00 PM	1	5	0	2	7	1	0	1	0	0	4	0	21
	5:15 PM	0	4	1	0	3	0	0	0	0	1	1	1	11
	5:30 PM	0	8	1	1	2	0	1	2	0	0	1	1	17
	5:45 PM	0	3	0	0	7	0	0	0	0	1	2	1	14
	VOLUMES	2	42	2	6	38	8	5	9	2	2	20	8	144
	APPROACH %	4%	91%	4%	12%	73%	15%	31%	56%	13%	7%	67%	27%	
	APP/DEPART	46	/	55	52	/	42	16	/	17	30	/	30	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	1	22	0	3	19	7	4	6	2	0	12	5	81
	APPROACH %	4%	96%	0%	10%	66%	24%	33%	50%	17%	0%	71%	29%	
	PEAK HR FACTOR	0.821			0.806			0.500			0.531			0.844
	APP/DEPART	23	/	31	29	/	21	12	/	9	17	/	20	0

U-TURNS				
NB	SB	EB	WB	TTL

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

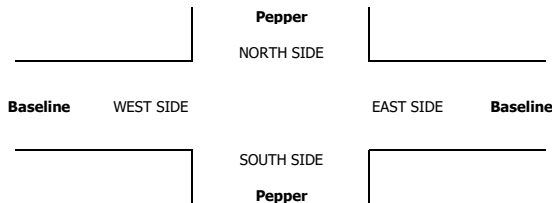
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0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1

0	0	0	1
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	1
0	0	1	0
0	1	0	0
0	0	0	0
0	0	0	0
1	0	0	1
0	0	0	0
0	0	0	0
1	1	1	2

0	1	1	1
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Baseline	PROJECT #: LOCATION #: CONTROL:	SC4165 5 SIGNAL
CLASS 3: 3-AXLE TRUCKS	NOTES:		AM PM MD OTHER ▲ ◀ ▶ ▼ N W E S	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Baseline			Baseline			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	0	1	2	0	1	2	0	1	2	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

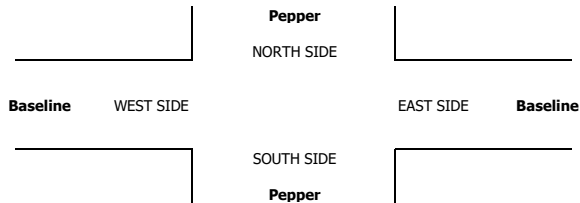
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0

AM	7:00 AM	0	0	0	0	0	0	0	0	1	1	1	3
	7:15 AM	0	0	0	0	1	0	0	0	0	1	1	3
	7:30 AM	0	2	0	0	1	0	0	0	0	0	0	3
	7:45 AM	1	0	0	0	2	0	0	0	0	0	0	3
	8:00 AM	1	1	2	0	3	0	0	0	0	1	0	8
	8:15 AM	0	2	0	0	1	0	0	1	0	0	0	4
	8:30 AM	0	2	1	1	1	0	0	0	1	0	0	6
	8:45 AM	0	1	0	0	1	0	0	0	0	1	0	3
	VOLUMES	2	8	3	1	10	0	0	1	1	4	2	33
	APPROACH %	15%	62%	23%	9%	91%	0%	0%	50%	50%	14%	57%	29%
PM	APP/DEPART	13	/	10	11	/	12	2	/	5	7	/	6
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	2	5	2	0	7	0	0	1	0	1	0	18
	APPROACH %	22%	56%	22%	0%	100%	0%	0%	100%	0%	0%	100%	0%
	PEAK HR FACTOR	0.563			0.583			0.250			0.250		
	APP/DEPART	9	/	5	7	/	7	1	/	3	1	/	3
	04:00 PM	0	0	1	0	0	0	0	1	0	1	0	4
	4:15 PM	0	1	0	1	1	0	0	0	0	0	0	3
	4:30 PM	0	1	0	0	1	0	1	1	0	0	0	4
	4:45 PM	0	1	0	0	3	0	0	0	0	0	0	4
	5:00 PM	0	0	0	0	0	0	0	0	0	1	1	2
	5:15 PM	0	0	1	0	0	0	0	0	0	0	0	1
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1
	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	2
	VOLUMES	0	4	2	1	5	0	1	3	0	1	3	21
	APPROACH %	0%	67%	33%	17%	83%	0%	25%	75%	0%	20%	20%	60%
	APP/DEPART	6	/	8	6	/	6	4	/	6	5	/	1
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	3	1	1	5	0	1	2	0	1	0	15
	APPROACH %	0%	75%	25%	17%	83%	0%	33%	67%	0%	50%	0%	50%
	PEAK HR FACTOR	1.000			0.500			0.375			0.250		
	APP/DEPART	4	/	5	6	/	6	3	/	4	2	/	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Baseline	PROJECT #: LOCATION #: CONTROL:	SC4165 5 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	APB PM MD OTHER:	▲ N S ▼	◀ W E ▶
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	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Baseline			Baseline			
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

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	1	0	1	0	0	0	0	0	0	0	2
	7:15 AM	0	1	0	0	3	0	0	0	0	1	0	7
	7:30 AM	0	0	0	0	2	0	0	0	0	0	1	3
	7:45 AM	0	3	0	0	0	0	0	1	0	0	0	4
	8:00 AM	1	1	0	0	0	0	0	0	0	0	3	5
	8:15 AM	0	1	0	0	4	0	0	1	0	0	0	6
	8:30 AM	0	2	1	0	2	0	0	1	1	0	1	8
	8:45 AM	0	4	0	0	1	0	0	0	1	0	0	6
	VOLUMES	1	13	1	1	12	0	0	3	1	2	6	41
	APPROACH %	7%	87%	7%	8%	92%	0%	0%	75%	25%	22%	11%	67%
PM	APP/DEPART	15	/	19	13	/	15	4	/	5	9	/	2
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	1	5	0	0	6	0	0	2	0	0	4	18
	APPROACH %	17%	83%	0%	0%	100%	0%	0%	100%	0%	0%	100%	
	PEAK HR FACTOR	0.500			0.375			0.500			0.333		
	APP/DEPART	6	/	9	6	/	6	2	/	2	4	/	1
	04:00 PM	0	2	0	0	0	0	0	0	0	0	2	4
	4:15 PM	0	0	0	0	0	0	0	2	0	0	1	4
	4:30 PM	0	0	0	0	2	1	0	2	0	0	0	5
	4:45 PM	0	1	1	1	0	0	0	0	0	0	0	3
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	2
	5:15 PM	0	2	0	1	0	0	0	2	0	0	0	5
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	1
	VOLUMES	0	7	1	2	3	1	0	6	0	0	1	24
	APPROACH %	0%	88%	13%	33%	50%	17%	0%	100%	0%	0%	25%	75%
	APP/DEPART	8	/	10	6	/	3	6	/	9	4	/	2
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	3	1	1	2	1	0	4	0	0	1	16
	APPROACH %	0%	75%	25%	25%	50%	25%	0%	100%	0%	0%	25%	75%
	PEAK HR FACTOR	0.500			0.333			0.500			0.500		
	APP/DEPART	4	/	6	4	/	2	4	/	6	4	/	2

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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	Pepper	
	NORTH SIDE	
Baseline	WEST SIDE	EAST SIDE
	Baseline	
	SOUTH SIDE	
	Pepper	

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Baseline	PROJECT #: LOCATION #: CONTROL:	SC4165 5 SIGNAL
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CLASS 5:	NOTES:	AM PM MD OTHER:	▲ N S ▼	◀ W E ▶
RV				

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Baseline			Baseline			
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

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
PM	APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	PEAK HR FACTOR	0.000			0.000			0.000			0.000		
	APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
	APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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	Pepper	
	NORTH SIDE	
Baseline	WEST SIDE	EAST SIDE
	Baseline	
	SOUTH SIDE	
	Pepper	

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 8/22/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Rialto Pepper Baseline	PROJECT #: SC4165 LOCATION #: 5 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
BUSES			

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Pepper			Pepper			Baseline			Baseline			
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

U-TURNS					
NB	SB	EB	WB	TTL	

RTOR			
NRR 0	SRR 0	ERR 0	WRR 0

AM	7:00 AM	0	0	0	0	0	0	0	0	0	1	0	1
	7:15 AM	1	0	0	0	2	0	0	2	1	0	1	7
	7:30 AM	1	0	0	0	0	0	1	1	0	0	1	5
	7:45 AM	0	0	0	0	2	0	0	1	0	0	1	5
	8:00 AM	0	0	0	0	0	0	0	1	0	1	0	2
	8:15 AM	1	0	0	0	0	0	1	1	0	0	2	5
	8:30 AM	0	0	0	0	0	0	0	1	1	0	0	2
	8:45 AM	1	0	0	0	0	0	1	0	0	0	1	3
	VOLUMES	4	0	0	0	4	0	3	6	3	0	8	30
	APPROACH %	100%	0%	0%	0%	100%	0%	25%	50%	25%	0%	80%	20%
PM	APP/DEPART	4	/	5	4	/	7	12	/	6	10	/	12
	BEGIN PEAK HR	7:30 AM											
	VOLUMES	2	0	0	0	2	0	2	3	1	0	5	17
	APPROACH %	100%	0%	0%	0%	100%	0%	33%	50%	17%	0%	71%	29%
	PEAK HR FACTOR	0.500			0.250			0.750			0.875		
	APP/DEPART	2	/	4	2	/	3	6	/	3	7	/	7
	04:00 PM	0	0	0	0	0	0	0	0	1	0	1	2
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	1	0	0	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	1	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	1	0	0	2	1	0	2	6
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	67%	33%	0%	100%	0%
	APP/DEPART	0	/	0	1	/	2	3	/	2	2	/	2
	BEGIN PEAK HR	4:00 PM											
	VOLUMES	0	0	0	0	1	0	0	1	1	0	1	4
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	50%	50%	0%	100%	0%
	PEAK HR FACTOR	0.000			0.250			0.500			0.250		
	APP/DEPART	0	/	0	1	/	2	2	/	1	1	/	1

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	1
---	---	---	---

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
---	---	---	---

	Pepper	
	NORTH SIDE	
Baseline	WEST SIDE	EAST SIDE
	Baseline	
	SOUTH SIDE	
	Pepper	

APPENDIX C – LEVEL OF SERVICE CALCULATIONS

Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 3 Existing AM

Report File: C:\...\EX AM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	NB Right	0.416	27.5	C
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	WB Left	0.660	30.9	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.536	19.0	B
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	SB Thru	0.302	1.6	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.549	12.7	B
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	EB Left	0.476	24.0	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition		0.000	0.0	

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	128	6	196	2	7	2	0	141	115	321	195	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	128	6	196	2	7	2	0	141	115	321	195	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	2	49	1	2	1	0	35	29	80	49	0
Total Analysis Volume [veh/h]	128	6	196	2	7	2	0	141	115	321	195	1
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	33	0	0	33	0	10	30	0	37	57	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	30	30	30	30	7	27	27	34	54	54
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.07	0.27	0.27	0.34	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.10	0.00	0.13	0.01	0.00	0.08	0.08	0.20	0.06	0.06
s, saturation flow rate [veh/h]	1286	1710	1454	1546	1629	1710	1468	1629	1710	1707
c, Capacity [veh/h]	426	513	436	506	114	462	396	554	923	922
d1, Uniform Delay [s]	27.29	24.59	28.32	24.66	0.00	28.89	29.09	27.13	11.22	11.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	1.81	0.04	3.33	0.08	0.00	1.56	2.04	4.38	0.23	0.23
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	0.30	0.01	0.45	0.02	0.00	0.29	0.31	0.58	0.11	0.11
d, Delay for Lane Group [s/veh]	29.09	24.63	31.64	24.74	0.00	30.45	31.13	31.51	11.46	11.46
Lane Group LOS	C	C	C	C	A	C	C	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.57	0.11	4.15	0.19	0.00	2.60	2.48	6.85	1.09	1.09
50th-Percentile Queue Length [ft/ln]	64.31	2.64	103.86	4.86	0.00	65.09	61.88	171.27	27.22	27.18
95th-Percentile Queue Length [veh/ln]	4.63	0.19	7.48	0.35	0.00	4.69	4.46	11.14	1.96	1.96
95th-Percentile Queue Length [ft/ln]	115.76	4.75	186.96	8.75	0.00	117.17	111.38	278.58	48.99	48.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.09	24.63	31.64	24.74	24.74	24.74	0.00	30.49	31.13	31.51	11.46	11.46
Movement LOS	C	C	C	C	C	C	A	C	C	C	B	B
d_A, Approach Delay [s/veh]	30.53			24.74			30.78			23.91		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.45											
Intersection LOS	C											
Intersection V/C	0.416											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.457	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	540	1080
d_b, Bicycle Delay [s]	24.50	24.50	26.65	10.58
I_b,int, Bicycle LOS Score for Intersection	2.104	1.578	1.771	1.986
Bicycle LOS	B	A	A	A

Sequence

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



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

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	382	255	0	0	269	187	0	0	0	417	4	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	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	48	0	0	0	0	0	18
Total Hourly Volume [veh/h]	412	261	0	0	269	145	0	0	0	417	4	54
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	69	0	0	82	44	0	0	0	121	1	16
Total Analysis Volume [veh/h]	437	277	0	0	329	177	0	0	0	484	5	63
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	24	58	31	31		26	26
g / C, Green / Cycle	0.27	0.64	0.34	0.34		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.24	0.08	0.13	0.15		0.27	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1673		1810	1633
c, Capacity [veh/h]	483	2314	645	568		531	480
d1, Uniform Delay [s]	31.90	6.33	22.64	23.12		30.65	23.42
k, delay calibration	0.18	0.50	0.50	0.50		0.21	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	10.17	0.11	1.79	2.52		11.44	0.13
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	0.39	0.45		0.91	0.14
d, Delay for Lane Group [s/veh]	42.07	6.43	24.43	25.64		42.09	23.56
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	9.88	0.85	4.09	4.25		11.16	1.03
50th-Percentile Queue Length [ft/ln]	246.96	21.24	102.33	106.26		278.88	25.86
95th-Percentile Queue Length [veh/ln]	15.03	1.53	7.37	7.63		16.63	1.86
95th-Percentile Queue Length [ft/ln]	375.82	38.22	184.19	190.79		415.82	46.55

Movement, Approach, & Intersection Results

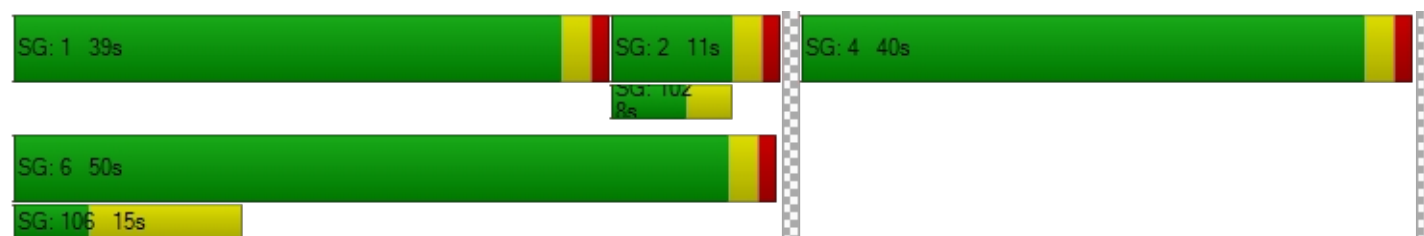
d_M, Delay for Movement [s/veh]	42.07	6.43	0.00	0.00	24.71	25.64	0.00	0.00	0.00	42.09	23.56	23.56
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	28.24			25.04			0.00			39.80		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	30.93											
Intersection LOS	C											
Intersection V/C	0.660											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.075			2.214		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.149			2.017			4.132			2.500		
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 3: Pepper Ave/I-210 EB

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 19.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.536

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	542	359	81	604	0	97	1	376	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	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	90	0	0	0	0	0	105	0	0	0
Total Hourly Volume [veh/h]	0	572	269	81	604	0	103	1	314	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	158	74	23	168	0	28	0	86	0	0	0
Total Analysis Volume [veh/h]	0	632	297	90	673	0	112	1	342	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	61	61	7	70	24	24	
g / C, Green / Cycle	0.61	0.61	0.07	0.70	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.27	0.05	0.19	0.06	0.21	
s, saturation flow rate [veh/h]	1900	1698	1810	3618	1810	1616	
c, Capacity [veh/h]	1156	1033	120	2550	426	380	
d1, Uniform Delay [s]	10.14	10.55	45.87	5.35	31.17	37.12	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.22	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.04	1.42	9.03	0.25	0.33	14.51	
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	0.40	0.45	0.75	0.26	0.26	0.90	
d, Delay for Lane Group [s/veh]	11.19	11.97	54.90	5.61	31.50	51.64	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	4.81	5.07	2.42	2.01	2.18	9.33	
50th-Percentile Queue Length [ft/ln]	120.35	126.63	60.54	50.14	54.41	233.24	
95th-Percentile Queue Length [veh/ln]	8.41	8.76	4.36	3.61	3.92	14.34	
95th-Percentile Queue Length [ft/ln]	210.31	218.91	108.97	90.25	97.94	358.47	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.39	11.97	54.90	5.61	0.00	31.50	51.64	51.64	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	11.58			11.42			46.68			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	18.96											
Intersection LOS	B											
Intersection V/C	0.536											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.339			1.896		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.400			2.189			2.484			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	1.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.302

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	901	0	0	980	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	901	0	0	980	0	0	0	0	0	0	0
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	249	0	0	273	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	996	0	0	1091	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	69	0	0	79	0	0	28	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130
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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	115	115	115	115	115	115	9	9	9	9
g / C, Green / Cycle	0.88	0.88	0.88	0.88	0.88	0.88	0.07	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.00	0.28	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	525	3618	1615	1116	3618	1615	1440	1900	1900	1615
c, Capacity [veh/h]	479	3189	1424	960	3189	1424	139	164	164	116
d1, Uniform Delay [s]	0.00	1.26	0.00	0.00	1.31	0.00	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
l, 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	0.26	0.00	0.00	0.29	0.00	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	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	1.51	0.00	0.00	1.60	0.00	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	0.59	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	14.69	0.00	0.00	16.72	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	1.06	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	26.45	0.00	0.00	30.10	0.00	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

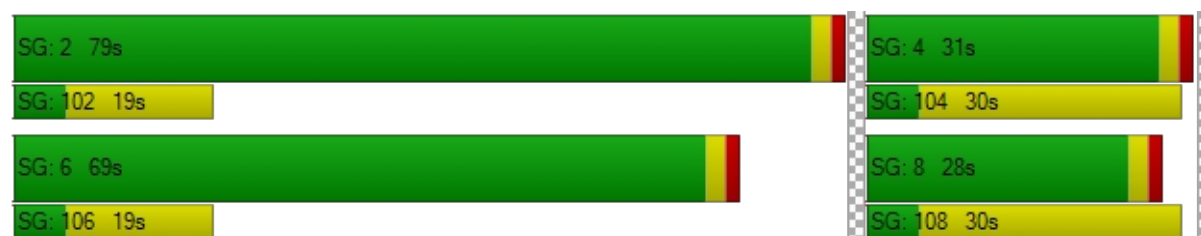
d_M, Delay for Movement [s/veh]	0.00	1.51	0.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	1.51			1.60			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.56											
Intersection LOS	A											
Intersection V/C	0.302											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	56.31			56.31			56.31			56.31		
I_p,int, Pedestrian LOS Score for Intersection	2.981			3.049			1.959			2.150		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1015			1169			385			431		
d_b, Bicycle Delay [s]	15.75			11.22			42.40			40.02		
I_b,int, Bicycle LOS Score for Intersection	2.381			2.460			1.560			1.560		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	106	780	2	4	882	89	107	2	88	6	5	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	22	0	0	22	0	0	4
Total Hourly Volume [veh/h]	106	780	1	4	882	67	107	2	66	6	5	13
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	230	0	1	244	19	47	1	29	2	2	5
Total Analysis Volume [veh/h]	125	921	1	4	975	74	189	4	117	9	8	21
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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]	19	25	0	10	16	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	37	37	0	31	31	14	14
g / C, Green / Cycle	0.10	0.61	0.61	0.01	0.52	0.52	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.24	0.00	0.28	0.28	0.20	0.02
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1850	1553	1720
c, Capacity [veh/h]	187	1157	1156	15	976	951	458	475
d1, Uniform Delay [s]	25.90	6.06	6.06	29.56	9.84	9.85	21.78	18.05
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.07	1.03	1.03	8.96	2.18	2.24	1.76	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	0.67	0.40	0.40	0.26	0.54	0.54	0.68	0.08
d, Delay for Lane Group [s/veh]	29.97	7.09	7.09	38.52	12.02	12.09	23.53	18.12
Lane Group LOS	C	A	A	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.74	2.12	2.12	0.09	3.92	3.84	4.13	0.40
50th-Percentile Queue Length [ft/ln]	43.52	52.91	52.89	2.24	97.93	96.00	103.15	10.09
95th-Percentile Queue Length [veh/ln]	3.13	3.81	3.81	0.16	7.05	6.91	7.43	0.73
95th-Percentile Queue Length [ft/ln]	78.33	95.24	95.21	4.04	176.27	172.80	185.68	18.15

Movement, Approach, & Intersection Results

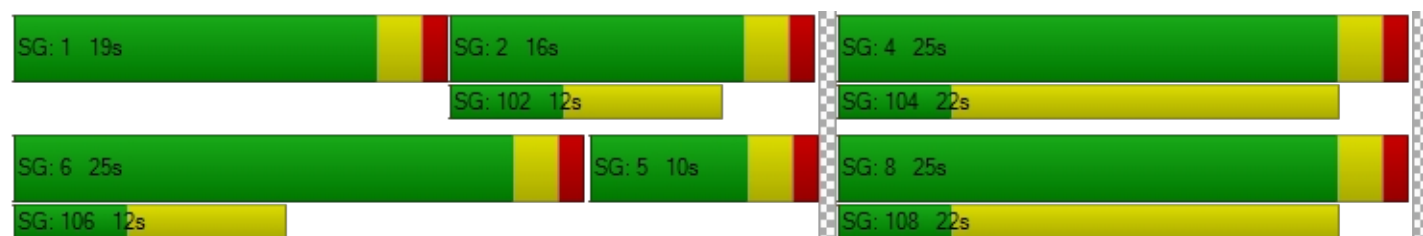
d_M, Delay for Movement [s/veh]	29.97	7.09	7.09	38.52	12.05	12.09	23.53	23.53	23.53	18.12	18.12	18.12
Movement LOS	C	A	A	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	9.82			12.16			23.53			18.12		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	12.69											
Intersection LOS	B											
Intersection V/C	0.549											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.930			3.227			1.955			1.722		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			433			733			733		
d_b, Bicycle Delay [s]	12.03			18.41			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.424			2.446			2.107			1.629		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	171	556	51	192	681	110	136	290	116	65	324	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	13	0	0	28	0	0	29	0	0	40
Total Hourly Volume [veh/h]	171	556	38	192	681	82	136	290	87	65	324	118
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	160	11	56	198	24	39	82	25	18	87	32
Total Analysis Volume [veh/h]	197	639	44	224	794	96	154	329	99	70	350	127
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	41	0	0	41	0	0	29	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	71	71	71	71	71	71	37	37	37	39	37	37
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.59	0.59	0.31	0.31	0.31	0.33	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.31	0.18	0.18	0.29	0.24	0.24	0.17	0.12	0.12	0.07	0.13	0.13
s, saturation flow rate [veh/h]	635	1900	1856	770	1900	1827	932	1900	1752	975	1900	1731
c, Capacity [veh/h]	340	1122	1096	429	1122	1079	237	588	542	290	588	535
d1, Uniform Delay [s]	27.11	12.28	12.28	22.90	13.20	13.21	47.19	32.41	32.46	39.38	32.92	33.01
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
l, 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]	7.01	0.71	0.73	4.48	1.08	1.13	3.00	0.40	0.44	0.43	0.48	0.54
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	0.58	0.31	0.31	0.52	0.40	0.40	0.65	0.38	0.38	0.24	0.42	0.43
d, Delay for Lane Group [s/veh]	34.11	12.99	13.01	27.38	14.28	14.33	50.19	32.81	32.90	39.81	33.40	33.55
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	4.96	4.48	4.39	4.89	6.34	6.13	4.56	4.99	4.68	1.47	5.68	5.29
50th-Percentile Queue Length [ft/ln]	124.07	111.99	109.65	122.26	158.57	153.20	114.05	124.85	116.93	36.68	141.98	132.13
95th-Percentile Queue Length [veh/ln]	8.62	7.95	7.82	8.52	10.47	10.19	8.06	8.66	8.22	2.64	9.59	9.06
95th-Percentile Queue Length [ft/ln]	215.41	198.76	195.51	212.93	261.83	254.70	201.62	216.48	205.59	66.02	239.69	226.39

Movement, Approach, & Intersection Results

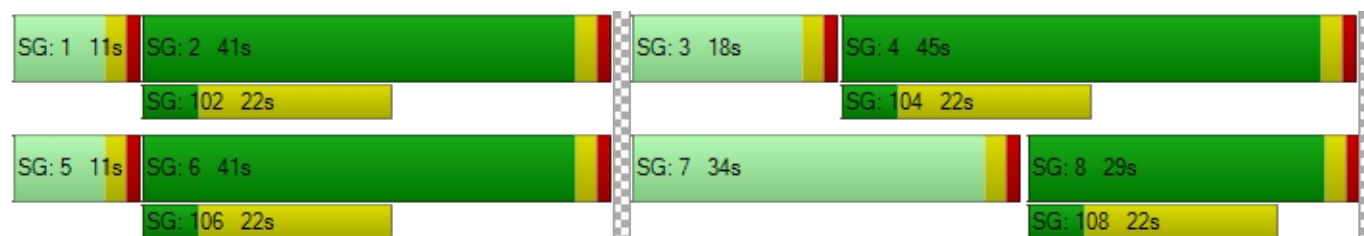
d_M, Delay for Movement [s/veh]	34.11	13.00	13.01	27.38	14.30	14.33	50.19	32.84	32.90	39.81	33.44	33.55
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	17.73			16.94			37.44			34.28		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	24.02											
Intersection LOS	C											
Intersection V/C	0.476											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.917			3.189			2.970			3.002		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	633			633			433			700		
d_b, Bicycle Delay [s]	28.02			28.02			36.82			25.35		
I_b,int, Bicycle LOS Score for Intersection	2.296			2.502			2.064			2.044		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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]	0	0	0	0	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]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

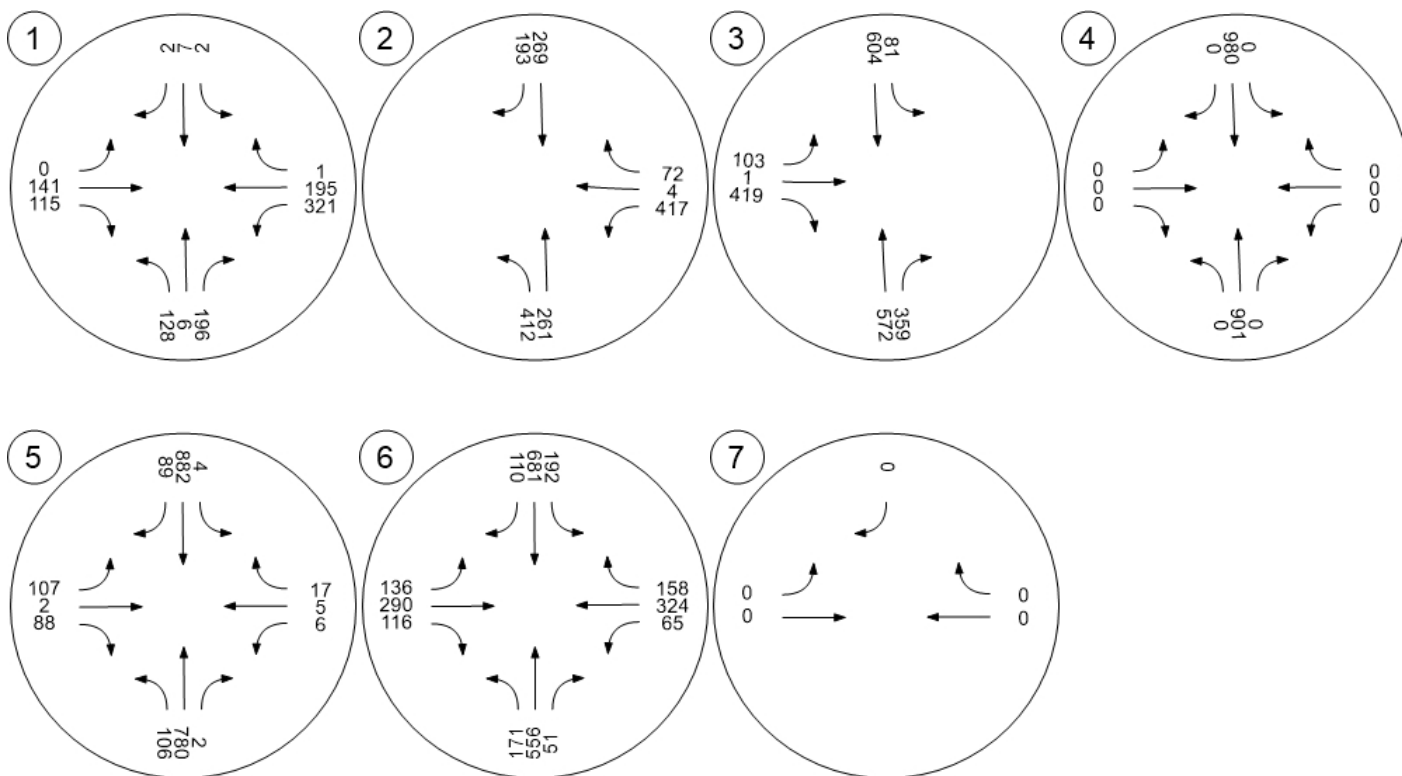
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.30	7.20	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
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]	8.30		3.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS						

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 4 Existing PM

Report File: C:\...\EX PM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	WB Left	0.509	24.2	C
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	NB Left	0.534	25.3	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.551	22.0	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	SB Thru	0.268	1.5	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.326	5.5	A
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	EB Left	0.394	23.8	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition		0.000	0.0	

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	124	0	340	0	0	0	0	235	106	265	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	124	0	340	0	0	0	0	235	106	265	230	0
Peak Hour Factor	0.9390	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8780	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	0	85	0	0	0	0	59	30	66	58	0
Total Analysis Volume [veh/h]	132	0	340	0	0	0	0	235	121	265	230	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	25	0	0	25	0	10	25	0	20	35	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	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	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	22	22	22	22	7	22	22	17	32	32
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.10	0.31	0.31	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.10	0.00	0.23	0.00	0.00	0.11	0.11	0.16	0.07	0.07
s, saturation flow rate [veh/h]	1296	1710	1454	1710	1629	1710	1521	1629	1710	1710
c, Capacity [veh/h]	473	537	457	589	163	537	478	396	782	782
d1, Uniform Delay [s]	18.38	0.00	21.48	0.00	0.00	18.45	18.55	23.96	11.06	11.06
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	1.47	0.00	10.51	0.00	0.00	1.74	2.09	8.73	0.40	0.40
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	0.28	0.00	0.74	0.00	0.00	0.34	0.36	0.67	0.15	0.15
d, Delay for Lane Group [s/veh]	19.85	0.00	31.99	0.00	0.00	20.19	20.65	32.69	11.45	11.45
Lane Group LOS	B	A	C	A	A	C	C	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.73	0.00	5.97	0.00	0.00	2.28	2.17	4.71	1.03	1.03
50th-Percentile Queue Length [ft/ln]	43.31	0.00	149.28	0.00	0.00	56.96	54.19	117.64	25.80	25.80
95th-Percentile Queue Length [veh/ln]	3.12	0.00	9.98	0.00	0.00	4.10	3.90	8.26	1.86	1.86
95th-Percentile Queue Length [ft/ln]	77.95	0.00	249.46	0.00	0.00	102.53	97.55	206.58	46.44	46.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.85	0.00	31.99	0.00	0.00	0.00	0.00	20.28	20.65	32.69	11.45	11.45
Movement LOS	B	A	C	A	A	A	A	C	C	C	B	B
d_A, Approach Delay [s/veh]	28.60			0.00			20.41			22.82		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	24.23											
Intersection LOS	C											
Intersection V/C	0.509											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.456	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	629	629	629	914
d_b, Bicycle Delay [s]	16.46	16.46	16.46	10.31
I_b,int, Bicycle LOS Score for Intersection	2.338	1.560	1.853	1.968
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	391	386	0	0	237	133	0	0	0	256	1	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	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	20
Total Hourly Volume [veh/h]	421	392	0	0	237	104	0	0	0	256	1	59
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	112	104	0	0	72	32	0	0	0	74	0	17
Total Analysis Volume [veh/h]	447	416	0	0	290	127	0	0	0	297	1	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	24	67	39	39		17	17
g / C, Green / Cycle	0.27	0.74	0.44	0.44		0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.25	0.11	0.11	0.12		0.16	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1703		1810	1619
c, Capacity [veh/h]	492	2685	830	744		346	309
d1, Uniform Delay [s]	31.68	3.38	16.03	16.26		35.22	30.75
k, delay calibration	0.17	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	10.18	0.12	0.73	0.94		6.21	0.36
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	0.15	0.25	0.28		0.86	0.22
d, Delay for Lane Group [s/veh]	41.86	3.50	16.75	17.20		41.43	31.11
Lane Group LOS	D	A	B	B		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.08	0.72	2.63	2.69		6.60	1.25
50th-Percentile Queue Length [ft/ln]	252.07	18.00	65.63	67.19		165.01	31.22
95th-Percentile Queue Length [veh/ln]	15.29	1.30	4.73	4.84		10.81	2.25
95th-Percentile Queue Length [ft/ln]	382.26	32.39	118.14	120.94		270.35	56.19

Movement, Approach, & Intersection Results

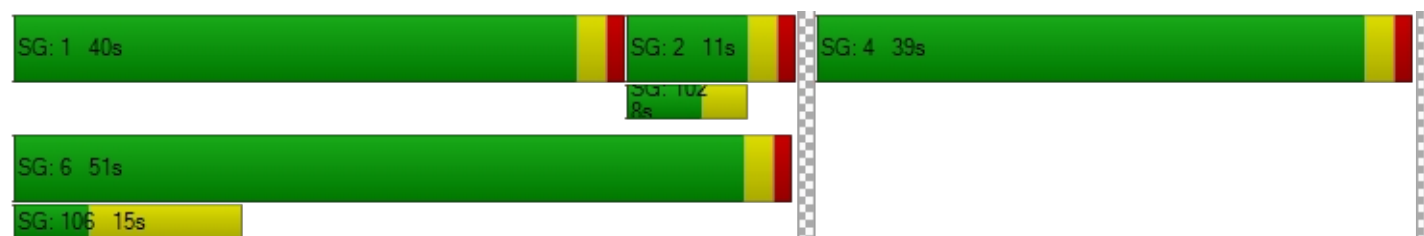
d_M, Delay for Movement [s/veh]	41.86	3.50	0.00	0.00	16.88	17.20	0.00	0.00	0.00	41.43	31.11	31.11
Movement LOS	D	A			B	B				D	C	C
d_A, Approach Delay [s/veh]	23.37			16.98			0.00			39.49		
Approach LOS	C			B			A			D		
d_I, Intersection Delay [s/veh]	25.33											
Intersection LOS	C											
Intersection V/C	0.534											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.020			2.137		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.272			1.933			4.132			2.197		
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	570	290	66	426	0	207	4	445	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	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	73	0	0	0	0	0	122	0	0	0
Total Hourly Volume [veh/h]	0	600	217	66	426	0	213	4	366	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	166	60	18	119	0	58	1	100	0	0	0
Total Analysis Volume [veh/h]	0	663	240	73	474	0	232	4	399	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	57	57	6	67	27	27	
g / C, Green / Cycle	0.57	0.57	0.06	0.67	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.26	0.04	0.13	0.13	0.25	
s, saturation flow rate [veh/h]	1900	1728	1810	3618	1810	1617	
c, Capacity [veh/h]	1088	990	113	2407	497	444	
d1, Uniform Delay [s]	11.98	12.36	45.79	6.45	30.17	35.03	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.23	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.17	1.52	6.01	0.18	0.68	13.69	
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	0.41	0.46	0.64	0.20	0.47	0.91	
d, Delay for Lane Group [s/veh]	13.14	13.87	51.79	6.63	30.85	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]	5.26	5.48	1.90	1.62	4.57	10.71	
50th-Percentile Queue Length [ft/ln]	131.40	136.91	47.51	40.62	114.19	267.80	
95th-Percentile Queue Length [veh/ln]	9.02	9.31	3.42	2.92	8.07	16.08	
95th-Percentile Queue Length [ft/ln]	225.40	232.86	85.52	73.11	201.81	401.99	

Movement, Approach, & Intersection Results

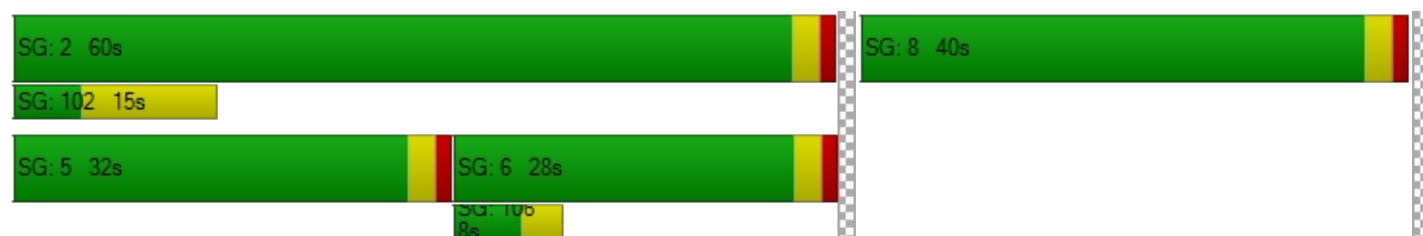
d_M, Delay for Movement [s/veh]	0.00	13.38	13.87	51.79	6.63	0.00	30.85	48.72	48.72	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	13.51			12.66			42.19			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	22.02											
Intersection LOS	C											
Intersection V/C	0.551											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.448			1.810		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.365			2.011			2.809			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	1.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	860	0	0	871	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	860	0	0	871	0	0	0	0	0	0	0
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	238	0	0	242	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	950	0	0	970	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	82	0	0	82	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130
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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	115	115	115	115	115	115	9	9	9	9
g / C, Green / Cycle	0.88	0.88	0.88	0.88	0.88	0.88	0.07	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.00	0.26	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	589	3618	1615	1165	3618	1615	1440	1900	1900	1615
c, Capacity [veh/h]	535	3190	1424	1007	3190	1424	139	164	164	116
d1, Uniform Delay [s]	0.00	1.23	0.00	0.00	1.24	0.00	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
l, 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	0.24	0.00	0.00	0.25	0.00	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	0.30	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	1.47	0.00	0.00	1.49	0.00	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	0.55	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	13.74	0.00	0.00	14.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	0.99	0.00	0.00	1.02	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	24.73	0.00	0.00	25.45	0.00	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	1.47	0.00	0.00	1.49	0.00	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]	1.47			1.49			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.48											
Intersection LOS	A											
Intersection V/C	0.268											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	56.31			56.31			56.31			56.31		
I_p,int, Pedestrian LOS Score for Intersection	2.940			3.014			1.959			2.150		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1215			1215			385			385		
d_b, Bicycle Delay [s]	10.00			10.00			42.40			42.40		
I_b,int, Bicycle LOS Score for Intersection	2.343			2.360			1.560			1.560		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	18	799	1	7	798	63	48	1	13	2	3	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	16	0	0	3	0	0	3
Total Hourly Volume [veh/h]	18	799	1	7	798	47	48	1	10	2	3	8
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	236	0	2	220	13	21	0	4	1	1	3
Total Analysis Volume [veh/h]	21	943	1	8	882	52	85	2	18	3	5	13
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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	44	44	1	43	43	6	6
g / C, Green / Cycle	0.03	0.74	0.74	0.02	0.72	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.25	0.00	0.25	0.25	0.07	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1861	1597	1771
c, Capacity [veh/h]	64	1398	1398	28	1361	1333	266	243
d1, Uniform Delay [s]	28.26	2.78	2.78	29.20	3.21	3.21	25.91	24.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.00	0.65	0.66	5.34	0.70	0.71	0.95	0.15
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	0.33	0.34	0.34	0.28	0.35	0.35	0.39	0.09
d, Delay for Lane Group [s/veh]	31.25	3.44	3.44	34.54	3.91	3.93	26.86	24.83
Lane Group LOS	C	A	A	C	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.32	0.76	0.76	0.15	0.98	0.97	1.45	0.27
50th-Percentile Queue Length [ft/ln]	7.97	19.09	19.08	3.63	24.47	24.13	36.34	6.84
95th-Percentile Queue Length [veh/ln]	0.57	1.37	1.37	0.26	1.76	1.74	2.62	0.49
95th-Percentile Queue Length [ft/ln]	14.35	34.36	34.35	6.53	44.04	43.44	65.41	12.31

Movement, Approach, & Intersection Results

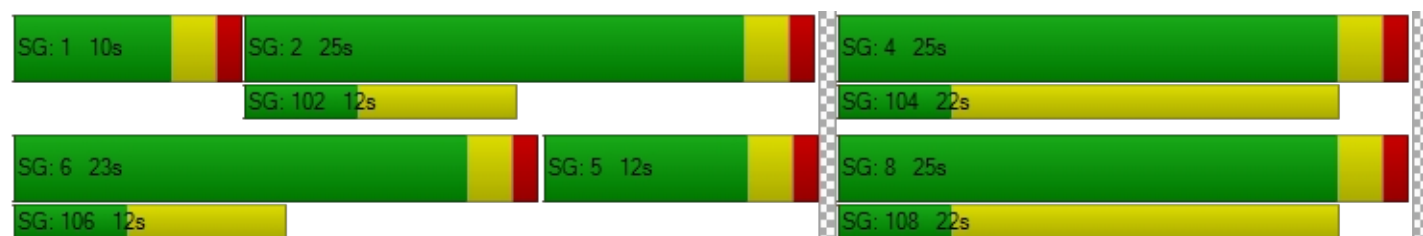
d_M, Delay for Movement [s/veh]	31.25	3.44	3.44	34.54	3.92	3.93	26.86	26.86	26.86	24.83	24.83	24.83
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.05			4.18			26.86			24.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.50											
Intersection LOS	A											
Intersection V/C	0.326											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.832			3.010			1.782			1.714		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.356			2.350			1.738			1.599		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	86	508	52	106	574	114	150	368	114	51	346	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	13	0	0	29	0	0	29	0	0	40
Total Hourly Volume [veh/h]	86	508	39	106	574	85	150	368	85	51	346	121
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	146	11	31	167	25	43	104	24	14	93	33
Total Analysis Volume [veh/h]	99	584	45	124	669	99	170	417	96	55	373	131
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	36	0	0	38	0	0	31	0	0	52	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	68	68	68	70	68	68	40	40	40	42	40	40
g / C, Green / Cycle	0.56	0.56	0.56	0.58	0.56	0.56	0.34	0.34	0.34	0.35	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.14	0.17	0.17	0.15	0.21	0.21	0.19	0.14	0.14	0.06	0.14	0.14
s, saturation flow rate [veh/h]	711	1900	1851	810	1900	1813	909	1900	1779	901	1900	1735
c, Capacity [veh/h]	367	1074	1047	458	1074	1025	253	636	595	282	636	580
d1, Uniform Delay [s]	22.53	13.61	13.62	19.58	14.29	14.29	45.74	30.86	30.88	37.94	30.80	30.88
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
l, 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]	1.80	0.70	0.72	1.46	0.96	1.01	3.06	0.43	0.47	0.33	0.43	0.48
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	0.27	0.30	0.30	0.27	0.37	0.37	0.67	0.42	0.42	0.20	0.41	0.42
d, Delay for Lane Group [s/veh]	24.33	14.32	14.35	21.04	15.25	15.30	48.80	31.29	31.35	38.28	31.23	31.36
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.96	4.39	4.30	1.64	5.70	5.47	5.00	5.85	5.52	1.09	5.78	5.38
50th-Percentile Queue Length [ft/ln]	48.89	109.84	107.46	41.05	142.61	136.71	125.00	146.31	138.02	27.34	144.53	134.59
95th-Percentile Queue Length [veh/ln]	3.52	7.83	7.70	2.96	9.62	9.30	8.67	9.82	9.37	1.97	9.72	9.19
95th-Percentile Queue Length [ft/ln]	88.00	195.77	192.46	73.89	240.53	232.59	216.68	245.50	234.35	49.22	243.11	229.72

Movement, Approach, & Intersection Results

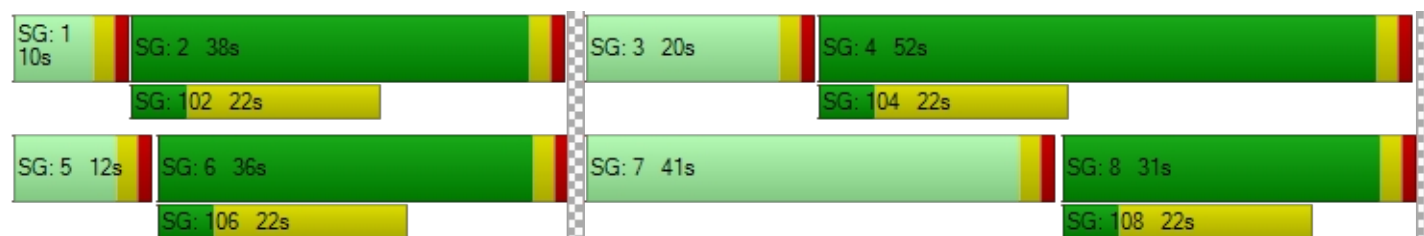
d_M, Delay for Movement [s/veh]	24.33	14.33	14.35	21.04	15.27	15.30	48.80	31.31	31.35	38.28	31.27	31.36
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.69			16.08			35.67			31.98		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	23.76											
Intersection LOS	C											
Intersection V/C	0.394											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.826			3.138			2.838			2.786		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.171			2.319			2.147			2.054		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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]	0	0	0	0	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]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

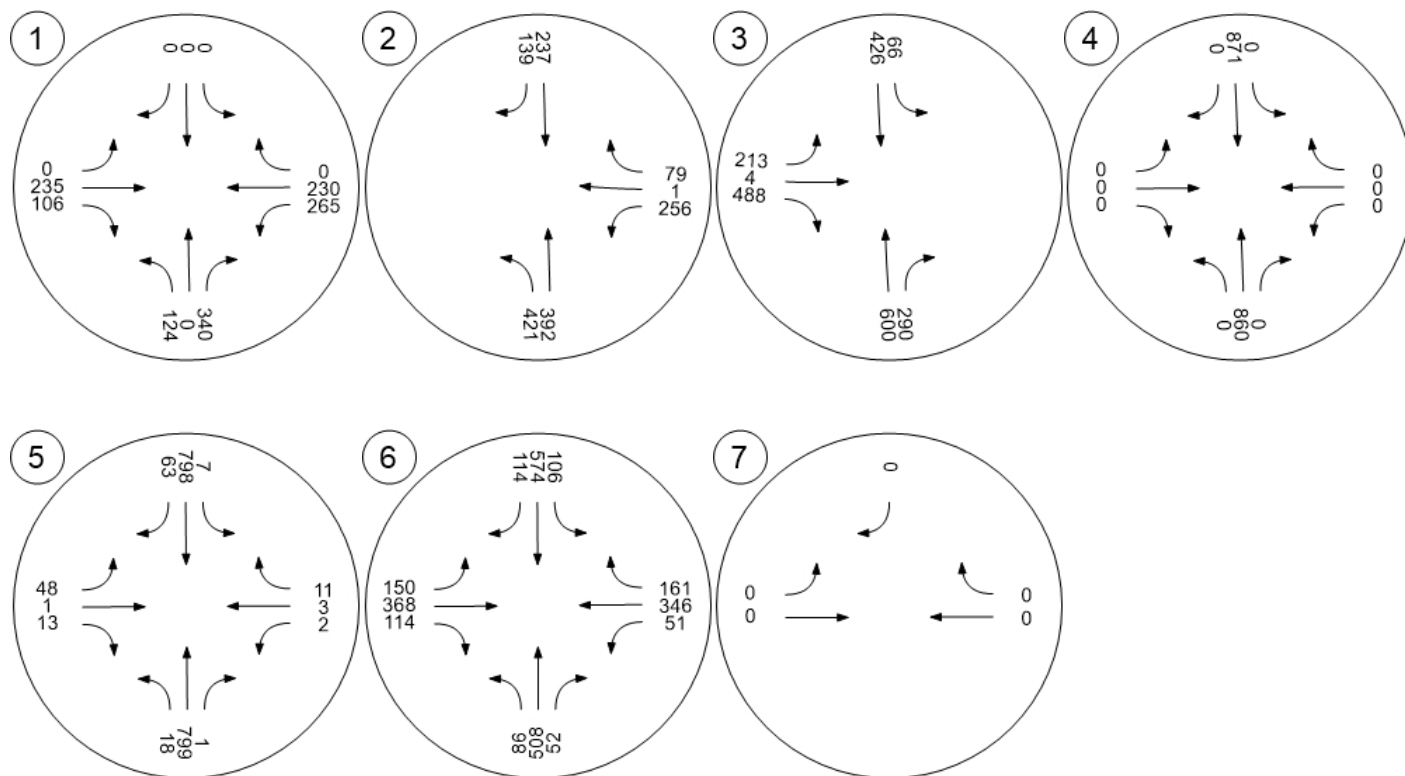
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.30	7.20	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
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]	8.30		3.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS						

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 23 Future AM + Proj

Report File: C:\...\FY AM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	WB Left	0.492	32.7	C
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	WB Left	0.871	51.1	D
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.696	21.4	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	WB Right	0.441	15.1	B
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.617	14.3	B
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.641	32.4	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition	SB Right	0.090	8.7	A

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	136	6	208	2	7	2	0	149	122	340	207	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	0	11	0	0	0	0	0	55	12	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]	193	6	219	2	7	2	0	149	182	352	207	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	2	55	1	2	1	0	37	46	88	52	0
Total Analysis Volume [veh/h]	193	6	219	2	7	2	0	149	182	352	207	1
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.15	0.00	0.15	0.01	0.00	0.09	0.13	0.22	0.06	0.06
s, saturation flow rate [veh/h]	1286	1710	1454	1539	1629	1710	1454	1629	1710	1707
c, Capacity [veh/h]	439	530	451	520	505	513	436	489	496	495
d1, Uniform Delay [s]	28.10	23.89	28.03	23.96	0.00	26.84	28.01	31.26	26.84	26.84
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	3.18	0.04	3.72	0.07	0.00	1.43	2.92	8.87	0.96	0.96
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	0.44	0.01	0.49	0.02	0.00	0.29	0.42	0.72	0.21	0.21
d, Delay for Lane Group [s/veh]	31.28	23.93	31.75	24.04	0.00	28.27	30.93	40.13	27.80	27.80
Lane Group LOS	C	C	C	C	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.09	0.10	4.66	0.19	0.00	2.80	3.66	8.64	2.00	2.00
50th-Percentile Queue Length [ft/ln]	102.32	2.59	116.59	4.78	0.00	69.89	91.45	216.01	49.96	49.90
95th-Percentile Queue Length [veh/ln]	7.37	0.19	8.21	0.34	0.00	5.03	6.58	13.46	3.60	3.59
95th-Percentile Queue Length [ft/ln]	184.17	4.67	205.14	8.60	0.00	125.80	164.61	336.53	89.93	89.81

Movement, Approach, & Intersection Results

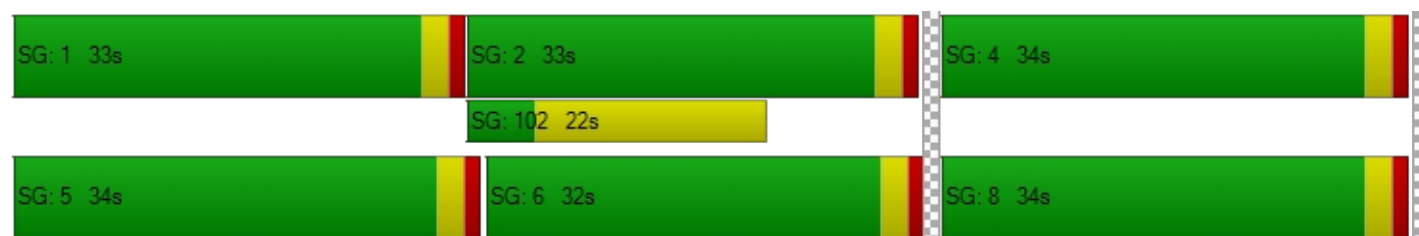
d_M, Delay for Movement [s/veh]	31.28	23.93	31.75	24.04	24.04	24.04	0.00	28.27	30.93	40.13	27.80	27.80
Movement LOS	C	C	C	C	C	C	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	31.42			24.04			29.73			35.55		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.69											
Intersection LOS	C											
Intersection V/C	0.492											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.493	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.249	1.578	1.833	2.022
Bicycle LOS	B	A	A	B

Sequence

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



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

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 7th Edition
15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

51.1
D
0.871

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	405	270	0	0	285	198	0	0	0	442	4	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	95	63	0	0	62	5	0	0	34	146	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	52	0	0	9	0	0	19
Total Hourly Volume [veh/h]	530	339	0	0	347	157	0	0	34	588	4	57
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	90	0	0	106	48	0	0	9	171	1	17
Total Analysis Volume [veh/h]	563	360	0	0	424	192	0	0	34	682	5	66
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	29	51	19	19		33	33
g / C, Green / Cycle	0.33	0.57	0.21	0.21		0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.31	0.10	0.16	0.18		0.38	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1684		1810	1632
c, Capacity [veh/h]	594	2050	390	346		663	598
d1, Uniform Delay [s]	29.49	9.38	33.92	34.79		28.50	18.87
k, delay calibration	0.42	0.50	0.50	0.50		0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	23.47	0.19	14.98	27.37		42.19	0.09
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	0.95	0.18	0.79	0.89		1.03	0.12
d, Delay for Lane Group [s/veh]	52.96	9.57	48.90	62.16		70.69	18.96
Lane Group LOS	D	A	D	E		F	B
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	14.69	1.51	7.61	8.77		20.87	0.94
50th-Percentile Queue Length [ft/ln]	367.35	37.65	190.30	219.24		521.65	23.55
95th-Percentile Queue Length [veh/ln]	20.98	2.71	12.14	13.63		28.91	1.70
95th-Percentile Queue Length [ft/ln]	524.52	67.77	303.42	340.66		722.67	42.39

Movement, Approach, & Intersection Results

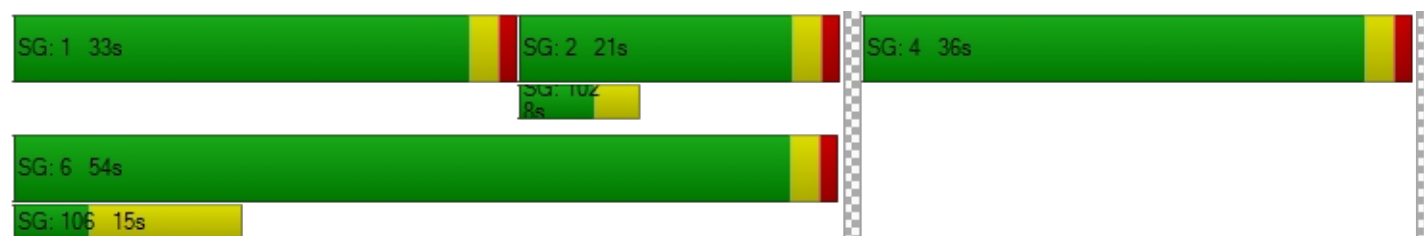
d_M, Delay for Movement [s/veh]	52.96	9.57	0.00	0.00	52.53	62.16	0.00	0.00	0.00	70.69	18.96	18.96
Movement LOS	D	A			D	E				F	B	B
d_A, Approach Delay [s/veh]	36.04			55.53			0.00			65.81		
Approach LOS	D			E			A			E		
d_I, Intersection Delay [s/veh]	51.06											
Intersection LOS	D											
Intersection V/C	0.871											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.217			2.303		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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	2.321			2.111			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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.696

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	575	381	86	640	0	103	1	399	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	150	94	0	242	0	8	0	111	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	119	0	0	0	0	0	138	0	0	0
Total Hourly Volume [veh/h]	0	755	356	86	882	0	117	1	415	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	209	98	24	246	0	32	0	113	0	0	0
Total Analysis Volume [veh/h]	0	834	393	96	982	0	128	1	453	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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	7	63	31	31	
g / C, Green / Cycle	0.53	0.53	0.07	0.63	0.31	0.31	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.36	0.05	0.27	0.07	0.28	
s, saturation flow rate [veh/h]	1900	1696	1810	3618	1810	1616	
c, Capacity [veh/h]	1013	904	127	2290	555	496	
d1, Uniform Delay [s]	16.10	17.08	45.66	9.24	25.85	33.41	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.13	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.69	4.09	8.82	0.59	0.21	8.50	
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	0.61	0.68	0.76	0.43	0.23	0.92	
d, Delay for Lane Group [s/veh]	18.79	21.17	54.47	9.83	26.06	41.91	
Lane Group LOS	B	C	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	9.26	10.05	2.57	4.65	2.22	11.22	
50th-Percentile Queue Length [ft/ln]	231.52	251.19	64.25	116.30	55.62	280.52	
95th-Percentile Queue Length [veh/ln]	14.25	15.25	4.63	8.19	4.00	16.71	
95th-Percentile Queue Length [ft/ln]	356.29	381.15	115.65	204.73	100.12	417.86	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.42	21.17	54.47	9.83	0.00	26.06	41.91	41.91	0.00	0.00	0.00
Movement LOS		B	C	D	A		C	D	D			
d_A, Approach Delay [s/veh]	19.98			13.80			38.42			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	21.39											
Intersection LOS	C											
Intersection V/C	0.696											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.455			2.024		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.670			2.449			2.748			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	955	0	0	1039	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	67	39	42	144	74	135	120	0	59	36	0	85
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	11	0	0	34	0	0	15	0	0	21
Total Hourly Volume [veh/h]	67	994	31	144	1113	101	120	0	44	36	0	64
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	275	9	40	310	28	33	0	12	10	0	18
Total Analysis Volume [veh/h]	74	1098	34	160	1239	112	133	0	49	40	0	71
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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	39	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	80	80	80	82	80	80	15	15	14	14
g / C, Green / Cycle	0.67	0.67	0.67	0.68	0.67	0.67	0.12	0.12	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.18	0.30	0.02	0.16	0.34	0.07	0.05	0.05	0.02	0.05
s, saturation flow rate [veh/h]	410	3618	1600	981	3618	1591	1810	1697	1810	1530
c, Capacity [veh/h]	251	2405	1064	578	2406	1058	219	206	205	174
d1, Uniform Delay [s]	20.81	9.68	6.89	17.09	10.23	7.23	48.85	48.91	48.22	49.33
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, 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]	2.96	0.63	0.06	1.19	0.79	0.20	1.30	1.44	0.46	1.54
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
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	0.29	0.46	0.03	0.28	0.51	0.11	0.42	0.43	0.19	0.41
d, Delay for Lane Group [s/veh]	23.77	10.30	6.94	18.27	11.03	7.43	50.14	50.35	48.68	50.87
Lane Group LOS	C	B	A	B	B	A	D	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.49	6.19	0.28	0.73	7.41	0.97	2.66	2.57	1.12	2.06
50th-Percentile Queue Length [ft/ln]	37.20	154.86	7.01	18.28	185.34	24.31	66.58	64.20	27.93	51.38
95th-Percentile Queue Length [veh/ln]	2.68	10.28	0.50	1.32	11.88	1.75	4.79	4.62	2.01	3.70
95th-Percentile Queue Length [ft/ln]	66.97	256.90	12.61	32.91	296.98	43.76	119.85	115.56	50.27	92.48

Movement, Approach, & Intersection Results

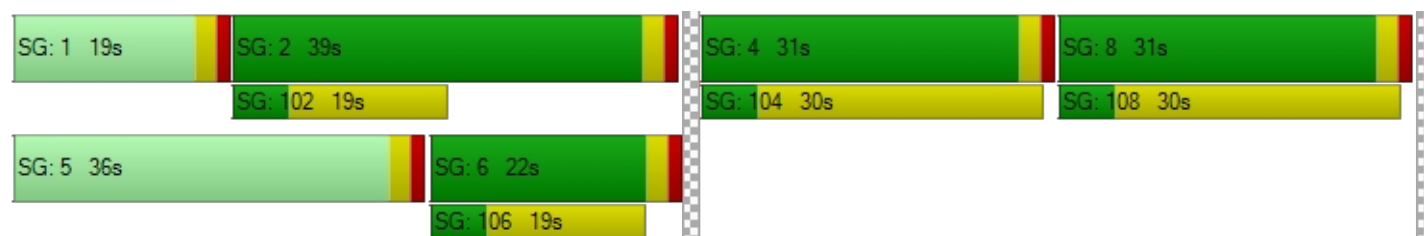
d_M, Delay for Movement [s/veh]	23.77	10.30	6.94	18.27	11.03	7.43	50.20	50.35	50.35	48.68	48.68	50.87
Movement LOS	C	B	A	B	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	11.04			11.53			50.24			50.08		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.09											
Intersection LOS	B											
Intersection V/C	0.441											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.108			3.257			2.218			2.414		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	317			600			467			467		
d_b, Bicycle Delay [s]	42.50			29.40			35.27			35.27		
I_b,int, Bicycle LOS Score for Intersection	2.564			2.834			1.885			1.777		
Bicycle LOS	B			C			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	14.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	827	2	4	935	94	113	2	93	6	5	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	125	0	0	93	8	5	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	26	0	0	23	0	0	5
Total Hourly Volume [veh/h]	112	952	1	4	1028	76	118	2	70	6	5	13
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	281	0	1	284	21	52	1	31	2	2	5
Total Analysis Volume [veh/h]	132	1124	1	4	1136	84	209	4	124	9	8	21
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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]	19	25	0	10	16	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	35	35	0	30	30	15	15
g / C, Green / Cycle	0.10	0.59	0.59	0.01	0.50	0.50	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.30	0.30	0.00	0.32	0.33	0.22	0.02
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1851	1546	1713
c, Capacity [veh/h]	190	1122	1121	15	938	914	486	505
d1, Uniform Delay [s]	25.92	7.15	7.15	29.56	11.38	11.40	21.22	17.20
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.51	1.60	1.60	8.96	3.60	3.73	1.79	0.06
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	0.69	0.50	0.50	0.26	0.66	0.66	0.69	0.08
d, Delay for Lane Group [s/veh]	30.43	8.75	8.75	38.52	14.98	15.13	23.01	17.26
Lane Group LOS	C	A	A	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.86	3.09	3.09	0.09	5.37	5.28	4.45	0.39
50th-Percentile Queue Length [ft/ln]	46.39	77.27	77.26	2.24	134.21	132.10	111.27	9.77
95th-Percentile Queue Length [veh/ln]	3.34	5.56	5.56	0.16	9.17	9.05	7.91	0.70
95th-Percentile Queue Length [ft/ln]	83.51	139.09	139.06	4.04	229.21	226.34	197.77	17.59

Movement, Approach, & Intersection Results

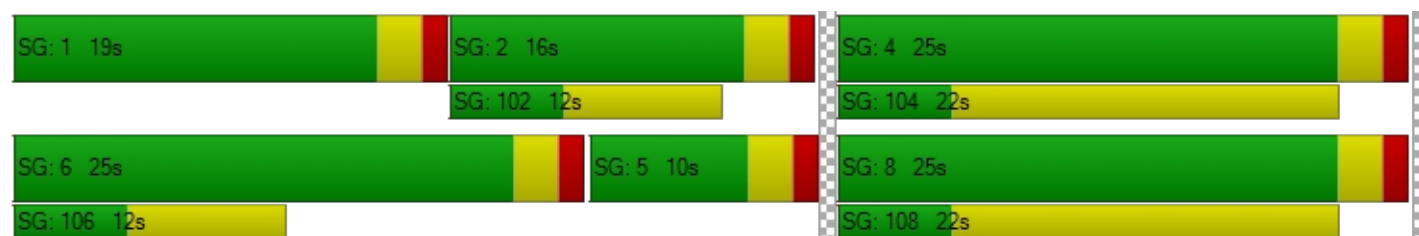
d_M, Delay for Movement [s/veh]	30.43	8.75	8.75	38.52	15.05	15.13	23.01	23.01	23.01	17.26	17.26	17.26
Movement LOS	C	A	A	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	11.03			15.13			23.01			17.26		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	14.28											
Intersection LOS	B											
Intersection V/C	0.617											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.041			3.378			1.976			1.724		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			433			733			733		
d_b, Bicycle Delay [s]	12.03			18.41			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.597			2.591			2.154			1.631		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	181	589	54	204	722	117	144	307	123	69	343	167
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	45	0	28	38	27	46	29	20	0	16	34
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	36	0	0	36	0	0	50
Total Hourly Volume [veh/h]	194	634	40	232	760	108	190	336	107	69	359	151
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	182	11	68	221	31	54	95	30	19	97	41
Total Analysis Volume [veh/h]	223	729	46	270	886	126	215	381	121	74	387	163
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	46	0	0	46	0	0	25	0	0	48	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	60	60	60	60	60	60	48	48	48	50	48	48
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.41	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.39	0.21	0.21	0.38	0.27	0.27	0.25	0.14	0.14	0.08	0.15	0.15
s, saturation flow rate [veh/h]	566	1900	1859	707	1900	1815	871	1900	1745	911	1900	1712
c, Capacity [veh/h]	230	955	935	313	955	913	295	755	693	348	755	680
d1, Uniform Delay [s]	46.23	18.68	18.69	39.85	20.36	20.41	42.42	25.27	25.29	32.05	25.69	25.75
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
l, 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]	51.82	1.30	1.33	25.51	2.19	2.32	3.47	0.27	0.30	0.30	0.32	0.36
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	0.97	0.41	0.41	0.86	0.54	0.54	0.73	0.35	0.35	0.21	0.38	0.39
d, Delay for Lane Group [s/veh]	98.06	19.99	20.02	65.36	22.55	22.73	45.89	25.54	25.59	32.35	26.01	26.11
Lane Group LOS	F	B	C	E	C	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	9.95	6.77	6.64	10.02	9.81	9.48	6.27	5.12	4.74	1.32	5.74	5.25
50th-Percentile Queue Length [ft/ln]	248.79	169.32	166.04	250.49	245.31	237.06	156.73	127.95	118.43	33.00	143.38	131.36
95th-Percentile Queue Length [veh/ln]	15.12	11.04	10.87	15.21	14.95	14.53	10.38	8.83	8.31	2.38	9.66	9.01
95th-Percentile Queue Length [ft/ln]	378.12	276.02	271.70	380.27	373.74	363.31	259.38	220.71	207.67	59.41	241.57	225.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	98.06	20.00	20.02	65.36	22.63	22.73	45.89	25.56	25.59	32.35	26.03	26.11
Movement LOS	F	C	C	E	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	37.44			31.64			31.66			26.80		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	32.41											
Intersection LOS	C											
Intersection V/C	0.641											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.001			3.396			3.080			3.130		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	717			717			367			750		
d_b, Bicycle Delay [s]	24.70			24.70			40.02			23.44		
I_b,int, Bicycle LOS Score for Intersection	2.395			2.647			2.181			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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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	97	100	86	24	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]	0	97	100	86	24	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]	0	24	25	22	6	0
Total Analysis Volume [veh/h]	0	97	100	86	24	0
Pedestrian Volume [ped/h]	0		0		0	

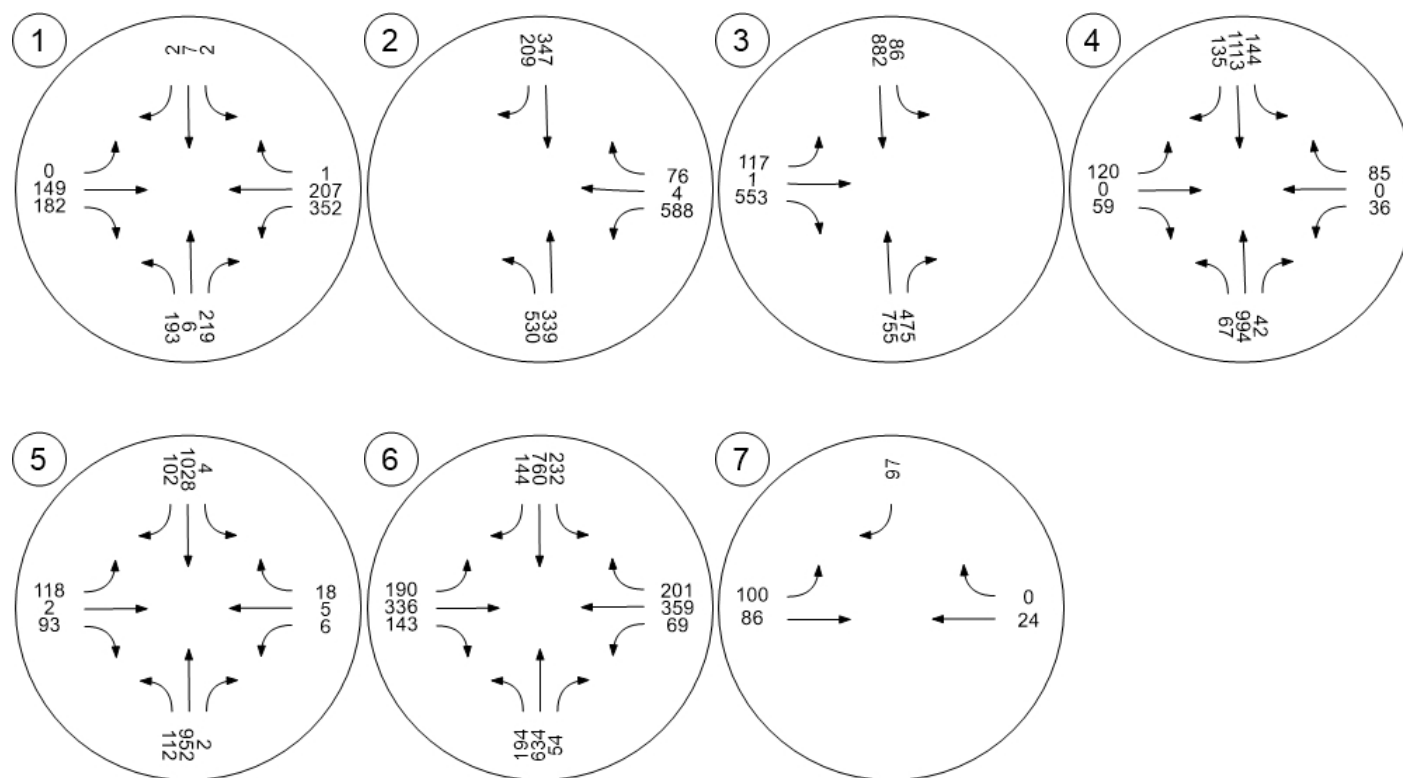
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.09	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.69	7.36	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.18	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.44	4.41	2.20	0.00	0.00
d_A, Approach Delay [s/veh]	8.69		3.96		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.14					
Intersection LOS	A					

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 24 Future PM + Proj

Report File: C:\...\FY PM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	NB Right	0.568	35.5	D
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	NB Left	0.716	30.8	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.719	24.3	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	WB Right	0.423	16.6	B
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.393	6.0	A
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.517	27.1	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition	SB Right	0.081	8.8	A

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	131	0	360	0	0	0	0	249	112	281	244	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	19	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	0	10	0	0	0	0	0	36	10	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]	196	0	370	0	0	0	0	249	152	291	244	0
Peak Hour Factor	0.9390	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8780	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	0	93	0	0	0	0	62	43	73	61	0
Total Analysis Volume [veh/h]	209	0	370	0	0	0	0	249	173	291	244	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.16	0.00	0.25	0.00	0.00	0.13	0.14	0.18	0.07	0.07
s, saturation flow rate [veh/h]	1296	1710	1454	1710	1629	1710	1484	1629	1710	1710
c, Capacity [veh/h]	448	530	451	566	505	513	445	489	496	496
d1, Uniform Delay [s]	28.46	0.00	31.93	0.00	0.00	28.14	28.33	29.83	27.14	27.14
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	3.47	0.00	15.40	0.00	0.00	2.64	3.27	5.27	1.18	1.18
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	0.00	0.82	0.00	0.00	0.43	0.45	0.60	0.25	0.25
d, Delay for Lane Group [s/veh]	31.92	0.00	47.33	0.00	0.00	30.78	31.60	35.10	28.32	28.32
Lane Group LOS	C	A	D	A	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.50	0.00	10.01	0.00	0.00	4.41	4.09	6.58	2.37	2.37
50th-Percentile Queue Length [ft/ln]	112.38	0.00	250.22	0.00	0.00	110.34	102.22	164.58	59.37	59.37
95th-Percentile Queue Length [veh/ln]	7.97	0.00	15.20	0.00	0.00	7.86	7.36	10.79	4.27	4.27
95th-Percentile Queue Length [ft/ln]	199.31	0.00	379.93	0.00	0.00	196.48	183.99	269.78	106.86	106.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.92	0.00	47.33	0.00	0.00	0.00	0.00	30.87	31.60	35.10	28.32	28.32
Movement LOS	C	A	D	A	A	A	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	41.77			0.00			31.17			32.01		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	35.46											
Intersection LOS	D											
Intersection V/C	0.568											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.510	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.515	1.560	1.908	2.001
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	414	409	0	0	251	141	0	0	0	271	1	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	132	51	0	0	39	7	0	0	0	92	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	39	0	0	0	0	0	21
Total Hourly Volume [veh/h]	576	466	0	0	290	115	0	0	0	363	1	63
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	153	124	0	0	89	35	0	0	0	105	0	18
Total Analysis Volume [veh/h]	611	495	0	0	355	141	0	0	0	421	1	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	32	61	25	25		23	23
g / C, Green / Cycle	0.36	0.67	0.28	0.28		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.34	0.14	0.13	0.15		0.23	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1708		1810	1618
c, Capacity [veh/h]	653	2439	532	478		469	419
d1, Uniform Delay [s]	27.76	5.53	26.82	27.28		32.19	25.89
k, delay calibration	0.31	0.50	0.50	0.50		0.19	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	16.11	0.19	2.91	3.97		10.24	0.20
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	0.20	0.47	0.52		0.90	0.18
d, Delay for Lane Group [s/veh]	43.87	5.72	29.73	31.25		42.43	26.09
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	14.38	1.37	4.54	4.71		9.67	1.20
50th-Percentile Queue Length [ft/ln]	359.42	34.33	113.58	117.78		241.76	30.04
95th-Percentile Queue Length [veh/ln]	20.60	2.47	8.04	8.27		14.77	2.16
95th-Percentile Queue Length [ft/ln]	514.88	61.80	200.97	206.77		369.26	54.07

Movement, Approach, & Intersection Results

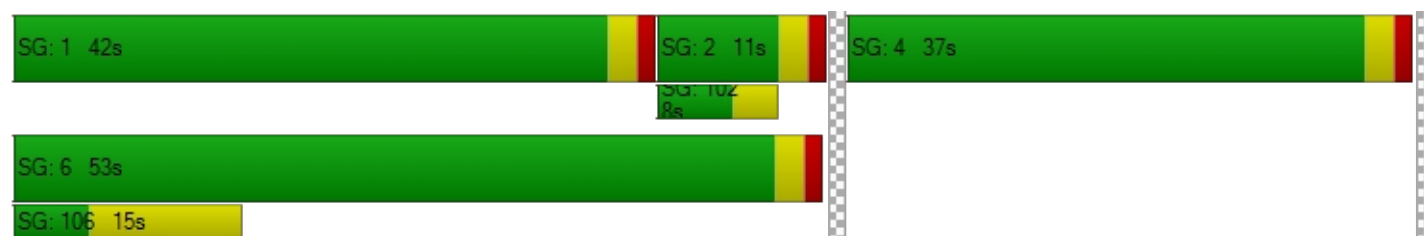
d_M, Delay for Movement [s/veh]	43.87	5.72	0.00	0.00	30.19	31.25	0.00	0.00	0.00	42.43	26.09	26.09
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	26.80			30.49			0.00			39.99		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	30.78											
Intersection LOS	C											
Intersection V/C	0.716											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.197			2.195		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.472			2.001			4.132			2.411		
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.719

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	604	307	70	452	0	219	4	472	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	176	132	0	131	0	7	0	90	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	110	0	0	0	0	0	151	0	0	0
Total Hourly Volume [veh/h]	0	810	329	70	583	0	232	4	454	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	224	91	19	162	0	63	1	124	0	0	0
Total Analysis Volume [veh/h]	0	895	364	78	649	0	253	4	495	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	51	51	6	60	34	34	
g / C, Green / Cycle	0.51	0.51	0.06	0.60	0.34	0.34	
(v / s)_i Volume / Saturation Flow Rate	0.33	0.37	0.04	0.18	0.14	0.31	
s, saturation flow rate [veh/h]	1900	1714	1810	3618	1810	1617	
c, Capacity [veh/h]	968	873	116	2183	609	544	
d1, Uniform Delay [s]	17.99	19.01	45.79	9.59	25.58	31.82	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.16	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.38	5.12	6.69	0.35	0.45	9.52	
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	0.65	0.72	0.68	0.30	0.42	0.92	
d, Delay for Lane Group [s/veh]	21.37	24.13	52.49	9.93	26.03	41.35	
Lane Group LOS	C	C	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.36	11.22	2.05	3.05	4.51	12.33	
50th-Percentile Queue Length [ft/ln]	258.88	280.62	51.15	76.32	112.87	308.26	
95th-Percentile Queue Length [veh/ln]	15.63	16.72	3.68	5.49	8.00	18.09	
95th-Percentile Queue Length [ft/ln]	390.82	417.98	92.07	137.37	199.98	452.23	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	22.19	24.13	52.49	9.93	0.00	26.03	41.35	41.35	0.00	0.00	0.00
Movement LOS		C	C	D	A		C	D	D			
d_A, Approach Delay [s/veh]	22.75			14.50			36.19			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	24.25											
Intersection LOS	C											
Intersection V/C	0.719											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.553			1.972		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.689			2.159			3.050			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	912	0	0	923	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	83	90	33	91	38	92	101	0	83	42	0	117
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	8	0	0	23	0	0	21	0	0	29
Total Hourly Volume [veh/h]	83	1002	25	91	961	69	101	0	62	42	0	88
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	277	7	25	268	19	28	0	17	12	0	24
Total Analysis Volume [veh/h]	92	1107	28	101	1070	77	112	0	69	47	0	98
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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	32	0	0	18	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	121	121	121	121	121	121	121	121	121	121
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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	80	78	78	78	78	78	15	15	15	15
g / C, Green / Cycle	0.66	0.65	0.65	0.65	0.65	0.65	0.12	0.12	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.18	0.31	0.02	0.10	0.30	0.05	0.05	0.05	0.03	0.06
s, saturation flow rate [veh/h]	498	3618	1600	978	3618	1590	1810	1653	1810	1538
c, Capacity [veh/h]	311	2335	1033	515	2334	1026	220	201	227	193
d1, Uniform Delay [s]	19.35	10.96	7.74	19.26	10.81	7.99	49.24	49.34	47.51	49.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, 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]	2.41	0.69	0.05	0.85	0.65	0.14	1.30	1.50	0.45	2.07
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	0.30	0.47	0.03	0.20	0.46	0.08	0.42	0.44	0.21	0.51
d, Delay for Lane Group [s/veh]	21.75	11.65	7.79	20.11	11.46	8.14	50.54	50.84	47.96	51.33
Lane Group LOS	C	B	A	C	B	A	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.02	6.88	0.25	0.87	6.55	0.72	2.69	2.56	1.31	2.88
50th-Percentile Queue Length [ft/ln]	25.41	171.90	6.29	21.76	163.73	17.88	67.35	63.98	32.69	71.92
95th-Percentile Queue Length [veh/ln]	1.83	11.18	0.45	1.57	10.75	1.29	4.85	4.61	2.35	5.18
95th-Percentile Queue Length [ft/ln]	45.74	279.41	11.32	39.17	268.66	32.18	121.23	115.16	58.84	129.46

Movement, Approach, & Intersection Results

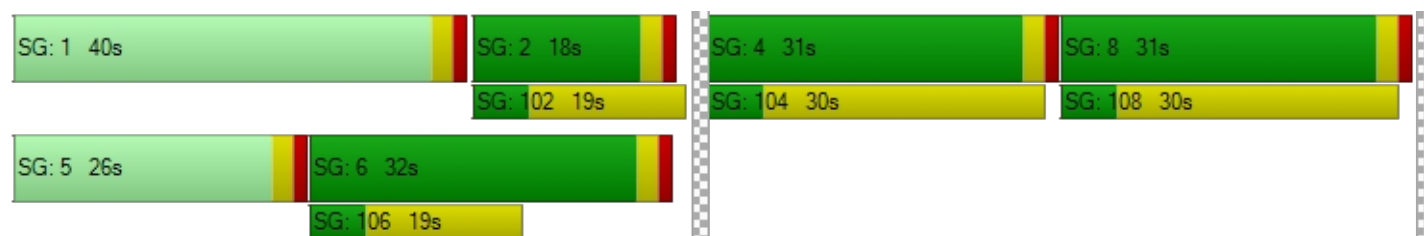
d_M, Delay for Movement [s/veh]	21.75	11.65	7.79	20.11	11.46	8.14	50.60	50.84	50.84	47.96	47.96	51.33
Movement LOS	C	B	A	C	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	12.32			11.96			50.69			50.24		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.60											
Intersection LOS	B											
Intersection V/C	0.423											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.83			51.83			51.83			51.83		
I_p,int, Pedestrian LOS Score for Intersection	3.075			3.189			2.200			2.407		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	479			248			463			463		
d_b, Bicycle Delay [s]	34.98			46.43			35.74			35.74		
I_b,int, Bicycle LOS Score for Intersection	2.578			2.608			1.893			1.847		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	6.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	19	847	1	7	846	67	51	1	14	2	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	122	0	0	127	10	7	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	4	0	0	3
Total Hourly Volume [veh/h]	19	969	1	7	973	58	58	1	10	2	3	9
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	286	0	2	269	16	26	0	4	1	1	4
Total Analysis Volume [veh/h]	22	1144	1	8	1075	64	103	2	18	3	5	14
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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	25	0	10	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	44	44	1	43	43	6	6
g / C, Green / Cycle	0.04	0.73	0.73	0.01	0.71	0.71	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.30	0.00	0.30	0.30	0.08	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1861	1587	1778
c, Capacity [veh/h]	66	1389	1388	28	1349	1321	275	253
d1, Uniform Delay [s]	28.20	3.11	3.11	29.21	3.62	3.62	25.93	24.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, 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	0.91	0.91	5.56	0.99	1.01	1.14	0.15
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	0.33	0.41	0.41	0.29	0.43	0.43	0.45	0.09
d, Delay for Lane Group [s/veh]	31.12	4.02	4.02	34.77	4.61	4.64	27.07	24.56
Lane Group LOS	C	A	A	C	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	1.08	1.08	0.15	1.40	1.38	1.72	0.28
50th-Percentile Queue Length [ft/ln]	8.30	27.09	27.09	3.65	34.99	34.54	42.95	7.11
95th-Percentile Queue Length [veh/ln]	0.60	1.95	1.95	0.26	2.52	2.49	3.09	0.51
95th-Percentile Queue Length [ft/ln]	14.94	48.76	48.75	6.58	62.97	62.17	77.30	12.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.12	4.02	4.02	34.77	4.62	4.64	27.07	27.07	27.07	24.56	24.56	24.56
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.53			4.83			27.07			24.56		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.98											
Intersection LOS	A											
Intersection V/C	0.393											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.948			3.165			1.797			1.714		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			733			733			733		
d_b, Bicycle Delay [s]	12.03			12.03			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.522			2.522			1.769			1.601		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	91	538	55	112	608	121	159	390	121	54	367	171
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	49	0	33	52	42	41	24	18	0	27	32
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	41	0	0	35	0	0	51
Total Hourly Volume [veh/h]	109	587	41	145	660	122	200	414	104	54	394	152
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	169	12	42	192	36	57	117	29	15	106	41
Total Analysis Volume [veh/h]	125	675	47	169	769	142	227	469	118	58	425	164
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	36	0	0	36	0	0	32	0	0	50	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	55	55	55	55	55	55	53	53	53	55	53	53
g / C, Green / Cycle	0.46	0.46	0.46	0.46	0.46	0.46	0.44	0.44	0.44	0.46	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.20	0.19	0.19	0.23	0.25	0.25	0.27	0.16	0.16	0.07	0.16	0.16
s, saturation flow rate [veh/h]	622	1900	1855	742	1900	1794	840	1900	1770	842	1900	1723
c, Capacity [veh/h]	238	866	845	306	866	817	310	844	786	341	844	766
d1, Uniform Delay [s]	38.33	22.01	22.02	34.70	23.60	23.62	40.60	22.05	22.06	30.09	22.10	22.14
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
l, 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]	8.10	1.51	1.55	7.01	2.42	2.58	3.35	0.26	0.28	0.23	0.26	0.30
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	0.53	0.42	0.42	0.55	0.54	0.54	0.73	0.36	0.36	0.17	0.36	0.37
d, Delay for Lane Group [s/veh]	46.42	23.52	23.57	41.71	26.01	26.19	43.95	22.31	22.33	30.32	22.36	22.44
Lane Group LOS	D	C	C	D	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.70	6.95	6.81	4.69	9.63	9.16	6.54	5.55	5.18	0.93	5.63	5.18
50th-Percentile Queue Length [ft/ln]	92.54	173.79	170.18	117.25	240.79	229.12	163.41	138.71	129.60	23.30	140.74	129.39
95th-Percentile Queue Length [veh/ln]	6.66	11.28	11.09	8.24	14.72	14.13	10.73	9.41	8.92	1.68	9.52	8.91
95th-Percentile Queue Length [ft/ln]	166.58	281.88	277.15	206.05	368.03	353.24	268.23	235.29	222.95	41.94	238.01	222.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.42	23.54	23.57	41.71	26.08	26.19	43.95	22.32	22.33	30.32	22.38	22.44
Movement LOS	D	C	C	D	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	26.92			28.54			28.35			23.11		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.05											
Intersection LOS	C											
Intersection V/C	0.517											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.912	3.351	2.954	2.991
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	483	783
d_b, Bicycle Delay [s]	31.54	31.54	34.50	22.20
I_b,int, Bicycle LOS Score for Intersection	2.270	2.484	2.260	2.135
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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	84	89	35	75	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]	0	84	89	35	75	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]	0	21	22	9	19	0
Total Analysis Volume [veh/h]	0	84	89	35	75	0
Pedestrian Volume [ped/h]	0		0		0	

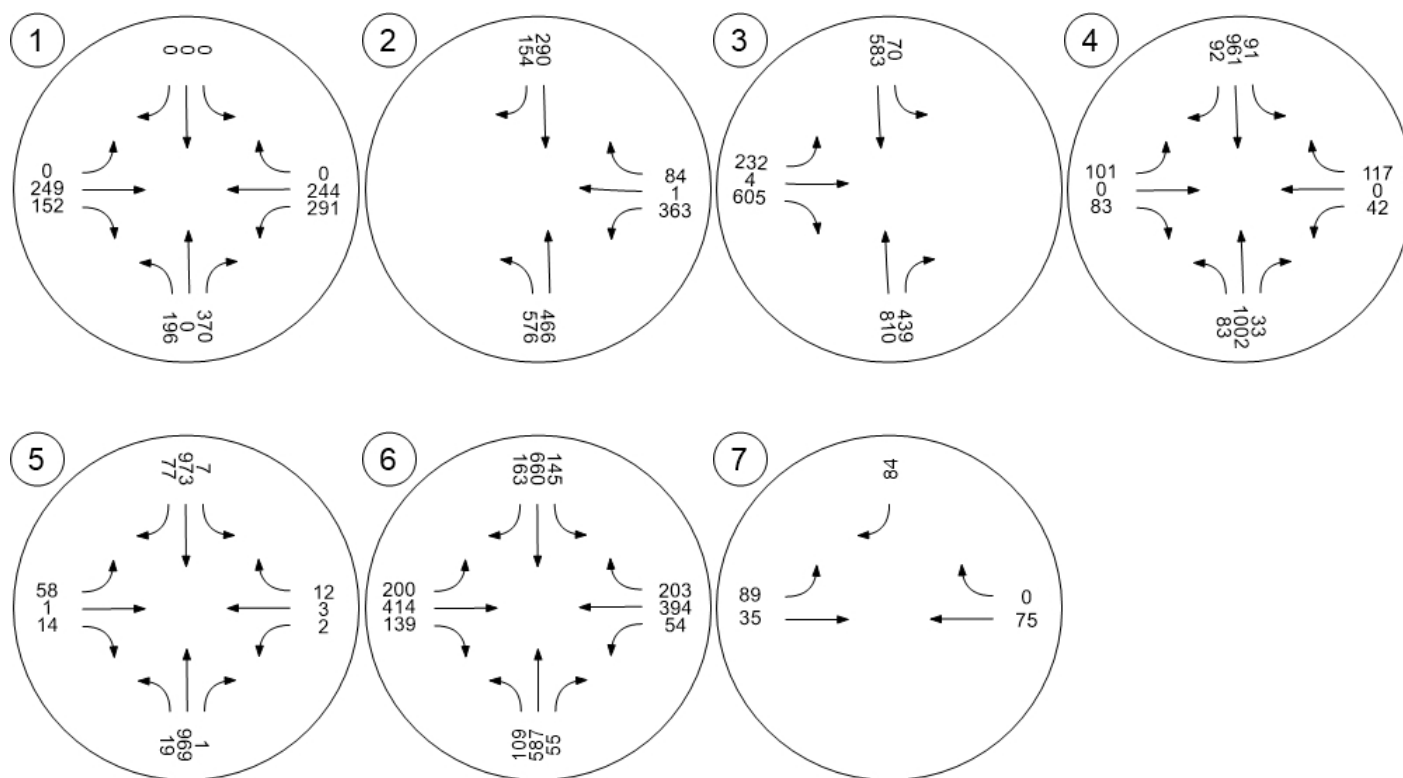
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.08	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.79	7.45	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.27	0.16	0.08	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	6.63	3.90	1.95	0.00	0.00
d_A, Approach Delay [s/veh]	8.79		5.34		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.95					
Intersection LOS	A					

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro
Report File: C:\...\GP AM.pdf

Scenario 25 GP AM
10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	WB Left	0.559	35.1	D
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	SB Right	0.887	53.8	D
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.719	22.7	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	EB Left	0.443	5.8	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.706	18.6	B
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.740	45.7	D
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition		0.000	0.0	

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	159	7	243	2	9	2	0	175	143	398	242	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	0	0	0	0	0	0	0	28	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]	223	7	243	2	9	2	0	175	205	398	242	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	2	61	1	2	1	0	44	51	100	61	0
Total Analysis Volume [veh/h]	223	7	243	2	9	2	0	175	205	398	242	1
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.17	0.00	0.17	0.01	0.00	0.10	0.14	0.24	0.07	0.07
s, saturation flow rate [veh/h]	1283	1710	1454	1565	1629	1710	1454	1629	1710	1708
c, Capacity [veh/h]	437	530	451	527	505	513	436	489	496	495
d1, Uniform Delay [s]	28.90	23.90	28.58	23.99	0.00	27.29	28.52	32.42	27.13	27.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	4.21	0.05	4.58	0.09	0.00	1.81	3.61	13.88	1.17	1.18
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	0.51	0.01	0.54	0.02	0.00	0.34	0.47	0.81	0.25	0.25
d, Delay for Lane Group [s/veh]	33.11	23.95	33.16	24.08	0.00	29.10	32.13	46.30	28.31	28.31
Lane Group LOS	C	C	C	C	A	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.91	0.12	5.32	0.23	0.00	3.35	4.23	10.61	2.37	2.36
50th-Percentile Queue Length [ft/ln]	122.87	3.03	133.09	5.65	0.00	83.83	105.67	265.16	59.14	59.07
95th-Percentile Queue Length [veh/ln]	8.55	0.22	9.11	0.41	0.00	6.04	7.60	15.95	4.26	4.25
95th-Percentile Queue Length [ft/ln]	213.76	5.45	227.69	10.17	0.00	150.89	189.96	398.69	106.45	106.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.11	23.95	33.16	24.08	24.08	24.08	0.00	29.10	32.13	46.30	28.31	28.31
Movement LOS	C	C	C	C	C	C	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	33.00			24.08			30.73			39.48		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	35.11											
Intersection LOS	D											
Intersection V/C	0.559											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.518	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.340	1.581	1.873	2.088
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 7th Edition
15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

53.8
D
0.887

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	474	316	0	0	334	232	0	0	0	517	5	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	26	0	0	28	0	0	0	0	54	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	60	0	0	0	0	0	22
Total Hourly Volume [veh/h]	551	348	0	0	362	178	0	0	0	571	5	67
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	92	0	0	111	54	0	0	0	166	1	19
Total Analysis Volume [veh/h]	585	369	0	0	443	218	0	0	0	662	6	78
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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	0.32	0.10	0.17	0.20		0.37	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1673		1810	1632
c, Capacity [veh/h]	617	2090	387	340		643	580
d1, Uniform Delay [s]	28.89	8.93	34.56	35.58		29.00	19.70
k, delay calibration	0.43	0.50	0.50	0.50		0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	23.05	0.18	20.78	41.95		43.02	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	0.95	0.18	0.85	0.97		1.03	0.14
d, Delay for Lane Group [s/veh]	51.94	9.12	55.33	77.53		72.02	19.82
Lane Group LOS	D	A	E	E		F	B
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	15.14	1.49	8.76	10.69		20.44	1.15
50th-Percentile Queue Length [ft/ln]	378.41	37.25	219.02	267.22		511.03	28.74
95th-Percentile Queue Length [veh/ln]	21.52	2.68	13.62	16.05		28.41	2.07
95th-Percentile Queue Length [ft/ln]	537.92	67.04	340.38	401.27		710.20	51.72

Movement, Approach, & Intersection Results

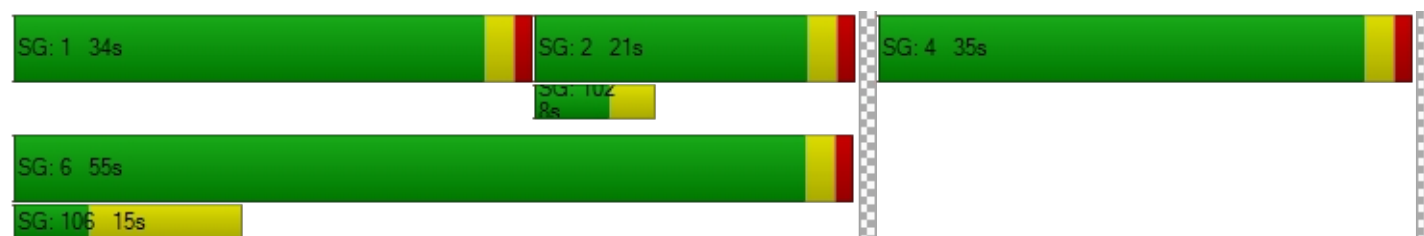
d_M, Delay for Movement [s/veh]	51.94	9.12	0.00	0.00	60.97	77.53	0.00	0.00	0.00	72.02	19.82	19.82
Movement LOS	D	A			E	E				F	B	B
d_A, Approach Delay [s/veh]	35.38			66.43			0.00			66.14		
Approach LOS	D			E			A			E		
d_I, Intersection Delay [s/veh]	53.79											
Intersection LOS	D											
Intersection V/C	0.887											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.272			2.306		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.347			2.154			4.132			2.827		
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 3: Pepper Ave/I-210 EB

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 22.7
 Level Of Service: C
 Volume to Capacity (v/c): 0.719

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	672	445	100	749	0	120	1	466	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	73	47	0	82	0	0	0	53	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	123	0	0	0	0	0	141	0	0	0
Total Hourly Volume [veh/h]	0	775	369	100	831	0	126	1	421	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	214	102	28	231	0	34	0	115	0	0	0
Total Analysis Volume [veh/h]	0	856	408	111	925	0	137	1	459	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	52	52	8	63	31	31	
g / C, Green / Cycle	0.52	0.52	0.08	0.63	0.31	0.31	
(v / s)_i Volume / Saturation Flow Rate	0.33	0.37	0.06	0.26	0.08	0.28	
s, saturation flow rate [veh/h]	1900	1694	1810	3618	1810	1616	
c, Capacity [veh/h]	987	881	144	2277	562	502	
d1, Uniform Delay [s]	17.28	18.40	45.12	9.23	25.71	33.22	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.15	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.18	5.00	8.37	0.54	0.22	9.20	
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	0.64	0.72	0.77	0.41	0.24	0.92	
d, Delay for Lane Group [s/veh]	20.46	23.40	53.49	9.77	25.93	42.41	
Lane Group LOS	C	C	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.11	11.06	2.94	4.35	2.38	11.45	
50th-Percentile Queue Length [ft/ln]	252.83	276.47	73.47	108.82	59.46	286.27	
95th-Percentile Queue Length [veh/ln]	15.33	16.51	5.29	7.77	4.28	17.00	
95th-Percentile Queue Length [ft/ln]	383.22	412.82	132.24	194.36	107.03	425.01	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.23	23.40	53.49	9.77	0.00	25.93	42.41	42.41	0.00	0.00	0.00
Movement LOS		C	C	D	A		C	D	D			
d_A, Approach Delay [s/veh]	21.93			14.45			38.63			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	22.70											
Intersection LOS	C											
Intersection V/C	0.719											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.467			2.057		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.704			2.414			2.777			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	5.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	1117	0	0	1215	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	67	0	0	0	0	135	120	0	59	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	34	0	0	15	0	0	0
Total Hourly Volume [veh/h]	67	1117	0	0	1215	101	120	0	44	0	0	0
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	309	0	0	338	28	33	0	12	0	0	0
Total Analysis Volume [veh/h]	74	1234	0	0	1353	112	133	0	49	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	27	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75
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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	57	57	57	57	57	57	12	12	12	12
g / C, Green / Cycle	0.75	0.75	0.75	0.75	0.75	0.75	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.20	0.34	0.00	0.00	0.37	0.07	0.06	0.07	0.00	0.00
s, saturation flow rate [veh/h]	367	3618	1615	890	3618	1594	1360	1462	1900	1615
c, Capacity [veh/h]	309	2731	1219	629	2731	1203	282	313	361	266
d1, Uniform Delay [s]	8.33	3.42	0.00	0.00	3.60	2.42	29.70	28.00	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
l, 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]	1.83	0.54	0.00	0.00	0.65	0.15	0.55	0.59	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	0.24	0.45	0.00	0.00	0.50	0.09	0.29	0.32	0.00	0.00
d, Delay for Lane Group [s/veh]	10.15	3.96	0.00	0.00	4.25	2.58	30.26	28.59	0.00	0.00
Lane Group LOS	B	A	A	A	A	A	C	C	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	1.67	0.00	0.00	1.93	0.24	1.34	1.62	0.00	0.00
50th-Percentile Queue Length [ft/ln]	16.02	41.67	0.00	0.00	48.28	5.98	33.58	40.50	0.00	0.00
95th-Percentile Queue Length [veh/ln]	1.15	3.00	0.00	0.00	3.48	0.43	2.42	2.92	0.00	0.00
95th-Percentile Queue Length [ft/ln]	28.84	75.01	0.00	0.00	86.90	10.76	60.45	72.90	0.00	0.00

Movement, Approach, & Intersection Results

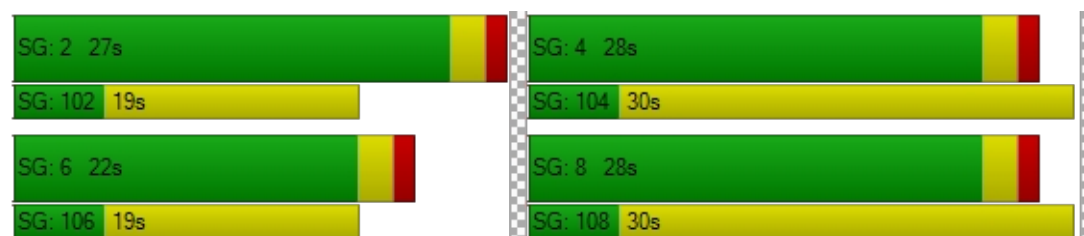
d_M, Delay for Movement [s/veh]	10.15	3.96	0.00	0.00	4.25	2.58	29.65	28.59	28.59	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A	C	C	C	A	A	A
d_A, Approach Delay [s/veh]	4.31			4.12			29.33			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	5.76											
Intersection LOS	A											
Intersection V/C	0.443											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.04			29.04			29.04			29.04		
I_p,int, Pedestrian LOS Score for Intersection	3.109			3.437			2.195			2.123		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	507			640			667			667		
d_b, Bicycle Delay [s]	20.91			17.34			16.67			16.67		
I_b,int, Bicycle LOS Score for Intersection	2.639			2.796			1.885			1.560		
Bicycle LOS	B			C			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	131	967	2	5	1094	110	133	2	109	7	6	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	0	51	8	5	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	30	0	0	27	0	0	5
Total Hourly Volume [veh/h]	131	1029	1	5	1145	88	138	2	82	7	6	16
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	304	0	1	316	24	61	1	36	3	2	6
Total Analysis Volume [veh/h]	155	1215	1	6	1265	97	244	4	145	11	9	25
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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]	20	25	0	10	15	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]	7	33	33	1	27	27	17	17
g / C, Green / Cycle	0.11	0.55	0.55	0.01	0.45	0.45	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.09	0.32	0.32	0.00	0.36	0.36	0.26	0.03
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1849	1536	1692
c, Capacity [veh/h]	204	1042	1042	23	852	829	541	564
d1, Uniform Delay [s]	25.83	9.00	9.00	29.34	14.32	14.37	20.07	15.57
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.71	2.39	2.39	5.82	8.13	8.56	1.88	0.06
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	0.76	0.58	0.58	0.26	0.81	0.81	0.73	0.08
d, Delay for Lane Group [s/veh]	31.53	11.39	11.39	35.16	22.44	22.92	21.94	15.63
Lane Group LOS	C	B	B	D	C	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.23	4.21	4.21	0.11	7.97	7.91	5.11	0.43
50th-Percentile Queue Length [ft/ln]	55.72	105.33	105.32	2.87	199.19	197.75	127.65	10.87
95th-Percentile Queue Length [veh/ln]	4.01	7.58	7.58	0.21	12.60	12.52	8.81	0.78
95th-Percentile Queue Length [ft/ln]	100.29	189.49	189.47	5.17	314.92	313.06	220.29	19.56

Movement, Approach, & Intersection Results

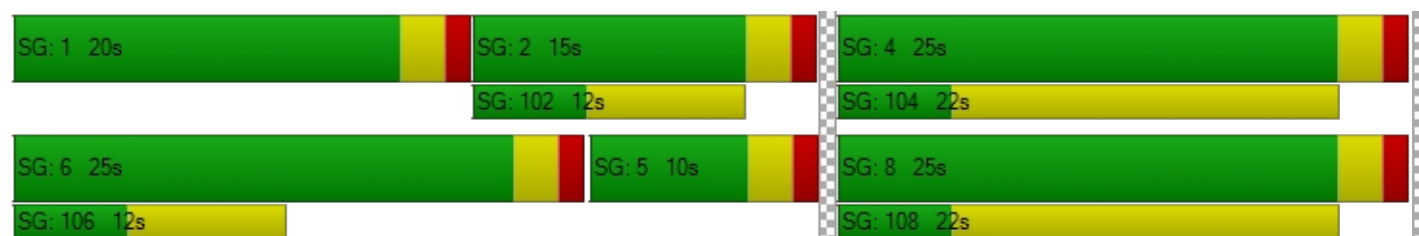
d_M, Delay for Movement [s/veh]	31.53	11.39	11.39	35.16	22.66	22.92	21.94	21.94	21.94	15.63	15.63	15.63
Movement LOS	C	B	B	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	13.67			22.74			21.94			15.63		
Approach LOS	B			C			C			B		
d_I, Intersection Delay [s/veh]	18.62											
Intersection LOS	B											
Intersection V/C	0.706											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.122			3.515			2.023			1.728		
Crosswalk LOS	C			D			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			400			733			733		
d_b, Bicycle Delay [s]	12.03			19.20			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.692			2.713			2.253			1.642		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	45.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.740

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	212	689	63	238	844	136	169	360	144	81	402	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	16	26	9	15	0	0	0	0	18
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	16	0	0	36	0	0	36	0	0	54
Total Hourly Volume [veh/h]	212	718	47	254	870	109	184	360	108	81	402	160
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	206	14	74	253	32	52	102	31	22	108	43
Total Analysis Volume [veh/h]	244	825	54	296	1014	127	209	408	122	87	434	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	41	0	0	42	0	0	25	0	0	53	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	56	56	56	58	56	56	52	52	52	54	52	52
g / C, Green / Cycle	0.47	0.47	0.47	0.49	0.47	0.47	0.43	0.43	0.43	0.45	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.49	0.23	0.23	0.46	0.30	0.31	0.25	0.14	0.15	0.10	0.17	0.17
s, saturation flow rate [veh/h]	501	1900	1858	641	1900	1824	826	1900	1752	887	1900	1719
c, Capacity [veh/h]	183	893	873	283	893	858	289	817	753	353	817	739
d1, Uniform Delay [s]	50.12	21.98	21.99	47.57	24.23	24.34	41.97	22.81	22.83	31.38	23.42	23.46
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
l, 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]	182.94	1.97	2.03	65.58	3.63	3.89	3.42	0.24	0.26	0.36	0.30	0.34
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	1.33	0.50	0.50	1.04	0.65	0.66	0.72	0.34	0.34	0.25	0.39	0.39
d, Delay for Lane Group [s/veh]	233.05	23.95	24.01	113.16	27.86	28.23	45.39	23.05	23.09	31.74	23.72	23.80
Lane Group LOS	F	C	C	F	C	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	14.73	8.67	8.50	9.90	12.66	12.39	6.08	5.09	4.72	1.47	6.03	5.52
50th-Percentile Queue Length [ft/ln]	368.30	216.77	212.61	247.60	316.47	309.63	151.92	127.26	118.07	36.64	150.87	137.95
95th-Percentile Queue Length [veh/ln]	24.81	13.50	13.29	15.52	18.49	18.16	10.12	8.79	8.29	2.64	10.06	9.37
95th-Percentile Queue Length [ft/ln]	620.29	337.50	332.17	387.88	462.34	453.92	252.99	219.76	207.18	65.96	251.60	234.26

Movement, Approach, & Intersection Results

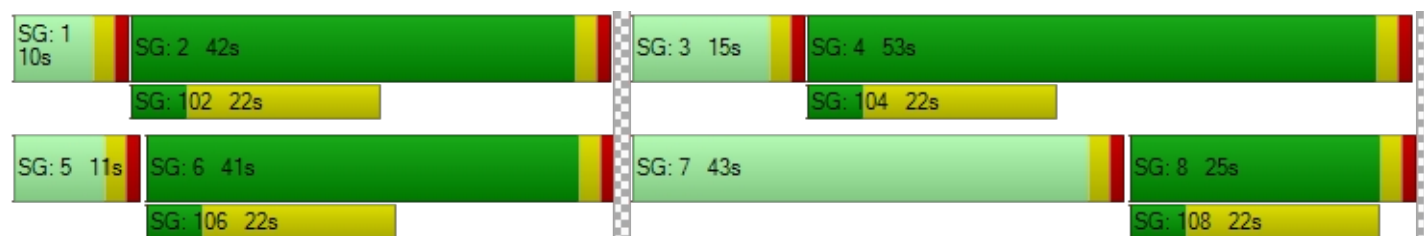
d_M, Delay for Movement [s/veh]	233.05	23.98	24.01	113.16	28.01	28.23	45.39	23.07	23.09	31.74	23.74	23.80
Movement LOS	F	C	C	F	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	69.41			45.57			29.38			24.76		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	45.66											
Intersection LOS	D											
Intersection V/C	0.740											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.095			3.463			3.134			2.992		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	633			650			367			833		
d_b, Bicycle Delay [s]	28.02			27.34			40.02			20.42		
I_b,int, Bicycle LOS Score for Intersection	2.499			2.775			2.199			2.177		
Bicycle LOS	B			C			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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]	0	0	0	0	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]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

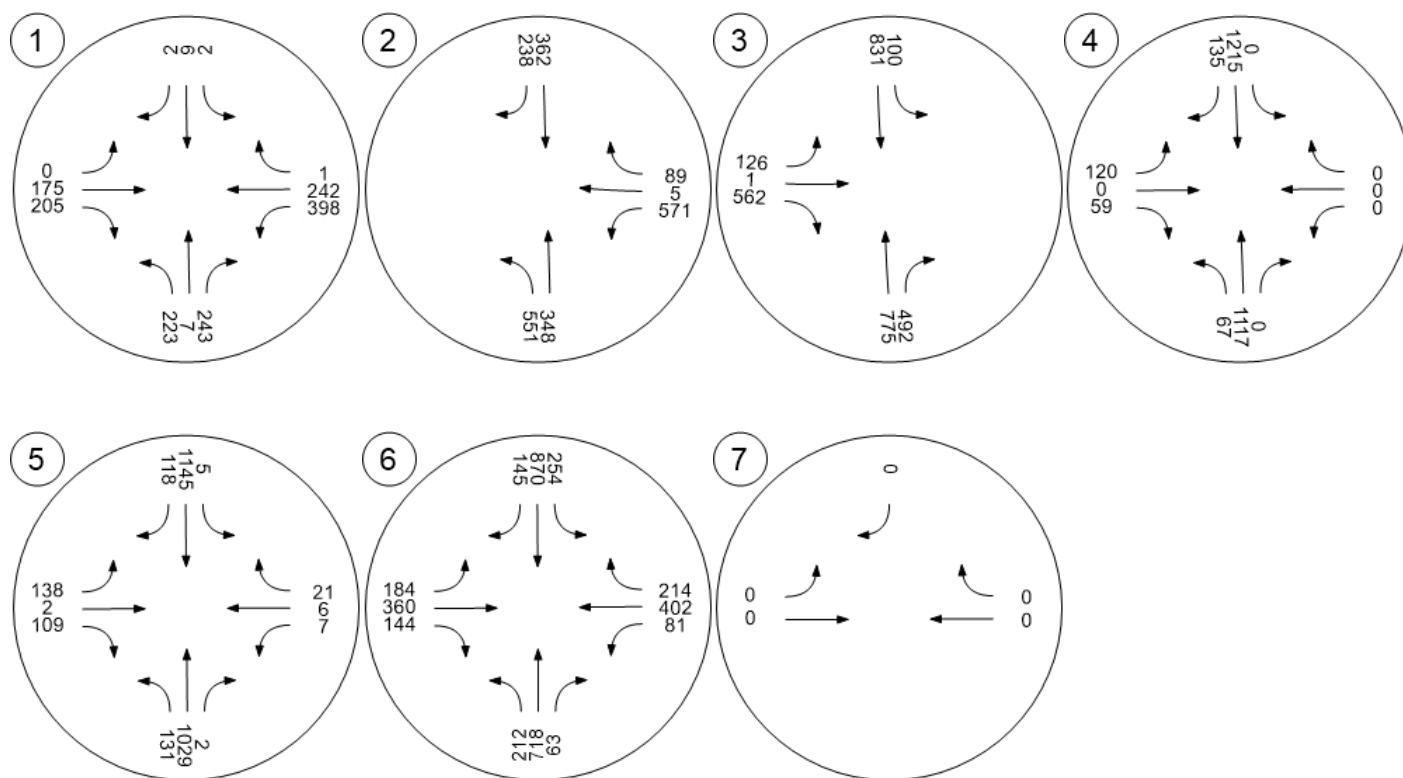
Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.30	7.20	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
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]	8.30		3.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS						

Version 2023 (SP 0-8)

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro
Report File: C:\...\GP PM.pdf

Scenario 26 GP PM
10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	NB Right	0.640	40.2	D
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	NB Left	0.712	29.9	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.726	27.0	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	EB Left	0.402	5.5	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.436	6.7	A
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.566	29.1	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition		0.000	0.0	

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	154	0	422	0	0	0	0	291	131	329	285	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	0	0	0	12	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]	204	0	422	0	0	0	0	291	174	329	285	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	0	106	0	0	0	0	73	44	82	71	0
Total Analysis Volume [veh/h]	204	0	422	0	0	0	0	291	174	329	285	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.16	0.00	0.29	0.00	0.00	0.14	0.15	0.20	0.08	0.08
s, saturation flow rate [veh/h]	1296	1710	1454	1710	1629	1710	1502	1629	1710	1710
c, Capacity [veh/h]	448	530	451	566	505	513	451	489	496	496
d1, Uniform Delay [s]	28.32	0.00	33.54	0.00	0.00	28.57	28.74	30.70	27.50	27.50
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	3.32	0.00	29.17	0.00	0.00	3.13	3.80	7.24	1.46	1.46
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	0.46	0.00	0.94	0.00	0.00	0.47	0.49	0.67	0.29	0.29
d, Delay for Lane Group [s/veh]	31.64	0.00	62.71	0.00	0.00	31.70	32.53	37.94	28.95	28.95
Lane Group LOS	C	A	E	A	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.36	0.00	13.33	0.00	0.00	4.96	4.60	7.81	2.82	2.82
50th-Percentile Queue Length [ft/ln]	109.03	0.00	333.33	0.00	0.00	123.97	114.93	195.25	70.46	70.46
95th-Percentile Queue Length [veh/ln]	7.79	0.00	19.32	0.00	0.00	8.61	8.11	12.39	5.07	5.07
95th-Percentile Queue Length [ft/ln]	194.66	0.00	483.04	0.00	0.00	215.27	202.84	309.83	126.82	126.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.64	0.00	62.71	0.00	0.00	0.00	0.00	31.84	32.53	37.94	28.95	28.95
Movement LOS	C	A	E	A	A	A	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	52.59			0.00			32.10			33.77		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	40.22											
Intersection LOS	D											
Intersection V/C	0.640											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.527	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.593	1.560	1.943	2.066
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	485	479	0	0	294	165	0	0	0	317	1	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	13	0	0	12	0	0	0	0	41	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	43	0	0	0	0	0	25
Total Hourly Volume [veh/h]	558	498	0	0	306	128	0	0	0	358	1	73
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	148	132	0	0	94	39	0	0	0	104	0	21
Total Analysis Volume [veh/h]	592	529	0	0	374	156	0	0	0	415	1	85
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	32	61	26	26		23	23
g / C, Green / Cycle	0.35	0.68	0.29	0.29		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.33	0.15	0.14	0.16		0.23	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1703		1810	1618
c, Capacity [veh/h]	635	2450	557	499		463	414
d1, Uniform Delay [s]	28.19	5.49	26.13	26.63		32.31	26.30
k, delay calibration	0.29	0.50	0.50	0.50		0.18	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	15.30	0.20	2.90	4.01		9.82	0.25
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	0.93	0.22	0.48	0.53		0.90	0.21
d, Delay for Lane Group [s/veh]	43.49	5.69	29.03	30.64		42.14	26.55
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	13.84	1.46	4.79	4.98		9.49	1.42
50th-Percentile Queue Length [ft/ln]	346.09	36.52	119.71	124.46		237.20	35.38
95th-Percentile Queue Length [veh/ln]	19.95	2.63	8.38	8.64		14.54	2.55
95th-Percentile Queue Length [ft/ln]	498.64	65.73	209.42	215.94		363.49	63.69

Movement, Approach, & Intersection Results

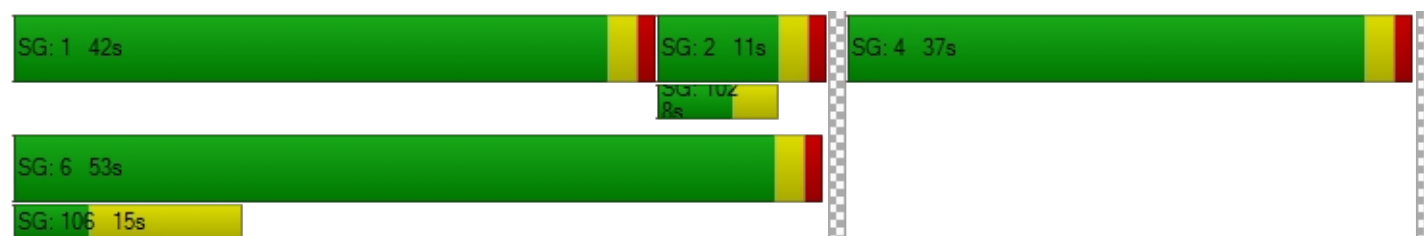
d_M, Delay for Movement [s/veh]	43.49	5.69	0.00	0.00	29.50	30.64	0.00	0.00	0.00	42.14	26.55	26.55
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	25.65			29.83			0.00			39.46		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	29.90											
Intersection LOS	C											
Intersection V/C	0.712											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.197			2.205		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.484			2.032			4.132			2.428		
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	707	360	82	528	0	257	5	552	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	56	45	0	53	0	0	0	39	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	101	0	0	0	0	0	159	0	0	0
Total Hourly Volume [veh/h]	0	793	304	82	581	0	263	5	475	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	219	84	23	162	0	72	1	129	0	0	0
Total Analysis Volume [veh/h]	0	876	336	91	647	0	287	5	518	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	50	50	7	60	34	34	
g / C, Green / Cycle	0.50	0.50	0.07	0.60	0.34	0.34	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.35	0.05	0.18	0.16	0.32	
s, saturation flow rate [veh/h]	1900	1720	1810	3618	1810	1617	
c, Capacity [veh/h]	947	857	121	2153	624	558	
d1, Uniform Delay [s]	18.49	19.44	45.84	9.99	25.50	31.71	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.37	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.32	4.89	9.02	0.36	0.53	20.49	
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	0.64	0.71	0.75	0.30	0.46	0.94	
d, Delay for Lane Group [s/veh]	21.80	24.33	54.87	10.34	26.03	52.20	
Lane Group LOS	C	C	D	B	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	10.08	10.85	2.45	3.13	5.16	14.66	
50th-Percentile Queue Length [ft/ln]	252.09	271.24	61.18	78.36	129.00	366.49	
95th-Percentile Queue Length [veh/ln]	15.29	16.25	4.41	5.64	8.89	20.94	
95th-Percentile Queue Length [ft/ln]	382.29	406.28	110.13	141.04	222.13	523.47	

Movement, Approach, & Intersection Results

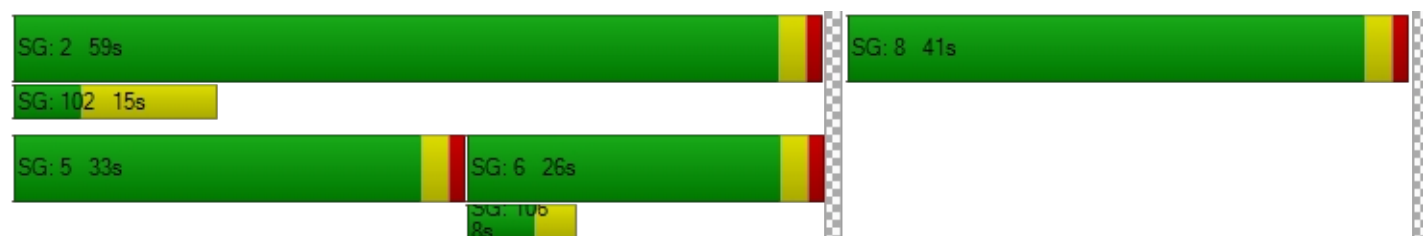
d_M, Delay for Movement [s/veh]	0.00	22.58	24.33	54.87	10.34	0.00	26.03	52.20	52.20	0.00	0.00	0.00
Movement LOS		C	C	D	B		C	D	D			
d_A, Approach Delay [s/veh]	23.07			15.83			42.92			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	26.96											
Intersection LOS	C											
Intersection V/C	0.726											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.593			1.950		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.643			2.168			3.158			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	5.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	1066	0	0	1080	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	83	0	0	0	0	92	101	0	83	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	23	0	0	21	0	0	0
Total Hourly Volume [veh/h]	83	1066	0	0	1080	69	101	0	62	0	0	0
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	294	0	0	301	19	28	0	17	0	0	0
Total Analysis Volume [veh/h]	92	1178	0	0	1203	77	112	0	69	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	22	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	70	70	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	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	52	52	52	52	52	52	12	12	12	12
g / C, Green / Cycle	0.75	0.75	0.75	0.75	0.75	0.75	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.21	0.33	0.00	0.00	0.33	0.05	0.06	0.07	0.00	0.00
s, saturation flow rate [veh/h]	438	3618	1615	939	3618	1593	1361	1524	1900	1615
c, Capacity [veh/h]	363	2707	1209	664	2707	1192	288	322	366	268
d1, Uniform Delay [s]	7.31	3.29	0.00	0.00	3.32	2.33	27.65	26.04	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
l, 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]	1.67	0.51	0.00	0.00	0.53	0.10	0.48	0.59	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	0.25	0.44	0.00	0.00	0.44	0.06	0.26	0.33	0.00	0.00
d, Delay for Lane Group [s/veh]	8.99	3.80	0.00	0.00	3.85	2.43	28.13	26.63	0.00	0.00
Lane Group LOS	A	A	A	A	A	A	C	C	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.68	1.37	0.00	0.00	1.41	0.14	1.14	1.56	0.00	0.00
50th-Percentile Queue Length [ft/ln]	16.89	34.19	0.00	0.00	35.31	3.58	28.59	38.95	0.00	0.00
95th-Percentile Queue Length [veh/ln]	1.22	2.46	0.00	0.00	2.54	0.26	2.06	2.80	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.40	61.54	0.00	0.00	63.56	6.45	51.47	70.12	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.99	3.80	0.00	0.00	3.85	2.43	27.75	26.63	26.63	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	C	C	C	A	A	A
d_A, Approach Delay [s/veh]	4.17			3.77			27.25			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	5.51											
Intersection LOS	A											
Intersection V/C	0.402											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	26.58			26.58			26.58			26.58		
I_p,int, Pedestrian LOS Score for Intersection	3.066			3.338			2.218			2.120		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	543			543			714			714		
d_b, Bicycle Delay [s]	18.58			18.58			14.46			14.46		
I_b,int, Bicycle LOS Score for Intersection	2.607			2.635			1.893			1.560		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	991	1	9	990	78	60	1	16	2	4	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	77	0	0	73	10	7	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	22	0	0	4	0	0	4
Total Hourly Volume [veh/h]	22	1068	1	9	1063	66	67	1	12	2	4	10
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	315	0	2	294	18	30	0	5	1	2	4
Total Analysis Volume [veh/h]	26	1261	1	10	1175	73	119	2	21	3	6	16
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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	25	0	10	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	43	43	1	42	42	7	7
g / C, Green / Cycle	0.04	0.72	0.72	0.02	0.70	0.70	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.33	0.33	0.01	0.33	0.33	0.09	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1859	1586	1779
c, Capacity [veh/h]	75	1366	1366	33	1322	1294	289	268
d1, Uniform Delay [s]	27.97	3.55	3.55	29.07	4.15	4.15	25.72	23.97
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, 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	1.13	1.13	5.00	1.23	1.27	1.29	0.15
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	0.46	0.46	0.30	0.48	0.48	0.49	0.09
d, Delay for Lane Group [s/veh]	30.72	4.67	4.67	34.08	5.38	5.42	27.02	24.12
Lane Group LOS	C	A	A	C	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.38	1.46	1.46	0.17	1.85	1.82	1.99	0.32
50th-Percentile Queue Length [ft/ln]	9.61	36.56	36.55	4.37	46.17	45.62	49.70	7.98
95th-Percentile Queue Length [veh/ln]	0.69	2.63	2.63	0.31	3.32	3.28	3.58	0.57
95th-Percentile Queue Length [ft/ln]	17.31	65.80	65.79	7.86	83.11	82.12	89.47	14.37

Movement, Approach, & Intersection Results

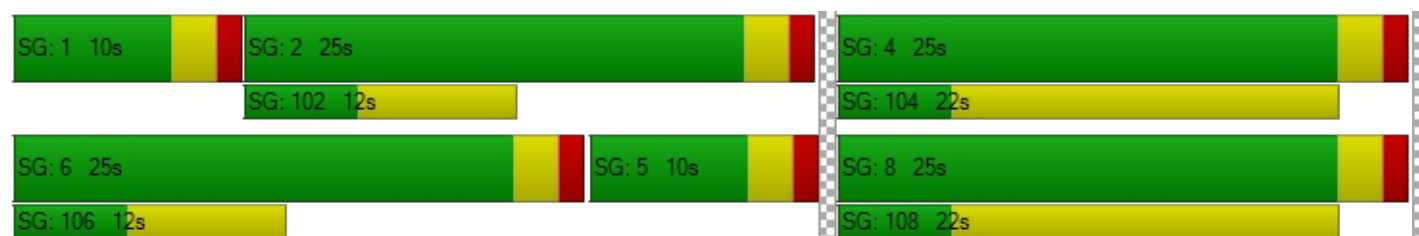
d_M, Delay for Movement [s/veh]	30.72	4.67	4.67	34.08	5.40	5.42	27.02	27.02	27.02	24.12	24.12	24.12
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.20			5.63			27.02			24.12		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.71											
Intersection LOS	A											
Intersection V/C	0.436											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.013			3.265			1.812			1.718		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			733			733			733		
d_b, Bicycle Delay [s]	12.03			12.03			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.622			2.616			1.801			1.607		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	107	630	64	131	712	141	186	456	141	63	429	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	37	0	19	38	16	20	0	0	0	0	20
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	16	0	0	39	0	0	35	0	0	55
Total Hourly Volume [veh/h]	107	667	48	150	750	118	206	456	106	63	429	165
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	192	14	44	219	34	58	129	30	17	116	44
Total Analysis Volume [veh/h]	123	767	55	175	874	138	234	517	120	68	463	178
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	35	0	0	35	0	0	30	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	54	54	54	54	54	54	54	54	54	56	54	54
g / C, Green / Cycle	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.47	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.22	0.22	0.22	0.26	0.27	0.27	0.29	0.17	0.17	0.08	0.18	0.18
s, saturation flow rate [veh/h]	566	1900	1854	676	1900	1807	801	1900	1778	804	1900	1723
c, Capacity [veh/h]	184	856	835	244	856	814	317	854	799	347	854	774
d1, Uniform Delay [s]	46.81	23.18	23.19	42.86	24.89	24.93	39.12	22.00	22.01	28.49	22.09	22.12
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
l, 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]	17.74	1.97	2.02	16.51	3.16	3.35	3.40	0.29	0.31	0.27	0.29	0.33
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	0.67	0.49	0.49	0.72	0.60	0.61	0.74	0.39	0.39	0.20	0.39	0.40
d, Delay for Lane Group [s/veh]	64.55	25.15	25.21	59.37	28.04	28.28	42.52	22.29	22.31	28.76	22.38	22.45
Lane Group LOS	E	C	C	E	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	4.44	8.31	8.13	6.00	11.23	10.79	6.69	6.05	5.67	1.09	6.18	5.66
50th-Percentile Queue Length [ft/ln]	110.91	207.79	203.30	150.03	280.79	269.66	167.16	151.19	141.70	27.21	154.60	141.55
95th-Percentile Queue Length [veh/ln]	7.89	13.04	12.81	10.02	16.73	16.17	10.93	10.08	9.57	1.96	10.26	9.56
95th-Percentile Queue Length [ft/ln]	197.27	325.99	320.21	250.47	418.20	404.31	273.18	252.02	239.31	48.97	256.55	239.11

Movement, Approach, & Intersection Results

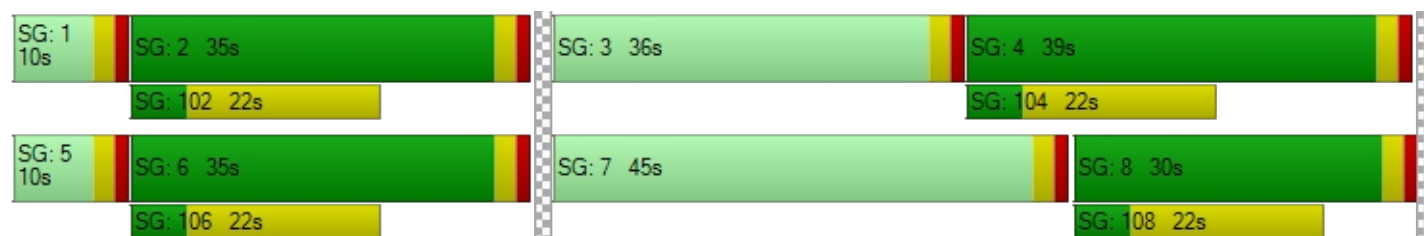
d_M, Delay for Movement [s/veh]	64.55	25.18	25.21	59.37	28.14	28.28	42.52	22.30	22.31	28.76	22.40	22.45
Movement LOS	E	C	C	E	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	30.30			32.76			27.73			23.02		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.09											
Intersection LOS	C											
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 [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.985			3.423			2.974			3.039		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			533			450			600		
d_b, Bicycle Delay [s]	32.27			32.27			36.04			29.40		
I_b,int, Bicycle LOS Score for Intersection	2.352			2.571			2.307			2.190		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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]	0	0	0	0	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]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

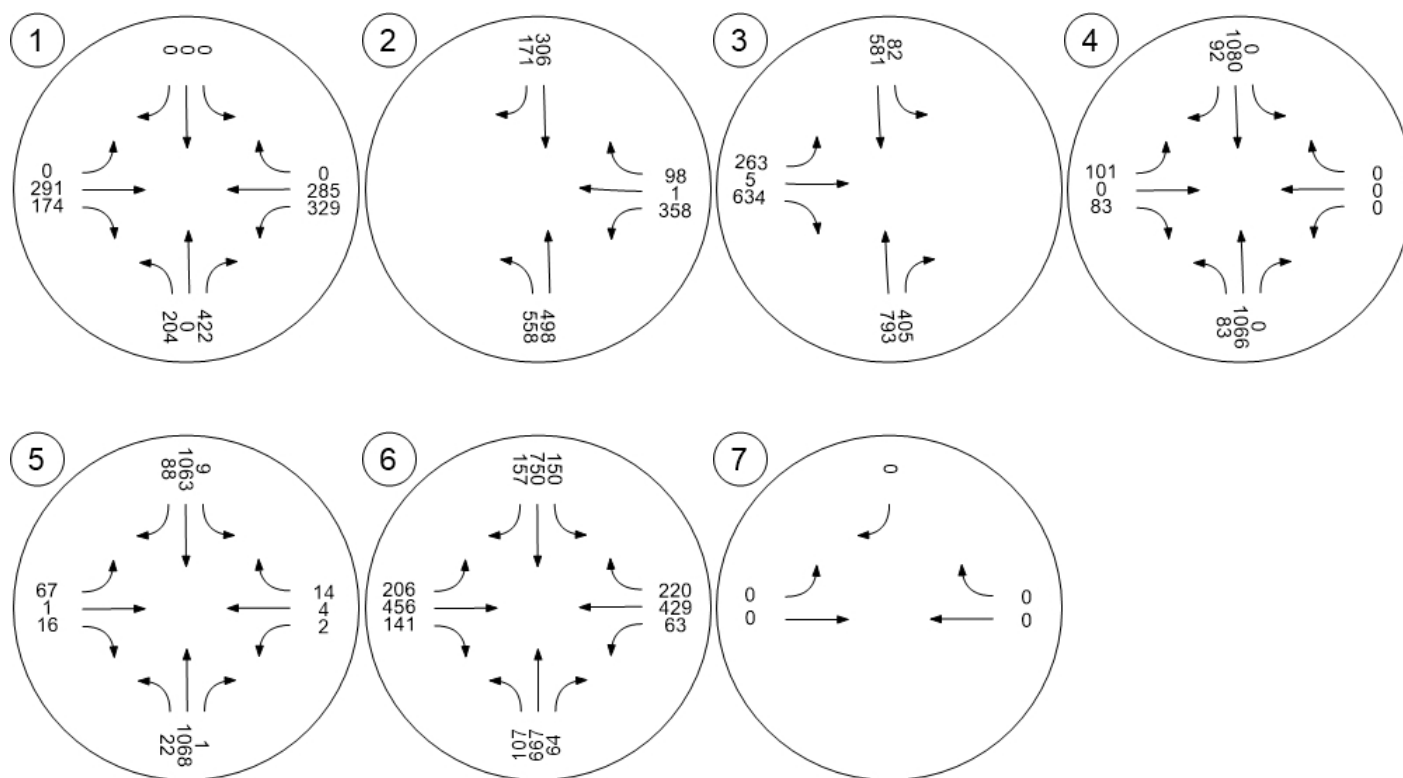
Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.30	7.20	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
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]	8.30		3.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS						

Version 2023 (SP 0-8)

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 27 GP AM + Proj

Report File: C:\...\IGPPP AM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	WB Left	0.590	36.1	D
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	SB Right	0.981	82.5	F
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.779	25.7	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	WB Right	0.494	15.9	B
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.717	19.4	B
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.777	59.3	E
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition	SB Right	0.090	8.7	A

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	36.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	159	7	243	2	9	2	0	175	143	398	242	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	39	0	11	0	0	0	0	0	48	12	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]	236	7	254	2	9	2	0	175	225	410	242	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	2	64	1	2	1	0	44	56	103	61	0
Total Analysis Volume [veh/h]	236	7	254	2	9	2	0	175	225	410	242	1
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.18	0.00	0.17	0.01	0.00	0.10	0.15	0.25	0.07	0.07
s, saturation flow rate [veh/h]	1283	1710	1454	1562	1629	1710	1454	1629	1710	1708
c, Capacity [veh/h]	437	530	451	526	505	513	436	489	496	495
d1, Uniform Delay [s]	29.26	23.90	28.85	23.99	0.00	27.29	28.99	32.74	27.13	27.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	4.72	0.05	5.03	0.09	0.00	1.81	4.32	15.78	1.17	1.18
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	0.01	0.56	0.02	0.00	0.34	0.52	0.84	0.25	0.25
d, Delay for Lane Group [s/veh]	33.99	23.95	33.88	24.08	0.00	29.10	33.30	48.53	28.31	28.31
Lane Group LOS	C	C	C	C	A	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.29	0.12	5.64	0.23	0.00	3.35	4.75	11.22	2.37	2.36
50th-Percentile Queue Length [ft/ln]	132.30	3.03	141.03	5.65	0.00	83.83	118.75	280.40	59.14	59.07
95th-Percentile Queue Length [veh/ln]	9.06	0.22	9.54	0.41	0.00	6.04	8.32	16.71	4.26	4.25
95th-Percentile Queue Length [ft/ln]	226.62	5.45	238.42	10.17	0.00	150.89	208.10	417.71	106.46	106.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.99	23.95	33.88	24.08	24.08	24.08	0.00	29.10	33.30	48.53	28.31	28.31
Movement LOS	C	C	C	C	C	C	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	33.79			24.08			31.46			41.00		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	36.13											
Intersection LOS	D											
Intersection V/C	0.590											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.529	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.380	1.581	1.890	2.098
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 7th Edition
15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

82.5
F
0.981

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	474	316	0	0	334	232	0	0	0	517	5	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	90	50	0	0	60	0	0	0	34	144	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	60	0	0	9	0	0	22
Total Hourly Volume [veh/h]	594	372	0	0	394	178	0	0	34	661	5	67
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	158	99	0	0	120	54	0	0	9	192	1	19
Total Analysis Volume [veh/h]	631	395	0	0	482	218	0	0	34	767	6	78
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	46	71	0	0	25	0	0	0	0	0	49	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]	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
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]	43	68	22	22		46	46
g / C, Green / Cycle	0.36	0.57	0.18	0.18		0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.35	0.11	0.18	0.21		0.42	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1681		1810	1632
c, Capacity [veh/h]	648	2050	348	308		694	626
d1, Uniform Delay [s]	37.93	12.65	49.00	49.00		37.00	24.05
k, delay calibration	0.46	0.50	0.50	0.50		0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	28.00	0.21	49.43	93.18		66.89	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	0.97	0.19	1.00	1.14		1.11	0.13
d, Delay for Lane Group [s/veh]	65.93	12.86	98.43	142.18		103.89	24.15
Lane Group LOS	E	B	F	F		F	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	22.31	2.47	14.87	16.90		32.26	1.54
50th-Percentile Queue Length [ft/ln]	557.79	61.79	371.82	422.55		806.39	38.54
95th-Percentile Queue Length [veh/ln]	30.06	4.45	21.25	25.20		44.60	2.77
95th-Percentile Queue Length [ft/ln]	751.45	111.23	531.31	629.92		1114.93	69.37

Movement, Approach, & Intersection Results

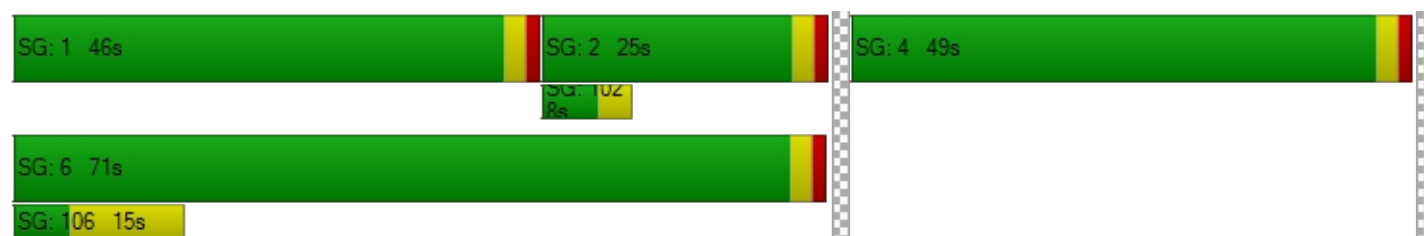
d_M, Delay for Movement [s/veh]	65.93	12.86	0.00	0.00	110.41	142.18	0.00	0.00	0.00	103.89	24.15	24.15
Movement LOS	E	B			F	F				F	C	C
d_A, Approach Delay [s/veh]	45.50			120.31			0.00			96.02		
Approach LOS	D			F			A			F		
d_I, Intersection Delay [s/veh]	82.50											
Intersection LOS	F											
Intersection V/C	0.981											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.34	51.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.331	2.365
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1133	367	0	767
d_b, Bicycle Delay [s]	11.27	40.02	60.00	22.82
I_b,int, Bicycle LOS Score for Intersection	2.406	2.187	4.132	3.000
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	672	445	100	749	0	120	1	466	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	140	89	0	238	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	134	0	0	0	0	0	155	0	0	0
Total Hourly Volume [veh/h]	0	842	400	100	987	0	126	1	463	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	233	110	28	275	0	34	0	126	0	0	0
Total Analysis Volume [veh/h]	0	930	442	111	1099	0	137	1	505	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	49	49	8	60	34	34	
g / C, Green / Cycle	0.49	0.49	0.08	0.60	0.34	0.34	
(v / s)_i Volume / Saturation Flow Rate	0.36	0.40	0.06	0.30	0.08	0.31	
s, saturation flow rate [veh/h]	1900	1694	1810	3618	1810	1615	
c, Capacity [veh/h]	933	832	144	2174	614	548	
d1, Uniform Delay [s]	20.25	21.74	45.12	11.44	23.63	31.80	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.18	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	5.13	9.09	8.37	0.84	0.18	10.85	
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	0.73	0.82	0.77	0.51	0.22	0.92	
d, Delay for Lane Group [s/veh]	25.38	30.84	53.49	12.28	23.81	42.65	
Lane Group LOS	C	C	D	B	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	12.65	14.26	2.94	6.19	2.26	12.72	
50th-Percentile Queue Length [ft/ln]	316.36	356.57	73.47	154.75	56.44	317.95	
95th-Percentile Queue Length [veh/ln]	18.49	20.46	5.29	10.27	4.06	18.57	
95th-Percentile Queue Length [ft/ln]	462.21	511.41	132.24	256.76	101.59	464.16	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	26.81	30.84	53.49	12.28	0.00	23.81	42.65	42.65	0.00	0.00	0.00
Movement LOS		C	C	D	B		C	D	D			
d_A, Approach Delay [s/veh]	28.11			16.06			38.64			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	25.69											
Intersection LOS	C											
Intersection V/C	0.779											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.513			2.101		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.802			2.558			2.876			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	1117	0	0	1215	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	67	24	42	144	68	135	120	0	59	36	0	85
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	11	0	0	34	0	0	15	0	0	21
Total Hourly Volume [veh/h]	67	1141	31	144	1283	101	120	0	44	36	0	64
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	315	9	40	357	28	33	0	12	10	0	18
Total Analysis Volume [veh/h]	74	1261	34	160	1429	112	133	0	49	40	0	71
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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	22	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	80	80	80	80	80	80	15	15	14	14
g / C, Green / Cycle	0.67	0.67	0.67	0.67	0.67	0.67	0.12	0.12	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.22	0.35	0.02	0.19	0.40	0.07	0.05	0.05	0.02	0.05
s, saturation flow rate [veh/h]	342	3618	1600	840	3618	1591	1810	1697	1810	1530
c, Capacity [veh/h]	204	2405	1064	447	2405	1058	219	206	205	174
d1, Uniform Delay [s]	25.67	10.35	6.89	21.52	11.14	7.24	48.85	48.91	48.22	49.33
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, 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]	4.95	0.82	0.06	2.22	1.09	0.20	1.30	1.44	0.46	1.54
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
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	0.36	0.52	0.03	0.36	0.59	0.11	0.42	0.43	0.19	0.41
d, Delay for Lane Group [s/veh]	30.62	11.17	6.94	23.75	12.23	7.44	50.14	50.35	48.68	50.87
Lane Group LOS	C	B	A	C	B	A	D	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.76	7.62	0.28	1.56	9.33	0.97	2.66	2.57	1.12	2.06
50th-Percentile Queue Length [ft/ln]	44.12	190.58	7.01	38.99	233.27	24.32	66.58	64.20	27.93	51.38
95th-Percentile Queue Length [veh/ln]	3.18	12.15	0.50	2.81	14.34	1.75	4.79	4.62	2.01	3.70
95th-Percentile Queue Length [ft/ln]	79.42	303.78	12.61	70.18	358.51	43.78	119.85	115.56	50.27	92.48

Movement, Approach, & Intersection Results

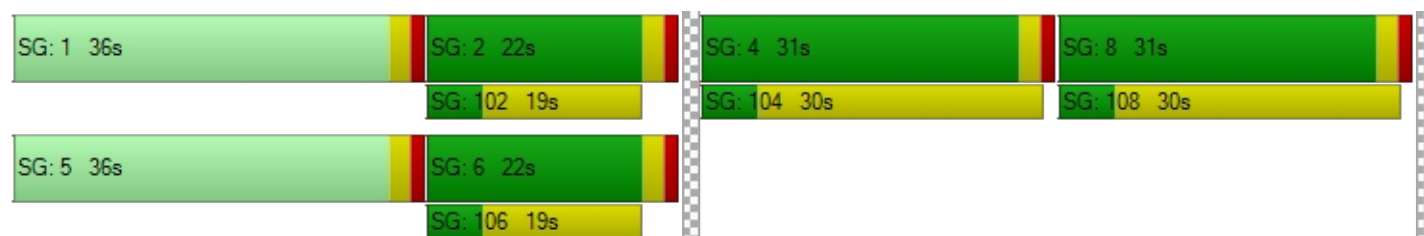
d_M, Delay for Movement [s/veh]	30.62	11.17	6.94	23.75	12.23	7.44	50.20	50.35	50.35	48.68	48.68	50.87
Movement LOS	C	B	A	C	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	12.12			13.00			50.24			50.08		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.88											
Intersection LOS	B											
Intersection V/C	0.494											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.194			3.330			2.218			2.486		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	317			317			467			467		
d_b, Bicycle Delay [s]	42.50			42.50			35.27			35.27		
I_b,int, Bicycle LOS Score for Intersection	2.698			2.991			1.885			1.777		
Bicycle LOS	B			C			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	19.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	131	967	2	5	1094	110	133	2	109	7	6	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	110	0	0	87	8	5	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	30	0	0	27	0	0	5
Total Hourly Volume [veh/h]	131	1077	1	5	1181	88	138	2	82	7	6	16
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	318	0	1	326	24	61	1	36	3	2	6
Total Analysis Volume [veh/h]	155	1272	1	6	1305	97	244	4	145	11	9	25
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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]	20	25	0	10	15	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]	7	33	33	1	27	27	17	17
g / C, Green / Cycle	0.11	0.55	0.55	0.01	0.45	0.45	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.09	0.34	0.34	0.00	0.37	0.38	0.26	0.03
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1851	1536	1692
c, Capacity [veh/h]	204	1042	1042	23	852	830	541	564
d1, Uniform Delay [s]	25.83	9.20	9.20	29.34	14.55	14.61	20.07	15.57
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.71	2.67	2.67	5.82	9.27	9.80	1.88	0.06
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	0.76	0.61	0.61	0.26	0.83	0.84	0.73	0.08
d, Delay for Lane Group [s/veh]	31.53	11.88	11.88	35.16	23.82	24.41	21.94	15.63
Lane Group LOS	C	B	B	D	C	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.23	4.54	4.54	0.11	8.51	8.48	5.11	0.43
50th-Percentile Queue Length [ft/ln]	55.72	113.57	113.56	2.87	212.83	212.05	127.65	10.87
95th-Percentile Queue Length [veh/ln]	4.01	8.04	8.04	0.21	13.30	13.26	8.81	0.78
95th-Percentile Queue Length [ft/ln]	100.29	200.96	200.94	5.17	332.46	331.46	220.29	19.56

Movement, Approach, & Intersection Results

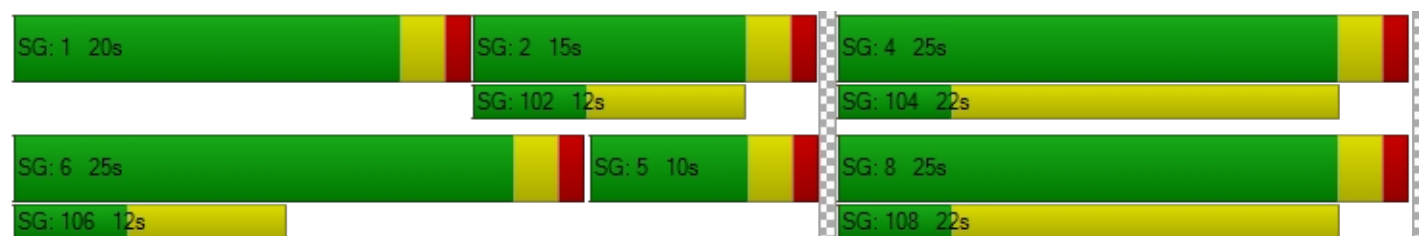
d_M, Delay for Movement [s/veh]	31.53	11.88	11.88	35.16	24.09	24.41	21.94	21.94	21.94	15.63	15.63	15.63
Movement LOS	C	B	B	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	14.01			24.16			21.94			15.63		
Approach LOS	B			C			C			B		
d_I, Intersection Delay [s/veh]	19.35											
Intersection LOS	B											
Intersection V/C	0.717											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.151			3.543			2.023			1.728		
Crosswalk LOS	C			D			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			400			733			733		
d_b, Bicycle Delay [s]	12.03			19.20			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.739			2.746			2.253			1.642		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	59.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	212	689	63	238	844	136	169	360	144	81	402	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	45	0	28	38	21	31	0	0	0	0	34
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	16	0	0	39	0	0	36	0	0	58
Total Hourly Volume [veh/h]	212	734	47	266	882	118	200	360	108	81	402	172
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	211	14	78	257	34	57	102	31	22	108	46
Total Analysis Volume [veh/h]	244	844	54	310	1028	138	227	408	122	87	434	186
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	42	0	0	42	0	0	25	0	0	53	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	56	56	56	56	56	56	52	52	52	54	52	52
g / C, Green / Cycle	0.47	0.47	0.47	0.47	0.47	0.47	0.43	0.43	0.43	0.45	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.50	0.24	0.24	0.49	0.31	0.32	0.28	0.14	0.15	0.10	0.17	0.17
s, saturation flow rate [veh/h]	489	1900	1858	630	1900	1819	816	1900	1752	887	1900	1710
c, Capacity [veh/h]	158	889	869	236	889	851	306	821	757	376	821	739
d1, Uniform Delay [s]	52.57	22.33	22.34	47.53	24.69	24.84	40.53	22.61	22.63	29.00	23.33	23.37
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.13	0.11	0.11	0.11	0.11	0.11
l, 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]	275.06	2.09	2.15	168.89	3.94	4.26	4.26	0.24	0.26	0.31	0.31	0.35
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	1.55	0.51	0.51	1.32	0.67	0.67	0.74	0.34	0.34	0.23	0.40	0.40
d, Delay for Lane Group [s/veh]	327.63	24.42	24.49	216.42	28.63	29.10	44.79	22.85	22.89	29.31	23.64	23.72
Lane Group LOS	F	C	C	F	C	C	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	16.75	8.98	8.81	18.07	13.18	12.92	6.62	5.06	4.69	1.45	6.18	5.62
50th-Percentile Queue Length [ft/ln]	418.64	224.49	220.32	451.65	329.58	322.98	165.60	126.57	117.34	36.37	154.40	140.38
95th-Percentile Queue Length [veh/ln]	29.31	13.89	13.68	29.48	19.14	18.81	10.85	8.75	8.25	2.62	10.25	9.50
95th-Percentile Queue Length [ft/ln]	732.75	347.35	342.03	737.06	478.44	470.34	271.13	218.83	206.17	65.46	256.29	237.53

Movement, Approach, & Intersection Results

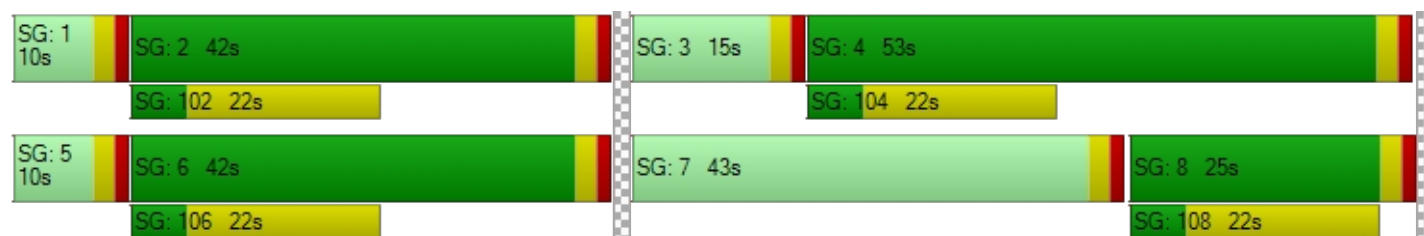
d_M, Delay for Movement [s/veh]	327.63	24.45	24.49	216.42	28.83	29.10	44.79	22.86	22.89	29.31	23.66	23.72
Movement LOS	F	C	C	F	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	89.23			68.25			29.44			24.37		
Approach LOS	F			E			C			C		
d_I, Intersection Delay [s/veh]	59.32											
Intersection LOS	E											
Intersection V/C	0.777											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.105			3.521			3.142			3.242		
Crosswalk LOS	C			D			C			C		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.515			2.809			2.214			2.191		
Bicycle LOS	B			C			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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	97	100	86	24	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]	0	97	100	86	24	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]	0	24	25	22	6	0
Total Analysis Volume [veh/h]	0	97	100	86	24	0
Pedestrian Volume [ped/h]	0		0		0	

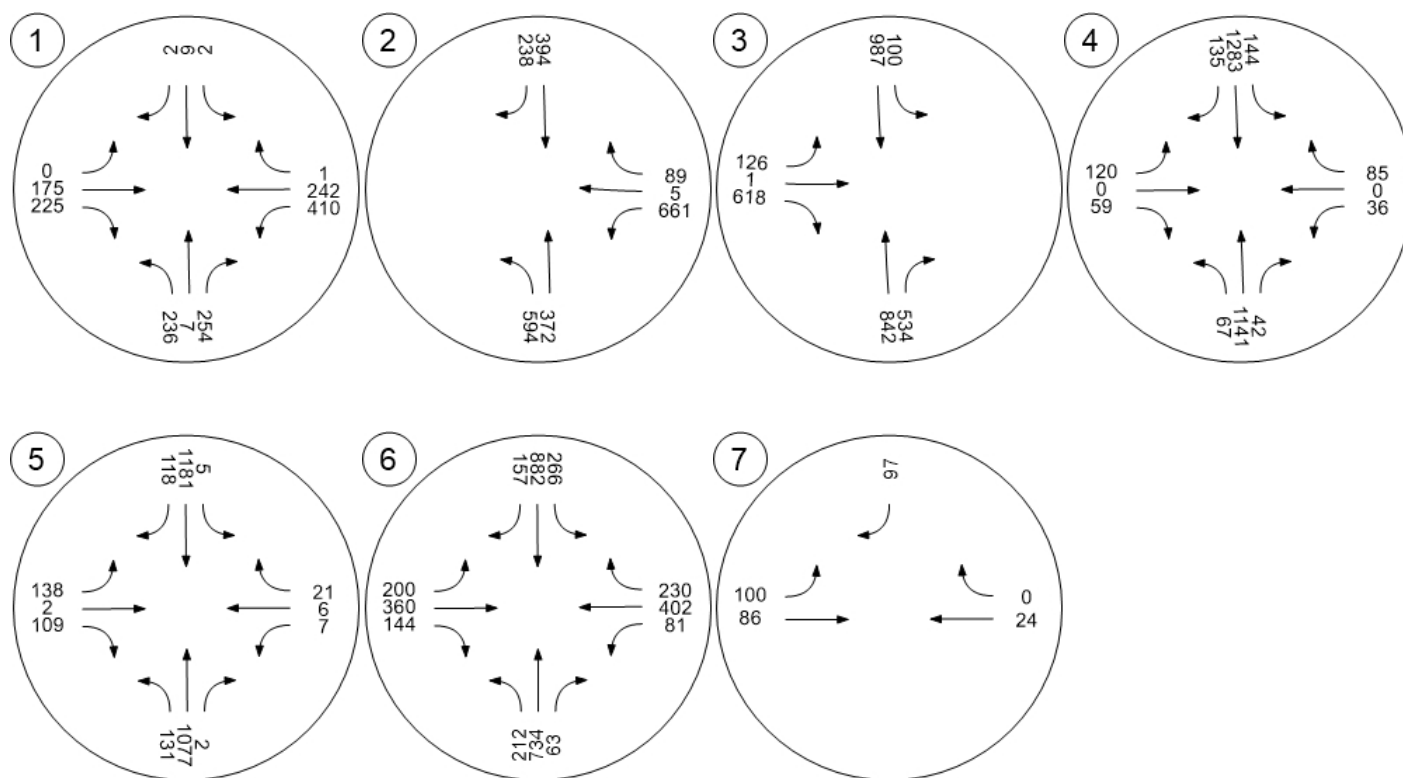
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.09	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.69	7.36	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.18	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.44	4.41	2.20	0.00	0.00
d_A, Approach Delay [s/veh]	8.69		3.96		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.14					
Intersection LOS	A					

Traffic Volume - Future Total Volume



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Scenario 28 GP PM + Proj

Report File: C:\...\GPPP PM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	NB Right	0.657	41.7	D
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	SB Right	0.801	34.9	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.809	30.7	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	EB Left	0.413	7.6	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.449	6.8	A
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.462	29.7	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition	SB Right	0.081	8.8	A

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	41.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	154	0	422	0	0	0	0	291	131	329	285	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.2400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	10	0	0	0	0	0	25	10	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]	222	0	432	0	0	0	0	291	187	339	285	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	0	108	0	0	0	0	73	47	85	71	0
Total Analysis Volume [veh/h]	222	0	432	0	0	0	0	291	187	339	285	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.17	0.00	0.30	0.00	0.00	0.15	0.15	0.21	0.08	0.08
s, saturation flow rate [veh/h]	1296	1710	1454	1710	1629	1710	1493	1629	1710	1710
c, Capacity [veh/h]	448	530	451	566	505	513	448	489	496	496
d1, Uniform Delay [s]	28.80	0.00	33.87	0.00	0.00	28.72	28.89	30.94	27.50	27.50
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	3.89	0.00	33.26	0.00	0.00	3.32	4.05	7.90	1.46	1.46
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	0.50	0.00	0.96	0.00	0.00	0.49	0.51	0.69	0.29	0.29
d, Delay for Lane Group [s/veh]	32.69	0.00	67.13	0.00	0.00	32.04	32.94	38.84	28.95	28.95
Lane Group LOS	C	A	E	A	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.85	0.00	14.17	0.00	0.00	5.15	4.75	8.16	2.82	2.82
50th-Percentile Queue Length [ft/ln]	121.31	0.00	354.29	0.00	0.00	128.74	118.74	204.04	70.46	70.46
95th-Percentile Queue Length [veh/ln]	8.46	0.00	20.35	0.00	0.00	8.87	8.32	12.85	5.07	5.07
95th-Percentile Queue Length [ft/ln]	211.62	0.00	508.64	0.00	0.00	221.77	208.10	321.17	126.82	126.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.69	0.00	67.13	0.00	0.00	0.00	0.00	32.16	32.94	38.84	28.95	28.95
Movement LOS	C	A	E	A	A	A	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	55.44			0.00			32.47			34.32		
Approach LOS	E			A			C			C		
d_I, Intersection Delay [s/veh]	41.68											
Intersection LOS	D											
Intersection V/C	0.657											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.537	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.639	1.560	1.954	2.074
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.801

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	485	479	0	0	294	165	0	0	0	317	1	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	129	41	0	0	35	0	0	0	0	88	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	43	0	0	0	0	0	25
Total Hourly Volume [veh/h]	644	526	0	0	329	128	0	0	0	405	1	73
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	171	140	0	0	101	39	0	0	0	117	0	21
Total Analysis Volume [veh/h]	684	558	0	0	402	156	0	0	0	470	1	85
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	36	58	19	19		26	26
g / C, Green / Cycle	0.40	0.65	0.22	0.22		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.38	0.15	0.15	0.16		0.26	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1705		1810	1618
c, Capacity [veh/h]	721	2341	410	368		518	463
d1, Uniform Delay [s]	26.20	6.62	32.45	33.10		30.97	24.22
k, delay calibration	0.38	0.50	0.50	0.50		0.24	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	19.37	0.24	8.84	13.68		12.56	0.19
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	0.95	0.24	0.68	0.76		0.91	0.19
d, Delay for Lane Group [s/veh]	45.57	6.87	41.29	46.79		43.54	24.41
Lane Group LOS	D	A	D	D		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	16.51	1.81	6.24	6.74		11.03	1.34
50th-Percentile Queue Length [ft/ln]	412.68	45.15	156.11	168.53		275.75	33.60
95th-Percentile Queue Length [veh/ln]	23.17	3.25	10.34	11.00		16.48	2.42
95th-Percentile Queue Length [ft/ln]	579.26	81.27	258.56	274.98		411.92	60.48

Movement, Approach, & Intersection Results

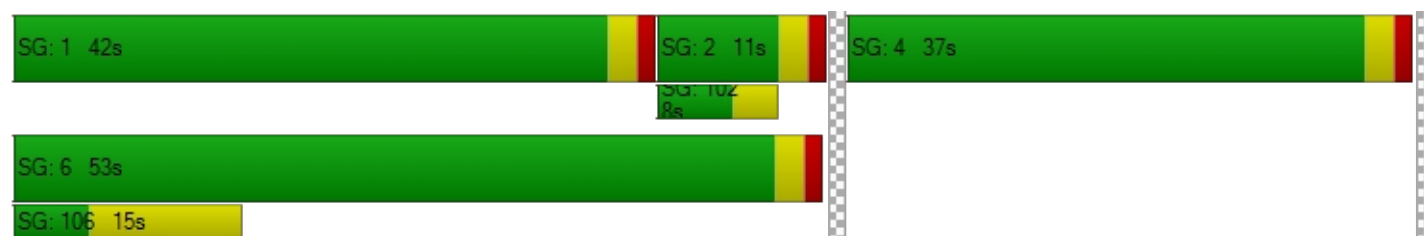
d_M, Delay for Movement [s/veh]	45.57	6.87	0.00	0.00	42.97	46.79	0.00	0.00	0.00	43.54	24.41	24.41
Movement LOS	D	A			D	D				D	C	C
d_A, Approach Delay [s/veh]	28.18			44.04			0.00			40.58		
Approach LOS	C			D			A			D		
d_I, Intersection Delay [s/veh]	34.86											
Intersection LOS	C											
Intersection V/C	0.801											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /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	2.287	2.229
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	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
I_b,int, Bicycle LOS Score for Intersection	2.584	2.055	4.132	2.518
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	707	360	82	528	0	257	5	552	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	170	129	0	123	0	0	0	86	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	122	0	0	0	0	0	170	0	0	0
Total Hourly Volume [veh/h]	0	907	367	82	651	0	263	5	511	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	251	101	23	181	0	72	1	139	0	0	0
Total Analysis Volume [veh/h]	0	1002	406	91	725	0	287	5	557	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	47	47	7	57	37	37	
g / C, Green / Cycle	0.47	0.47	0.07	0.57	0.37	0.37	
(v / s)_i Volume / Saturation Flow Rate	0.37	0.41	0.05	0.20	0.16	0.35	
s, saturation flow rate [veh/h]	1900	1713	1810	3618	1810	1617	
c, Capacity [veh/h]	900	811	121	2063	669	598	
d1, Uniform Delay [s]	22.02	23.53	45.84	11.54	23.61	30.45	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.36	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	6.74	12.11	9.02	0.47	0.44	19.86	
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	0.78	0.87	0.75	0.35	0.43	0.94	
d, Delay for Lane Group [s/veh]	28.76	35.64	54.87	12.02	24.05	50.31	
Lane Group LOS	C	D	D	B	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	14.03	15.92	2.45	3.93	4.92	15.50	
50th-Percentile Queue Length [ft/ln]	350.73	398.01	61.18	98.24	122.88	387.60	
95th-Percentile Queue Length [veh/ln]	20.17	22.46	4.41	7.07	8.55	21.96	
95th-Percentile Queue Length [ft/ln]	504.30	561.60	110.13	176.83	213.78	549.04	

Movement, Approach, & Intersection Results

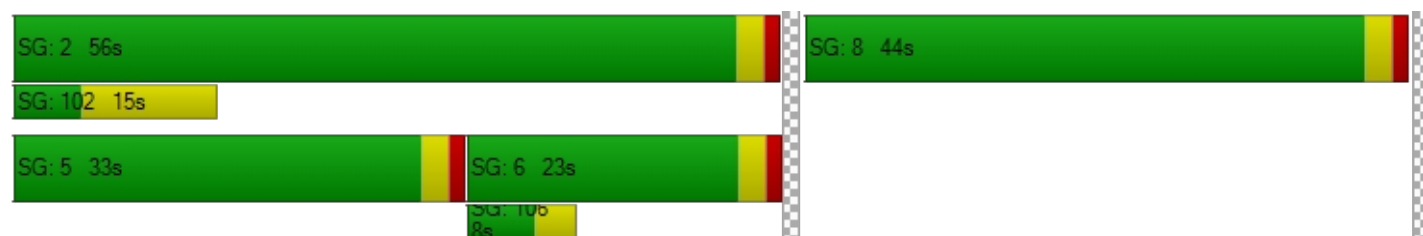
d_M, Delay for Movement [s/veh]	0.00	30.80	35.64	54.87	12.02	0.00	24.05	50.31	50.31	0.00	0.00	0.00
Movement LOS		C	D	D	B		C	D	D			
d_A, Approach Delay [s/veh]	32.20			16.79			41.43			0.00		
Approach LOS	C			B			D			A		
d_I, Intersection Delay [s/veh]	30.66											
Intersection LOS	C											
Intersection V/C	0.809											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			1035.71			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			2.630			2.038		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.822			2.233			3.241			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.413

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	1066	0	0	1080	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	83	81	33	91	26	92	101	0	83	42	0	117
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	8	0	0	23	0	0	21	0	0	29
Total Hourly Volume [veh/h]	83	1147	25	91	1106	69	101	0	62	42	0	88
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	317	7	25	308	19	28	0	17	12	0	24
Total Analysis Volume [veh/h]	92	1267	28	101	1232	77	112	0	69	47	0	98
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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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]	85
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	22	0	0	33	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85
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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	65	65	65	65	65	65	14	14	14	14
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.76	0.76	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.22	0.35	0.02	0.12	0.34	0.05	0.06	0.08	0.04	0.06
s, saturation flow rate [veh/h]	427	3618	1602	840	3618	1594	1260	1383	1310	1558
c, Capacity [veh/h]	339	2747	1217	581	2747	1210	230	273	306	263
d1, Uniform Delay [s]	8.80	3.79	2.50	8.07	3.73	2.58	35.29	31.73	30.47	31.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, 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]	1.96	0.56	0.03	0.65	0.53	0.10	0.78	0.92	0.23	0.88
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	0.27	0.46	0.02	0.17	0.45	0.06	0.32	0.39	0.15	0.37
d, Delay for Lane Group [s/veh]	10.76	4.35	2.54	8.72	4.26	2.68	36.07	32.65	30.70	32.15
Lane Group LOS	B	A	A	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	2.25	0.07	0.40	2.16	0.20	1.45	2.04	0.84	1.81
50th-Percentile Queue Length [ft/ln]	22.00	56.35	1.79	10.01	53.95	5.08	36.21	51.00	20.91	45.29
95th-Percentile Queue Length [veh/ln]	1.58	4.06	0.13	0.72	3.88	0.37	2.61	3.67	1.51	3.26
95th-Percentile Queue Length [ft/ln]	39.61	101.43	3.21	18.02	97.11	9.14	65.18	91.80	37.64	81.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.76	4.35	2.54	8.72	4.26	2.68	35.18	32.65	32.65	30.70	30.70	32.15
Movement LOS	B	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.73			4.50			34.03			31.68		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.58											
Intersection LOS	A											
Intersection V/C	0.413											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	33.98			33.98			33.98			33.98		
I_p,int, Pedestrian LOS Score for Intersection	3.204			3.423			2.228			2.391		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	471			447			706			659		
d_b, Bicycle Delay [s]	24.85			25.62			17.79			19.11		
I_b,int, Bicycle LOS Score for Intersection	2.710			2.742			1.893			1.847		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	991	1	9	990	78	60	1	16	2	4	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	113	0	0	115	10	7	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	22	0	0	4	0	0	4
Total Hourly Volume [veh/h]	22	1104	1	9	1105	66	67	1	12	2	4	10
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	326	0	2	305	18	30	0	5	1	2	4
Total Analysis Volume [veh/h]	26	1303	1	10	1221	73	119	2	21	3	6	16
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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	25	0	10	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	43	43	1	42	42	7	7
g / C, Green / Cycle	0.04	0.72	0.72	0.02	0.70	0.70	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.34	0.34	0.01	0.34	0.34	0.09	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1861	1586	1779
c, Capacity [veh/h]	75	1366	1366	33	1322	1295	289	268
d1, Uniform Delay [s]	27.97	3.61	3.61	29.07	4.22	4.23	25.72	23.97
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, 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	1.20	1.20	5.00	1.32	1.36	1.29	0.15
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	0.48	0.48	0.30	0.49	0.50	0.49	0.09
d, Delay for Lane Group [s/veh]	30.72	4.80	4.80	34.08	5.54	5.59	27.02	24.12
Lane Group LOS	C	A	A	C	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.38	1.54	1.54	0.17	1.96	1.94	1.99	0.32
50th-Percentile Queue Length [ft/ln]	9.61	38.54	38.54	4.37	48.89	48.39	49.70	7.98
95th-Percentile Queue Length [veh/ln]	0.69	2.78	2.77	0.31	3.52	3.48	3.58	0.57
95th-Percentile Queue Length [ft/ln]	17.31	69.38	69.37	7.86	88.01	87.10	89.47	14.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.72	4.80	4.80	34.08	5.56	5.59	27.02	27.02	27.02	24.12	24.12	24.12
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.31			5.78			27.02			24.12		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.80											
Intersection LOS	A											
Intersection V/C	0.449											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	3.039			3.291			1.812			1.718		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			733			733			733		
d_b, Bicycle Delay [s]	12.03			12.03			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.657			2.654			1.801			1.607		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	107	630	64	131	712	141	186	456	141	63	429	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	0	33	52	30	32	0	0	0	0	32
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	16	0	0	43	0	0	35	0	0	58
Total Hourly Volume [veh/h]	107	679	48	164	764	128	218	456	106	63	429	174
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	195	14	48	223	37	62	129	30	17	116	47
Total Analysis Volume [veh/h]	123	780	55	191	890	149	247	517	120	68	463	188
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	34	0	0	36	0	0	50	0	0	44	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	53	53	53	55	53	53	57	55	55	55	55	55
g / C, Green / Cycle	0.45	0.45	0.45	0.46	0.45	0.45	0.47	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.22	0.22	0.22	0.29	0.28	0.28	0.31	0.17	0.17	0.08	0.18	0.18
s, saturation flow rate [veh/h]	552	1900	1854	668	1900	1802	793	1900	1778	804	1900	1716
c, Capacity [veh/h]	178	846	826	264	846	803	337	864	808	318	864	780
d1, Uniform Delay [s]	47.68	23.72	23.73	42.49	25.62	25.68	38.85	21.59	21.59	30.17	21.76	21.79
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.11	0.11	0.11	0.11	0.11
l, 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]	19.78	2.10	2.15	15.79	3.52	3.76	5.11	0.28	0.30	0.33	0.29	0.33
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	0.69	0.50	0.50	0.72	0.63	0.63	0.73	0.38	0.38	0.21	0.39	0.40
d, Delay for Lane Group [s/veh]	67.45	25.82	25.89	58.27	29.14	29.44	43.96	21.87	21.89	30.50	22.05	22.12
Lane Group LOS	E	C	C	E	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.56	8.60	8.41	4.34	11.85	11.37	4.72	5.97	5.60	1.46	6.24	5.69
50th-Percentile Queue Length [ft/ln]	114.04	214.92	210.35	108.62	296.13	284.33	118.08	149.30	139.90	36.53	155.94	142.19
95th-Percentile Queue Length [veh/ln]	8.06	13.41	13.17	7.76	17.49	16.90	8.29	9.98	9.48	2.63	10.33	9.60
95th-Percentile Queue Length [ft/ln]	201.60	335.14	329.28	194.08	437.24	422.60	207.19	249.50	236.89	65.75	258.34	239.96

Movement, Approach, & Intersection Results

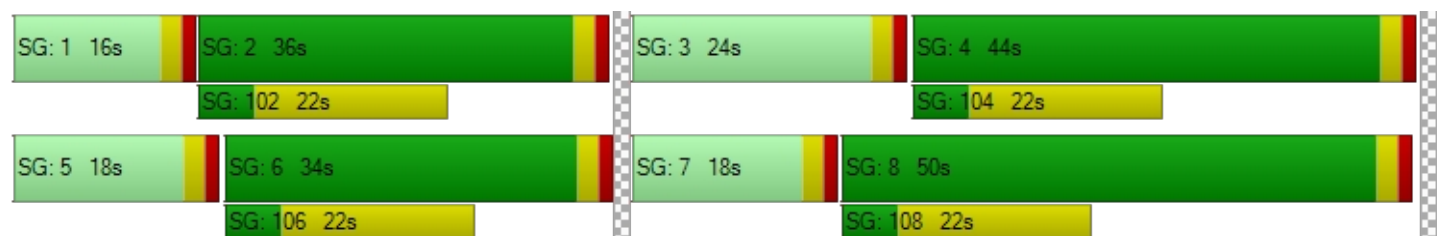
d_M, Delay for Movement [s/veh]	67.45	25.85	25.89	58.27	29.26	29.44	43.96	21.88	21.89	30.50	22.07	22.12
Movement LOS	E	C	C	E	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	31.20			33.79			28.05			22.88		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.73											
Intersection LOS	C											
Intersection V/C	0.462											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.045			3.287			2.981			2.928		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	517			550			783			683		
d_b, Bicycle Delay [s]	33.00			31.54			22.20			26.00		
I_b,int, Bicycle LOS Score for Intersection	2.363			2.610			2.318			2.201		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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	84	89	35	75	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]	0	84	89	35	75	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]	0	21	22	9	19	0
Total Analysis Volume [veh/h]	0	84	89	35	75	0
Pedestrian Volume [ped/h]	0		0		0	

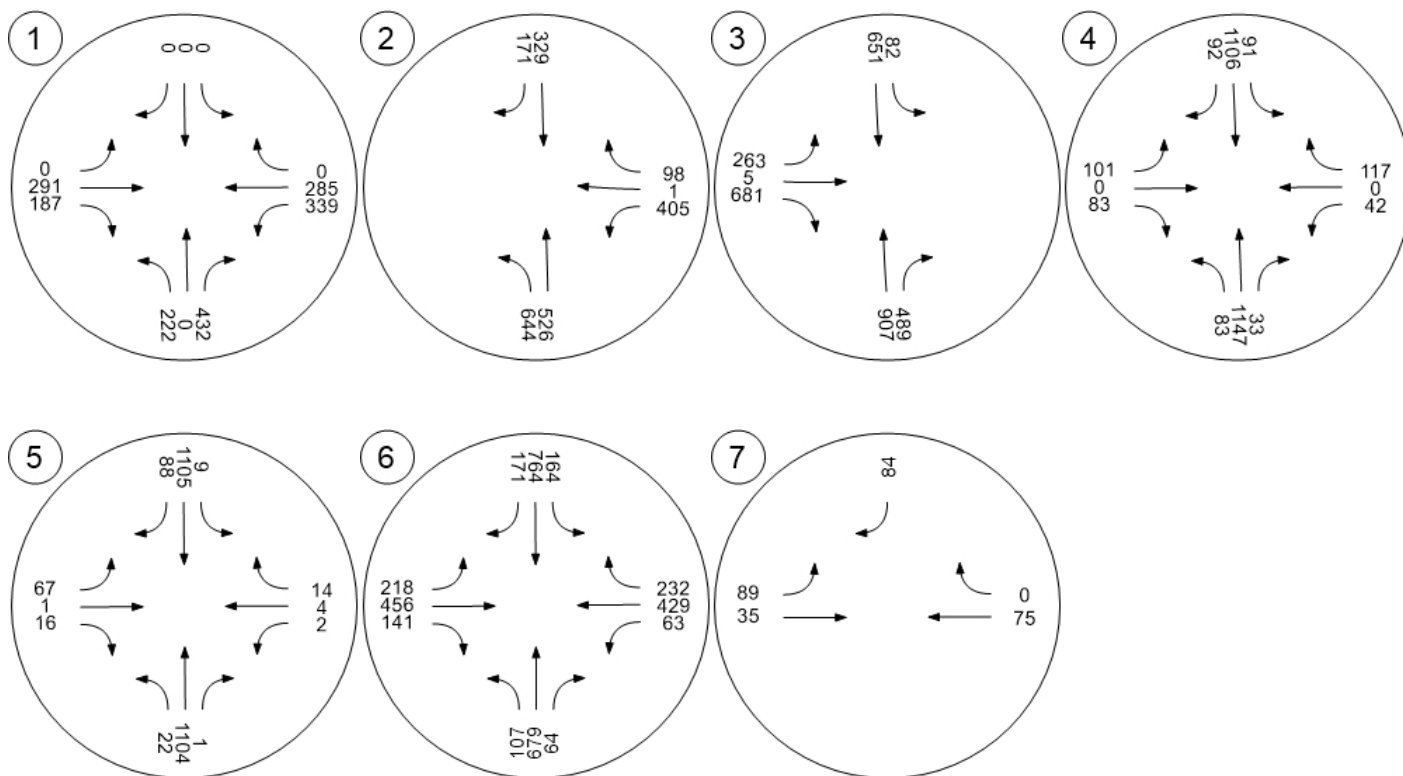
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.08	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.79	7.45	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.27	0.16	0.08	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	6.63	3.90	1.95	0.00	0.00
d_A, Approach Delay [s/veh]	8.79		5.34		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.95					
Intersection LOS	A					

Traffic Volume - Future Total Volume



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Scenario 19 OY AM

Report File: C:\...\OY AM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	WB Left	0.458	32.3	C
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	NB Left	0.699	32.3	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.567	19.4	B
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	SB Thru	0.320	1.6	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.581	13.5	B
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	EB Left	0.500	25.1	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition		0.000	0.0	

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	136	6	208	2	7	2	0	149	122	340	207	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
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]	141	6	216	2	7	2	0	155	127	354	215	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	2	54	1	2	1	0	39	32	89	54	0
Total Analysis Volume [veh/h]	141	6	216	2	7	2	0	155	127	354	215	1
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.00	0.15	0.01	0.00	0.09	0.09	0.22	0.06	0.06
s, saturation flow rate [veh/h]	1286	1710	1454	1540	1629	1710	1467	1629	1710	1707
c, Capacity [veh/h]	439	530	451	520	505	513	440	489	496	495
d1, Uniform Delay [s]	26.82	23.89	27.96	23.96	0.00	26.80	26.99	31.30	26.91	26.91
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	1.93	0.04	3.62	0.07	0.00	1.40	1.81	9.03	1.01	1.01
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	0.32	0.01	0.48	0.02	0.00	0.29	0.31	0.72	0.22	0.22
d, Delay for Lane Group [s/veh]	28.75	23.93	31.58	24.04	0.00	28.19	28.80	40.34	27.91	27.92
Lane Group LOS	C	C	C	C	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.82	0.10	4.58	0.19	0.00	2.74	2.59	8.72	2.08	2.08
50th-Percentile Queue Length [ft/ln]	70.48	2.59	114.61	4.78	0.00	68.61	64.76	217.91	52.04	51.97
95th-Percentile Queue Length [veh/ln]	5.07	0.19	8.10	0.34	0.00	4.94	4.66	13.56	3.75	3.74
95th-Percentile Queue Length [ft/ln]	126.86	4.67	202.39	8.60	0.00	123.50	116.57	338.96	93.66	93.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.75	23.93	31.58	24.04	24.04	24.04	0.00	28.23	28.80	40.34	27.92	27.92
Movement LOS	C	C	C	C	C	C	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	30.35			24.04			28.48			35.63		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.32											
Intersection LOS	C											
Intersection V/C	0.458											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.472	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.159	1.578	1.792	2.030
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.699

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	405	270	0	0	285	198	0	0	0	442	4	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	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	51	0	0	0	0	0	19
Total Hourly Volume [veh/h]	435	276	0	0	285	153	0	0	0	442	4	57
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	73	0	0	87	47	0	0	0	128	1	17
Total Analysis Volume [veh/h]	462	293	0	0	348	187	0	0	0	513	5	66
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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	56	28	28		28	28
g / C, Green / Cycle	0.28	0.62	0.31	0.31		0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08	0.14	0.16		0.28	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1671		1810	1632
c, Capacity [veh/h]	507	2258	590	519		560	505
d1, Uniform Delay [s]	31.31	6.92	24.90	25.47		29.97	22.45
k, delay calibration	0.20	0.50	0.50	0.50		0.24	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	11.47	0.12	2.51	3.63		12.80	0.13
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	0.52		0.92	0.14
d, Delay for Lane Group [s/veh]	42.78	7.04	27.40	29.10		42.76	22.57
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.57	0.97	4.66	4.87		11.97	1.05
50th-Percentile Queue Length [ft/ln]	264.34	24.16	116.56	121.82		299.18	26.30
95th-Percentile Queue Length [veh/ln]	15.91	1.74	8.20	8.49		17.64	1.89
95th-Percentile Queue Length [ft/ln]	397.66	43.48	205.09	212.32		441.01	47.35

Movement, Approach, & Intersection Results

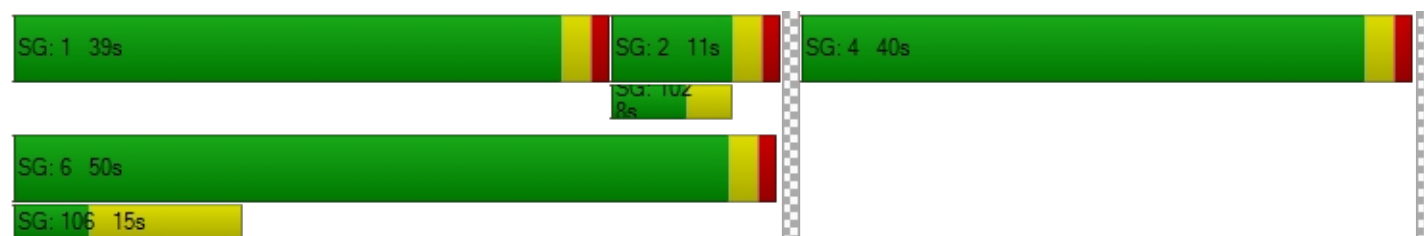
d_M, Delay for Movement [s/veh]	42.78	7.04	0.00	0.00	27.80	29.10	0.00	0.00	0.00	42.76	22.57	22.57
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	28.91			28.25			0.00			40.31		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	32.27											
Intersection LOS	C											
Intersection V/C	0.699											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.112			2.230		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.182			2.043			4.132			2.555		
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	19.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	575	381	86	640	0	103	1	399	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	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	95	0	0	0	0	0	111	0	0	0
Total Hourly Volume [veh/h]	0	605	286	86	640	0	109	1	331	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	167	79	24	178	0	30	0	90	0	0	0
Total Analysis Volume [veh/h]	0	669	316	96	713	0	119	1	361	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	59	59	7	69	25	25	
g / C, Green / Cycle	0.59	0.59	0.07	0.69	0.25	0.25	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.29	0.05	0.20	0.07	0.22	
s, saturation flow rate [veh/h]	1900	1697	1810	3618	1810	1616	
c, Capacity [veh/h]	1125	1005	127	2504	448	400	
d1, Uniform Delay [s]	11.23	11.72	45.66	5.90	30.28	36.46	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.20	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.24	1.71	8.87	0.29	0.31	13.25	
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	0.76	0.28	0.27	0.90	
d, Delay for Lane Group [s/veh]	12.46	13.42	54.53	6.19	30.60	49.71	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	5.53	5.85	2.57	2.31	2.28	9.66	
50th-Percentile Queue Length [ft/ln]	138.37	146.23	64.29	57.80	56.89	241.62	
95th-Percentile Queue Length [veh/ln]	9.39	9.82	4.63	4.16	4.10	14.76	
95th-Percentile Queue Length [ft/ln]	234.82	245.39	115.72	104.04	102.40	369.08	

Movement, Approach, & Intersection Results

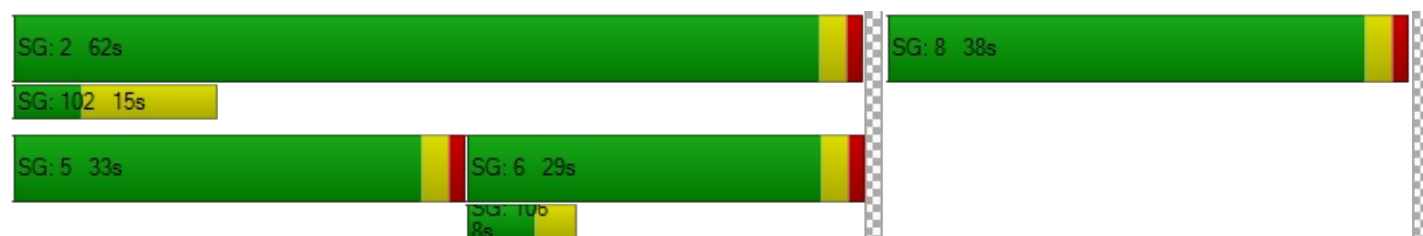
d_M, Delay for Movement [s/veh]	0.00	12.72	13.42	54.53	6.19	0.00	30.60	49.71	49.71	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	12.94			11.92			44.98			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	19.35											
Intersection LOS	B											
Intersection V/C	0.567											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.361			1.925		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.451			2.227			2.536			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	1.6
Analysis Method:	HCM 7th 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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	955	0	0	1039	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	955	0	0	1039	0	0	0	0	0	0	0
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	264	0	0	289	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	1055	0	0	1157	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	69	0	0	82	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130
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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	115	115	115	115	115	115	9	9	9	9
g / C, Green / Cycle	0.88	0.88	0.88	0.88	0.88	0.88	0.07	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.00	0.29	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	493	3618	1615	1055	3618	1615	1440	1900	1900	1615
c, Capacity [veh/h]	451	3190	1424	908	3190	1424	139	164	164	116
d1, Uniform Delay [s]	0.00	1.28	0.00	0.00	1.34	0.00	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
l, 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	0.28	0.00	0.00	0.32	0.00	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	0.33	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	1.56	0.00	0.00	1.66	0.00	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	0.64	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	15.91	0.00	0.00	18.20	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	1.15	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	28.63	0.00	0.00	32.75	0.00	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

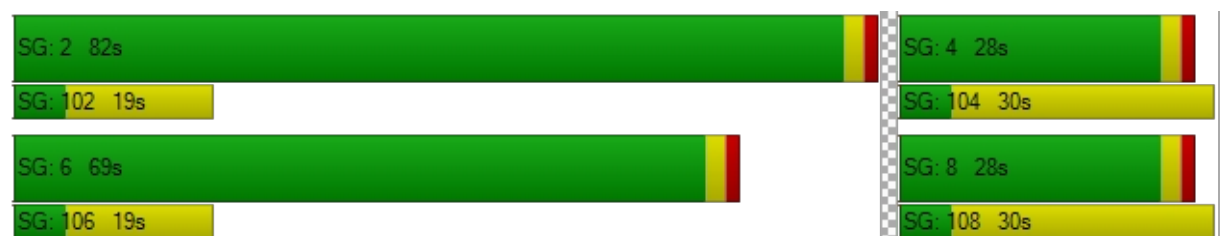
d_M, Delay for Movement [s/veh]	0.00	1.56	0.00	0.00	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	1.56			1.66			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.61											
Intersection LOS	A											
Intersection 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 [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	56.31			56.31			56.31			56.31		
I_p,int, Pedestrian LOS Score for Intersection	3.011			3.075			1.959			2.150		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1015			1215			385			385		
d_b, Bicycle Delay [s]	15.75			10.00			42.40			42.40		
I_b,int, Bicycle LOS Score for Intersection	2.430			2.514			1.560			1.560		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	827	2	4	935	94	113	2	93	6	5	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	24	0	0	23	0	0	5
Total Hourly Volume [veh/h]	112	827	1	4	935	70	113	2	70	6	5	13
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	244	0	1	258	19	50	1	31	2	2	5
Total Analysis Volume [veh/h]	132	976	1	4	1033	77	200	4	124	9	8	21
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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]	19	25	0	10	16	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	36	36	0	30	30	15	15
g / C, Green / Cycle	0.10	0.60	0.60	0.01	0.50	0.50	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.00	0.30	0.30	0.21	0.02
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1851	1549	1713
c, Capacity [veh/h]	190	1134	1133	15	950	926	476	494
d1, Uniform Delay [s]	25.92	6.57	6.57	29.56	10.65	10.66	21.41	17.49
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.51	1.20	1.20	8.96	2.70	2.78	1.79	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	0.69	0.43	0.43	0.26	0.59	0.59	0.69	0.08
d, Delay for Lane Group [s/veh]	30.43	7.77	7.77	38.52	13.35	13.44	23.19	17.55
Lane Group LOS	C	A	A	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.86	2.44	2.44	0.09	4.50	4.41	4.34	0.40
50th-Percentile Queue Length [ft/ln]	46.39	61.02	61.00	2.24	112.40	110.33	108.60	9.88
95th-Percentile Queue Length [veh/ln]	3.34	4.39	4.39	0.16	7.97	7.86	7.76	0.71
95th-Percentile Queue Length [ft/ln]	83.51	109.83	109.80	4.04	199.33	196.46	194.05	17.78

Movement, Approach, & Intersection Results

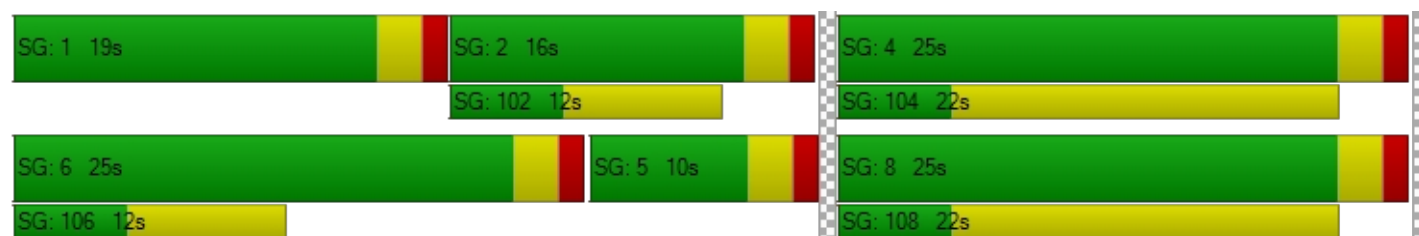
d_M, Delay for Movement [s/veh]	30.43	7.77	7.77	38.52	13.39	13.44	23.19	23.19	23.19	17.55	17.55	17.55
Movement LOS	C	A	A	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	10.46			13.48			23.19			17.55		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	13.48											
Intersection LOS	B											
Intersection V/C	0.581											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.967			3.284			1.969			1.724		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			433			733			733		
d_b, Bicycle Delay [s]	12.03			18.41			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.475			2.498			2.139			1.631		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	25.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	181	589	54	204	722	117	144	307	123	69	343	167
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	31	0	0	42
Total Hourly Volume [veh/h]	181	589	40	204	722	88	144	307	92	69	343	125
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	169	11	59	210	26	41	87	26	19	93	34
Total Analysis Volume [veh/h]	208	677	46	238	841	103	163	348	104	74	370	135
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	44	0	0	25	0	0	52	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	71	69	69	69	69	69	39	39	39	41	39	39
g / C, Green / Cycle	0.59	0.57	0.57	0.57	0.57	0.57	0.33	0.33	0.33	0.34	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.34	0.19	0.19	0.32	0.25	0.25	0.18	0.12	0.12	0.08	0.14	0.14
s, saturation flow rate [veh/h]	603	1900	1856	742	1900	1826	908	1900	1753	954	1900	1730
c, Capacity [veh/h]	325	1088	1063	394	1088	1045	246	622	574	300	622	567
d1, Uniform Delay [s]	30.48	13.58	13.58	26.70	14.68	14.70	46.30	30.94	30.99	38.07	31.48	31.56
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
l, 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]	9.28	0.84	0.86	6.72	1.30	1.36	3.07	0.38	0.41	0.42	0.45	0.51
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	0.64	0.34	0.34	0.60	0.44	0.44	0.66	0.38	0.38	0.25	0.42	0.43
d, Delay for Lane Group [s/veh]	39.76	14.42	14.44	33.42	15.99	16.06	49.36	31.32	31.40	38.49	31.94	32.07
Lane Group LOS	D	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.35	5.10	4.99	5.91	7.28	7.04	4.81	5.15	4.81	1.51	5.88	5.46
50th-Percentile Queue Length [ft/ln]	83.84	127.40	124.74	147.82	181.98	176.00	120.30	128.77	120.35	37.65	147.10	136.45
95th-Percentile Queue Length [veh/ln]	6.04	8.80	8.65	9.90	11.70	11.39	8.41	8.87	8.41	2.71	9.86	9.29
95th-Percentile Queue Length [ft/ln]	150.91	219.95	216.33	247.51	292.60	284.78	210.24	221.82	210.30	67.78	246.55	232.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.76	14.43	14.44	33.42	16.02	16.06	49.36	31.35	31.40	38.49	31.97	32.07
Movement LOS	D	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	20.09			19.52			36.13			32.83		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	25.10											
Intersection LOS	C											
Intersection V/C	0.500											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.955			3.240			2.886			3.043		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.339			2.559			2.093			2.072		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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]	0	0	0	0	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]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

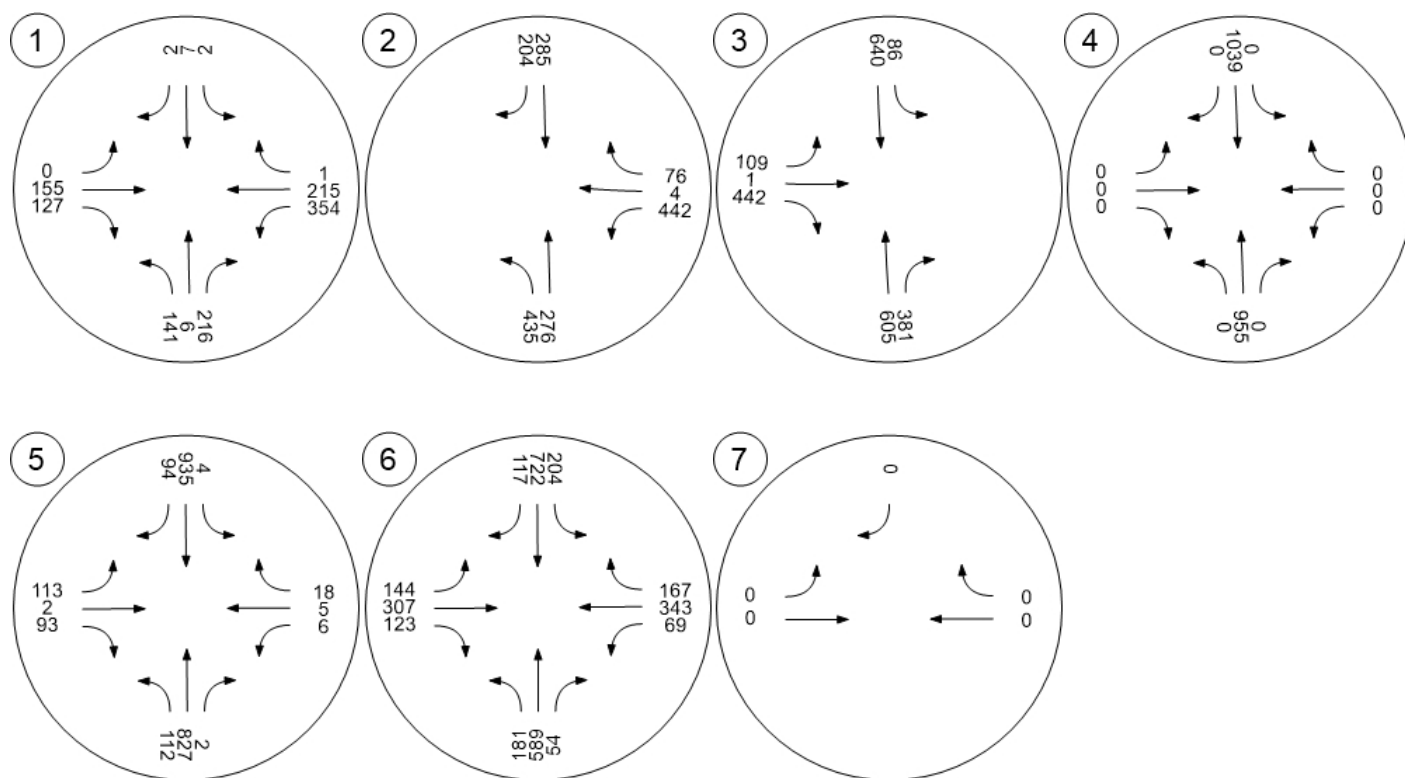
Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.30	7.20	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
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]	8.30		3.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS						

Version 2023 (SP 0-8)

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro
Report File: C:\...\OY PM.pdf

Scenario 20 OY PM
10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	NB Right	0.541	34.5	C
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	NB Left	0.563	25.7	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	EB Right	0.582	24.7	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	SB Thru	0.563	36.1	D
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.344	5.6	A
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	EB Left	0.423	24.3	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition		0.000	0.0	

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	34.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	131	0	360	0	0	0	0	249	112	281	244	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0000	1.0000
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]	136	0	360	0	0	0	0	249	116	281	244	0
Peak Hour Factor	0.9390	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8780	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	0	90	0	0	0	0	62	33	70	61	0
Total Analysis Volume [veh/h]	145	0	360	0	0	0	0	249	132	281	244	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.00	0.25	0.00	0.00	0.12	0.12	0.17	0.07	0.07
s, saturation flow rate [veh/h]	1296	1710	1454	1710	1629	1710	1517	1629	1710	1710
c, Capacity [veh/h]	448	530	451	566	505	513	455	489	496	496
d1, Uniform Delay [s]	26.87	0.00	31.64	0.00	0.00	27.71	27.86	29.61	27.14	27.14
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	1.91	0.00	13.78	0.00	0.00	2.19	2.64	4.86	1.18	1.18
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	0.32	0.00	0.80	0.00	0.00	0.39	0.40	0.58	0.25	0.25
d, Delay for Lane Group [s/veh]	28.78	0.00	45.42	0.00	0.00	29.89	30.50	34.47	28.32	28.32
Lane Group LOS	C	A	D	A	A	C	C	C	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.90	0.00	9.52	0.00	0.00	3.86	3.64	6.28	2.37	2.37
50th-Percentile Queue Length [ft/ln]	72.52	0.00	237.90	0.00	0.00	96.60	91.03	157.10	59.37	59.37
95th-Percentile Queue Length [veh/ln]	5.22	0.00	14.57	0.00	0.00	6.96	6.55	10.39	4.27	4.27
95th-Percentile Queue Length [ft/ln]	130.53	0.00	364.37	0.00	0.00	173.88	163.86	259.87	106.86	106.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.78	0.00	45.42	0.00	0.00	0.00	0.00	30.02	30.50	34.47	28.32	28.32
Movement LOS	C	A	D	A	A	A	A	C	C	C	C	C
d_A, Approach Delay [s/veh]	40.64			0.00			30.18			31.61		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	34.46											
Intersection LOS	C											
Intersection V/C	0.541											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.485	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.393	1.560	1.874	1.993
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	414	409	0	0	251	141	0	0	0	271	1	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	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	37	0	0	0	0	0	21
Total Hourly Volume [veh/h]	444	415	0	0	251	110	0	0	0	271	1	63
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	118	110	0	0	77	34	0	0	0	79	0	18
Total Analysis Volume [veh/h]	471	441	0	0	307	134	0	0	0	314	1	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	26	66	37	37		18	18
g / C, Green / Cycle	0.29	0.73	0.41	0.41		0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.26	0.12	0.12	0.13		0.17	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1703		1810	1618
c, Capacity [veh/h]	516	2651	787	705		363	324
d1, Uniform Delay [s]	31.08	3.66	17.46	17.73		34.80	30.14
k, delay calibration	0.19	0.50	0.50	0.50		0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	10.71	0.14	0.89	1.16		6.25	0.35
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	0.17	0.28	0.31		0.87	0.23
d, Delay for Lane Group [s/veh]	41.79	3.79	18.35	18.89		41.05	30.50
Lane Group LOS	D	A	B	B		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	10.65	0.83	2.95	3.03		6.96	1.32
50th-Percentile Queue Length [ft/ln]	266.15	20.73	73.84	75.72		173.99	33.10
95th-Percentile Queue Length [veh/ln]	16.00	1.49	5.32	5.45		11.29	2.38
95th-Percentile Queue Length [ft/ln]	399.93	37.31	132.91	136.30		282.16	59.57

Movement, Approach, & Intersection Results

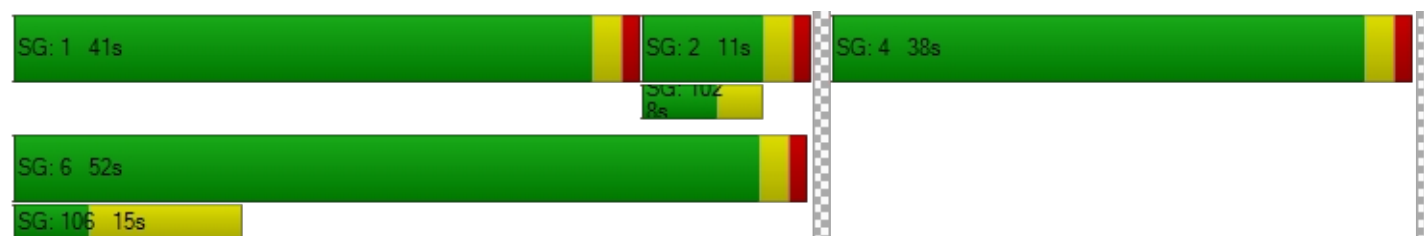
d_M, Delay for Movement [s/veh]	41.79	3.79	0.00	0.00	18.50	18.89	0.00	0.00	0.00	41.05	30.50	30.50
Movement LOS	D	A			B	B				D	C	C
d_A, Approach Delay [s/veh]	23.42			18.62			0.00			39.04		
Approach LOS	C			B			A			D		
d_I, Intersection Delay [s/veh]	25.68											
Intersection LOS	C											
Intersection V/C	0.563											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.052			2.149		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.312			1.954			4.132			2.234		
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 3: Pepper Ave/I-210 EB

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 24.7
 Level Of Service: C
 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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	604	307	70	452	0	219	4	472	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	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	77	0	0	0	0	0	129	0	0	0
Total Hourly Volume [veh/h]	0	634	230	70	452	0	225	4	386	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	175	64	19	126	0	61	1	105	0	0	0
Total Analysis Volume [veh/h]	0	701	254	78	503	0	245	4	421	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	53	53	6	64	28	28	
g / C, Green / Cycle	0.53	0.53	0.06	0.64	0.28	0.28	
(v / s)_i Volume / Saturation Flow Rate	0.25	0.28	0.04	0.14	0.14	0.26	
s, saturation flow rate [veh/h]	1900	1728	1810	3618	1810	1617	
c, Capacity [veh/h]	1011	919	116	2300	514	460	
d1, Uniform Delay [s]	14.64	15.14	45.79	7.71	29.62	34.74	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.32	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.58	2.10	6.69	0.22	0.69	19.56	
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	0.68	0.22	0.48	0.92	
d, Delay for Lane Group [s/veh]	16.22	17.24	52.49	7.93	30.31	54.31	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.45	6.75	2.05	1.98	4.79	12.04	
50th-Percentile Queue Length [ft/ln]	161.20	168.67	51.15	49.61	119.65	300.90	
95th-Percentile Queue Length [veh/ln]	10.61	11.01	3.68	3.57	8.37	17.73	
95th-Percentile Queue Length [ft/ln]	265.31	275.17	92.07	89.30	209.34	443.14	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.55	17.24	52.49	7.93	0.00	30.31	54.31	54.31	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	16.73			13.91			45.53			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	24.73											
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 [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.477			1.833		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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	2.411			2.039			2.878			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	36.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	912	0	0	923	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	912	0	0	923	0	0	0	0	0	0	0
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	252	0	0	257	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	1008	0	0	1028	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	36	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	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
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]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	45	45	45	45	45	45	9	9	9	9
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.07	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.00	0.28	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1900	1900	1615
c, Capacity [veh/h]	682	1364	609	1327	1366	610	132	138	138	117
d1, Uniform Delay [s]	0.00	32.27	0.00	0.00	32.48	0.00	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
l, 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	3.62	0.00	0.00	3.88	0.00	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	0.74	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	0.00	35.90	0.00	0.00	36.35	0.00	0.00	0.00	0.00	0.00
Lane Group LOS	A	D	A	A	D	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.00	12.69	0.00	0.00	13.07	0.00	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.00	317.32	0.00	0.00	326.72	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.00	18.54	0.00	0.00	19.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	463.39	0.00	0.00	474.94	0.00	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

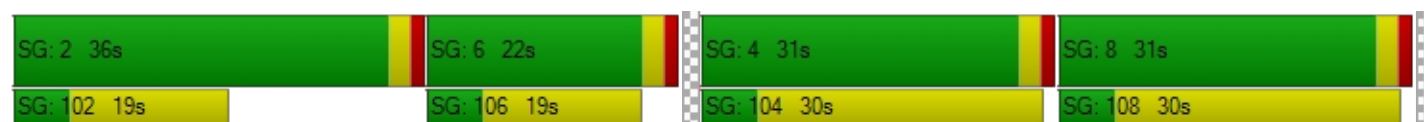
d_M, Delay for Movement [s/veh]	0.00	35.90	0.00	0.00	36.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	D	A	A	D	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	35.90			36.35			0.00			0.00		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	36.13											
Intersection LOS	D											
Intersection 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 [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.964			3.035			1.955			2.146		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	317			550			467			467		
d_b, Bicycle Delay [s]	42.50			31.54			35.27			35.27		
I_b,int, Bicycle LOS Score for Intersection	2.391			2.408			1.560			1.560		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	19	847	1	7	846	67	51	1	14	2	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	17	0	0	4	0	0	3
Total Hourly Volume [veh/h]	19	847	1	7	846	50	51	1	10	2	3	9
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	250	0	2	234	14	23	0	4	1	1	4
Total Analysis Volume [veh/h]	22	1000	1	8	935	55	90	2	18	3	5	14
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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	25	0	10	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	44	44	1	43	43	6	6
g / C, Green / Cycle	0.04	0.74	0.74	0.01	0.71	0.71	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.26	0.26	0.00	0.26	0.26	0.07	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1861	1595	1772
c, Capacity [veh/h]	66	1396	1395	28	1356	1328	269	246
d1, Uniform Delay [s]	28.20	2.87	2.87	29.21	3.34	3.34	25.90	24.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, 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	0.72	0.72	5.56	0.77	0.79	1.00	0.16
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	0.33	0.36	0.36	0.29	0.37	0.37	0.41	0.09
d, Delay for Lane Group [s/veh]	31.12	3.59	3.59	34.77	4.12	4.13	26.90	24.77
Lane Group LOS	C	A	A	C	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.85	0.85	0.15	1.10	1.08	1.53	0.29
50th-Percentile Queue Length [ft/ln]	8.30	21.17	21.16	3.65	27.43	27.05	38.14	7.15
95th-Percentile Queue Length [veh/ln]	0.60	1.52	1.52	0.26	1.97	1.95	2.75	0.51
95th-Percentile Queue Length [ft/ln]	14.94	38.10	38.09	6.58	49.37	48.70	68.66	12.87

Movement, Approach, & Intersection Results

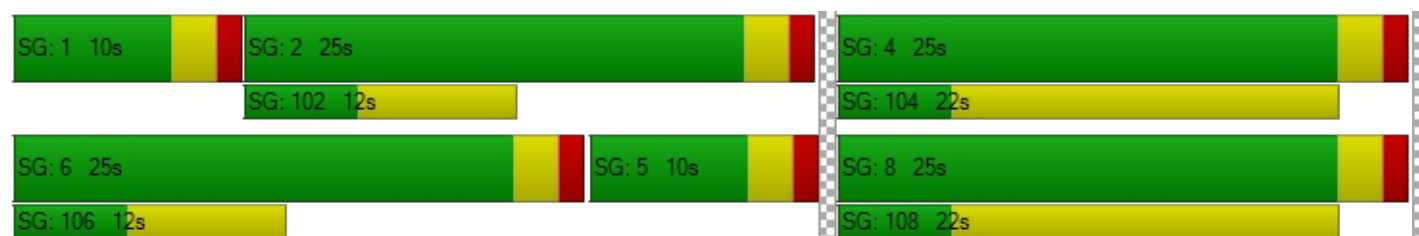
d_M, Delay for Movement [s/veh]	31.12	3.59	3.59	34.77	4.12	4.13	26.90	26.90	26.90	24.77	24.77	24.77
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.18			4.37			26.90			24.77		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.64											
Intersection LOS	A											
Intersection V/C	0.344											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.865			3.053			1.788			1.714		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			733			733			733		
d_b, Bicycle Delay [s]	12.03			12.03			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.404			2.397			1.748			1.601		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	91	538	55	112	608	121	159	390	121	54	367	171
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	30	0	0	30	0	0	43
Total Hourly Volume [veh/h]	91	538	41	112	608	91	159	390	91	54	367	128
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	155	12	33	177	27	45	111	26	15	99	35
Total Analysis Volume [veh/h]	105	618	47	131	709	106	180	442	103	58	396	138
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	35	0	0	32	0	0	33	0	0	54	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	67	65	65	65	65	65	43	43	43	45	43	43
g / C, Green / Cycle	0.56	0.54	0.54	0.54	0.54	0.54	0.36	0.36	0.36	0.38	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.15	0.18	0.18	0.17	0.22	0.22	0.20	0.15	0.15	0.07	0.15	0.15
s, saturation flow rate [veh/h]	681	1900	1852	782	1900	1812	884	1900	1778	875	1900	1735
c, Capacity [veh/h]	353	1028	1002	394	1028	980	263	682	638	290	682	623
d1, Uniform Delay [s]	24.44	15.37	15.37	23.70	16.20	16.21	44.68	28.93	28.95	36.53	28.86	28.93
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
l, 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]	2.15	0.85	0.87	2.26	1.19	1.25	3.13	0.40	0.43	0.34	0.39	0.44
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	0.30	0.33	0.33	0.33	0.41	0.41	0.68	0.41	0.41	0.20	0.41	0.41
d, Delay for Lane Group [s/veh]	26.59	16.22	16.25	25.96	17.39	17.46	47.81	29.32	29.38	36.87	29.25	29.36
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.52	5.05	4.94	2.70	6.62	6.34	5.27	6.01	5.66	1.11	5.92	5.50
50th-Percentile Queue Length [ft/ln]	38.04	126.30	123.54	67.45	165.52	158.58	131.76	150.29	141.43	27.64	147.97	137.46
95th-Percentile Queue Length [veh/ln]	2.74	8.74	8.59	4.86	10.84	10.47	9.04	10.03	9.56	1.99	9.91	9.34
95th-Percentile Queue Length [ft/ln]	68.48	218.46	214.68	121.41	271.02	261.84	225.89	250.82	238.95	49.75	247.72	233.60

Movement, Approach, & Intersection Results

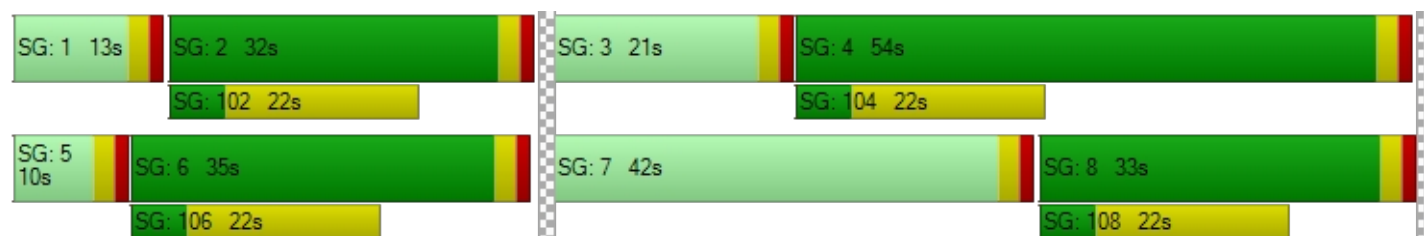
d_M, Delay for Movement [s/veh]	26.59	16.23	16.25	25.96	17.42	17.46	47.81	29.34	29.38	36.87	29.28	29.36
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	17.64			18.60			33.93			30.04		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.26											
Intersection LOS	C											
Intersection V/C	0.423											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.859			3.186			2.803			2.893		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.206			2.365			2.182			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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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]	0	0	0	0	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]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

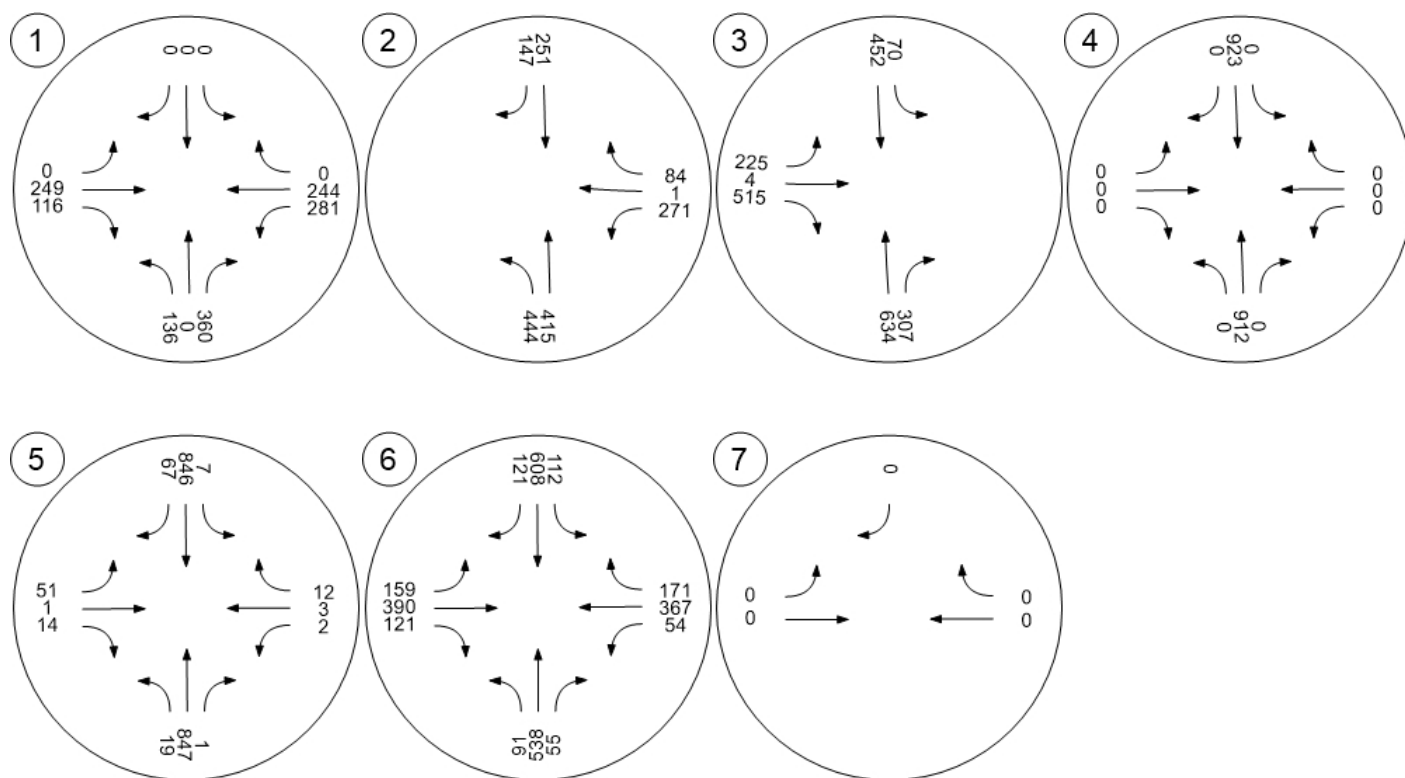
Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.30	7.20	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
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]	8.30		3.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS						

Version 2023 (SP 0-8)

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 21 OY AM + Proj

Report File: C:\...\OYPP AM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	WB Left	0.468	32.4	C
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	WB Left	0.792	37.5	D
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	SB Left	0.628	20.5	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	WB Right	0.387	9.9	A
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.591	13.6	B
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	NB Left	0.554	26.8	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition	SB Right	0.090	8.7	A

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	136	6	208	2	7	2	0	149	122	340	207	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	11	0	0	0	0	0	20	12	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]	154	6	219	2	7	2	0	149	147	352	207	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	2	55	1	2	1	0	37	37	88	52	0
Total Analysis Volume [veh/h]	154	6	219	2	7	2	0	149	147	352	207	1
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.00	0.15	0.01	0.00	0.09	0.10	0.22	0.06	0.06
s, saturation flow rate [veh/h]	1286	1710	1454	1539	1629	1710	1454	1629	1710	1707
c, Capacity [veh/h]	439	530	451	520	505	513	436	489	496	495
d1, Uniform Delay [s]	27.13	23.89	28.03	23.96	0.00	26.84	27.26	31.26	26.84	26.84
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	2.20	0.04	3.72	0.07	0.00	1.43	2.08	8.87	0.96	0.96
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	0.35	0.01	0.49	0.02	0.00	0.29	0.34	0.72	0.21	0.21
d, Delay for Lane Group [s/veh]	29.33	23.93	31.75	24.04	0.00	28.27	29.34	40.13	27.80	27.80
Lane Group LOS	C	C	C	C	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.12	0.10	4.66	0.19	0.00	2.80	2.85	8.64	2.00	2.00
50th-Percentile Queue Length [ft/ln]	78.07	2.59	116.59	4.78	0.00	69.89	71.24	216.01	49.96	49.90
95th-Percentile Queue Length [veh/ln]	5.62	0.19	8.21	0.34	0.00	5.03	5.13	13.46	3.60	3.59
95th-Percentile Queue Length [ft/ln]	140.52	4.67	205.14	8.60	0.00	125.80	128.22	336.53	89.93	89.81

Movement, Approach, & Intersection Results

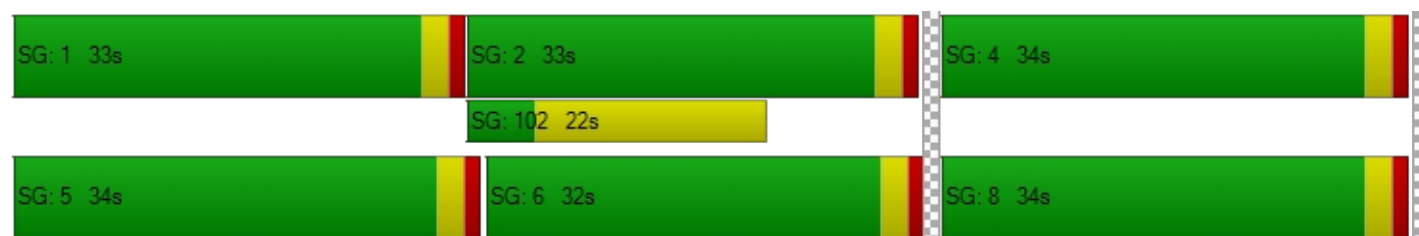
d_M, Delay for Movement [s/veh]	29.33	23.93	31.75	24.04	24.04	24.04	0.00	28.27	29.34	40.13	27.80	27.80
Movement LOS	C	C	C	C	C	C	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	30.64			24.04			28.80			35.55		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.35											
Intersection LOS	C											
Intersection V/C	0.468											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.479	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.185	1.578	1.804	2.022
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report

Intersection 2: Pepper Ave/I-210 WB

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.792

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	405	270	0	0	285	198	0	0	0	442	4	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	24	0	0	32	0	0	0	34	90	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	51	0	0	9	0	0	19
Total Hourly Volume [veh/h]	478	300	0	0	317	153	0	0	34	532	4	57
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	127	80	0	0	97	47	0	0	9	154	1	17
Total Analysis Volume [veh/h]	507	318	0	0	388	187	0	0	34	617	5	66
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	27	51	21	21		33	33
g / C, Green / Cycle	0.30	0.57	0.23	0.23		0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.28	0.09	0.15	0.17		0.34	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1679		1810	1632
c, Capacity [veh/h]	552	2061	439	388		658	593
d1, Uniform Delay [s]	30.18	9.13	31.33	32.09		27.66	19.06
k, delay calibration	0.25	0.50	0.50	0.50		0.35	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	13.40	0.16	7.40	12.00		17.68	0.09
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	0.15	0.65	0.74		0.94	0.12
d, Delay for Lane Group [s/veh]	43.58	9.29	38.74	44.08		45.34	19.15
Lane Group LOS	D	A	D	D		D	B
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	11.79	1.30	6.20	6.72		15.01	0.95
50th-Percentile Queue Length [ft/ln]	294.85	32.45	154.94	167.88		375.19	23.71
95th-Percentile Queue Length [veh/ln]	17.43	2.34	10.28	10.96		21.36	1.71
95th-Percentile Queue Length [ft/ln]	435.66	58.42	257.01	274.12		534.02	42.68

Movement, Approach, & Intersection Results

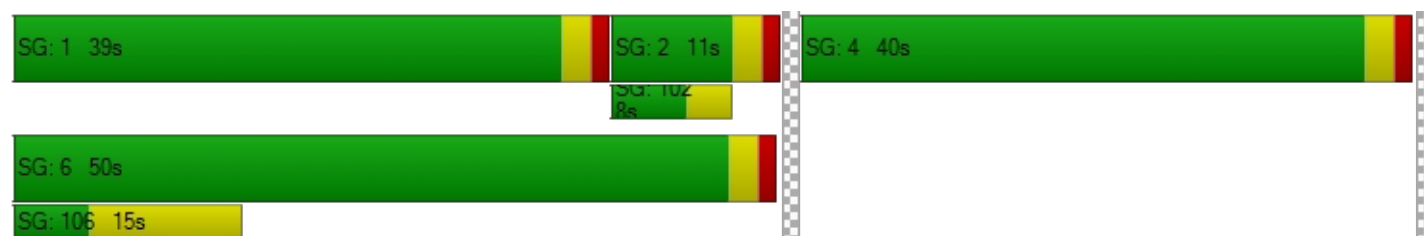
d_M, Delay for Movement [s/veh]	43.58	9.29	0.00	0.00	40.12	44.08	0.00	0.00	0.00	45.34	19.15	19.15
Movement LOS	D	A			D	D				D	B	B
d_A, Approach Delay [s/veh]	30.36			41.41			0.00			42.64		
Approach LOS	C			D			A			D		
d_I, Intersection Delay [s/veh]	37.45											
Intersection LOS	D											
Intersection V/C	0.792											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.156			2.275		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.240			2.076			4.132			2.726		
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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

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]	100.00	100.00	100.00	310.00	100.00	100.00	750.00	100.00	100.00	100.00	100.00	100.00
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	575	381	86	640	0	103	1	399	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	67	42	0	156	0	0	0	56	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	125	0	0	0
Total Hourly Volume [veh/h]	0	672	317	86	796	0	109	1	373	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	186	88	24	222	0	30	0	102	0	0	0
Total Analysis Volume [veh/h]	0	743	350	96	886	0	119	1	407	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	56	56	7	66	28	28	
g / C, Green / Cycle	0.56	0.56	0.07	0.66	0.28	0.28	
(v / s)_i Volume / Saturation Flow Rate	0.29	0.32	0.05	0.24	0.07	0.25	
s, saturation flow rate [veh/h]	1900	1697	1810	3618	1810	1616	
c, Capacity [veh/h]	1071	957	127	2402	500	446	
d1, Uniform Delay [s]	13.35	14.03	45.66	7.48	28.05	35.05	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.24	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.74	2.47	8.87	0.44	0.24	14.80	
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	0.51	0.57	0.76	0.37	0.24	0.91	
d, Delay for Lane Group [s/veh]	15.09	16.50	54.53	7.92	28.29	49.85	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.06	7.53	2.57	3.53	2.17	10.99	
50th-Percentile Queue Length [ft/ln]	176.51	188.35	64.29	88.28	54.25	274.70	
95th-Percentile Queue Length [veh/ln]	11.42	12.04	4.63	6.36	3.91	16.42	
95th-Percentile Queue Length [ft/ln]	285.45	300.88	115.72	158.91	97.65	410.61	

Movement, Approach, & Intersection Results

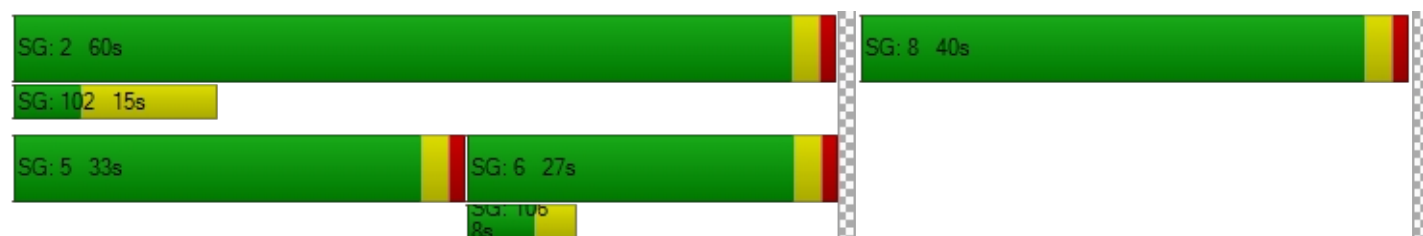
d_M, Delay for Movement [s/veh]	0.00	15.46	16.50	54.53	7.92	0.00	28.29	49.85	49.85	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	15.80			12.47			44.98			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	20.45											
Intersection LOS	C											
Intersection V/C	0.628											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.407			1.969		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.549			2.370			2.635			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	955	0	0	1039	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	42	144	68	0	0	0	0	36	0	85
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	11	0	0	0	0	0	0	0	0	21
Total Hourly Volume [veh/h]	0	979	31	144	1107	0	0	0	0	36	0	64
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	270	9	40	308	0	0	0	0	10	0	18
Total Analysis Volume [veh/h]	0	1082	34	160	1233	0	0	0	0	40	0	71
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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	22	0	0	48	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	86	86	86	88	86	86	9	9	14	14
g / C, Green / Cycle	0.71	0.71	0.71	0.73	0.71	0.71	0.07	0.07	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.00	0.30	0.02	0.16	0.34	0.00	0.00	0.00	0.02	0.05
s, saturation flow rate [veh/h]	459	3618	1601	996	3618	1615	1810	1900	1810	1530
c, Capacity [veh/h]	309	2582	1143	657	2583	1153	131	138	205	174
d1, Uniform Delay [s]	0.00	7.02	5.03	12.39	7.44	0.00	0.00	0.00	48.22	49.33
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, 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	0.05	0.88	0.63	0.00	0.00	0.00	0.46	1.54
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
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	0.42	0.03	0.24	0.48	0.00	0.00	0.00	0.19	0.41
d, Delay for Lane Group [s/veh]	0.00	7.52	5.07	13.27	8.08	0.00	0.00	0.00	48.68	50.87
Lane Group LOS	A	A	A	B	A	A	A	A	D	D
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	4.78	0.22	0.58	5.80	0.00	0.00	0.00	1.12	2.06
50th-Percentile Queue Length [ft/ln]	0.00	119.57	5.56	14.49	144.95	0.00	0.00	0.00	27.93	51.38
95th-Percentile Queue Length [veh/ln]	0.00	8.37	0.40	1.04	9.75	0.00	0.00	0.00	2.01	3.70
95th-Percentile Queue Length [ft/ln]	0.00	209.23	10.01	26.07	243.68	0.00	0.00	0.00	50.27	92.48

Movement, Approach, & Intersection Results

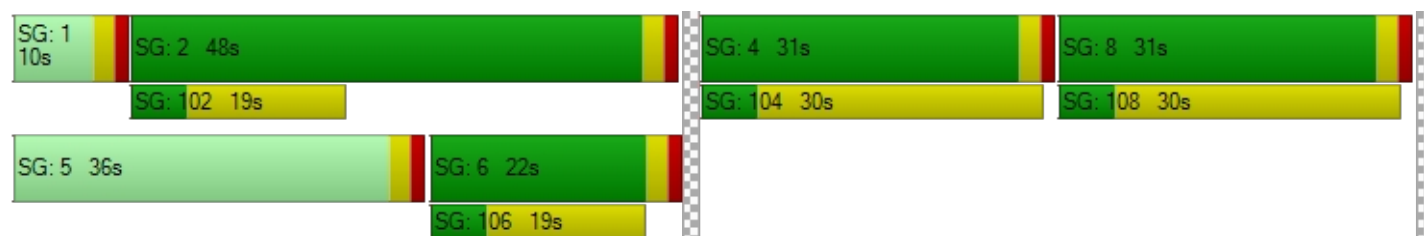
d_M, Delay for Movement [s/veh]	0.00	7.52	5.07	13.27	8.08	0.00	0.00	0.00	0.00	48.68	48.68	50.87
Movement LOS	A	A	A	B	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	7.45			8.67			0.00			50.08		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	9.91											
Intersection LOS	A											
Intersection V/C	0.387											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.069			3.145			1.955			2.425		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	317			750			467			467		
d_b, Bicycle Delay [s]	42.50			23.44			35.27			35.27		
I_b,int, Bicycle LOS Score for Intersection	2.489			2.709			1.560			1.777		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	827	2	4	935	94	113	2	93	6	5	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	48	0	0	36	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	24	0	0	23	0	0	5
Total Hourly Volume [veh/h]	112	875	1	4	971	70	113	2	70	6	5	13
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	258	0	1	268	19	50	1	31	2	2	5
Total Analysis Volume [veh/h]	132	1033	1	4	1073	77	200	4	124	9	8	21
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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]	19	25	0	10	16	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	36	36	0	30	30	15	15
g / C, Green / Cycle	0.10	0.60	0.60	0.01	0.50	0.50	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.00	0.31	0.31	0.21	0.02
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1853	1549	1713
c, Capacity [veh/h]	190	1134	1133	15	950	926	476	494
d1, Uniform Delay [s]	25.92	6.71	6.71	29.56	10.81	10.82	21.41	17.49
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.51	1.32	1.32	8.96	2.94	3.03	1.79	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	0.69	0.46	0.46	0.26	0.61	0.61	0.69	0.08
d, Delay for Lane Group [s/veh]	30.43	8.03	8.03	38.52	13.75	13.85	23.19	17.55
Lane Group LOS	C	A	A	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.86	2.65	2.65	0.09	4.75	4.67	4.34	0.40
50th-Percentile Queue Length [ft/ln]	46.39	66.16	66.14	2.24	118.82	116.78	108.60	9.88
95th-Percentile Queue Length [veh/ln]	3.34	4.76	4.76	0.16	8.33	8.22	7.76	0.71
95th-Percentile Queue Length [ft/ln]	83.51	119.08	119.05	4.04	208.20	205.40	194.05	17.78

Movement, Approach, & Intersection Results

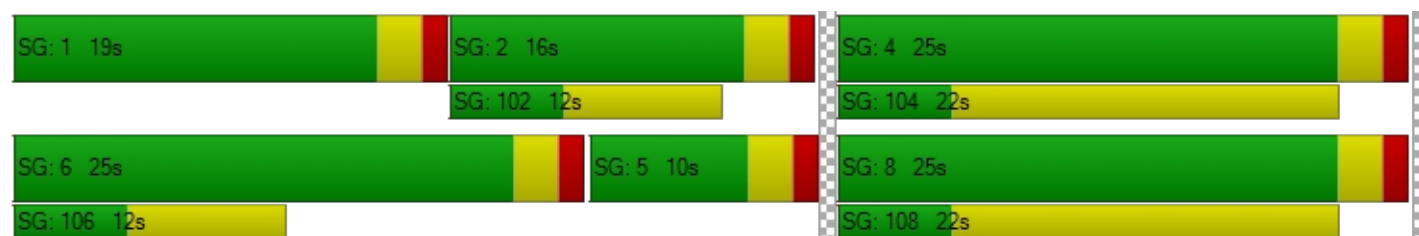
d_M, Delay for Movement [s/veh]	30.43	8.03	8.03	38.52	13.80	13.85	23.19	23.19	23.19	17.55	17.55	17.55
Movement LOS	C	A	A	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	10.57			13.88			23.19			17.55		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	13.63											
Intersection LOS	B											
Intersection V/C	0.591											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.996			3.312			1.969			1.724		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			433			733			733		
d_b, Bicycle Delay [s]	12.03			18.41			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.522			2.531			2.139			1.631		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	181	589	54	204	722	117	144	307	123	69	343	167
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	0	12	12	12	16	0	0	0	0	16
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	32	0	0	31	0	0	46
Total Hourly Volume [veh/h]	181	605	40	216	734	97	160	307	92	69	343	137
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	174	11	63	214	28	45	87	26	19	93	37
Total Analysis Volume [veh/h]	208	695	46	252	855	113	181	348	104	74	370	148
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	44	0	0	44	0	0	25	0	0	52	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	66	66	66	66	66	66	42	42	42	44	42	42
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.55	0.55	0.35	0.35	0.35	0.37	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.35	0.20	0.20	0.35	0.26	0.26	0.20	0.12	0.12	0.08	0.14	0.14
s, saturation flow rate [veh/h]	590	1900	1857	729	1900	1821	897	1900	1752	954	1900	1719
c, Capacity [veh/h]	279	1046	1023	366	1046	1003	263	664	612	324	664	601
d1, Uniform Delay [s]	36.65	15.09	15.09	30.87	16.36	16.39	44.98	28.97	29.01	35.60	29.61	29.68
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
l, 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]	16.54	0.96	0.98	10.13	1.53	1.60	3.18	0.32	0.35	0.35	0.40	0.45
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	0.75	0.36	0.36	0.69	0.47	0.47	0.69	0.35	0.36	0.23	0.41	0.41
d, Delay for Lane Group [s/veh]	53.20	16.05	16.07	41.00	17.89	17.99	48.16	29.29	29.36	35.95	30.01	30.14
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	6.88	5.61	5.49	7.11	8.06	7.78	5.32	4.95	4.62	1.45	5.85	5.39
50th-Percentile Queue Length [ft/ln]	171.89	140.21	137.35	177.76	201.42	194.56	132.99	123.85	115.60	36.17	146.17	134.73
95th-Percentile Queue Length [veh/ln]	11.18	9.49	9.34	11.48	12.71	12.36	9.10	8.60	8.15	2.60	9.81	9.20
95th-Percentile Queue Length [ft/ln]	279.40	237.30	233.46	287.09	317.79	308.94	227.56	215.10	203.76	65.11	245.31	229.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.20	16.06	16.07	41.00	17.93	17.99	48.16	29.31	29.36	35.95	30.04	30.14
Movement LOS	D	B	B	D	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	24.20			22.70			34.71			30.81		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.77											
Intersection LOS	C											
Intersection V/C	0.554											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.966			3.297			3.016			3.076		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.354			2.593			2.107			2.086		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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	97	100	86	24	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]	0	97	100	86	24	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]	0	24	25	22	6	0
Total Analysis Volume [veh/h]	0	97	100	86	24	0
Pedestrian Volume [ped/h]	0		0		0	

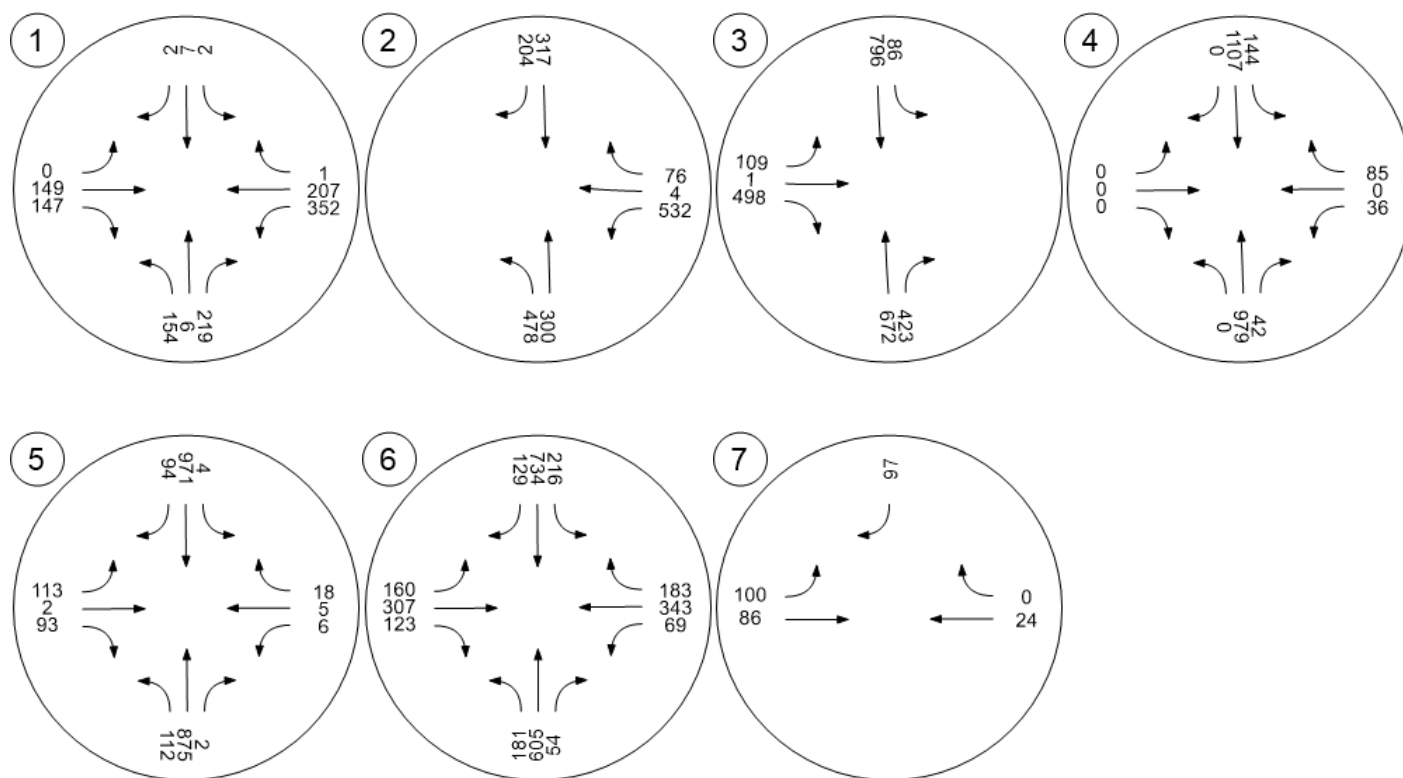
Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.09	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.69	7.36	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.18	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.44	4.41	2.20	0.00	0.00
d_A, Approach Delay [s/veh]	8.69		3.96		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.14					
Intersection LOS	A					

Traffic Volume - Future Total Volume



Vistro File: C:\...\Pepper Ave Industrial - 1 Driveway.vistro

Scenario 22 OY PM + Proj

Report File: C:\...\OYPP PM.pdf

10/16/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Pepper Ave/Highland Ave	Signalized	HCM 7th Edition	NB Right	0.564	35.4	D
2	Pepper Ave/I-210 WB	Signalized	HCM 7th Edition	NB Left	0.663	28.7	C
3	Pepper Ave/I-210 EB	Signalized	HCM 7th Edition	EB Right	0.672	24.8	C
4	Pepper Avenue/Project Driveway	Signalized	HCM 7th Edition	WB Right	0.377	11.7	B
5	Pepper Ave/Winchester Dr-Terrace Rd	Signalized	HCM 7th Edition	SB Left	0.359	5.7	A
6	Pepper Ave/Baseline Rd	Signalized	HCM 7th Edition	EB Left	0.454	24.8	C
7	Project Driveway/Retail Driveway	Two-way stop	HCM 7th Edition	SB Right	0.110	8.9	A

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/Highland Ave

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

Intersection Setup

Name	Pepper Ave						Pepper Ave					
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	1	0	0	1	0	0
Entry Pocket Length [ft]	196.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	340.00	100.00	100.00
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]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	Pepper Ave						Pepper Ave					
Base Volume Input [veh/h]	131	0	360	0	0	0	0	249	112	281	244	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0400	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	13	0	0	0	0	0	16	13	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]	157	0	373	0	0	0	0	249	132	294	244	0
Peak Hour Factor	0.9390	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8780	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	93	0	0	0	0	62	38	74	61	0
Total Analysis Volume [veh/h]	167	0	373	0	0	0	0	249	150	294	244	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	79	0	0	79	0	78	80	0	72	74	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	34	33	0	33	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	17	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	R	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	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	3.00	3.00	3.00	3.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	31	31	31	31	31	30	30	30	29	29
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.13	0.00	0.26	0.00	0.00	0.12	0.13	0.18	0.07	0.07
s, saturation flow rate [veh/h]	1296	1710	1454	1710	1629	1710	1502	1629	1710	1710
c, Capacity [veh/h]	448	530	451	566	505	513	451	489	496	496
d1, Uniform Delay [s]	27.40	0.00	32.02	0.00	0.00	27.90	28.07	29.90	27.14	27.14
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, 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]	2.37	0.00	15.93	0.00	0.00	2.37	2.90	5.40	1.18	1.18
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	0.37	0.00	0.83	0.00	0.00	0.41	0.42	0.60	0.25	0.25
d, Delay for Lane Group [s/veh]	29.77	0.00	47.95	0.00	0.00	30.27	30.97	35.30	28.32	28.32
Lane Group LOS	C	A	D	A	A	C	C	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.42	0.00	10.16	0.00	0.00	4.10	3.84	6.67	2.37	2.37
50th-Percentile Queue Length [ft/ln]	85.53	0.00	254.10	0.00	0.00	102.53	95.89	166.87	59.37	59.37
95th-Percentile Queue Length [veh/ln]	6.16	0.00	15.39	0.00	0.00	7.38	6.90	10.91	4.27	4.27
95th-Percentile Queue Length [ft/ln]	153.96	0.00	384.81	0.00	0.00	184.56	172.61	272.79	106.86	106.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.77	0.00	47.95	0.00	0.00	0.00	0.00	30.38	30.97	35.30	28.32	28.32
Movement LOS	C	A	D	A	A	A	A	C	C	D	C	C
d_A, Approach Delay [s/veh]	42.33			0.00			30.61			32.14		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	35.45											
Intersection LOS	D											
Intersection V/C	0.564											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.498	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	620	600	580
d_b, Bicycle Delay [s]	23.81	23.81	24.50	25.21
I_b,int, Bicycle LOS Score for Intersection	2.451	1.560	1.889	2.003
Bicycle LOS	B	A	A	B

Sequence

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



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

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 7th Edition
15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

28.7
C
0.663

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]	310.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	750.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	49.21	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]	414	409	0	0	251	141	0	0	0	271	1	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	30	6	0	0	0	6	0	0	0	0	0	0
Site-Generated Trips [veh/h]	94	34	0	0	29	0	0	0	0	55	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	37	0	0	0	0	0	21
Total Hourly Volume [veh/h]	538	449	0	0	280	110	0	0	0	326	1	63
Peak Hour Factor	0.9420	0.9420	1.0000	1.0000	0.8180	0.8180	1.0000	1.0000	1.0000	0.8620	0.8620	0.8620
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	143	119	0	0	86	34	0	0	0	95	0	18
Total Analysis Volume [veh/h]	571	477	0	0	342	134	0	0	0	378	1	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	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]	31	63	29	29		21	21
g / C, Green / Cycle	0.34	0.70	0.33	0.33		0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.32	0.13	0.13	0.14		0.21	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1712		1810	1618
c, Capacity [veh/h]	615	2523	616	555		427	382
d1, Uniform Delay [s]	28.67	4.75	23.48	23.86		33.21	27.53
k, delay calibration	0.27	0.50	0.50	0.50		0.14	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	14.40	0.17	1.82	2.41		7.77	0.24
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	0.93	0.19	0.39	0.43		0.89	0.19
d, Delay for Lane Group [s/veh]	43.07	4.91	25.31	26.26		40.97	27.77
Lane Group LOS	D	A	C	C		D	C
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	13.26	1.15	3.93	4.05		8.46	1.25
50th-Percentile Queue Length [ft/ln]	331.52	28.82	98.31	101.23		211.51	31.24
95th-Percentile Queue Length [veh/ln]	19.23	2.08	7.08	7.29		13.23	2.25
95th-Percentile Queue Length [ft/ln]	480.82	51.88	176.96	182.22		330.77	56.23

Movement, Approach, & Intersection Results

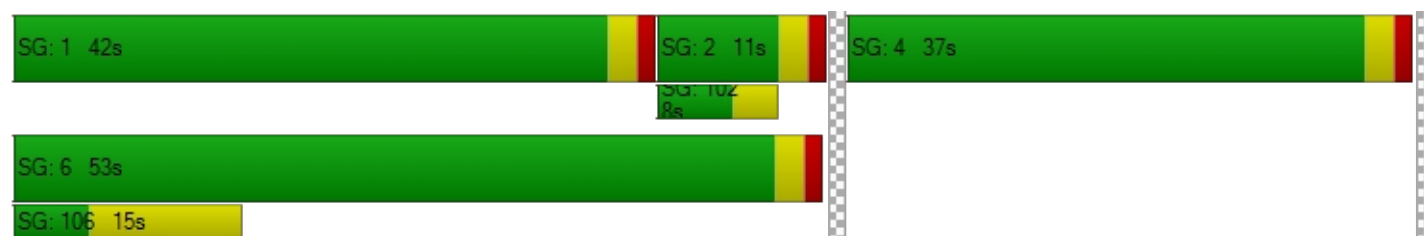
d_M, Delay for Movement [s/veh]	43.07	4.91	0.00	0.00	25.60	26.26	0.00	0.00	0.00	40.97	27.77	27.77
Movement LOS	D	A			C	C				D	C	C
d_A, Approach Delay [s/veh]	25.70			25.78			0.00			38.81		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	28.72											
Intersection LOS	C											
Intersection V/C	0.663											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /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			2.149			2.177		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.424			1.983			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 3: Pepper Ave/I-210 EB

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	Yes			Yes			Yes			Yes		

Volumes

Name	Pepper Ave			Pepper Ave			I-210 EB					
Base Volume Input [veh/h]	0	604	307	70	452	0	219	4	472	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	30	0	0	0	0	6	0	43	0	0	0
Site-Generated Trips [veh/h]	0	128	91	0	84	0	0	0	55	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	100	0	0	0	0	0	143	0	0	0
Total Hourly Volume [veh/h]	0	762	298	70	536	0	225	4	427	0	0	0
Peak Hour Factor	1.0000	0.9050	0.9050	0.8980	0.8980	1.0000	0.9170	0.9170	0.9170	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	210	82	19	149	0	61	1	116	0	0	0
Total Analysis Volume [veh/h]	0	842	329	78	597	0	245	4	466	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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	100
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss
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]	53	53	6	63	31	31	
g / C, Green / Cycle	0.53	0.53	0.06	0.63	0.31	0.31	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.34	0.04	0.17	0.14	0.29	
s, saturation flow rate [veh/h]	1900	1729	1810	3618	1810	1617	
c, Capacity [veh/h]	1014	923	116	2271	565	505	
d1, Uniform Delay [s]	15.70	16.43	45.79	8.30	27.35	33.34	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.35	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	2.39	3.32	6.69	0.28	0.53	20.27	
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	0.58	0.63	0.68	0.26	0.43	0.93	
d, Delay for Lane Group [s/veh]	18.09	19.74	52.49	8.58	27.88	53.61	
Lane Group LOS	B	B	D	A	C	D	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	8.59	9.13	2.05	2.51	4.55	13.29	
50th-Percentile Queue Length [ft/ln]	214.80	228.36	51.15	62.78	113.76	332.24	
95th-Percentile Queue Length [veh/ln]	13.40	14.09	3.68	4.52	8.05	19.27	
95th-Percentile Queue Length [ft/ln]	334.98	352.27	92.07	113.00	201.21	481.71	

Movement, Approach, & Intersection Results

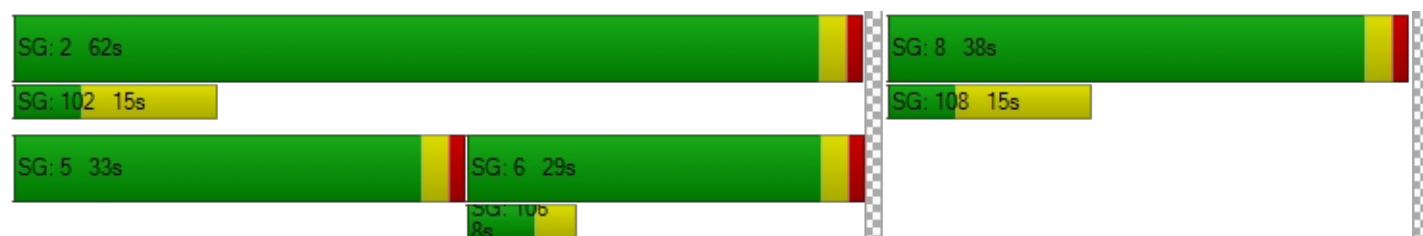
d_M, Delay for Movement [s/veh]	0.00	18.60	19.74	52.49	8.58	0.00	27.88	53.61	53.61	0.00	0.00	0.00
Movement LOS		B	B	D	A		C	D	D			
d_A, Approach Delay [s/veh]	18.92			13.65			44.79			0.00		
Approach LOS	B			B			D			A		
d_I, Intersection Delay [s/veh]	24.75											
Intersection LOS	C											
Intersection V/C	0.672											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersection	3.186			2.822			2.522			1.928		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.608			2.116			2.975			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 4: Pepper Avenue/Project Driveway

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

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	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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	912	0	0	923	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	81	42	113	26	0	0	0	0	51	0	138
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	11	0	0	0	0	0	0	0	0	35
Total Hourly Volume [veh/h]	0	993	31	113	949	0	0	0	0	51	0	103
Peak Hour Factor	0.9000	0.9050	0.9000	0.9000	0.8980	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	274	9	31	264	0	0	0	0	14	0	29
Total Analysis Volume [veh/h]	0	1097	34	126	1057	0	0	0	0	57	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	10			10			10			10		
v_di, Inbound Pedestrian Volume crossing m	10			10			10			10		
v_co, Outbound Pedestrian Volume crossing	10			10			10			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			10			10			10		
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
Active Pattern	Pattern 1
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	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	48	0	0	48	0	0	31	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	14	0	0	14	0	0	25	0	0	25	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	R	L	C	R	L	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	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	1.00	1.00	1.00	1.00
g_i, Effective Green Time [s]	83	83	83	83	83	83	9	9	16	16
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.69	0.69	0.07	0.07	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.00	0.30	0.02	0.13	0.29	0.00	0.00	0.00	0.03	0.07
s, saturation flow rate [veh/h]	542	3618	1601	982	3618	1615	1810	1900	1810	1542
c, Capacity [veh/h]	354	2511	1111	586	2511	1121	132	138	241	205
d1, Uniform Delay [s]	0.00	8.06	5.74	14.87	7.94	0.00	0.00	0.00	46.56	48.52
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, 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	0.56	0.05	0.84	0.52	0.00	0.00	0.00	0.50	2.34
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	0.44	0.03	0.22	0.42	0.00	0.00	0.00	0.24	0.56
d, Delay for Lane Group [s/veh]	0.00	8.62	5.79	15.71	8.46	0.00	0.00	0.00	47.06	50.86
Lane Group LOS	A	A	A	B	A	A	A	A	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	5.40	0.25	0.93	5.12	0.00	0.00	0.00	1.56	3.32
50th-Percentile Queue Length [ft/ln]	0.00	135.03	6.14	23.23	128.02	0.00	0.00	0.00	39.12	83.12
95th-Percentile Queue Length [veh/ln]	0.00	9.21	0.44	1.67	8.83	0.00	0.00	0.00	2.82	5.98
95th-Percentile Queue Length [ft/ln]	0.00	230.32	11.05	41.81	220.80	0.00	0.00	0.00	70.41	149.62

Movement, Approach, & Intersection Results

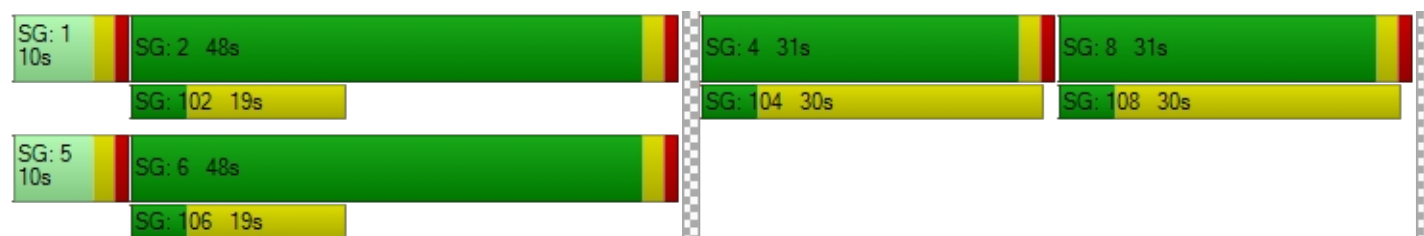
d_M, Delay for Movement [s/veh]	0.00	8.62	5.79	15.71	8.46	0.00	0.00	0.00	0.00	47.06	47.06	50.86
Movement LOS	A	A	A	B	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	8.53			9.23			0.00			49.60		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	11.69											
Intersection LOS	B											
Intersection V/C	0.377											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	3.034			3.117			1.955			2.467		
Crosswalk LOS	C			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	750			750			467			467		
d_b, Bicycle Delay [s]	23.44			23.44			35.27			35.27		
I_b,int, Bicycle LOS Score for Intersection	2.502			2.536			1.560			1.900		
Bicycle LOS	B			B			A			A		

Sequence

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



Intersection Level Of Service Report
Intersection 5: Pepper Ave/Winchester Dr-Terrace Rd

Control Type:	Signalized	Delay (sec / veh):	5.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

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]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
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]	19	847	1	7	846	67	51	1	14	2	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	45	0	0	51	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	17	0	0	4	0	0	3
Total Hourly Volume [veh/h]	19	892	1	7	897	50	51	1	10	2	3	9
Peak Hour Factor	0.8470	0.8470	0.8470	0.9050	0.9050	0.9050	0.5650	0.5650	0.5650	0.6330	0.6330	0.6330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	263	0	2	248	14	23	0	4	1	1	4
Total Analysis Volume [veh/h]	22	1053	1	8	991	55	90	2	18	3	5	14
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
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	25	0	10	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	44	44	1	43	43	6	6
g / C, Green / Cycle	0.04	0.74	0.74	0.01	0.71	0.71	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.28	0.00	0.28	0.28	0.07	0.01
s, saturation flow rate [veh/h]	1810	1900	1899	1810	1900	1863	1595	1772
c, Capacity [veh/h]	66	1396	1395	28	1356	1329	269	246
d1, Uniform Delay [s]	28.20	2.93	2.93	29.21	3.41	3.41	25.90	24.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, 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	0.78	0.78	5.56	0.84	0.86	1.00	0.16
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	0.33	0.38	0.38	0.29	0.39	0.39	0.41	0.09
d, Delay for Lane Group [s/veh]	31.12	3.71	3.71	34.77	4.26	4.27	26.90	24.77
Lane Group LOS	C	A	A	C	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.91	0.91	0.15	1.19	1.17	1.53	0.29
50th-Percentile Queue Length [ft/ln]	8.30	22.80	22.79	3.65	29.65	29.28	38.14	7.15
95th-Percentile Queue Length [veh/ln]	0.60	1.64	1.64	0.26	2.14	2.11	2.75	0.51
95th-Percentile Queue Length [ft/ln]	14.94	41.04	41.03	6.58	53.38	52.70	68.66	12.87

Movement, Approach, & Intersection Results

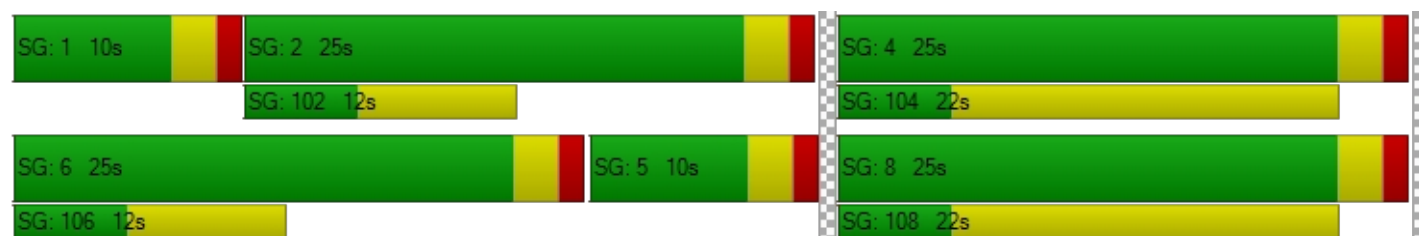
d_M, Delay for Movement [s/veh]	31.12	3.71	3.71	34.77	4.26	4.27	26.90	26.90	26.90	24.77	24.77	24.77
Movement LOS	C	A	A	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.27			4.50			26.90			24.77		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.67											
Intersection LOS	A											
Intersection V/C	0.359											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.897			3.085			1.788			1.714		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			733			733			733		
d_b, Bicycle Delay [s]	12.03			12.03			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.447			2.443			1.748			1.601		
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 6: Pepper Ave/Baseline Rd

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	85.00	100.00	100.00
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]	91	538	55	112	608	121	159	390	121	54	367	171
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	17	17	17	15	0	0	0	0	15
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	35	0	0	30	0	0	47
Total Hourly Volume [veh/h]	91	553	41	129	625	103	174	390	91	54	367	139
Peak Hour Factor	0.8700	0.8700	0.8700	0.8580	0.8580	0.8580	0.8820	0.8820	0.8820	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	159	12	38	182	30	49	111	26	15	99	37
Total Analysis Volume [veh/h]	105	636	47	150	728	120	197	442	103	58	396	150
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	5			5			5			5		
v_ci, Inbound Pedestrian Volume crossing mi	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
Active Pattern	Pattern 1
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	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	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	1.0	0.0	0.0	1.0	0.0
Split [s]	0	35	0	0	32	0	0	33	0	0	54	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	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]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	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	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	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
g_i, Effective Green Time [s]	64	62	62	62	62	62	46	46	46	48	46	46
g / C, Green / Cycle	0.54	0.52	0.52	0.52	0.52	0.52	0.38	0.38	0.38	0.40	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.16	0.18	0.18	0.19	0.23	0.23	0.23	0.15	0.15	0.07	0.15	0.15
s, saturation flow rate [veh/h]	660	1900	1853	770	1900	1804	874	1900	1778	875	1900	1725
c, Capacity [veh/h]	321	987	963	366	987	938	280	723	676	312	723	656
d1, Uniform Delay [s]	27.55	16.92	16.93	27.05	17.95	17.96	43.40	27.04	27.06	34.16	27.10	27.16
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
l, 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]	2.70	0.98	1.01	3.37	1.42	1.51	3.23	0.34	0.37	0.29	0.35	0.39
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	0.33	0.35	0.35	0.41	0.44	0.44	0.70	0.39	0.39	0.19	0.39	0.40
d, Delay for Lane Group [s/veh]	30.26	17.90	17.93	30.42	19.37	19.46	46.62	27.38	27.43	34.45	27.44	27.55
Lane Group LOS	C	B	B	C	B	B	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.63	5.53	5.42	3.43	7.42	7.08	5.74	5.77	5.43	1.06	5.85	5.41
50th-Percentile Queue Length [ft/ln]	40.78	138.37	135.39	85.63	185.45	177.02	143.51	144.33	135.72	26.52	146.30	135.13
95th-Percentile Queue Length [veh/ln]	2.94	9.39	9.23	6.17	11.88	11.44	9.67	9.71	9.25	1.91	9.82	9.22
95th-Percentile Queue Length [ft/ln]	73.40	234.83	230.81	154.14	297.12	286.12	241.74	242.84	231.25	47.74	245.48	230.45

Movement, Approach, & Intersection Results

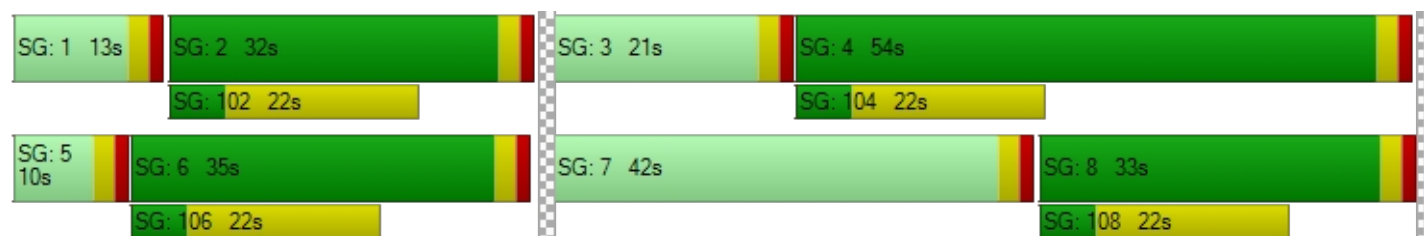
d_M, Delay for Movement [s/veh]	30.26	17.91	17.93	30.42	19.41	19.46	46.62	27.40	27.43	34.45	27.47	27.55
Movement LOS	C	B	B	C	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	19.56			21.07			32.51			28.16		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	24.77											
Intersection LOS	C											
Intersection V/C	0.454											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.871			3.249			2.809			2.934		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	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		
I_b,int, Bicycle LOS Score for Intersection	2.221			2.412			2.197			2.097		
Bicycle LOS	B			B			B			B		

Sequence

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



Intersection Level Of Service Report

Intersection 7: Project Driveway/Retail Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.110

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	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	114	120	35	75	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]	0	114	120	35	75	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]	0	29	30	9	19	0
Total Analysis Volume [veh/h]	0	114	120	35	75	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.00	0.11	0.08	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.92	7.48	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.37	0.21	0.11	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	9.28	5.35	2.68	0.00	0.00
d_A, Approach Delay [s/veh]	8.92		5.79		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.57					
Intersection LOS	A					

Traffic Volume - Future Total Volume

