

Appendix K. Traffic Impact Analysis

5770 NORTH INDUSTRIAL PARKWAY

TRAFFIC IMPACT ANALYSIS

Prepared For:

Dedeaux Properties,
1299 Ocean Ave., 9th Floor,
Santa Monica, CA 90401

Prepared By:

ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

2 Park Plaza, Suite 1120
Irvine, CA 92614
(949) 794-1180

Contact: Meghan Macias, TE
meghan@epdsolutions.com



December 21, 2021

Table of Contents

1	EXECUTIVE SUMMARY	1
2	INTRODUCTION.....	3
2.1	Project Description.....	3
2.2	Study Area and Analysis Scenarios	6
2.3	Methodology.....	8
2.4	Significance Criteria	9
3	BASELINE CONDITIONS.....	10
3.1	Existing Transportation System and Access	10
3.2	Existing Traffic Volumes and Intersection Operations.....	12
3.3	Opening Year Traffic Volumes and Intersection Operations	14
3.4	Opening Year Plus Other Projects Traffic Volumes and Intersection Operations	16
3.5	Future Build-Out Year Traffic Volumes and Intersection Operations.....	19
4	PROPOSED PROJECT	21
4.1	Project Trip Generation.....	21
4.2	Project Trips.....	21
5	PROJECT IMPACTS	27
5.1	Opening Year (2023) Plus Other Proposed Projects Plus Project Traffic Volumes and Intersection Operations.....	27
5.2	Future Build-Out Plus Project Traffic Volumes and Intersection Operations.....	29
6	PROJECT MITIGATION AND FAIR SHARE.....	31
6.1	Recommended Improvements.....	31
6.2	Signal Warrant for Industrial Parkway/Palm Avenue	31
6.3	Project Fair Share	33

Figures

FIGURE 1:	PROJECT LOCATION.....	4
FIGURE 2:	PROJECT SITE PLAN.....	5
FIGURE 3:	PROJECT STUDY AREA.....	7
FIGURE 4:	EXISTING LANE GEOMETRIES AND TRAFFIC CONTROL.....	11
FIGURE 5:	EXISTING AM AND PM PEAK HOUR TRAFFIC VOLUMES.....	13
FIGURE 6:	OPENING YEAR AM AND PM PEAK HOUR TRAFFIC VOLUMES.....	15
FIGURE 7:	LOCATION OF OTHER PROPOSED AND APPROVED PROJECTS	17
FIGURE 8:	OPENING YEAR PLUS OTHER PROJECTS AM AND PM PEAK HOUR VOLUMES	18
FIGURE 9:	FUTURE BUILD-OUT YEAR AM AND PM PEAK HOUR VOLUMES	20
FIGURE 10:	PROJECT PASSENGER VEHICLE TRIP DISTRIBUTION.....	23
FIGURE 11:	PROJECT TRUCK TRIP DISTRIBUTION	24
FIGURE 12:	PROJECT PASSENGER VEHICLE TRIP ASSIGNMENT	25
FIGURE 13:	PROJECT TRUCK TRIP ASSIGNMENT (PCE).....	26
FIGURE 14:	OPENING YEAR PLUS OTHER PROPOSED PROJECTS PLUS PROJECT AM AND PM PEAK HOUR VOLUMES.....	28
FIGURE 15:	FUTURE BUILD-OUT PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES	30
FIGURE 16:	INDUSTRIAL PARKWAY/PALM AVENUE SIGNAL WARRANT	32

Tables

TABLE 1: RELATIONSHIP BETWEEN CONTROL DELAY AND LOS AT A SIGNALIZED INTERSECTION	8
TABLE 2: RELATIONSHIP BETWEEN DELAY AND LOS AN UNSIGNALIZED INTERSECTION	8
TABLE 3: EXISTING AM AND PM PEAK HOUR LEVEL OF SERVICE	12
TABLE 4: OPENING YEAR AM AND PM PEAK HOUR LEVEL OF SERVICE	14
TABLE 5: OTHER PROJECTS TRIP GENERATION.....	16
TABLE 6: OPENING YEAR PLUS OTHER PROJECTS AM AND PM PEAK HOUR LEVEL OF SERVICE.....	16
TABLE 7:FUTURE BUILD-OUT AM AND PM PEAK HOUR LEVEL OF SERVICE.....	19
TABLE 8: PROJECT TRIP GENERATION	22
TABLE 9: OPENING YEAR PLUS OTHER PROJECTS PLUS PROJECT AM AND PM PEAK HOUR LEVEL OF SERVICE.....	27
TABLE 10: FUTURE BUILD-OUT PLUS PROJECT AM AND PM PEAK HOUR LEVEL OF SERVICE.....	29
TABLE 11: OPENING YEAR PLUS PROJECT MITIGATION AM AND PM PEAK HOUR LEVEL OF SERVICE	31
TABLE 13: PROJECT FAIR SHARE	33

Appendices

APPENDIX A – SCOPE OF WORK
APPENDIX B – COUNT SHEETS
APPENDIX C – LEVEL OF SERVICE CALCULATIONS
APPENDIX D – CUMULATIVE PROJECTS TRIP ASSIGNMENT

1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed truck terminal building located the southwest corner of the intersection of N. Industrial Parkway and Palm Avenue in the City of San Bernardino. The project site is identified by two adjacent parcels (APNs – 0266-041-40, 0266-041-22) totaling an area of 11.07 acres. The development proposes the construction of 52,000 square feet of truck terminal building on the site which includes 6,000 square feet of office space. The existing site is currently developed with approximately 34,000 square feet of pallet manufacturing building.

For the purpose of this study, both the existing pallet manufacturing building and proposed truck terminal were analyzed using general light industrial land use from *ITE Trip Generation Manual*. The proposed truck terminal is estimated to generate approximately 90 net daily trips, 12 net AM peak hour trips, and 12 net PM peak hour trips. In terms of Passenger Car Equivalent (PCE), the proposed development is estimated to generate approximately 278 net daily PCE trips, 38 net AM PCE trips, and 37 net PM PCE trips.

The following study area intersections were evaluated during the AM and PM peak hours, which are defined as the hours with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods.

1. Industrial Parkway/Palm Avenue
2. Kendall Drive/Palm Avenue
3. I-215 NB Ramps/Palm Avenue
4. Industrial Parkway/Project Driveway

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

- Existing Year Traffic Conditions
- Project Opening Year Base Traffic Conditions
- Project Opening Year Base plus Other Proposed Projects Traffic Conditions
- Project Opening Year Base plus Other Proposed Projects plus Project Traffic Conditions
- Future Build-out Year Cumulative Base Traffic Conditions
- Future Build-out Year Cumulative Base plus Project Traffic Conditions
- Future Build-out Year Cumulative Base plus Project Traffic condition with Mitigations

Existing Conditions Intersection Analysis Results

All intersections operate at acceptable LOS condition in this scenario.

Opening Year (2023) Plus Other Projects Intersection Analysis Results

All intersections operate at acceptable LOS condition in this scenario.

Future Built-Out Year (2040) Intersection Analysis Results

The project would result in unsatisfactory LOS at the following two intersections in this scenario:

- #1- Industrial Parkway/Palm Avenue
- #2- Kendall Drive/Palm Avenue

Opening Year (2023) Plus Other Projects Plus Project Intersection Analysis Results

All intersections operate at acceptable LOS condition in this scenario.

Future Build-Out Year (2040) plus Project Intersection Analysis Results

The project would result in unsatisfactory LOS at the following two intersections in this scenario:

- #1- Industrial Parkway/Palm Avenue
- #2- Kendall Drive/Palm Avenue

Project Mitigation

To mitigate the project impacts, the following improvements are recommended:

- #1- Industrial Parkway/Palm Avenue: Add signal.
- #2- Kendall Drive/Palm Avenue: Add dedicated NBL, restripe NBLTR to NBTR. Modify signal phasing to split phase in the EB and WB direction; add protected left-turn phasing in the NB and SB direction.

Project Fair Share

For the intersection of Industrial Parkway/Palm Avenue, a fair share of 4.01% would be required towards recommended improvements. For the intersection of Kendall Drive/Palm Avenue, a fair share of 7.14% would be required towards recommended improvements.

2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed truck terminal building located the southwest corner of the intersection of N. Industrial Parkway and Palm Avenue in the City of San Bernardino. Please note that for the purpose of this study, I-215 were assumed to be oriented north-south, and Palm Avenue was assumed to be oriented east-west. The scope of work for this TIA was reviewed and approved by the City of San Bernardino and is provided in Appendix A. The TIA was prepared according to the approved scope of work using methodologies and significance criteria consistent as per the City of San Bernardino Traffic Impact Analysis (TIA) Guidelines, General Plan, and applicable provisions of the California Environmental Quality Act (CEQA).

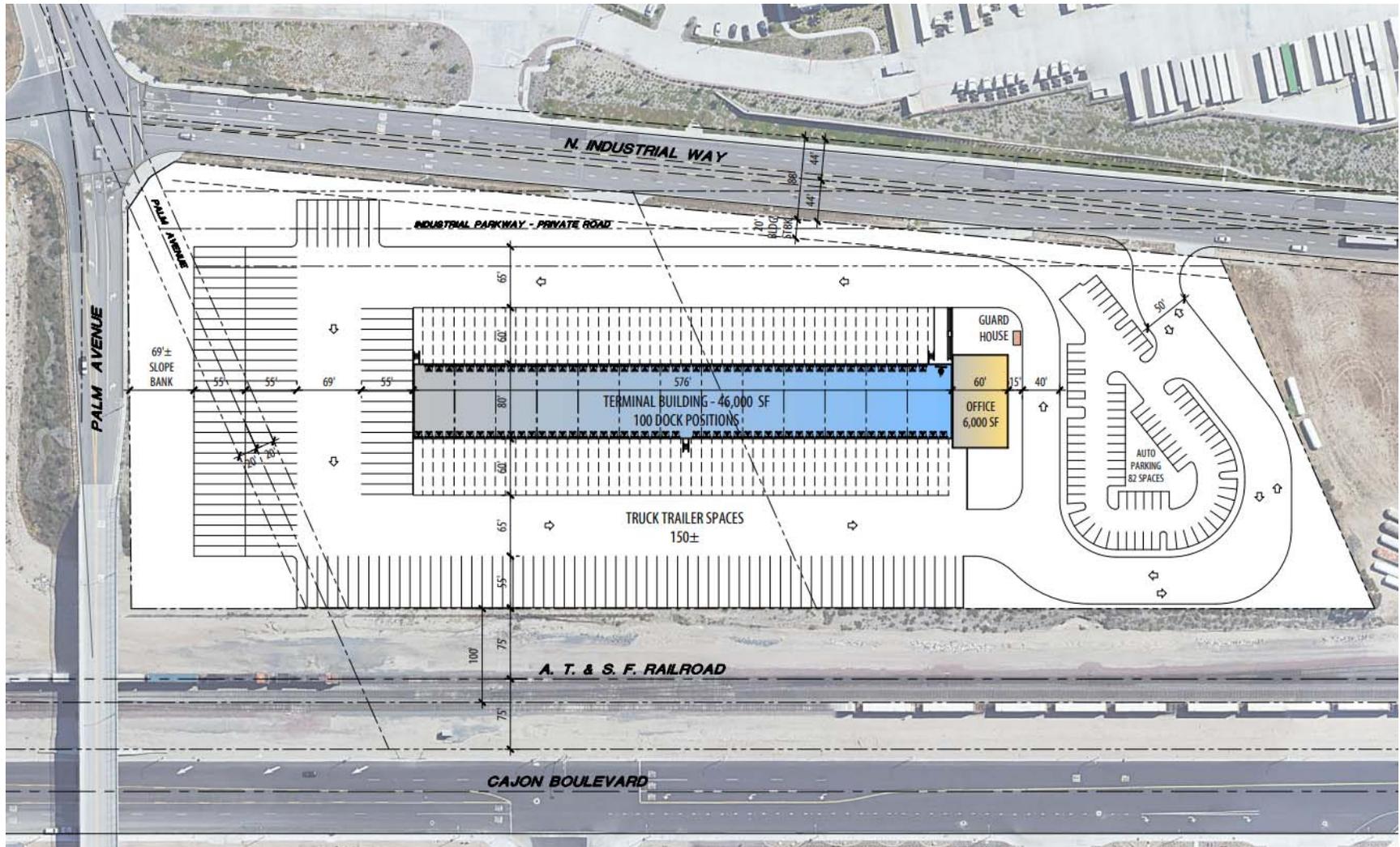
2.1 Project Description

The project site is identified by two adjacent parcels (APNs – 0266-041-40, 0266-041-22) totaling an area of 11.07 acres. The development proposes the construction of 52,000 square feet of truck terminal building on the site which includes 6,000 square feet of office space. The existing site is currently developed with approximately 34,000 square feet of pallet manufacturing building. The location of the project is shown in Figure 1 and the project site plan is shown in Figure 2. The project will be accessible driveway on Industrial Way. It is to be noted that the driveway is designed to accommodate both truck and passenger vehicle traffic.

Figure 1: Project Location



Figure 2: Project Site Plan



2.2 Study Area and Analysis Scenarios

The City of San Bernardino Traffic Impact Analysis Guidelines requires that the traffic and circulation impacts of proposed development projects be analyzed. The study area was selected to include those intersections to which the project would add 50 or more peak hour trips. This TIA includes the analysis of signalized intersections, all-way stop controlled (AWSC) and two-way stop controlled (TWSC) intersections. The following intersections were included in the analysis:

1. Industrial Parkway/Palm Avenue (AWSC)
2. Kendall Drive/Palm Avenue (Signalized)
3. I-215 NB Ramps/Palm Avenue (Signalized)
4. Industrial Parkway/Project Driveway (TWSC)

The locations of the study area intersections are shown on Figure 3. 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 7 AM to 9 AM and 4 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Year Traffic Conditions
- Project Opening Year Base Traffic Conditions
- Project Opening Year Base plus Other Proposed Projects Traffic Conditions
- Project Opening Year Base plus Other Proposed Projects plus Project Traffic Conditions
- Future Build-out Year Cumulative Base Traffic Conditions
- Future Build-out Year Cumulative Base plus Project Traffic Conditions
- Future Build-out Year Cumulative Base plus Project Traffic condition with Improvements

EPD collected counts for the study intersections on Tuesday, August 31st, 2021. As per the City of San Bernardino TIA guidelines, forecast traffic volumes for the Project Opening Year (2023) baseline conditions were developed by applying a growth rate of 3 percent per year to the existing (2021) traffic counts. Project Opening Year plus Other Proposed Projects Traffic conditions were developed by adding traffic from nearby cumulative development projects (approved and not yet built and those under review) to the Project Opening Year baseline conditions. All traffic count data are provided in *Appendix B*

Figure 3: Project Study Area



2.3 Methodology

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

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 2 shows the relationship between control delay and LOS.

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

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

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 3.

Table 2: Relationship between Delay and LOS an Unsignalized Intersection

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

2.4 Significance Criteria

City of San Bernardino

The City of San Bernardino Traffic Impact Analysis Guidelines identifies LOS D as the threshold for acceptable operating conditions for intersections. Improvement measures must be identified for intersections that show an LOS deficiency and operate at LOS D or worse. The LOS with improvements must operate at LOS D or better for study intersections analyzed.

California Department of Transportation (Caltrans)

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

3 BASELINE CONDITIONS

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

3.1 Existing Transportation System and Access

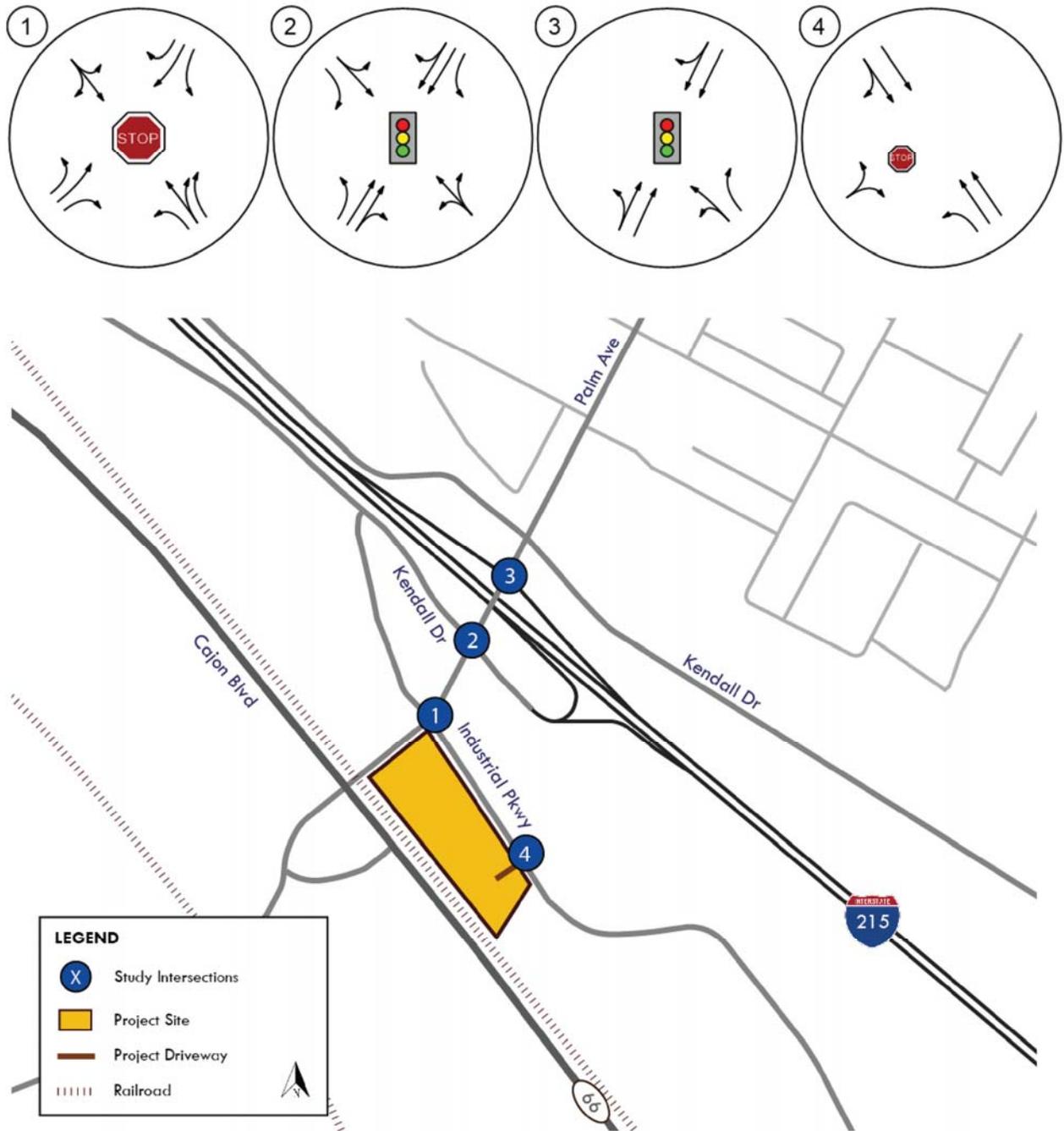
The proposed truck terminal building is located at the southwest corner of the intersection of N. Industrial Parkway and Palm Avenue in the City of San Bernardino. Roadways providing access to the project site include I-215, Kendall Drive, Palm Road, Cajon Boulevard and Industrial Parkway. The characteristics of each roadway are discussed below:

- Regional access is provided to the project via interstate highway I-215 which provides connections to San Bernardino County, Los Angeles County and San Diego County.
- Kendall Drive is designated as a secondary arterial north of Palm Avenue, and as a major arterial south of Palm Avenue as per the City of San Bernardino General Plan. Kendall Drive is a two-lane undivided arterial north of Palm Road, and a three-lane undivided arterial south of Palm Road. No posted speed limit or bike lanes were observed on Kendall drive in the vicinity of the project. On-street parking is allowed on both sides of the street north of Palm Avenue.
- Palm Road is classified as a secondary arterial as per the City of San Bernardino General Plan. Palm Road is a four-lane undivided arterial and incorporates two-way-left-turn-lane (TWLTL) between Kendall Drive and Industrial Parkway. No bike-lanes are provided on Palm Road. The posted speed limit is 45 mph in the vicinity of the project site and on-street parking is prohibited on both sides.
- Cajon Boulevard is classified as a major arterial as per the City of San Bernardino General Plan. Cajon Boulevard is a three-lane undivided arterial in the vicinity of the project. No posted speed limit and bike lanes are provided on Cajon Boulevard. On-street parking is provided on southbound Cajon Boulevard in the vicinity of the project site.
- Industrial Parkway is classified as a secondary arterial as per the City of San Bernardino General Plan. Industrial Parkway is a four-lane undivided arterial in the vicinity of the project. There is no posted speed limit, no street parking and no bike lanes are provided on Industrial Parkway. A TWLTL is provided on Industrial Avenue south of Palm Avenue.

The project will be accessible via one driveway on Industrial Parkway. The project driveway is 50 feet wide and is designed to accommodate both passenger vehicle and truck/trailer traffic. A total of 82 passenger vehicle parking stalls are provided at the entrance of the project site. The project driveway subsequently leads to 65 feet wide internal driveway catering to trailer parking and docking around the truck terminal building.

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

Figure 4: Existing Lane Geometries and Traffic Control



3.2 Existing Traffic Volumes and Intersection Operations

Existing AM and PM peak hour traffic volumes at the study area intersections is shown in Figure 5. The existing Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 3 shows the existing AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 3, all intersections operate at a satisfactory LOS during the existing peak hours.

Table 3: Existing AM and PM Peak Hour Level of Service

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	13.8	B	12.7	B
2. Kendall Dr/ Palm Ave	Signal	27.9	C	30.1	C
3. I-215 NB Ramps/ Palm Ave	Signal	23.6	C	22.9	C
4. Industrial Pkwy/ Project Dwy	TWSC	-	-	-	-

 =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

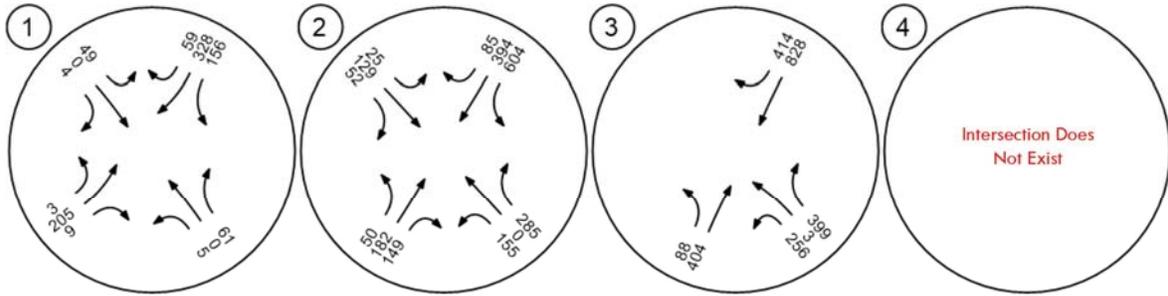
AWSC = All-Way Stop Controlled

¹ Delay in Seconds

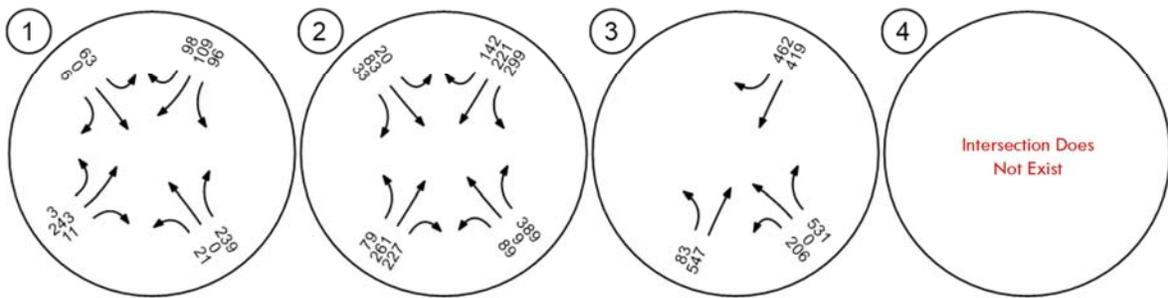
² Level of Service

Figure 5: Existing AM and PM Peak Hour Traffic Volumes

AM Peak Hour



PM Peak Hour



3.3 Opening Year Traffic Volumes and Intersection Operations

Opening Year Baseline (2023) traffic volumes were developed by applying a growth rate of three percent per year to the existing (2021) traffic volumes. The Opening Year (2023) Baseline traffic volumes are illustrated in Figures 6. Table 4 below shows the Opening Year AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix C*. As shown in Table 4, all intersections operate at a satisfactory LOS during the opening peak hours.

Table 4: Opening Year AM and PM Peak Hour Level of Service

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	14.9	B	13.5	B
2. Kendall Dr/ Palm Ave	Signal	28.7	C	31.1	C
3. I-215 NB Ramps/ Palm Ave	Signal	23.6	C	22.8	C
4. Industrial Pkwy/ Project Dwy	TWSC	-	-	-	-

 =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

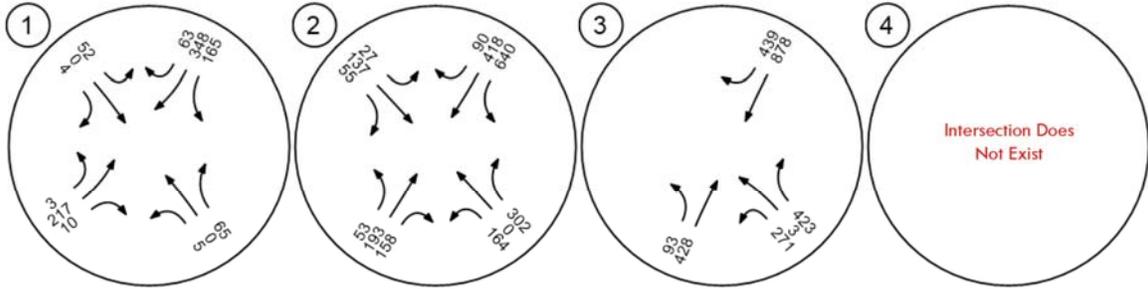
AWSC = All-Way Stop Controlled

¹ Delay in Seconds

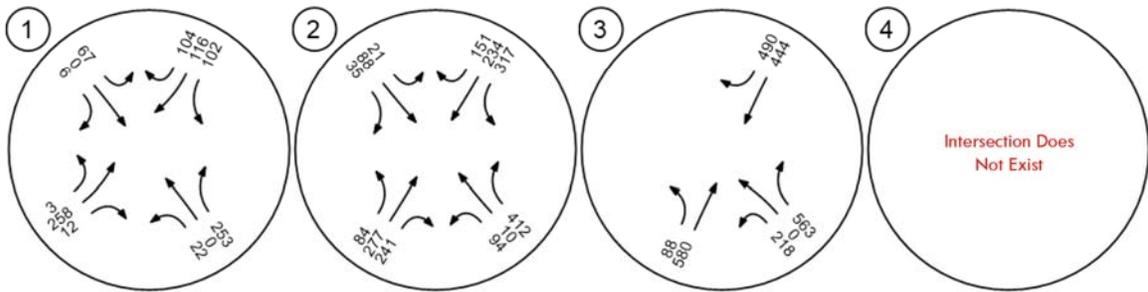
² Level of Service

Figure 6: Opening Year AM and PM Peak Hour Traffic Volumes

AM Peak Hour



PM Peak Hour



3.4 Opening Year Plus Other Projects Traffic Volumes and Intersection Operations

Opening Year Plus Other Projects (2023) traffic volumes were developed by applying a growth rate of three percent per year to the existing (2021) traffic volumes and adding other proposed and approved projects in the vicinity of the project. A total of three cumulative development projects are included in the Opening Year Plus Other Projects traffic volumes. The project trip generation for each cumulative project was obtained from respective Traffic Analysis documents. Table 5 shows the trip generation for each cumulative project, and the cumulative detailed assignment can be found in *Appendix D*. The locations of the other proposed and approved projects are shown in Figure 7. The Opening Year Plus Other Projects (2023) Baseline traffic volumes are illustrated in Figures 8. Table 6 below shows the Opening Year Plus Other Projects AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix C*. As shown in Table 6, all intersections operate at a satisfactory LOS during the peak hours in this scenario.

Table 5: Other Projects Trip Generation

Land Use	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Cumulative Project Trip Generation							
1: The Travel Center							
Travel Center Passenger Car Trips	1331	69	70	139	268	261	529
Travel Center Passenger Truck PCE Trips	744	24	24	48	30	27	57
2: Kendall Drive Trailer Storage Project							
Kendall Drive trailer Storage Project PCE Trips	1871	47	38	85	47	50	97
3: Rancho Palma Housing Project							
	4728	117	125	242	217	208	425
Total Trip Generation	8674	257	257	514	562	546	1108
1 Trips from Kimley Horn San Bernardino Travel Center Traffic Impact Analysis, July 2020. 2 Trips from Translutions Palm Avenue Truck Terminal Trip Generation and VMT Screening Analysis Memo, November 20, 2019. 3 Trips from Urban Crossroads Rancho Palma Traffic Impact Analysis, September 1, 2015.							

Table 6: Opening Year Plus Other Projects AM and PM Peak Hour Level of Service

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	18.4	C	33.4	D
2. Kendall Dr/ Palm Ave	Signal	30.9	C	42.2	C
3. I-215 NB Ramps/ Palm Ave	Signal	23.9	C	22.6	C
4. Industrial Pkwy/ Project Dwy	TWSC	-	-	-	-

■ =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

AWSC = All-Way Stop Controlled

¹ Delay in Seconds

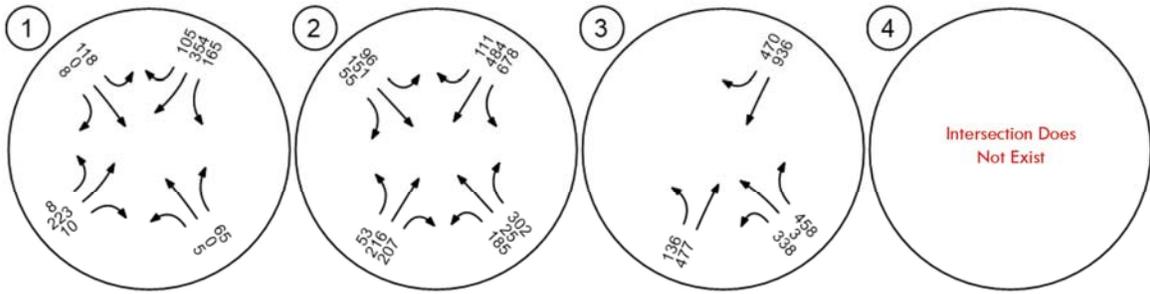
² Level of Service

Figure 7: Location of Other Proposed and Approved Projects

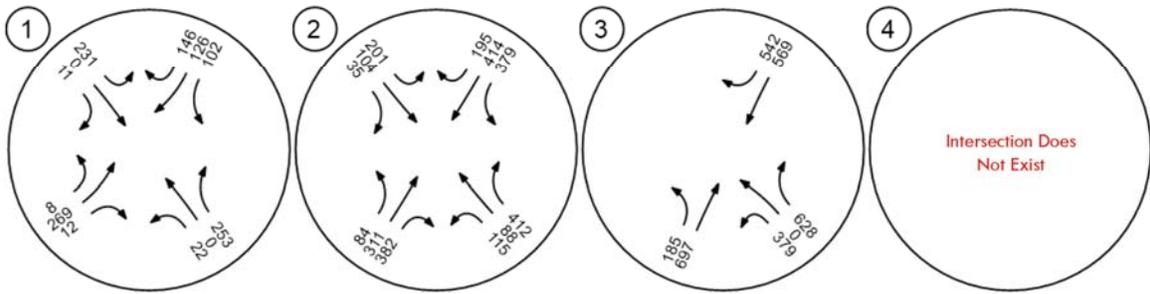


Figure 8: Opening Year Plus Other Projects AM and PM Peak Hour Volumes

AM Peak Hour



PM Peak Hour



3.5 Future Build-Out Year Traffic Volumes and Intersection Operations

Future Build Out Year (2040) traffic volumes were developed using model forecast for year 2040 using SBTAM. The link volumes obtain using SBTAM were then post processed to obtain turning movement volumes using the Iterative Directional Volume Estimation Method from NCHRP Report 225. The NCHRP Volume Estimation Method is intended for four-legged intersections and runs into error when processing ramp intersections. For this reason, volume balancing method was used for the intersection of I-215 NB Ramps/Palm Ave. It should be noted that although the turning-movement volumes on NBR and WBL on Palm Ave/Kendall Dr, and EBL and WBR at Palm Ave/I-215 NB Ramps are lower as compared to their corresponding turning-movement volumes in Opening Year (2023) conditions, most of the other turning-movement volumes are higher in the Future Build-Out Year conditions. The overall intersection volume for all intersections in the Future Build-Out scenario is significantly higher as compared to intersection volumes in Opening Year (2023) conditions.

The Future Build-Out Year (2040) Baseline traffic volumes are illustrated in Figures 9. Table 7 below shows the Future Build-Out Year AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 7, the intersection of Industrial Pkwy/Palm Ave operates at an unsatisfactory LOS F during both AM and PM peak hours. The intersection of Kendall Dr/Palm Ave operates at an unsatisfactory LOS E during the AM peak hour and a satisfactory LOS D during PM peak hour. The intersection of I-215 NB Ramps/Palm Ave operates at satisfactory LOS C during both AM and PM peak hours.

Table 7:Future Build-Out AM and PM Peak Hour Level of Service

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	445.7	F	225.3	F
2. Kendall Dr/ Palm Ave	Signal	74.4	E	37.7	D
3. I-215 NB Ramps/ Palm Ave	Signal	32.4	C	22.0	C
4. Industrial Pkwy/ Project Dwy	TWSC	-	-	-	-

 =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

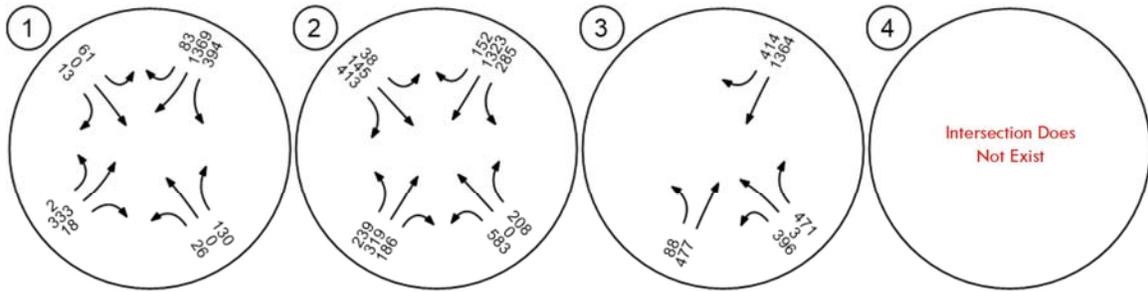
AWSC = All-Way Stop Controlled

¹ Delay in Seconds

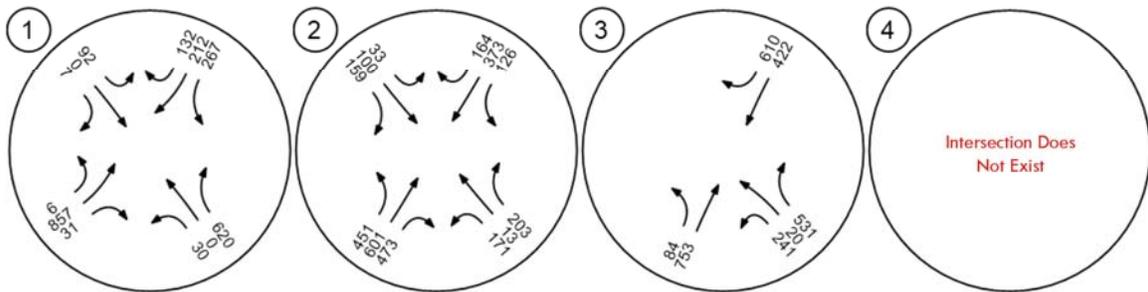
² Level of Service

Figure 9: Future Build-Out Year AM and PM Peak Hour Volumes

AM Peak Hour



PM Peak Hour



4 PROPOSED PROJECT

4.1 Project Trip Generation

Vehicle trips were generated for both the existing pallet manufacturing building on site and the proposed truck terminal building using trip rates for general light industrial land use from the Institute of Transportation Engineers (ITE) Trip Generation (10th Edition, 2017). The project trip generation is shown in Table 8. The proposed truck terminal would generate approximately 90 net daily trips which includes 12 net AM peak hour and 12 net PM peak hour trips. With the application of passenger car equivalent factor (PCE), the proposed project would generate 278 net PCE daily trips, 38 net PCE AM peak hour trips, and 27 net PCE 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 site. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location. The passenger vehicle trip distribution for the proposed truck terminal is shown in Figure 10. The truck trip distribution for the proposed truck terminal is shown in Figure 11. The project automobile trip assignment for AM and PM peak hours is shown in Figure 12. The project truck trip assignment in PCE for AM and PM peak hours is shown in Figure 13.

Table 8: Project Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<u>Trip Rates</u>								
General Light Industrial (GLI) ¹	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
<u>Existing Site Trip Generation</u>								
Pallet Manufacturer (GLI)	34.00 TSF	169	21	3	24	2	19	21
<u>Vehicle Mix</u>²								
	Percent							
Passenger Vehicles	78.60%	133	16	2	18	2	15	17
2-Axle Trucks	8.00%	13	2	0	2	0	1	1
3-Axle Trucks	3.90%	7	1	0	1	0	1	1
4+-Axle Trucks	9.50%	16	2	1	3	0	2	2
		169	21	3	24	2	19	21
<u>Existing PCE Trip Generation</u>⁴								
	PCE Factor							
Passenger Vehicles	1.0	133	16	2	18	2	15	17
2-Axle truck	2.0	26	4	0	4	0	2	2
3-Axle truck	2.5	18	2	0	2	0	3	3
4+-Axle Trucks	3.0	48	6	3	9	0	6	6
		227	28	5	33	2	26	28
<u>Proposed Project Trip Generation</u>								
Truck Terminal (GLI)	52.16 TSF	259	32	4	37	4	29	33
<u>Vehicle Mix</u>³								
	Percent ²							
Passenger Vehicles	46.00%	119	15	2	17	2	13	15
2-Axle truck	6.10%	16	2	0	2	0	2	2
3-Axle truck	13.90%	36	4	1	5	1	4	5
4+-Axle Trucks	34.00%	88	11	1	12	1	10	11
	100%	259	32	4	37	4	29	33
<u>Proposed PCE Trip Generation</u>⁴								
	PCE Factor							
Passenger Vehicles	1.0	119	15	2	17	2	13	15
2-Axle truck	2.0	32	4	1	5	0	4	4
3-Axle truck	2.5	90	11	2	13	3	10	13
4+-Axle Trucks	3.0	264	33	4	37	3	30	34
		505	63	9	72	8	57	66
Net Trip Generation								
		90	11	1	13	2	10	12
Net PCE Trip Generation								
		278	34	4	39	6	31	38
Net Passenger Cars Trip gen								
		-14	-2	0	-1	0	-2	-1
Net PCE Truck Trip gen								
		294	36	4	40	6	33	40

TFS = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 110 - General Light Industrial² Vehicle Mix from the City of Fontana, Truck Trip Generation Study, August 2003. Classification: Light Industrial (Attachment A)³ Vehicle Mix from the City of Fontana, Truck Trip Generation Study, August 2003. Classification: Truck Terminals (Attachment B)⁴ 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

Figure 10: Project Passenger Vehicle Trip Distribution

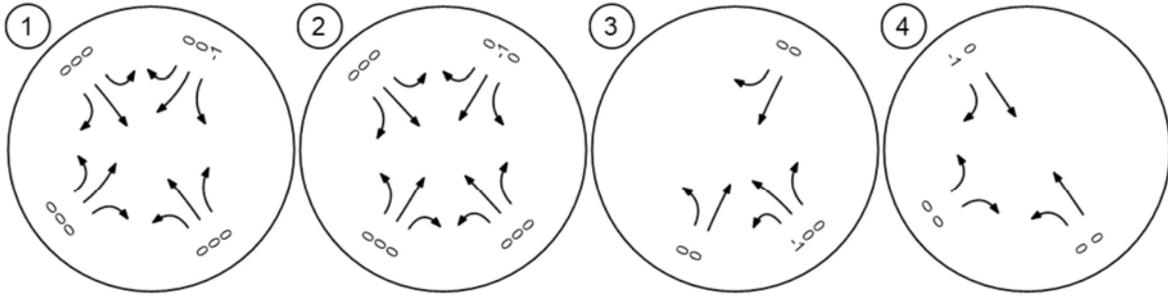


Figure 11: Project Truck Trip Distribution



Figure 12: Project Passenger Vehicle Trip Assignment

AM Peak Hour



PM Peak Hour

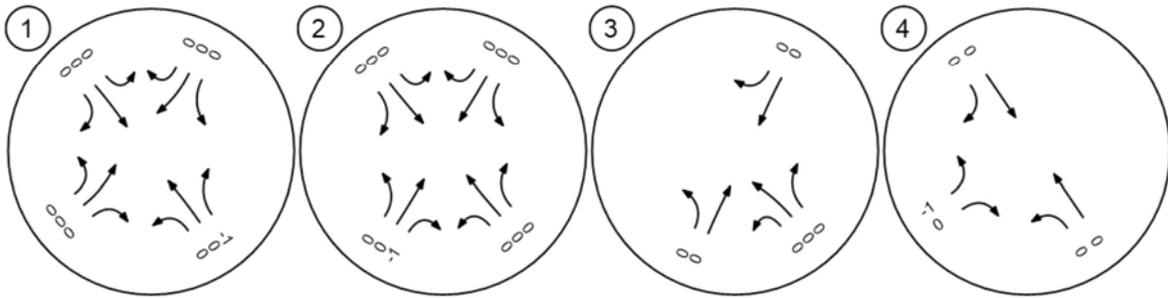
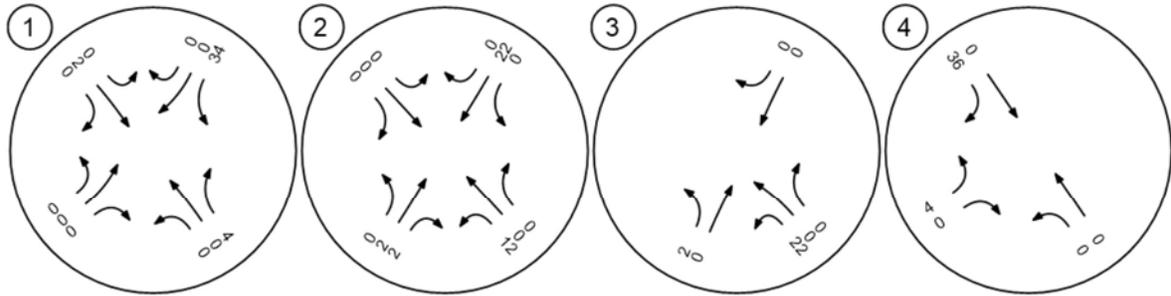
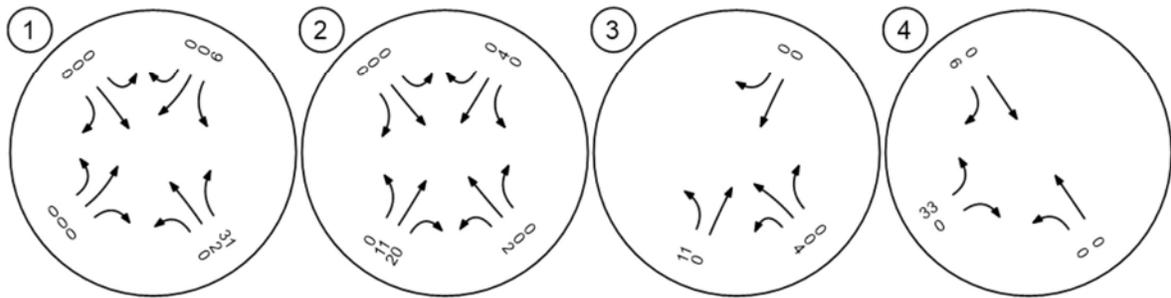


Figure 13: Project Truck Trip Assignment (PCE)

AM Peak Hour



PM Peak Hour



5 PROJECT IMPACTS

5.1 Opening Year (2023) Plus Other Proposed Projects Plus Project Traffic Volumes and Intersection Operations

The Opening Year plus Other Projects plus Project traffic volumes were developed by adding the project passenger vehicle and truck trip assignment to the Opening Year plus Other Projects traffic volumes. The traffic volumes for this scenario is shown in Figure 14. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 9 shows the Opening Year plus Other Projects plus Project AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 9, the following would operate at satisfactory LOS during both AM and PM peak hours.

Table 9: Opening Year plus Other Projects Plus Project AM and PM Peak Hour Level of Service

Intersection	Traffic Control	Opening Year plus Other Projects				Opening Year plus Other Projects plus Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	18.4	C	33.4	D	19.0	C	35.0	D
2. Kendall Dr/ Palm Ave	Signal	30.9	C	42.2	C	28.8	C	43.1	D
3. I-215 NB Ramps/ Palm Ave	Signal	23.9	C	22.6	C	24.0	C	22.7	C
4. Industrial Pkwy/ Project Dwy	TWSC	-	-	-	-	12.2	B	12.9	B

 =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

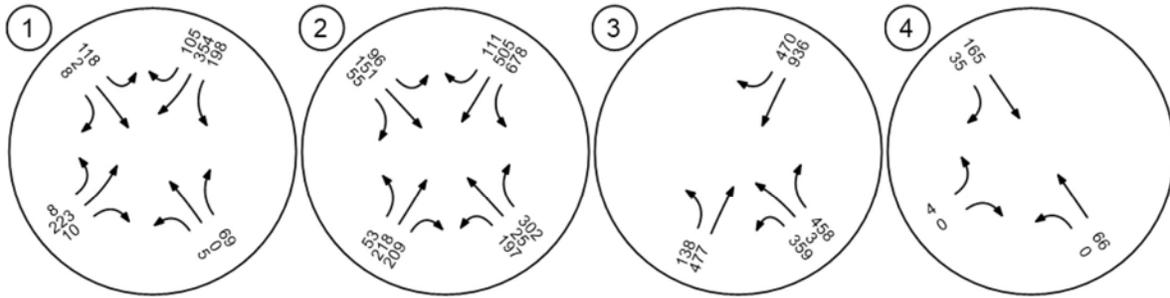
AWSC = All-Way Stop Controlled

¹ Delay in Seconds

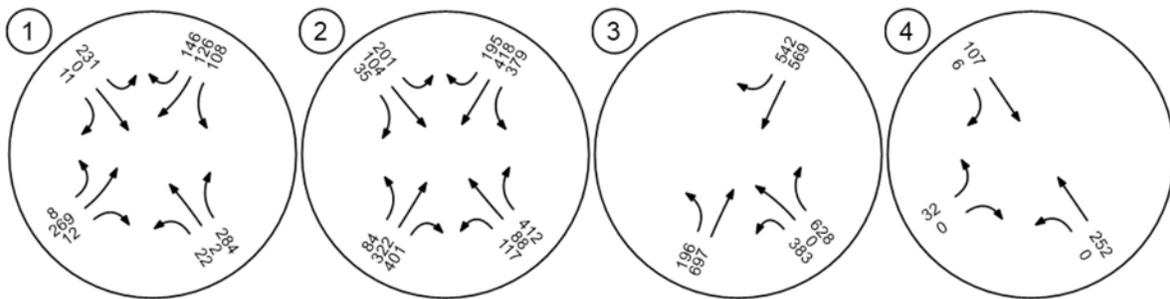
² Level of Service

Figure 14: Opening Year Plus Other Proposed Projects Plus Project AM and PM Peak Hour Volumes

AM Peak Hour



PM Peak Hour



5.2 Future Build-Out Plus Project Traffic Volumes and Intersection Operations

Future Build-Out (2040) plus Project traffic volumes were determined by adding the project trips to Year 2040 traffic volumes. The Future Build-out plus Project traffic volumes is shown in Figure 15. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 10 shows the Future Build-Out plus Project AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 10, the intersection of Industrial Pkwy/Palm Ave would operate at unsatisfactory LOS during both AM and PM peak hours. The intersection of Kendall Dr/Palm Ave would operate at an unsatisfactory LOS during the AM peak hour.

Mitigation for the impacted intersections is discussed in Section 5 Project Mitigation and Fair Share.

Table 10: Future Build-Out Plus Project AM and PM Peak Hour Level of Service

Intersection	Traffic Control	Future Build-Out				Future Build-Out Plus Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	445.7	F	225.3	F	445.9	F	229.5	F
2. Kendall Dr/ Palm Ave	Signal	74.4	E	37.7	D	78.2	E	37.9	D
3. I-215 NB Ramps/ Palm Ave	Signal	32.4	C	22.0	C	32.1	C	22.2	C
4. Industrial Pkwy/ Project Dwy	TWSC	-	-	-	-	16.3	C	20.3	C

 =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

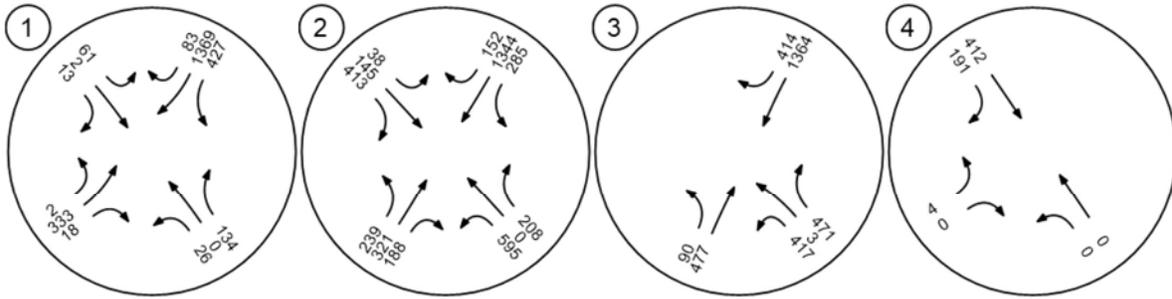
AWSC = All-Way Stop Controlled

¹ Delay in Seconds

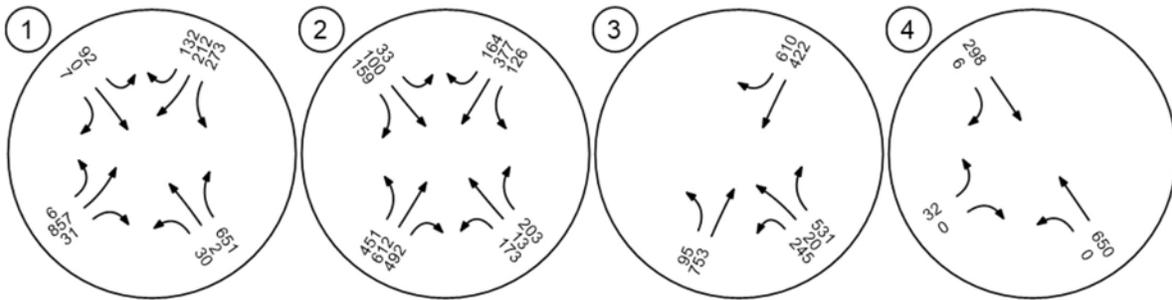
² Level of Service

Figure 15: Future Build-Out Plus Project Peak Hour Traffic Volumes

AM Peak Hour



PM Peak Hour



6 PROJECT MITIGATION AND FAIR SHARE

6.1 Recommended Improvements

Future Build-Out (2040) Plus Project

Development of the proposed truck terminal would result in unsatisfactory LOS at two intersections in the Future Build-Out plus Project condition. The following improvements would result in the intersections operating with satisfactory LOS:

- #1- Industrial Pkwy/ Palm Ave: Add signal.
- #2- Kendall Dr /Palm Ave: Add dedicated NBL, restripe NBLT to NBT. Add dedicated SBL, restripe SBLT to SBT. Restripe EBT to EBLT. Modify signal phasing to split phase in the EB and WB direction; add protected left-turn phasing in the NB and SB direction.

Caltrans review for the above-mentioned improvements at intersection of Kendall Dr /Palm Ave is recommended. Table 11 shows the LOS at each affected intersection with implementation of the proposed improvements. As seen in Table 11, all affected intersections would operate at satisfactory LOS with the recommended improvements.

Table 11: Opening Year Plus Project Mitigation AM and PM Peak Hour Level of Service

Intersection	Traffic Control	Future Build-Out				Future Build-Out Plus Project				Mitigation	Future Build-Out Plus Project MIT			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²		Delay ¹	LOS ²	Delay ¹	LOS ²
1. Industrial Pkwy/ Palm Ave	AWSC	445.5	F	225.3	F	445.9	F	229.5	F	Add Signal	37.7	D	26.8	C
2. Kendall Dr/ Palm Ave	Signal	56.2	E	37.5	D	58.6	E	37.6	D	Add dedicated NBL, restripe NBLTR to NBTR. Modify signal phasing to split phase in the EB and WB direction; add protected left-turn phasing in the NB and SB direction.	32.8	C	-	-

■ =Unsatisfactory Intersection Operation

TWSC = Two-Way Stop Controlled

AWSC = All-Way Stop Controlled

¹ Delay in Seconds

² Level of Service

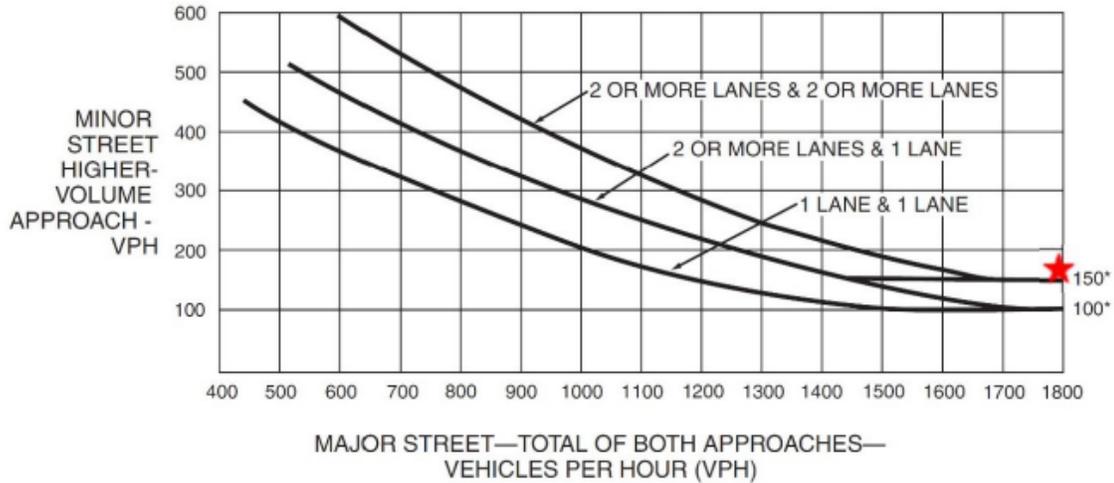
6.2 Signal Warrant for Industrial Parkway/Palm Avenue

The California Manual of Uniform Traffic Control Devices (CA MUTCD) 2014 Revision 6 (March 30, 2021) provides a total of eight types of signal warrant analyses to determine whether a traffic signal may be warranted at a given location. Warrant 3, Peak Hour was evaluated as count data is unavailable to evaluate the other 7 warrants. Section 4.C.04 of the CA MUTCD notes that “traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.” Intersection #1 Industrial Pkwy/Palm Ave was analyzed to substantiate the proposed signal for mitigation. As shown in Figure 16, traffic volume at the intersection with the project would meet the signal warrant due to high volume of traffic during the both AM and PM peak hours in the Future Build-Out Year.

Figure 16: Industrial Parkway/Palm Avenue Signal Warrant

Industrial Parkway/Palm Avenue
 Future AM plus Project Peak Hour
 Minor Street Approach - 160 vehicles
 Major Street (Both Approaches) – 2,232 vehicles
 Meets Warrant - Yes

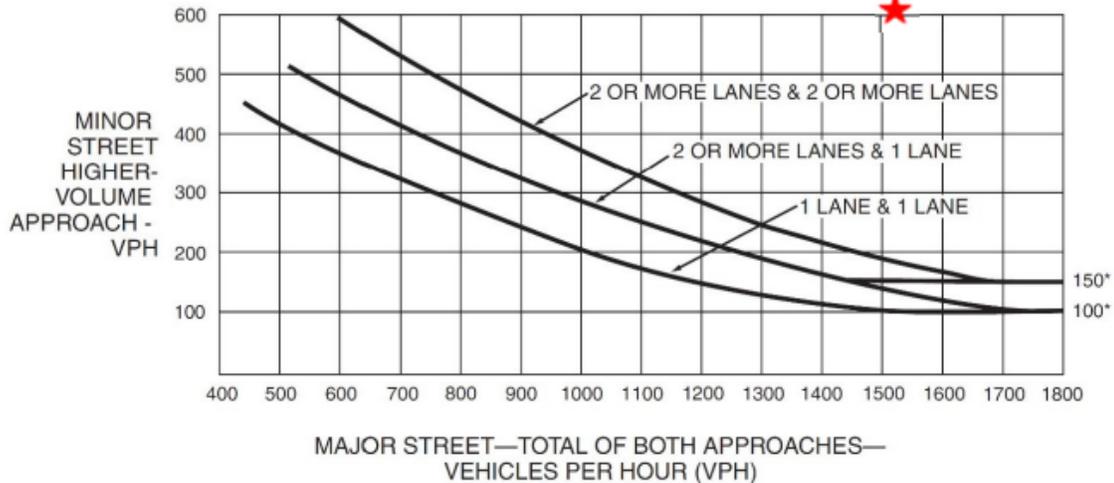
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Industrial Parkway/Palm Avenue
 Future PM plus Project Peak Hour
 Minor Street Approach - 683 vehicles
 Major Street (Both Approaches) – 1,511 vehicles
 Meets Warrant - Yes

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

6.3 Project Fair Share

The project’s fair share percentage for each recommended improvement is identified in Table 13 below. The percentage of project fair-share at affected intersections was calculated using the total trips generated by the project divided by the total “new” traffic, which is the net increase in traffic volume in the Future Conditions as a result of all other proposed projects.

Table 12: Project Fair Share

	Intersection	Existing	Project	2040	2040 with Project	Total New Traffic	Project % of New Traffic
AM Peak Hour							
1.	Industrial Pkwy / Palm Ave	879	39	2429	2468	1589	2.45%
2.	Kendall Dr / Palm Ave	2110	37	3891	3928	1781	2.08%
PM Peak Hour							
1.	Industrial Pkwy / Palm Ave	889	57	2254	2311	1422	4.01%
2.	Kendall Dr / Palm Ave	1852	78	2867	2945	1093	7.14%
Shading indicates higher fair-share percent of either AM or PM peak hours for each intersection.							

APPENDIX A – SCOPE OF WORK



City of San Bernardino Public Works / Traffic Engineering Department Traffic Scope Approval Form

To be completed by applicant consultant and approved by Public Works prior to start of study

Project Name: Project 5770 North Industrial Parkway
Address: Project 5770 North Industrial Parkway, San Bernardino City, CA 92407
Description: 52,000 sq ft of truck terminal building including 6,000 of office space
Developer's Name: Benjamin Horning, Director of Development, Dedeaux Properties
Address: 1299 Ocean Ave, 9th floor, Santa Monica, CA 90401
Telephone No.: _____ **Email address:** benh@dedeauxproperties.com

Trip Generation Rates from ITE Latest Edition (See Attachment A)

Land Use (1) Proposed Truck Terminal
Development Sq Ft 52,000 sq ft
ITE Land Use Code 110- General Light Industrial
Daily Trips 259
AM Peak Hour Trips
 Inbound 32
 Outbound 4
 Total 36
PM Peak Hour Trips
 Inbound 4
 Outbound 29
 Total 33

Land Use (2) Existing Pallet Manufacturing
Development Sq Ft 34,000 sq ft
ITE Land Use Code 110-General Light Industrial
Daily Trips -169
AM Peak Hour Trips
 Inbound -21
 Outbound -3
 Total -24
PM Peak Hour Trips
 Inbound -2
 Outbound -19
 Total -21

(Use Additional Sheet(s), if necessary)

Pass-by Trips (%), if applicable: _____ %
Land Use (1) _____
ITE Land Use Code _____
Daily Trips _____
AM Peak Hour Trips
 Inbound _____
 Outbound _____
 Total _____
PM Peak Hour Trips:
 Inbound _____
 Outbound _____
 Total _____

Land Use (2) _____
ITE Land Use Code _____
Daily Trips _____
AM Peak Hour Trips
 Inbound _____
 Outbound _____
 Total _____
PM Peak Hour Trips:
 Inbound _____
 Outbound _____
 Total _____

Project Opening Year: 2023 **Build-out Year:** _____
Study Intersections:

1	<u>Palm Avenue/Industrial Parkway</u>	6	
2	<u>Palm Avenue/Kendall Drive</u>	7	
3	<u>Palm Avenue/I-215 WB Ramps</u>	8	
4	<u>Project Driveway/Industrial Parkway</u>	9	
5	_____	10	

(Use Additional Sheet(s) and Maps to show project Boundaries & Attach memo for project Description)



City of San Bernardino Public Works / Traffic Engineering Department Traffic Scope Approval Form

To be completed by applicant consultant and approved by Public Works prior to start of study

Study Roadway Segments: 1 _____ 2 _____
 3 _____ 4 _____
 5 _____ 6 _____

Proposed Development Use: Residential Commercial Mixed Use Other

Software Methodology: Synchro HCS Vistro, HCM 6th Edition

Additional issues to be considered: Traffic calming measures Queuing Analysis
 Bike/Ped Accommodations Merge Analysis Gap Analysis
 Actuation/Coordination Safety Analysis Sight Distance Analysis

Is the project screened from VMT assessment? Yes No

VMT Screening Justification: _____

As per the trip generation analysis, the proposed truck terminal would generate 89 net new daily trips, which is fewer than the screening threshold of 110 daily trips. Hence the project would screen from requiring a VMT analysis

(See Attachment B)

Ambient Growth Rate: 3 %

Trip Distribution: East _____ % West _____ % North _____ % South _____ %

Consultant Preparer's Name: Meghan Macias, TE., EPD Solutions, Inc.

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

Telephone No. 949 794 1180 PE / TE License #: 2697

Email Address: meghan@epdsolutions.com

Signature: *Meghan Macias* Date: 08/02/21

Approved By (Public Works Department):

Signature: *Azzam Jabshuh* Date: 8/16/2021

Name: Azzam Jabshuh Title: Traffic Engineer

preparw TIA

Passenger Vehicle Trip Distribution: East 70%, West 25%, North 5%, South 0% (See Attachment C)

Truck Trip Distribution: East 60%, West 40%, North 0%, South 0% (See Attachment D)

Attachment A: Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<u>Trip Rates</u>									
General Light Industrial (GLI) ¹	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63	
<u>Existing Site Trip Generation</u>									
Pallet Manufacturer (GLI)	34.00	TSF	169	21	3	24	2	19	21
<u>Vehicle Mix</u>²									
	<u>Percent</u>								
Passenger Vehicles	78.60%	133	16	2	18	2	15	17	
2-Axle Trucks	8.00%	13	2	0	2	0	1	1	
3-Axle Trucks	3.90%	7	1	0	1	0	1	1	
4+-Axle Trucks	9.50%	16	2	1	3	0	2	2	
		169	21	3	24	2	19	21	
<u>Proposed PCE Trip Generation</u>⁴									
	<u>PCE Factor</u>								
Passenger Vehicles	1.0	133	16	2	18	2	15	17	
2-Axle truck	2.0	26	4	0	4	0	2	2	
3-Axle truck	2.5	18	2	0	2	0	3	3	
4+-Axle Trucks	3.0	48	6	3	9	0	6	6	
		227	28	5	33	2	26	28	
<u>Proposed Project Trip Generation</u>									
Truck Terminal (GLI)	52.00	TSF	259	32	4	36	4	29	33
<u>Vehicle Mix</u>³									
	<u>Percent</u>								
Passenger Vehicles	46.00%	119	15	2	17	2	13	15	
2-Axle truck	6.10%	16	2	0	2	0	2	2	
3-Axle truck	13.90%	36	4	1	5	1	4	5	
4+-Axle Trucks	34.00%	88	11	1	12	1	10	11	
	100%	259	32	4	36	4	29	33	
<u>Proposed PCE Trip Generation</u>⁴									
	<u>PCE Factor</u>								
Passenger Vehicles	1.0	119	15	2	17	2	13	15	
2-Axle truck	2.0	32	4	1	5	0	4	4	
3-Axle truck	2.5	90	11	2	13	3	10	13	
4+-Axle Trucks	3.0	264	33	4	37	3	30	33	
		505	63	9	72	8	57	65	
Net Trip Generation			90	11	1	12	2	10	12
Net PCE Trip Generation			278	34	4	38	6	31	37

TFS = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 110 - General Light Industrial

² Vehicle Mix from the City of Fontana, Truck Trip Generation Study, August 2003. Classification: Light Industrial (Attachment A)

³ Vehicle Mix from the City of Fontana, Truck Trip Generation Study, August 2003. Classification: Truck Terminals (Attachment B)

⁴ 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

Attachment B: VMT Screening

SBCITA VMT Screening Tool

Powered by Esri & Parsons

User's Guide

Complete #1 - 4, then Click 'Run'

Project Area VMT
The result is drawn on the map. ... X

Screening Results
The result is drawn on the map. ... X

Low VMT Generating TAZs
The result is drawn on the map. ... X

Map Layers

- Project Area VMT
- Screening Results
- Low VMT Generating TAZs
- Parcels
- Jurisdiction Boundaries
- TAZ
- Transit Priority Area

Project Area VMT (1 of 2)

Assessor Parcel Number (APN)	026604122
TAZ	53747201
TAZ VMT	33.9
Low VMT	17.2
% Difference	38.39%
PA VMT Per Worker	17.2

Map navigation controls: +, -, Home, Full Screen

Attachment C: Passenger Vehicle Trip Distribution



Attachment D: Truck Trip Distribution



ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

To: Azzam Jabsheh, Traffic Engineer, Public Works Department, City of San Bernardino
From: Abby Pal, Transportation Planner
Date: 8/2/2021
Re: 5770 Industrial Parkway TIA and VMT Screening

This technical memorandum evaluates the trip generation and need to prepare a traffic impact analysis (TIA) or vehicle miles traveled (VMT) analysis for the 5770 Industrial Parkway in the City of San Bernardino. The project is located at the intersection of Palm Avenue and N. Industrial Avenue and extends over two parcels which approximately total to 10.1 gross acres, and proposes to construct a 52,000 square foot truck terminal building including 6,000 square feet of office space. Regional access to the project site is provided by Interstate Route (I-215) and local access is provided to the site from N. Industrial Parkway. The existing project site is comprised of two parcels; one parcel is currently vacant, and the other is developed with an approximately 34,000 square-foot industrial building currently occupied by New Generation Pallets.

Trip Generation and TIA Screening

The project trip generation was prepared using trip rates for general light industrial land use from the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition (2017) for both the proposed truck terminal and existing pallet manufacturing unit. Although ITE provides trip rates for intermodal truck terminal land use, it does not provide trip rates for daily trips, therefore ITE daily trip rates for general light industrial were utilized for the proposed truck terminal land use. Table 1 presents the trip generation estimate for the proposed project. The trip generation for the proposed project is shown in Table 1.

Existing Site Trip Generation

The existing project site is currently occupied by 34,000 square feet of pallet manufacturing. The pallet manufacturing building is estimated to generate 169 daily trips, 24 AM peak hour trips, and 21 PM peak hour trips. With the application of Passenger Car Equivalent (PCE) factor, the pallet manufacturing is estimated to generate 227 PCE daily trips, 33 PCE AM peak hour trips, and 28 PCE PM peak hour trips.

Proposed Project Trip Generation

The proposed 56,000 square feet truck terminal is estimated to generate 258 daily trips, 36 AM peak hour trips, and 33 PM peak hour trips. With the application of Passenger Car Equivalent (PCE) factor, the truck terminal is estimated to generate 504 PCE daily trips, 72 PCE AM peak hour trips, and 65 PCE PM peak hour trips.

As shown in Table 1, the proposed project is estimated to generate 89 net new daily trips, 12 net new AM peak hour trips, and 12 net new PM peak hour trips, and 277 PCE net new daily trips, 38 PCE net new AM peak hour trips, and 37 net new PM peak hour trips

Vehicle mix for light industrial classification from City of Fontana, Truck Trip Generation Study (August 2003) was used for the existing pallet manufacturing building. Vehicle mix for truck terminals classification

was used for the proposed truck terminal building. As per the City of San Bernardino Traffic Impact Analysis Guidelines, a TIA which includes LOS analysis would be required as the proposed project would generate more than 40 percent of its total traffic in the form of truck traffic using PCE.

VMT Screening Analysis

The City of San Bernardino TIA guidelines provide several screening thresholds for determining if a proposed development would screen from requiring a VMT (vehicle-miles traveled) analysis.

As per the City guidelines, a project VMT analysis would not be required if a project is:

1. located in a Transit Priority Area (TPA),
2. located in a low VMT area, or
3. if the project is a local serving retail project or other neighborhood use.
4. If the project generates less than 110 daily trips.

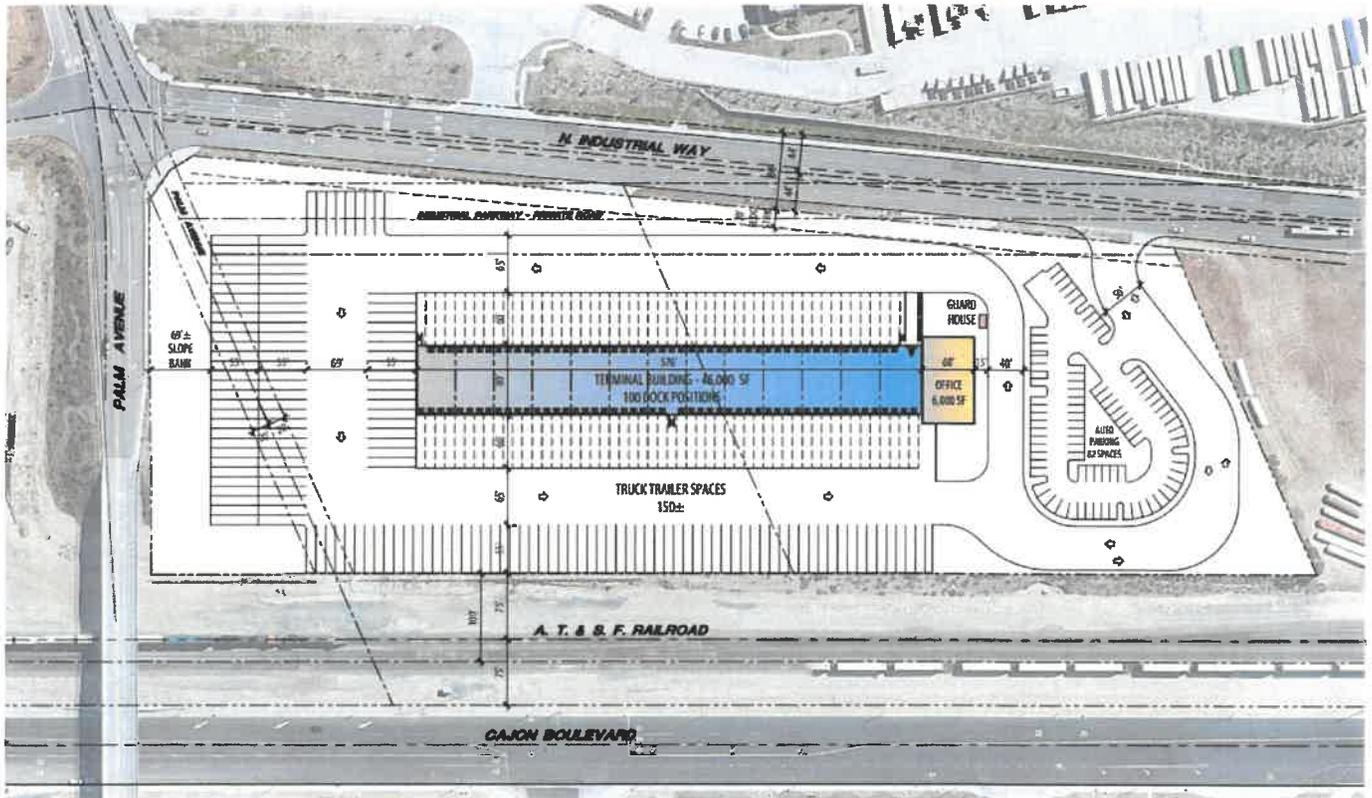
Each of the above screening thresholds were analyzed individually to assess if the proposed development would screen from requiring a VMT analysis:

1. The project is located at a walking distance of approximately one mile from SBX Green line which is located south of Kendall Drive, west of Palm Avenue. The project is also located in a TPA as per the SBCTA VMT Screening Tool. Although the project is located in a TPA, the floor area ratio of the project is less than 0.75 and therefore the project would not screen based on the TPA threshold.
2. As per the SBCTA VMT Screening Tool, the jurisdictional PA VMT per employee of the project is 17.2 whereas the traffic analysis zone (TAZ) VMT is 23.9. As the TAZ VMT is higher than the jurisdictional VMT, the project would not screen using the low VMT area threshold.
3. The proposed project is an industrial land use and therefore would not screen based on the locally serving land use screening threshold.
4. As per the trip generation analysis, the proposed truck terminal would generate 89 net new daily trips, which is fewer than the screening threshold of 110 daily trips. Hence the project would screen from requiring a VMT analysis.

Because the project would generate 89 net new daily trips, fewer than the City's small project screening criteria in the City guidelines, the project would have a less than significant impact on VMT and therefore no VMT analysis would be required for the proposed development.

If you have any questions about this information, please contact me at abby@epdsolutions.com or at (949) 794-1193.

Figure 1: Project Site Plan



5770 N. INDUSTRIAL WAY LOGISTICS FACILITY - CITY OF SAN BERNARDINO, CA
DEDEAUX PROPERTIES

SCHEME B.2
CONCEPTUAL SITE PLAN



PROJECT NO: 1701
DATE: 4/22/2018

THIS PLAN AND ANY OTHER DOCUMENTS PREPARED BY OR FOR THE CLIENT ARE THE PROPERTY OF GAIA AND SHALL BE KEPT IN CONFIDENCE. NO PART OF THIS PLAN OR ANY OTHER DOCUMENTS PREPARED BY OR FOR THE CLIENT SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF GAIA.

Table 1: Project Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates								
General Light Industrial (GLI) ¹	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
Existing Site Trip Generation								
Pallet Manufacturer (GLI)	34.00 TSF	169	21	3	24	2	19	21
Vehicle Mix²								
	Percent							
Passenger Vehicles	78.60%	133	16	2	18	2	15	17
2-Axle Trucks	8.00%	13	2	0	2	0	1	1
3-Axle Trucks	3.90%	7	1	0	1	0	1	1
4+-Axle Trucks	9.50%	16	2	1	3	0	2	2
		169	21	3	24	2	19	21
Proposed PCE Trip Generation⁴								
	PCE Factor							
Passenger Vehicles	1.0	133	16	2	18	2	15	17
2-Axle truck	2.0	26	4	0	4	0	2	2
3-Axle truck	2.5	18	2	0	2	0	3	3
4+-Axle Trucks	3.0	48	6	3	9	0	6	6
		227	28	5	33	2	26	28
Proposed Project Trip Generation								
Truck Terminal (GLI)	52.00 TSF	259	32	4	36	4	29	33
Vehicle Mix³								
	Percent²							
Passenger Vehicles	46.00%	119	15	2	17	2	13	15
2-Axle truck	6.10%	16	2	0	2	0	2	2
3-Axle truck	13.90%	36	4	1	5	1	4	5
4+-Axle Trucks	34.00%	88	11	1	12	1	10	11
	100%	259	32	4	36	4	29	33
Proposed PCE Trip Generation⁴								
	PCE Factor							
Passenger Vehicles	1.0	119	15	2	17	2	13	15
2-Axle truck	2.0	32	4	1	5	0	4	4
3-Axle truck	2.5	90	11	2	13	3	10	13
4+-Axle Trucks	3.0	264	33	4	37	3	30	33
		505	63	9	72	8	57	65
Net Trip Generation								
		90	11	1	12	2	10	12
Net PCE Trip Generation								
		278	34	4	38	6	31	37

TFS = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 110 - General Light Industrial² Vehicle Mix from the City of Fontana, Truck Trip Generation Study, August 2003. Classification: Light Industrial (Attachment A)³ Vehicle Mix from the City of Fontana, Truck Trip Generation Study, August 2003. Classification: Truck Terminals (Attachment B)⁴ 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

Attachmnet A



Truck Trip Generation Study

VEHICLE MIX AND ENTER/EXIT SPLITS BY LAND USE CATEGORY (Cont'd)

Classification: Light Industrial

Recommended Large Truck Mix (%)								
Lge 2 Ax		3 Axle		4+ Axle		Total		
32.7		17.9		49.4		100.0		
Pass Veh		Lge 2 Ax		3 Axle		4+ Axle		Total
78.6		8.0		3.9		9.5		100.0
Site Entering & Exiting								
a.m.				p.m.				
Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	
64.96	35.04	41.03	58.97	43.01	56.99	42.86	57.14	Split
Street Entering & Exiting								
a.m.				p.m.				
Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	
60.49	39.51	37.50	62.50	29.17	70.83	66.67	33.33	Split

Attachment B



Truck Trip Generation Study

VEHICLE MIX AND ENTER/EXIT SPLITS BY LAND USE CATEGORY (Cont'd)

Classification: Truck Terminals

Recommended Large Truck Mix (%)								
		Lge 2 Ax	3 Axle	4+ Axle	Total			
		11.9	24.4	63.7	100.0			
Pass Veh	Lge 2 Ax	3 Axle	4+ Axle	Total				
46.0	6.1	13.9	34.0	100.0				
Site Entering & Exiting								
a.m.				p.m.				
Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	
51.27	48.73	49.23	50.77	46.36	53.64	66.39	33.61	
Street Entering & Exiting								
a.m.				p.m.				
Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	
52.86	47.14	43.75	56.25	60.80	39.20	66.30	33.70	

APPENDIX B – COUNT SHEETS

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
8/31/21
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

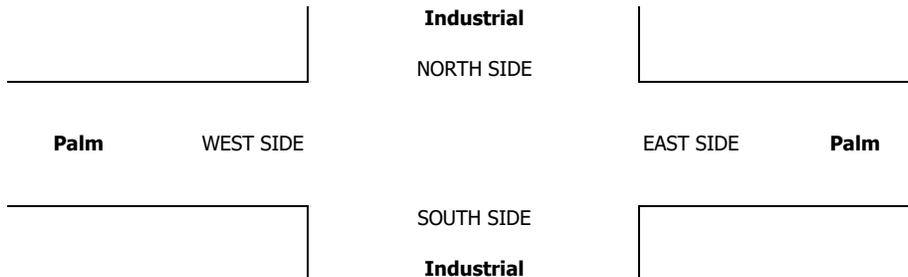
San Bernardino
Industrial
Palm

PROJECT #: SC3033
LOCATION #: 1
CONTROL: STOP ALL

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

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Industrial			Industrial			Palm			Palm			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	0.5	1.5	0	1	0	1	1	1	1	1	1	

AM	7:00 AM	2	0	8	8	0	2	0	57	2	31	76	9	193
	7:15 AM	0	0	29	7	0	0	0	61	2	44	84	15	241
	7:30 AM	2	0	10	22	0	0	2	50	2	40	78	16	220
	7:45 AM	2	0	15	12	0	2	1	38	3	42	91	19	225
	8:00 AM	2	0	20	29	0	0	1	38	3	11	53	15	171
	8:15 AM	0	0	20	14	3	2	1	40	5	29	43	8	163
	8:30 AM	4	0	24	26	0	0	0	53	2	31	54	17	209
	8:45 AM	3	0	21	23	0	0	0	42	4	40	64	29	223
	VOLUMES	13	0	145	139	3	6	5	377	23	266	541	126	1,643
	APPROACH %	8%	0%	92%	94%	2%	4%	1%	93%	6%	29%	58%	14%	
APP/DEPART	158	/	131	148	/	292	405	/	661	933	/	559	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	5	0	61	49	0	4	3	205	9	156	328	59	878	
APPROACH %	8%	0%	92%	92%	0%	8%	1%	95%	4%	29%	60%	11%		
PEAK HR FACTOR	0.579			0.602			0.859			0.891			0.912	
APP/DEPART	66	/	61	53	/	165	217	/	315	542	/	337	0	
PM	4:00 PM	7	0	53	16	0	1	2	62	4	33	29	15	220
	4:15 PM	6	0	70	6	0	0	0	52	1	19	24	23	201
	4:30 PM	3	0	67	12	0	3	1	50	5	21	26	30	217
	4:45 PM	6	0	50	29	0	2	0	79	1	23	31	30	250
	5:00 PM	4	3	40	15	0	0	1	65	1	16	41	6	191
	5:15 PM	2	0	26	14	3	0	0	44	5	17	38	13	162
	5:30 PM	2	3	34	2	0	0	0	66	1	16	31	10	164
	5:45 PM	4	0	26	7	0	0	0	57	0	19	38	13	164
	VOLUMES	33	6	364	101	3	6	4	474	18	163	257	140	1,567
	APPROACH %	8%	1%	90%	92%	3%	5%	1%	96%	4%	29%	46%	25%	
APP/DEPART	403	/	150	109	/	184	496	/	939	559	/	295	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	21	0	239	63	0	6	3	243	11	96	109	98	887	
APPROACH %	8%	0%	92%	92%	0%	8%	1%	95%	4%	32%	36%	32%		
PEAK HR FACTOR	0.855			0.567			0.803			0.904			0.889	
APP/DEPART	260	/	101	68	/	107	257	/	545	302	/	136	0	



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
8/31/21
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

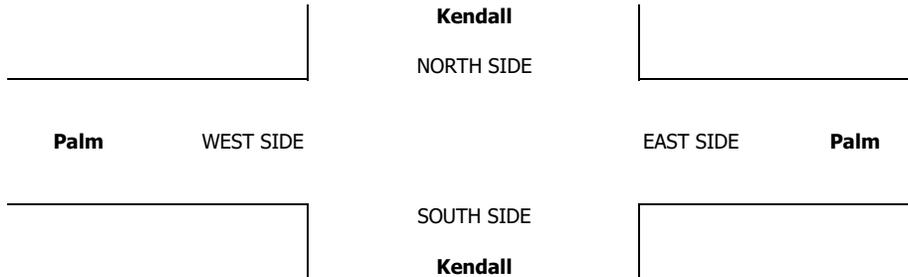
San Bernardino
Kendall
Palm

PROJECT #: SC3033
LOCATION #: 2
CONTROL: SIGNAL

PCE Adjusted	NOTES:										AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	Class	1	2	3	4	5	6	7	8	9			
	Factor	1	1.5	2	3	2	2	2	2	2			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Kendall			Kendall			Palm			Palm			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.3	0.3	0.3	0	1	0	1	1.5	0.5	1	2	0	

AM	7:00 AM	34	0	86	9	21	8	19	34	28	137	86	15	476
	7:15 AM	38	0	57	1	34	17	18	58	34	170	98	18	541
	7:30 AM	37	0	66	9	34	17	6	56	34	155	104	23	539
	7:45 AM	47	0	77	6	40	10	7	35	54	143	107	30	553
	8:00 AM	13	0	105	7	5	8	6	47	34	97	65	10	395
	8:15 AM	34	3	116	6	23	6	5	44	36	84	42	19	415
	8:30 AM	37	3	101	8	26	13	5	64	46	113	69	25	506
	8:45 AM	37	0	78	6	19	3	5	61	27	118	103	23	478
	VOLUMES	276	6	684	51	200	81	70	397	291	1,015	671	161	3,902
	APPROACH %	29%	1%	71%	15%	60%	24%	9%	52%	38%	55%	36%	9%	
APP/DEPART	966	/	236	332	/	1,506	757	/	1,132	1,847	/	1,028	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	155	0	285	25	129	52	50	182	149	604	394	85	2,108	
APPROACH %	35%	0%	65%	12%	63%	25%	13%	48%	39%	56%	36%	8%		
PEAK HR FACTOR	0.894			0.859			0.873			0.948			0.953	
APP/DEPART	440	/	135	205	/	882	381	/	492	1,083	/	601	0	
PM	4:00 PM	31	0	74	10	26	8	19	77	42	90	41	32	448
	4:15 PM	18	3	85	7	26	8	21	61	47	82	47	56	458
	4:30 PM	28	0	90	4	21	13	22	71	41	88	59	40	475
	4:45 PM	23	6	92	4	16	5	20	71	75	56	72	26	463
	5:00 PM	20	0	123	6	21	7	17	59	65	74	44	21	455
	5:15 PM	21	6	107	3	22	6	12	50	41	75	50	36	428
	5:30 PM	21	0	89	9	18	7	11	44	55	79	38	33	400
	5:45 PM	26	0	87	9	20	7	9	53	31	81	56	41	418
	VOLUMES	187	15	745	51	169	60	130	485	395	623	405	283	3,543
	APPROACH %	20%	2%	79%	18%	61%	21%	13%	48%	39%	48%	31%	22%	
APP/DEPART	946	/	427	279	/	1,186	1,009	/	1,280	1,310	/	651	0	
BEGIN PEAK HR	4:15 PM													
VOLUMES	89	9	389	20	83	33	79	261	227	299	221	142	1,851	
APPROACH %	18%	2%	80%	15%	61%	24%	14%	46%	40%	45%	33%	21%		
PEAK HR FACTOR	0.851			0.847			0.858			0.890			0.975	
APP/DEPART	487	/	230	136	/	609	567	/	670	662	/	342	0	



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
8/31/21
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

San Bernardino
I-215 NB Ramps
Palm

PROJECT #:
LOCATION #:
CONTROL:

SC3033
3
SIGNAL

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

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 NB Ramps			I-215 NB Ramps			Palm			Palm			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	0.5	1	X	X	X	0.5	1.5	X	X	2	0	

AM	7:00 AM	67	0	94	0	0	0	18	108	0	0	171	120	577
	7:15 AM	62	0	138	0	0	0	21	93	0	0	222	103	638
	7:30 AM	59	2	92	0	0	0	22	108	0	0	225	91	596
	7:45 AM	69	1	75	0	0	0	28	96	0	0	211	101	580
	8:00 AM	45	1	55	0	0	0	29	129	0	0	124	53	434
	8:15 AM	39	0	92	0	0	0	23	145	0	0	108	54	460
	8:30 AM	66	0	85	0	0	0	31	142	0	0	142	73	538
	8:45 AM	87	1	92	0	0	0	35	104	0	0	157	61	535
	VOLUMES	492	5	722	0	0	0	204	923	0	0	1,357	655	4,356
	APPROACH %	40%	0%	59%	0%	0%	0%	18%	82%	0%	0%	67%	33%	
APP/DEPART	1,218	/	864	0	/	0	1,127	/	1,644	2,011	/	1,848	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	256	3	399	0	0	0	88	404	0	0	828	414	2,390	
APPROACH %	39%	0%	61%	0%	0%	0%	18%	82%	0%	0%	67%	33%		
PEAK HR FACTOR	0.823			0.000			0.953			0.955			0.937	
APP/DEPART	657	/	505	0	/	0	492	/	803	1,242	/	1,083	0	
PM	4:00 PM	45	0	109	0	0	0	40	125	0	0	118	116	552
	4:15 PM	89	0	107	0	0	0	24	128	0	0	95	89	530
	4:30 PM	60	1	136	0	0	0	36	128	0	0	127	82	569
	4:45 PM	73	0	134	0	0	0	35	129	0	0	81	77	528
	5:00 PM	40	0	116	0	0	0	23	160	0	0	99	103	540
	5:15 PM	53	0	158	0	0	0	20	140	0	0	108	126	604
	5:30 PM	45	0	132	0	0	0	12	128	0	0	104	132	552
	5:45 PM	68	0	125	0	0	0	28	120	0	0	109	102	552
	VOLUMES	471	1	1,016	0	0	0	217	1,057	0	0	838	826	4,424
	APPROACH %	32%	0%	68%	0%	0%	0%	17%	83%	0%	0%	50%	50%	
APP/DEPART	1,487	/	1,043	0	/	0	1,274	/	2,073	1,664	/	1,309	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	206	0	531	0	0	0	83	547	0	0	419	462	2,247	
APPROACH %	28%	0%	72%	0%	0%	0%	13%	87%	0%	0%	48%	52%		
PEAK HR FACTOR	0.873			0.000			0.862			0.935			0.930	
APP/DEPART	737	/	545	0	/	0	630	/	1,078	881	/	624	0	



APPENDIX C – LEVEL OF SERVICE CALCULATIONS

Vistro File: C:\...\Vistro_updated.vistro

Scenario 1 Existing AM

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

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	WB Thru	0.606	13.8	B
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.641	27.9	C
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	EB Thru	0.764	23.6	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.606

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	0	61	49	0	4	3	205	9	156	328	59
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	61	49	0	4	3	205	9	156	328	59
Peak Hour Factor	0.579	0.579	0.579	0.602	0.602	0.602	0.859	0.859	0.859	0.891	0.891	0.891
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	2	0	26	20	0	2	1	60	3	44	92	17
Total Analysis Volume [veh/h]	9	0	105	81	0	7	3	239	10	175	368	66
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	497	594	594	497	514	555	621	560	607	688
Degree of Utilization, x	0.02	0.09	0.09	0.18	0.01	0.43	0.02	0.31	0.61	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.29	0.29	0.64	0.02	2.16	0.05	1.33	4.07	0.32
95th-Percentile Queue Length [ft]	1.38	7.24	7.24	15.95	0.44	53.92	1.23	33.21	101.6	7.92
Approach Delay [s/veh]	9.40			11.80	13.76			14.85		
Approach LOS	A			B	B			B		
Intersection Delay [s/veh]	13.76									
Intersection LOS	B									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	155	0	285	25	129	52	50	182	149	604	394	85
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	71	0	0	13	0	0	37	0	0	21
Total Hourly Volume [veh/h]	155	0	214	25	129	39	50	182	112	604	394	64
Peak Hour Factor	0.894	0.894	0.894	0.859	0.859	0.859	0.873	0.873	0.873	0.948	0.948	0.948
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	43	0	60	7	38	11	14	52	32	159	104	17
Total Analysis Volume [veh/h]	173	0	239	29	150	45	57	208	128	637	416	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-0)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	19	0	0	23	0	29	19	0	9	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	23	10	10	4	26	26	49	26	26
g / C, Green / Cycle	0.29	0.13	0.13	0.05	0.33	0.33	0.61	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.26	0.10	0.03	0.04	0.10	0.10	0.46	0.14	0.14
s, saturation flow rate [veh/h]	1577	1757	1506	1593	1772	1553	1399	1772	1686
c, Capacity [veh/h]	450	227	194	75	584	512	799	584	556
d1, Uniform Delay [s]	27.63	33.78	31.27	37.68	19.96	20.06	11.86	20.91	20.91
k, delay calibration	0.23	0.11	0.11	0.11	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
d2, Incremental Delay [s]	14.26	6.03	0.60	14.59	1.32	1.60	8.12	2.26	2.37
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.79	0.23	0.76	0.30	0.31	0.80	0.42	0.43
d, Delay for Lane Group [s/veh]	41.89	39.81	31.88	52.27	21.27	21.66	19.98	23.16	23.28
Lane Group LOS	D	D	C	D	C	C	B	C	C
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	9.02	3.66	0.80	1.39	2.55	2.38	7.89	3.83	3.67
50th-Percentile Queue Length [ft/ln]	225.49	91.58	19.92	34.66	63.83	59.59	197.2	95.78	91.71
95th-Percentile Queue Length [veh/ln]	13.94	6.59	1.43	2.50	4.60	4.29	12.49	6.90	6.60
95th-Percentile Queue Length [ft/ln]	348.62	164.85	35.85	62.38	114.8	107.2	312.3	172.4	165.0

Movement, Approach, & Intersection Results

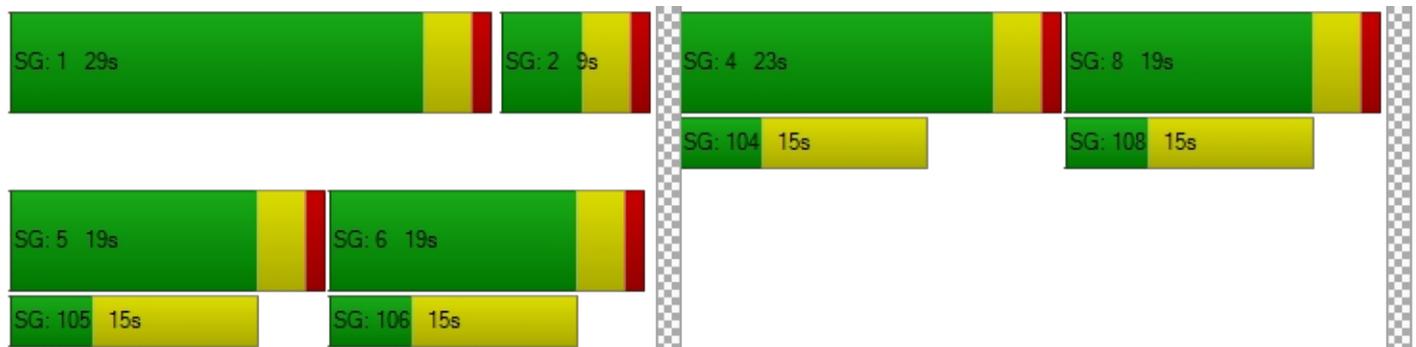
d_M, Delay for Movement [s/veh]	41.89	41.89	41.89	39.81	39.81	31.88	52.27	21.33	21.66	19.98	23.21	23.28
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	41.89			38.22			25.93			21.38		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	27.90											
Intersection LOS	C											
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]	31.51			31.51			31.51			31.51		
I_p,int, Pedestrian LOS Score for Intersection	2.788			2.079			2.558			2.655		
Crosswalk LOS	C			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	375			475			375			375		
d_b, Bicycle Delay [s]	26.41			23.26			26.41			26.41		
I_b,int, Bicycle LOS Score for Intersection	2.357			1.951			1.914			2.502		
Bicycle LOS	B			A			A			B		

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	256	3	399	0	0	0	88	404	0	0	828	414
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	0	0	0	0	0	0	104
Total Hourly Volume [veh/h]	256	3	299	0	0	0	88	404	0	0	828	310
Peak Hour Factor	0.823	0.823	0.823	1.000	1.000	1.000	0.953	0.953	1.000	1.000	0.955	0.955
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	78	1	91	0	0	0	23	106	0	0	217	81
Total Analysis Volume [veh/h]	311	4	363	0	0	0	92	424	0	0	867	325
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-0)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	22	0	0	19	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17		12	12	25	25
g / C, Green / Cycle	0.29	0.29		0.20	0.20	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.19	0.24		0.15	0.15	0.34	0.37
s, saturation flow rate [veh/h]	1688	1506		1742	1612	1772	1616
c, Capacity [veh/h]	485	433		346	320	732	668
d1, Uniform Delay [s]	18.72	20.07		22.78	22.77	15.55	16.35
k, delay calibration	0.11	0.11		0.11	0.11	0.21	0.26
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.47	4.40		3.76	3.99	4.30	9.60
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	0.84		0.78	0.77	0.81	0.89
d, Delay for Lane Group [s/veh]	20.19	24.47		26.55	26.76	19.86	25.95
Lane Group LOS	C	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.68	4.83		3.69	3.42	7.06	8.28
50th-Percentile Queue Length [ft/ln]	91.99	120.73		92.18	85.49	176.39	206.96
95th-Percentile Queue Length [veh/ln]	6.62	8.43		6.64	6.16	11.41	13.00
95th-Percentile Queue Length [ft/ln]	165.58	210.83		165.92	153.88	285.29	324.93

Movement, Approach, & Intersection Results

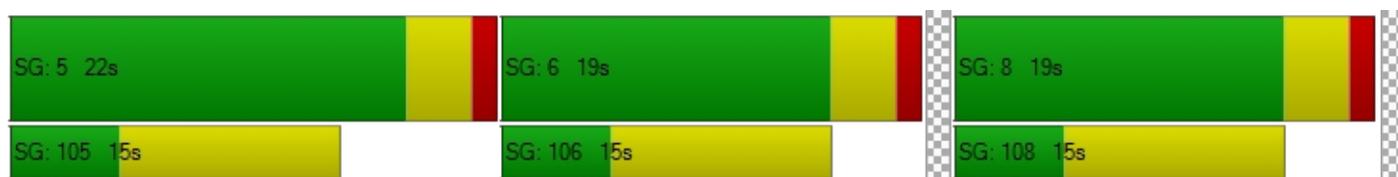
d_M, Delay for Movement [s/veh]	20.19	20.19	24.47	0.00	0.00	0.00	26.55	26.67	0.00	0.00	21.76	25.95
Movement LOS	C	C	C				C	C			C	C
d_A, Approach Delay [s/veh]	22.48			0.00			26.65			22.90		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	23.59											
Intersection LOS	C											
Intersection V/C	0.764											

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	2.316	1.916	2.525	2.854
Crosswalk LOS	B	A	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	600	500
d_b, Bicycle Delay [s]	16.88	30.00	14.70	16.88
I_b,int, Bicycle LOS Score for Intersection	2.843	4.132	1.985	2.629
Bicycle LOS	C	D	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 1 Existing AM

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

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	5	0	61	49	0	4	3	205	9	156	328	59	879

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	155	0	285	25	129	52	50	182	149	604	394	85	2110

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	256	3	399	88	404	828	414	2392

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 2 Existing PM

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

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	EB Thru	0.555	12.7	B
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.629	30.1	C
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	NB Right	0.788	22.9	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	0	239	63	0	6	3	243	11	96	109	98
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	0	239	63	0	6	3	243	11	96	109	98
Peak Hour Factor	0.855	0.855	0.855	0.567	0.567	0.567	0.803	0.803	0.803	0.904	0.904	0.904
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	0	70	28	0	3	1	76	3	27	30	27
Total Analysis Volume [veh/h]	25	0	280	111	0	11	4	303	14	106	121	108
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	513	617	617	503	508	546	610	494	531	593
Degree of Utilization, x	0.05	0.23	0.23	0.24	0.01	0.56	0.02	0.21	0.23	0.18

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.15	0.87	0.87	0.94	0.02	3.37	0.07	0.81	0.87	0.66
95th-Percentile Queue Length [ft]	3.83	21.70	21.70	23.58	0.60	84.32	1.76	20.16	21.78	16.54
Approach Delay [s/veh]	10.23			12.45	16.77			11.20		
Approach LOS	B			B	C			B		
Intersection Delay [s/veh]	12.72									
Intersection LOS	B									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	89	9	389	20	83	33	79	261	227	299	221	142
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	97	0	0	8	0	0	57	0	0	36
Total Hourly Volume [veh/h]	89	9	292	20	83	25	79	261	170	299	221	106
Peak Hour Factor	0.851	0.851	0.851	0.847	0.847	0.847	0.858	0.858	0.858	0.890	0.890	0.890
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	26	3	86	6	24	7	23	76	50	84	62	30
Total Analysis Volume [veh/h]	105	11	343	24	98	30	92	304	198	336	248	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-0)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	22	0	0	19	0	24	20	0	15	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	26	10	10	6	24	24	42	24	24
g / C, Green / Cycle	0.32	0.12	0.12	0.07	0.30	0.30	0.52	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.30	0.07	0.02	0.06	0.15	0.15	0.24	0.11	0.11
s, saturation flow rate [veh/h]	1550	1754	1506	1593	1772	1543	1383	1772	1581
c, Capacity [veh/h]	495	213	183	118	526	459	643	526	470
d1, Uniform Delay [s]	26.35	33.20	31.52	36.40	23.25	23.33	13.54	22.19	22.21
k, delay calibration	0.30	0.11	0.11	0.11	0.50	0.50	0.19	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
d2, Incremental Delay [s]	17.93	2.43	0.42	10.59	3.44	4.09	1.17	1.97	2.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.57	0.16	0.78	0.50	0.52	0.52	0.37	0.37
d, Delay for Lane Group [s/veh]	44.28	35.62	31.93	47.00	26.68	27.42	14.71	24.16	24.44
Lane Group LOS	D	D	C	D	C	C	B	C	C
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	10.44	2.33	0.53	2.08	4.48	4.07	3.51	3.05	2.78
50th-Percentile Queue Length [ft/ln]	261.08	58.16	13.27	51.89	112.1	101.8	87.86	76.23	69.46
95th-Percentile Queue Length [veh/ln]	15.74	4.19	0.96	3.74	7.96	7.33	6.33	5.49	5.00
95th-Percentile Queue Length [ft/ln]	393.57	104.69	23.89	93.40	198.9	183.2	158.1	137.2	125.0

Movement, Approach, & Intersection Results

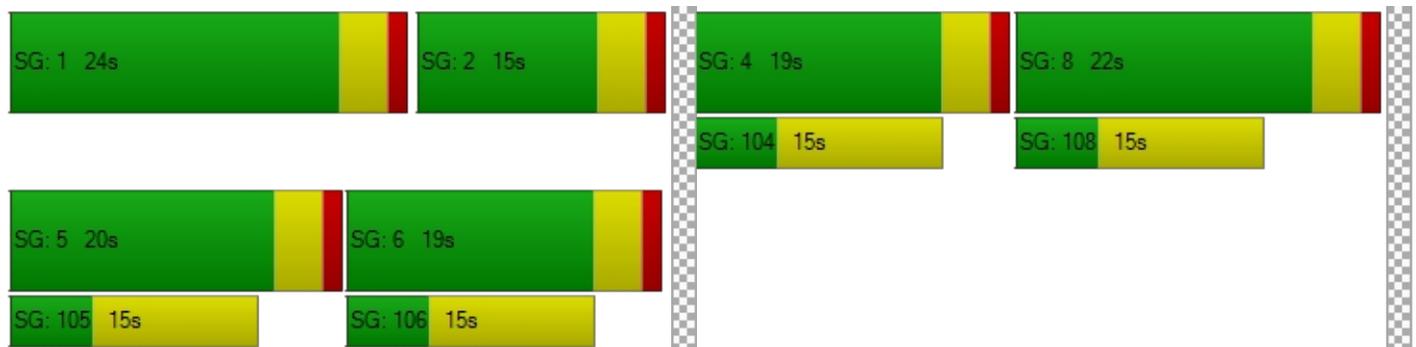
d_M, Delay for Movement [s/veh]	44.28	44.28	44.28	35.62	35.62	31.93	47.00	26.78	27.42	14.71	24.22	24.44
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	44.28			34.90			30.12			19.71		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	30.07											
Intersection LOS	C											
Intersection V/C	0.629											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.583	2.083	2.580	2.641
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	450	375	400	375
d_b, Bicycle Delay [s]	24.03	26.41	25.60	26.41
I_b,int, Bicycle LOS Score for Intersection	2.477	1.824	2.097	2.169
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	206	0	531	0	0	0	83	547	0	0	419	462
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	133	0	0	0	0	0	0	0	0	116
Total Hourly Volume [veh/h]	206	0	398	0	0	0	83	547	0	0	419	346
Peak Hour Factor	0.873	0.873	0.873	1.000	1.000	1.000	0.862	0.862	1.000	1.000	0.935	0.935
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	59	0	114	0	0	0	24	159	0	0	112	93
Total Analysis Volume [veh/h]	236	0	456	0	0	0	96	635	0	0	448	370
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	22	0	0	0	0	0	19	0	0	19	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21		16	16	19	19
g / C, Green / Cycle	0.34	0.34		0.26	0.26	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.14	0.30		0.22	0.22	0.23	0.27
s, saturation flow rate [veh/h]	1687	1506		1749	1612	1772	1528
c, Capacity [veh/h]	581	519		463	426	557	481
d1, Uniform Delay [s]	14.99	18.49		20.75	20.74	18.32	19.24
k, delay calibration	0.11	0.16		0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	7.19		3.73	4.02	1.89	4.40
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	0.88		0.82	0.82	0.73	0.85
d, Delay for Lane Group [s/veh]	15.45	25.68		24.48	24.76	20.21	23.64
Lane Group LOS	B	C		C	C	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.28	6.29		5.04	4.67	4.83	5.35
50th-Percentile Queue Length [ft/ln]	56.97	157.31		125.96	116.82	120.67	133.72
95th-Percentile Queue Length [veh/ln]	4.10	10.41		8.72	8.22	8.43	9.14
95th-Percentile Queue Length [ft/ln]	102.55	260.15		217.99	205.45	210.74	228.54

Movement, Approach, & Intersection Results

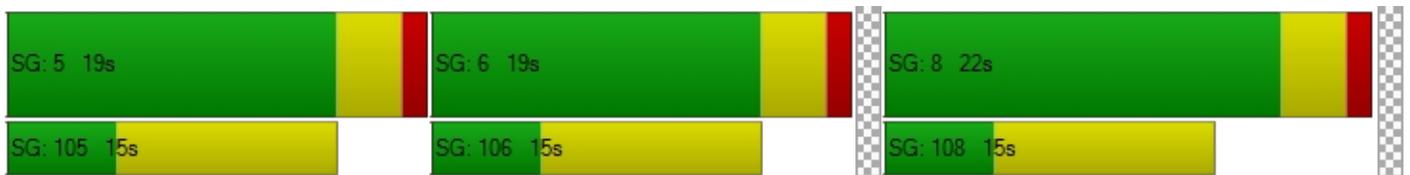
d_M, Delay for Movement [s/veh]	15.45	15.45	25.68	0.00	0.00	0.00	24.48	24.64	0.00	0.00	20.51	23.64
Movement LOS	B	B	C				C	C			C	C
d_A, Approach Delay [s/veh]	22.19			0.00			24.61			21.93		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	22.88											
Intersection LOS	C											
Intersection V/C	0.788											

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	2.378	1.972	2.457	2.866
Crosswalk LOS	B	A	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	500	500
d_b, Bicycle Delay [s]	14.70	30.00	16.88	16.88
I_b,int, Bicycle LOS Score for Intersection	2.921	4.132	2.163	2.330
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 2 Existing PM

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

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	21	0	239	63	0	6	3	243	11	96	109	98	889

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	89	9	389	20	83	33	79	261	227	299	221	142	1852

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	206	0	531	83	547	419	462	2248

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 5 Opening AM

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

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	WB Thru	0.657	14.9	B
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.701	28.7	C
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.810	23.6	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	0	61	49	0	4	3	205	9	156	328	59
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
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
Total Hourly Volume [veh/h]	5	0	65	52	0	4	3	217	10	165	348	63
Peak Hour Factor	0.579	0.579	0.579	0.602	0.602	0.602	0.859	0.859	0.859	0.891	0.891	0.891
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	2	0	28	22	0	2	1	63	3	46	98	18
Total Analysis Volume [veh/h]	9	0	112	86	0	7	3	253	12	185	391	71
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	487	580	580	485	505	543	606	550	595	674
Degree of Utilization, x	0.02	0.10	0.10	0.19	0.01	0.47	0.02	0.34	0.66	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.32	0.32	0.70	0.02	2.46	0.06	1.47	4.83	0.35
95th-Percentile Queue Length [ft]	1.41	7.98	7.98	17.54	0.45	61.44	1.51	36.86	120.7	8.80
Approach Delay [s/veh]	9.62			12.17	14.68			16.36		
Approach LOS	A			B	B			C		
Intersection Delay [s/veh]	14.90									
Intersection LOS	B									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	155	0	285	25	129	52	50	182	149	604	394	85
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	76	0	0	14	0	0	40	0	0	23
Total Hourly Volume [veh/h]	164	0	226	27	137	41	53	193	118	640	418	67
Peak Hour Factor	0.894	0.894	0.894	0.859	0.859	0.859	0.873	0.873	0.873	0.948	0.948	0.948
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	46	0	63	8	40	12	15	55	34	169	110	18
Total Analysis Volume [veh/h]	183	0	253	31	159	48	61	221	135	675	441	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 major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	19	0	16	21	0	25	20	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	25	11	11	4	31	31	58	31	31
g / C, Green / Cycle	0.30	0.13	0.13	0.05	0.36	0.36	0.68	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.28	0.11	0.03	0.04	0.11	0.11	0.49	0.15	0.15
s, saturation flow rate [veh/h]	1577	1757	1506	1593	1772	1554	1388	1772	1687
c, Capacity [veh/h]	471	235	202	77	645	565	887	645	614
d1, Uniform Delay [s]	28.87	35.75	32.93	40.05	19.21	19.31	13.79	20.18	20.19
k, delay calibration	0.29	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	17.94	6.47	0.60	16.79	0.24	1.36	6.11	1.90	2.00
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.81	0.24	0.80	0.29	0.30	0.76	0.41	0.41
d, Delay for Lane Group [s/veh]	46.81	42.22	33.54	56.84	19.46	20.67	19.89	22.08	22.19
Lane Group LOS	D	D	C	E	B	C	B	C	C
Critical Lane Group	Yes	Yes	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.59	4.16	0.90	1.60	2.57	2.53	6.99	4.07	3.90
50th-Percentile Queue Length [ft/ln]	264.65	104.12	22.62	40.00	64.16	63.26	174.6	101.7	97.60
95th-Percentile Queue Length [veh/ln]	15.92	7.50	1.63	2.88	4.62	4.55	11.32	7.33	7.03
95th-Percentile Queue Length [ft/ln]	398.05	187.42	40.71	72.01	115.4	113.8	283.0	183.2	175.6

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.81	46.81	46.81	42.22	42.22	33.54	56.84	19.65	20.67	19.89	22.13	22.19
Movement LOS	D	D	D	D	D	C	E	B	C	B	C	C
d_A, Approach Delay [s/veh]	46.81			40.47			25.42			20.86		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.71											
Intersection LOS	C											
Intersection V/C	0.701											

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	2.894	2.091	2.578	2.681
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	494	353	400	376
d_b, Bicycle Delay [s]	24.09	28.82	27.20	28.01
I_b,int, Bicycle LOS Score for Intersection	2.404	1.975	1.937	2.558
Bicycle LOS	B	A	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	256	3	399	0	0	0	88	404	0	0	828	414
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.000	1.000	1.000	1.060	1.060	1.000	1.000	1.060	1.060
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	106	0	0	0	0	0	0	0	0	110
Total Hourly Volume [veh/h]	271	3	317	0	0	0	93	428	0	0	878	329
Peak Hour Factor	0.823	0.823	0.823	1.000	1.000	1.000	0.953	0.953	1.000	1.000	0.955	0.955
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	82	1	96	0	0	0	24	112	0	0	230	86
Total Analysis Volume [veh/h]	329	4	385	0	0	0	98	449	0	0	919	345
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-0)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	20	0	0	21	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18		12	12	26	26
g / C, Green / Cycle	0.30	0.30		0.21	0.21	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.20	0.26		0.16	0.16	0.36	0.39
s, saturation flow rate [veh/h]	1688	1506		1742	1612	1772	1616
c, Capacity [veh/h]	510	455		362	335	768	700
d1, Uniform Delay [s]	18.19	19.62		22.49	22.47	14.97	15.81
k, delay calibration	0.11	0.11		0.11	0.11	0.24	0.29
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.42	4.41		3.77	4.01	4.93	11.04
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.85		0.79	0.78	0.82	0.90
d, Delay for Lane Group [s/veh]	19.61	24.03		26.26	26.48	19.90	26.85
Lane Group LOS	B	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.83	5.08		3.89	3.61	7.49	8.95
50th-Percentile Queue Length [ft/ln]	95.70	126.99		97.21	90.22	187.22	223.67
95th-Percentile Queue Length [veh/ln]	6.89	8.78		7.00	6.50	11.98	13.85
95th-Percentile Queue Length [ft/ln]	172.26	219.40		174.98	162.39	299.42	346.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.61	19.61	24.03	0.00	0.00	0.00	26.26	26.39	0.00	0.00	22.07	26.85
Movement LOS	B	B	C				C	C			C	C
d_A, Approach Delay [s/veh]	21.98			0.00			26.37			23.38		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	23.63											
Intersection LOS	C											
Intersection V/C	0.810											

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	2.339	1.947	2.549	2.888
Crosswalk LOS	B	A	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	533	567
d_b, Bicycle Delay [s]	16.88	30.00	16.13	15.41
I_b,int, Bicycle LOS Score for Intersection	2.919	4.132	2.011	2.693
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 5 Opening AM

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

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	5	0	65	52	0	4	3	217	10	165	348	63	932

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	164	0	302	27	137	55	53	193	158	640	418	90	2237

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	271	3	423	93	428	878	439	2535

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 6 6 6 Opening PM

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

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	EB Thru	0.601	13.5	B
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.666	31.1	C
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	NB Right	0.835	22.8	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	0	239	63	0	6	3	243	11	96	109	98
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
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
Total Hourly Volume [veh/h]	22	0	253	67	0	6	3	258	12	102	116	104
Peak Hour Factor	0.855	0.855	0.855	0.567	0.567	0.567	0.803	0.803	0.803	0.904	0.904	0.904
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	0	74	30	0	3	1	80	4	28	32	29
Total Analysis Volume [veh/h]	26	0	296	118	0	11	4	321	15	113	128	115
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	502	601	601	491	498	534	595	482	517	575
Degree of Utilization, x	0.05	0.25	0.25	0.26	0.01	0.60	0.03	0.23	0.25	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.16	0.97	0.97	1.05	0.02	3.94	0.08	0.90	0.97	0.74
95th-Percentile Queue Length [ft]	4.09	24.13	24.13	26.16	0.61	98.58	1.94	22.53	24.20	18.49
Approach Delay [s/veh]	10.62			12.94	18.55			11.64		
Approach LOS	B			B	C			B		
Intersection Delay [s/veh]	13.55									
Intersection LOS	B									

**Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr**

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.666

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	89	9	389	20	83	33	79	261	227	299	221	142
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
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	103	0	0	9	0	0	60	0	0	38
Total Hourly Volume [veh/h]	94	10	309	21	88	26	84	277	181	317	234	113
Peak Hour Factor	0.851	0.851	0.851	0.847	0.847	0.847	0.858	0.858	0.858	0.890	0.890	0.890
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	28	3	91	6	26	8	24	81	53	89	66	32
Total Analysis Volume [veh/h]	110	12	363	25	104	31	98	323	211	356	263	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 major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-0)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	22	0	0	19	0	22	19	0	17	20	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	27	10	10	6	23	23	40	23	23
g / C, Green / Cycle	0.34	0.12	0.12	0.08	0.29	0.29	0.51	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.31	0.07	0.02	0.06	0.16	0.16	0.26	0.12	0.12
s, saturation flow rate [veh/h]	1549	1755	1506	1593	1772	1542	1384	1772	1580
c, Capacity [veh/h]	519	214	183	124	517	450	635	517	461
d1, Uniform Delay [s]	25.77	33.31	31.51	36.22	23.89	23.96	14.29	22.70	22.72
k, delay calibration	0.33	0.11	0.11	0.11	0.50	0.50	0.22	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
d2, Incremental Delay [s]	19.69	2.74	0.43	10.43	4.14	4.91	1.58	2.28	2.58
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.94	0.60	0.17	0.79	0.55	0.56	0.56	0.40	0.40
d, Delay for Lane Group [s/veh]	45.46	36.04	31.94	46.65	28.03	28.87	15.87	24.98	25.30
Lane Group LOS	D	D	C	D	C	C	B	C	C
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.23	2.48	0.55	2.20	4.93	4.46	4.00	3.32	3.01
50th-Percentile Queue Length [ft/ln]	280.79	61.97	13.71	54.98	123.2	111.5	99.88	82.94	75.36
95th-Percentile Queue Length [veh/ln]	16.73	4.46	0.99	3.96	8.57	7.93	7.19	5.97	5.43
95th-Percentile Queue Length [ft/ln]	418.19	111.55	24.68	98.96	214.3	198.1	179.7	149.3	135.6

Movement, Approach, & Intersection Results

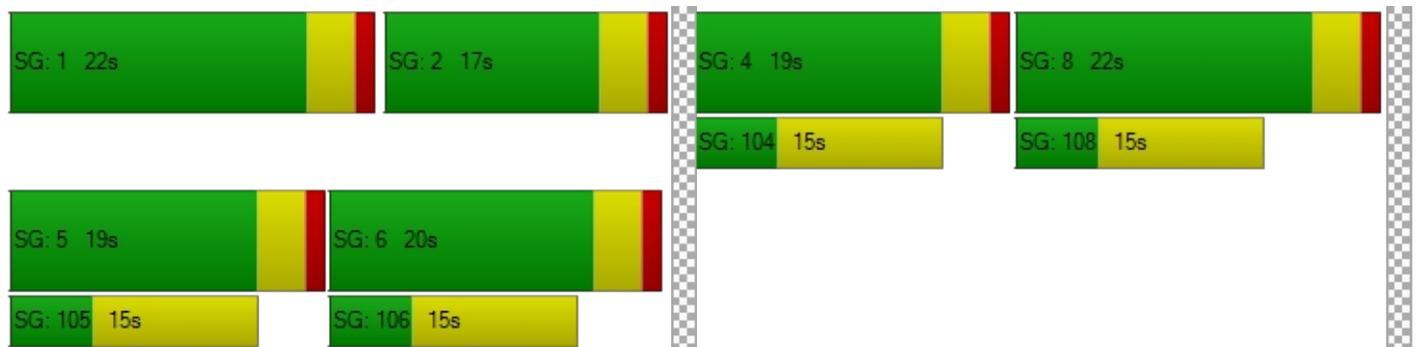
d_M, Delay for Movement [s/veh]	45.46	45.46	45.46	36.04	36.04	31.94	46.65	28.13	28.87	15.87	25.05	25.30
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	45.46			35.25			31.25			20.71		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.09											
Intersection LOS	C											
Intersection V/C	0.666											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.628	2.093	2.596	2.661
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	450	375	375	400
d_b, Bicycle Delay [s]	24.03	26.41	26.41	25.60
I_b,int, Bicycle LOS Score for Intersection	2.530	1.838	2.131	2.206
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	206	0	531	0	0	0	83	547	0	0	419	462
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.000	1.000	1.000	1.060	1.060	1.000	1.000	1.060	1.060
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	141	0	0	0	0	0	0	0	0	123
Total Hourly Volume [veh/h]	218	0	422	0	0	0	88	580	0	0	444	367
Peak Hour Factor	0.873	0.873	0.873	1.000	1.000	1.000	0.862	0.862	1.000	1.000	0.935	0.935
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	62	0	121	0	0	0	26	168	0	0	119	98
Total Analysis Volume [veh/h]	250	0	483	0	0	0	102	673	0	0	475	393
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	22	0	0	0	0	0	19	0	0	19	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22		17	17	20	20
g / C, Green / Cycle	0.36	0.36		0.28	0.28	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.32		0.23	0.23	0.24	0.28
s, saturation flow rate [veh/h]	1687	1506		1749	1612	1772	1527
c, Capacity [veh/h]	610	544		486	448	586	505
d1, Uniform Delay [s]	14.36	18.00		20.34	20.34	17.79	18.77
k, delay calibration	0.11	0.19		0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	8.37		3.73	4.03	1.87	5.35
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	0.41	0.89		0.83	0.83	0.74	0.86
d, Delay for Lane Group [s/veh]	14.80	26.37		24.07	24.36	19.66	24.12
Lane Group LOS	B	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.35	6.78		5.30	4.92	5.05	5.75
50th-Percentile Queue Length [ft/ln]	58.72	169.38		132.53	122.96	126.18	143.85
95th-Percentile Queue Length [veh/ln]	4.23	11.04		9.08	8.56	8.73	9.69
95th-Percentile Queue Length [ft/ln]	105.70	276.10		226.92	213.88	218.29	242.20

Movement, Approach, & Intersection Results

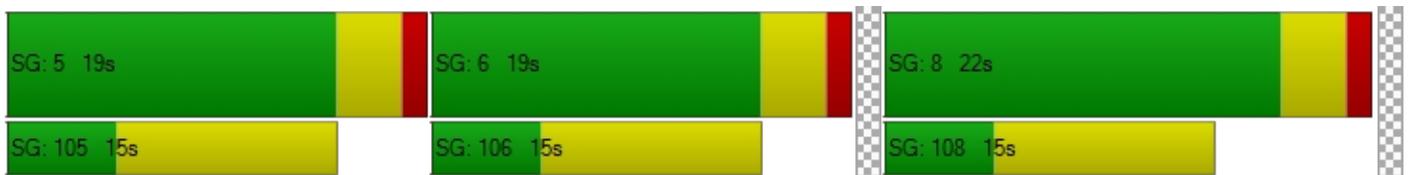
d_M, Delay for Movement [s/veh]	14.80	14.80	26.37	0.00	0.00	0.00	24.07	24.23	0.00	0.00	20.04	24.12
Movement LOS	B	B	C				C	C			C	C
d_A, Approach Delay [s/veh]	22.42			0.00			24.21			21.89		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	22.81											
Intersection LOS	C											
Intersection V/C	0.835											

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	2.405	2.007	2.477	2.902
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	500	500
d_b, Bicycle Delay [s]	14.70	30.00	16.88	16.88
I_b,int, Bicycle LOS Score for Intersection	3.002	4.132	2.199	2.377
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 6 6 6 Opening PM

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

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	22	0	253	67	0	6	3	258	12	102	116	104	943

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	94	10	412	21	88	35	84	277	241	317	234	151	1964

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	218	0	563	88	580	444	490	2383

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 13 13 Opening AM Plus Other Projects

Report File: C:\...\Opening AM+Other Projs.pdf

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	WB Thru	0.744	18.4	C
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.830	30.9	C
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.887	23.9	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			+			T T T			T T T		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	0	61	49	0	4	3	205	9	156	328	59
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
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	66	0	4	5	6	0	0	6	42
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
Total Hourly Volume [veh/h]	5	0	65	118	0	8	8	223	10	165	354	105
Peak Hour Factor	0.579	0.579	0.579	0.602	0.602	0.602	0.859	0.859	0.859	0.891	0.891	0.891
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	2	0	28	49	0	3	2	65	3	46	99	29
Total Analysis Volume [veh/h]	9	0	112	196	0	13	9	260	12	185	397	118
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	449	527	527	467	456	486	537	497	533	596
Degree of Utilization, x	0.02	0.11	0.11	0.45	0.02	0.53	0.02	0.37	0.74	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.35	0.35	2.27	0.06	3.11	0.07	1.71	6.36	0.73
95th-Percentile Queue Length [ft]	1.53	8.87	8.87	56.80	1.51	77.68	1.71	42.72	159.0	18.29
Approach Delay [s/veh]	10.39			16.82	17.68			20.54		
Approach LOS	B			C	C			C		
Intersection Delay [s/veh]	18.40									
Intersection LOS	C									

**Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr**

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.830

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	155	0	285	25	129	52	50	182	149	604	394	85
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	25	0	69	14	0	0	23	49	38	66	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	76	0	0	14	0	0	52	0	0	28
Total Hourly Volume [veh/h]	185	25	226	96	151	41	53	216	155	678	484	83
Peak Hour Factor	0.894	0.894	0.894	0.859	0.859	0.859	0.873	0.873	0.873	0.948	0.948	0.948
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	52	7	63	28	44	12	15	62	44	179	128	22
Total Analysis Volume [veh/h]	207	28	253	112	176	48	61	247	178	715	511	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	20	0	0	19	0	16	21	0	30	25	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	28	16	16	4	31	31	58	31	31
g / C, Green / Cycle	0.33	0.19	0.19	0.05	0.36	0.36	0.68	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.31	0.17	0.03	0.04	0.13	0.13	0.52	0.17	0.17
s, saturation flow rate [veh/h]	1592	1738	1506	1593	1772	1532	1366	1772	1682
c, Capacity [veh/h]	519	334	289	76	644	557	860	644	612
d1, Uniform Delay [s]	27.85	33.26	28.66	40.06	19.72	19.82	15.40	20.82	20.84
k, delay calibration	0.35	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	21.55	6.65	0.27	17.15	0.32	1.81	9.23	2.51	2.67
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.94	0.86	0.17	0.80	0.35	0.36	0.83	0.48	0.48
d, Delay for Lane Group [s/veh]	49.40	39.91	28.93	57.21	20.04	21.63	24.63	23.33	23.52
Lane Group LOS	D	D	C	E	C	C	C	C	C
Critical Lane Group	Yes	Yes	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.27	6.21	0.82	1.61	3.18	3.09	8.29	4.95	4.76
50th-Percentile Queue Length [ft/ln]	306.76	155.16	20.61	40.16	79.42	77.15	207.3	123.6	118.9
95th-Percentile Queue Length [veh/ln]	18.02	10.29	1.48	2.89	5.72	5.55	13.02	8.59	8.33
95th-Percentile Queue Length [ft/ln]	450.38	257.30	37.10	72.28	142.9	138.8	325.3	214.8	208.3

Movement, Approach, & Intersection Results

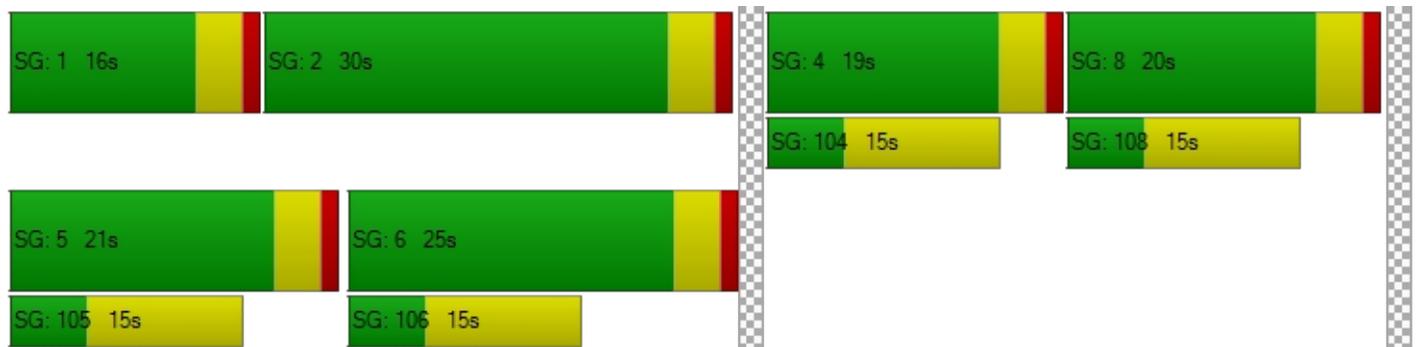
d_M, Delay for Movement [s/veh]	49.40	49.40	49.40	39.91	39.91	28.93	57.21	20.19	21.63	24.63	23.40	23.52
Movement LOS	D	D	D	D	D	C	E	C	C	C	C	C
d_A, Approach Delay [s/veh]	49.40			38.34			25.36			24.08		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.85											
Intersection LOS	C											
Intersection V/C	0.830											

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	2.935	2.139	2.630	2.734
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	376	353	400	494
d_b, Bicycle Delay [s]	28.01	28.82	27.20	24.09
I_b,int, Bicycle LOS Score for Intersection	2.490	2.137	2.003	2.667
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.887

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	256	3	399	0	0	0	88	404	0	0	828	414
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.000	1.000	1.000	1.060	1.060	1.000	1.000	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	67	0	35	0	0	0	43	49	0	0	58	31
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	115	0	0	0	0	0	0	0	0	118
Total Hourly Volume [veh/h]	338	3	343	0	0	0	136	477	0	0	936	352
Peak Hour Factor	0.823	0.823	0.823	1.000	1.000	1.000	0.953	0.953	1.000	1.000	0.955	0.955
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	103	1	104	0	0	0	36	125	0	0	245	92
Total Analysis Volume [veh/h]	411	4	417	0	0	0	143	501	0	0	980	369
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	19	0	0	22	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20		14	14	27	27
g / C, Green / Cycle	0.33	0.33		0.24	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.25	0.28		0.19	0.19	0.38	0.42
s, saturation flow rate [veh/h]	1688	1506		1734	1612	1772	1616
c, Capacity [veh/h]	549	490		414	385	807	736
d1, Uniform Delay [s]	18.10	18.88		21.54	21.52	14.37	15.28
k, delay calibration	0.11	0.12		0.11	0.11	0.28	0.33
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.15	4.82		3.77	4.00	5.82	13.17
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	0.76	0.85		0.81	0.81	0.84	0.92
d, Delay for Lane Group [s/veh]	20.25	23.70		25.30	25.52	20.19	28.45
Lane Group LOS	C	C		C	C	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.93	5.48		4.49	4.19	8.04	9.85
50th-Percentile Queue Length [ft/ln]	123.16	136.88		112.29	104.70	201.02	246.33
95th-Percentile Queue Length [veh/ln]	8.57	9.31		7.97	7.54	12.69	15.00
95th-Percentile Queue Length [ft/ln]	214.16	232.82		199.18	188.45	317.29	375.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.25	20.25	23.70	0.00	0.00	0.00	25.30	25.44	0.00	0.00	22.77	28.45
Movement LOS	C	C	C				C	C			C	C
d_A, Approach Delay [s/veh]	21.98			0.00			25.41			24.32		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	23.88											
Intersection LOS	C											
Intersection V/C	0.887											

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	2.392	2.022	2.608	2.936
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	500	600
d_b, Bicycle Delay [s]	16.88	30.00	16.88	14.70
I_b,int, Bicycle LOS Score for Intersection	3.122	4.132	2.091	2.770
Bicycle LOS	C	D	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 13 13 Opening AM Plus Other Projects

Report File: C:\...\Opening AM+Other Projs.pdf

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	5	0	65	118	0	8	8	223	10	165	354	105	1061

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	185	25	302	96	151	55	53	216	207	678	484	111	2563

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	338	3	458	136	477	936	470	2818

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 14 Opening PM plus Other Projects

Report File: C:\...\Opening PM+Other Projs.pdf

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	SB Left	0.959	33.4	D
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	NB Right	0.996	42.2	D
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	NB Right	1.002	22.6	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type: All-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 33.4
 Level Of Service: D
 Volume to Capacity (v/c): 0.959

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	0	239	63	0	6	3	243	11	96	109	98
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
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	164	0	5	5	11	0	0	10	42
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
Total Hourly Volume [veh/h]	22	0	253	231	0	11	8	269	12	102	126	146
Peak Hour Factor	0.855	0.855	0.855	0.567	0.567	0.567	0.803	0.803	0.803	0.904	0.904	0.904
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	0	74	102	0	5	2	84	4	28	35	40
Total Analysis Volume [veh/h]	26	0	296	407	0	19	10	335	15	113	139	162
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	398	461	461	444	394	417	453	374	396	431
Degree of Utilization, x	0.07	0.32	0.32	0.96	0.03	0.80	0.03	0.30	0.35	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	1.37	1.37	11.55	0.08	7.23	0.10	1.25	1.55	1.72
95th-Percentile Queue Length [ft]	5.21	34.33	34.33	288.78	1.95	180.6	2.56	31.25	38.71	42.99
Approach Delay [s/veh]	14.03			61.72	36.67			16.33		
Approach LOS	B			F	E			C		
Intersection Delay [s/veh]	33.36									
Intersection LOS	D									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.996

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	89	9	389	20	83	33	79	261	227	299	221	142
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	78	0	180	16	0	0	34	141	62	180	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	103	0	0	9	0	0	96	0	0	49
Total Hourly Volume [veh/h]	115	88	309	201	104	26	84	311	286	379	414	146
Peak Hour Factor	0.851	0.851	0.851	0.847	0.847	0.847	0.858	0.858	0.858	0.890	0.890	0.890
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	34	26	91	59	31	8	24	91	83	106	116	41
Total Analysis Volume [veh/h]	135	103	363	237	123	31	98	362	333	426	465	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 major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	21	0	0	19	0	25	21	0	15	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	30	19	19	6	21	21	36	21	21
g / C, Green / Cycle	0.37	0.24	0.24	0.08	0.26	0.26	0.45	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.38	0.21	0.02	0.06	0.20	0.22	0.31	0.19	0.19
s, saturation flow rate [veh/h]	1585	1715	1506	1593	1772	1506	1377	1772	1616
c, Capacity [veh/h]	591	407	357	124	466	396	589	466	425
d1, Uniform Delay [s]	25.09	29.45	23.76	36.25	27.32	27.91	17.76	26.69	26.69
k, delay calibration	0.46	0.13	0.11	0.11	0.50	0.50	0.32	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
d2, Incremental Delay [s]	39.90	7.55	0.10	10.63	12.05	19.03	4.97	8.72	9.52
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.88	0.09	0.79	0.78	0.84	0.72	0.71	0.71
d, Delay for Lane Group [s/veh]	64.99	37.01	23.86	46.88	39.36	46.94	22.73	35.41	36.22
Lane Group LOS	F	D	C	D	D	D	C	D	D
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	16.94	7.26	0.46	2.21	7.70	7.86	6.27	6.58	6.10
50th-Percentile Queue Length [ft/ln]	423.40	181.56	11.39	55.13	192.4	196.5	156.7	164.4	152.4
95th-Percentile Queue Length [veh/ln]	23.97	11.68	0.82	3.97	12.25	12.46	10.38	10.78	10.15
95th-Percentile Queue Length [ft/ln]	599.15	292.06	20.50	99.23	306.2	311.5	259.3	269.6	253.7

Movement, Approach, & Intersection Results

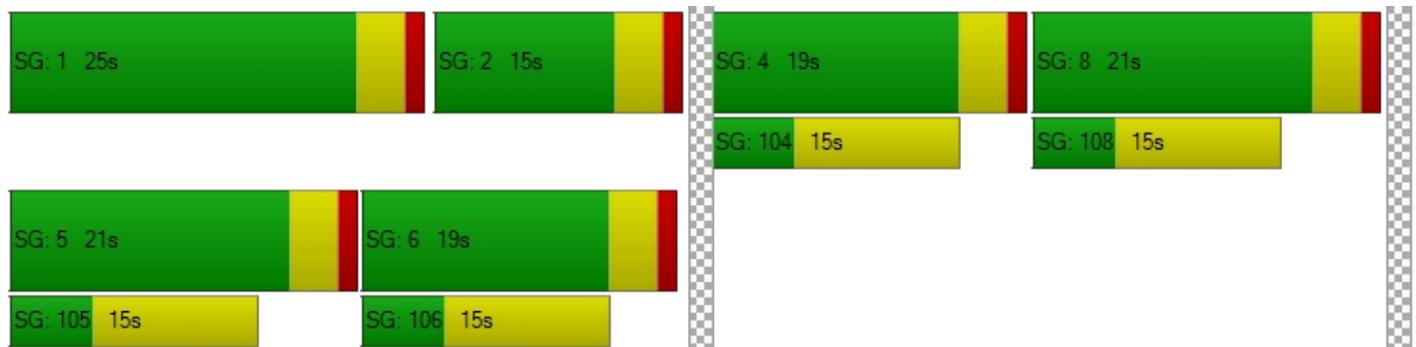
d_M, Delay for Movement [s/veh]	64.99	64.99	64.99	37.01	37.01	23.86	46.88	39.36	46.94	22.73	35.65	36.22
Movement LOS	E	E	E	D	D	C	D	D	D	C	D	D
d_A, Approach Delay [s/veh]	64.99			35.96			43.47			30.52		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	42.18											
Intersection LOS	D											
Intersection V/C	0.996											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.805	2.213	2.730	2.788
Crosswalk LOS	C	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	425	375	425	375
d_b, Bicycle Delay [s]	24.81	26.41	24.81	26.41
I_b,int, Bicycle LOS Score for Intersection	2.721	2.220	2.293	2.470
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	206	0	531	0	0	0	83	547	0	0	419	462
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.000	1.000	1.000	1.060	1.060	1.000	1.000	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	161	0	65	0	0	0	97	117	0	0	125	52
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	157	0	0	0	0	0	0	0	0	136
Total Hourly Volume [veh/h]	379	0	471	0	0	0	185	697	0	0	569	406
Peak Hour Factor	0.873	0.873	0.873	1.000	1.000	1.000	0.862	0.862	1.000	1.000	0.935	0.935
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	109	0	135	0	0	0	54	202	0	0	152	109
Total Analysis Volume [veh/h]	434	0	540	0	0	0	215	809	0	0	609	434
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	22	0	0	0	0	0	19	0	0	19	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24		21	21	23	23
g / C, Green / Cycle	0.40	0.40		0.35	0.35	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.26	0.36		0.31	0.31	0.29	0.34
s, saturation flow rate [veh/h]	1687	1506		1736	1612	1772	1545
c, Capacity [veh/h]	677	604		614	570	678	591
d1, Uniform Delay [s]	14.48	16.77		18.06	18.06	16.20	17.25
k, delay calibration	0.11	0.24		0.17	0.17	0.15	0.21
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.02	10.06		5.69	6.09	2.57	8.35
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	0.64	0.89		0.86	0.86	0.77	0.88
d, Delay for Lane Group [s/veh]	15.50	26.82		23.75	24.15	18.76	25.60
Lane Group LOS	B	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.33	7.65		7.00	6.56	5.94	7.18
50th-Percentile Queue Length [ft/ln]	108.32	191.37		174.94	163.99	148.45	179.54
95th-Percentile Queue Length [veh/ln]	7.75	12.19		11.34	10.76	9.93	11.58
95th-Percentile Queue Length [ft/ln]	193.66	304.81		283.40	269.00	248.35	289.42

Movement, Approach, & Intersection Results

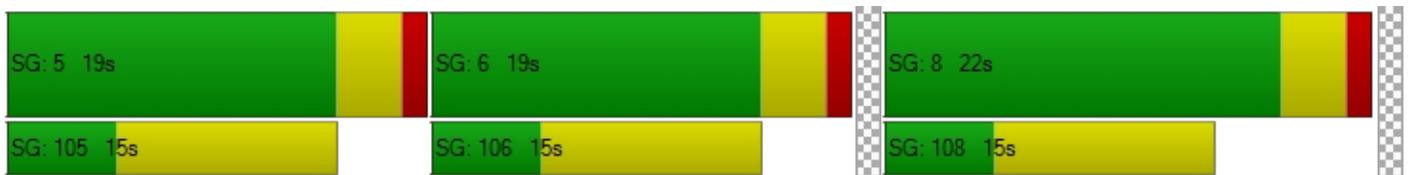
d_M, Delay for Movement [s/veh]	15.50	15.50	26.82	0.00	0.00	0.00	23.75	23.99	0.00	0.00	19.75	25.60
Movement LOS	B	B	C				C	C			B	C
d_A, Approach Delay [s/veh]	21.78			0.00			23.94			22.18		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	22.64											
Intersection LOS	C											
Intersection V/C	1.002											

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	2.512	2.169	2.616	2.998
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	500	500
d_b, Bicycle Delay [s]	14.70	30.00	16.88	16.88
I_b,int, Bicycle LOS Score for Intersection	3.426	4.132	2.404	2.532
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 14 Opening PM plus Other Projects

Report File: C:\...\Opening PM+Other Projs.pdf

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	22	0	253	231	0	11	8	269	12	102	126	146	1180

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	115	88	412	201	104	35	84	311	382	379	414	195	2720

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	379	0	628	185	697	569	542	3000

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 9 9 Future 2040 AM

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

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	WB Thru	2.669	445.7	F
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	NB Left	1.215	74.4	E
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.906	32.4	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	445.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.669

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	26	0	130	61	0	13	2	333	18	394	1369	83
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	130	61	0	13	2	333	18	394	1369	83
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	7	0	34	16	0	3	1	88	5	104	360	22
Total Analysis Volume [veh/h]	27	0	137	64	0	14	2	351	19	415	1441	87
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	434	504	504	425	448	477	525	502	1441	604
Degree of Utilization, x	0.06	0.14	0.14	0.18	0.00	0.74	0.04	0.83	2.67	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.20	0.47	0.47	0.66	0.01	6.05	0.11	8.17	117.2	0.50
95th-Percentile Queue Length [ft]	4.96	11.67	11.67	16.62	0.34	151.2	2.82	204.3	2931.	12.53
Approach Delay [s/veh]	11.05			13.37	27.48			579.76		
Approach LOS	B			B	D			F		
Intersection Delay [s/veh]	445.66									
Intersection LOS	F									

**Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr**

Control Type:	Signalized	Delay (sec / veh):	74.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.215

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	583	0	208	38	145	413	239	319	186	285	1323	152
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	103	0	0	47	0	0	38
Total Hourly Volume [veh/h]	583	0	156	38	145	310	239	319	139	285	1323	114
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	153	0	41	10	38	82	63	84	37	75	348	30
Total Analysis Volume [veh/h]	614	0	164	40	153	326	252	336	146	300	1393	120
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	23	0	0	19	0	23	19	0	15	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_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
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	20	20	14	14	14	29	30	30
g / C, Green / Cycle	0.37	0.25	0.25	0.18	0.17	0.17	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.45	0.10	0.22	0.15	0.14	0.14	0.18	0.41	0.41
s, saturation flow rate [veh/h]	1737	1851	1506	1687	1870	1681	1687	1870	1819
c, Capacity [veh/h]	649	457	372	296	317	285	620	699	680
d1, Uniform Delay [s]	25.05	25.31	28.94	31.96	31.91	31.95	19.46	25.05	25.05
k, delay calibration	0.50	0.11	0.14	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	103.82	0.62	8.34	6.80	4.64	5.28	0.59	59.93	68.41
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.20	0.42	0.88	0.85	0.80	0.80	0.48	1.09	1.11
d, Delay for Lane Group [s/veh]	128.87	25.93	37.27	38.76	36.55	37.23	20.05	84.99	93.46
Lane Group LOS	F	C	D	D	D	D	C	F	F
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	30.14	3.06	6.62	5.13	4.97	4.54	4.17	23.93	24.87
50th-Percentile Queue Length [ft/ln]	753.41	76.55	165.57	128.3	124.1	113.6	104.2	598.1	621.8
95th-Percentile Queue Length [veh/ln]	43.97	5.51	10.84	8.85	8.62	8.04	7.51	33.81	35.43
95th-Percentile Queue Length [ft/ln]	1099.18	137.79	271.09	221.2	215.5	201.0	187.7	845.1	885.8

Movement, Approach, & Intersection Results

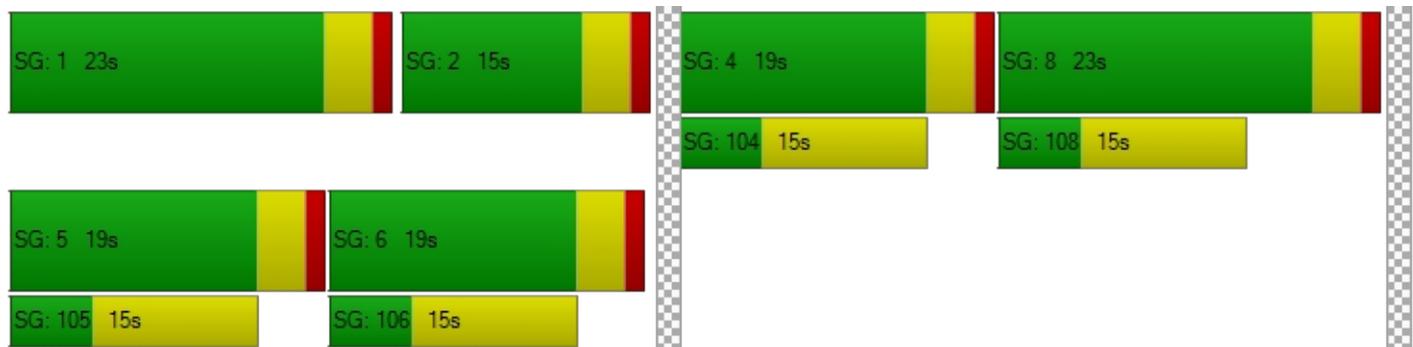
d_M, Delay for Movement [s/veh]	128.8	128.8	128.8	25.93	25.93	37.27	38.76	36.72	37.23	20.05	88.84	93.46
Movement LOS	F	F	F	C	C	D	D	D	D	C	F	F
d_A, Approach Delay [s/veh]	128.87			33.06			37.52			77.76		
Approach LOS	F			C			D			E		
d_I, Intersection Delay [s/veh]	74.39											
Intersection LOS	E											
Intersection V/C	1.215											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.504	2.418	2.990	2.826
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	475	375	375	375
d_b, Bicycle Delay [s]	23.26	26.41	26.41	26.41
I_b,int, Bicycle LOS Score for Intersection	2.929	2.586	2.204	3.087
Bicycle LOS	C	B	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	396	3	471	0	0	0	88	477	0	0	1364	414
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	118	0	0	0	0	0	0	0	0	104
Total Hourly Volume [veh/h]	396	3	353	0	0	0	88	477	0	0	1364	310
Peak Hour Factor	0.950	0.950	0.950	1.000	1.000	1.000	0.950	0.950	1.000	1.000	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	104	1	93	0	0	0	23	126	0	0	359	82
Total Analysis Volume [veh/h]	417	3	372	0	0	0	93	502	0	0	1436	326
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]		0						0			0	
v_di, Inbound Pedestrian Volume crossing major street [ped/h]		0						0			0	
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]		0						0			0	
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]		0						0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0						0			0	
Bicycle Volume [bicycles/h]		0						0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	19	0	0	22	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17		13	13	30	30
g / C, Green / Cycle	0.29	0.29		0.21	0.21	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.24	0.23		0.17	0.17	0.47	0.50
s, saturation flow rate [veh/h]	1782	1589		1842	1702	1870	1755
c, Capacity [veh/h]	511	456		394	364	930	873
d1, Uniform Delay [s]	19.98	19.93		22.28	22.27	14.32	15.07
k, delay calibration	0.11	0.11		0.11	0.11	0.41	0.45
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.39	3.64		3.49	3.73	16.63	31.18
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.82		0.79	0.78	0.95	1.01
d, Delay for Lane Group [s/veh]	23.37	23.57		25.78	26.01	30.95	46.26
Lane Group LOS	C	C		C	C	C	F
Critical Lane Group	Yes	No		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.43	4.83		4.19	3.88	13.41	17.07
50th-Percentile Queue Length [ft/ln]	135.74	120.86		104.63	97.02	335.24	426.79
95th-Percentile Queue Length [veh/ln]	9.25	8.44		7.53	6.99	19.42	24.01
95th-Percentile Queue Length [ft/ln]	231.28	211.01		188.34	174.64	485.38	600.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.37	23.37	23.57	0.00	0.00	0.00	25.78	25.91	0.00	0.00	36.87	46.26
Movement LOS	C	C	C				C	C			D	D
d_A, Approach Delay [s/veh]	23.46			0.00			25.89			38.61		
Approach LOS	C			A			C			D		
d_I, Intersection Delay [s/veh]	32.39											
Intersection LOS	C											
Intersection V/C	0.906											

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	2.384	1.917	2.708	2.986
Crosswalk LOS	B	A	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	500	600
d_b, Bicycle Delay [s]	16.88	30.00	16.88	14.70
I_b,int, Bicycle LOS Score for Intersection	3.061	4.132	2.050	3.099
Bicycle LOS	C	D	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 9 9 Future 2040 AM

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

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	26	0	130	61	0	13	2	333	18	394	1369	83	2429

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	583	0	208	38	145	413	239	319	186	285	1323	152	3891

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	396	3	471	88	477	1364	414	3213

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 10 Future 2040 PM

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

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	EB Thru	2.177	225.3	F
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.726	37.7	D
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.814	22.0	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th 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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	225.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.177

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			+			T T T			T T T		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	30	0	620	92	0	7	6	857	31	267	212	132
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	0	620	92	0	7	6	857	31	267	212	132
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	8	0	163	24	0	2	2	226	8	70	56	35
Total Analysis Volume [veh/h]	32	0	653	97	0	7	6	902	33	281	223	139
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	429	498	498	404	393	902	450	395	418	454
Degree of Utilization, x	0.07	0.66	0.66	0.26	0.02	2.18	0.07	0.71	0.53	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.24	4.70	4.70	1.01	0.05	66.07	0.24	5.37	3.05	1.28
95th-Percentile Queue Length [ft]	6.01	117.4	117.4	25.34	1.16	1651.	5.91	134.2	76.32	32.04
Approach Delay [s/veh]	22.19			14.98	533.91			23.93		
Approach LOS	C			B	F			C		
Intersection Delay [s/veh]	225.26									
Intersection LOS	F									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type: Signalized
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 37.7
 Level Of Service: D
 Volume to Capacity (v/c): 0.726

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	171	13	203	33	100	159	451	601	473	126	373	164
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	40	0	0	118	0	0	41
Total Hourly Volume [veh/h]	171	13	152	33	100	119	451	601	355	126	373	123
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	45	3	40	9	26	31	119	158	93	33	98	32
Total Analysis Volume [veh/h]	180	14	160	35	105	125	475	633	374	133	393	129
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Version 2022 (SP 0-0)

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	19	0	0	19	0	33	23	0	9	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_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
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	10	10	24	26	26	16	14	14
g / C, Green / Cycle	0.24	0.13	0.13	0.30	0.32	0.32	0.20	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.21	0.08	0.08	0.28	0.28	0.29	0.08	0.15	0.15
s, saturation flow rate [veh/h]	1692	1847	1589	1687	1870	1644	1687	1870	1714
c, Capacity [veh/h]	399	232	200	507	605	532	343	337	309
d1, Uniform Delay [s]	29.53	33.09	33.19	27.25	25.49	25.84	27.57	31.46	31.50
k, delay calibration	0.13	0.11	0.11	0.27	0.27	0.29	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
d2, Incremental Delay [s]	7.72	2.51	3.20	17.53	9.36	13.65	0.72	4.55	5.15
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.60	0.63	0.94	0.87	0.90	0.39	0.81	0.81
d, Delay for Lane Group [s/veh]	37.24	35.60	36.39	44.78	34.86	39.50	28.29	36.00	36.66
Lane Group LOS	D	D	D	D	C	D	C	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.16	2.67	2.42	10.85	10.49	10.24	2.21	5.29	4.95
50th-Percentile Queue Length [ft/ln]	179.08	66.75	60.59	271.1	262.3	255.9	55.15	132.2	123.7
95th-Percentile Queue Length [veh/ln]	11.55	4.81	4.36	16.25	15.81	15.48	3.97	9.06	8.60
95th-Percentile Queue Length [ft/ln]	288.81	120.16	109.07	406.1	395.1	387.0	99.28	226.5	214.9

Movement, Approach, & Intersection Results

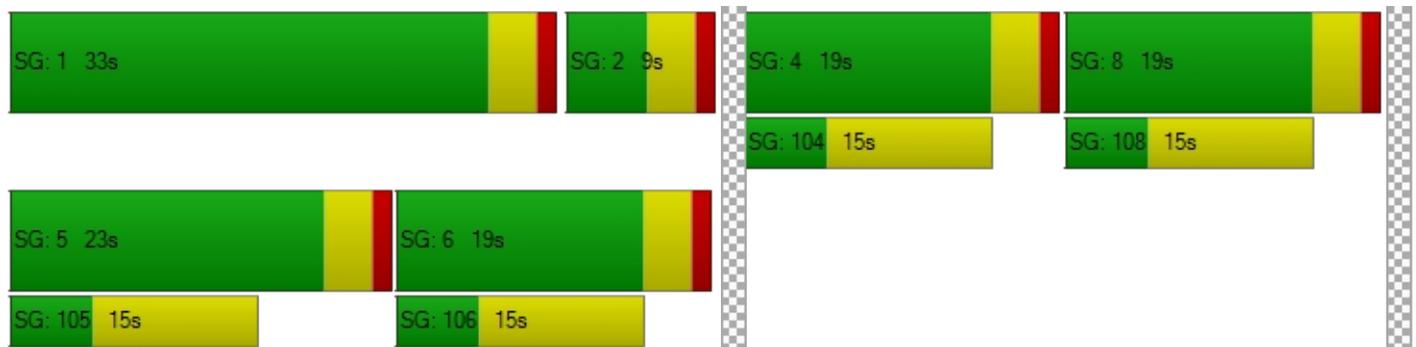
d_M, Delay for Movement [s/veh]	37.24	37.24	37.24	35.60	35.60	36.39	44.78	35.63	39.50	28.29	36.21	36.66
Movement LOS	D	D	D	D	D	D	D	D	D	C	D	D
d_A, Approach Delay [s/veh]	37.24			35.97			39.54			34.69		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	37.75											
Intersection LOS	D											
Intersection V/C	0.726											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.336	2.306	2.919	2.661
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	375	375	475	375
d_b, Bicycle Delay [s]	26.41	26.41	23.26	26.41
I_b,int, Bicycle LOS Score for Intersection	2.228	2.063	2.880	2.134
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	241	20	531	0	0	0	84	753	0	0	422	610
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	133	0	0	0	0	0	0	0	0	153
Total Hourly Volume [veh/h]	241	20	398	0	0	0	84	753	0	0	422	457
Peak Hour Factor	0.950	0.950	0.950	1.000	1.000	1.000	0.950	0.950	1.000	1.000	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	63	5	105	0	0	0	22	198	0	0	111	120
Total Analysis Volume [veh/h]	254	21	419	0	0	0	88	793	0	0	444	481
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	19	0	0	22	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19		18	18	21	21
g / C, Green / Cycle	0.31	0.31		0.30	0.30	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.15	0.26		0.25	0.25	0.24	0.30
s, saturation flow rate [veh/h]	1787	1589		1852	1702	1870	1589
c, Capacity [veh/h]	550	489		550	505	655	557
d1, Uniform Delay [s]	16.98	19.52		19.72	19.72	16.60	18.15
k, delay calibration	0.11	0.11		0.11	0.11	0.11	0.16
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	4.43		3.42	3.70	1.24	6.00
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.86		0.83	0.83	0.68	0.86
d, Delay for Lane Group [s/veh]	17.69	23.95		23.13	23.42	17.84	24.15
Lane Group LOS	B	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.92	5.52		5.91	5.47	4.85	6.40
50th-Percentile Queue Length [ft/ln]	72.89	137.96		147.77	136.76	121.16	160.04
95th-Percentile Queue Length [veh/ln]	5.25	9.37		9.90	9.31	8.46	10.55
95th-Percentile Queue Length [ft/ln]	131.20	234.27		247.46	232.65	211.41	263.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.69	17.69	23.95	0.00	0.00	0.00	23.13	23.29	0.00	0.00	17.84	24.15
Movement LOS	B	B	C				C	C			B	C
d_A, Approach Delay [s/veh]	21.47			0.00			23.27			21.12		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	21.97											
Intersection LOS	C											
Intersection V/C	0.814											

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	2.379	2.128	2.497	2.971
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	500	600
d_b, Bicycle Delay [s]	16.88	30.00	16.88	14.70
I_b,int, Bicycle LOS Score for Intersection	2.924	4.132	2.286	2.449
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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]	7.22	0.00	0.00	0.00	10.18	8.32
Movement LOS	A	A	A	A	B	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]	3.61		0.00		9.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.29					
Intersection LOS						

Vistro File: C:\...\Vistro_updated.vistro

Scenario 10 Future 2040 PM

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

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	30	0	620	92	0	7	6	857	31	267	212	132	2254

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	171	13	203	33	100	159	451	601	473	126	373	164	2867

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	241	20	531	84	753	422	610	2661

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	0	0	0	0	0

Vistro File: C:\...\Vistro_updated.vistro

Scenario 7 7 Opening AM+Other Projs+Proj

Report File: C:\...\Opening AM+Other Projs+Proj.pdf

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	WB Thru	0.752	19.0	C
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.838	28.8	C
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.888	24.0	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th Edition	EB Left	0.008	12.2	B

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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			+			T T T			T T T		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	0	61	49	0	4	3	205	9	156	328	59
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	66	2	4	5	6	0	33	6	42
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
Total Hourly Volume [veh/h]	5	0	69	118	2	8	8	223	10	198	354	105
Peak Hour Factor	0.579	0.579	0.579	0.602	0.602	0.602	0.859	0.859	0.859	0.891	0.891	0.891
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	2	0	30	49	1	3	2	65	3	56	99	29
Total Analysis Volume [veh/h]	9	0	119	196	3	13	9	260	12	222	397	118
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	444	519	519	461	448	478	527	492	528	590
Degree of Utilization, x	0.02	0.11	0.11	0.46	0.02	0.54	0.02	0.45	0.75	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.39	0.39	2.38	0.06	3.20	0.07	2.31	6.51	0.74
95th-Percentile Queue Length [ft]	1.55	9.64	9.64	59.39	1.54	80.07	1.75	57.82	162.6	18.54
Approach Delay [s/veh]	10.56			17.30	18.21			21.18		
Approach LOS	B			C	C			C		
Intersection Delay [s/veh]	18.96									
Intersection LOS	C									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	155	0	285	25	129	52	50	182	149	604	394	85
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	25	0	69	14	0	0	25	51	38	87	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	76	0	0	14	0	0	52	0	0	28
Total Hourly Volume [veh/h]	197	25	226	96	151	41	53	218	157	678	505	83
Peak Hour Factor	0.894	0.894	0.894	0.859	0.859	0.859	0.873	0.873	0.873	0.948	0.948	0.948
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	55	7	63	28	44	12	15	62	45	179	133	22
Total Analysis Volume [veh/h]	220	28	253	112	176	48	61	250	180	715	533	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	22	0	0	19	0	9	19	0	30	20	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	27	15	15	4	29	29	55	29	29
g / C, Green / Cycle	0.34	0.19	0.19	0.05	0.37	0.37	0.68	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.31	0.17	0.03	0.04	0.13	0.13	0.52	0.18	0.18
s, saturation flow rate [veh/h]	1594	1738	1506	1593	1772	1532	1368	1772	1685
c, Capacity [veh/h]	535	337	292	76	647	559	867	647	615
d1, Uniform Delay [s]	25.73	31.17	26.86	37.72	18.49	18.59	14.18	19.64	19.67
k, delay calibration	0.33	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	19.42	6.24	0.26	17.45	0.32	1.82	8.79	2.65	2.82
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.94	0.86	0.16	0.80	0.35	0.36	0.82	0.49	0.49
d, Delay for Lane Group [s/veh]	45.14	37.42	27.12	55.17	18.82	20.41	22.97	22.28	22.48
Lane Group LOS	D	D	C	E	B	C	C	C	C
Critical Lane Group	Yes	Yes	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.56	5.77	0.77	1.53	2.98	2.91	7.52	4.81	4.64
50th-Percentile Queue Length [ft/ln]	288.92	144.34	19.17	38.19	74.50	72.74	188.0	120.2	116.0
95th-Percentile Queue Length [veh/ln]	17.13	9.71	1.38	2.75	5.36	5.24	12.02	8.41	8.17
95th-Percentile Queue Length [ft/ln]	428.30	242.86	34.50	68.74	134.1	130.9	300.4	210.2	204.3

Movement, Approach, & Intersection Results

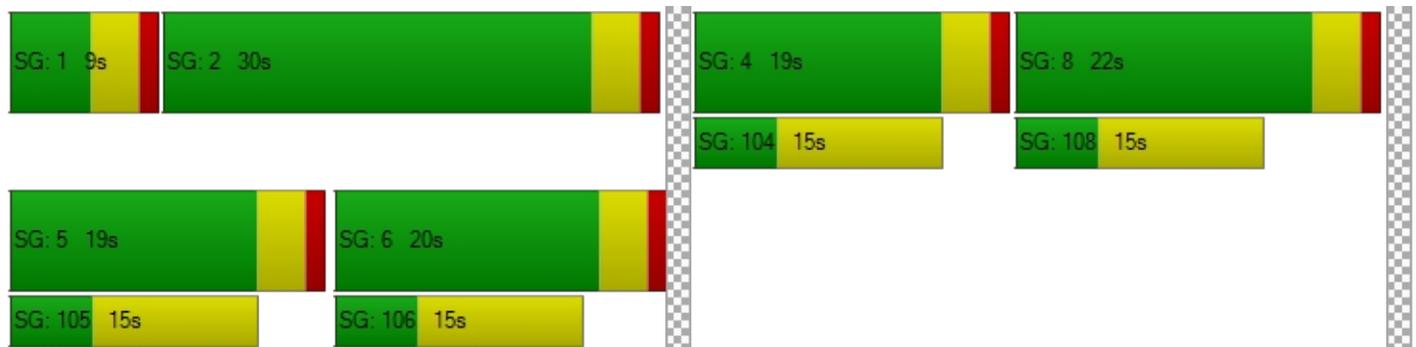
d_M, Delay for Movement [s/veh]	45.14	45.14	45.14	37.42	37.42	27.12	55.17	18.96	20.41	22.97	22.36	22.48
Movement LOS	D	D	D	D	D	C	E	B	C	C	C	C
d_A, Approach Delay [s/veh]	45.14			35.95			23.99			22.70		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.83											
Intersection LOS	C											
Intersection V/C	0.838											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.939	2.136	2.634	2.736
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	450	375	375	400
d_b, Bicycle Delay [s]	24.03	26.41	26.41	25.60
I_b,int, Bicycle LOS Score for Intersection	2.512	2.137	2.008	2.685
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	256	3	399	0	0	0	88	404	0	0	828	414
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.000	1.000	1.000	1.060	1.060	1.000	1.000	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	88	0	35	0	0	0	45	49	0	0	58	31
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	115	0	0	0	0	0	0	0	0	118
Total Hourly Volume [veh/h]	359	3	343	0	0	0	138	477	0	0	936	352
Peak Hour Factor	0.823	0.823	0.823	1.000	1.000	1.000	0.953	0.953	1.000	1.000	0.955	0.955
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	109	1	104	0	0	0	36	125	0	0	245	92
Total Analysis Volume [veh/h]	436	4	417	0	0	0	145	501	0	0	980	369
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	0
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	0	19	0	0	0	0	0	19	0	0	22	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	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	0.0
Rest In Walk		No						No			No		
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	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	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	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20		14	14	27	27
g / C, Green / Cycle	0.33	0.33		0.24	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.26	0.28		0.19	0.19	0.38	0.42
s, saturation flow rate [veh/h]	1688	1506		1734	1612	1772	1616
c, Capacity [veh/h]	551	491		415	386	807	736
d1, Uniform Delay [s]	18.42	18.83		21.52	21.50	14.37	15.28
k, delay calibration	0.11	0.12		0.11	0.11	0.28	0.33
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.72	4.73		3.77	3.99	5.82	13.17
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	0.80	0.85		0.81	0.81	0.84	0.92
d, Delay for Lane Group [s/veh]	21.14	23.56		25.28	25.50	20.19	28.45
Lane Group LOS	C	C		C	C	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.38	5.46		4.50	4.20	8.04	9.85
50th-Percentile Queue Length [ft/ln]	134.55	136.43		112.58	104.99	201.02	246.33
95th-Percentile Queue Length [veh/ln]	9.19	9.29		7.98	7.56	12.69	15.00
95th-Percentile Queue Length [ft/ln]	229.66	232.21		199.59	188.99	317.29	375.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.14	21.14	23.56	0.00	0.00	0.00	25.28	25.42	0.00	0.00	22.77	28.45
Movement LOS	C	C	C				C	C			C	C
d_A, Approach Delay [s/veh]	22.32			0.00			25.39			24.32		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	23.96											
Intersection LOS	C											
Intersection V/C	0.888											

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	2.400	2.024	2.614	2.936
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	500	600
d_b, Bicycle Delay [s]	16.88	30.00	16.88	14.70
I_b,int, Bicycle LOS Score for Intersection	3.163	4.132	2.093	2.770
Bicycle LOS	C	D	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	66	165	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	35	4	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	66	165	35	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	43	9	1	0
Total Analysis Volume [veh/h]	0	69	174	37	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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	0.01	0.00
d_M, Delay for Movement [s/veh]	7.65	0.00	0.00	0.00	12.20	8.93
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.60	0.60
d_A, Approach Delay [s/veh]	0.00		0.00		12.20	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Vistro File: C:\...\Vistro_updated.vistro

Scenario 7 7 Opening AM+Other Projs+Proj

Report File: C:\...\Opening AM+Other Projs+Proj.pdf

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	5	0	69	118	2	8	8	223	10	198	354	105	1100

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	197	25	302	96	151	55	53	218	209	678	505	111	2600

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	359	3	458	138	477	936	470	2841

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	66	165	35	4	0	270

Vistro File: C:\...\Vistro_updated.vistro

Scenario 8 8 Opening PM+Other Projs+Proj

Report File: C:\...\Opening PM+Other Projs+Proj.pdf

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	SB Left	0.976	35.0	D
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	NB Right	1.011	43.1	D
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	NB Right	1.006	22.7	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th Edition	EB Left	0.070	12.9	B

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: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	35.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	0	239	63	0	6	3	243	11	96	109	98
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	31	164	0	5	5	11	0	6	10	42
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
Total Hourly Volume [veh/h]	22	2	284	231	0	11	8	269	12	108	126	146
Peak Hour Factor	0.855	0.855	0.855	0.567	0.567	0.567	0.803	0.803	0.803	0.904	0.904	0.904
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	6	1	83	102	0	5	2	84	4	30	35	40
Total Analysis Volume [veh/h]	26	2	332	407	0	19	10	335	15	119	139	162
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	394	454	455	436	386	408	443	366	387	421
Degree of Utilization, x	0.07	0.37	0.37	0.98	0.03	0.82	0.03	0.33	0.36	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	1.67	1.66	12.00	0.08	7.54	0.10	1.38	1.60	1.78
95th-Percentile Queue Length [ft]	5.27	41.64	41.57	300.04	1.99	188.4	2.62	34.57	39.99	44.57
Approach Delay [s/veh]	14.95			66.28	39.06			16.92		
Approach LOS	B			F	E			C		
Intersection Delay [s/veh]	34.98									
Intersection LOS	D									

Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr

Control Type:	Signalized	Delay (sec / veh):	43.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.011

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	89	9	389	20	83	33	79	261	227	299	221	142
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	78	0	180	16	0	0	45	160	62	184	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	103	0	0	9	0	0	100	0	0	49
Total Hourly Volume [veh/h]	117	88	309	201	104	26	84	322	301	379	418	146
Peak Hour Factor	0.851	0.851	0.851	0.847	0.847	0.847	0.858	0.858	0.858	0.890	0.890	0.890
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	34	26	91	59	31	8	24	94	88	106	117	41
Total Analysis Volume [veh/h]	137	103	363	237	123	31	98	375	351	426	470	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 major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	22	0	0	19	0	22	20	0	17	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	30	19	19	6	21	21	36	21	21
g / C, Green / Cycle	0.37	0.24	0.24	0.08	0.26	0.26	0.45	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.38	0.21	0.02	0.06	0.21	0.23	0.31	0.19	0.19
s, saturation flow rate [veh/h]	1585	1715	1506	1593	1772	1506	1371	1772	1617
c, Capacity [veh/h]	592	407	357	124	467	397	590	467	427
d1, Uniform Delay [s]	25.06	29.45	23.76	36.25	27.50	28.27	17.74	26.67	26.67
k, delay calibration	0.46	0.13	0.11	0.11	0.50	0.50	0.32	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
d2, Incremental Delay [s]	40.22	7.55	0.10	10.64	13.56	23.67	4.95	8.79	9.60
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.88	0.09	0.79	0.80	0.88	0.72	0.71	0.71
d, Delay for Lane Group [s/veh]	65.28	37.01	23.86	46.89	41.06	51.94	22.69	35.46	36.27
Lane Group LOS	F	D	C	D	D	D	C	D	D
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	17.03	7.26	0.46	2.21	8.17	8.78	6.24	6.63	6.15
50th-Percentile Queue Length [ft/ln]	425.84	181.56	11.39	55.13	204.2	219.5	156.0	165.8	153.8
95th-Percentile Queue Length [veh/ln]	24.10	11.68	0.82	3.97	12.86	13.64	10.34	10.86	10.22
95th-Percentile Queue Length [ft/ln]	602.54	292.06	20.50	99.24	321.4	340.9	258.5	271.4	255.5

Movement, Approach, & Intersection Results

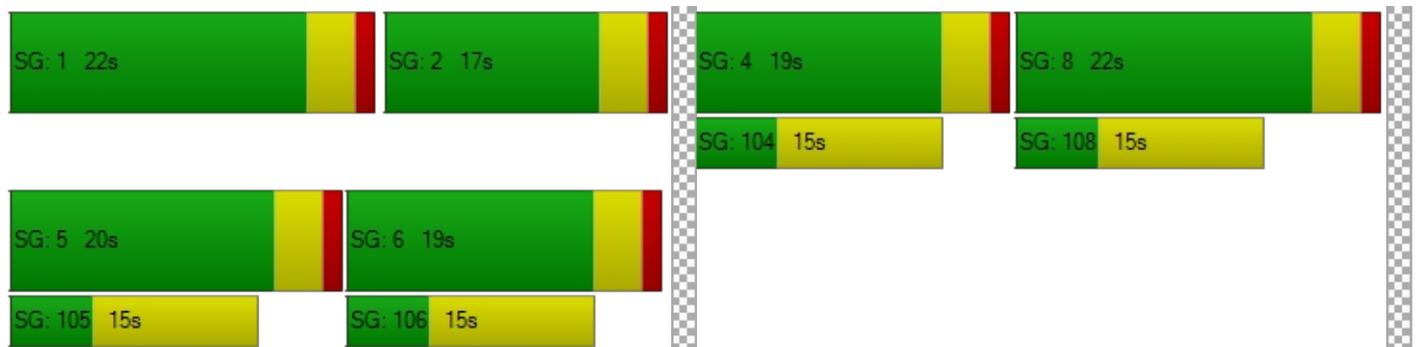
d_M, Delay for Movement [s/veh]	65.28	65.28	65.28	37.01	37.01	23.86	46.89	41.06	51.94	22.69	35.70	36.27
Movement LOS	E	E	E	D	D	C	D	D	D	C	D	D
d_A, Approach Delay [s/veh]	65.28			35.96			46.39			30.56		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	43.10											
Intersection LOS	D											
Intersection V/C	1.011											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.817	2.213	2.744	2.792
Crosswalk LOS	C	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	450	375	400	375
d_b, Bicycle Delay [s]	24.03	26.41	25.60	26.41
I_b,int, Bicycle LOS Score for Intersection	2.725	2.220	2.322	2.475
Bicycle LOS	B	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.006

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	206	0	531	0	0	0	83	547	0	0	419	462
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.060	1.060	1.060	1.000	1.000	1.000	1.060	1.060	1.000	1.000	1.060	1.060
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	165	0	65	0	0	0	108	117	0	0	125	52
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	157	0	0	0	0	0	0	0	0	136
Total Hourly Volume [veh/h]	383	0	471	0	0	0	196	697	0	0	569	406
Peak Hour Factor	0.873	0.873	0.873	1.000	1.000	1.000	0.862	0.862	1.000	1.000	0.935	0.935
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	110	0	135	0	0	0	57	202	0	0	152	109
Total Analysis Volume [veh/h]	439	0	540	0	0	0	227	809	0	0	609	434
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	0
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	0	22	0	0	0	0	0	19	0	0	19	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	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	0.0
Rest In Walk		No						No			No		
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	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	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	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24		21	21	23	23
g / C, Green / Cycle	0.40	0.40		0.36	0.36	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.26	0.36		0.31	0.31	0.29	0.34
s, saturation flow rate [veh/h]	1687	1506		1735	1612	1772	1545
c, Capacity [veh/h]	677	604		620	576	678	591
d1, Uniform Delay [s]	14.53	16.76		17.96	17.95	16.20	17.25
k, delay calibration	0.11	0.24		0.17	0.17	0.15	0.21
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.05	10.03		5.88	6.29	2.57	8.35
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	0.65	0.89		0.87	0.87	0.77	0.88
d, Delay for Lane Group [s/veh]	15.58	26.79		23.84	24.24	18.76	25.60
Lane Group LOS	B	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.40	7.65		7.09	6.66	5.94	7.18
50th-Percentile Queue Length [ft/ln]	110.05	191.24		177.35	166.40	148.45	179.54
95th-Percentile Queue Length [veh/ln]	7.84	12.19		11.46	10.89	9.93	11.58
95th-Percentile Queue Length [ft/ln]	196.07	304.64		286.55	272.18	248.35	289.42

Movement, Approach, & Intersection Results

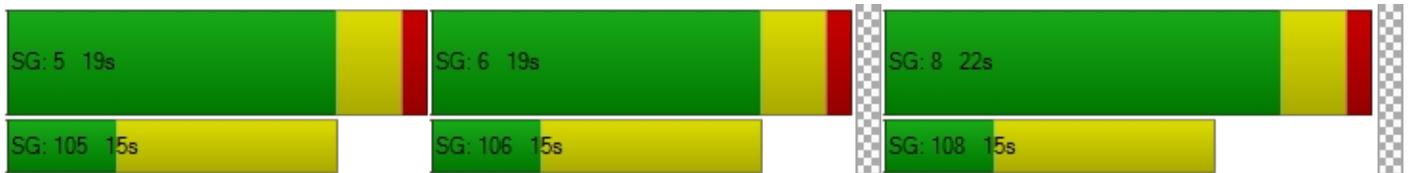
d_M, Delay for Movement [s/veh]	15.58	15.58	26.79	0.00	0.00	0.00	23.84	24.09	0.00	0.00	19.75	25.60
Movement LOS	B	B	C				C	C			B	C
d_A, Approach Delay [s/veh]	21.76			0.00			24.03			22.18		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	22.68											
Intersection LOS	C											
Intersection V/C	1.006											

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	2.513	2.181	2.620	2.998
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	500	500
d_b, Bicycle Delay [s]	14.70	30.00	16.88	16.88
I_b,int, Bicycle LOS Score for Intersection	3.434	4.132	2.414	2.532
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	252	107	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	6	32	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	252	107	6	32	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	66	28	2	8	0
Total Analysis Volume [veh/h]	0	265	113	6	34	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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	0.07	0.00
d_M, Delay for Movement [s/veh]	7.45	0.00	0.00	0.00	12.92	9.17
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.22	0.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.59	5.59
d_A, Approach Delay [s/veh]	0.00		0.00		12.92	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.05					
Intersection LOS	B					

Vistro File: C:\...\Vistro_updated.vistro

Scenario 8 8 Opening PM+Other Projs+Proj

Report File: C:\...\Opening PM+Other Projs+Proj.pdf

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	22	2	284	231	0	11	8	269	12	108	126	146	1219

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	117	88	412	201	104	35	84	322	401	379	418	195	2756

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	383	0	628	196	697	569	542	3015

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	252	107	6	32	0	397

Vistro File: C:\...\Vistro_updated.vistro

Scenario 15 Future 2040 AM+Proj

Report File: C:\...\Future AM+Proj.pdf

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	WB Thru	2.688	445.9	F
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	NB Left	1.218	78.2	E
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.919	32.1	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th Edition	EB Left	0.012	16.3	C

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

Intersection Level Of Service Report
Intersection 1: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	445.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.688

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			+			T T T			T T T		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	26	0	130	61	0	13	2	333	18	394	1369	83
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	2	0	0	0	0	33	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
Total Hourly Volume [veh/h]	26	0	134	61	2	13	2	333	18	427	1369	83
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	7	0	35	16	1	3	1	88	5	112	360	22
Total Analysis Volume [veh/h]	27	0	141	64	2	14	2	351	19	449	1441	87
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	431	501	501	420	443	471	518	499	1441	600
Degree of Utilization, x	0.06	0.14	0.14	0.19	0.00	0.75	0.04	0.90	2.69	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.20	0.49	0.49	0.70	0.01	6.21	0.11	10.24	117.6	0.51
95th-Percentile Queue Length [ft]	5.00	12.18	12.18	17.40	0.34	155.2	2.85	255.9	2942.	12.64
Approach Delay [s/veh]	11.15			13.60	28.42			578.94		
Approach LOS	B			B	D			F		
Intersection Delay [s/veh]	445.94									
Intersection LOS	F									

Option 1: Palm Ave/Industrial Pkwy Mitigation

Number	1											
Intersection	Palm Ave/Industrial Pkwy											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	26	0	130	61	0	13	2	333	18	394	1369	83
Total Analysis Volume [veh/h]	27	0	141	64	2	14	2	351	19	449	1441	87

Intersection Settings

Cycle Length [s]	65											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	4	0	0	5	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [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
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	14	0	0	14	0	0	19	0	0	18	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	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.15	0.15	0.15	0.12	0.15	0.15	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.02	0.05	0.05	0.05	0.12	0.12	0.28	0.45	0.46
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3	3			3	
s, saturation flow rate [veh/h]	1603	1431	1431	1572	1682	1503	1603	1683	1650
c, Capacity [veh/h]	235	210	210	185	261	233	736	773	758
X, volume / capacity	0.12	0.34	0.34	0.43	0.75	0.76	0.61	0.99	1.01
d, Delay for Lane Group [s/veh]	24.30	25.84	25.84	28.26	30.62	31.27	14.43	45.10	50.79
Lane Group LOS	C	C	C	C	C	C	B	D	F

Version 2022 (SP 0-0)

Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.36	0.98	0.98	1.18	3.06	2.79	4.53	15.54	16.60
50th-Percentile Queue Length [ft/ln]	8.95	24.59	24.59	29.54	76.43	69.79	113.2	388.5	415.0
95th-Percentile Queue Length [veh/ln]	0.64	1.77	1.77	2.13	5.50	5.02	8.02	22.01	23.43
95th-Percentile Queue Length [ft/ln]	16.11	44.26	44.26	53.18	137.58	125.62	200.5	550.1	585.6

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.30	25.84	25.84	28.26	28.26	28.26	30.62	30.91	31.27	14.43	47.77	50.79
Movement LOS	C	C	C	C	C	C	C	C	C	B	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	25.60			28.26			30.93			40.33		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	37.66											
Intersection LOS	D											
Intersection V/C	0.680											

**Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr**

Control Type:	Signalized	Delay (sec / veh):	78.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.218

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	583	0	208	38	145	413	239	319	186	285	1323	152
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	0	0	2	2	0	21	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	52	0	0	103	0	0	47	0	0	38
Total Hourly Volume [veh/h]	595	0	156	38	145	310	239	321	141	285	1344	114
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	157	0	41	10	38	82	63	84	37	75	354	30
Total Analysis Volume [veh/h]	626	0	164	40	153	326	252	338	148	300	1415	120
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	23	0	0	19	0	23	19	0	15	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_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
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	19	19	14	14	14	30	30	30
g / C, Green / Cycle	0.37	0.24	0.24	0.18	0.17	0.17	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.45	0.10	0.21	0.15	0.14	0.14	0.18	0.41	0.42
s, saturation flow rate [veh/h]	1737	1851	1589	1687	1870	1680	1687	1870	1820
c, Capacity [veh/h]	649	438	376	296	319	287	622	699	680
d1, Uniform Delay [s]	25.05	26.04	29.34	31.96	31.86	31.89	19.38	25.05	25.05
k, delay calibration	0.50	0.11	0.12	0.11	0.11	0.11	0.11	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
d2, Incremental Delay [s]	111.13	0.70	6.66	6.80	4.64	5.28	0.58	65.24	74.39
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.22	0.44	0.87	0.85	0.80	0.80	0.48	1.10	1.13
d, Delay for Lane Group [s/veh]	136.18	26.74	35.99	38.76	36.50	37.17	19.96	90.29	99.44
Lane Group LOS	F	C	D	D	D	D	B	F	F
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	31.47	3.12	6.47	5.13	5.01	4.58	4.16	24.96	26.02
50th-Percentile Queue Length [ft/ln]	786.73	77.99	161.77	128.3	125.1	114.4	104.0	624.0	650.4
95th-Percentile Queue Length [veh/ln]	46.07	5.62	10.64	8.85	8.68	8.09	7.49	35.39	37.20
95th-Percentile Queue Length [ft/ln]	1151.85	140.38	266.06	221.2	216.9	202.1	187.2	884.8	929.9

Movement, Approach, & Intersection Results

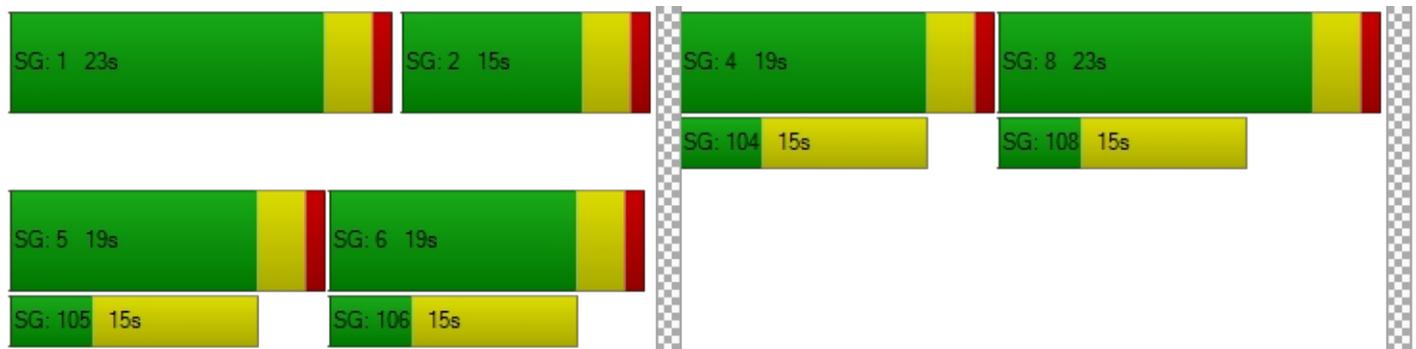
d_M, Delay for Movement [s/veh]	136.1	136.1	136.1	26.74	26.74	35.99	38.76	36.67	37.17	19.96	94.46	99.44
Movement LOS	F	F	F	C	C	D	D	D	D	B	F	F
d_A, Approach Delay [s/veh]	136.18			32.55			37.48			82.61		
Approach LOS	F			C			D			F		
d_I, Intersection Delay [s/veh]	78.24											
Intersection LOS	E											
Intersection V/C	1.218											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.511	2.418	2.997	2.831
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	475	375	375	375
d_b, Bicycle Delay [s]	23.26	26.41	26.41	26.41
I_b,int, Bicycle LOS Score for Intersection	2.949	2.586	2.207	3.105
Bicycle LOS	C	B	B	C

Sequence

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



Option 1: Palm Ave/Kendall Dr Mitigation

Number	2											
Intersection	Palm Ave/Kendall Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	583	0	208	38	145	413	239	319	186	285	1323	152
Total Analysis Volume [veh/h]	626	0	164	40	153	326	252	338	148	300	1415	120

Intersection Settings

Cycle Length [s]	70											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Protec	Permi	Permi	ProtP	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	3	8	0	7	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	10	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	20	0	9	19	0	74	19	0	74	22	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	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		Yes	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.38	0.49	0.68	0.25	0.19	0.19	0.19	0.43	0.43	0.43	
(v / s)_i Volume / Saturation Flow Rate	0.35	0.10	0.11	0.21	0.14	0.14	0.14	0.17	0.41	0.42	
so, Base Saturation Flow per Lane [pc/h/lane]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1781	1589	1779	1589	1781	1870	1680	1781	1870	1820	
c, Capacity [veh/h]	673	779	1221	392	333	350	314	763	801	780	
X, volume / capacity	0.93	0.21	0.16	0.83	0.76	0.73	0.73	0.39	0.96	0.98	
d, Delay for Lane Group [s/veh]	36.18	10.28	4.02	29.63	30.45	29.71	30.13	14.07	40.51	45.66	
Lane Group LOS	D	B	A	C	C	C	C	B	D	D	

Version 2022 (SP 0-0)

Critical Lane Group	Yes	NO	NO	Yes	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	11.75	1.31	0.73	5.33	4.12	4.11	3.75	3.04	15.46	16.48
50th-Percentile Queue Length [ft/ln]	293.80	32.74	18.33	133.25	102.9	102.6	93.64	75.95	386.4	412.0
95th-Percentile Queue Length [veh/ln]	17.37	2.36	1.32	9.12	7.41	7.39	6.74	5.47	21.91	23.14
95th-Percentile Queue Length [ft/ln]	434.35	58.93	32.99	227.90	185.3	184.7	168.5	136.7	547.6	578.5

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.18	10.28	10.28	4.02	4.02	29.63	30.45	29.81	30.13	14.07	42.86	45.66
Movement LOS	D	B	B	A	A	C	C	C	C	B	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	30.80			20.11			30.09			38.34		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.80											
Intersection LOS	C											
Intersection V/C	1.119											

Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.919

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Vistro File: C:\...\Vistro_updated.vistro

Scenario 16 Future 2040 PM+Proj

Report File: C:\...\Future PM+Proj.pdf

12/6/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Palm Ave/Industrial Pkwy	All-way stop	HCM 6th Edition	EB Thru	2.216	229.5	F
2	Palm Ave/Kendall Dr	Signalized	HCM 6th Edition	EB Left	0.736	37.9	D
3	Palm Ave/I-215 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.863	22.2	C
4	Project Dwy/Industrial Pkwy	Two-way stop	HCM 6th Edition	EB Left	0.126	20.3	C

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

Intersection Level Of Service Report
Intersection 1: Palm Ave/Industrial Pkwy

Control Type:	All-way stop	Delay (sec / veh):	229.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.216

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Entry Pocket Length [ft]	165.0	100.0	100.0	100.0	100.0	100.0	115.0	100.0	295.0	180.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	30	0	620	92	0	7	6	857	31	267	212	132
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	31	0	0	0	0	0	0	6	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
Total Hourly Volume [veh/h]	30	2	651	92	0	7	6	857	31	273	212	132
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	8	1	171	24	0	2	2	226	8	72	56	35
Total Analysis Volume [veh/h]	32	2	685	97	0	7	6	902	33	287	223	139
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	428	496	496	398	386	902	441	391	413	449
Degree of Utilization, x	0.07	0.69	0.69	0.26	0.02	2.22	0.07	0.73	0.54	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.24	5.30	5.30	1.03	0.05	66.92	0.24	5.74	3.11	1.30
95th-Percentile Queue Length [ft]	6.03	132.5	132.4	25.78	1.18	1673.	6.03	143.4	77.74	32.55
Approach Delay [s/veh]	24.21			15.20	551.10			25.10		
Approach LOS	C			C	F			D		
Intersection Delay [s/veh]	229.53									
Intersection LOS	F									

Option 1: Mitigation Palm Ave/Industrial Pkwy

Number	1											
Intersection	Palm Ave/Industrial Pkwy											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	30	0	620	92	0	7	6	857	31	267	212	132
Total Analysis Volume [veh/h]	32	2	685	97	0	7	6	902	33	287	223	139

Intersection Settings

Cycle Length [s]	65											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	4	0	0	5	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [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
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	14	0	0	14	0	0	23	0	0	14	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	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.28	0.28	0.28	0.13	0.34	0.34	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.07	0.29	0.29	0.18	0.11	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3	3			3	
s, saturation flow rate [veh/h]	1603	1432	1431	1590	1682	1512	1603	1683	1471
c, Capacity [veh/h]	454	405	405	208	567	509	357	375	327
X, volume / capacity	0.07	0.85	0.85	0.50	0.87	0.87	0.80	0.51	0.52
d, Delay for Lane Group [s/veh]	17.11	26.95	26.96	28.14	27.51	28.23	28.19	23.25	23.48
Lane Group LOS	B	C	C	C	C	C	C	C	C

Version 2022 (SP 0-0)

Critical Lane Group	NO	NO	Yes	Yes	NO	Yes	Yes	NO	NO
50th-Percentile Queue Length [veh/ln]	0.34	5.10	5.10	1.53	7.53	6.87	4.32	2.53	2.26
50th-Percentile Queue Length [ft/ln]	8.40	127.4	127.4	38.34	188.14	171.68	108.0	63.18	56.50
95th-Percentile Queue Length [veh/ln]	0.60	8.80	8.80	2.76	12.02	11.16	7.73	4.55	4.07
95th-Percentile Queue Length [ft/ln]	15.12	220.0	219.9	69.00	300.62	279.12	193.2	113.7	101.7

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.11	26.95	26.95	28.14	28.14	28.14	27.51	27.84	28.23	28.19	23.28	23.48
Movement LOS	B	C	C	C	C	C	C	C	C	C	C	C
Critical Movement	No	No	No	No	No	No	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	26.51			28.14			27.85			25.50		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.83											
Intersection LOS	C											
Intersection V/C	0.779											

**Intersection Level Of Service Report
Intersection 2: Palm Ave/Kendall Dr**

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	135.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	171	13	203	33	100	159	451	601	473	126	373	164
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	11	19	0	4	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	51	0	0	40	0	0	123	0	0	41
Total Hourly Volume [veh/h]	173	13	152	33	100	119	451	612	369	126	377	123
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	46	3	40	9	26	31	119	161	97	33	99	32
Total Analysis Volume [veh/h]	182	14	160	35	105	125	475	644	388	133	397	129
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
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	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	1	5	0	2	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [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
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	19	0	0	19	0	33	23	0	9	19	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	10	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_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
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	10	10	24	26	26	17	14	14
g / C, Green / Cycle	0.24	0.13	0.13	0.30	0.33	0.33	0.21	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.21	0.08	0.08	0.28	0.29	0.30	0.08	0.15	0.15
s, saturation flow rate [veh/h]	1692	1847	1589	1687	1870	1642	1687	1870	1716
c, Capacity [veh/h]	401	232	200	507	618	542	356	339	311
d1, Uniform Delay [s]	29.48	33.09	33.19	27.25	25.22	25.62	27.03	31.41	31.46
k, delay calibration	0.13	0.11	0.11	0.27	0.28	0.30	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
d2, Incremental Delay [s]	7.84	2.51	3.20	17.53	9.73	14.62	0.65	4.55	5.15
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.60	0.63	0.94	0.87	0.91	0.37	0.81	0.81
d, Delay for Lane Group [s/veh]	37.32	35.60	36.39	44.78	34.95	40.24	27.68	35.96	36.61
Lane Group LOS	D	D	D	D	C	D	C	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.21	2.67	2.42	10.85	10.77	10.63	2.18	5.33	4.98
50th-Percentile Queue Length [ft/ln]	180.37	66.75	60.59	271.1	269.2	265.6	54.41	133.1	124.6
95th-Percentile Queue Length [veh/ln]	11.62	4.81	4.36	16.25	16.15	15.97	3.92	9.11	8.65
95th-Percentile Queue Length [ft/ln]	290.49	120.16	109.07	406.1	403.7	399.2	97.93	227.8	216.1

Movement, Approach, & Intersection Results

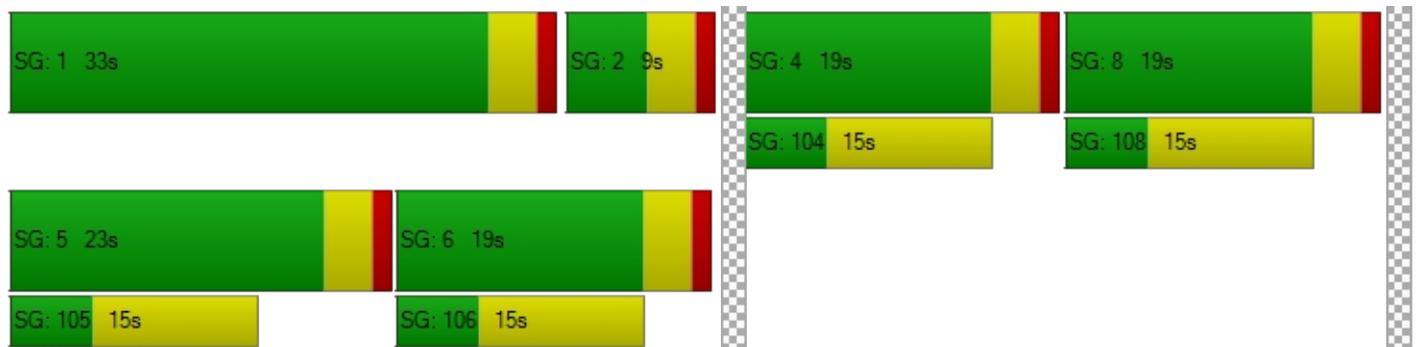
d_M, Delay for Movement [s/veh]	37.32	37.32	37.32	35.60	35.60	36.39	44.78	35.81	40.24	27.68	36.16	36.61
Movement LOS	D	D	D	D	D	D	D	D	D	C	D	D
d_A, Approach Delay [s/veh]	37.32			35.97			39.78			34.54		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	37.86											
Intersection LOS	D											
Intersection V/C	0.736											

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]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.347	2.306	2.933	2.664
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	375	375	475	375
d_b, Bicycle Delay [s]	26.41	26.41	23.26	26.41
I_b,int, Bicycle LOS Score for Intersection	2.231	2.063	2.904	2.137
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: Palm Ave/I-215 NB Ramps

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.863

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	500.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	241	20	531	0	0	0	84	753	0	0	422	610
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	0	11	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	133	0	0	0	0	0	0	0	0	153
Total Hourly Volume [veh/h]	245	20	398	0	0	0	95	753	0	0	422	457
Peak Hour Factor	0.950	0.950	0.950	1.000	1.000	1.000	0.950	0.950	1.000	1.000	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	64	5	105	0	0	0	25	198	0	0	111	120
Total Analysis Volume [veh/h]	258	21	419	0	0	0	100	793	0	0	444	481
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
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	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	19	0	0	22	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19		19	19	22	22
g / C, Green / Cycle	0.32	0.32		0.31	0.31	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.16	0.28		0.27	0.27	0.25	0.32
s, saturation flow rate [veh/h]	1693	1506		1753	1612	1772	1506
c, Capacity [veh/h]	544	484		548	504	647	550
d1, Uniform Delay [s]	16.55	19.16		19.29	19.29	16.14	17.77
k, delay calibration	0.11	0.13		0.11	0.11	0.11	0.19
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	5.53		3.76	4.07	1.31	7.51
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	0.51	0.87		0.85	0.85	0.69	0.88
d, Delay for Lane Group [s/veh]	17.30	24.69		23.05	23.36	17.44	25.28
Lane Group LOS	B	C		C	C	B	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.92	5.63		5.99	5.55	4.79	6.58
50th-Percentile Queue Length [ft/ln]	73.11	140.70		149.79	138.85	119.76	164.52
95th-Percentile Queue Length [veh/ln]	5.26	9.52		10.01	9.42	8.38	10.79
95th-Percentile Queue Length [ft/ln]	131.60	237.97		250.15	235.47	209.49	269.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.30	17.30	24.69	0.00	0.00	0.00	23.05	23.22	0.00	0.00	17.44	25.28
Movement LOS	B	B	C				C	C			B	C
d_A, Approach Delay [s/veh]	21.73			0.00			23.20			21.52		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	22.17											
Intersection LOS	C											
Intersection V/C	0.863											

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	2.380	2.140	2.501	2.971
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	500	600
d_b, Bicycle Delay [s]	16.88	30.00	16.88	14.70
I_b,int, Bicycle LOS Score for Intersection	2.931	4.132	2.296	2.449
Bicycle LOS	C	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	650	298	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	6	32	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	650	298	6	32	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	171	78	2	8	0
Total Analysis Volume [veh/h]	0	684	314	6	34	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	0.00	20.26	11.12
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	10.66	10.66
d_A, Approach Delay [s/veh]	0.00		0.00		20.26	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	C					

Vistro File: C:\...\Vistro_updated.vistro

Scenario 16 Future 2040 PM+Proj

Report File: C:\...\Future PM+Proj.pdf

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	30	2	651	92	0	7	6	857	31	273	212	132	2293

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	173	13	203	33	100	159	451	612	492	126	377	164	2903

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	245	20	531	95	753	422	610	2676

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	650	298	6	32	0	986

Volumes

Name												
Base Volume Input [veh/h]	396	3	471	0	0	0	88	477	0	0	1364	414
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	0	0	0	0	2	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	118	0	0	0	0	0	0	0	0	104
Total Hourly Volume [veh/h]	417	3	353	0	0	0	90	477	0	0	1364	310
Peak Hour Factor	0.950	0.950	0.950	1.000	1.000	1.000	0.950	0.950	1.000	1.000	0.950	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	110	1	93	0	0	0	24	126	0	0	359	82
Total Analysis Volume [veh/h]	439	3	372	0	0	0	95	502	0	0	1436	326
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	3.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	0	0	0	0	0	5	0	0	6	0	
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	0	10	0	0	10	0	
Maximum Green [s]	0	30	0	0	0	0	0	30	0	0	30	0	
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	0	19	0	0	0	0	0	19	0	0	22	0	
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall		No						No			No		
Maximum Recall		No						No			No		
Pedestrian Recall		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	R		C	C	C	C
C, Cycle Length [s]	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18		13	13	30	30
g / C, Green / Cycle	0.30	0.30		0.21	0.21	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.25	0.23		0.17	0.17	0.47	0.50
s, saturation flow rate [veh/h]	1782	1589		1842	1702	1870	1755
c, Capacity [veh/h]	532	475		395	365	930	873
d1, Uniform Delay [s]	19.63	19.27		22.26	22.25	14.32	15.07
k, delay calibration	0.11	0.11		0.11	0.11	0.41	0.45
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.44	2.88		3.49	3.73	16.63	31.18
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.78		0.79	0.78	0.95	1.01
d, Delay for Lane Group [s/veh]	23.07	22.15		25.76	25.99	30.95	46.26
Lane Group LOS	C	C		C	C	C	F
Critical Lane Group	Yes	No		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.68	4.66		4.20	3.89	13.41	17.07
50th-Percentile Queue Length [ft/ln]	142.11	116.42		104.93	97.32	335.24	426.79
95th-Percentile Queue Length [veh/ln]	9.59	8.20		7.56	7.01	19.42	24.01
95th-Percentile Queue Length [ft/ln]	239.86	204.90		188.88	175.18	485.38	600.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.07	23.07	22.15	0.00	0.00	0.00	25.76	25.89	0.00	0.00	36.87	46.26
Movement LOS	C	C	C				C	C			D	D
d_A, Approach Delay [s/veh]	22.65			0.00			25.87			38.61		
Approach LOS	C			A			C			D		
d_I, Intersection Delay [s/veh]	32.12											
Intersection LOS	C											
Intersection V/C	0.919											

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	2.392	1.919	2.714	2.986
Crosswalk LOS	B	A	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	0	500	600
d_b, Bicycle Delay [s]	16.88	30.00	16.88	14.70
I_b,int, Bicycle LOS Score for Intersection	3.097	4.132	2.052	3.099
Bicycle LOS	C	D	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: Project Dwy/Industrial Pkwy

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	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	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	0	412	156	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
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	35	4	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	412	191	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	108	50	1	0
Total Analysis Volume [veh/h]	0	0	434	201	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
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	0.01	0.00
d_M, Delay for Movement [s/veh]	8.81	0.00	0.00	0.00	16.27	10.45
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.94	0.94
d_A, Approach Delay [s/veh]	4.41		0.00		16.27	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Vistro File: C:\...\Vistro_updated.vistro

Scenario 15 Future 2040 AM+Proj

Report File: C:\...\Future AM+Proj.pdf

12/6/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Palm Ave/Industrial Pkwy	26	0	134	61	2	13	2	333	18	427	1369	83	2468

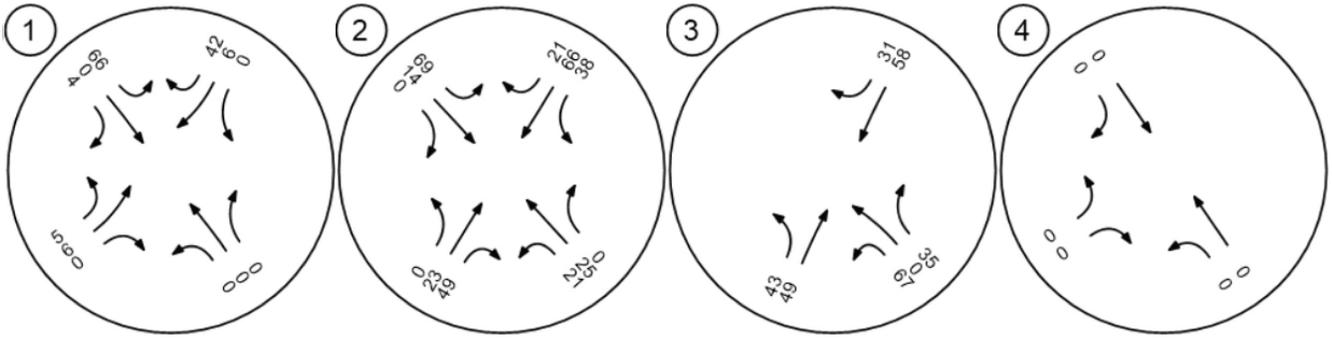
ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Palm Ave/Kendall Dr	595	0	208	38	145	413	239	321	188	285	1344	152	3928

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
3	Palm Ave/I-215 NB Ramps	417	3	471	90	477	1364	414	3236

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
4	Project Dwy/Industrial Pkwy	0	0	412	191	4	0	607

APPENDIX D – CUMULATIVE PROJECTS TRIP ASSIGNMENT

AM Peak Hour



PM Peak Hour

