MURANAKA WAREHOUSE PROJECT (PPT210130)

TRAFFIC IMPACT ANALYSIS

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1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) evaluates the potential traffic impacts of the Muranaka Warehouse project. The project is located on a 15.2-acre site located east of Decker Street and south of Harley Knox Boulevard. Based on the WSP *Riverside Transportation Uniform Mitigation Fee (TUMF)* (January 29, 2019) study vehicle trip generation rates, the project would generate 659 daily trips including 37 AM peak hour and 47 PM peak hour trips.

Three study area intersections listed in Section 2.2 – Study Area and Analysis Scenarios 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. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Condition
- Existing plus Project Condition
- Opening Year Baseline (corresponding to the project opening year 2023)
- Opening Year plus project

Existing plus Project Intersection Analysis Results
All of the intersections would operate with satisfactory LOS of C or better in the Existing plus Project Condition. No mitigation measures are required.

Opening Year plus Project Intersection Analysis Results
All of the intersections would operate with satisfactory LOS of D or better in the Cumulative plus Project Condition. No mitigation measures are required.

The project site would be accessible via three driveways: an auto only right in, right out, access driveway on Harley Knox Boulevard, and two full access, one auto only and one truck and auto, driveways along Rowland Lane.

I-215/Harley Knox Boulevard Interim Improvements
The I-215/Harley Knox Boulevard interchange is included in the TUMF program, which the project will participate in through payment of fees. However, the interchange is not included in the current TUMF expenditure plan and specific improvements have not yet been identified. Restriping improvements have been identified at the freeway ramp intersections which would mitigate the queuing issues in the existing and short-term conditions. The project would be responsible for 1.89 percent of the cost for restriping at the I-215/Harley Knox Boulevard ramp intersections.

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 Muranaka Warehouse Project (project; proposed project). The scope of work for this TIA was reviewed and approved by the County of Riverside and is provided in Appendix A. The TIA was prepared according to the approved scope of work using methodologies and significance criteria consistent with the requirements of the County of Riverside Traffic Impact Analysis Guidelines, General Plan, and applicable provisions of the California Environmental Quality Act (CEQA).

2.1 Project Description

The proposed project is located on a 15.2-acre site on the east side of Decker Street and south of Harley Knox Boulevard in the Mead Valley area of unincorporated Riverside County, California. The location of the project is shown in Figure 1 - Project Location, and the project site plan is shown in Figure 2 – Project Site Plan. The project proposes to construct a new 239,308 square-foot High Cube Fulfilment Center Building that would operate 7 days a week 24 hours a day. The site is currently vacant.

The project site would be accessible via three driveways: an auto only right-in/right-out access driveway from Harley Knox Boulevard (due to a proposed median along Harley Knox Boulevard), and two full access driveways, one auto only and one truck and auto, along Rowland Lane.

Truck and trailer parking and loading would be located on the southern portion of the project site. The main access to the truck court area would be from Rowland Lane. Passenger car parking would be available within the eastern and southern portions of the project site.

Figure 1: Project Location

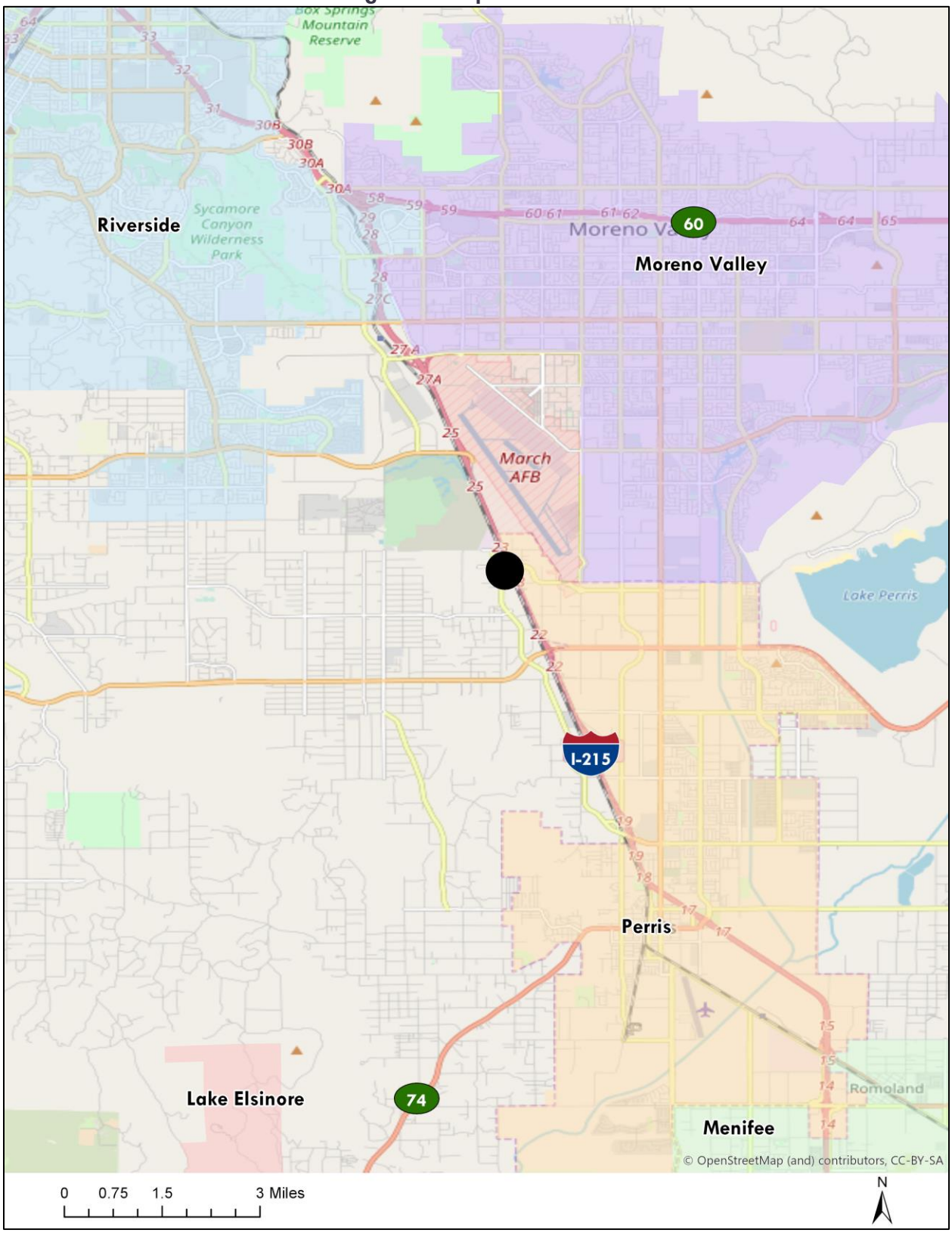
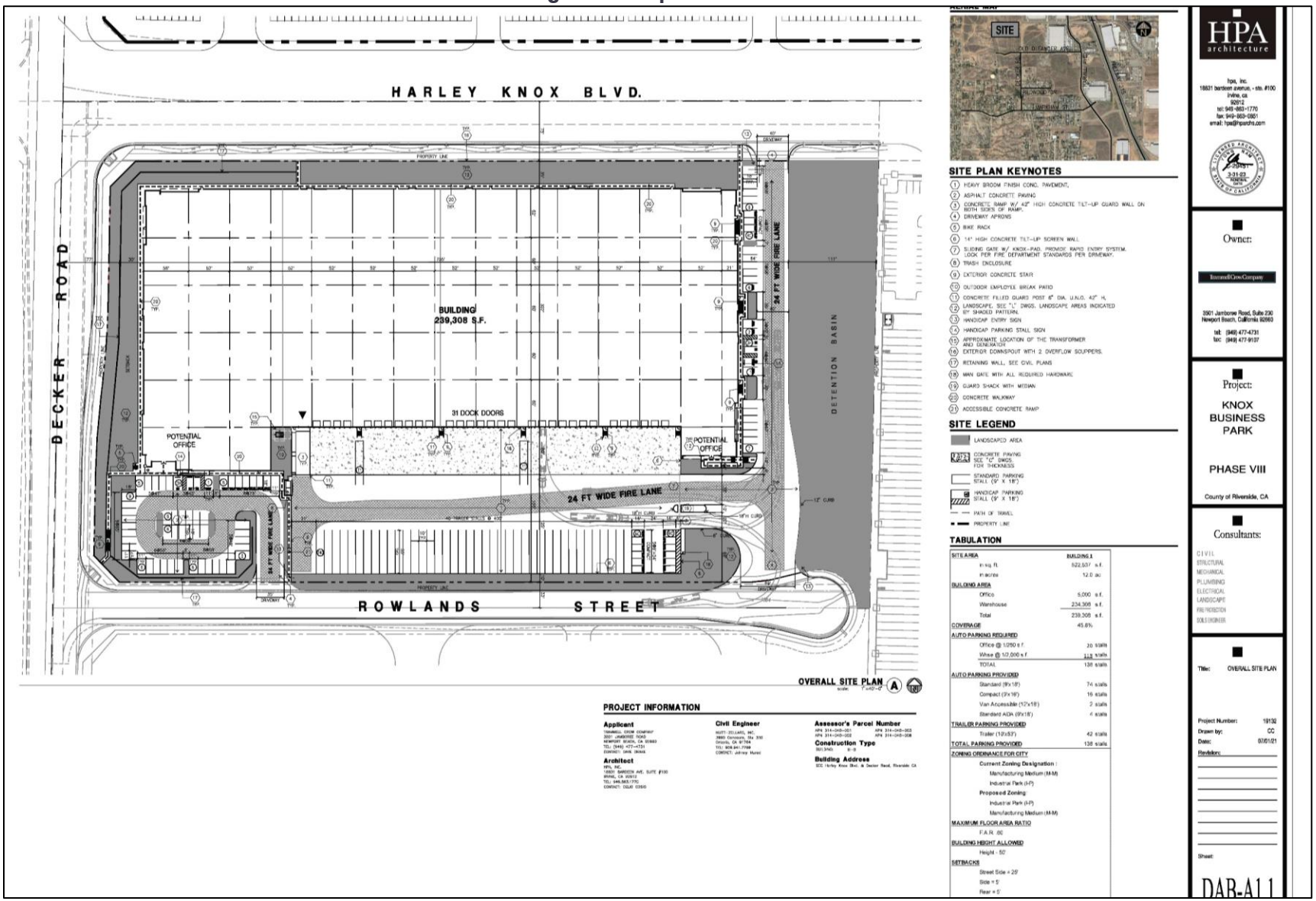


Figure 2: Project Site Plan



2.2 Study Area and Analysis Scenarios

The Riverside County Traffic Impact Analysis Preparation Guide provides thresholds for determining when a TIA is needed and guidance on selecting study area intersections. According to Appendix A of the TIA Preparation Guide, a development may be exempted from preparation of a TIA when the trip generation is less than 100 vehicle trips during the peak hours. The Muranaka project would generate fewer than 100 vehicle trips, however County staff requested preparation of a TIA due to concerns about traffic generated by industrial projects in the Mead Valley area. The TIA Preparation Guide specifies that "the minimum area to be studied shall include any intersection of Collector or higher classification streets at which the proposed project will add 50 or more peak hour trips". As demonstrated later in this report, none of the study area intersections would meet this criterion. Therefore, the study area was selected to include those intersections immediately adjacent to the project where the project would have the most effect on traffic volumes. The following intersections were included in the analysis:

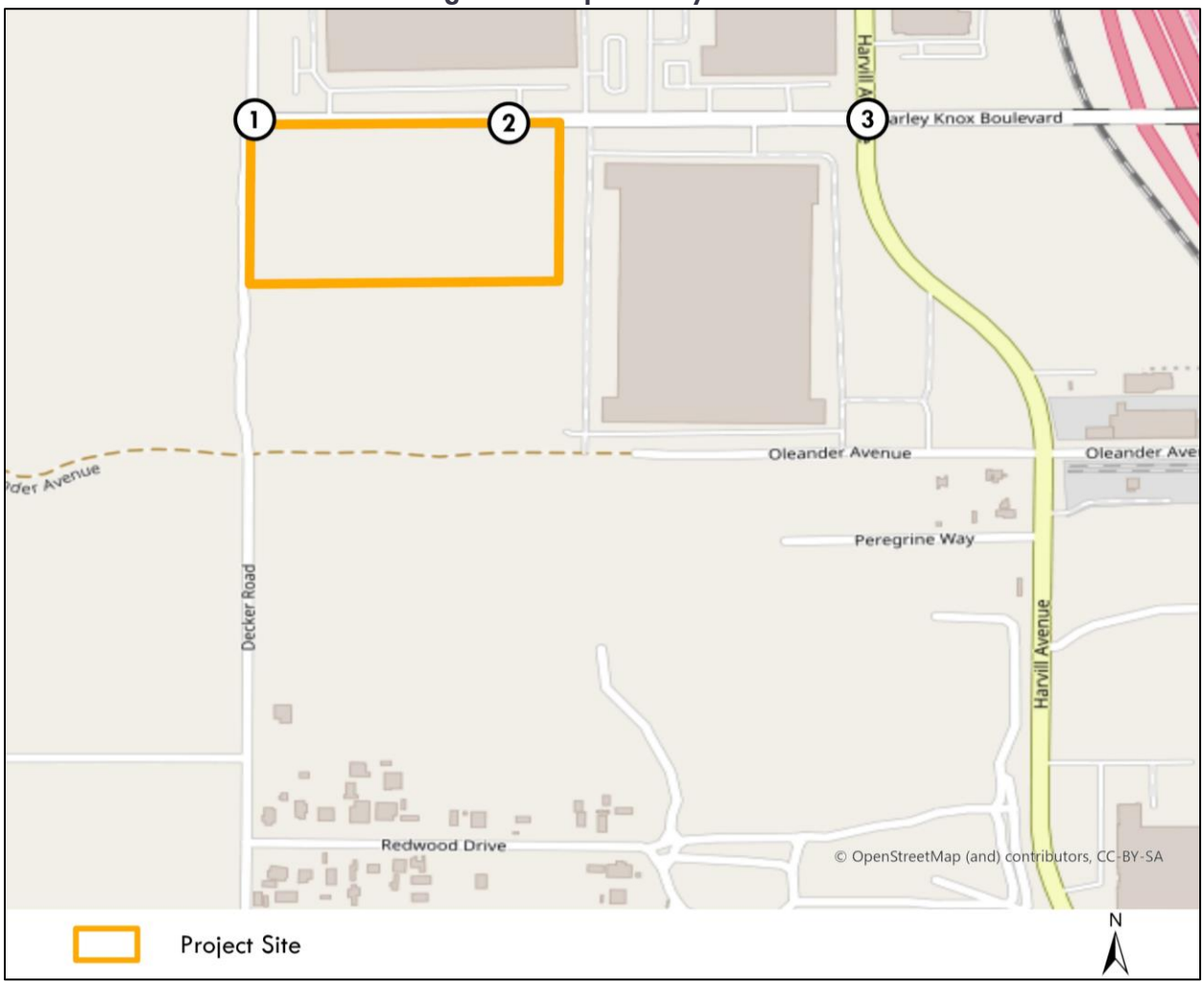
1. Decker Street/Harley Knox Blvd
2. Project Driveway/Harley Knox Blvd
3. Harvill Ave/Harley Knox Blvd

The location of the study area intersections is shown on Figure 3 – Project Study Area. Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 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
- Existing plus Project
- Opening Year (corresponding to the project opening year 2023)
- Opening Year plus Project

Forecast traffic volumes for the Opening Year were developed by applying a growth rate of two percent per year to the 2021 traffic counts and adding traffic from nearby cumulative development projects (approved and not yet built and those under review). The growth rate is consistent with the TIAs prepared for the Knox Business Park and Diamond Warehouse, both approved by County of Riverside Engineering staff during the scoping process.

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. The HCM methodology is required by the Riverside County Transportation Department *Traffic Impact Analysis Preparation Guide*. Additionally, all signalized intersection analysis input parameters were used, as outlined in Exhibit C of the TIA Preparation Guide.

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 1shows the relationship between control delay and LOS at a signalized intersection.

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

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

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

Table 2. Relationship between Delay and LOS an Unsignalized Intersection

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

2.4 Significance Criteria

The Riverside General Plan Chapter 4, Circulation Element, prescribes a LOS standard of LOS C for all intersections in the County, except for intersections within designated Area Plans. Mead Valley Area Plan is one of those Area Plans designated for a LOS standard of LOS D. The study area is within the Mead Valley Area therefore a LOS standard of LOS D has been used in the analysis. An impact would occur if the project causes an intersection to deteriorate from acceptable LOS (LOS D or better) to an unacceptable LOS (LOS E or F). At an intersection already operating at LOS E or F in the baseline condition, a project impact would occur if the project adds any delay to an intersection already operating at an unacceptable LOS.

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

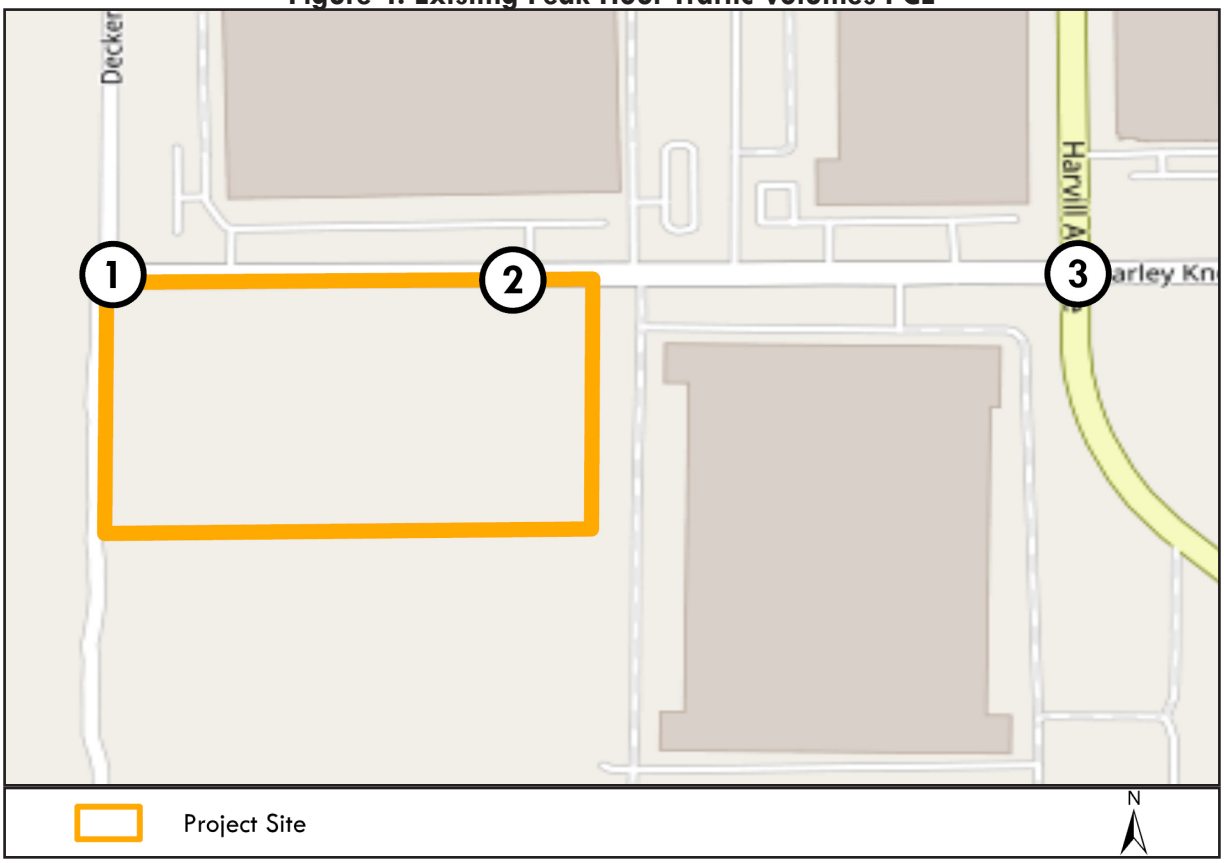
Access to the project site is provided from Harley Knox Boulevard and Rowland Lane. There is sidewalk built along both sides of Harley Knox Boulevard except at the Project Site. Decker Street south of Harley Knox Boulevard and Rowland Lane has not been developed yet. The main project access would be on Rowland Lane, with right in, right out, auto access on Harley Knox Boulevard. The project site is not served by transit.

3.2 Existing Traffic Volumes and Levels of Service

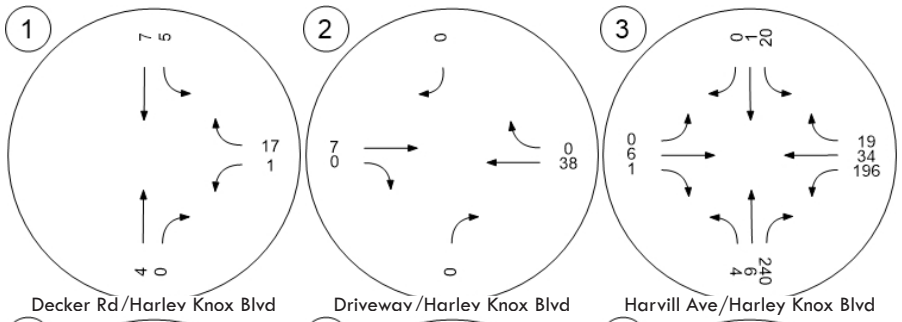
Traffic counts at the existing study area intersections, were collected on Wednesday, June 16, 2021. Intersection turn movement count sheets are provided in Appendix B. Existing AM and Existing PM peak hour traffic volumes are shown on Figure 4 – Existing Peak Hour Traffic Volumes.

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 study intersections operate at satisfactory LOS C or better during the AM and PM peak hours in the existing (2021) condition.

Figure 4: Existing Peak Hour Traffic Volumes PCE



AM Peak Hour



PM Peak Hour

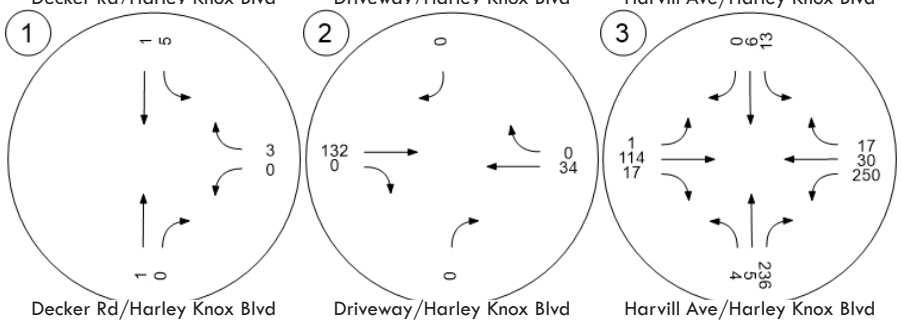


Table 3. Existing AM and PM Peak Hour Levels of Service

Intersection	Signal Control	AM Peak		PM Peak	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Decker Road/Harley Knox Boulevard	AWSC	7.0	A	6.9	A
2. Driveway 3/Harley Knox Boulevard	TWSC	-	-	-	-
3. Harvill Ave/Harley Knox Boulevard	Signal	25.8	C	31.2	C

AWSC = All-Way Stop Controlled
TWSC = Two-Way Stop Controlled
[1] Delay in Seconds
[2] Level of Service

3.3 Opening Year (2023) Traffic Volumes and LOS

Opening Year (2023) traffic volumes were developed by applying a growth rate of two percent per year to the existing (2021) traffic volumes and adding traffic generated by other approved and pending development projects. A total of 19 projects in the vicinity of the proposed project were included in the Opening Year. The location of the cumulative projects are shown in Figure 5 – Location of Cumulative Projects. The project trip generation for each cumulative project was taken from the projects approved TIA, or, where the TIA was not available, calculated using trip rates from the Institute of Transportation Engineers, *Trip* Generation, 10th Edition. Table 4 shows the trip generation for each cumulative project.

Figure 5: Location of Cumulative Projects

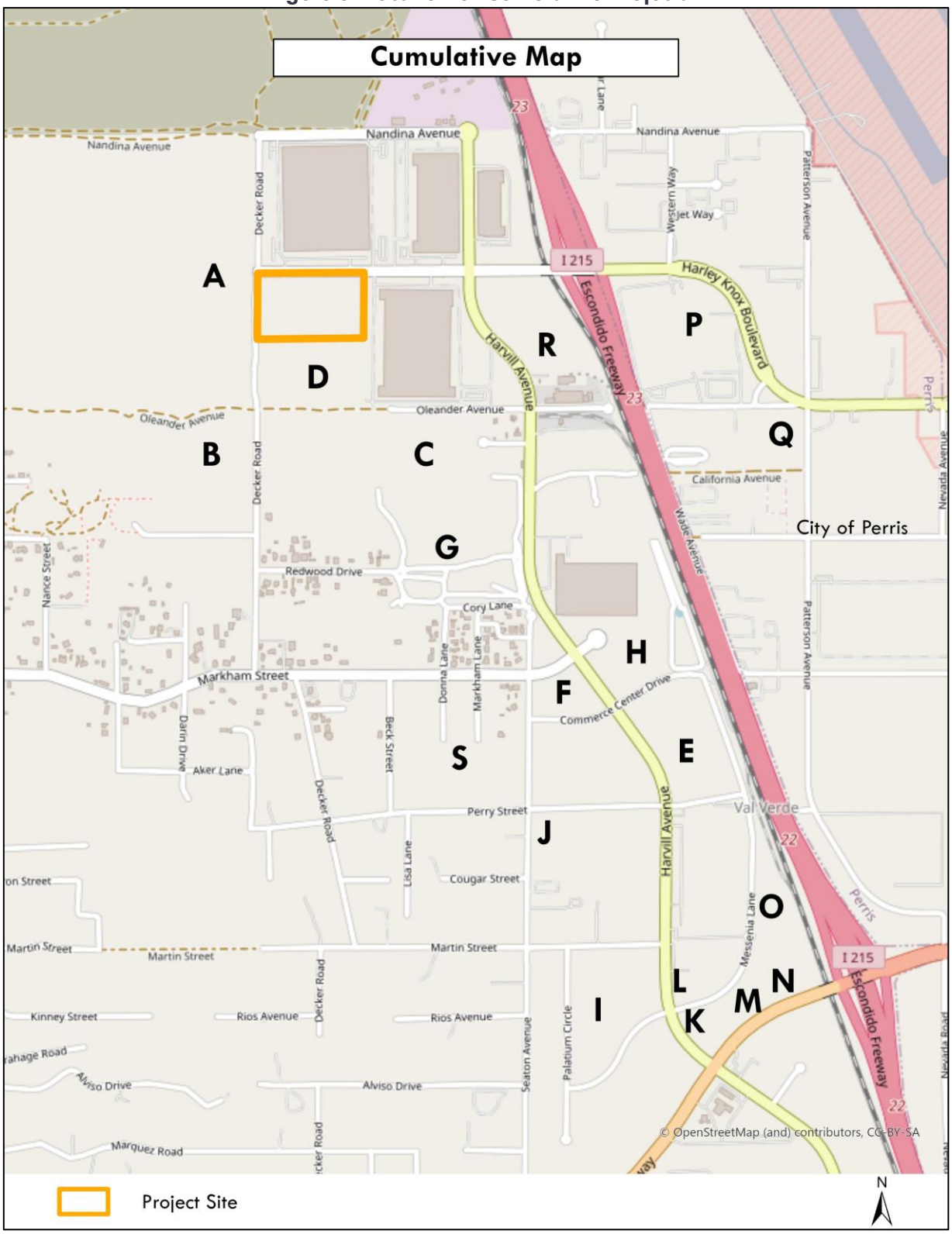


Table 4. Cumulative Projects PCE Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates								
High-Cube Warehouse/Distribution Center[1]	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
Warehouse[2]	TSF	1.74	0.13	0.04	0.17	0.05	0.14	0.19
Manufacturing[3]	TSF	3.93	0.48	0.14	0.62	0.21	0.46	0.67
General Light Industrial[4]	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
A: Oleander Buisness Park								
Total PCE 568.589	TSF	1936	141	46	187	61	143	204
B: Knox Logistics Center								
Total PCE 1259.410	TSF	2936	119	53	172	62	138	200
C: Majestic Freeway Business Center Building 20								
Total Warehouse SF 425.830	TSF	942	71	21	92	28	75	103
D: Majestic Freeway Business Center Buildings 21 and 22								
Total Warehouse SF 241.059	TSF	533	40	12	52	16	42	58
E: Majestic Freeway Business Center Building 11								
Total High Cube SF 391.045	TSF	717	32	9	41	14	37	51
F: Majestic Freeway Business Center Building 15								
Total Warehouse SF 90.279	TSF	200	15	4	20	6	16	22
G: Majestic Freeway Business Center Building 19								
Total Warehouse SF 364.560	TSF	806	61	18	79	24	64	88
H: Majestic Freeway Business Center Building 12								
Total Warehouse SF 154.751	TSF	342	26	8	33	10	27	37
I: Majestic Logistics Center								
Total PCE 1244.670	TSF	2240	104	30	134	52	134	186
J: Seaton Commerce Center								
Total SF 210.800	TSF	235	10	3	13	5	12	17
K: Majestic Freeway Business Center Building 5								
Total SF 40.000	TSF	56	4	1	5	2	4	6

Table 4 (cont.)Cumulative Projects PCE Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use	**Units**		**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
L: Majestic Freeway Business Center Building 6									
Total SF	72.000	TSF	101	8	2	10	3	8	11
M: Majestic Freeway Business Center Building 7									
Total SF	80.000	TSF	112	8	3	11	3	9	12
N: Majestic Freeway Business Center Building 8									
Total SF	110.000	TSF	154	12	3	15	5	12	17
O: Majestic Freeway Business Center Building 9									
Total SF	45.000	TSF	63	5	1	6	2	5	7
P: Gateway									
Total High Cube SF	400.000	TSF	446	20	6	25	9	23	32
Q: Canyon Steel									
Total Manufacturing SF	28.124	TSF	68	8	2	11	4	8	12
R: Diamond Warehouse									
High Cube Warehouse SF	418.000	TSF	686	21	0	21	10	31	41
S: Seaton and Perry									
General Light Industrial SF	98.940	TSF	623	77	11	88	10	69	79
Total Cumulative Trip Generation			13194	782	234	1016	324	858	1182

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

[1] Trip rates from the Institute of Transporation Engineers, *Trip Generation, 10th Edition, 2017* . Land Use Code 152 - High-Cube Warehouse/Distribution Center.

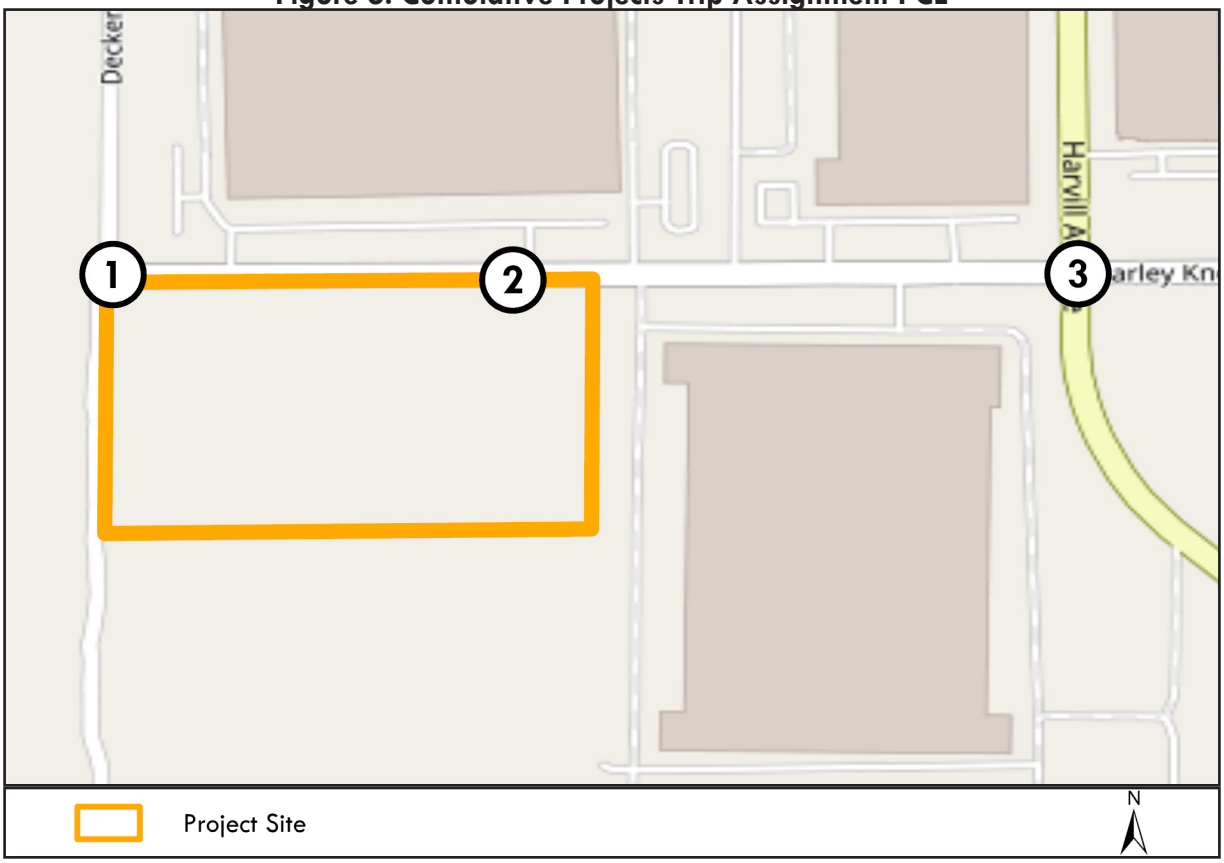
[2] Trip rates from the Institute of Transporation Engineers, *Trip Generation, 10th Edition, 2017* . Land Use Code 150 - Warehouse.

[3] Trip rates from the Institute of Transporation Engineers, *Trip Generation, 10th Edition, 2017* . Land Use Code 130 - Manufacturing.

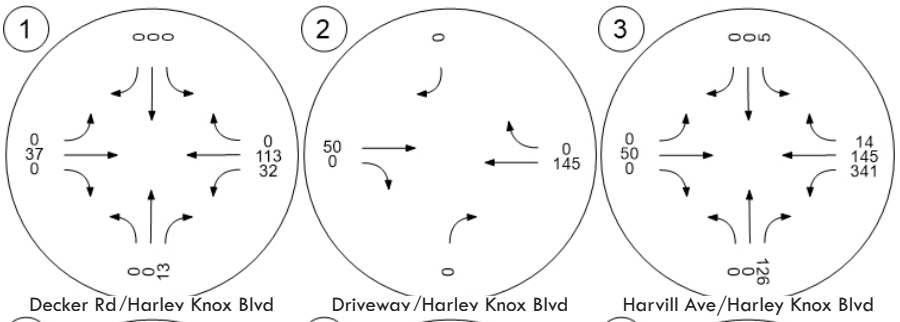
[4] Trip rates from the Institute of Transporation Engineers, *Trip Generation, 10th Edition, 2017* . Land Use Code 110 - General Light Industrial.

The traffic volumes generated by the cumulative projects were distributed to the study area intersections using the manual distribution method. The distribution used for each cumulative project was determined based on the location of the project in relation to the study area, as well as logical paths of travel to and from each cumulative project site. The cumulative project traffic volumes are illustrated in Figure 6 – Cumulative Projects Trip Assignment. As noted in Section 2.2 – Study Area and Analysis Scenarios, forecast traffic volumes for the Opening Year were developed by applying a growth rate of two percent per year to the 2021 traffic counts and adding traffic from cumulative projects. The Opening Year Baseline traffic volumes are illustrated in Figure 7 – Opening Year Peak Hour Traffic Volumes.

Figure 6: Cumulative Projects Trip Assignment PCE



AM Peak Hour



PM Peak Hour

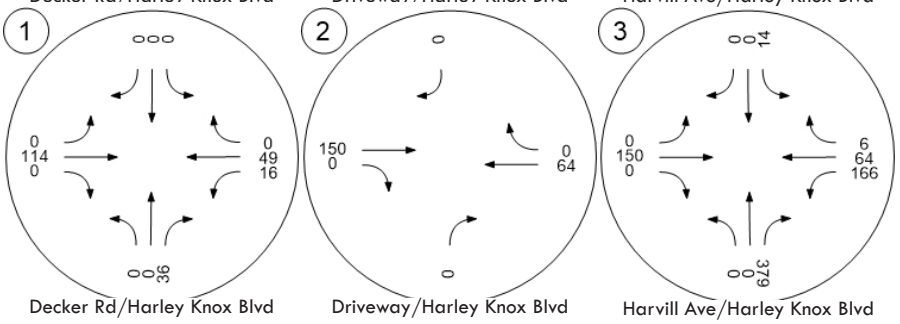
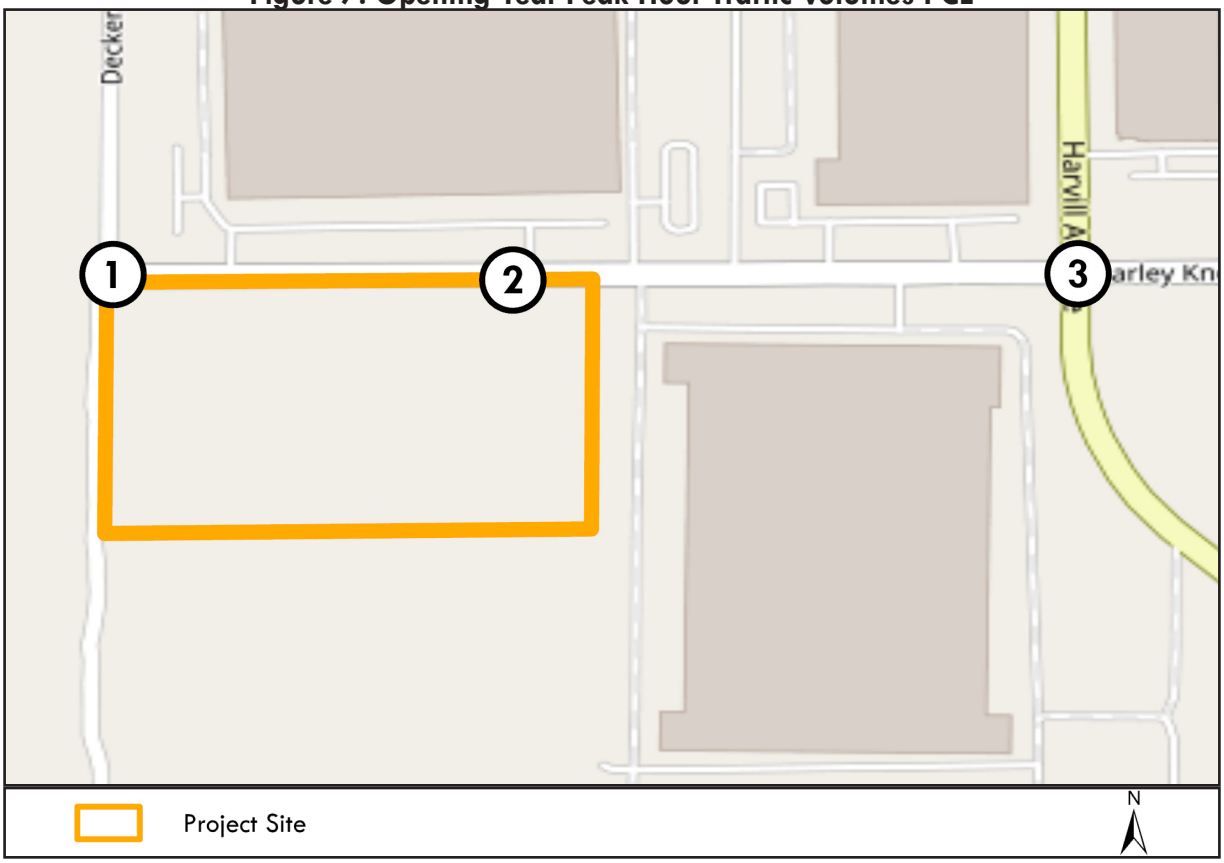
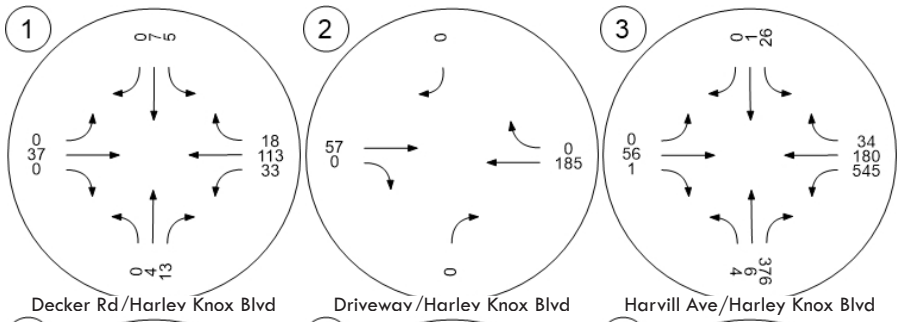


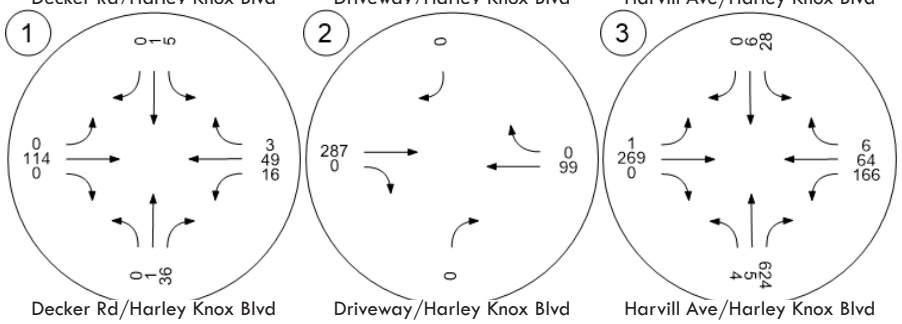
Figure 7: Opening Year Peak Hour Traffic Volumes PCE



AM Peak Hour



PM Peak Hour



The Opening Year levels of service (LOS) at the existing study area intersections were determined using the HCM methodology, described previously in Section 2.3 - Methodology. Table 5 shows the Opening Year AM and PM peak hour levels of service at study intersections. As shown in Table 5, all of the intersections are forecast to operate at satisfactory LOS D or better in the Opening Year.

Table 5. Opening Year AM and PM Peak Hour Levels of Service

Intersection	Signal Control	AM Peak		PM Peak	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Decker Road/Harley Knox Boulevard	AWSC	8.1	A	8.5	A
2. Driveway 3/Harley Knox Boulevard	TWSC	-	-	-	-
3. Harvill Ave/Harley Knox Boulevard	Signal	33.8	C	35.7	D

AWSC = All-Way Stop Controlled

TWSC = Two-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

4 PROPOSED PROJECT

4.1 Project Description and Project Access

As described in Section 2.1 – Project Description, the project proposes to construct a new 239,308 square-foot High Cube Fulfilment Center Building that would operate 7 days a week 24 hours a day. The site is currently vacant.

4.2 Project Trip Generation

Vehicle trips were generated for the project using trip rates from the TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. The trip generation is broken out by vehicle type and passenger car equivalent (PCE) factors are applied to the truck trips to determine the PCE trip generation. Passenger car equivalent factors account for the additional roadway capacity utilized by trucks due to their larger size, slower acceleration and reduced maneuverability when compared to passenger cars. The project trip generation is shown in Table 6. The project would generate 659 new daily PCE trips, including 37 net new AM peak hour PCE trips and 47 new PM peak hour PCE trips.

4.3 Project Trip Distribution and Assignment

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 net project trip generation by the trip distribution percent at each location. The project trip distribution automobiles and trucks are shown in Figure 8 – Project Trip Distribution, and the project total trip assignment for the AM and PM peak hour are shown in Figure 9 – Total Project Trip Assignment PCE.

Table 6. Project Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Fulfilment Center[1]			2.129	0.099	0.023	0.122	0.064	0.101	0.165
Cars		TSF	1.750	0.083	0.020	0.103	0.056	0.088	0.144
2-4 Axle		TSF	0.162	0.006	0.002	0.008	0.004	0.007	0.011
5 Axle		TSF	0.217	0.009	0.002	0.011	0.004	0.006	0.010
Proposed Project Trip Generation (Total Vehicles)									
Project (fulfillment Center)	239.308	TSF	509	24	6	29	15	24	39
Vehicle Mix [2]		***Percent***							
Passenger Vehicles			419	20	5	25	13	21	34
2-Axle Trucks			13	1	0	1	0	1	1
3-Axle Trucks			13	1	0	1	0	1	1
4+-Axle Trucks			65	3	1	3	1	2	3
			509	24	6	29	15	24	39
PCE Trip Generation [3]		***PCE Factor***							
Passenger Vehicles		1.0	419	20	5	25	13	21	34
2-Axle Trucks		1.5	19	1	0	1	0	1	1
3-Axle Trucks		2.0	26	1	0	1	1	1	2
4+-Axle Trucks		3.0	195	8	2	10	4	6	10
Total PCE Trip Generation			659	30	7	37	18	29	47

TSF = Thousand Square Feet

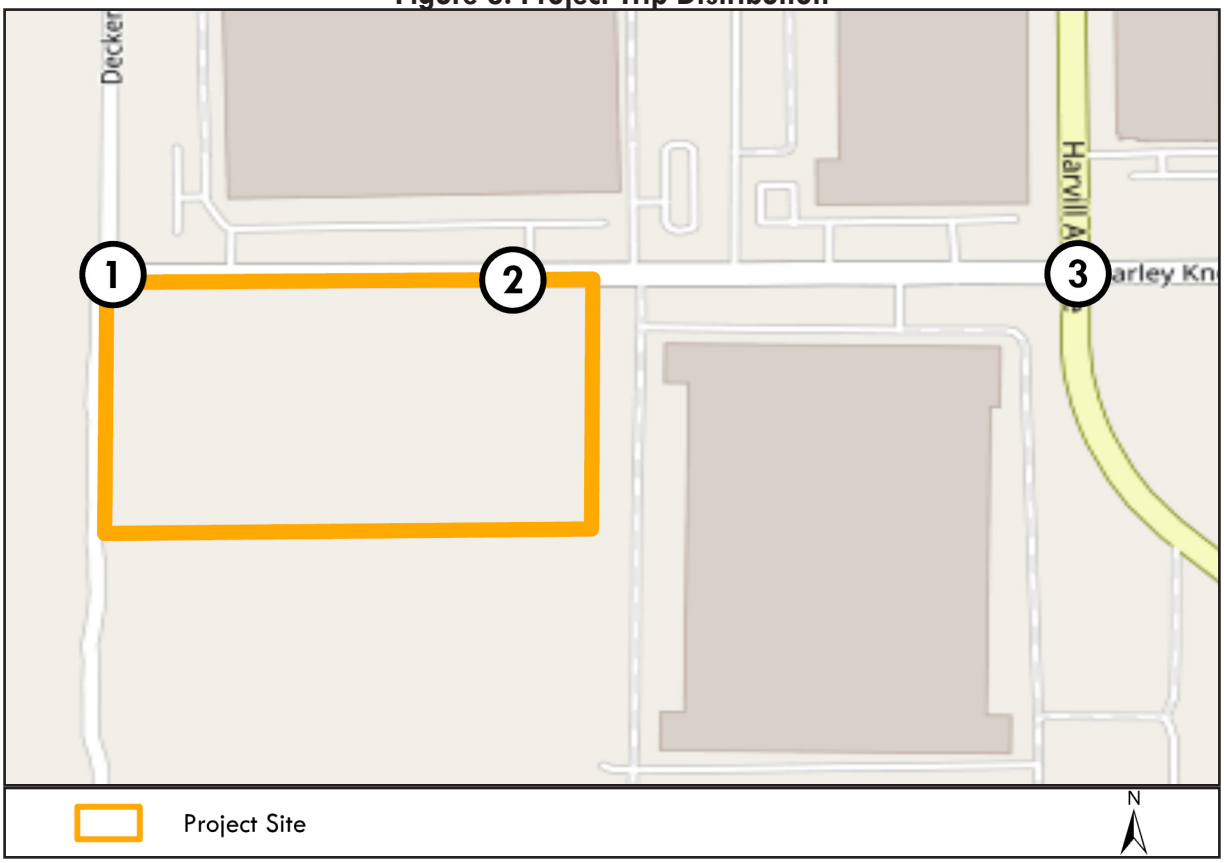
PCE = Passenger Car Equivalent

[1] Trip rates from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. In/Out splits from the Institute of Transportation Engineers, *Trip Generation,10th Edition, 2017* . Land Use Code 155 - High-Cube Fulfillment Center Warehouse.

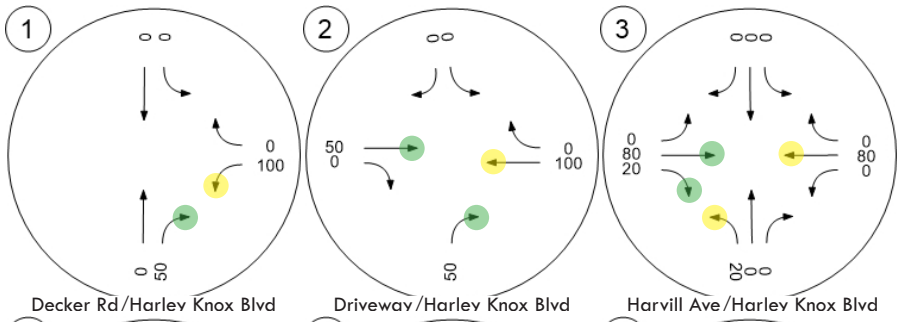
[2] Vehicle Mix from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. 2-4 Axle trucks were separated out, assuming equal amount of each.

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

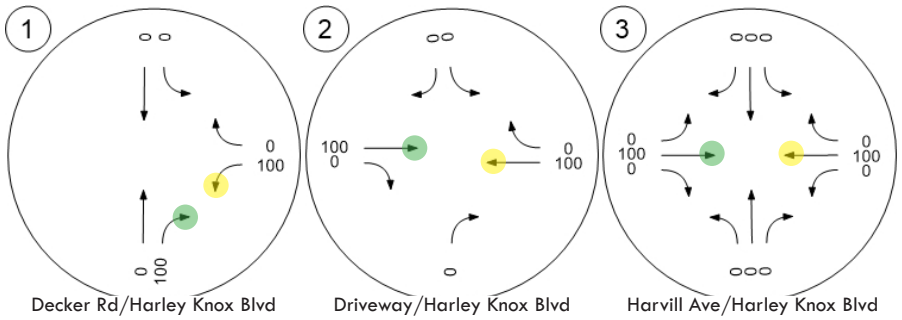
Figure 8: Project Trip Distribution



Auto Distribution



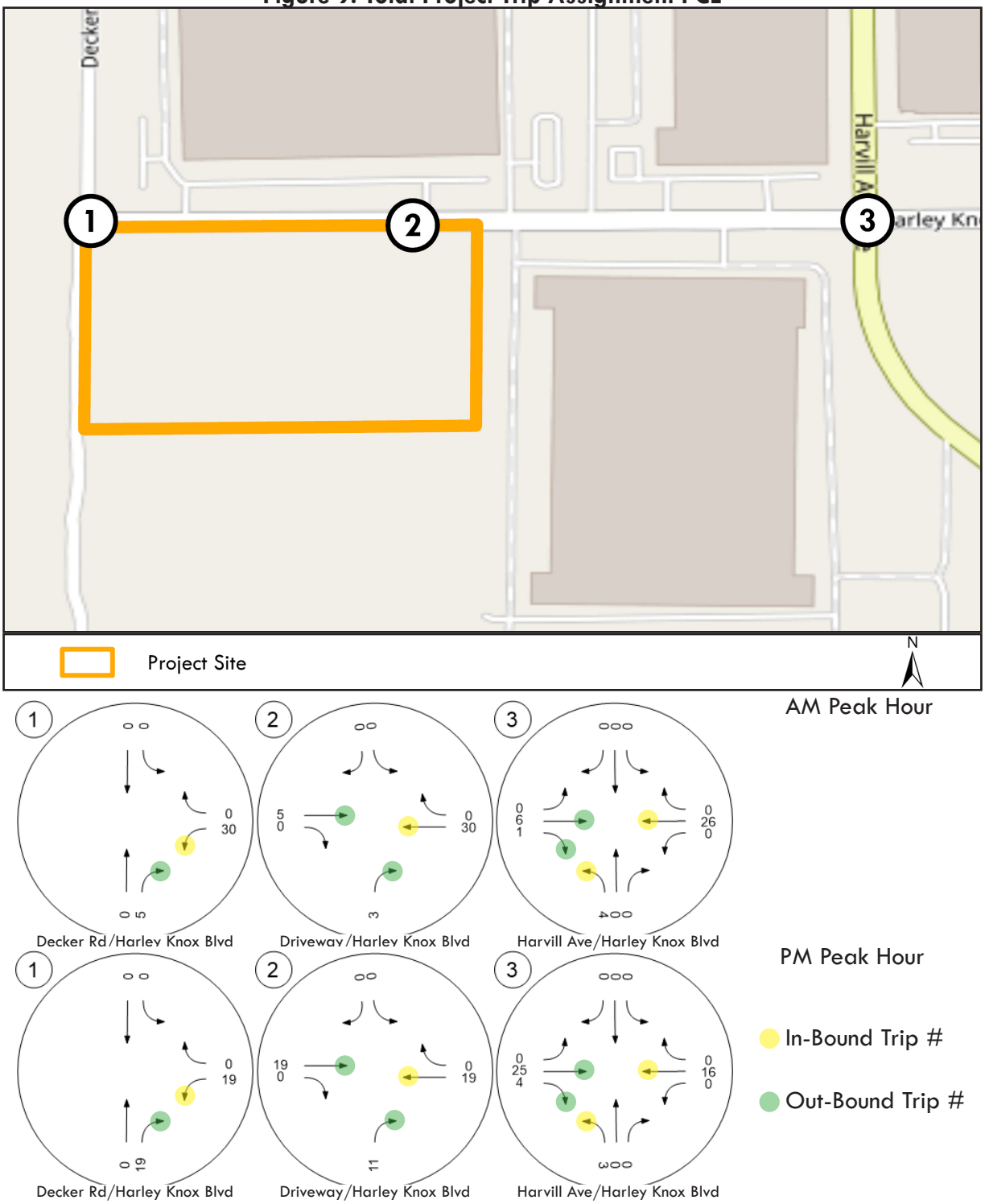
Truck Distribution



In-Bound Trip %

Out-Bound Trip %

Figure 9: Total Project Trip Assignment PCE



5 PROJECT IMPACTS

5.1 Existing Plus Project Traffic Volumes and Intersection Operations

Existing plus Project traffic volumes were determined by adding the project trips to Existing Without Project traffic volumes. Figure 10 – Existing Plus Project Peak Hour Traffic Volumes, shows the Existing plus Project weekday AM and PM peak hour traffic volumes at the study intersections.

An intersection operations analysis was conducted for the study area to evaluate the Existing plus Project weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously in Section 2.3 - Methodology. Table 7 provides a comparison between the Existing without and with Project conditions.

As shown in Table 7, all the intersections would operate with satisfactory LOS of C or better in the Existing plus Project Condition.

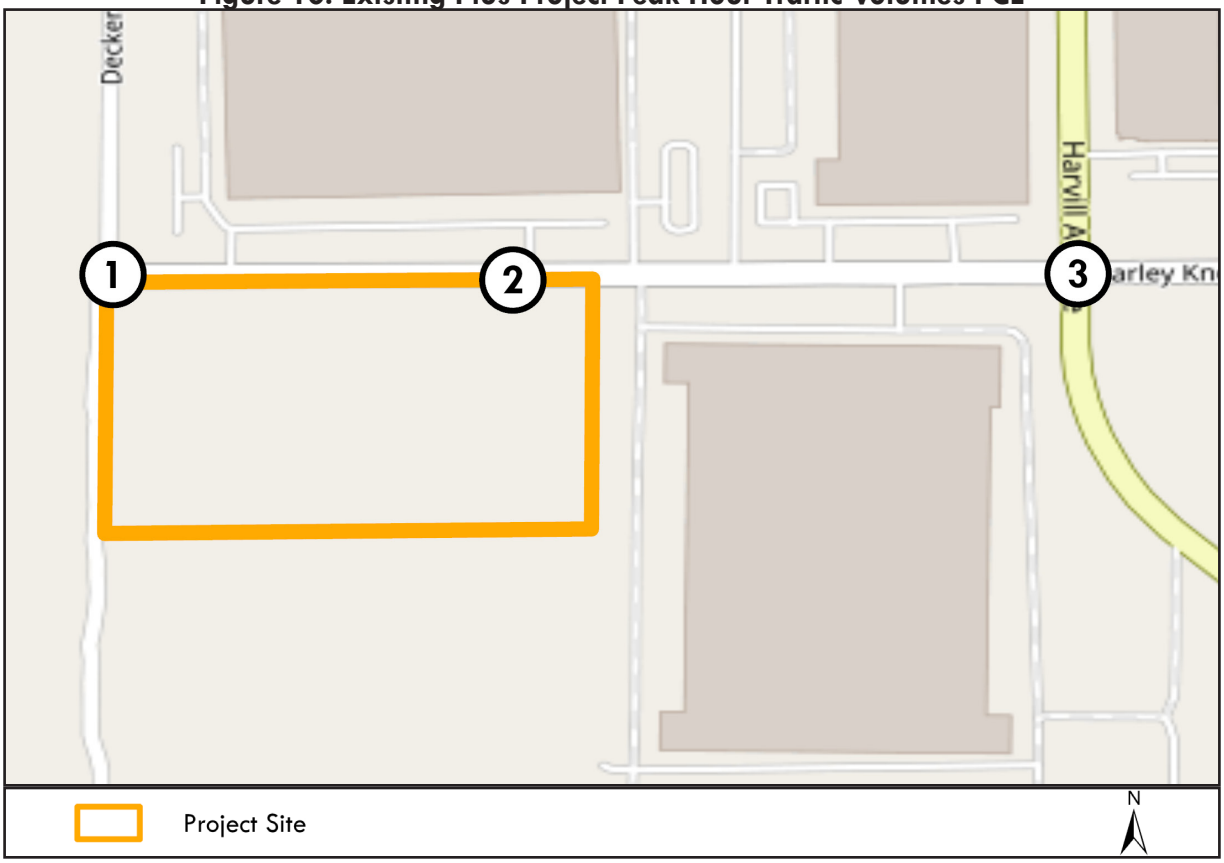
5.2 Opening Year (2023) Plus Project Traffic Volumes and Intersection Operations

Opening Year plus Project traffic volumes were determined by adding the project trips to the Opening Year traffic volumes. Figure 11 – Opening Year Plus Project Peak Hour Traffic Volumes, shows the Opening Year plus Project weekday AM and PM peak hour traffic volumes at the study intersections.

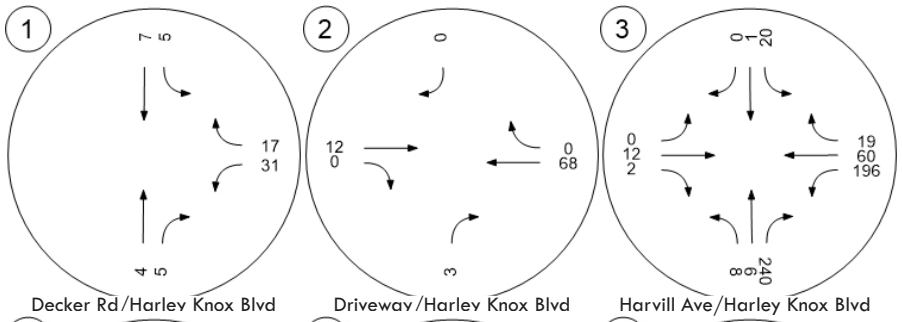
An intersection operations analysis was conducted for the study area to evaluate the Cumulative with-Project weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. Table 8 provides a comparison between the Opening Year without and with Project conditions.

As shown in Table 8, all of intersections would operate with satisfactory LOS of D or better in the Opening Year plus Project Condition.

Figure 10: Existing Plus Project Peak Hour Traffic Volumes PCE



AM Peak Hour



PM Peak Hour

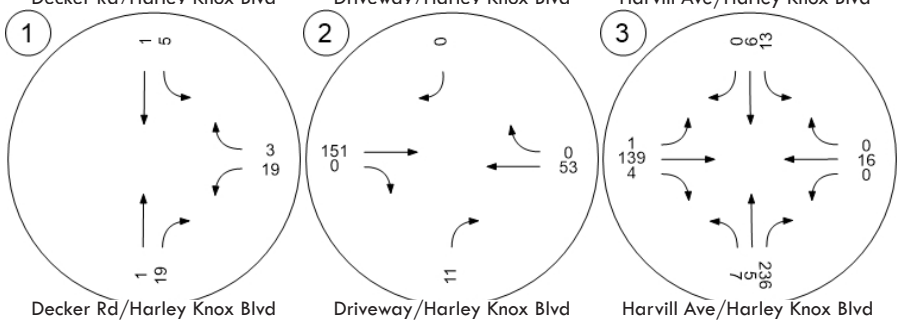
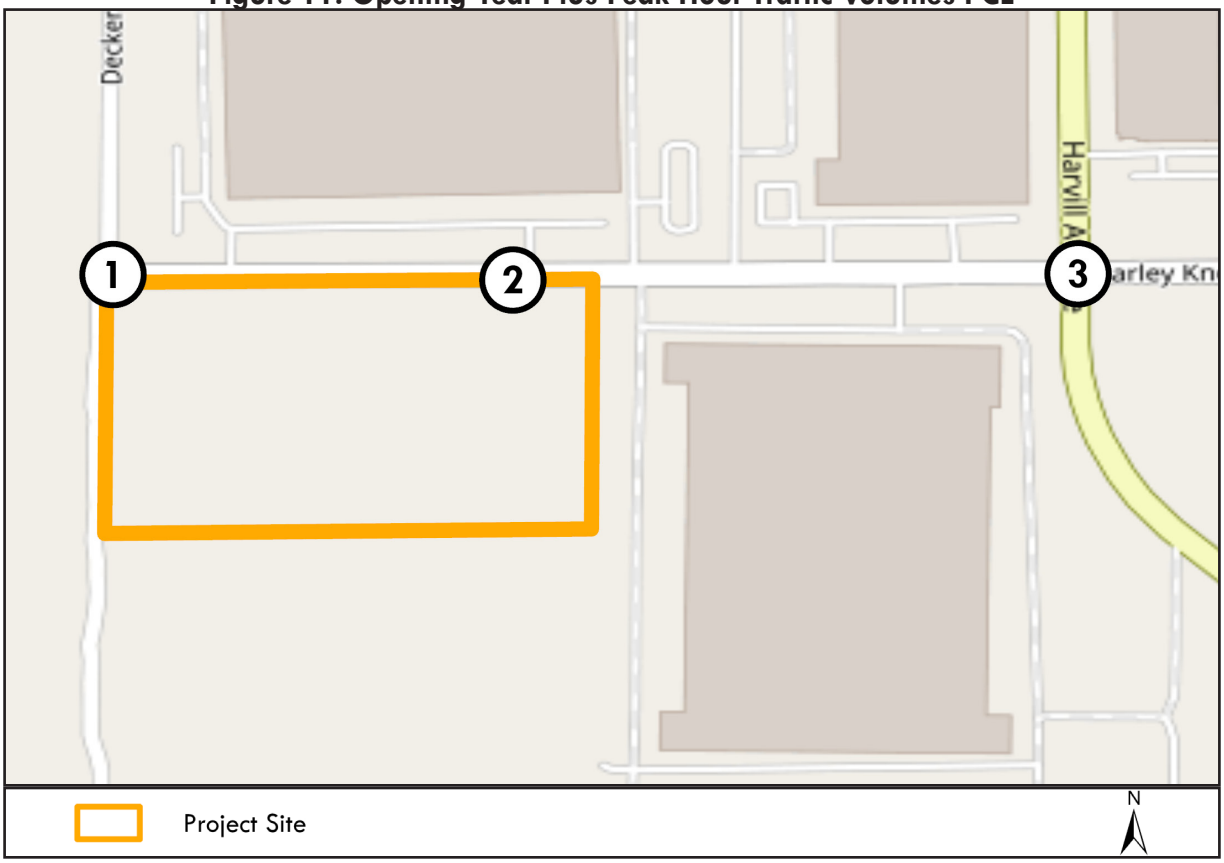
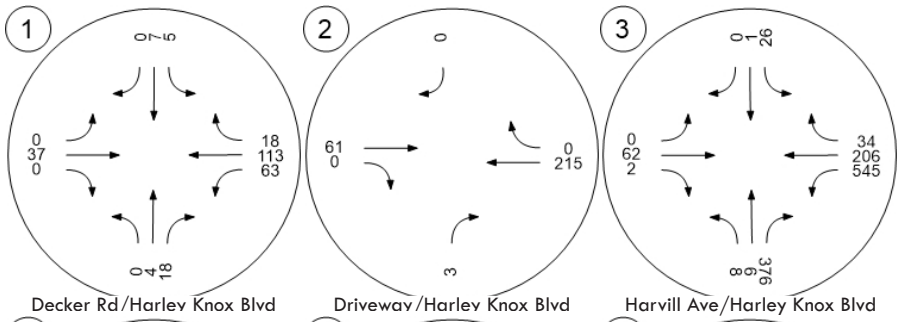


Figure 11: Opening Year Plus Peak Hour Traffic Volumes PCE



AM Peak Hour



PM Peak Hour

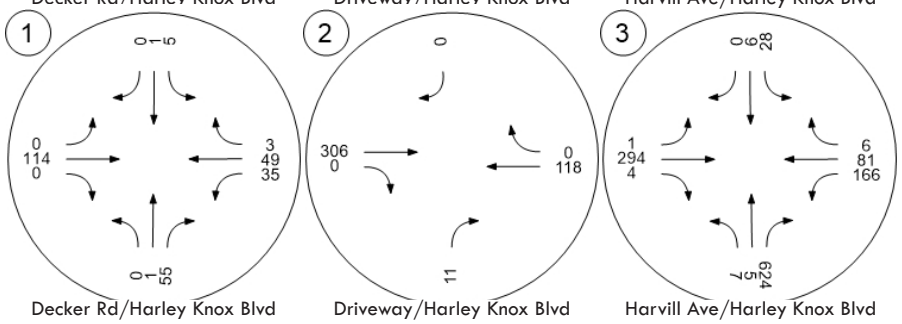


Table 7. Existing and Existing plus Project Peak Hour Levels of Service

Intersection	Signal Control	Existing				Existing plus Project				Impact?	
		AM Peak		PM Peak		AM Peak		PM Peak			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	AM	PM
1. Decker Rd/Harley Knox Blvd	AWSC	7.0	A	6.9	A	7.6	A	7.3	A	No	No
2. Driveway/Harley Knox Blvd	TWSC	-	-	-	-	9.0	A	9.8	A	No	No
3. Harvill Ave/Harley Knox Blvd	Signal	25.8	C	21.0	C	26.8	C	31.8	C	No	No

AWSC = All-Way Stop Controlled
TWSC = Two-Way Stop Controlled
[1] Delay in Seconds
[2] Level of Service

Table 8. Opening Year and Opening Year plus Project Peak Hour Levels of Service

Intersection	Signal Control	Opening Year				Opening Year plus Project				Impact?	
		AM Peak		PM Peak		AM Peak		PM Peak			
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	AM	PM
1. Decker Rd/Harley Knox Blvd	AWSC	8.1	A	8.5	A	8.4	A	9.2	A	No	No
2. Driveway/Harley Knox Blvd	TWSC	-	-	-	-	9.2	A	10.9	B	No	No
3. Harvill Ave/Harley Knox Blvd	Signal	33.8	C	27.6	C	33.9	C	36.1	D	No	No

AWSC = All-Way Stop Controlled
TWSC = Two-Way Stop Controlled
[1] Delay in Seconds
[2] Level of Service

5.3 Cumulative Impacts at I-215/Harley Knox Ramp Intersections

Although the project trip generation does not warrant inclusion of the I-215/Harley Knox Boulevard ramp intersections in the project study area of the traffic impact analysis, a recent analysis of the ramps shows that there are operational deficiencies at both ramps to which the project will contribute trips. The Knox Business Park Queuing Analysis, prepared by Urban Crossroads on November 4, 2019, concludes that eastbound queues on Harley Knox Boulevard between the I-215 ramps results in spill-back of vehicles that occasionally blocks southbound left-turns from the I-215 Southbound off-ramp during the AM and PM peak hours (Appendix D). The I-215/Harley Knox Boulevard interchange is included in the TUMF program, which the project will participate in through payment of fees. However, the interchange is not included in the current TUMF expenditure plan and specific improvements have not yet been identified. The Urban Crossroads analysis identified the following geometrics for the two ramp intersections which would mitigate the queuing issues in the existing and short-term conditions.

I-215 Southbound Ramps/Harley Knox Boulevard:
- Northbound: N/A
- Southbound: One shared left-through lane and one right-turn lane
- Eastbound: One through lane and one shared through-right turn lane
- Westbound: Restripe to provide a 200-foot left-turn lane and one through lane

I-215 Northbound Ramps/Harley Knox Boulevard:
- Northbound: One shared left-through lane and one right-turn lane
- Southbound: N/A

- Eastbound: Restripe to provide a 200-foot left-turn lane and two through lanes
- Westbound: one through lane and one shared through-right turn lane

These improvements can be implemented through restriping of both intersections and the section of Harley Knox Boulevard between the I-215 Southbound and Northbound ramps. Because the project would contribute traffic to the existing deficiencies, County staff has requested that the project participate in the above improvements through a fair-share payment. The project's fair-share has been calculating using 2035 traffic volumes from the Knox Business Park Traffic Impact Analysis[1]. Because the project impact analysis did not evaluate the ramps, the fair share evaluation looks at the traffic volume on the segment of Harley Knox Boulevard east of Harvill, which would be representative of the project traffic added to the interchange.

Table 9. Project Fair-Share Calculation at I-215/Harley Knox Ramps

Roadway Segment	Existing	Project	2035 With Project	Total New Traffic	Project % of New Traffic
AM Peak Hour					
Harley Knox Boulevard e/o Harvill	515	32	2283	1768	1.81%
PM Peak Hour					
Harley Knox Boulevard e/o Harvill	659	41	2827	2168	1.89%

As shown in Table 9, the project would be responsible for 1.89 percent of the cost for restriping at the I-215/Harley Knox ramp intersections.

[1] *Knox Business Park Traffic Impact Analysis*, Urban Crossroads, June 8, 2015.

6 Conclusion

The analysis of the Muranaka Warehouse Project's traffic impacts at the study area intersections show all intersections would remain at LOS C or better in all scenarios. Therefore, no off-site mitigation would be required to achieve an acceptable LOS. Below is a breakdown of the results of the plus project scenarios

Existing plus Project Intersection Analysis Results
All of the intersections would operate with satisfactory LOS of C or better in the Existing plus Project Condition. No mitigation measures are required.

Opening Year plus Project Intersection Analysis Results
All of the intersections would operate with satisfactory LOS of D or better in the Cumulative plus Project Condition. No mitigation measures are required.

I-215/Harley Knox Boulevard Interim Improvements
The I-215/Harley Knox Boulevard interchange is included in the TUMF program, which the project will participate in through payment of fees. However, the interchange is not included in the current TUMF expenditure plan and specific improvements have not yet been identified. Restriping improvements have been identified at the freeway ramp intersections which would mitigate the queuing issues in the existing and short-term conditions. The project would be responsible for 1.89 percent of the cost for restriping at the I-215/Harley Knox Boulevard ramp intersections.

APPENDIX A – TRAFFIC STUDY SCOPING AGREEMENT

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Traffic Study Guidelines dated December 2020.

Case No. PAR200057
Related Cases -
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Muranaka
Project Address: APNs: 295-310-016, -037, -038, -039, -040.
Project Description: Construction of a 239,717 SF industrial building

	Consultant	Developer
Name:	EPD Solutions	Trammell Crow So. Cal Development, Inc
Address:	2 Park Plaza, Suite 1120	3501 Jamboree Rd, Suite 230
	Irvine, CA 92614	Newport Beach, CA 92660
Telephone:	(949) 794-1186	(949) 447-4700
Fax:		

A. Trip Generation Source: ITE 10th Edition

Current GP Land Use: Community Development - Light Industrial (CD-LI)
Proposed Land Use: (CD-LI)
Current Zoning: Industrial Park (I-P), Manufacturing-Medium (M-M)
Proposed Zoning: I-P

Current Trip Generation In PCE *(From Attached Counts)*	In	Out	Total	Proposed Trip Generation In PCE In	Out	Total
AM Trips				30	7	37
PM Trips				18	29	47

Internal Trip Allowance ☐ Yes ☒ No (% Trip Discount)
Pass-By Trip Allowance ☐ Yes ☒ No (% Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 0(0) % S 40(20)% E 60(80)% W 0(0) %
Car(Truck) (attach exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year: 2022
Annual Ambient Growth Rate: 2 %
Phase Year(s)
Other area projects to be analyzed: Please see attached Figure and trip generation for Cumulative Projects.
(*To be confirmed with the surrounding jurisdictions)*
Model/Forecast methodology

D. Study intersections: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Decker Road/Harley Knox Boulevard
2. Driveway 3/Harley Knox Boulevard
3. Harvill Avenue/Harley Knox Boulevard
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

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

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

E. Other Jurisdictional Impacts

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? ☒ Yes ☐ No

If so, name of City Jurisdiction: City of Perris

F. Site Plan (please attach reduced copy)

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

Harley Knox I-215 Ramps will be discussed, using the Urban Crossroads Queuing Analysis that has been completed and the project will contribute it's fair share towards the mitigation proposed.

H. Existing Conditions

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

Date of counts: Will Request Counts from the County for Harvill Ave/Harley Knox Blvd and Decker Rd/Harley knox Blvd.

***NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to receipt of the fee.**

Recommended by:

Meghan Macias

_____ 6/14/2021

Consultant's Representative — Date

Scoping Agreement Submitted on 6/14/2021

Revised on _____

Approved Scoping Agreement:

_____ _____

Riverside County Transportation Department — Date

Muranaka PCE Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates									
Fulfilment Center[1]			2.129	0.099	0.023	0.122	0.064	0.101	0.165
Cars		TSF	1.750	0.083	0.020	0.103	0.056	0.088	0.144
2-4 Axle		TSF	0.162	0.006	0.002	0.008	0.004	0.007	0.011
5 Axle		TSF	0.217	0.009	0.002	0.011	0.004	0.006	0.010
Proposed Project Trip Generation (Total Vehicles)									
Project (fulfillment Center)	239.717	TSF	510	24	6	29	15	24	40
Vehicle Mix [2]		***Percent***							
Passenger Vehicles			420	20	5	25	13	21	35
2-Axle Trucks			13	1	0	1	0	1	1
3-Axle Trucks			13	1	0	1	0	1	1
4+-Axle Trucks			65	3	1	3	1	2	3
			510	24	6	29	15	24	40
PCE Trip Generation [3]		***PCE Factor***							
Passenger Vehicles		1.0	420	20	5	25	13	21	35
2-Axle Trucks		1.5	19	1	0	1	0	1	1
3-Axle Trucks		2.0	26	1	0	1	1	1	2
4+-Axle Trucks		3.0	195	8	2	10	4	6	10
Total PCE Trip Generation			660	30	7	37	18	29	47

TSF = Thousand Square Feet

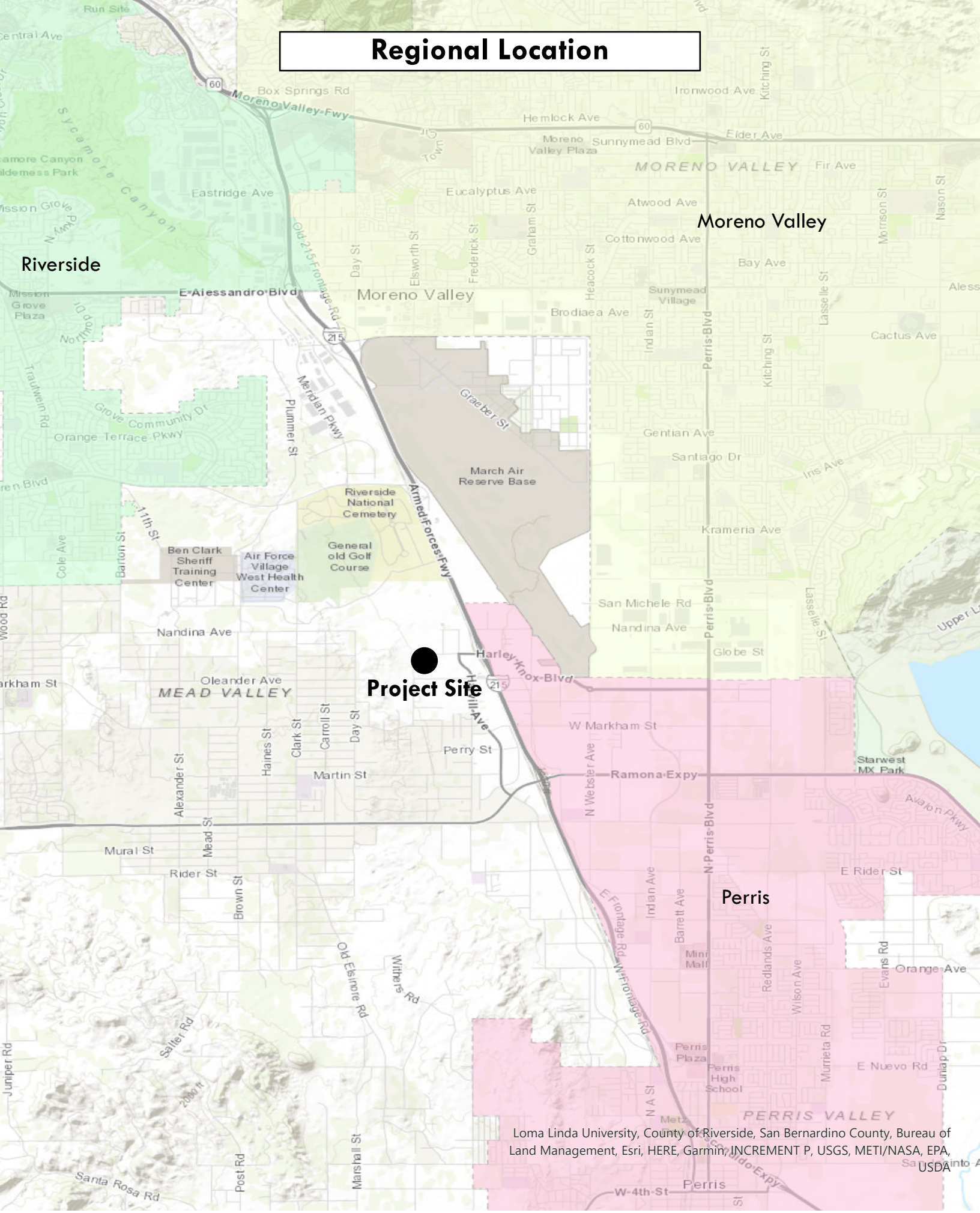
PCE = Passenger Car Equivalent

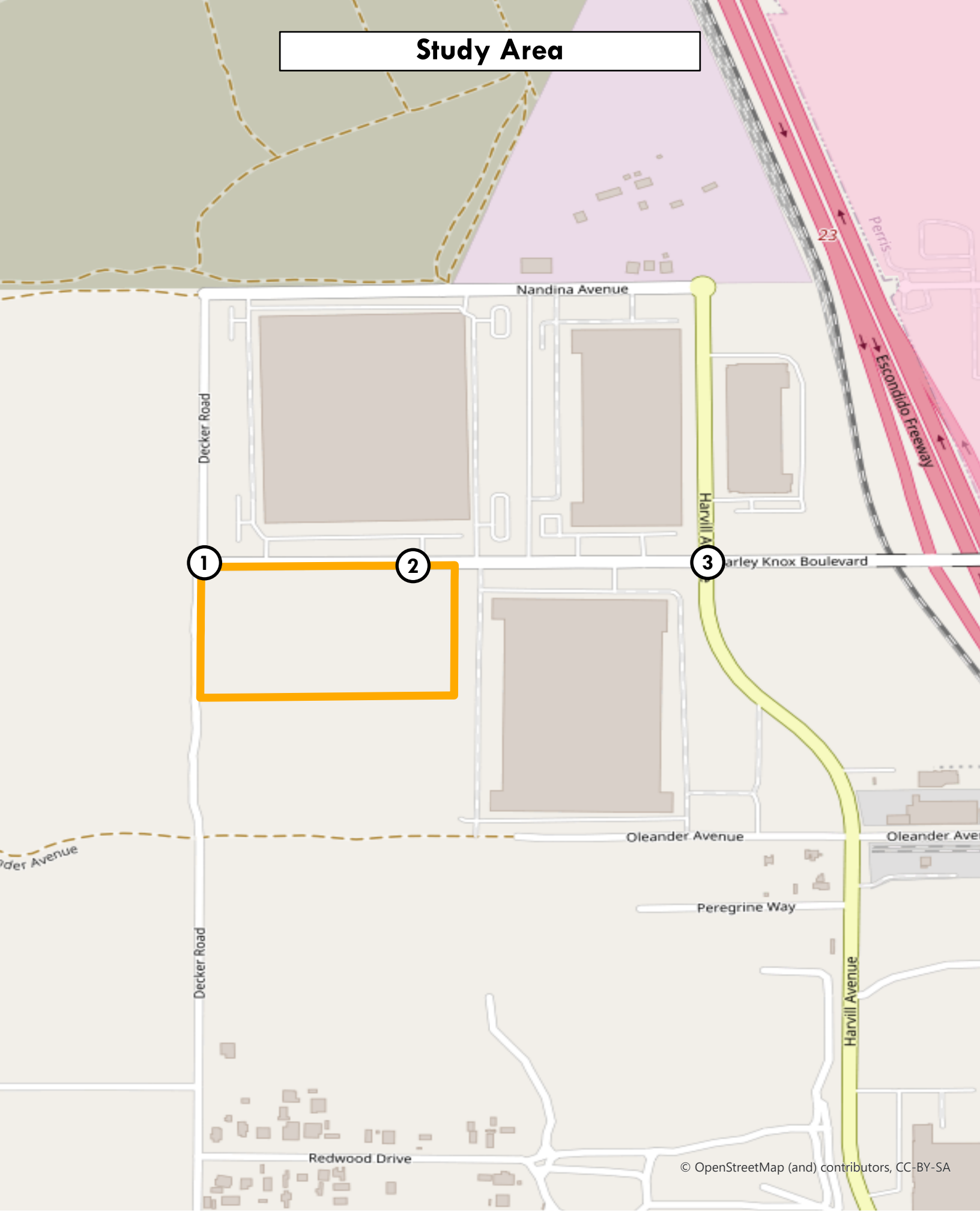
[1] Trip rates from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. In/Out splits from the Institute of Transporation Engineers, *Trip Generation,10th Edition, 2017*. Land Use Code 155 - High-Cube Fulfillment Center Warehouse.

[2] Vehicle Mix from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. 2-4 Axle trucks were separated out, assuming equal amount of each.

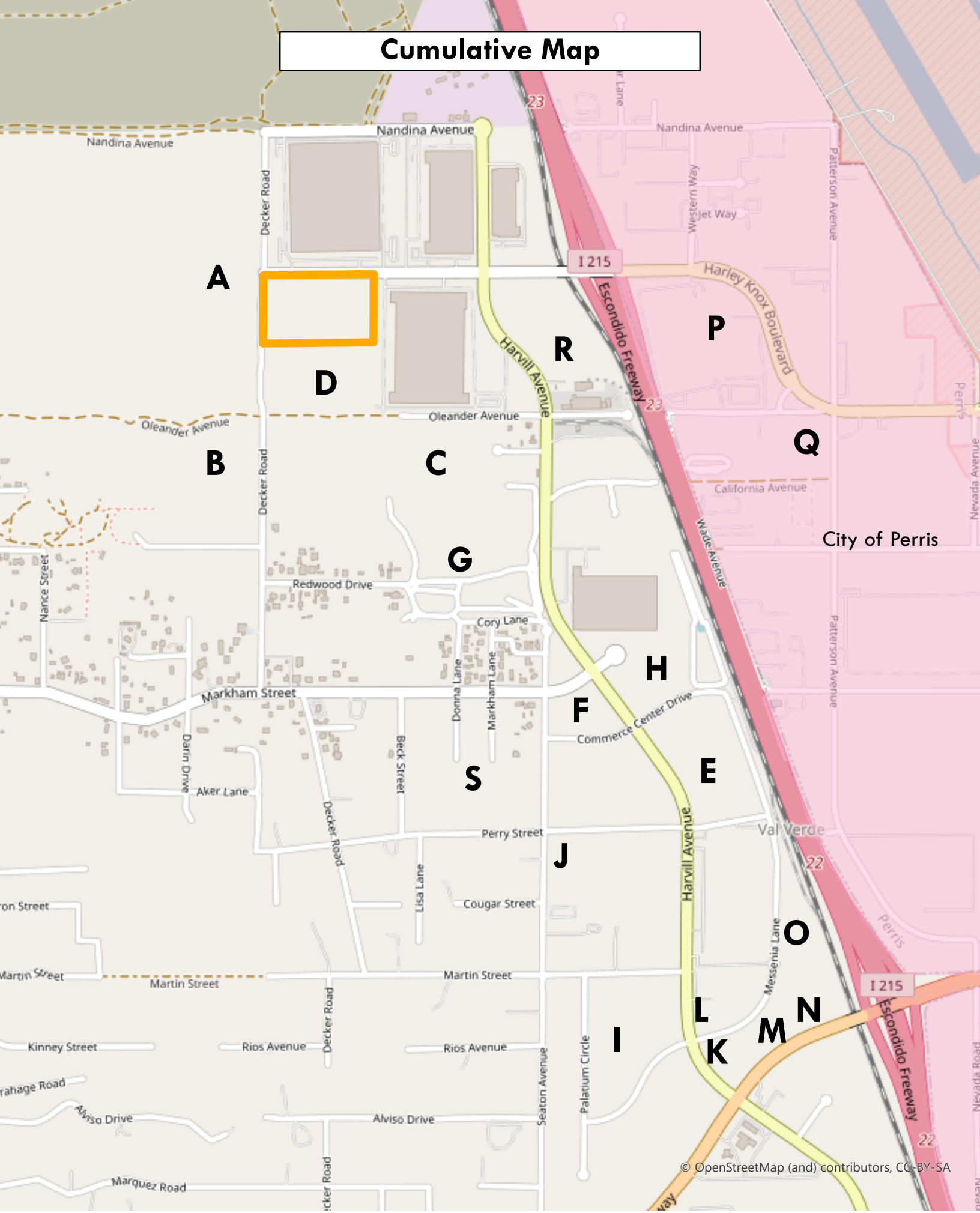
[3] Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

Regional Location




Study Area
Nandina Avenue
Decker Road
Harvill Avenue
Escondido Freeway
215
Perris
1
2
3
arley Knox Boulevard
Oleander Avenue
Oleander Ave
der Avenue
Peregrine Way
Decker Road
Harvill Avenue
Redwood Drive
© OpenStreetMap (and) contributors, CC-BY-SA
Project Site
N

Cumulative Map



Project Site

N

Cumulative PCE Trip Generation

Land Use		Units	Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Trip Rates									
High-Cube Warehouse/Distribution Center[1]		TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
Warehouse[2]		TSF	1.74	0.13	0.04	0.17	0.05	0.14	0.19
Manufacturing[3]		TSF	3.93	0.48	0.14	0.62	0.21	0.46	0.67
General Light Industrial[4]		TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
A: Oleander Buisness Park									
Total PCE	568.589	TSF	1936	141	46	187	61	143	204
B: Knox Logistics Center									
Total PCE	1259.410	TSF	2936	119	53	172	62	138	200
C: Majestic Freeway Business Center Building 20									
Total Warehouse SF	425.830	TSF	942	71	21	92	28	75	103
D: Majestic Freeway Business Center Buildings 21 and 22									
Total Warehouse SF	241.059	TSF	533	40	12	52	16	42	58
E: Majestic Freeway Business Center Building 11									
Total High Cube SF	391.045	TSF	717	32	9	41	14	37	51
F: Majestic Freeway Business Center Building 15									
Total Warehouse SF	90.279	TSF	200	15	4	20	6	16	22
G: Majestic Freeway Business Center Building 19									
Total Warehouse SF	364.560	TSF	806	61	18	79	24	64	88
H: Majestic Freeway Business Center Building 12									
Total Warehouse SF	154.751	TSF	342	26	8	33	10	27	37
I: Majestic Logistics Center									
Total PCE	1244.670	TSF	2240	104	30	134	52	134	186
J: Seaton Commerce Center									
Total SF	210.800	TSF	235	10	3	13	5	12	17
K: Majestic Freeway Business Center Building 5									
Total SF	40.000	TSF	56	4	1	5	2	4	6

				AM Peak Hour			PM Peak Hour		
Land Use	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**

				AM Peak Hour			PM Peak Hour		
Land Use	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**

L: Majestic Freeway Business Center Building 6								
Total SF	72.000	TSF	101	8	2	10	3	8	11
M: Majestic Freeway Business Center Building 7								
Total SF	80.000	TSF	112	8	3	11	3	9	12
N: Majestic Freeway Business Center Building 8								
Total SF	110.000	TSF	154	12	3	15	5	12	17
O: Majestic Freeway Business Center Building 9								
Total SF	45.000	TSF	63	5	1	6	2	5	7
P: Gateway								
Total High Cube SF	400.000	TSF	446	20	6	25	9	23	32
Q: Canyon Steel								
Total Manufacturing SF	28.124	TSF	68	8	2	11	4	8	12
R: Diamond Warehouse								
High Cube Warehouse SF	418.000	TSF	686	21	0	21	10	31	41
S: Seaton and Perry								
General Light Industrial SF	98.940	TSF	623	77	11	88	10	69	79
Total Cumulative Trip Generation			13194	782	234	1016	324	858	1182

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

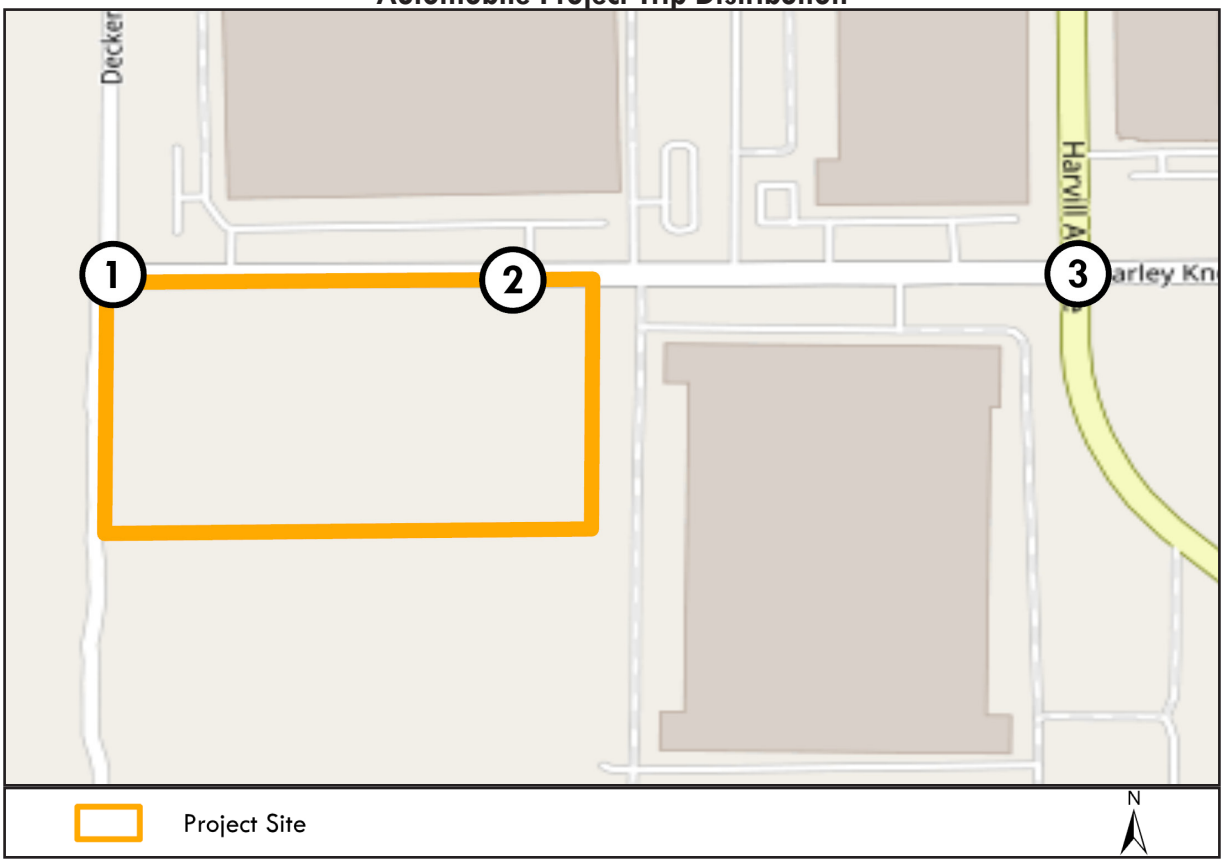
[1] Trip rates from the Institute of Transporation Engineers, *Trip Generation,10th Edition, 2017*. Land Use Code 152 - High-Cube Warehouse/Distribution Center.

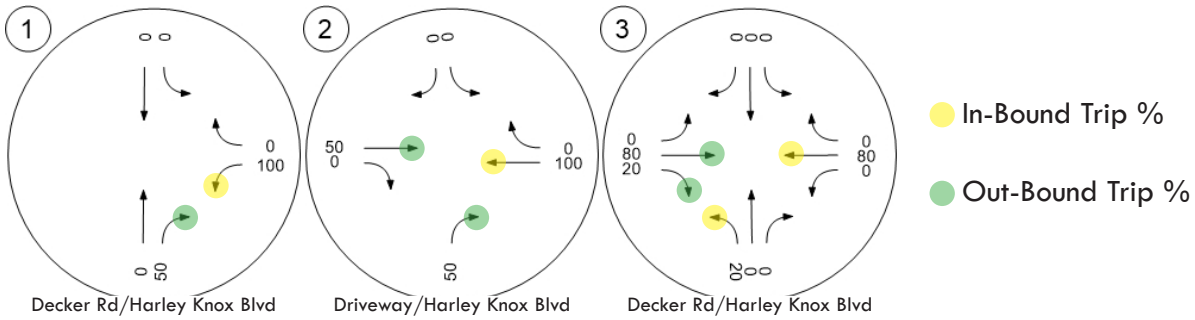
[2] Trip rates from the Institute of Transporation Engineers, *Trip Generation,10th Edition, 2017*. Land Use Code 150 - Warehouse.

[3] Trip rates from the Institute of Transporation Engineers, *Trip Generation,10th Edition, 2017*. Land Use Code 130 - Manufacturing.

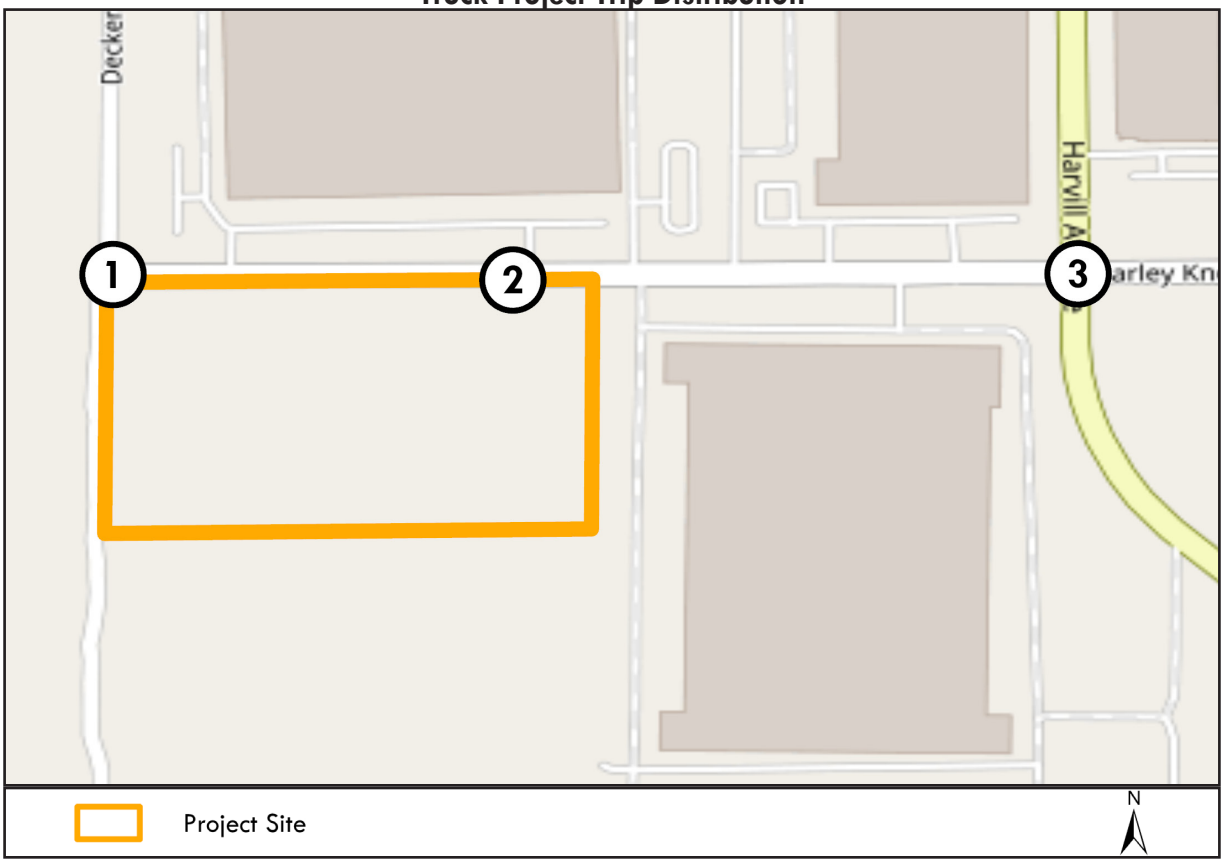
[4] Trip rates from the Institute of Transporation Engineers, *Trip Generation,10th Edition, 2017*. Land Use Code 110 - General Light Industrial.

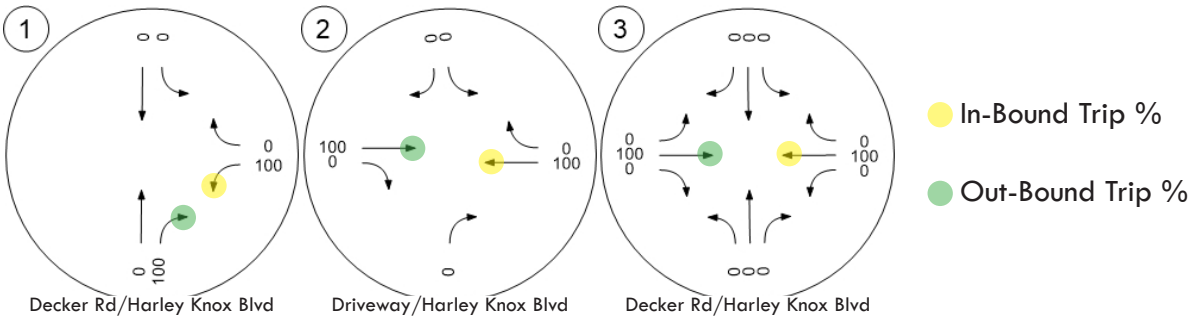
Automobile Project Trip Distribution



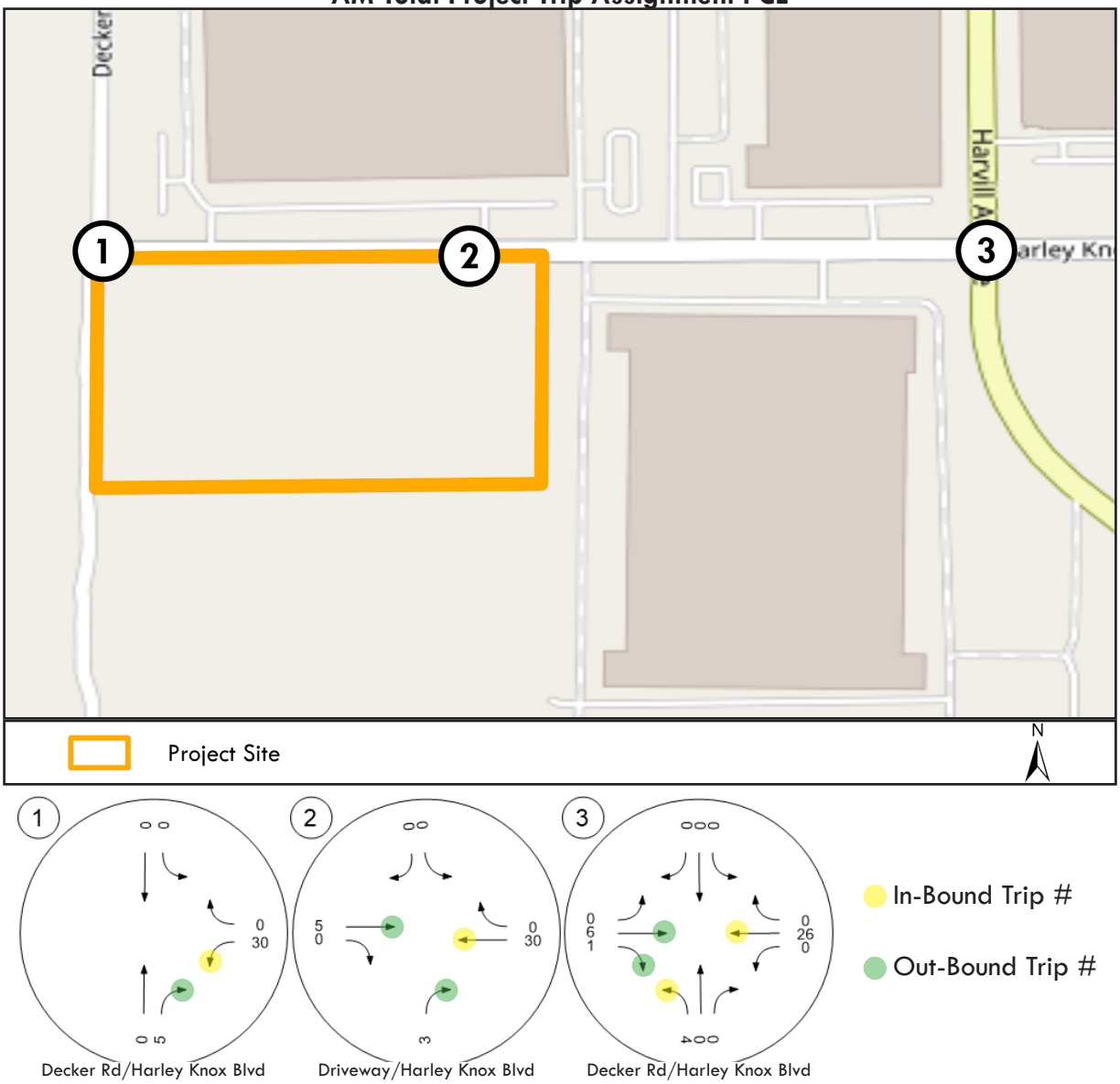


Truck Project Trip Distribution

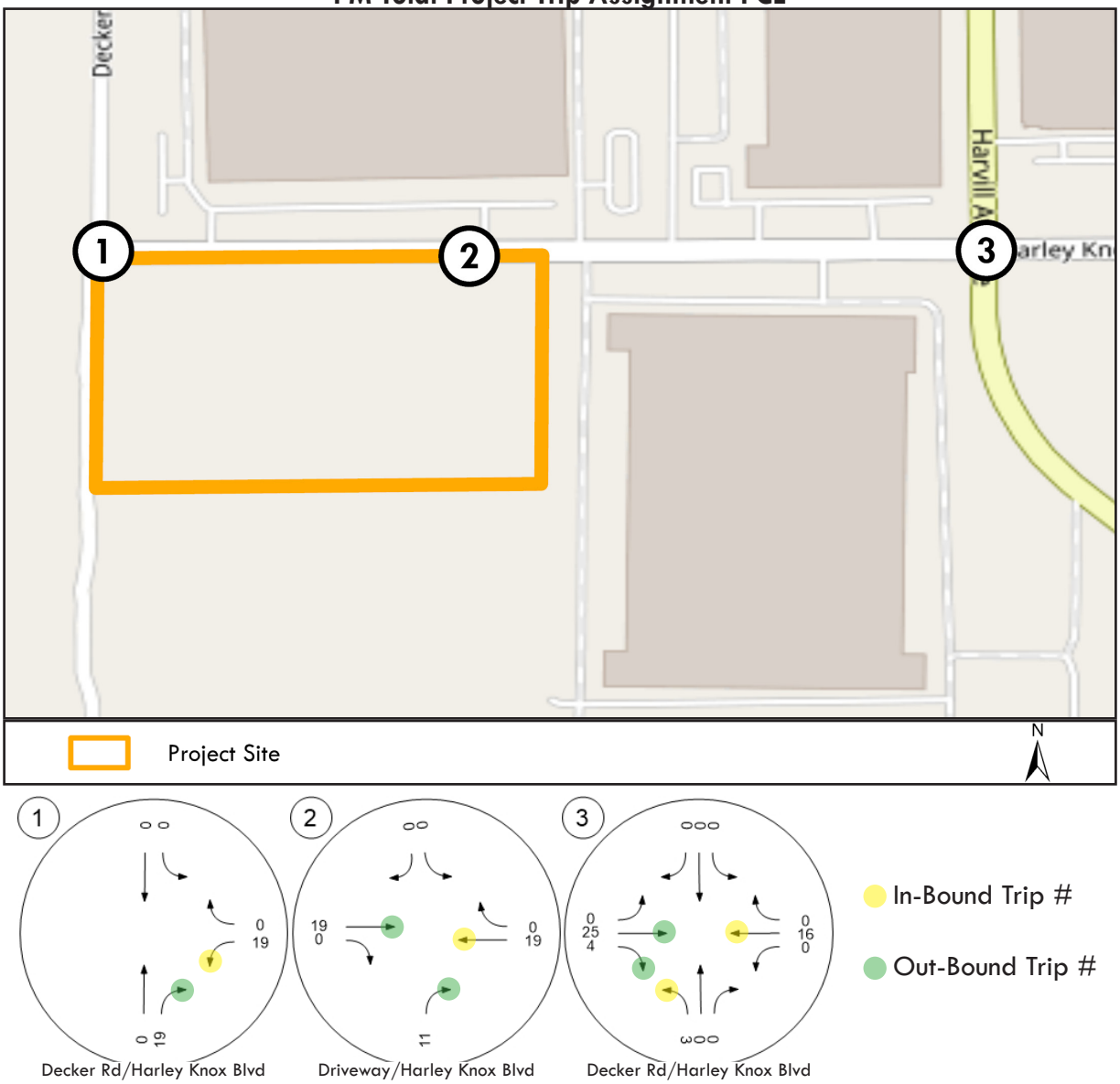


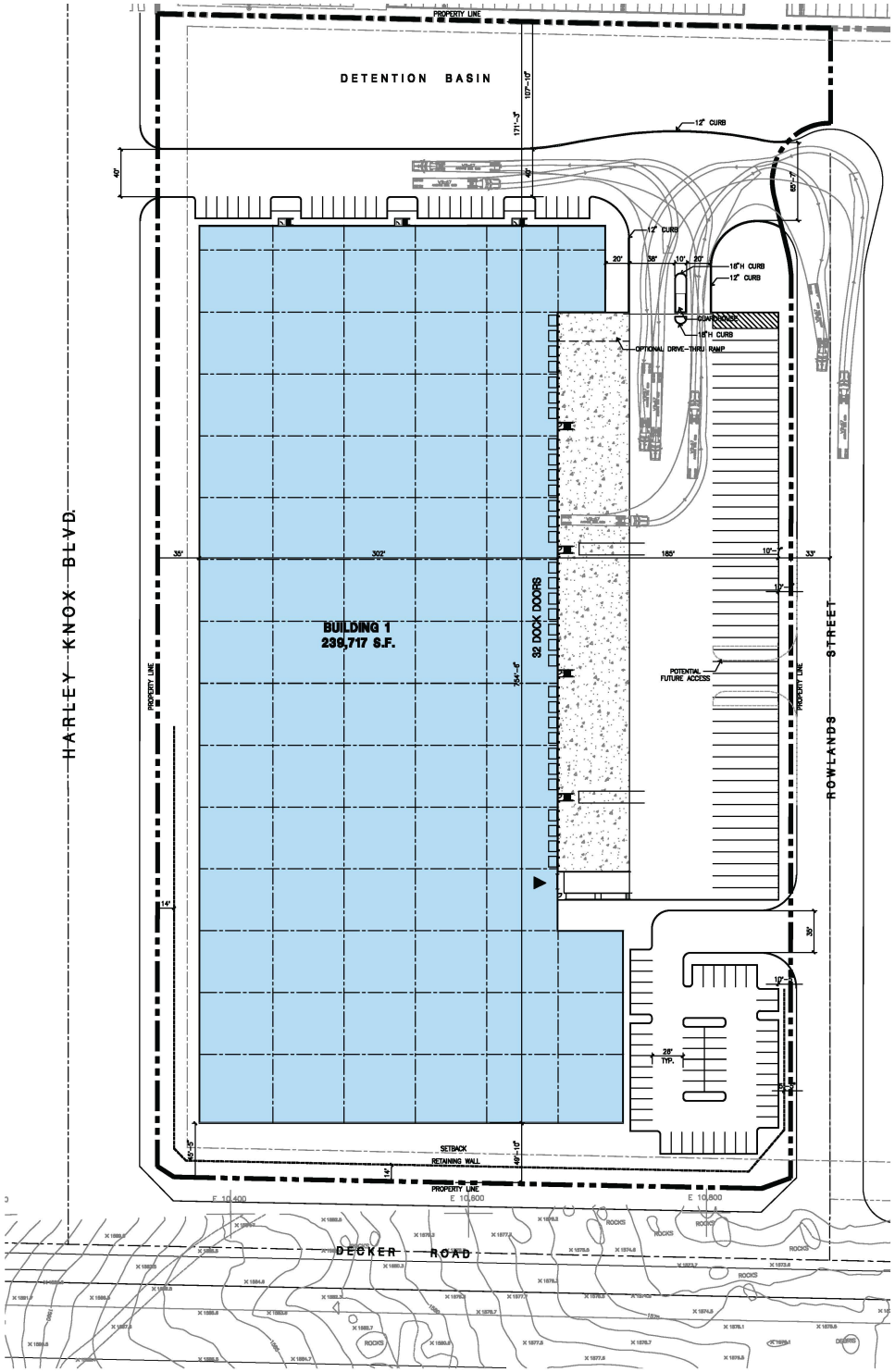


AM Total Project Trip Assignment PCE

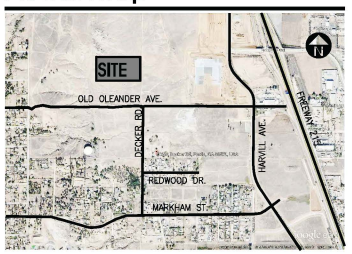


PM Total Project Trip Assignment PCE





Aerial Map



Tabulation

SITE AREA	BUILDING 1
in sq. ft	522,537 s.f.
in acres	12.0 ac
BUILDING AREA	
Office	3,500 s.f.
Warehouse	236,217 s.f.
Total	239,717 s.f.
COVERAGE	45.9%
AUTO PARKING REQUIRED	
Office @ 1/250 s.f.	14 stalls
Whse @ 1/2,000 s.f.	119 stalls
TOTAL	133 stalls
AUTO PARKING PROVIDED	
Standard (9'x18')	83 stalls
TRAILER PARKING PROVIDED	
Trailer (10'x53')	50 stalls
TOTAL PARKING PROVIDED	133 stalls

ZONING ORDINANCE FOR CITY

Current Zoning Designation :

Rural Residential (R-R)

Manufacturing Medium (M-M)

Industrial Park (I-P)

Proposed Zoning:

Industrial Park (I-P)

MAXIMUM FLOOR AREA RATIO

F.A.R. .60

BUILDING HEIGHT ALLOWED

Height - 50'

SETBACKS

Street Side = 25'

Side = 5'

Rear = 5'

Abuts Residential/commercial zone = 50'

Legend

WAREHOUSE

DRIVE THRU DOOR

Note: This is a conceptual plan. It is based on preliminary information which is not fully verified and may be incomplete. It is meant as a comparative aid in examining alternate development strategies and any quantities indicated are subject to revision as more reliable information becomes available.

north

1" = 40'

0 40 80 120

HARLEY KNOX BLVD & DECKER ROAD

Conceptual Site Plan

Trammell Crow Company

HPA architecture
18831 Bardeen Ave. - Ste. #100
Irvine, CA 92612
(949) 863-1770
www.hparchs.com

County of Riverside, CA

May 24, 2021 / Job #19132

Scheme 17

APPENDIX B – TRAFFIC COUNTS

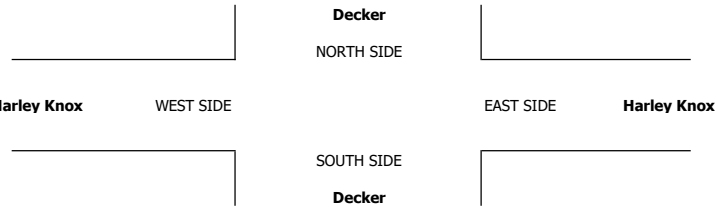
INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Mead Valley	PROJECT #:	SC2954
6/16/21	NORTH & SOUTH:	Decker	LOCATION #:	1
WEDNESDAY	EAST & WEST:	Harley Knox	CONTROL:	STOP ALL

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

		NORTHBOUND Decker			SOUTHBOUND Decker			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	LANES:	NL X	NT 1	NR 0	SL 0	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	3					0
	7:15 AM	0	0	0	1	3	0	0	0	0	0	0	0	4					0
	7:30 AM	0	0	0	0	2	0	0	0	0	0	0	3	5					0
	7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	1					0
	8:00 AM	0	1	0	2	1	0	0	0	0	0	0	0	4					0
	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	2					0
	8:30 AM	0	2	0	0	0	0	0	0	0	0	0	4	5					0
	8:45 AM	0	1	0	1	1	0	0	0	0	0	0	6	9					0
	VOLUMES	0	4	0	5	7	0	0	0	0	1	0	17	32	0	0	0	0	0
	APPROACH %	0%	100%	0%	41%	59%	0%	0%	0%	0%	6%	0%	94%						
	APP/DEPART	4	/	20	11	/	8	0	/	5	18	/	0	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	4	0	3	2	0	0	0	0	1	0	11	20					
	APPROACH %	0%	100%	0%	56%	44%	0%	0%	0%	0%	9%	0%	91%						
	PEAK HR FACTOR		0.583			0.450			0.000			0.479		0.542					
	APP/DEPART	4	/	14	5	/	3	0	/	3	12	/	0	0					
PM	4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1					0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1					0
	4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1					0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1					0
	5:00 PM	0	0	0	3	0	0	0	0	0	0	0	2	5					0
	5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1					0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	5:45 PM	0	1	0	1	1	0	0	0	0	0	0	1	4					0
	VOLUMES	0	1	0	7	1	0	0	0	0	0	0	5	14	0	0	0	0	0
	APPROACH %	0%	100%	0%	87%	13%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	1	/	6	8	/	1	0	/	7	5	/	0	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	1	0	5	1	0	0	0	0	0	0	3	10					
	APPROACH %	0%	100%	0%	82%	18%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.250			0.550			0.000			0.375		0.528					
	APP/DEPART	1	/	4	6	/	1	0	/	5	3	/	0	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Mead Valley	PROJECT #:	SC2954
6/16/21	NORTH & SOUTH:	Harvill	LOCATION #:	2
WEDNESDAY	EAST & WEST:	Harley Knox	CONTROL:	SIGNAL

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

		NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	LANES:	NL 1	NT 1	NR 2	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 3	WR 1	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	3	1	47	3	0	0	0	1	1	54	8	1	119					0
	7:15 AM	0	0	65	6	1	0	0	1	0	58	12	3	146					0
	7:30 AM	1	3	71	6	0	0	0	3	0	40	5	7	134					0
	7:45 AM	0	3	57	5	0	0	0	1	0	45	9	8	126					0
	8:00 AM	0	2	55	5	3	1	0	0	2	37	8	4	115					0
	8:15 AM	0	1	52	3	0	0	0	11	0	28	11	0	104					0
	8:30 AM	1	0	52	0	0	0	0	0	0	47	12	1	113					0
	8:45 AM	0	3	35	7	5	0	0	3	2	42	10	4	110					0
	VOLUMES	5	12	433	34	9	1	0	19	5	348	74	28	966	0	0	0	0	0
	APPROACH %	1%	3%	96%	78%	20%	2%	0%	81%	19%	77%	16%	6%						
	APP/DEPART	450	/	39	44	/	361	24	/	486	450	/	80	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	4	6	240	20	1	0	0	6	1	196	34	19	525					
	APPROACH %	2%	2%	96%	95%	5%	0%	0%	85%	15%	79%	14%	7%						
	PEAK HR FACTOR		0.839			0.732			0.650			0.848		0.898					
	APP/DEPART	250	/	25	21	/	198	7	/	265	248	/	38	0					
PM	4:00 PM	1	0	67	3	1	0	0	16	4	79	7	4	181					0
	4:15 PM	0	2	69	8	0	1	0	10	2	62	5	5	163					0
	4:30 PM	0	0	74	7	0	0	0	14	6	82	1	1	185					0
	4:45 PM	3	0	59	1	2	0	0	4	0	63	11	4	146					0
	5:00 PM	0	3	57	4	3	0	0	52	8	59	12	5	201					0
	5:15 PM	1	2	47	1	1	0	1	44	3	46	7	7	159					0
	5:30 PM	0	0	53	4	1	0	1	25	5	74	2	0	164					0
	5:45 PM	0	0	67	4	0	1	0	8	4	72	4	0	160					0
	VOLUMES	5	6	491	32	8	2	2	172	32	537	48	25	1,358	0	0	0	0	0
	APPROACH %	1%	1%	98%	77%	18%	5%	1%	84%	15%	88%	8%	4%						
	APP/DEPART	502	/	33	41	/	576	206	/	694	610	/	55	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	4	5	236	13	6	0	1	114	17	250	30	17	691					
	APPROACH %	2%	2%	97%	70%	30%	0%	1%	87%	13%	84%	10%	6%						
	PEAK HR FACTOR		0.826			0.661			0.553			0.881		0.861					
	APP/DEPART	245	/	22	19	/	272	132	/	363	296	/	34	0					

APPENDIX C – LEVEL OF SERVICE CALCULATIONS

Table of Contents

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing AM.pdf

Scenario 1 Existing AM
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.038	7.0	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	WB Thru	0.000	0.0	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.207	25.8	C

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

Intersection Level Of Service Report
Intersection 1: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

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

Volumes

Name						
Base Volume Input [veh/h]	4	0	5	7	1	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	5	7	1	17
Peak Hour Factor	0.5830	0.5830	0.4500	0.4500	0.4790	0.4790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	3	4	1	9
Total Analysis Volume [veh/h]	7	0	11	16	2	35
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	899	885	709	930
Degree of Utilization, x	0.01	0.03	0.00	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.02	0.09	0.01	0.12
95th-Percentile Queue Length [ft]	0.59	2.36	0.21	2.93
Approach Delay [s/veh]	7.03	7.19	6.78	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	6.96			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

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

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	555.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	7	0	0	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0	0	7	0	0	38	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.6500	0.6500	1.0000	0.8480	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	3	0	0	11	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	11	0	0	45	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.93	0.00	0.00	9.03	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.93			9.03			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.00											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.207

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	6	240	20	1	0	0	6	1	196	34	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	6	240	20	1	0	0	6	1	196	34	19
Peak Hour Factor	0.8390	0.8390	0.8390	0.7320	0.7320	0.7320	0.6500	0.6500	0.6500	0.8480	0.8480	0.8480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	72	7	0	0	0	2	0	58	10	6
Total Analysis Volume [veh/h]	5	7	286	27	1	0	0	9	2	231	40	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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	37	0	9	36	0	9	30	0	14	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	62	62	3	64	64	0	1	1	9	10	10
g / C, Green / Cycle	0.01	0.68	0.68	0.03	0.70	0.70	0.00	0.01	0.01	0.10	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.02
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	13	1149	1728	46	1184	1184	4	47	21	301	505	158
d1, Uniform Delay [s]	44.52	4.57	5.13	43.27	3.97	3.97	0.00	43.89	43.83	39.74	36.02	36.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.90	0.01	0.21	11.36	0.00	0.00	0.00	1.93	1.92	4.10	0.07	0.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.01	0.17	0.59	0.00	0.00	0.00	0.19	0.09	0.77	0.08	0.14
d, Delay for Lane Group [s/veh]	63.42	4.58	5.33	54.63	3.97	3.97	0.00	45.82	45.76	43.84	36.08	36.66
Lane Group LOS	E	A	A	D	A	A	A	D	D	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.18	0.04	0.86	0.73	0.00	0.00	0.00	0.11	0.05	2.63	0.26	0.45
50th-Percentile Queue Length [ft/ln]	4.41	0.96	21.46	18.35	0.06	0.06	0.00	2.77	1.37	65.84	6.60	11.27
95th-Percentile Queue Length [veh/ln]	0.32	0.07	1.55	1.32	0.00	0.00	0.00	0.20	0.10	4.74	0.48	0.81
95th-Percentile Queue Length [ft/ln]	7.94	1.73	38.64	33.02	0.11	0.11	0.00	4.99	2.47	118.51	11.88	20.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.42	4.58	5.33	54.63	3.97	3.97	0.00	45.82	45.76	43.84	36.08	36.66
Movement LOS	E	A	A	D	A	A	A	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.29			52.82			45.81			42.24		
Approach LOS	A			D			D			D		
d_I, Intersection Delay [s/veh]	25.77											
Intersection LOS	C											
Intersection V/C	0.207											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
l_p,int, Pedestrian LOS Score for Intersection	2.541	2.313	2.734	2.802
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	710	577	688
d_b, Bicycle Delay [s]	18.09	18.73	22.80	19.38
l_b,int, Bicycle LOS Score for Intersection	2.051	1.583	1.569	1.721
Bicycle LOS	B	A	A	A

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing AM.pdf

Scenario 1 Existing AM
6/25/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
1	Decker Rd/Harley Knox Blvd	4	0	5	7	1	17	34

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	0	0	7	0	38	0	45

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	4	6	240	20	1	0	0	6	1	196	34	19	527

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Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing PM.pdf

Scenario 2 Existing PM
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.012	6.9	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	EB Thru	0.002	0.0	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.190	21.0	C

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

Intersection Level Of Service Report
Intersection 1: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

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

Volumes

Name						
Base Volume Input [veh/h]	1	0	5	1	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	1	0	3
Peak Hour Factor	0.2500	0.2500	0.5500	0.5500	0.3750	0.3750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	2	0	0	2
Total Analysis Volume [veh/h]	4	0	9	2	0	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	917	882	795	939
Degree of Utilization, x	0.00	0.01	0.00	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.01	0.04	0.00	0.03
95th-Percentile Queue Length [ft]	0.33	0.95	0.00	0.64
Approach Delay [s/veh]	6.94	7.14	6.57	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	6.90			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	555.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	132	0	0	34	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0	0	132	0	0	34	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.5530	0.5530	1.0000	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	60	0	0	10	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	239	0	0	39	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.63	0.00	0.00	9.01	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.63			9.01			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.00											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	5	236	13	6	0	1	114	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	236	13	6	0	1	114	0	0	0	0
Peak Hour Factor	0.8260	0.8260	0.8260	0.6610	0.6610	0.6610	0.5530	0.5530	0.5530	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	71	5	2	0	0	52	0	0	0	0
Total Analysis Volume [veh/h]	5	6	286	20	9	0	2	206	0	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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]	9	36	0	9	36	0	14	31	0	9	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	85	85	85	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	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	59	59	2	61	61	0	8	8	0	7	7
g / C, Green / Cycle	0.01	0.70	0.70	0.02	0.71	0.71	0.00	0.09	0.09	0.00	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	13	1172	1763	38	1198	1198	13	292	130	4	405	126
d1, Uniform Delay [s]	42.05	3.95	4.43	41.12	3.55	3.55	42.28	37.61	0.00	0.00	0.00	0.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.26	0.01	0.20	10.89	0.01	0.01	5.54	3.13	0.00	0.00	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.01	0.16	0.53	0.00	0.00	0.16	0.71	0.00	0.00	0.00	0.00
d, Delay for Lane Group [s/veh]	60.32	3.96	4.63	52.01	3.55	3.55	47.81	40.74	0.00	0.00	0.00	0.00
Lane Group LOS	E	A	A	D	A	A	D	D	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.17	0.03	0.73	0.52	0.02	0.02	0.03	2.18	0.00	0.00	0.00	0.00
50th-Percentile Queue Length [ft/ln]	4.20	0.71	18.37	13.10	0.49	0.49	0.76	54.40	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.30	0.05	1.32	0.94	0.03	0.03	0.05	3.92	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.57	1.27	33.06	23.58	0.87	0.87	1.37	97.92	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.32	3.96	4.63	52.01	3.55	3.55	47.81	40.74	0.00	0.00	0.00	0.00
Movement LOS	E	A	A	D	A	A	D	D	A	A	A	A
d_A, Approach Delay [s/veh]	5.56			36.97			40.81			0.00		
Approach LOS	A			D			D			A		
d_I, Intersection Delay [s/veh]	20.99											
Intersection LOS	C											
Intersection V/C	0.190											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.03	34.03	34.03	34.03
l_p,int, Pedestrian LOS Score for Intersection	2.501	2.306	2.750	2.787
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	752	752	635	517
d_b, Bicycle Delay [s]	16.57	16.57	19.83	23.39
l_b,int, Bicycle LOS Score for Intersection	2.050	1.584	1.731	1.560
Bicycle LOS	B	A	A	A

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing PM.pdf

Scenario 2 Existing PM
6/25/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
1	Decker Rd/Harley Knox Blvd	1	0	5	1	0	3	10

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	0	0	132	0	34	0	166

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	4	5	236	13	6	0	1	114	0	0	0	0	379

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Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing AM + P.pdf

Scenario 3 Existing AM + P
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.092	7.6	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	NB Right	0.003	9.0	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.210	26.8	C

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

Intersection Level Of Service Report
Intersection 1: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

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

Volumes

Name						
Base Volume Input [veh/h]	4	0	5	7	1	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	0	30	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]	4	5	5	7	31	17
Peak Hour Factor	0.5830	0.5830	0.4500	0.4500	0.4790	0.4790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	3	4	16	9
Total Analysis Volume [veh/h]	7	9	11	16	65	35
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	940	850	707	926
Degree of Utilization, x	0.02	0.03	0.09	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.05	0.10	0.30	0.12
95th-Percentile Queue Length [ft]	1.30	2.46	7.57	2.95
Approach Delay [s/veh]	6.90	7.38	7.76	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	7.59			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	555.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	7	0	0	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	0	0	0	5	0	0	30	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]	0	0	3	0	0	0	0	12	0	0	68	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.6500	0.6500	1.0000	0.8480	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	5	0	0	20	0
Total Analysis Volume [veh/h]	0	0	3	0	0	0	0	18	0	0	80	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	8.96	0.00	0.00	9.13	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.96			9.13			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.27											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	6	240	20	1	0	0	6	1	196	34	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	0	0	6	1	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	6	240	20	1	0	0	12	2	196	60	19
Peak Hour Factor	0.8390	0.8390	0.8390	0.7320	0.7320	0.7320	0.6500	0.6500	0.6500	0.8480	0.8480	0.8480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	72	7	0	0	0	5	1	58	18	6
Total Analysis Volume [veh/h]	10	7	286	27	1	0	0	18	3	231	71	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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	37	0	9	36	0	9	30	0	14	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	61	61	3	62	62	0	2	2	9	11	11
g / C, Green / Cycle	0.01	0.67	0.67	0.03	0.69	0.69	0.00	0.02	0.02	0.10	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.11	0.02	0.00	0.00	0.00	0.01	0.00	0.07	0.02	0.02
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	22	1133	1704	46	1158	1158	4	77	34	301	548	171
d1, Uniform Delay [s]	44.14	4.84	5.43	43.27	4.39	4.39	0.00	43.19	43.03	39.74	35.51	35.50
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.10	0.01	0.21	11.36	0.00	0.00	0.00	1.52	1.07	4.10	0.11	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.01	0.17	0.59	0.00	0.00	0.00	0.23	0.09	0.77	0.13	0.13
d, Delay for Lane Group [s/veh]	58.24	4.85	5.65	54.63	4.39	4.39	0.00	44.71	44.11	43.84	35.61	35.84
Lane Group LOS	E	A	A	D	A	A	A	D	D	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.31	0.04	0.90	0.73	0.00	0.00	0.00	0.21	0.08	2.63	0.47	0.44
50th-Percentile Queue Length [ft/ln]	7.63	1.00	22.43	18.35	0.07	0.07	0.00	5.29	1.88	65.84	11.65	11.10
95th-Percentile Queue Length [veh/ln]	0.55	0.07	1.61	1.32	0.00	0.00	0.00	0.38	0.14	4.74	0.84	0.80
95th-Percentile Queue Length [ft/ln]	13.74	1.80	40.37	33.02	0.12	0.12	0.00	9.51	3.38	118.51	20.97	19.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.24	4.85	5.65	54.63	4.39	4.39	0.00	44.71	44.11	43.84	35.61	35.84
Movement LOS	E	A	A	D	A	A	A	D	D	D	D	D
d_A, Approach Delay [s/veh]	7.36			52.84			44.62			41.49		
Approach LOS	A			D			D			D		
d_I, Intersection Delay [s/veh]	26.76											
Intersection LOS	C											
Intersection V/C	0.210											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
l_p,int, Pedestrian LOS Score for Intersection	2.542	2.313	2.739	2.807
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	710	577	688
d_b, Bicycle Delay [s]	18.09	18.73	22.80	19.38
l_b,int, Bicycle LOS Score for Intersection	2.060	1.583	1.577	1.738
Bicycle LOS	B	A	A	A

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing AM + P.pdf

Scenario 3 Existing AM + P
6/25/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
1	Decker Rd/Harley Knox Blvd	4	5	5	7	31	17	69

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	3	0	12	0	68	0	83

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	8	6	240	20	1	0	0	12	2	196	60	19	564

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Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Existing PM + P.pdf

Scenario 4 Existing PM + P
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.078	7.3	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	NB Right	0.016	9.8	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.204	23.1	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: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	7.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

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

Volumes

Name						
Base Volume Input [veh/h]	1	0	5	1	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	0	0	19	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]	1	19	5	1	19	3
Peak Hour Factor	0.2500	0.2500	0.5500	0.5500	0.3750	0.3750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	19	2	0	13	2
Total Analysis Volume [veh/h]	4	76	9	2	51	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	1030	840	696	906
Degree of Utilization, x	0.08	0.01	0.07	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.25	0.04	0.24	0.03
95th-Percentile Queue Length [ft]	6.30	0.99	5.91	0.67
Approach Delay [s/veh]	6.79	7.34	8.07	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	7.33			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	555.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	132	0	0	34	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	0	0	0	0	19	0	0	19	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]	0	0	11	0	0	0	0	151	0	0	53	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.5530	0.5530	1.0000	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	3	0	0	0	0	68	0	0	15	0
Total Analysis Volume [veh/h]	0	0	12	0	0	0	0	273	0	0	60	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.82	0.00	0.00	9.07	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.82			9.07			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.34											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.204

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	5	236	13	6	0	1	114	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	0	0	25	4	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	5	236	13	6	0	1	139	4	0	16	0
Peak Hour Factor	0.8260	0.8260	0.8260	0.6610	0.6610	0.6610	0.5530	0.5530	0.5530	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	71	5	2	0	0	63	2	0	5	0
Total Analysis Volume [veh/h]	8	6	286	20	9	0	2	251	7	0	18	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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]	9	36	0	9	36	0	14	31	0	9	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	85	85	85	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	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	58	58	2	59	59	0	9	9	0	9	9
g / C, Green / Cycle	0.01	0.68	0.68	0.02	0.69	0.69	0.00	0.11	0.11	0.00	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	19	1146	1724	38	1166	1166	13	341	152	4	475	148
d1, Uniform Delay [s]	41.83	4.36	4.89	41.12	4.03	4.03	42.28	36.91	34.19	0.00	34.37	0.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.97	0.01	0.21	10.89	0.01	0.01	5.54	3.11	0.12	0.00	0.03	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.01	0.17	0.53	0.00	0.00	0.16	0.74	0.05	0.00	0.04	0.00
d, Delay for Lane Group [s/veh]	56.80	4.36	5.10	52.01	4.03	4.03	47.81	40.02	34.31	0.00	34.40	0.00
Lane Group LOS	E	A	A	D	A	A	D	D	C	A	C	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.24	0.03	0.79	0.52	0.02	0.02	0.03	2.63	0.13	0.00	0.11	0.00
50th-Percentile Queue Length [ft/ln]	6.05	0.76	19.86	13.10	0.54	0.54	0.76	65.82	3.34	0.00	2.79	0.00
95th-Percentile Queue Length [veh/ln]	0.44	0.05	1.43	0.94	0.04	0.04	0.05	4.74	0.24	0.00	0.20	0.00
95th-Percentile Queue Length [ft/ln]	10.89	1.37	35.75	23.58	0.97	0.97	1.37	118.47	6.01	0.00	5.03	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.80	4.36	5.10	52.01	4.03	4.03	47.81	40.02	34.31	0.00	34.40	0.00
Movement LOS	E	A	A	D	A	A	D	D	C	A	C	A
d_A, Approach Delay [s/veh]	6.46			37.12			39.93			34.40		
Approach LOS	A			D			D			C		
d_I, Intersection Delay [s/veh]	23.09											
Intersection LOS	C											
Intersection V/C	0.204											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.03	34.03	34.03	34.03
l_p,int, Pedestrian LOS Score for Intersection	2.503	2.306	2.759	2.794
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	752	752	635	517
d_b, Bicycle Delay [s]	16.57	16.57	19.83	23.39
l_b,int, Bicycle LOS Score for Intersection	2.055	1.584	1.774	1.570
Bicycle LOS	B	A	A	A

Sequence

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

Muranaka

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Scenario 4 Existing PM + P
6/25/2021

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
1	Decker Rd/Harley Knox Blvd	1	19	5	1	19	3	48

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	11	0	151	0	53	0	215

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	7	5	236	13	6	0	1	139	4	0	16	0	427

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Scenario 5 Opening Year AM
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.150	8.1	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	WB Thru	0.002	0.0	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.433	33.8	C

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

Intersection Level Of Service Report
Intersection 1: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.150

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	0	5	7	0	0	0	0	1	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	13	0	0	0	0	37	0	32	113	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]	0	4	13	5	7	0	0	37	0	33	113	18
Peak Hour Factor	1.0000	0.5830	0.5830	0.4500	0.4500	1.0000	1.0000	1.0000	1.0000	0.4790	1.0000	0.4790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	6	3	4	0	0	9	0	17	28	9
Total Analysis Volume [veh/h]	0	7	22	11	16	0	0	37	0	69	113	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	684	766	632	693	693	707	707	687	755	892
Degree of Utilization, x	0.00	0.04	0.02	0.01	0.01	0.00	0.05	0.10	0.15	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.12	0.05	0.04	0.04	0.00	0.17	0.33	0.52	0.13
95th-Percentile Queue Length [ft]	0.00	2.95	1.33	0.88	0.88	0.00	4.13	8.33	13.12	3.33
Approach Delay [s/veh]	7.58		8.18			8.07		8.14		
Approach LOS	A		A			A		A		
Intersection Delay [s/veh]	8.08									
Intersection LOS	A									

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	7	0	0	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0400	1.0000	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	50	0	0	145	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]	0	0	0	0	0	0	0	57	0	0	185	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.6500	0.6500	1.0000	0.8480	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	22	0	0	55	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	88	0	0	218	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.15	0.00	0.00	9.56	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.15			9.56			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.00											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	33.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	6	240	20	1	0	0	6	1	196	34	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	126	5	0	0	0	50	0	341	145	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	6	376	26	1	0	0	56	1	545	180	34
Peak Hour Factor	0.8390	0.8390	0.8390	0.7320	0.7320	0.7320	0.6500	0.6500	0.6500	0.8480	0.8480	0.8480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	112	9	0	0	0	22	0	161	53	10
Total Analysis Volume [veh/h]	5	7	448	36	1	0	0	86	2	643	212	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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	37	0	9	36	0	9	30	0	29	50	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	57	57	3	60	60	0	5	5	24	28	28
g / C, Green / Cycle	0.01	0.55	0.55	0.03	0.57	0.57	0.00	0.04	0.04	0.23	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.18	0.02	0.00	0.00	0.00	0.03	0.00	0.21	0.05	0.03
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	12	917	1380	51	958	958	3	144	64	703	1236	386
d1, Uniform Delay [s]	51.93	10.93	13.22	50.38	9.75	9.75	0.00	49.27	48.01	39.70	29.39	28.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.68	0.02	0.63	15.86	0.00	0.00	0.00	3.92	0.19	5.21	0.07	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.01	0.32	0.70	0.00	0.00	0.00	0.60	0.03	0.91	0.17	0.10
d, Delay for Lane Group [s/veh]	72.60	10.95	13.85	66.24	9.75	9.75	0.00	53.19	48.21	44.91	29.46	28.96
Lane Group LOS	E	B	B	E	A	A	A	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	0.08	2.94	1.16	0.01	0.01	0.00	1.18	0.05	8.50	1.37	0.77
50th-Percentile Queue Length [ft/ln]	5.02	1.92	73.49	29.02	0.13	0.13	0.00	29.58	1.34	212.45	34.33	19.28
95th-Percentile Queue Length [veh/ln]	0.36	0.14	5.29	2.09	0.01	0.01	0.00	2.13	0.10	13.28	2.47	1.39
95th-Percentile Queue Length [ft/ln]	9.03	3.45	132.28	52.24	0.23	0.23	0.00	53.24	2.41	331.97	61.80	34.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	72.60	10.95	13.85	66.24	9.75	9.75	0.00	53.19	48.21	44.91	29.46	28.96
Movement LOS	E	B	B	E	A	A	A	D	D	D	C	C
d_A, Approach Delay [s/veh]	14.45			64.71			53.08			40.53		
Approach LOS	B			E			D			D		
d_I, Intersection Delay [s/veh]	33.78											
Intersection LOS	C											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
l_p,int, Pedestrian LOS Score for Intersection	2.642	2.325	2.772	2.913
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	609	495	876
d_b, Bicycle Delay [s]	24.71	25.40	29.75	16.60
l_b,int, Bicycle LOS Score for Intersection	2.319	1.590	1.632	2.052
Bicycle LOS	B	A	A	B

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year AM.pdf

Scenario 5 Opening Year AM
6/25/2021

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	Decker Rd/Harley Knox Blvd	0	4	13	5	7	0	0	37	0	33	113	18	230

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	0	0	57	0	185	0	242

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	4	6	376	26	1	0	0	56	1	545	180	34	1229

Table of Contents

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year PM.pdf

Scenario 6 Opening Year PM
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	EB Thru	0.184	8.5	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	EB Thru	0.005	0.0	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.536	27.6	C

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

Intersection Level Of Service Report
Intersection 1: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.184

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1	0	5	1	0	0	0	0	0	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	36	0	0	0	0	114	0	16	49	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]	0	1	36	5	1	0	0	114	0	16	49	3
Peak Hour Factor	1.0000	0.2500	0.2500	0.5500	0.5500	1.0000	1.0000	1.0000	1.0000	0.3750	1.0000	0.3750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	36	2	0	0	0	29	0	11	12	2
Total Analysis Volume [veh/h]	0	4	144	9	2	0	0	114	0	43	49	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	695	806	611	667	668	694	694	634	692	805
Degree of Utilization, x	0.00	0.18	0.01	0.00	0.00	0.00	0.16	0.07	0.07	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.67	0.04	0.01	0.00	0.00	0.58	0.22	0.23	0.03
95th-Percentile Queue Length [ft]	0.00	16.72	1.12	0.23	0.00	0.00	14.62	5.44	5.70	0.75
Approach Delay [s/veh]	8.17		8.58			8.90		8.42		
Approach LOS	A		A			A		A		
Intersection Delay [s/veh]	8.47									
Intersection LOS	A									

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	132	0	0	34	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0400	1.0000	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	150	0	0	64	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]	0	0	0	0	0	0	0	287	0	0	99	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.5530	0.5530	1.0000	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	130	0	0	28	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	519	0	0	112	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	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	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.67	0.00	0.00	9.23	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			B			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.67			9.23			0.00			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	0.00											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	5	236	13	6	0	1	114	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	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	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	379	14	0	0	0	150	0	166	64	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	624	28	6	0	1	269	0	166	64	6
Peak Hour Factor	0.8260	0.8260	0.8260	0.6610	0.6610	0.6610	0.5530	0.5530	0.5530	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	189	11	2	0	0	122	0	47	18	2
Total Analysis Volume [veh/h]	5	6	755	42	9	0	2	486	0	188	73	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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]	9	36	0	9	36	0	9	30	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	85	85	85	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	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	44	44	3	47	47	0	15	15	6	21	21
g / C, Green / Cycle	0.01	0.52	0.52	0.04	0.55	0.55	0.00	0.18	0.18	0.07	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.30	0.03	0.00	0.00	0.00	0.15	0.00	0.06	0.02	0.00
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	13	876	1318	62	927	927	13	582	260	223	1142	356
d1, Uniform Delay [s]	42.05	9.83	13.96	40.44	8.61	8.61	42.28	33.63	0.00	39.08	24.41	24.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.26	0.01	1.81	12.38	0.01	0.01	5.54	3.23	0.00	8.46	0.02	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.01	0.57	0.68	0.00	0.00	0.16	0.83	0.00	0.84	0.06	0.02
d, Delay for Lane Group [s/veh]	60.32	9.84	15.77	52.82	8.62	8.62	47.81	36.86	0.00	47.54	24.43	24.16
Lane Group LOS	E	A	B	D	A	A	D	D	A	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.17	0.05	4.86	1.07	0.04	0.04	0.03	4.98	0.00	2.17	0.37	0.11
50th-Percentile Queue Length [ft/ln]	4.20	1.35	121.50	26.72	0.93	0.93	0.76	124.48	0.00	54.25	9.25	2.67
95th-Percentile Queue Length [veh/ln]	0.30	0.10	8.48	1.92	0.07	0.07	0.05	8.64	0.00	3.91	0.67	0.19
95th-Percentile Queue Length [ft/ln]	7.57	2.44	211.88	48.10	1.67	1.67	1.37	215.97	0.00	97.65	16.66	4.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.32	9.84	15.77	52.82	8.62	8.62	47.81	36.86	0.00	47.54	24.43	24.16
Movement LOS	E	A	B	D	A	A	D	D	A	D	C	C
d_A, Approach Delay [s/veh]	16.01			45.02			36.90			40.64		
Approach LOS	B			D			D			D		
d_I, Intersection Delay [s/veh]	27.63											
Intersection LOS	C											
Intersection V/C	0.536											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.03	34.03	34.03	34.03
l_p,int, Pedestrian LOS Score for Intersection	2.608	2.311	2.793	2.913
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	752	752	611	635
d_b, Bicycle Delay [s]	16.57	16.57	20.52	19.83
l_b,int, Bicycle LOS Score for Intersection	2.824	1.602	1.962	1.707
Bicycle LOS	C	A	A	A

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year PM.pdf

Scenario 6 Opening Year PM
6/25/2021

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	Decker Rd/Harley Knox Blvd	0	1	36	5	1	0	0	114	0	16	49	3	225

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	0	0	287	0	99	0	386

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	4	5	624	28	6	0	1	269	0	166	64	6	1173

Table of Contents

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year AM + P.pdf

Scenario 7 Opening Year AM + P
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.193	8.4	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	NB Right	0.003	9.2	A
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.436	33.9	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: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	0	5	7	0	0	0	0	1	0	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	18	0	0	0	0	37	0	62	113	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]	0	4	18	5	7	0	0	37	0	63	113	18
Peak Hour Factor	1.0000	0.5830	0.5830	0.4500	0.4500	1.0000	1.0000	1.0000	1.0000	0.4790	1.0000	0.4790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	8	3	4	0	0	9	0	33	28	9
Total Analysis Volume [veh/h]	0	7	31	11	16	0	0	37	0	132	113	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	662	746	613	669	669	687	687	683	750	885
Degree of Utilization, x	0.00	0.05	0.02	0.01	0.01	0.00	0.05	0.19	0.15	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.16	0.05	0.04	0.04	0.00	0.17	0.71	0.53	0.13
95th-Percentile Queue Length [ft]	0.00	4.02	1.37	0.91	0.91	0.00	4.26	17.77	13.22	3.36
Approach Delay [s/veh]	7.79		8.36			8.24		8.57		
Approach LOS	A		A			A		A		
Intersection Delay [s/veh]	8.45									
Intersection LOS	A									

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	7	0	0	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0400	1.0000	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	0	0	0	54	0	0	175	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]	0	0	3	0	0	0	0	61	0	0	215	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.6500	0.6500	1.0000	0.8480	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	23	0	0	63	0
Total Analysis Volume [veh/h]	0	0	3	0	0	0	0	94	0	0	254	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.19	0.00	0.00	9.68	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			A			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.19			9.68			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.08											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	6	240	20	1	0	0	6	1	196	34	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	126	5	0	0	0	56	1	341	171	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	6	376	26	1	0	0	62	2	545	206	34
Peak Hour Factor	0.8390	0.8390	0.8390	0.7320	0.7320	0.7320	0.6500	0.6500	0.6500	0.8480	0.8480	0.8480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	112	9	0	0	0	24	1	161	61	10
Total Analysis Volume [veh/h]	10	7	448	36	1	0	0	95	3	643	243	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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	37	0	9	36	0	9	30	0	29	50	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	57	57	3	59	59	0	5	5	24	29	29
g / C, Green / Cycle	0.01	0.54	0.54	0.03	0.56	0.56	0.00	0.05	0.05	0.23	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.18	0.02	0.00	0.00	0.00	0.03	0.00	0.21	0.05	0.03
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	21	912	1373	51	944	944	3	153	68	703	1249	390
d1, Uniform Delay [s]	51.51	11.07	13.39	50.38	10.13	10.13	0.00	49.12	47.76	39.70	29.37	28.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.52	0.02	0.63	15.86	0.00	0.00	0.00	4.07	0.26	5.21	0.08	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.01	0.33	0.70	0.00	0.00	0.00	0.62	0.04	0.91	0.19	0.10
d, Delay for Lane Group [s/veh]	67.02	11.08	14.02	66.24	10.13	10.13	0.00	53.19	48.02	44.91	29.45	28.73
Lane Group LOS	E	B	B	E	B	B	A	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.35	0.08	2.96	1.16	0.01	0.01	0.00	1.31	0.08	8.50	1.58	0.77
50th-Percentile Queue Length [ft/ln]	8.80	1.93	74.07	29.02	0.13	0.13	0.00	32.66	2.00	212.45	39.46	19.19
95th-Percentile Queue Length [veh/ln]	0.63	0.14	5.33	2.09	0.01	0.01	0.00	2.35	0.14	13.28	2.84	1.38
95th-Percentile Queue Length [ft/ln]	15.84	3.48	133.32	52.24	0.23	0.23	0.00	58.79	3.59	331.97	71.03	34.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.02	11.08	14.02	66.24	10.13	10.13	0.00	53.19	48.02	44.91	29.45	28.73
Movement LOS	E	B	B	E	B	B	A	D	D	D	C	C
d_A, Approach Delay [s/veh]	15.12			64.72			53.03			40.15		
Approach LOS	B			E			D			D		
d_I, Intersection Delay [s/veh]	33.95											
Intersection LOS	C											
Intersection V/C	0.436											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
l_p,int, Pedestrian LOS Score for Intersection	2.643	2.325	2.777	2.918
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	609	495	876
d_b, Bicycle Delay [s]	24.71	25.40	29.75	16.60
l_b,int, Bicycle LOS Score for Intersection	2.327	1.590	1.640	2.069
Bicycle LOS	B	A	A	B

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year AM + P.pdf

Scenario 7 Opening Year AM + P
6/25/2021

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	Decker Rd/Harley Knox Blvd	0	4	18	5	7	0	0	37	0	63	113	18	265

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	3	0	61	0	215	0	279

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	8	6	376	26	1	0	0	62	2	545	206	34	1266

Table of Contents

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year PM + P.pdf

Scenario 8 Opening Year PM + P
6/25/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Decker Rd/Harley Knox Blvd	All-way stop	HCM 6th Edition	WB Left	0.289	9.2	A
2	Driveway 3/Harley Knox Blvd	Two-way stop	HCM 6th Edition	NB Right	0.019	10.9	B
3	Harvill Ave/Harley Knox Blvd	Signalized	HCM 6th Edition	NB Left	0.551	28.1	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: Decker Rd/Harley Knox Blvd

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.289

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	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			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1	0	5	1	0	0	0	0	0	0	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0000	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	55	0	0	0	0	114	0	35	49	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]	0	1	55	5	1	0	0	114	0	35	49	3
Peak Hour Factor	1.0000	0.2500	0.2500	0.5500	0.5500	1.0000	1.0000	1.0000	1.0000	0.3750	1.0000	0.3750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	55	2	0	0	0	29	0	23	12	2
Total Analysis Volume [veh/h]	0	4	220	9	2	0	0	114	0	93	49	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	672	776	578	627	628	649	649	609	662	765
Degree of Utilization, x	0.00	0.29	0.02	0.00	0.00	0.00	0.18	0.15	0.07	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	1.20	0.05	0.01	0.00	0.00	0.63	0.54	0.24	0.03
95th-Percentile Queue Length [ft]	0.00	29.92	1.19	0.24	0.00	0.00	15.83	13.41	5.98	0.79
Approach Delay [s/veh]	9.21		8.93		9.42			9.20		
Approach LOS	A		A		A			A		
Intersection Delay [s/veh]	9.25									
Intersection LOS	A									

Intersection Level Of Service Report
Intersection 2: Driveway 3/Harley Knox Blvd

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

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

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	132	0	0	34	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0400	1.0000	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	0	0	0	0	169	0	0	83	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]	0	0	11	0	0	0	0	306	0	0	118	0
Peak Hour Factor	1.0000	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	0.5530	0.5530	1.0000	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	3	0	0	0	0	138	0	0	33	0
Total Analysis Volume [veh/h]	0	0	12	0	0	0	0	553	0	0	134	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.93	0.00	0.00	9.29	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS			B			A		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.93			9.29			0.00			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	0.19											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Harvill Ave/Harley Knox Blvd

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	2	0	1	1	0	1
Entry Pocket Length [ft]	380.00	100.00	330.00	375.00	100.00	100.00	325.00	100.00	270.00	405.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			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]	4	5	236	13	6	0	1	114	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	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	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	379	14	0	0	0	175	4	166	81	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	5	624	28	6	0	1	294	4	166	81	6
Peak Hour Factor	0.8260	0.8260	0.8260	0.6610	0.6610	0.6610	0.5530	0.5530	0.5530	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	189	11	2	0	0	133	2	47	23	2
Total Analysis Volume [veh/h]	8	6	755	42	9	0	2	532	7	188	92	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	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]	9	36	0	9	36	0	9	30	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	85	85	85	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	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	43	43	3	45	45	0	17	17	6	22	22
g / C, Green / Cycle	0.01	0.51	0.51	0.04	0.53	0.53	0.00	0.20	0.20	0.07	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.30	0.03	0.00	0.00	0.00	0.17	0.00	0.06	0.02	0.00
s, saturation flow rate [veh/h]	1603	1683	2532	1603	1683	1683	3113	3204	1431	3113	4584	1431
c, Capacity [veh/h]	19	851	1281	62	897	897	13	629	281	223	1209	377
d1, Uniform Delay [s]	41.83	10.44	14.82	40.44	9.32	9.32	42.28	32.99	27.65	39.08	23.57	23.21
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.97	0.02	2.00	12.38	0.01	0.01	5.54	3.24	0.04	8.46	0.03	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.01	0.59	0.68	0.01	0.01	0.16	0.85	0.02	0.84	0.08	0.02
d, Delay for Lane Group [s/veh]	56.80	10.45	16.82	52.82	9.33	9.33	47.81	36.23	27.69	47.54	23.59	23.23
Lane Group LOS	E	B	B	D	A	A	D	D	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.24	0.06	5.07	1.07	0.04	0.04	0.03	5.42	0.12	2.17	0.46	0.10
50th-Percentile Queue Length [ft/ln]	6.05	1.41	126.75	26.72	0.98	0.98	0.76	135.62	2.90	54.25	11.44	2.61
95th-Percentile Queue Length [veh/ln]	0.44	0.10	8.76	1.92	0.07	0.07	0.05	9.24	0.21	3.91	0.82	0.19
95th-Percentile Queue Length [ft/ln]	10.89	2.53	219.07	48.10	1.76	1.76	1.37	231.12	5.23	97.65	20.59	4.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.80	10.45	16.82	52.82	9.33	9.33	47.81	36.23	27.69	47.54	23.59	23.23
Movement LOS	E	B	B	D	A	A	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	17.18			45.15			36.16			39.27		
Approach LOS	B			D			D			D		
d_I, Intersection Delay [s/veh]	28.13											
Intersection LOS	C											
Intersection V/C	0.551											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.03	34.03	34.03	34.03
l_p,int, Pedestrian LOS Score for Intersection	2.610	2.311	2.802	2.921
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	752	752	611	635
d_b, Bicycle Delay [s]	16.57	16.57	20.52	19.83
l_b,int, Bicycle LOS Score for Intersection	2.828	1.602	2.006	1.717
Bicycle LOS	C	A	B	A

Sequence

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

Muranaka

Vistro File: C:\...\Muranaka Vistro.vistro
Report File: C:\...\Opening Year PM + P.pdf

Scenario 8 Opening Year PM + P
6/25/2021

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	Decker Rd/Harley Knox Blvd	0	1	55	5	1	0	0	114	0	35	49	3	263

ID	Intersection Name	Northbound	Southbound	Eastbound		Westbound		Total Volume
		Right	Right	Thru	Right	Thru	Right	
2	Driveway 3/Harley Knox Blvd	11	0	306	0	118	0	435

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Harvill Ave/Harley Knox Blvd	7	5	624	28	6	0	1	294	4	166	81	6	1222

APPENDIX D – KNOX BUSINESS PARK QUEUING ANALYSIS

260 E. Baker St. | Suite 200 | Costa Mesa, CA 92626 | (949) 660-1994
urbanxroads.com

November 4, 2019

c/o Ms. Andrea Arcilla
Trammell Crow Company
3501 Jamboree Road, Suite 230
Newport Beach, CA 92660

SUBJECT: KNOX BUSINESS PARK QUEUING ANALYSIS

Dear Ms. Andrea Arcilla:

The firm of Urban Crossroads, Inc. is pleased to submit the following Queuing Analysis for Harley Knox Boulevard Bridge at the I-215 Freeway in the City of Perris and County of Riverside. The purpose of the survey is to establish 2019 baseline travel conditions along Harley Knox Boulevard during the morning and evening peak periods, and evaluate the addition of the Knox Business Park Project traffic to the 2019 baseline conditions.

Peak hour (7-9 AM and 4-6 PM) counts and queuing videos were collected at the I-215 southbound and northbound ramps at Harley Knox Boulevard. The maximum observed queues were found to exceed available stacking on Harley Knox Boulevard between the I-215 southbound and northbound ramps during the both peak hours. The reason for the queuing on Harley Knox Boulevard is the spill-back from the eastbound left turns at I-215 northbound on-ramp. The spill-back resulting from the freeway congestion results in queuing on Harley Knox Boulevard, even though additional capacity is available for through lanes (which is reflected as an acceptable LOS for study intersections). Traffic counts and screenshots from videos showing the peak hour queues are included in Attachment A, which illustrate that the Number 2 through lane on Harley Knox Boulevard is operating at free-flow conditions while there is queuing on the Number 1 through lane due to spill-back from the left turn lane.

Urban Crossroads performed intersection capacity analysis based on Highway Capacity Manual (HCM) 6th Edition methodology for Existing (2019) traffic conditions. The signal timing data provided by Caltrans staff was utilized for the analysis. The intersection capacity analysis summary is provided in Table 1 and shows that the intersections operate at acceptable LOS (LOS D or better) for both Existing (2019) and E+P traffic conditions. Intersection operations worksheets are provided in Attachment B.

A queuing analysis was performed for Harley Knox Boulevard at the I-215 Freeway ramps for Existing (2019) traffic conditions to assess vehicle queues that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections. Queuing analysis findings are presented in Table 2. As shown on Table 2, the analysis indicates there are current queuing issues that indicate capacity issues on Harley Knox Boulevard between the I-215 southbound and northbound ramps (see Attachment C). As indicated on Table 2, the addition of Project traffic would contribute to the existing queuing deficiencies.

In conclusion, capacity issues along Harley Knox Boulevard between the I-215 southbound and northbound ramps were observed in the baseline traffic conditions analysis. The data captured in October 2019 demonstrated vehicular spill-back along Harley Knox Boulevard as described below:

- Eastbound queues were observed on Harley Knox Boulevard between the I-215 southbound and northbound ramps during the AM and PM peak hours
- The queuing issues are due to capacity constraints on the I-215 Freeway mainline and on-ramp, which results in spill-back of vehicles intending to make eastbound left turns and westbound right turns from Harley Knox Boulevard to I-215 northbound on-ramp
- The spill-back of vehicles occasionally blocked southbound left turns from the I-215 SB off-ramp
- The addition of Project traffic would contribute to the existing capacity issues along Harley Knox Boulevard and the I-215 Freeway

Project mitigation may include a combination of fee payments to established programs (e.g., TUMF and/or DIF), construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. As the Project contributes to existing queuing deficiencies, a fair share payment has been recommended towards the following improvements to improve the stacking for left turning vehicles on Harley Knox Boulevard:

Project shall contribute fair share of 7.4% towards improvements to provide the following geometrics at the intersection of I-215 Southbound Ramps at Harley Knox Boulevard:

- Northbound: N/A
- Southbound: One shared left-through lane and one right turn lane
- Eastbound: One through lane and one shared through-right turn lane
- Westbound: Restripe to provide a 200- foot left turn lane and one through lane

Project shall contribute fair share of 4.7% towards improvements to provide the following geometrics at the intersection of I-215 Northbound Ramps at Harley Knox Boulevard:

- Northbound: One shared left-through lane and one right turn lane
- Southbound: N/A
- Eastbound: Restripe to provide a 200-foot left turn lane and two through lanes
- Westbound: One through lane and one shared through-right tun lane

The fair share percentage was calculated based on long-range traffic volumes from Knox Business Park Traffic Impact Analysis (June 8, 2015, prepared by Urban Crossroads, Inc.). The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (Horizon Year) traffic less existing baseline traffic:

Project Fair Share % = Project Traffic / (2035 With Project Total Traffic – Existing Traffic)

Detailed fair share calculations, for each peak hour, has been provided on Table 3 for the applicable deficient intersections.

If you have any questions, please contact me directly at (949) 336-5992.

Respectfully submitted,

URBAN CROSSROADS, INC.

Pranesh Tarikere, PE
Senior Engineer

Table 1

Intersection Analysis for Harley Knox Boulevard

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay (secs.)[2]		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	I-215 SB Ramps & Harley Knox Bl.																	
	- Existing (2019)	TS	0	0	0	0	1	1	0	2	d	1	2	0	13.4	16.6	B	B
	- E+P	TS	0	0	0	0	1	1	0	2	d	1	2	0	13.6	17.7	B	B
2	I-215 NB Ramps & Harley Knox Bl.																	
	- Existing (2019)	TS	0	1	1	0	0	0	1	2	0	0	2	1	33.2	9.1	C	A
	- E+P	TS	0	1	1	0	0	0	1	2	0	0	2	1	45.3	12.0	D	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal

Table 2

Harley Knox Boulevard Peak Hour Queuing Summary

#	Intersection	Movement	Available Stacking Distance (Feet)	Existing (2019)				E+P			
				95th Percentile Queue (Feet)[2]		Acceptable?[1]		95th Percentile Queue (Feet)[2]		Acceptable?[1]	
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	I-215 SB Ramps & Harley Knox Bl.	SBL/T	1,330	>1,330	188	No	Yes	>1,330	188	No	Yes
		SBR	270	518	65	No	Yes	552	79	No	Yes
		WBL	135	153	180	No	No	170	182	No	No
2	I-215 NB Ramps & Harley Knox Bl.	NBL/T	1,120	22	40	Yes	Yes	63	63	Yes	Yes
		NBR	265	42	89	Yes	Yes	60	89	Yes	Yes
		EBL	100	162	135	No	No	162	172	No	No

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] Maximum queue length for the approach reported.

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Table 3

Project Fair Share Calculations for Intersections

#	Intersection		Existing	Project	2035 WP Volume	Total New Traffic	Project % of New Traffic
1	I-215 SB Ramps & Harley Knox Bl.						
		AM:	1,646	169	3,942	2,296	**7.4%**
		PM:	1,391	200	4,250	2,859	7.0%
2	I-215 NB Ramps & Harley Knox Bl.						
		AM:	2,424	81	4,146	1,722	**4.7%**
		PM:	2,008	128	5,091	3,083	4.2%

BOLD = Denotes highest deficient peak hour.

ATTACHMENT A
EXISTING COUNTS AND QUEUING SCREENSHOTS

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

City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

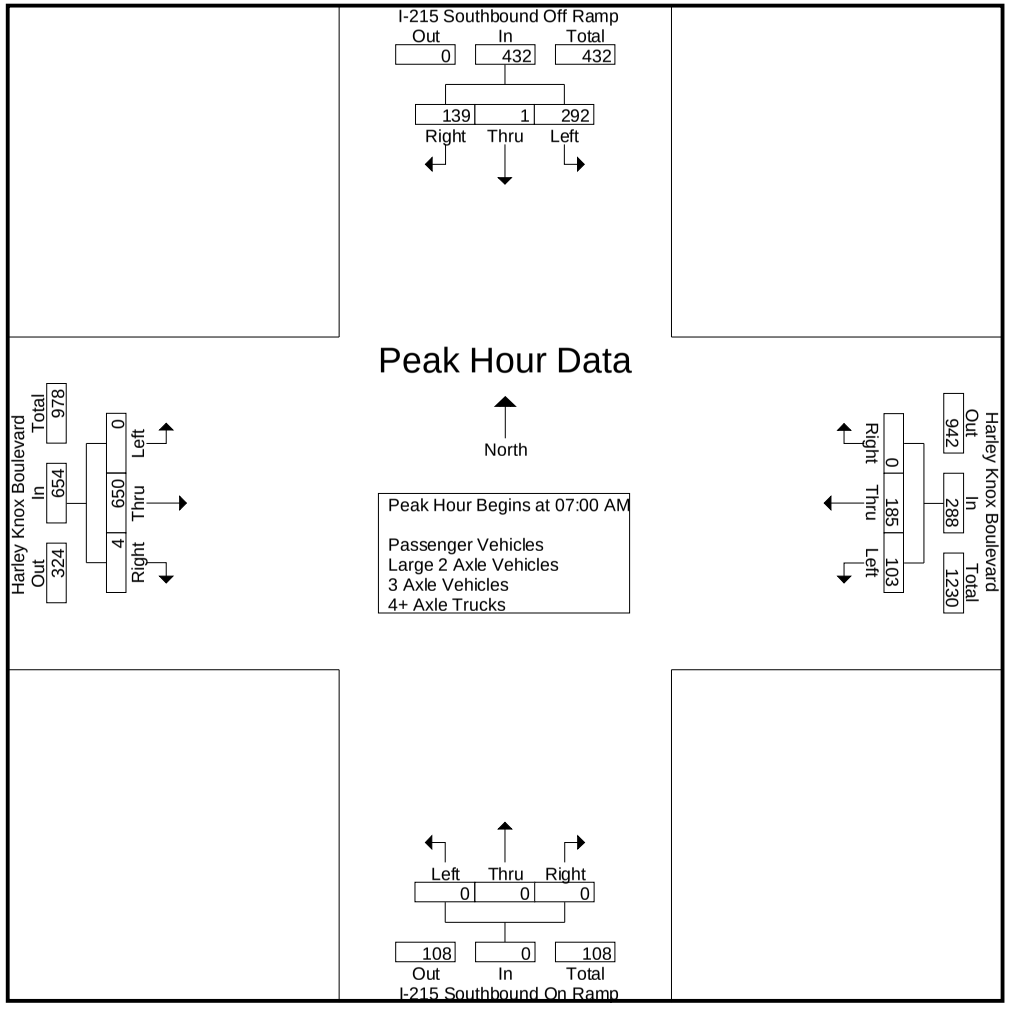
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	84	0	44	4	128	15	51	0	0	66	0	0	0	0	0	0	158	2	0	160	4	354	358
07:15 AM	65	0	31	12	96	25	53	0	0	78	0	0	0	0	0	0	175	0	0	175	12	349	361
07:30 AM	78	1	44	30	123	33	56	0	0	89	0	0	0	0	0	0	160	2	0	162	30	374	404
07:45 AM	65	0	20	15	85	30	25	0	0	55	0	0	0	0	0	0	157	0	0	157	15	297	312
Total	292	1	139	61	432	103	185	0	0	288	0	0	0	0	0	0	650	4	0	654	61	1374	1435
08:00 AM	72	0	26	22	98	35	23	0	0	58	0	0	0	0	0	0	156	3	0	159	22	315	337
08:15 AM	79	1	28	7	108	24	20	0	0	44	0	0	0	0	0	0	84	0	0	84	7	236	243
08:30 AM	80	0	32	18	112	36	21	0	0	57	0	0	0	0	0	0	50	2	1	52	19	221	240
08:45 AM	68	1	14	6	83	26	17	0	0	43	0	0	0	0	0	0	48	0	0	48	6	174	180
Total	299	2	100	53	401	121	81	0	0	202	0	0	0	0	0	0	338	5	1	343	54	946	1000
Grand Total	591	3	239	114	833	224	266	0	0	490	0	0	0	0	0	0	988	9	1	997	115	2320	2435
Apprch %	70.9	0.4	28.7			45.7	54.3	0			0	0	0			0	99.1	0.9					
Total %	25.5	0.1	10.3		35.9	9.7	11.5	0		21.1	0	0	0		0	0	42.6	0.4		43	4.7	95.3	
Passenger Vehicles	379	2	193		670	133	247	0		380	0	0	0		0	0	920	6		926	0	0	1976
% Passenger Vehicles	64.1	66.7	80.8	84.2	70.7	59.4	92.9	0	0	77.6	0	0	0	0	0	0	93.1	66.7	0	92.8	0	0	81.1
Large 2 Axle Vehicles	49	0	10		62	12	10	0		22	0	0	0		0	0	27	0		27	0	0	111
% Large 2 Axle Vehicles	8.3	0	4.2	2.6	6.5	5.4	3.8	0	0	4.5	0	0	0	0	0	0	2.7	0	0	2.7	0	0	4.6
3 Axle Vehicles	30	0	2		32	22	2	0		24	0	0	0		0	0	5	1		6	0	0	62
% 3 Axle Vehicles	5.1	0	0.8	0	3.4	9.8	0.8	0	0	4.9	0	0	0	0	0	0	0.5	11.1	0	0.6	0	0	2.5
4+ Axle Trucks	133	1	34		183	57	7	0		64	0	0	0		0	0	36	2		39	0	0	286
% 4+ Axle Trucks	22.5	33.3	14.2	13.2	19.3	25.4	2.6	0	0	13.1	0	0	0	0	0	0	3.6	22.2	100	3.9	0	0	11.7

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**84**	0	**44**	**128**	15	51	0	66	0	0	0	0	0	158	**2**	160	354
07:15 AM	65	0	31	96	25	53	0	78	0	0	0	0	0	**175**	0	**175**	349
07:30 AM	78	**1**	44	123	**33**	**56**	0	**89**	0	0	0	0	0	160	2	162	**374**
07:45 AM	65	0	20	85	30	25	0	55	0	0	0	0	0	157	0	157	297
Total Volume	292	1	139	432	103	185	0	288	0	0	0	0	0	650	4	654	1374
% App. Total	67.6	0.2	32.2		35.8	64.2	0		0	0	0		0	99.4	0.6		
PHF	.869	.250	.790	.844	.780	.826	.000	.809	.000	.000	.000	.000	.000	.929	.500	.934	.918

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

City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
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File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**84**	0	**44**	**128**	15	51	0	66	0	0	0	0	0	158	**2**	160	
+15 mins.	65	0	31	96	25	53	0	78	0	0	0	0	0	**175**	0	**175**	
+30 mins.	78	**1**	44	123	**33**	**56**	0	**89**	0	0	0	0	0	160	2	162	
+45 mins.	65	0	20	85	30	25	0	55	0	0	0	0	0	157	0	157	
Total Volume	292	1	139	432	103	185	0	288	0	0	0	0	0	650	4	654	
% App. Total	67.6	0.2	32.2		35.8	64.2	0		0	0	0		0	99.4	0.6		
PHF	.869	.250	.790	.844	.780	.826	.000	.809	.000	.000	.000	.000	.000	.929	.500	.934	

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City of Perris
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E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles

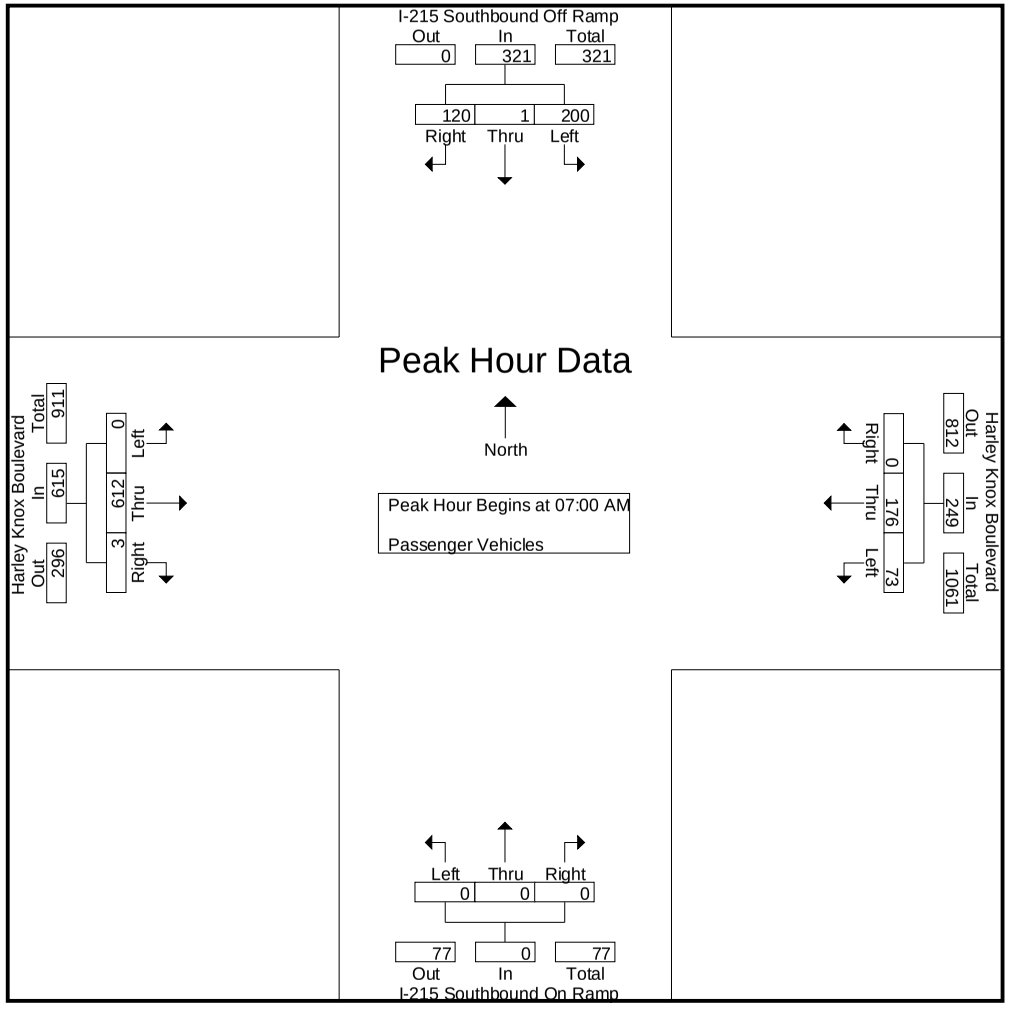
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	55	0	40	3	95	11	47	0	0	58	0	0	0	0	0	0	147	1	0	148	3	301	304
07:15 AM	41	0	25	10	66	21	52	0	0	73	0	0	0	0	0	0	169	0	0	169	10	308	318
07:30 AM	57	1	38	26	96	26	54	0	0	80	0	0	0	0	0	0	146	2	0	148	26	324	350
07:45 AM	47	0	17	13	64	15	23	0	0	38	0	0	0	0	0	0	150	0	0	150	13	252	265
Total	200	1	120	52	321	73	176	0	0	249	0	0	0	0	0	0	612	3	0	615	52	1185	1237
08:00 AM	44	0	22	20	66	21	21	0	0	42	0	0	0	0	0	0	145	3	0	148	20	256	276
08:15 AM	49	1	18	5	68	10	18	0	0	28	0	0	0	0	0	0	77	0	0	77	5	173	178
08:30 AM	51	0	23	14	74	19	17	0	0	36	0	0	0	0	0	0	46	0	0	46	14	156	170
08:45 AM	35	0	10	5	45	10	15	0	0	25	0	0	0	0	0	0	40	0	0	40	5	110	115
Total	179	1	73	44	253	60	71	0	0	131	0	0	0	0	0	0	308	3	0	311	44	695	739
Grand Total	379	2	193	96	574	133	247	0	0	380	0	0	0	0	0	0	920	6	0	926	96	1880	1976
Apprch %	66	0.3	33.6			35	65	0			0	0	0			0	99.4	0.6					
Total %	20.2	0.1	10.3		30.5	7.1	13.1	0		20.2	0	0	0		0	0	48.9	0.3		49.3	4.9	95.1	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	55	0	**40**	95	11	47	0	58	0	0	0	0	0	147	1	148	301
07:15 AM	41	0	25	66	21	52	0	73	0	0	0	0	0	**169**	0	**169**	308
07:30 AM	**57**	**1**	38	**96**	**26**	**54**	0	**80**	0	0	0	0	0	146	**2**	148	**324**
07:45 AM	47	0	17	64	15	23	0	38	0	0	0	0	0	150	0	150	252
Total Volume	200	1	120	321	73	176	0	249	0	0	0	0	0	612	3	615	1185
% App. Total	62.3	0.3	37.4		29.3	70.7	0		0	0	0		0	99.5	0.5		
PHF	.877	.250	.750	.836	.702	.815	.000	.778	.000	.000	.000	.000	.000	.905	.375	.910	.914

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

City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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(951) 268-6268

City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	55	0	**40**	95	11	47	0	58	0	0	0	0	0	147	1	148	
+15 mins.	41	0	25	66	21	52	0	73	0	0	0	0	0	**169**	0	**169**	
+30 mins.	**57**	**1**	38	**96**	**26**	**54**	0	**80**	0	0	0	0	0	146	**2**	148	
+45 mins.	47	0	17	64	15	23	0	38	0	0	0	0	0	150	0	150	
Total Volume	200	1	120	321	73	176	0	249	0	0	0	0	0	612	3	615	
% App. Total	62.3	0.3	37.4		29.3	70.7	0		0	0	0		0	99.5	0.5		
PHF	.877	.250	.750	.836	.702	.815	.000	.778	.000	.000	.000	.000	.000	.905	.375	.910	

Counts Unlimited
PO Box 1178
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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	0	1	0	10	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	16	16
07:15 AM	5	0	1	1	6	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	10	11
07:30 AM	2	0	1	1	3	1	2	0	0	3	0	0	0	0	0	0	7	0	0	7	1	13	14
07:45 AM	5	0	2	1	7	2	1	0	0	3	0	0	0	0	0	0	3	0	0	3	1	13	14
Total	21	0	5	3	26	4	6	0	0	10	0	0	0	0	0	0	16	0	0	16	3	52	55
08:00 AM	6	0	0	0	6	1	0	0	0	1	0	0	0	0	0	0	5	0	0	5	0	12	12
08:15 AM	5	0	2	0	7	2	0	0	0	2	0	0	0	0	0	0	4	0	0	4	0	13	13
08:30 AM	9	0	3	0	12	4	2	0	0	6	0	0	0	0	0	0	1	0	0	1	0	19	19
08:45 AM	8	0	0	0	8	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	12	12
Total	28	0	5	0	33	8	4	0	0	12	0	0	0	0	0	0	11	0	0	11	0	56	56
Grand Total	49	0	10	3	59	12	10	0	0	22	0	0	0	0	0	0	27	0	0	27	3	108	111
Apprch %	83.1	0	16.9			54.5	45.5	0			0	0	0			0	100	0					
Total %	45.4	0	9.3		54.6	11.1	9.3	0		20.4	0	0	0		0	0	25	0		25	2.7	97.3	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**9**	0	1	**10**	0	**2**	0	2	0	0	0	0	0	4	0	4	**16**
07:15 AM	5	0	1	6	1	1	0	2	0	0	0	0	0	2	0	2	10
07:30 AM	2	0	1	3	1	2	0	**3**	0	0	0	0	0	**7**	0	**7**	13
07:45 AM	5	0	**2**	7	**2**	1	0	3	0	0	0	0	0	3	0	3	13
Total Volume	21	0	5	26	4	6	0	10	0	0	0	0	0	16	0	16	52
% App. Total	80.8	0	19.2		40	60	0		0	0	0		0	100	0		
PHF	.583	.000	.625	.650	.500	.750	.000	.833	.000	.000	.000	.000	.000	.571	.000	.571	.813

Counts Unlimited
PO Box 1178
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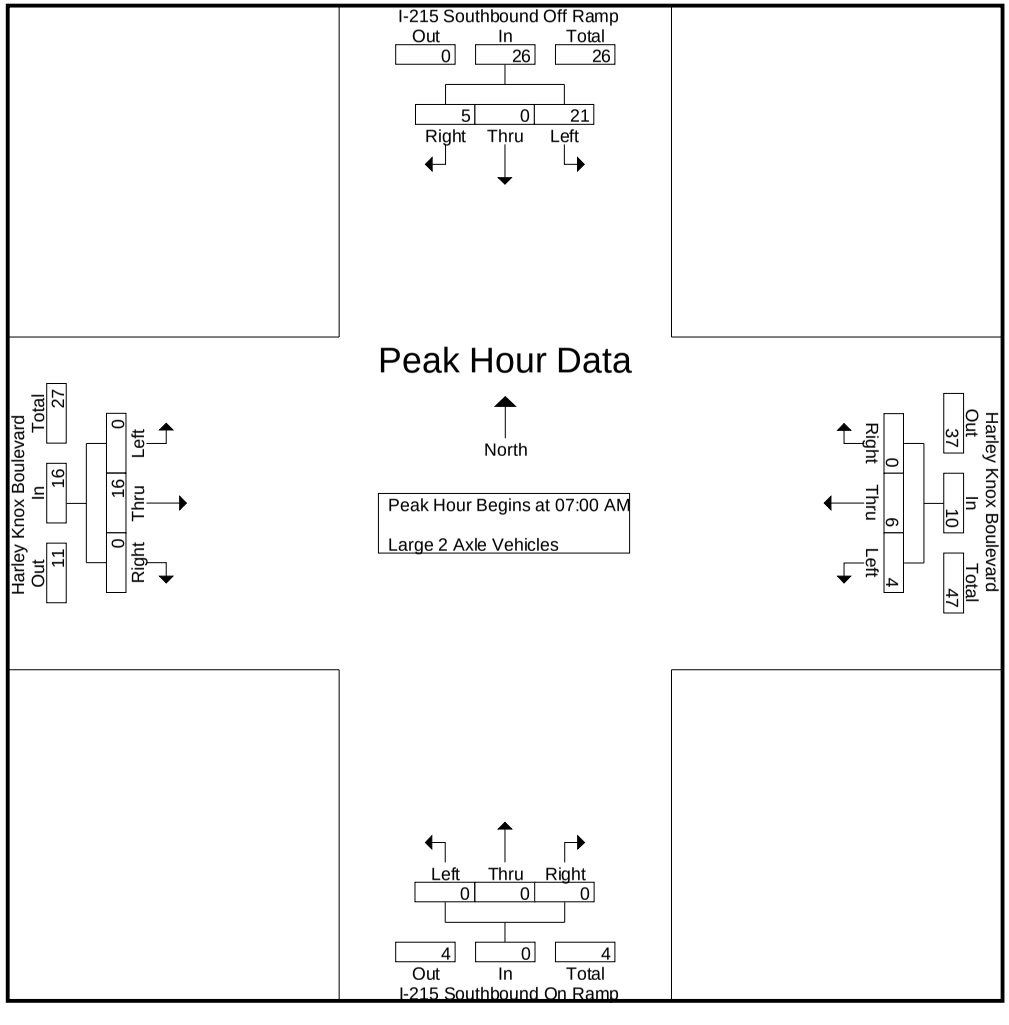
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**9**	0	1	**10**	0	**2**	0	2	0	0	0	0	0	4	0	4	
+15 mins.	5	0	1	6	1	1	0	2	0	0	0	0	0	2	0	2	
+30 mins.	2	0	1	3	1	2	0	**3**	0	0	0	0	0	**7**	0	**7**	
+45 mins.	5	0	**2**	7	**2**	1	0	3	0	0	0	0	0	3	0	3	
Total Volume	21	0	5	26	4	6	0	10	0	0	0	0	0	16	0	16	
% App. Total	80.8	0	19.2		40	60	0		0	0	0		0	100	0		
PHF	.583	.000	.625	.650	.500	.750	.000	.833	.000	.000	.000	.000	.000	.571	.000	.571	

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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	4	0	0	0	4	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	0	8	8
07:15 AM	4	0	1	0	5	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	0	9	9
07:30 AM	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	5
07:45 AM	1	0	0	0	1	4	0	0	0	4	0	0	0	0	0	0	1	0	0	1	0	6	6
Total	13	0	1	0	14	9	1	0	0	10	0	0	0	0	0	0	4	0	0	4	0	28	28
08:00 AM	8	0	0	0	8	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	9	9
08:15 AM	4	0	1	0	5	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	11	11
08:30 AM	3	0	0	0	3	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	0	6	6
08:45 AM	2	0	0	0	2	5	0	0	0	5	0	0	0	0	0	0	1	0	0	1	0	8	8
Total	17	0	1	0	18	13	1	0	0	14	0	0	0	0	0	0	1	1	0	2	0	34	34
Grand Total	30	0	2	0	32	22	2	0	0	24	0	0	0	0	0	0	5	1	0	6	0	62	62
Apprch %	93.8	0	6.2			91.7	8.3	0			0	0	0			0	83.3	16.7					
Total %	48.4	0	3.2		51.6	35.5	3.2	0		38.7	0	0	0		0	0	8.1	1.6		9.7	0	100	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**4**	0	0	4	2	**1**	0	3	0	0	0	0	0	1	0	1	8
07:15 AM	4	0	**1**	**5**	2	0	0	2	0	0	0	0	0	**2**	0	**2**	**9**
07:30 AM	4	0	0	4	1	0	0	1	0	0	0	0	0	0	0	0	5
07:45 AM	1	0	0	1	**4**	0	0	**4**	0	0	0	0	0	1	0	1	6
Total Volume	13	0	1	14	9	1	0	10	0	0	0	0	0	4	0	4	28
% App. Total	92.9	0	7.1		90	10	0		0	0	0		0	100	0		
PHF	.813	.000	.250	.700	.563	.250	.000	.625	.000	.000	.000	.000	.000	.500	.000	.500	.778

Counts Unlimited
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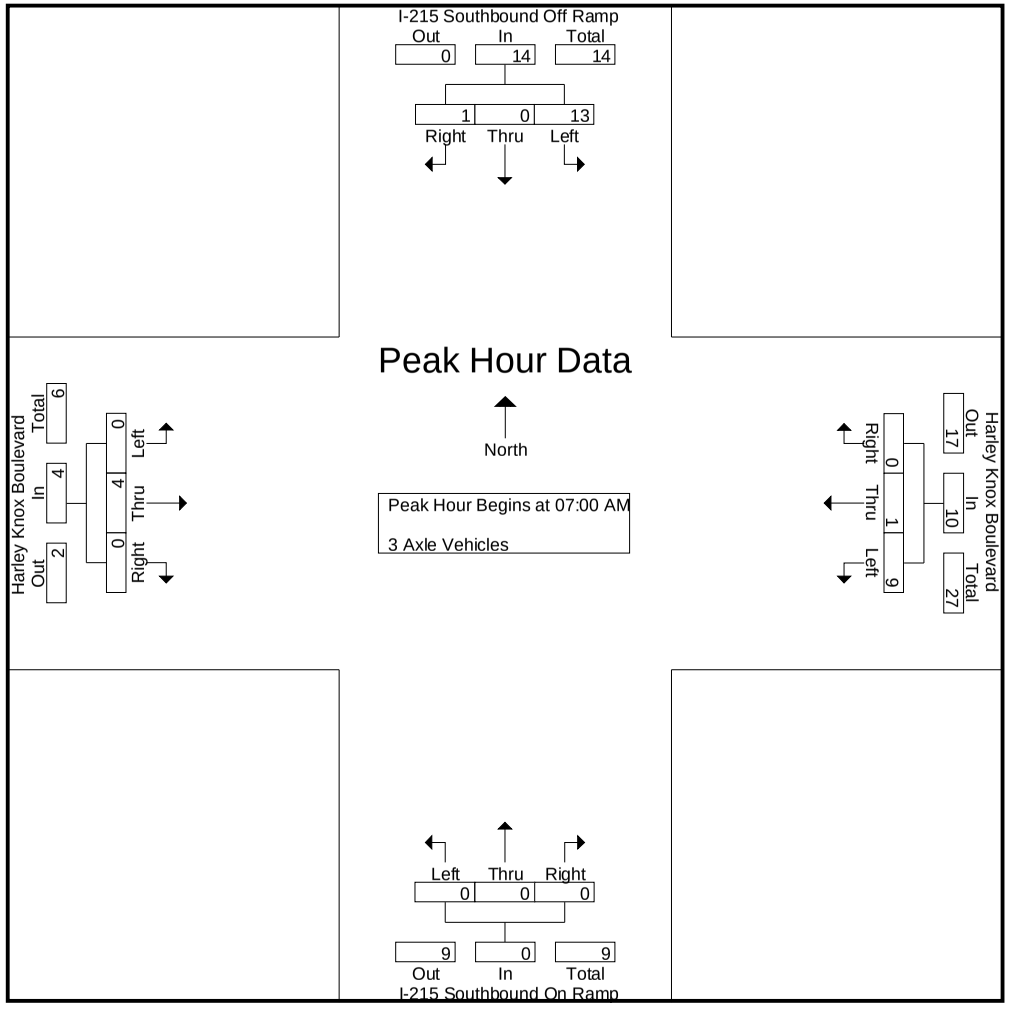
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**4**	0	0	4	2	**1**	0	3	0	0	0	0	0	1	0	1	
+15 mins.	4	0	**1**	**5**	2	0	0	2	0	0	0	0	0	**2**	0	**2**	
+30 mins.	4	0	0	4	1	0	0	1	0	0	0	0	0	0	0	0	
+45 mins.	1	0	0	1	**4**	0	0	**4**	0	0	0	0	0	1	0	1	
Total Volume	13	0	1	14	9	1	0	10	0	0	0	0	0	4	0	4	
% App. Total	92.9	0	7.1		90	10	0		0	0	0		0	100	0		
PHF	.813	.000	.250	.700	.563	.250	.000	.625	.000	.000	.000	.000	.000	.500	.000	.500	

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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	16	0	3	1	19	2	1	0	0	3	0	0	0	0	0	0	6	1	0	7	1	29	30
07:15 AM	15	0	4	1	19	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	1	22	23
07:30 AM	15	0	5	3	20	5	0	0	0	5	0	0	0	0	0	0	7	0	0	7	3	32	35
07:45 AM	12	0	1	1	13	9	1	0	0	10	0	0	0	0	0	0	3	0	0	3	1	26	27
Total	58	0	13	6	71	17	2	0	0	19	0	0	0	0	0	0	18	1	0	19	6	109	115
08:00 AM	14	0	4	2	18	12	2	0	0	14	0	0	0	0	0	0	6	0	0	6	2	38	40
08:15 AM	21	0	7	2	28	6	2	0	0	8	0	0	0	0	0	0	3	0	0	3	2	39	41
08:30 AM	17	0	6	4	23	12	1	0	0	13	0	0	0	0	0	0	3	1	1	4	5	40	45
08:45 AM	23	1	4	1	28	10	0	0	0	10	0	0	0	0	0	0	6	0	0	6	1	44	45
Total	75	1	21	9	97	40	5	0	0	45	0	0	0	0	0	0	18	1	1	19	10	161	171
Grand Total	133	1	34	15	168	57	7	0	0	64	0	0	0	0	0	0	36	2	1	38	16	270	286
Apprch %	79.2	0.6	20.2			89.1	10.9	0			0	0	0			0	94.7	5.3					
Total %	49.3	0.4	12.6		62.2	21.1	2.6	0		23.7	0	0	0		0	0	13.3	0.7		14.1	5.6	94.4	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**16**	0	3	19	2	**1**	0	3	0	0	0	0	0	6	**1**	**7**	29
07:15 AM	15	0	4	19	1	0	0	1	0	0	0	0	0	2	0	2	22
07:30 AM	15	0	**5**	**20**	5	0	0	5	0	0	0	0	0	**7**	0	7	**32**
07:45 AM	12	0	1	13	**9**	1	0	**10**	0	0	0	0	0	3	0	3	26
Total Volume	58	0	13	71	17	2	0	19	0	0	0	0	0	18	1	19	109
% App. Total	81.7	0	18.3		89.5	10.5	0		0	0	0		0	94.7	5.3		
PHF	.906	.000	.650	.888	.472	.500	.000	.475	.000	.000	.000	.000	.000	.643	.250	.679	.852

Counts Unlimited
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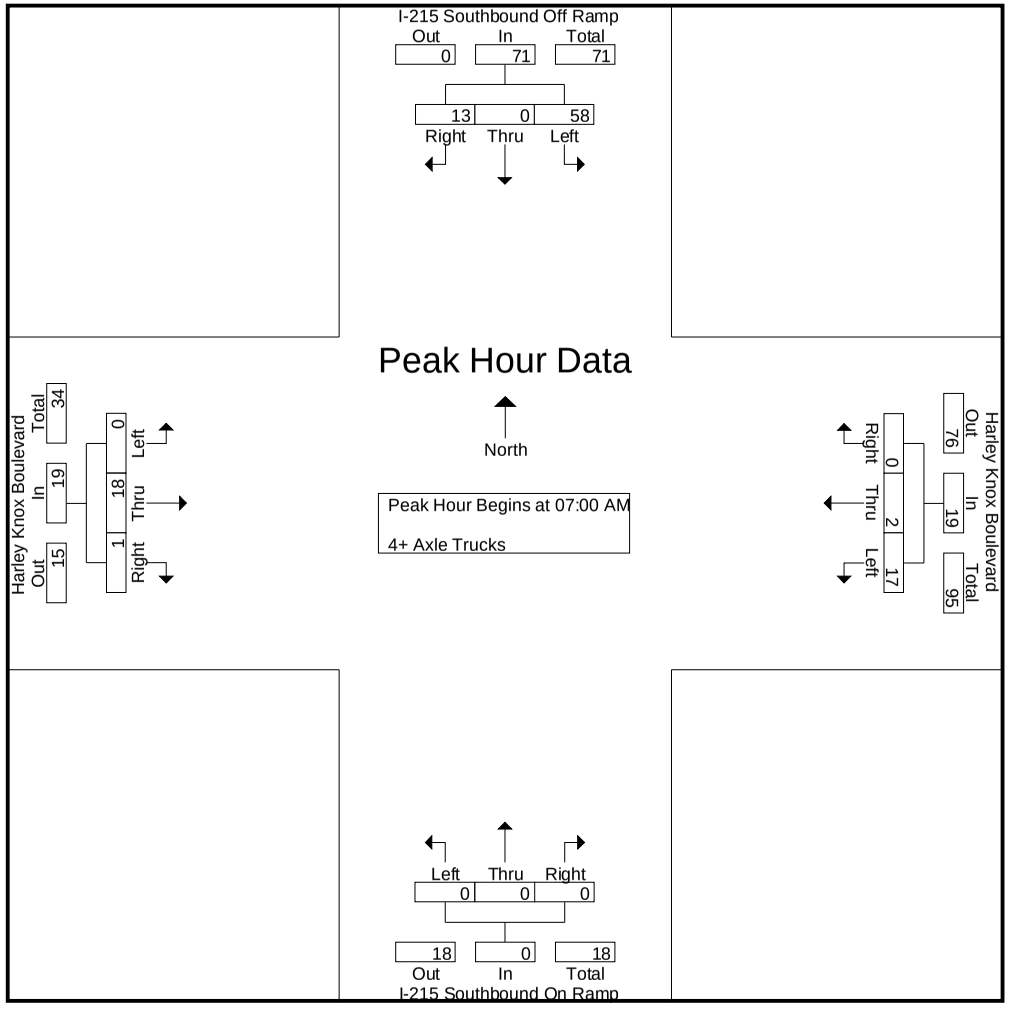
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**16**	0	3	19	2	**1**	0	3	0	0	0	0	0	6	**1**	**7**	
+15 mins.	15	0	4	19	1	0	0	1	0	0	0	0	0	2	0	2	
+30 mins.	15	0	**5**	**20**	5	0	0	5	0	0	0	0	0	**7**	0	7	
+45 mins.	12	0	1	13	**9**	1	0	**10**	0	0	0	0	0	3	0	3	
Total Volume	58	0	13	71	17	2	0	19	0	0	0	0	0	18	1	19	
% App. Total	81.7	0	18.3		89.5	10.5	0		0	0	0		0	94.7	5.3		
PHF	.906	.000	.650	.888	.472	.500	.000	.475	.000	.000	.000	.000	.000	.643	.250	.679	

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City of Perris
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Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	57	2	26	12	85	57	32	0	0	89	0	0	0	0	0	0	86	9	3	95	15	269	284
04:15 PM	49	0	31	18	80	61	38	0	0	99	0	0	0	0	0	0	81	4	1	85	19	264	283
04:30 PM	48	0	29	14	77	76	50	0	0	126	0	0	0	0	0	0	86	11	4	97	18	300	318
04:45 PM	64	0	38	17	102	87	54	0	0	141	0	0	0	0	0	0	81	7	2	88	19	331	350
Total	218	2	124	61	344	281	174	0	0	455	0	0	0	0	0	0	334	31	10	365	71	1164	1235
05:00 PM	54	0	24	17	78	76	41	0	0	117	0	0	0	0	0	0	71	7	3	78	20	273	293
05:15 PM	53	0	22	11	75	49	18	1	0	68	0	0	0	0	0	0	65	9	2	74	13	217	230
05:30 PM	49	0	29	5	78	54	25	0	0	79	0	0	0	0	0	0	49	4	0	53	5	210	215
05:45 PM	52	1	25	11	78	45	17	0	0	62	0	0	0	0	0	0	69	7	3	76	14	216	230
Total	208	1	100	44	309	224	101	1	0	326	0	0	0	0	0	0	254	27	8	281	52	916	968
Grand Total	426	3	224	105	653	505	275	1	0	781	0	0	0	0	0	0	588	58	18	646	123	2080	2203
Apprch %	65.2	0.5	34.3			64.7	35.2	0.1			0	0	0			0	91	9					
Total %	20.5	0.1	10.8		31.4	24.3	13.2	0		37.5	0	0	0		0	0	28.3	2.8		31.1	5.6	94.4	
Passenger Vehicles	337	2	188		619	479	255	1		735	0	0	0		0	0	536	56		608	0	0	1962
% Passenger Vehicles	79.1	66.7	83.9	87.6	81.7	94.9	92.7	100	0	94.1	0	0	0	0	0	0	91.2	96.6	88.9	91.6	0	0	89.1
Large 2 Axle Vehicles	15	0	7		24	6	7	0		13	0	0	0		0	0	13	0		13	0	0	50
% Large 2 Axle Vehicles	3.5	0	3.1	1.9	3.2	1.2	2.5	0	0	1.7	0	0	0	0	0	0	2.2	0	0	2	0	0	2.3
3 Axle Vehicles	14	0	7		24	6	2	0		8	0	0	0		0	0	14	1		16	0	0	48
% 3 Axle Vehicles	3.3	0	3.1	2.9	3.2	1.2	0.7	0	0	1	0	0	0	0	0	0	2.4	1.7	5.6	2.4	0	0	2.2
4+ Axle Trucks	60	1	22		91	14	11	0		25	0	0	0		0	0	25	1		27	0	0	143
% 4+ Axle Trucks	14.1	33.3	9.8	7.6	12	2.8	4	0	0	3.2	0	0	0	0	0	0	4.3	1.7	5.6	4.1	0	0	6.5

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	49	0	31	80	61	38	0	99	0	0	0	0	0	81	4	85	264
04:30 PM	48	0	29	77	76	50	0	126	0	0	0	0	0	**86**	**11**	**97**	300
04:45 PM	**64**	0	**38**	**102**	**87**	**54**	0	**141**	0	0	0	0	0	81	7	88	**331**
05:00 PM	54	0	24	78	76	41	0	117	0	0	0	0	0	71	7	78	273
Total Volume	215	0	122	337	300	183	0	483	0	0	0	0	0	319	29	348	1168
% App. Total	63.8	0	36.2		62.1	37.9	0		0	0	0		0	91.7	8.3		
PHF	.840	.000	.803	.826	.862	.847	.000	.856	.000	.000	.000	.000	.000	.927	.659	.897	.882

Counts Unlimited
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City of Perris
N/S: I-215 Southbound Ramps
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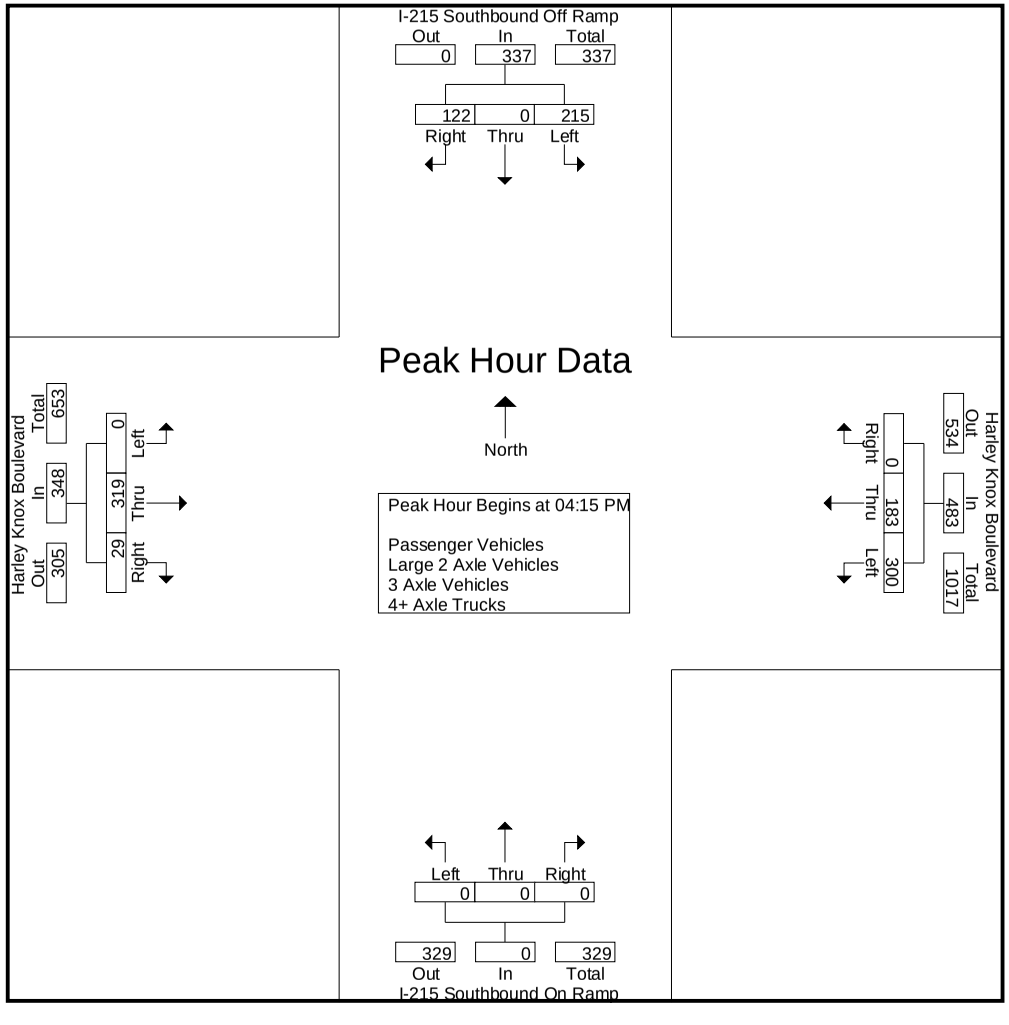
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
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File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:15 PM				04:00 PM				04:00 PM				
+0 mins.	57	**2**	26	85	61	38	0	99	0	0	0	0	0	**86**	9	95	
+15 mins.	49	0	31	80	76	50	0	126	0	0	0	0	0	81	4	85	
+30 mins.	48	0	29	77	**87**	**54**	0	**141**	0	0	0	0	0	86	**11**	**97**	
+45 mins.	**64**	0	**38**	**102**	76	41	0	117	0	0	0	0	0	81	7	88	
Total Volume	218	2	124	344	300	183	0	483	0	0	0	0	0	334	31	365	
% App. Total	63.4	0.6	36		62.1	37.9	0		0	0	0		0	91.5	8.5		
PHF	.852	.250	.816	.843	.862	.847	.000	.856	.000	.000	.000	.000	.000	.971	.705	.941	

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City of Perris
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E/W: Harley Knox Boulevard
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File Name : 01_PER_215S_Harley Knox PM
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Groups Printed- Passenger Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	48	2	18	10	68	54	30	0	0	84	0	0	0	0	0	0	81	8	2	89	12	241	253
04:15 PM	37	0	24	13	61	60	35	0	0	95	0	0	0	0	0	0	73	4	1	77	14	233	247
04:30 PM	31	0	25	13	56	74	47	0	0	121	0	0	0	0	0	0	80	11	4	91	17	268	285
04:45 PM	55	0	33	15	88	78	51	0	0	129	0	0	0	0	0	0	73	6	1	79	16	296	312
Total	171	2	100	51	273	266	163	0	0	429	0	0	0	0	0	0	307	29	8	336	59	1038	1097
05:00 PM	42	0	23	17	65	73	39	0	0	112	0	0	0	0	0	0	63	7	3	70	20	247	267
05:15 PM	46	0	18	10	64	46	14	1	0	61	0	0	0	0	0	0	57	9	2	66	12	191	203
05:30 PM	36	0	24	3	60	50	22	0	0	72	0	0	0	0	0	0	47	4	0	51	3	183	186
05:45 PM	42	0	23	11	65	44	17	0	0	61	0	0	0	0	0	0	62	7	3	69	14	195	209
Total	166	0	88	41	254	213	92	1	0	306	0	0	0	0	0	0	229	27	8	256	49	816	865
Grand Total	337	2	188	92	527	479	255	1	0	735	0	0	0	0	0	0	536	56	16	592	108	1854	1962
Apprch %	63.9	0.4	35.7			65.2	34.7	0.1			0	0	0			0	90.5	9.5					
Total %	18.2	0.1	10.1		28.4	25.8	13.8	0.1		39.6	0	0	0		0	0	28.9	3		31.9	5.5	94.5	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	37	0	24	61	60	35	0	95	0	0	0	0	0	73	4	77	233
04:30 PM	31	0	25	56	74	47	0	121	0	0	0	0	0	**80**	**11**	**91**	268
04:45 PM	**55**	0	**33**	**88**	**78**	**51**	0	**129**	0	0	0	0	0	73	6	79	**296**
05:00 PM	42	0	23	65	73	39	0	112	0	0	0	0	0	63	7	70	247
Total Volume	165	0	105	270	285	172	0	457	0	0	0	0	0	289	28	317	1044
% App. Total	61.1	0	38.9		62.4	37.6	0		0	0	0		0	91.2	8.8		
PHF	.750	.000	.795	.767	.913	.843	.000	.886	.000	.000	.000	.000	.000	.903	.636	.871	.882

Counts Unlimited
PO Box 1178
Corona, CA 92878
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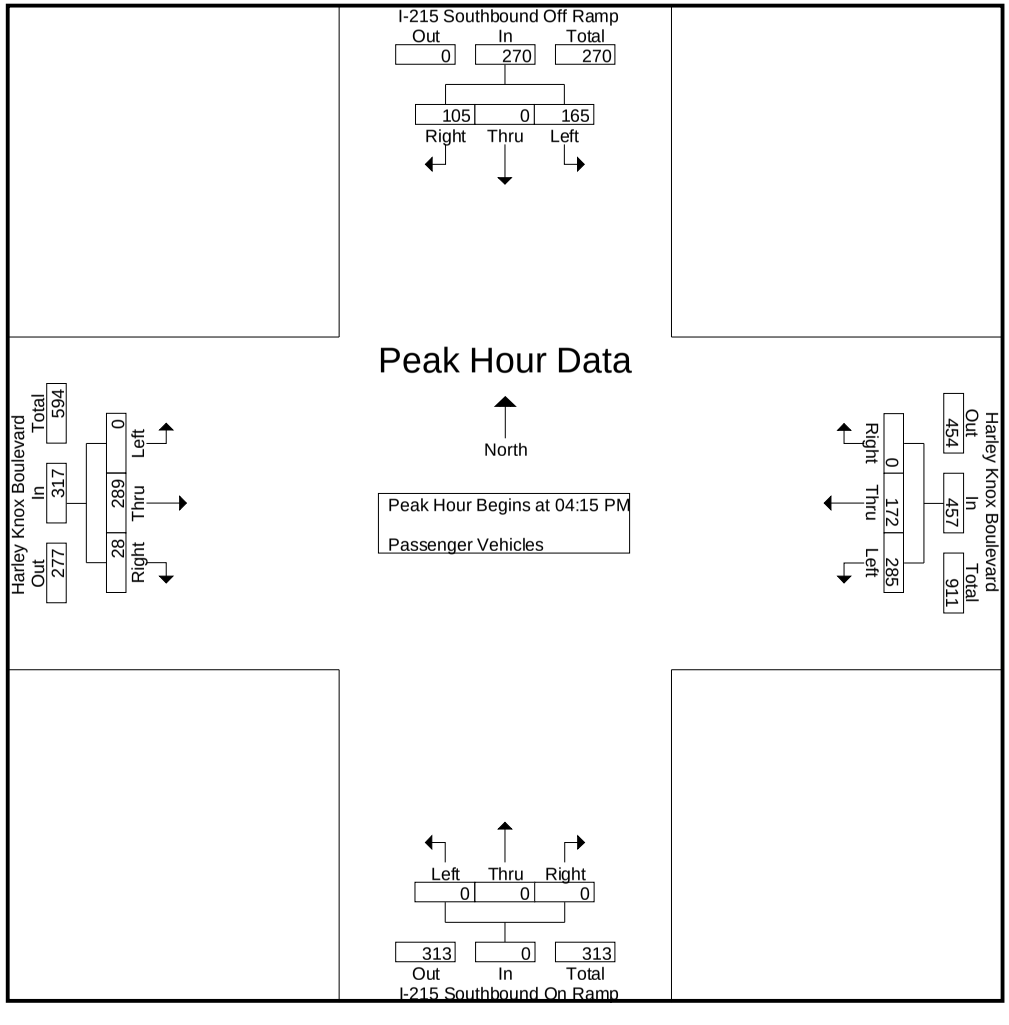
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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(951) 268-6268

City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	37	0	24	61	60	35	0	95	0	0	0	0	0	73	4	77	
+15 mins.	31	0	25	56	74	47	0	121	0	0	0	0	0	**80**	**11**	**91**	
+30 mins.	**55**	0	**33**	**88**	**78**	**51**	0	**129**	0	0	0	0	0	73	6	79	
+45 mins.	42	0	23	65	73	39	0	112	0	0	0	0	0	63	7	70	
Total Volume	165	0	105	270	285	172	0	457	0	0	0	0	0	289	28	317	
% App. Total	61.1	0	38.9		62.4	37.6	0		0	0	0		0	91.2	8.8		
PHF	.750	.000	.795	.767	.913	.843	.000	.886	.000	.000	.000	.000	.000	.903	.636	.871	

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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	0	1	1	4	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	1	9	10
04:15 PM	3	0	1	1	4	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	1	7	8
04:30 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	5	5
04:45 PM	1	0	2	0	3	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	0	8	8
Total	8	0	4	2	12	3	6	0	0	9	0	0	0	0	0	0	8	0	0	8	2	29	31
05:00 PM	2	0	1	0	3	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5	5
05:15 PM	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	6	6
05:30 PM	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	4	4
05:45 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	4
Total	7	0	3	0	10	3	1	0	0	4	0	0	0	0	0	0	5	0	0	5	0	19	19
Grand Total	15	0	7	2	22	6	7	0	0	13	0	0	0	0	0	0	13	0	0	13	2	48	50
Apprch %	68.2	0	31.8			46.2	53.8	0			0	0	0			0	100	0					
Total %	31.2	0	14.6		45.8	12.5	14.6	0		27.1	0	0	0		0	0	27.1	0		27.1	4	96	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**3**	0	1	**4**	**1**	1	0	2	0	0	0	0	0	1	0	1	7
04:30 PM	1	0	0	1	0	**3**	0	**3**	0	0	0	0	0	1	0	1	5
04:45 PM	1	0	**2**	3	1	1	0	2	0	0	0	0	0	**3**	0	**3**	**8**
05:00 PM	2	0	1	3	1	1	0	2	0	0	0	0	0	0	0	0	5
Total Volume	7	0	4	11	3	6	0	9	0	0	0	0	0	5	0	5	25
% App. Total	63.6	0	36.4		33.3	66.7	0		0	0	0		0	100	0		
PHF	.583	.000	.500	.688	.750	.500	.000	.750	.000	.000	.000	.000	.000	.417	.000	.417	.781

Counts Unlimited
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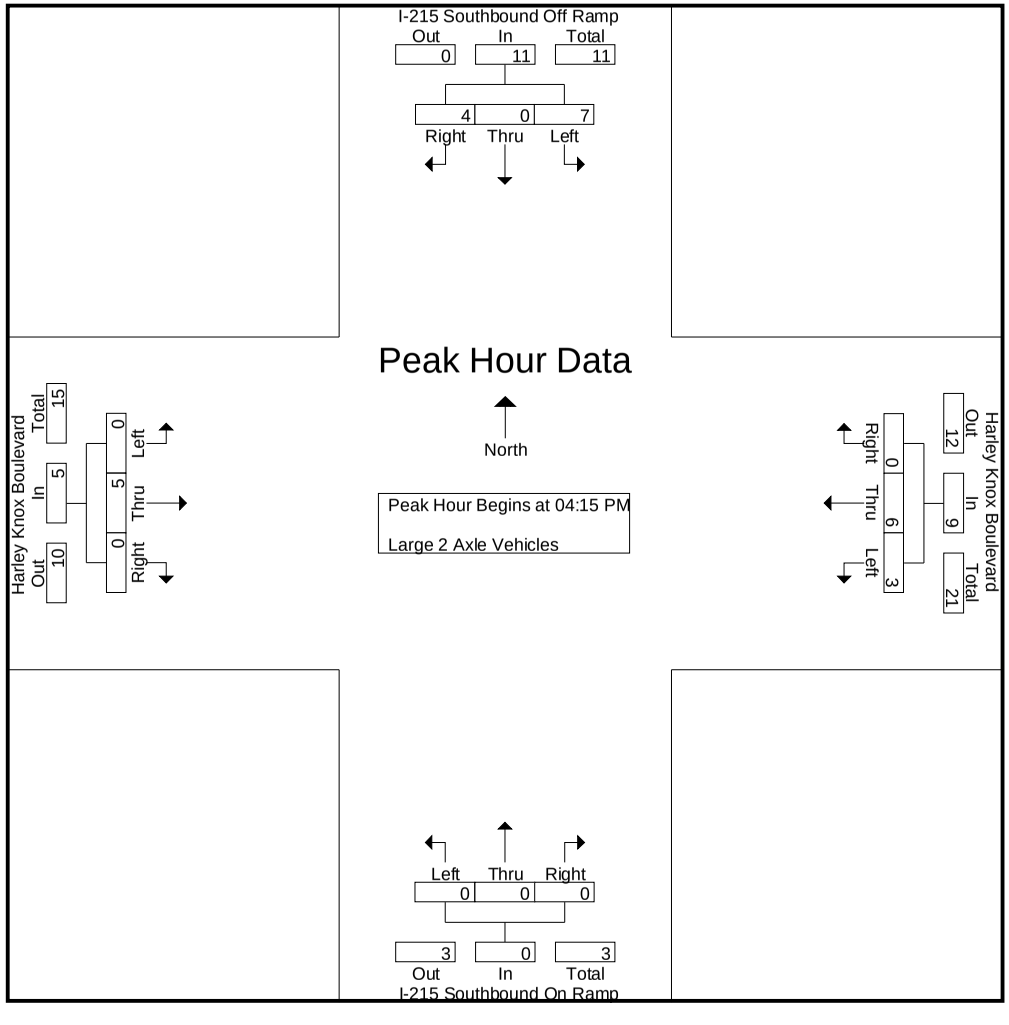
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	**3**	0	1	**4**	**1**	1	0	2	0	0	0	0	0	1	0	1	
+15 mins.	1	0	0	1	0	**3**	0	**3**	0	0	0	0	0	1	0	1	
+30 mins.	1	0	**2**	3	1	1	0	2	0	0	0	0	0	**3**	0	**3**	
+45 mins.	2	0	1	3	1	1	0	2	0	0	0	0	0	0	0	0	
Total Volume	7	0	4	11	3	6	0	9	0	0	0	0	0	5	0	5	
% App. Total	63.6	0	36.4		33.3	66.7	0		0	0	0		0	100	0		
PHF	.583	.000	.500	.688	.750	.500	.000	.750	.000	.000	.000	.000	.000	.417	.000	.417	

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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	5	7
04:15 PM	1	0	2	2	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	5	7
04:30 PM	2	0	2	0	4	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	7	7
04:45 PM	2	0	0	0	2	4	0	0	0	4	0	0	0	0	0	0	2	0	0	2	0	8	8
Total	6	0	7	3	13	5	0	0	0	5	0	0	0	0	0	0	6	1	1	7	4	25	29
05:00 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	5
05:15 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	8	8
05:30 PM	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	4	4
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	2
Total	8	0	0	0	8	1	2	0	0	3	0	0	0	0	0	0	8	0	0	8	0	19	19
Grand Total	14	0	7	3	21	6	2	0	0	8	0	0	0	0	0	0	14	1	1	15	4	44	48
Apprch %	66.7	0	33.3			75	25	0			0	0	0			0	93.3	6.7					
Total %	31.8	0	15.9		47.7	13.6	4.5	0		18.2	0	0	0		0	0	31.8	2.3		34.1	8.3	91.7	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	1	0	**2**	3	0	0	0	0	0	0	0	0	0	**2**	0	**2**	5
04:30 PM	2	0	2	**4**	1	0	0	1	0	0	0	0	0	2	0	2	7
04:45 PM	2	0	0	2	**4**	0	0	**4**	0	0	0	0	0	2	0	2	**8**
05:00 PM	**3**	0	0	3	0	0	0	0	0	0	0	0	0	2	0	2	5
Total Volume	8	0	4	12	5	0	0	5	0	0	0	0	0	8	0	8	25
% App. Total	66.7	0	33.3		100	0	0		0	0	0		0	100	0		
PHF	.667	.000	.500	.750	.313	.000	.000	.313	.000	.000	.000	.000	.000	1.00	.000	1.00	.781

Counts Unlimited
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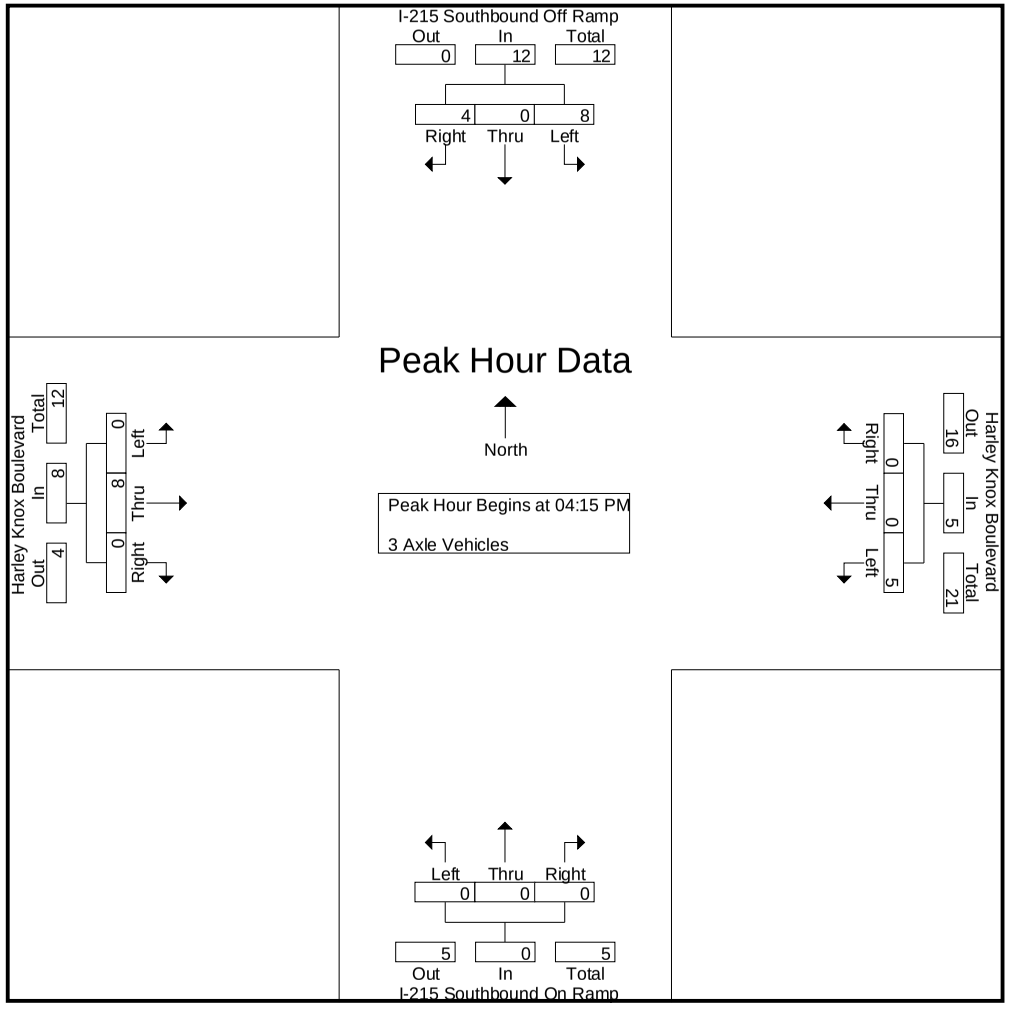
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	1	0	**2**	3	0	0	0	0	0	0	0	0	0	**2**	0	**2**	
+15 mins.	2	0	2	**4**	1	0	0	1	0	0	0	0	0	2	0	2	
+30 mins.	2	0	0	2	**4**	0	0	**4**	0	0	0	0	0	2	0	2	
+45 mins.	**3**	0	0	3	0	0	0	0	0	0	0	0	0	2	0	2	
Total Volume	8	0	4	12	5	0	0	5	0	0	0	0	0	8	0	8	
% App. Total	66.7	0	33.3		100	0	0		0	0	0		0	100	0		
PHF	.667	.000	.500	.750	.313	.000	.000	.313	.000	.000	.000	.000	.000	1.000	.000	1.000	

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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	5	0	4	0	9	2	1	0	0	3	0	0	0	0	0	0	2	0	0	2	0	14	14
04:15 PM	8	0	4	2	12	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	2	19	21
04:30 PM	14	0	2	1	16	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	1	20	21
04:45 PM	6	0	3	2	9	4	2	0	0	6	0	0	0	0	0	0	3	1	1	4	3	19	22
Total	33	0	13	5	46	7	5	0	0	12	0	0	0	0	0	0	13	1	1	14	6	72	78
05:00 PM	7	0	0	0	7	2	1	0	0	3	0	0	0	0	0	0	6	0	0	6	0	16	16
05:15 PM	3	0	3	1	6	2	2	0	0	4	0	0	0	0	0	0	2	0	0	2	1	12	13
05:30 PM	9	0	5	2	14	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	2	19	21
05:45 PM	8	1	1	0	10	1	0	0	0	1	0	0	0	0	0	0	4	0	0	4	0	15	15
Total	27	1	9	3	37	7	6	0	0	13	0	0	0	0	0	0	12	0	0	12	3	62	65
Grand Total	60	1	22	8	83	14	11	0	0	25	0	0	0	0	0	0	25	1	1	26	9	134	143
Apprch %	72.3	1.2	26.5			56	44	0			0	0	0			0	96.2	3.8					
Total %	44.8	0.7	16.4		61.9	10.4	8.2	0		18.7	0	0	0		0	0	18.7	0.7		19.4	6.3	93.7	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	8	0	**4**	12	0	**2**	0	2	0	0	0	0	0	5	0	5	19
04:30 PM	**14**	0	2	**16**	1	0	0	1	0	0	0	0	0	3	0	3	**20**
04:45 PM	6	0	3	9	**4**	2	0	**6**	0	0	0	0	0	3	**1**	4	19
05:00 PM	7	0	0	7	2	1	0	3	0	0	0	0	0	**6**	0	**6**	16
Total Volume	35	0	9	44	7	5	0	12	0	0	0	0	0	17	1	18	74
% App. Total	79.5	0	20.5		58.3	41.7	0		0	0	0		0	94.4	5.6		
PHF	.625	.000	.563	.688	.438	.625	.000	.500	.000	.000	.000	.000	.000	.708	.250	.750	.925

Counts Unlimited
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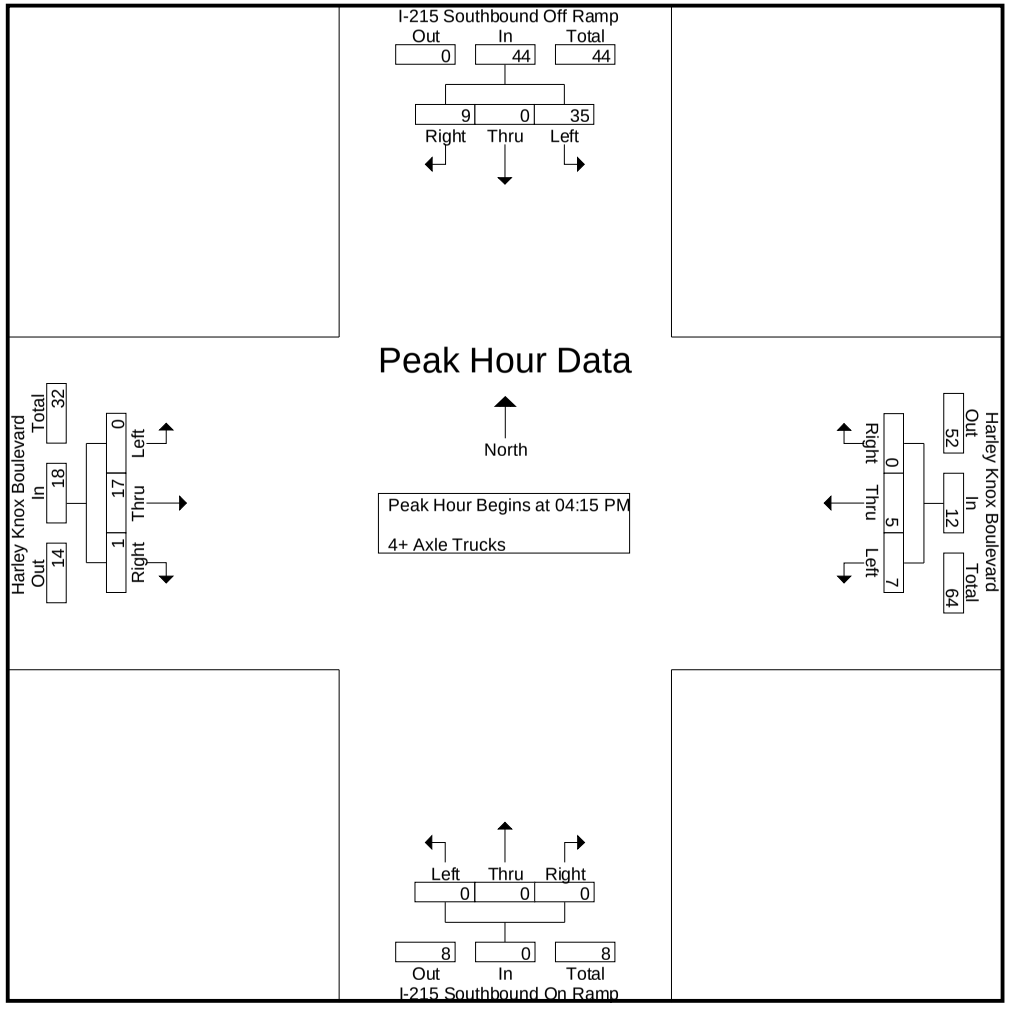
City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_PER_215S_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	8	0	**4**	12	0	**2**	0	2	0	0	0	0	0	5	0	5	
+15 mins.	**14**	0	2	**16**	1	0	0	1	0	0	0	0	0	3	0	3	
+30 mins.	6	0	3	9	**4**	2	0	**6**	0	0	0	0	0	3	**1**	4	
+45 mins.	7	0	0	7	2	1	0	3	0	0	0	0	0	**6**	0	**6**	
Total Volume	35	0	9	44	7	5	0	12	0	0	0	0	0	17	1	18	
% App. Total	79.5	0	20.5		58.3	41.7	0		0	0	0		0	94.4	5.6		
PHF	.625	.000	.563	.688	.438	.625	.000	.500	.000	.000	.000	.000	.000	.708	.250	.750	

Location: Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard

Date: 10/2/2019
Day: Wednesday

PEDESTRIANS

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

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Location: Perris
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard

Date: 10/2/2019
Day: Wednesday

BICYCLES

	Southbound I-215 Southbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Southbound Ramps			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

	Southbound I-215 Southbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Southbound Ramps			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	62	237	19	299	1	0	4	4	5	93	141	0	0	234	23	538	561
07:15 AM	0	0	0	0	0	0	89	215	25	304	0	0	5	5	5	107	140	0	0	247	30	556	586
07:30 AM	0	0	0	0	0	0	78	190	15	268	1	1	5	4	7	98	139	0	0	237	19	512	531
07:45 AM	0	0	0	0	0	0	48	153	22	201	3	2	17	14	22	87	128	0	0	215	36	438	474
Total	0	0	0	0	0	0	277	795	81	1072	5	3	31	27	39	385	548	0	0	933	108	2044	2152
08:00 AM	0	0	0	0	0	0	54	153	9	207	4	1	31	26	36	102	130	0	0	232	35	475	510
08:15 AM	0	0	0	0	0	0	37	113	7	150	3	2	20	18	25	69	104	0	0	173	25	348	373
08:30 AM	0	0	0	0	0	0	60	82	2	142	1	1	15	14	17	36	96	0	0	132	16	291	307
08:45 AM	0	0	0	0	0	0	33	82	5	115	4	1	16	15	21	33	88	0	0	121	20	257	277
Total	0	0	0	0	0	0	184	430	23	614	12	5	82	73	99	240	418	0	0	658	96	1371	1467
Grand Total	0	0	0	0	0	0	461	1225	104	1686	17	8	113	100	138	625	966	0	0	1591	204	3415	3619
Apprch %	0	0	0			0	27.3	72.7			12.3	5.8	81.9			39.3	60.7	0					
Total %	0	0	0		0	0	13.5	35.9		49.4	0.5	0.2	3.3		4	18.3	28.3	0		46.6	5.6	94.4	
Passenger Vehicles	0	0	0		0	0	363	1037		1496	16	8	86		188	575	751	0		1326	0	0	3010
% Passenger Vehicles	0	0	0	0	0	0	78.7	84.7	92.3	83.6	94.1	100	76.1	78	79	92	77.7	0	0	83.3	0	0	83.2
Large 2 Axle Vehicles	0	0	0		0	0	16	30		51	1	0	8		15	16	50	0		66	0	0	132
% Large 2 Axle Vehicles	0	0	0	0	0	0	3.5	2.4	4.8	2.8	5.9	0	7.1	6	6.3	2.6	5.2	0	0	4.1	0	0	3.6
3 Axle Vehicles	0	0	0		0	0	22	36		58	0	0	6		11	3	29	0		32	0	0	101
% 3 Axle Vehicles	0	0	0	0	0	0	4.8	2.9	0	3.2	0	0	5.3	5	4.6	0.5	3	0	0	2	0	0	2.8
4+ Axle Trucks	0	0	0		0	0	60	122		185	0	0	13		24	31	136	0		167	0	0	376
% 4+ Axle Trucks	0	0	0	0	0	0	13	10	2.9	10.3	0	0	11.5	11	10.1	5	14.1	0	0	10.5	0	0	10.4

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	62	**237**	299	1	0	4	5	93	**141**	0	234	538
07:15 AM	0	0	0	0	0	**89**	215	**304**	0	0	5	5	**107**	140	0	**247**	**556**
07:30 AM	0	0	0	0	0	78	190	268	1	1	5	7	98	139	0	237	512
07:45 AM	0	0	0	0	0	48	153	201	**3**	**2**	**17**	**22**	87	128	0	215	438
Total Volume	0	0	0	0	0	277	795	1072	5	3	31	39	385	548	0	933	2044
% App. Total	0	0	0		0	25.8	74.2		12.8	7.7	79.5		41.3	58.7	0		
PHF	.000	.000	.000	.000	.000	.778	.839	.882	.417	.375	.456	.443	.900	.972	.000	.944	.919

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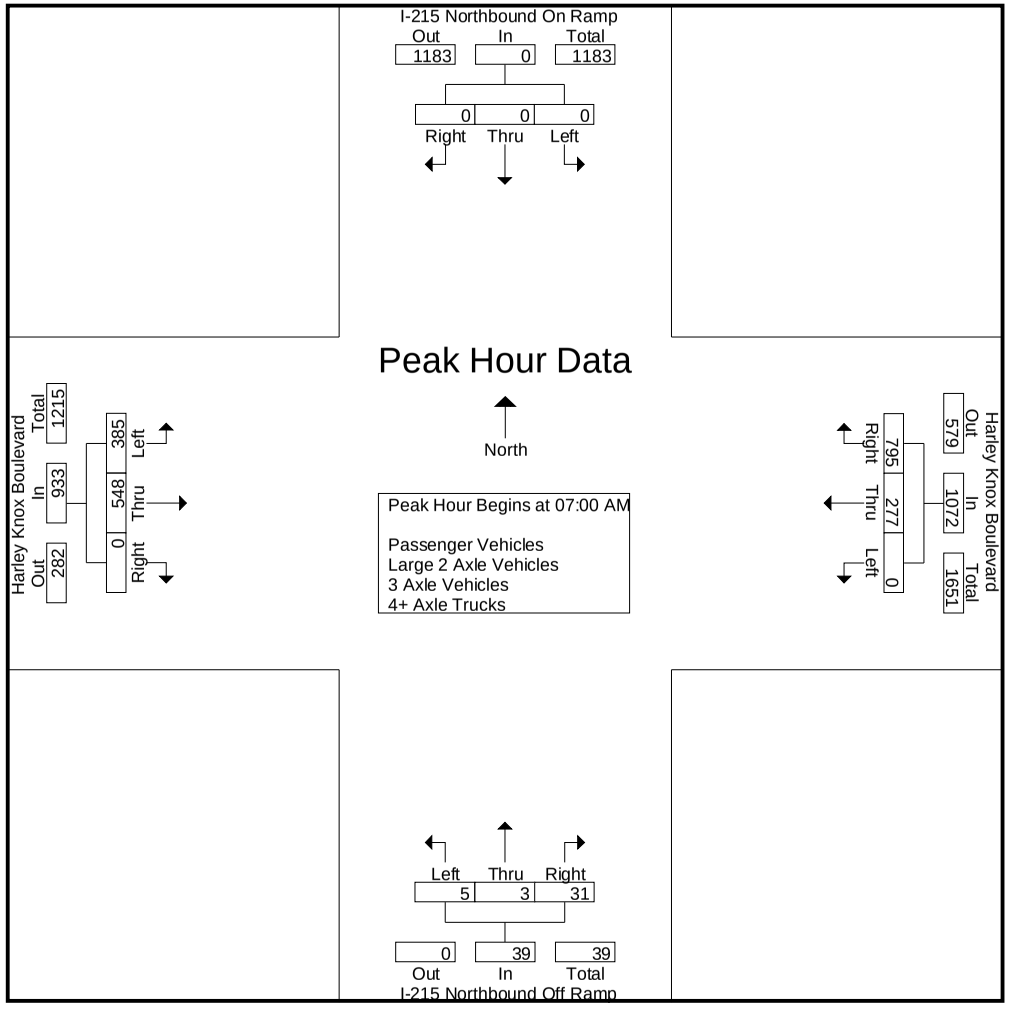
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
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E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:45 AM				07:00 AM				
+0 mins.	0	0	0	0	0	62	**237**	299	3	**2**	17	22	93	**141**	0	234	
+15 mins.	0	0	0	0	0	**89**	215	**304**	**4**	1	**31**	**36**	**107**	140	0	**247**	
+30 mins.	0	0	0	0	0	78	190	268	3	2	20	25	98	139	0	237	
+45 mins.	0	0	0	0	0	48	153	201	1	1	15	17	87	128	0	215	
Total Volume	0	0	0	0	0	277	795	1072	11	6	83	100	385	548	0	933	
% App. Total	0	0	0		0	25.8	74.2		11	6	83		41.3	58.7	0		
PHF	.000	.000	.000	.000	.000	.778	.839	.882	.688	.750	.669	.694	.900	.972	.000	.944	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	55	227	18	282	1	0	1	1	2	88	114	0	0	202	19	486	505
07:15 AM	0	0	0	0	0	0	82	193	24	275	0	0	3	3	3	102	116	0	0	218	27	496	523
07:30 AM	0	0	0	0	0	0	72	161	14	233	1	1	2	2	4	88	115	0	0	203	16	440	456
07:45 AM	0	0	0	0	0	0	34	138	20	172	2	2	14	12	18	83	111	0	0	194	32	384	416
Total	0	0	0	0	0	0	243	719	76	962	4	3	20	18	27	361	456	0	0	817	94	1806	1900
08:00 AM	0	0	0	0	0	0	38	128	8	166	4	1	26	23	31	90	103	0	0	193	31	390	421
08:15 AM	0	0	0	0	0	0	23	87	6	110	3	2	16	14	21	63	70	0	0	133	20	264	284
08:30 AM	0	0	0	0	0	0	41	55	2	96	1	1	11	10	13	34	68	0	0	102	12	211	223
08:45 AM	0	0	0	0	0	0	18	48	4	66	4	1	13	13	18	27	54	0	0	81	17	165	182
Total	0	0	0	0	0	0	120	318	20	438	12	5	66	60	83	214	295	0	0	509	80	1030	1110
Grand Total	0	0	0	0	0	0	363	1037	96	1400	16	8	86	78	110	575	751	0	0	1326	174	2836	3010
Apprch %	0	0	0			0	25.9	74.1			14.5	7.3	78.2			43.4	56.6	0					
Total %	0	0	0		0	0	12.8	36.6		49.4	0.6	0.3	3		3.9	20.3	26.5	0		46.8	5.8	94.2	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	55	**227**	**282**	1	0	1	2	88	114	0	202	486
07:15 AM	0	0	0	0	0	**82**	193	275	0	0	3	3	**102**	**116**	0	**218**	**496**
07:30 AM	0	0	0	0	0	72	161	233	1	1	2	4	88	115	0	203	440
07:45 AM	0	0	0	0	0	34	138	172	**2**	**2**	**14**	**18**	83	111	0	194	384
Total Volume	0	0	0	0	0	243	719	962	4	3	20	27	361	456	0	817	1806
% App. Total	0	0	0		0	25.3	74.7		14.8	11.1	74.1		44.2	55.8	0		
PHF	.000	.000	.000	.000	.000	.741	.792	.853	.500	.375	.357	.375	.885	.983	.000	.937	.910

Counts Unlimited
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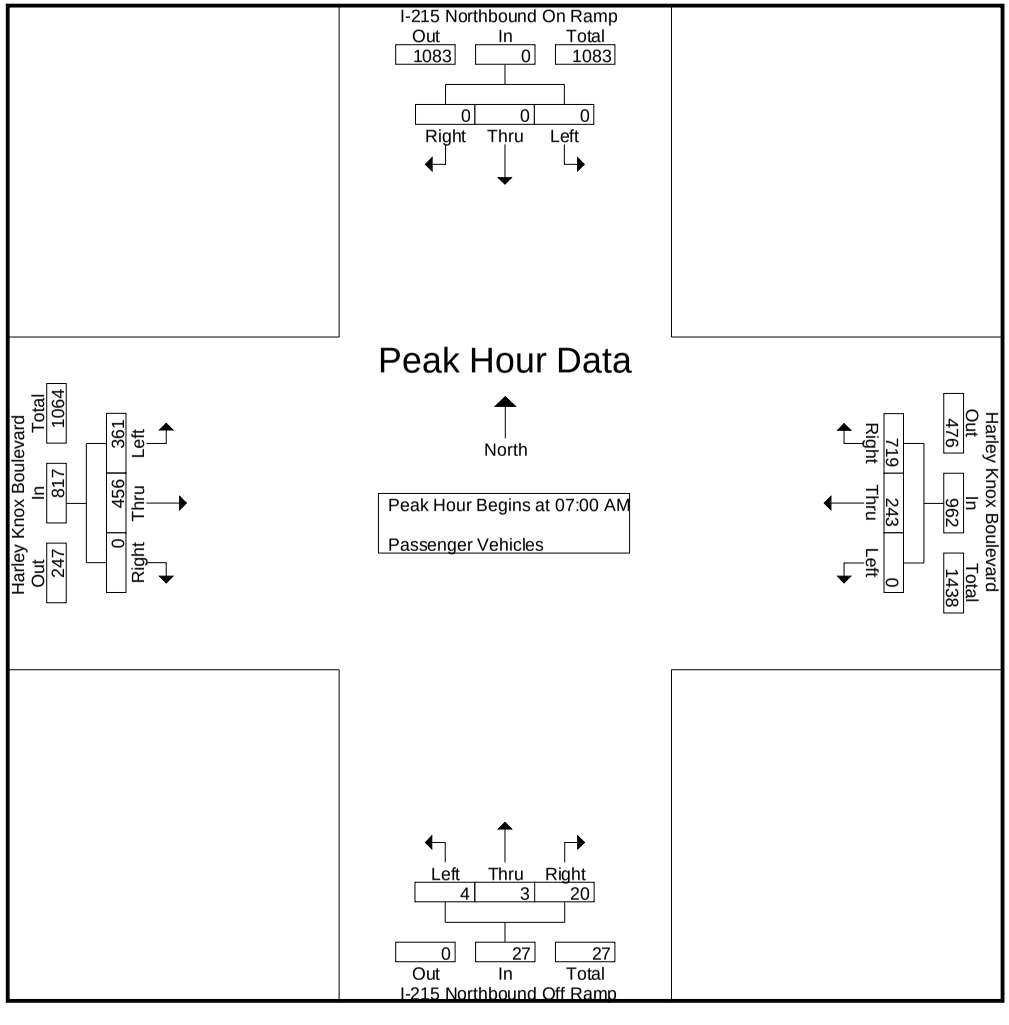
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	55	**227**	**282**	1	0	1	2	88	114	0	202	
+15 mins.	0	0	0	0	0	**82**	193	275	0	0	3	3	**102**	**116**	0	**218**	
+30 mins.	0	0	0	0	0	72	161	233	1	1	2	4	88	115	0	203	
+45 mins.	0	0	0	0	0	34	138	172	**2**	**2**	**14**	**18**	83	111	0	194	
Total Volume	0	0	0	0	0	243	719	962	4	3	20	27	361	456	0	817	
% App. Total	0	0	0		0	25.3	74.7		14.8	11.1	74.1		44.2	55.8	0		
PHF	.000	.000	.000	.000	.000	.741	.792	.853	.500	.375	.357	.375	.885	.983	.000	.937	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
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File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	1	9	0	0	10	0	14	14
07:15 AM	0	0	0	0	0	0	3	3	1	6	0	0	0	0	0	2	5	0	0	7	1	13	14
07:30 AM	0	0	0	0	0	0	1	6	1	7	0	0	0	0	0	4	5	0	0	9	1	16	17
07:45 AM	0	0	0	0	0	0	1	5	2	6	1	0	2	2	3	2	3	0	0	5	4	14	18
Total	0	0	0	0	0	0	7	16	4	23	1	0	2	2	3	9	22	0	0	31	6	57	63
08:00 AM	0	0	0	0	0	0	1	4	0	5	0	0	4	2	4	4	4	0	0	8	2	17	19
08:15 AM	0	0	0	0	0	0	2	3	0	5	0	0	0	0	0	3	9	0	0	12	0	17	17
08:30 AM	0	0	0	0	0	0	4	2	0	6	0	0	1	1	1	0	8	0	0	8	1	15	16
08:45 AM	0	0	0	0	0	0	2	5	1	7	0	0	1	1	1	0	7	0	0	7	2	15	17
Total	0	0	0	0	0	0	9	14	1	23	0	0	6	4	6	7	28	0	0	35	5	64	69
Grand Total	0	0	0	0	0	0	16	30	5	46	1	0	8	6	9	16	50	0	0	66	11	121	132
Apprch %	0	0	0			0	34.8	65.2			11.1	0	88.9			24.2	75.8	0					
Total %	0	0	0		0	0	13.2	24.8		38	0.8	0	6.6		7.4	13.2	41.3	0		54.5	8.3	91.7	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	2	4	0	0	0	0	1	**9**	0	**10**	14
07:15 AM	0	0	0	0	0	**3**	3	6	0	0	0	0	2	5	0	7	13
07:30 AM	0	0	0	0	0	1	**6**	**7**	0	0	0	0	**4**	5	0	9	**16**
07:45 AM	0	0	0	0	0	1	5	6	**1**	0	**2**	**3**	2	3	0	5	14
Total Volume	0	0	0	0	0	7	16	23	1	0	2	3	9	22	0	31	57
% App. Total	0	0	0		0	30.4	69.6		33.3	0	66.7		29	71	0		
PHF	.000	.000	.000	.000	.000	.583	.667	.821	.250	.000	.250	.250	.563	.611	.000	.775	.891

Counts Unlimited
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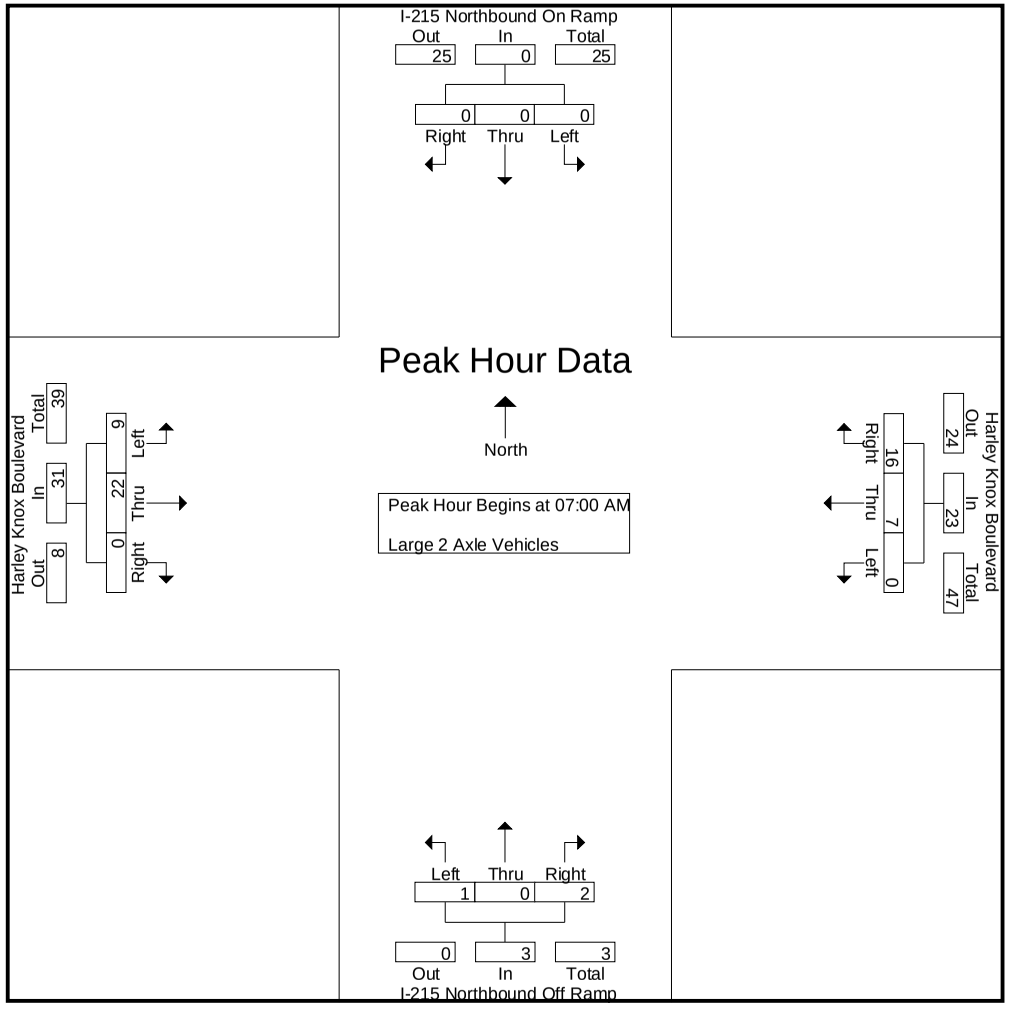
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	2	2	4	0	0	0	0	1	**9**	0	**10**	
+15 mins.	0	0	0	0	0	**3**	3	6	0	0	0	0	2	5	0	7	
+30 mins.	0	0	0	0	0	1	**6**	**7**	0	0	0	0	**4**	5	0	9	
+45 mins.	0	0	0	0	0	1	5	6	**1**	0	**2**	**3**	2	3	0	5	
Total Volume	0	0	0	0	0	7	16	23	1	0	2	3	9	22	0	31	
% App. Total	0	0	0		0	30.4	69.6		33.3	0	66.7		29	71	0		
PHF	.000	.000	.000	.000	.000	.583	.667	.821	.250	.000	.250	.250	.563	.611	.000	.775	

Counts Unlimited
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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	3	2	0	5	0	0	1	1	1	0	4	0	0	4	1	10	11
07:15 AM	0	0	0	0	0	0	2	8	0	10	0	0	1	1	1	1	3	0	0	4	1	15	16
07:30 AM	0	0	0	0	0	0	0	7	0	7	0	0	1	1	1	0	3	0	0	3	1	11	12
07:45 AM	0	0	0	0	0	0	5	2	0	7	0	0	1	0	1	0	1	0	0	1	0	9	9
Total	0	0	0	0	0	0	10	19	0	29	0	0	4	3	4	1	11	0	0	12	3	45	48
08:00 AM	0	0	0	0	0	0	1	5	0	6	0	0	0	0	0	2	8	0	0	10	0	16	16
08:15 AM	0	0	0	0	0	0	5	4	0	9	0	0	1	1	1	0	4	0	0	4	1	14	15
08:30 AM	0	0	0	0	0	0	3	1	0	4	0	0	1	1	1	0	3	0	0	3	1	8	9
08:45 AM	0	0	0	0	0	0	3	7	0	10	0	0	0	0	0	0	3	0	0	3	0	13	13
Total	0	0	0	0	0	0	12	17	0	29	0	0	2	2	2	2	18	0	0	20	2	51	53
Grand Total	0	0	0	0	0	0	22	36	0	58	0	0	6	5	6	3	29	0	0	32	5	96	101
Apprch %	0	0	0			0	37.9	62.1			0	0	100			9.4	90.6	0					
Total %	0	0	0		0	0	22.9	37.5		60.4	0	0	6.2		6.2	3.1	30.2	0		33.3	5	95	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	3	2	5	0	0	**1**	**1**	0	**4**	0	**4**	10
07:15 AM	0	0	0	0	0	2	**8**	**10**	0	0	1	1	**1**	3	0	4	**15**
07:30 AM	0	0	0	0	0	0	7	7	0	0	1	1	0	3	0	3	11
07:45 AM	0	0	0	0	0	**5**	2	7	0	0	1	1	0	1	0	1	9
Total Volume	0	0	0	0	0	10	19	29	0	0	4	4	1	11	0	12	45
% App. Total	0	0	0		0	34.5	65.5		0	0	100		8.3	91.7	0		
PHF	.000	.000	.000	.000	.000	.500	.594	.725	.000	.000	1.00	1.00	.250	.688	.000	.750	.750

Counts Unlimited
PO Box 1178
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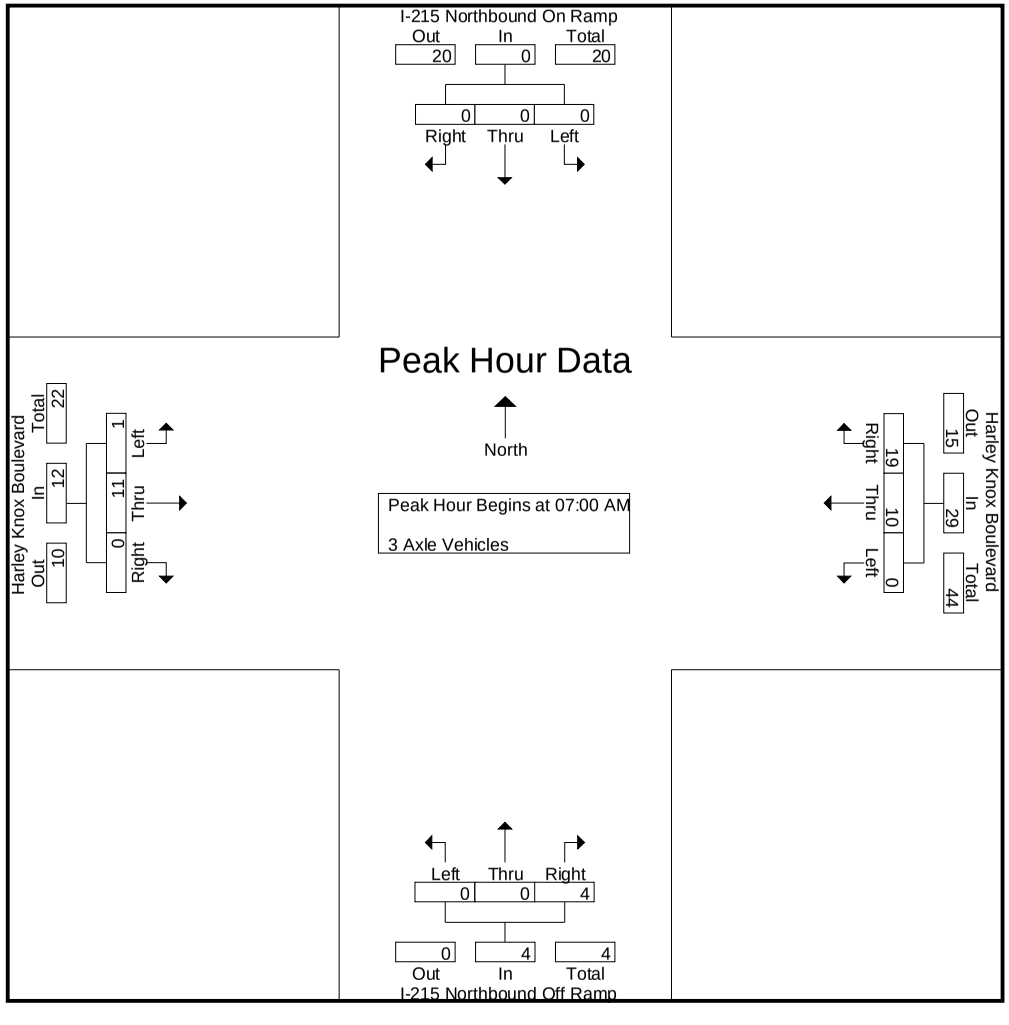
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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(951) 268-6268

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	3	2	5	0	0	**1**	**1**	0	**4**	0	**4**	
+15 mins.	0	0	0	0	0	2	**8**	**10**	0	0	1	1	**1**	3	0	4	
+30 mins.	0	0	0	0	0	0	7	7	0	0	1	1	0	3	0	3	
+45 mins.	0	0	0	0	0	**5**	2	7	0	0	1	1	0	1	0	1	
Total Volume	0	0	0	0	0	10	19	29	0	0	4	4	1	11	0	12	
% App. Total	0	0	0		0	34.5	65.5		0	0	100		8.3	91.7	0		
PHF	.000	.000	.000	.000	.000	.500	.594	.725	.000	.000	1.000	1.000	.250	.688	.000	.750	

Counts Unlimited
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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	6	1	8	0	0	2	2	2	4	14	0	0	18	3	28	31
07:15 AM	0	0	0	0	0	0	2	11	0	13	0	0	1	1	1	2	16	0	0	18	1	32	33
07:30 AM	0	0	0	0	0	0	5	16	0	21	0	0	2	1	2	6	16	0	0	22	1	45	46
07:45 AM	0	0	0	0	0	0	8	8	0	16	0	0	0	0	0	2	13	0	0	15	0	31	31
Total	0	0	0	0	0	0	17	41	1	58	0	0	5	4	5	14	59	0	0	73	5	136	141
08:00 AM	0	0	0	0	0	0	14	16	1	30	0	0	1	1	1	6	15	0	0	21	2	52	54
08:15 AM	0	0	0	0	0	0	7	19	1	26	0	0	3	3	3	3	21	0	0	24	4	53	57
08:30 AM	0	0	0	0	0	0	12	24	0	36	0	0	2	2	2	2	17	0	0	19	2	57	59
08:45 AM	0	0	0	0	0	0	10	22	0	32	0	0	2	1	2	6	24	0	0	30	1	64	65
Total	0	0	0	0	0	0	43	81	2	124	0	0	8	7	8	17	77	0	0	94	9	226	235
Grand Total	0	0	0	0	0	0	60	122	3	182	0	0	13	11	13	31	136	0	0	167	14	362	376
Apprch %	0	0	0			0	33	67			0	0	100			18.6	81.4	0					
Total %	0	0	0		0	0	16.6	33.7		50.3	0	0	3.6		3.6	8.6	37.6	0		46.1	3.7	96.3	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	6	8	0	0	**2**	**2**	4	14	0	18	28
07:15 AM	0	0	0	0	0	2	11	13	0	0	1	1	2	**16**	0	18	32
07:30 AM	0	0	0	0	0	5	**16**	**21**	0	0	2	2	**6**	16	0	**22**	**45**
07:45 AM	0	0	0	0	0	**8**	8	16	0	0	0	0	2	13	0	15	31
Total Volume	0	0	0	0	0	17	41	58	0	0	5	5	14	59	0	73	136
% App. Total	0	0	0		0	29.3	70.7		0	0	100		19.2	80.8	0		
PHF	.000	.000	.000	.000	.000	.531	.641	.690	.000	.000	.625	.625	.583	.922	.000	.830	.756

Counts Unlimited
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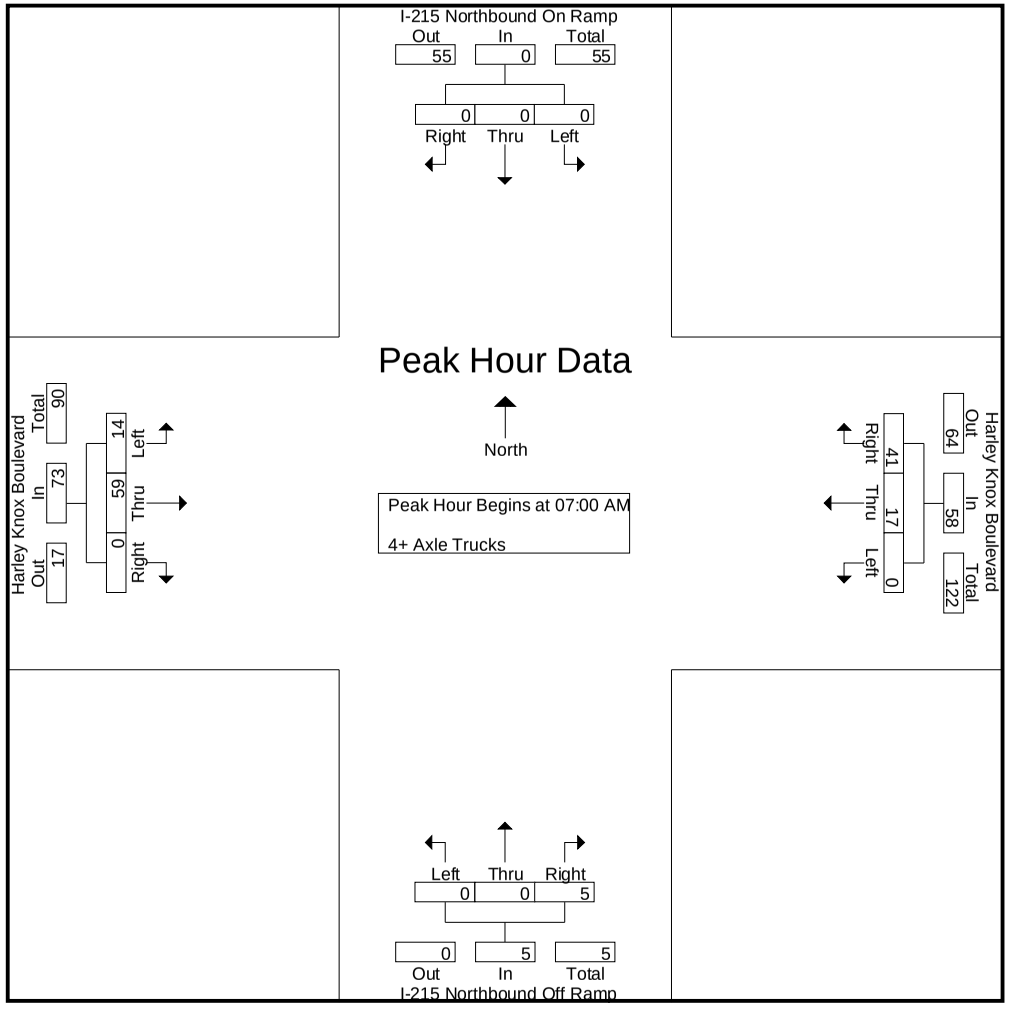
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



Counts Unlimited
PO Box 1178
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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox AM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	2	6	8	0	0	**2**	**2**	4	14	0	18	
+15 mins.	0	0	0	0	0	2	11	13	0	0	1	1	2	**16**	0	18	
+30 mins.	0	0	0	0	0	5	**16**	**21**	0	0	2	2	**6**	16	0	**22**	
+45 mins.	0	0	0	0	0	**8**	8	16	0	0	0	0	2	13	0	15	
Total Volume	0	0	0	0	0	17	41	58	0	0	5	5	14	59	0	73	
% App. Total	0	0	0		0	29.3	70.7		0	0	100		19.2	80.8	0		
PHF	.000	.000	.000	.000	.000	.531	.641	.690	.000	.000	.625	.625	.583	.922	.000	.830	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	87	126	16	213	6	0	44	32	50	53	97	0	0	150	48	413	461
04:15 PM	0	0	0	0	0	0	93	97	7	190	4	2	57	46	63	42	85	0	0	127	53	380	433
04:30 PM	0	0	0	0	0	0	125	120	11	245	3	1	57	48	61	46	95	0	0	141	59	447	506
04:45 PM	0	0	0	0	0	0	143	111	16	254	4	0	51	47	55	60	92	0	0	152	63	461	524
Total	0	0	0	0	0	0	448	454	50	902	17	3	209	173	229	201	369	0	0	570	223	1701	1924
05:00 PM	0	0	0	0	0	0	114	85	10	199	3	2	43	41	48	47	84	0	0	131	51	378	429
05:15 PM	0	0	0	0	0	0	67	20	9	87	1	1	38	31	40	50	76	0	0	126	40	253	293
05:30 PM	0	0	0	0	0	0	78	11	6	89	3	0	30	26	33	29	76	0	0	105	32	227	259
05:45 PM	0	0	0	0	0	0	64	12	8	76	1	0	51	42	52	37	89	0	0	126	50	254	304
Total	0	0	0	0	0	0	323	128	33	451	8	3	162	140	173	163	325	0	0	488	173	1112	1285
Grand Total	0	0	0	0	0	0	771	582	83	1353	25	6	371	313	402	364	694	0	0	1058	396	2813	3209
Apprch %	0	0	0			0	57	43			6.2	1.5	92.3			34.4	65.6	0					
Total %	0	0	0		0	0	27.4	20.7		48.1	0.9	0.2	13.2		14.3	12.9	24.7	0		37.6	12.3	87.7	
Passenger Vehicles	0	0	0		0	0	730	493		1299	22	6	314		609	335	578	0		913	0	0	2821
% Passenger Vehicles	0	0	0	0	0	0	94.7	84.7	91.6	90.5	88	100	84.6	85.3	85.2	92	83.3	0	0	86.3	0	0	87.9
Large 2 Axle Vehicles	0	0	0		0	0	10	12		23	0	0	13		23	5	19	0		24	0	0	70
% Large 2 Axle Vehicles	0	0	0	0	0	0	1.3	2.1	1.2	1.6	0	0	3.5	3.2	3.2	1.4	2.7	0	0	2.3	0	0	2.2
3 Axle Vehicles	0	0	0		0	0	8	16		24	0	0	36		67	2	27	0		29	0	0	120
% 3 Axle Vehicles	0	0	0	0	0	0	1	2.7	0	1.7	0	0	9.7	9.9	9.4	0.5	3.9	0	0	2.7	0	0	3.7
4+ Axle Trucks	0	0	0		0	0	23	61		90	3	0	8		16	22	70	0		92	0	0	198
% 4+ Axle Trucks	0	0	0	0	0	0	3	10.5	7.2	6.3	12	0	2.2	1.6	2.2	6	10.1	0	0	8.7	0	0	6.2

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	87	**126**	213	**6**	0	44	50	53	**97**	0	150	413
04:15 PM	0	0	0	0	0	93	97	190	4	**2**	**57**	**63**	42	85	0	127	380
04:30 PM	0	0	0	0	0	125	120	245	3	1	57	61	46	95	0	141	447
04:45 PM	0	0	0	0	0	**143**	111	**254**	4	0	51	55	**60**	92	0	**152**	**461**
Total Volume	0	0	0	0	0	448	454	902	17	3	209	229	201	369	0	570	1701
% App. Total	0	0	0		0	49.7	50.3		7.4	1.3	91.3		35.3	64.7	0		
PHF	.000	.000	.000	.000	.000	.783	.901	.888	.708	.375	.917	.909	.838	.951	.000	.938	.922

Counts Unlimited
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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
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File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
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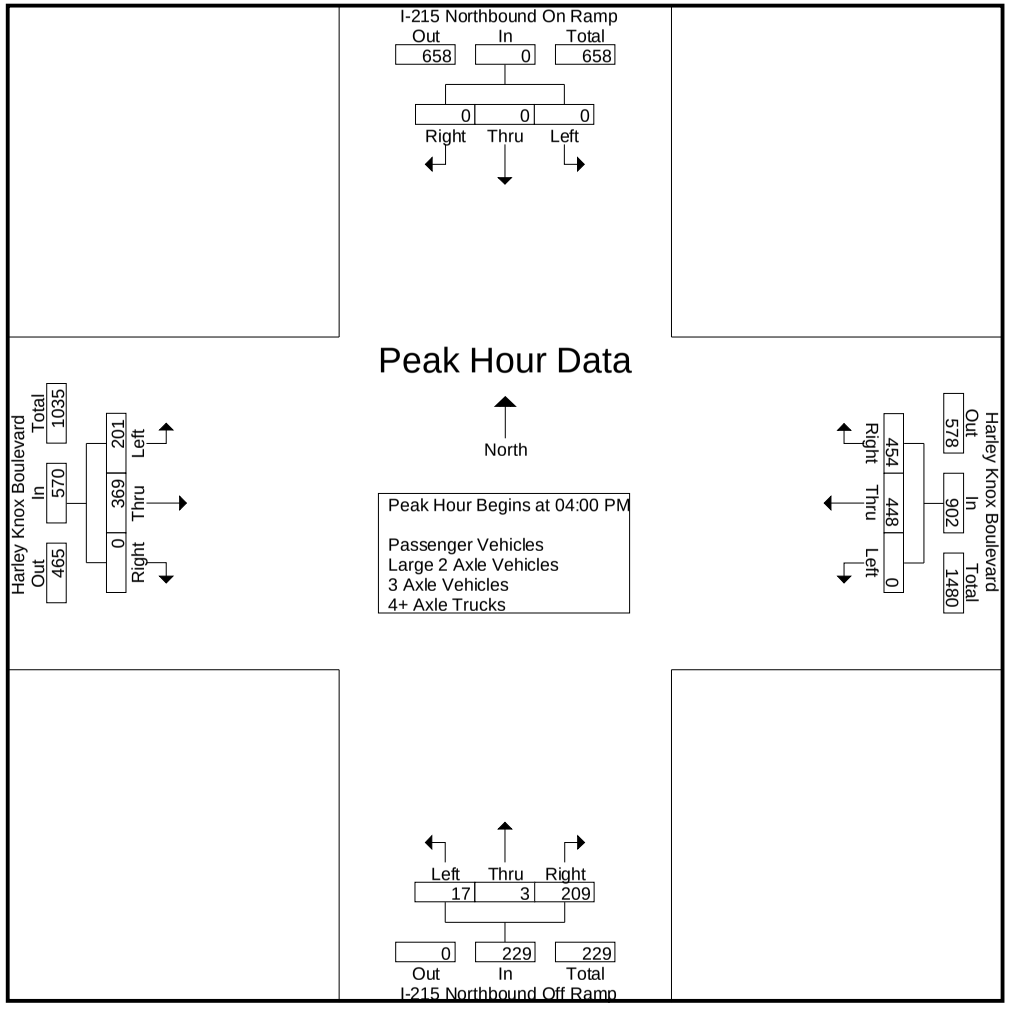

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City of Perris
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Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	87	**126**	213	**6**	0	44	50	53	**97**	0	150	
+15 mins.	0	0	0	0	0	93	97	190	4	**2**	**57**	**63**	42	85	0	127	
+30 mins.	0	0	0	0	0	125	120	245	3	1	57	61	46	95	0	141	
+45 mins.	0	0	0	0	0	**143**	111	**254**	4	0	51	55	**60**	92	0	**152**	
Total Volume	0	0	0	0	0	448	454	902	17	3	209	229	201	369	0	570	
% App. Total	0	0	0		0	49.7	50.3		7.4	1.3	91.3		35.3	64.7	0		
PHF	.000	.000	.000	.000	.000	.783	.901	.888	.708	.375	.917	.909	.838	.951	.000	.938	

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City of Perris
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E/W: Harley Knox Boulevard
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File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	80	106	15	186	6	0	39	29	45	51	83	0	0	134	44	365	409
04:15 PM	0	0	0	0	0	0	92	82	7	174	3	2	47	41	52	37	69	0	0	106	48	332	380
04:30 PM	0	0	0	0	0	0	121	109	10	230	3	1	47	39	51	44	74	0	0	118	49	399	448
04:45 PM	0	0	0	0	0	0	133	99	12	232	2	0	39	36	41	54	80	0	0	134	48	407	455
Total	0	0	0	0	0	0	426	396	44	822	14	3	172	145	189	186	306	0	0	492	189	1503	1692
05:00 PM	0	0	0	0	0	0	109	68	10	177	3	2	36	35	41	41	68	0	0	109	45	327	372
05:15 PM	0	0	0	0	0	0	61	15	9	76	1	1	31	24	33	47	64	0	0	111	33	220	253
05:30 PM	0	0	0	0	0	0	71	7	6	78	3	0	28	24	31	28	63	0	0	91	30	200	230
05:45 PM	0	0	0	0	0	0	63	7	7	70	1	0	47	39	48	33	77	0	0	110	46	228	274
Total	0	0	0	0	0	0	304	97	32	401	8	3	142	122	153	149	272	0	0	421	154	975	1129
Grand Total	0	0	0	0	0	0	730	493	76	1223	22	6	314	267	342	335	578	0	0	913	343	2478	2821
Apprch %	0	0	0			0	59.7	40.3			6.4	1.8	91.8			36.7	63.3	0					
Total %	0	0	0		0	0	29.5	19.9		49.4	0.9	0.2	12.7		13.8	13.5	23.3	0		36.8	12.2	87.8	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	80	106	186	**6**	0	39	45	51	**83**	0	**134**	365
04:15 PM	0	0	0	0	0	92	82	174	3	**2**	**47**	**52**	37	69	0	106	332
04:30 PM	0	0	0	0	0	121	**109**	230	3	1	47	51	44	74	0	118	399
04:45 PM	0	0	0	0	0	**133**	99	**232**	2	0	39	41	**54**	80	0	134	**407**
Total Volume	0	0	0	0	0	426	396	822	14	3	172	189	186	306	0	492	1503
% App. Total	0	0	0		0	51.8	48.2		7.4	1.6	91		37.8	62.2	0		
PHF	.000	.000	.000	.000	.000	.801	.908	.886	.583	.375	.915	.909	.861	.922	.000	.918	.923

Counts Unlimited
PO Box 1178
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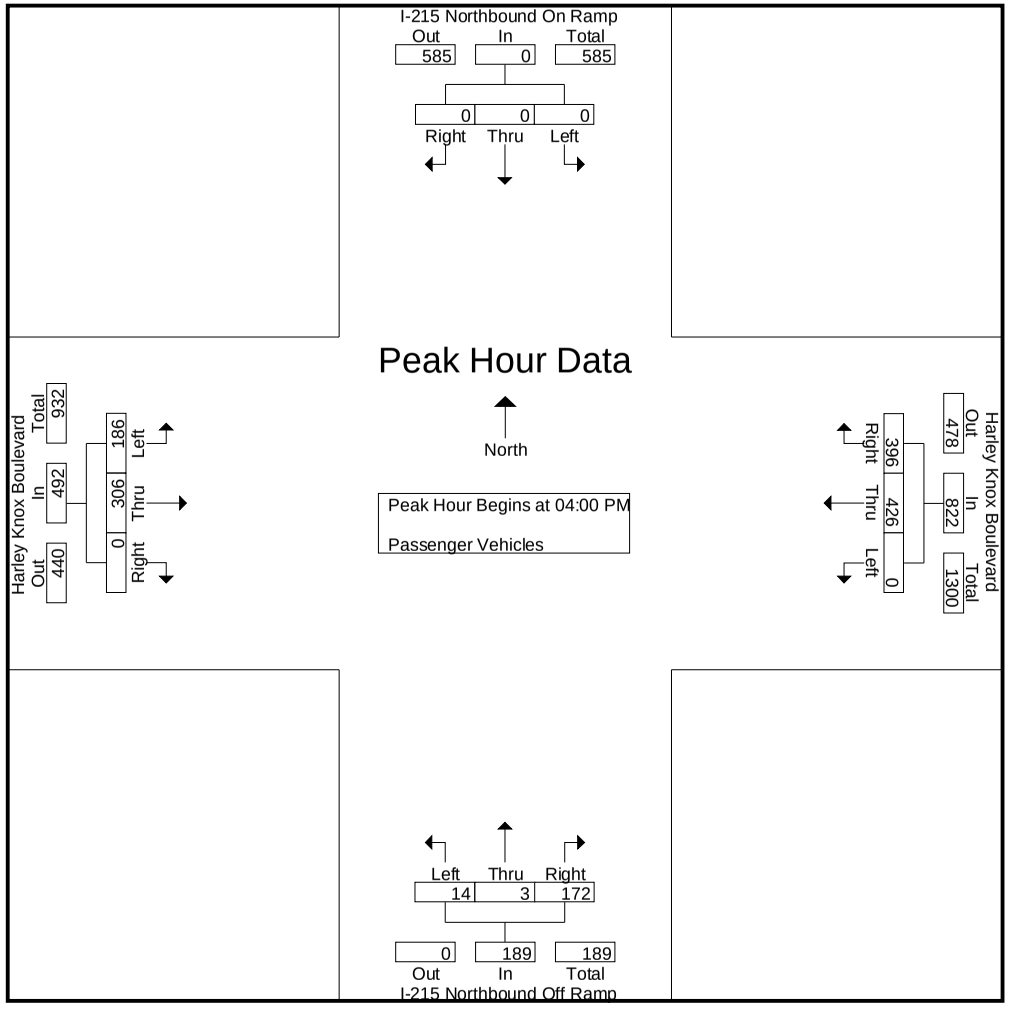
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	80	106	186	**6**	0	39	45	51	**83**	0	**134**	
+15 mins.	0	0	0	0	0	92	82	174	3	**2**	**47**	**52**	37	69	0	106	
+30 mins.	0	0	0	0	0	121	**109**	230	3	1	47	51	44	74	0	118	
+45 mins.	0	0	0	0	0	**133**	99	**232**	2	0	39	41	**54**	80	0	134	
Total Volume	0	0	0	0	0	426	396	822	14	3	172	189	186	306	0	492	
% App. Total	0	0	0		0	51.8	48.2		7.4	1.6	91		37.8	62.2	0		
PHF	.000	.000	.000	.000	.000	.801	.908	.886	.583	.375	.915	.909	.861	.922	.000	.918	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	4	5	0	9	0	0	2	1	2	0	5	0	0	5	1	16	17
04:15 PM	0	0	0	0	0	0	0	3	0	3	0	0	5	4	5	0	5	0	0	5	4	13	17
04:30 PM	0	0	0	0	0	0	2	1	0	3	0	0	3	2	3	1	1	0	0	2	2	8	10
04:45 PM	0	0	0	0	0	0	2	2	1	4	0	0	2	2	2	1	2	0	0	3	3	9	12
Total	0	0	0	0	0	0	8	11	1	19	0	0	12	9	12	2	13	0	0	15	10	46	56
05:00 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	4	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	3	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	0	4	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	1	2	3
Total	0	0	0	0	0	0	2	1	0	3	0	0	1	1	1	3	6	0	0	9	1	13	14
Grand Total	0	0	0	0	0	0	10	12	1	22	0	0	13	10	13	5	19	0	0	24	11	59	70
Apprch %	0	0	0			0	45.5	54.5			0	0	100			20.8	79.2	0					
Total %	0	0	0		0	0	16.9	20.3		37.3	0	0	22		22	8.5	32.2	0		40.7	15.7	84.3	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**4**	**5**	**9**	0	0	2	2	0	**5**	0	**5**	**16**
04:15 PM	0	0	0	0	0	0	3	3	0	0	**5**	**5**	0	5	0	5	13
04:30 PM	0	0	0	0	0	2	1	3	0	0	3	3	**1**	1	0	2	8
04:45 PM	0	0	0	0	0	2	2	4	0	0	2	2	1	2	0	3	9
Total Volume	0	0	0	0	0	8	11	19	0	0	12	12	2	13	0	15	46
% App. Total	0	0	0		0	42.1	57.9		0	0	100		13.3	86.7	0		
PHF	.000	.000	.000	.000	.000	.500	.550	.528	.000	.000	.600	.600	.500	.650	.000	.750	.719

Counts Unlimited
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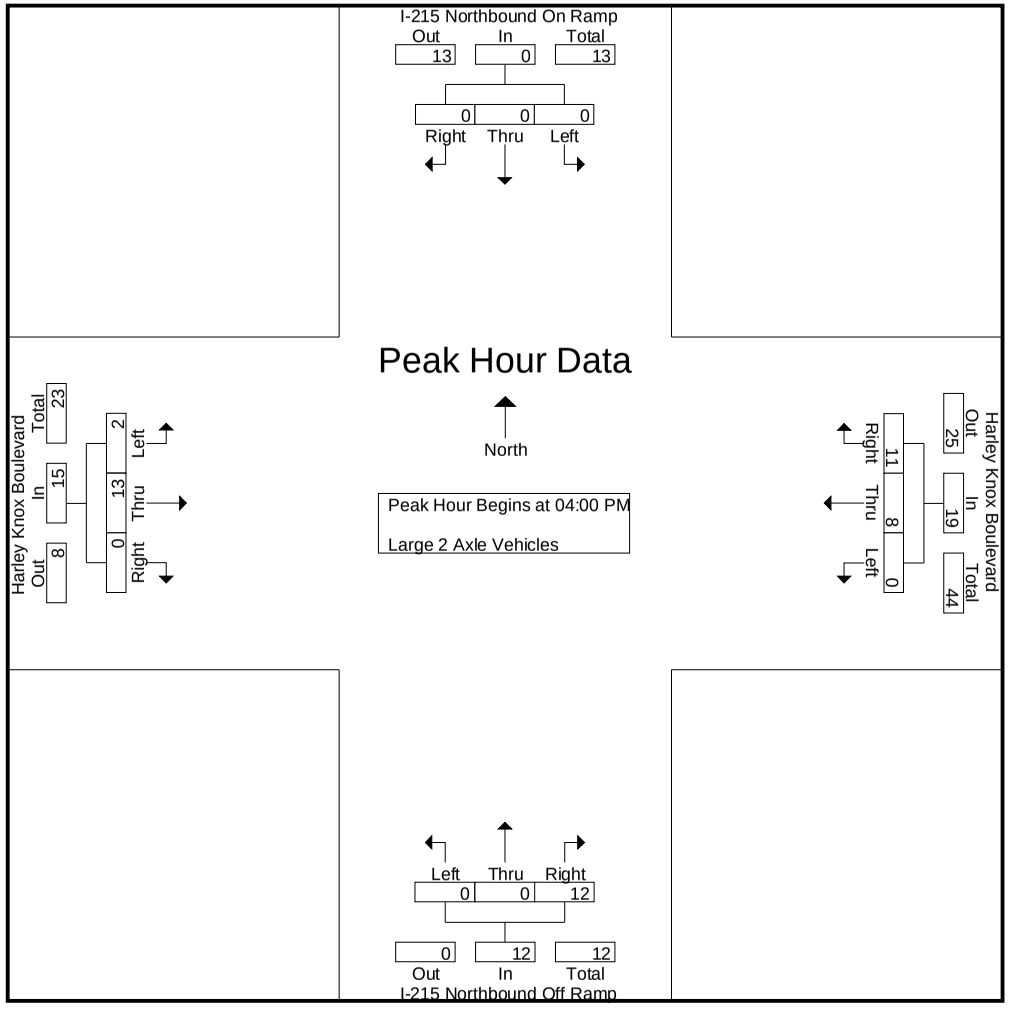
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	**4**	**5**	**9**	0	0	2	2	0	**5**	0	**5**	
+15 mins.	0	0	0	0	0	0	3	3	0	0	**5**	**5**	0	5	0	5	
+30 mins.	0	0	0	0	0	2	1	3	0	0	3	3	**1**	1	0	2	
+45 mins.	0	0	0	0	0	2	2	4	0	0	2	2	1	2	0	3	
Total Volume	0	0	0	0	0	8	11	19	0	0	12	12	2	13	0	15	
% App. Total	0	0	0		0	42.1	57.9		0	0	100		13.3	86.7	0		
PHF	.000	.000	.000	.000	.000	.500	.550	.528	.000	.000	.600	.600	.500	.650	.000	.750	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	4	0	4	0	0	1	1	1	0	2	0	0	2	1	7	8
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	4	1	4	0	3	0	0	3	1	8	9
04:30 PM	0	0	0	0	0	0	1	2	0	3	0	0	6	6	6	0	4	0	0	4	6	13	19
04:45 PM	0	0	0	0	0	0	4	1	0	5	0	0	9	8	9	1	3	0	0	4	8	18	26
Total	0	0	0	0	0	0	5	8	0	13	0	0	20	16	20	1	12	0	0	13	16	46	62
05:00 PM	0	0	0	0	0	0	0	3	0	3	0	0	7	6	7	1	4	0	0	5	6	15	21
05:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	5	5	5	0	7	0	0	7	5	15	20
05:30 PM	0	0	0	0	0	0	1	3	0	4	0	0	2	2	2	0	2	0	0	2	2	8	10
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	2	2	0	2	0	0	2	2	5	7
Total	0	0	0	0	0	0	3	8	0	11	0	0	16	15	16	1	15	0	0	16	15	43	58
Grand Total	0	0	0	0	0	0	8	16	0	24	0	0	36	31	36	2	27	0	0	29	31	89	120
Apprch %	0	0	0			0	33.3	66.7			0	0	100			6.9	93.1	0					
Total %	0	0	0		0	0	9	18		27	0	0	40.4		40.4	2.2	30.3	0		32.6	25.8	74.2	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	**4**	4	0	0	1	1	0	2	0	2	7
04:15 PM	0	0	0	0	0	0	1	1	0	0	4	4	0	3	0	3	8
04:30 PM	0	0	0	0	0	1	2	3	0	0	6	6	0	**4**	0	**4**	13
04:45 PM	0	0	0	0	0	**4**	1	**5**	0	0	**9**	**9**	**1**	3	0	4	**18**
Total Volume	0	0	0	0	0	5	8	13	0	0	20	20	1	12	0	13	46
% App. Total	0	0	0		0	38.5	61.5		0	0	100		7.7	92.3	0		
PHF	.000	.000	.000	.000	.000	.313	.500	.650	.000	.000	.556	.556	.250	.750	.000	.813	.639

Counts Unlimited
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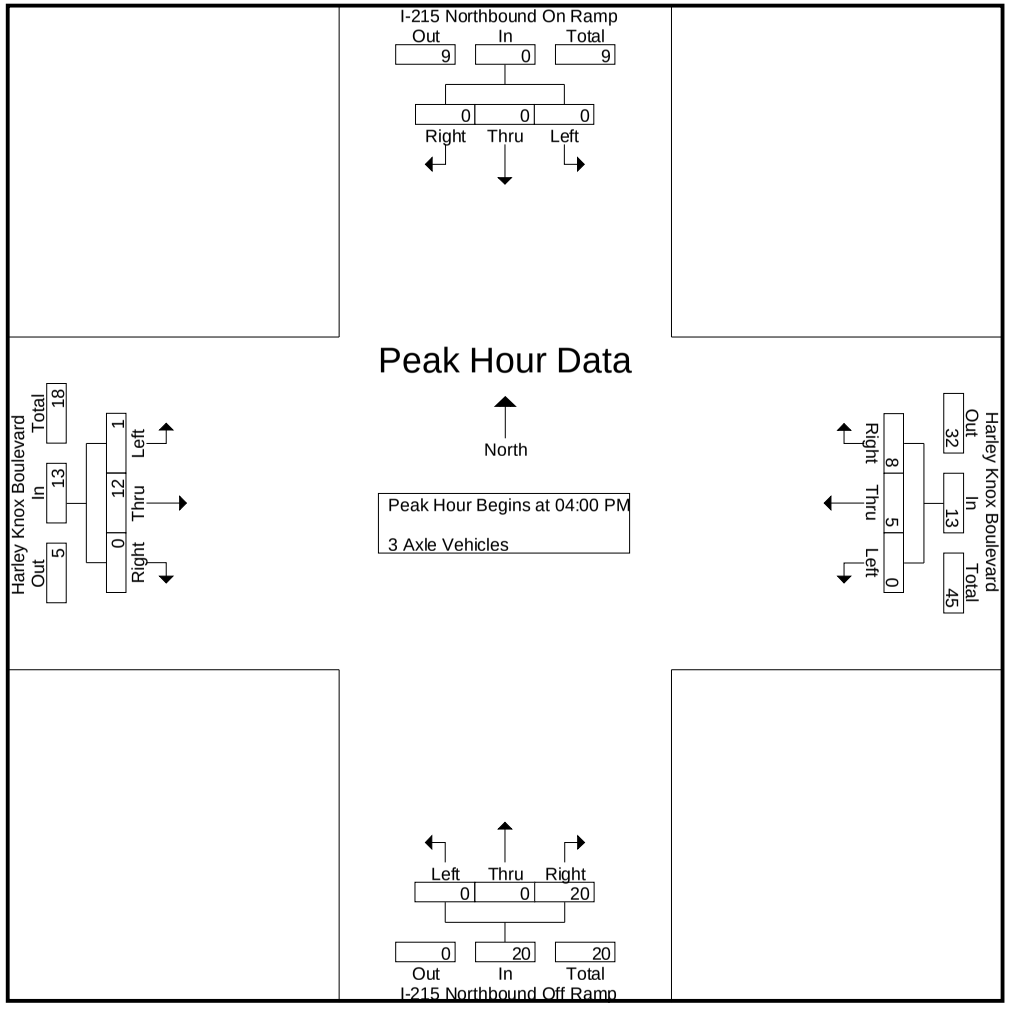
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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(951) 268-6268

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	0	**4**	4	0	0	1	1	0	2	0	2	
+15 mins.	0	0	0	0	0	0	1	1	0	0	4	4	0	3	0	3	
+30 mins.	0	0	0	0	0	1	2	3	0	0	6	6	0	**4**	0	**4**	
+45 mins.	0	0	0	0	0	**4**	1	**5**	0	0	**9**	**9**	**1**	3	0	4	
Total Volume	0	0	0	0	0	5	8	13	0	0	20	20	1	12	0	13	
% App. Total	0	0	0		0	38.5	61.5		0	0	100		7.7	92.3	0		
PHF	.000	.000	.000	.000	.000	.313	.500	.650	.000	.000	.556	.556	.250	.750	.000	.813	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	3	11	1	14	0	0	2	1	2	2	7	0	0	9	2	25	27
04:15 PM	0	0	0	0	0	0	1	11	0	12	1	0	1	0	2	5	8	0	0	13	0	27	27
04:30 PM	0	0	0	0	0	0	1	8	1	9	0	0	1	1	1	1	16	0	0	17	2	27	29
04:45 PM	0	0	0	0	0	0	4	9	3	13	2	0	1	1	3	4	7	0	0	11	4	27	31
Total	0	0	0	0	0	0	9	39	5	48	3	0	5	3	8	12	38	0	0	50	8	106	114
05:00 PM	0	0	0	0	0	0	4	13	0	17	0	0	0	0	0	5	10	0	0	15	0	32	32
05:15 PM	0	0	0	0	0	0	4	4	0	8	0	0	2	2	2	1	4	0	0	5	2	15	17
05:30 PM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	9	0	0	9	0	15	15
05:45 PM	0	0	0	0	0	0	1	4	1	5	0	0	1	0	1	4	9	0	0	13	1	19	20
Total	0	0	0	0	0	0	14	22	1	36	0	0	3	2	3	10	32	0	0	42	3	81	84
Grand Total	0	0	0	0	0	0	23	61	6	84	3	0	8	5	11	22	70	0	0	92	11	187	198
Apprch %	0	0	0			0	27.4	72.6			27.3	0	72.7			23.9	76.1	0					
Total %	0	0	0		0	0	12.3	32.6		44.9	1.6	0	4.3		5.9	11.8	37.4	0		49.2	5.6	94.4	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	3	**11**	**14**	0	0	**2**	2	2	7	0	9	25
04:15 PM	0	0	0	0	0	1	11	12	1	0	1	2	**5**	8	0	13	**27**
04:30 PM	0	0	0	0	0	1	8	9	0	0	1	1	1	**16**	0	**17**	27
04:45 PM	0	0	0	0	0	**4**	9	13	**2**	0	1	**3**	4	7	0	11	27
Total Volume	0	0	0	0	0	9	39	48	3	0	5	8	12	38	0	50	106
% App. Total	0	0	0		0	18.8	81.2		37.5	0	62.5		24	76	0		
PHF	.000	.000	.000	.000	.000	.563	.886	.857	.375	.000	.625	.667	.600	.594	.000	.735	.981

Counts Unlimited
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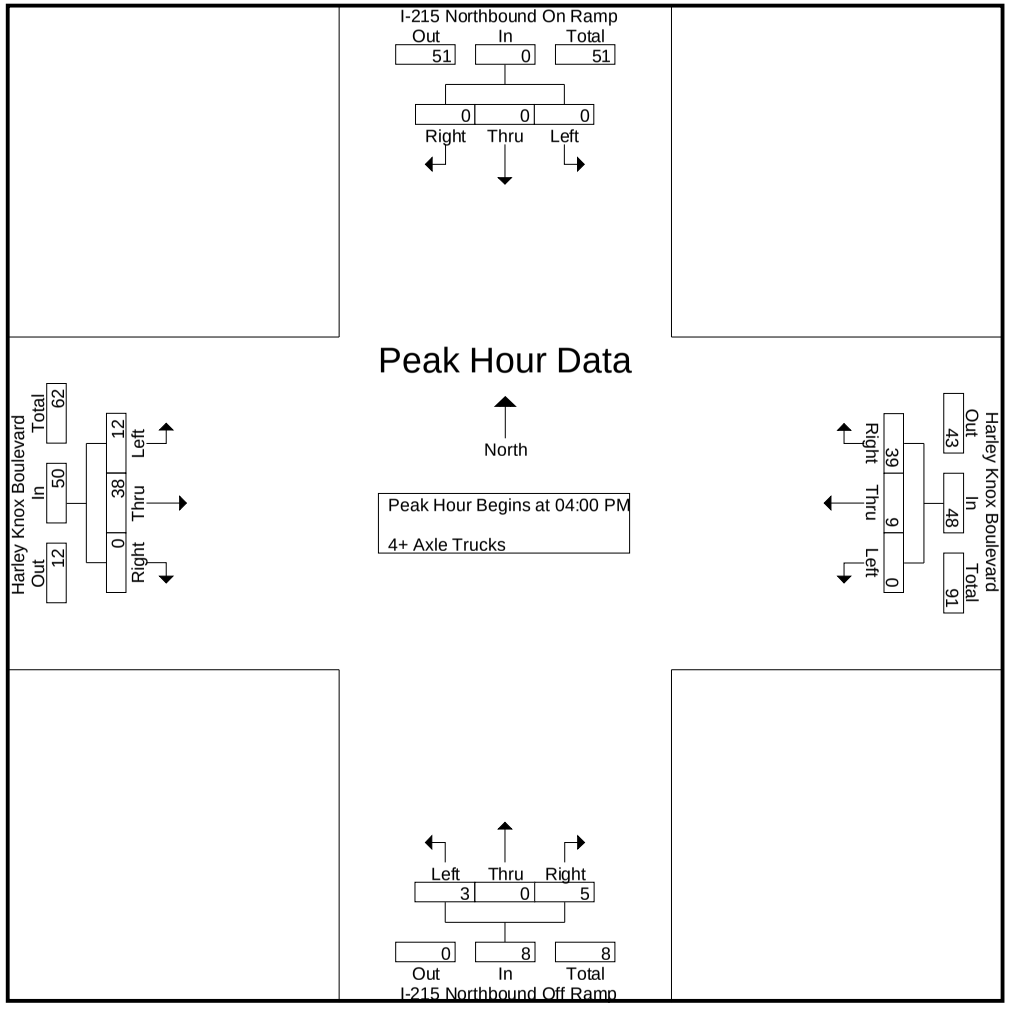
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_PER_215N_Harley Knox PM
Site Code : 05119683
Start Date : 10/2/2019

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	3	**11**	**14**	0	0	**2**	2	2	7	0	9	
+15 mins.	0	0	0	0	0	1	11	12	1	0	1	2	**5**	8	0	13	
+30 mins.	0	0	0	0	0	1	8	9	0	0	1	1	1	**16**	0	**17**	
+45 mins.	0	0	0	0	0	**4**	9	13	**2**	0	1	**3**	4	7	0	11	
Total Volume	0	0	0	0	0	9	39	48	3	0	5	8	12	38	0	50	
% App. Total	0	0	0		0	18.8	81.2		37.5	0	62.5		24	76	0		
PHF	.000	.000	.000	.000	.000	.563	.886	.857	.375	.000	.625	.667	.600	.594	.000	.735	

Location: Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard

Date: 10/2/2019
Day: Wednesday

PEDESTRIANS

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	1	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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

Location: Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard

Date: 10/2/2019
Day: Wednesday

BICYCLES

	Southbound I-215 Northbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Northbound Ramps			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound I-215 Northbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Northbound Ramps			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

Counts Unlimited, Inc.
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Corona, CA 92878
951-268-6268


CAM80
10-01-2019
08:53:24:41
AM Peak Hour
Eastbound left queuing onto
the I-215 Northbound On-Ramp
X Z


CAM80
10-01-2019
08:58:17:99
AM Peak Hour
Westbound left queuing onto
the I-215 Southbound On-Ramp
X Z


CAM80
10-01-2019
15:16:56:52
PM Peak Hour
Eastbound and westbound left
queuing onto the I-215 On-Ramps
X Z

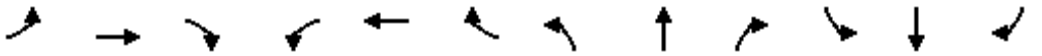

CAM80
10-01-2019
15:05:55:93
PM Peak Hour
Eastbound and westbound left
queuing onto the I-215 On-Ramps
X Z

ATTACHMENT B
LOS ANALYSIS

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	650	4	103	185	1	139
Future Volume (vph)	650	4	103	185	1	139
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	9.5	33.0	10.0	10.0
Total Split (s)	55.0	55.0	15.0	70.0	40.0	40.0
Total Split (%)	50.0%	50.0%	13.6%	63.6%	36.4%	36.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 66.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	650	4	103	185	0	0	0	0	292	1	139
Future Volume (veh/h)	0	650	4	103	185	0	0	0	0	292	1	139
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1811	1530	1470	1826	0				1693	1900	1693
Adj Flow Rate, veh/h	0	707	4	112	201	0				317	1	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	6	25	29	5	0				14	0	14
Cap, veh/h	0	1040	392	130	1749	0				459	1	365
Arrive On Green	0.00	0.30	0.30	0.09	0.50	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	3532	1296	1400	3561	0				1804	6	1434
Grp Volume(v), veh/h	0	707	4	112	201	0				318	0	85
Grp Sat Flow(s),veh/h/ln	0	1721	1296	1400	1735	0				1810	0	1434
Q Serve(g_s), s	0.0	7.5	0.1	3.3	1.3	0.0				6.6	0.0	1.9
Cycle Q Clear(g_c), s	0.0	7.5	0.1	3.3	1.3	0.0				6.6	0.0	1.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1040	392	130	1749	0				460	0	365
V/C Ratio(X)	0.00	0.68	0.01	0.86	0.11	0.00				0.69	0.00	0.23
Avail Cap(c_a), veh/h	0	4158	1566	355	5449	0				1531	0	1213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.7	10.1	18.5	5.4	0.0				14.0	0.0	12.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	6.2	0.0	0.0				1.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	0.0	1.1	0.2	0.0				2.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.0	10.1	24.7	5.4	0.0				15.8	0.0	12.6
LnGrp LOS	A	B	B	C	A	A				B	A	B
Approach Vol, veh/h		711			313						403	
Approach Delay, s/veh		13.0			12.3						15.1	
Approach LOS		B			B						B	

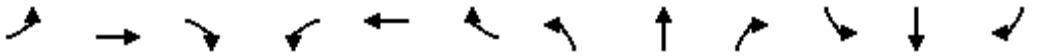
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.4	17.5		15.5		25.9
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	10.5	50.0		35.0		65.0
Max Q Clear Time (g_c+I1), s	5.3	9.5		8.6		3.3
Green Ext Time (p_c), s	0.1	3.0		2.0		0.8

Intersection Summary			
HCM 6th Ctrl Delay		13.4	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	388	554	283	795	3	31
Future Volume (vph)	388	554	283	795	3	31
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	33.0	29.0	29.0	10.0	10.0
Total Split (s)	20.0	90.0	70.0	70.0	15.0	15.0
Total Split (%)	19.0%	85.7%	66.7%	66.7%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 70
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-215 NB Ramp & Harley Knox Bl.

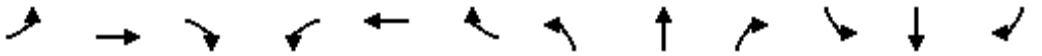


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	554	0	0	283	795	5	3	31	0	0	0
Future Volume (veh/h)	388	554	0	0	283	795	5	3	31	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1796	1618	0	0	1707	1752	1381	1900	1381			
Adj Flow Rate, veh/h	422	602	0	0	308	776	5	3	5			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	7	19	0	0	13	10	35	0	35			
Cap, veh/h	370	2597	0	0	1835	823	18	11	19			
Arrive On Green	0.22	0.84	0.00	0.00	0.57	0.57	0.02	0.02	0.02			
Sat Flow, veh/h	1711	3156	0	0	3329	1454	1152	691	1171			
Grp Volume(v), veh/h	422	602	0	0	308	776	8	0	5			
Grp Sat Flow(s),veh/h/ln	1711	1537	0	0	1622	1454	1842	0	1171			
Q Serve(g_s), s	15.5	2.7	0.0	0.0	3.3	35.6	0.3	0.0	0.3			
Cycle Q Clear(g_c), s	15.5	2.7	0.0	0.0	3.3	35.6	0.3	0.0	0.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.62		1.00			
Lane Grp Cap(c), veh/h	370	2597	0	0	1835	823	29	0	19			
V/C Ratio(X)	1.14	0.23	0.00	0.00	0.17	0.94	0.27	0.00	0.27			
Avail Cap(c_a), veh/h	370	3644	0	0	2940	1318	257	0	163			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.1	1.1	0.0	0.0	7.5	14.5	34.9	0.0	34.9			
Incr Delay (d2), s/veh	91.1	0.0	0.0	0.0	0.0	7.0	4.9	0.0	7.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.0	0.0	0.0	0.0	0.9	10.1	0.2	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.2	1.1	0.0	0.0	7.5	21.5	39.8	0.0	42.4			
LnGrp LOS	F	A	A	A	A	C	D	A	D			
Approach Vol, veh/h		1024			1084			13				
Approach Delay, s/veh		49.8			17.5			40.8				
Approach LOS		D			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		65.6			20.0	45.6		6.1				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		85.0			15.5	65.0		10.0				
Max Q Clear Time (g_c+I1), s		4.7			17.5	37.6		2.3				
Green Ext Time (p_c), s		2.6			0.0	2.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.2									
HCM 6th LOS			C									

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	341	29	300	183	0	122
Future Volume (vph)	341	29	300	183	0	122
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	9.5	33.0	10.5	10.5
Total Split (s)	55.0	55.0	15.0	70.0	40.0	40.0
Total Split (%)	50.0%	50.0%	13.6%	63.6%	36.4%	36.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 53.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	341	29	300	183	0	0	0	0	229	0	122
Future Volume (veh/h)	0	341	29	300	183	0	0	0	0	229	0	122
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1767	1856	1826	1811	0				1693	1900	1693
Adj Flow Rate, veh/h	0	388	22	341	208	0				260	0	64
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	9	3	5	6	0				14	0	14
Cap, veh/h	0	655	306	405	1854	0				389	0	308
Arrive On Green	0.00	0.20	0.20	0.23	0.54	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3445	1568	1739	3532	0				1810	0	1434
Grp Volume(v), veh/h	0	388	22	341	208	0				260	0	64
Grp Sat Flow(s),veh/h/ln	0	1678	1568	1739	1721	0				1810	0	1434
Q Serve(g_s), s	0.0	4.3	0.5	7.6	1.2	0.0				5.4	0.0	1.5
Cycle Q Clear(g_c), s	0.0	4.3	0.5	7.6	1.2	0.0				5.4	0.0	1.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	655	306	405	1854	0				389	0	308
V/C Ratio(X)	0.00	0.59	0.07	0.84	0.11	0.00				0.67	0.00	0.21
Avail Cap(c_a), veh/h	0	4132	1931	450	5506	0				1559	0	1236
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.9	13.3	14.9	4.6	0.0				14.6	0.0	13.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	11.4	0.0	0.0				2.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	0.1	3.4	0.2	0.0				1.8	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.2	13.4	26.3	4.6	0.0				16.6	0.0	13.4
LnGrp LOS	A	B	B	C	A	A				B	A	B
Approach Vol, veh/h		410			549						324	
Approach Delay, s/veh		15.1			18.1						16.0	
Approach LOS		B			B						B	

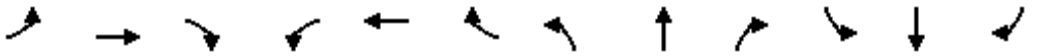
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.0	12.9		13.7		26.9
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	10.5	50.0		35.0		65.0
Max Q Clear Time (g_c+I1), s	9.6	6.3		7.4		3.2
Green Ext Time (p_c), s	0.1	1.6		1.6		0.8

Intersection Summary			
HCM 6th Ctrl Delay		16.6	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	201	369	465	454	3	209
Future Volume (vph)	201	369	465	454	3	209
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	33.0	29.0	29.0	10.0	10.0
Total Split (s)	15.0	90.0	75.0	75.0	15.0	15.0
Total Split (%)	14.3%	85.7%	71.4%	71.4%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 45.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-215 NB Ramp & Harley Knox Bl.

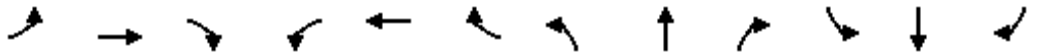


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	369	0	0	465	454	18	3	209	0	0	0
Future Volume (veh/h)	201	369	0	0	465	454	18	3	209	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1796	1633	0	0	1826	1707	1633	1900	1633			
Adj Flow Rate, veh/h	218	401	0	0	505	439	20	3	39			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	7	18	0	0	5	13	18	0	18			
Cap, veh/h	274	2086	0	0	1363	568	100	15	88			
Arrive On Green	0.16	0.67	0.00	0.00	0.39	0.39	0.06	0.06	0.06			
Sat Flow, veh/h	1711	3185	0	0	3561	1447	1583	238	1384			
Grp Volume(v), veh/h	218	401	0	0	505	439	23	0	39			
Grp Sat Flow(s),veh/h/ln	1711	1552	0	0	1735	1447	1821	0	1384			
Q Serve(g_s), s	4.6	1.8	0.0	0.0	3.9	10.0	0.5	0.0	1.0			
Cycle Q Clear(g_c), s	4.6	1.8	0.0	0.0	3.9	10.0	0.5	0.0	1.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.87		1.00			
Lane Grp Cap(c), veh/h	274	2086	0	0	1363	568	115	0	88			
V/C Ratio(X)	0.79	0.19	0.00	0.00	0.37	0.77	0.20	0.00	0.45			
Avail Cap(c_a), veh/h	475	6977	0	0	6423	2679	482	0	366			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	15.3	2.3	0.0	0.0	8.2	10.0	16.8	0.0	17.1			
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.1	0.9	0.8	0.0	3.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	0.0	0.8	1.9	0.2	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	2.3	0.0	0.0	8.2	10.9	17.6	0.0	20.6			
LnGrp LOS	B	A	A	A	A	B	B	A	C			
Approach Vol, veh/h		619			944			62				
Approach Delay, s/veh		7.6			9.4			19.5				
Approach LOS		A			A			B				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		30.4			10.6	19.9		7.4				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		85.0			10.5	70.0		10.0				
Max Q Clear Time (g_c+I1), s		3.8			6.6	12.0		3.0				
Green Ext Time (p_c), s		1.6			0.1	2.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			A									

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	678	13	103	216	1	188
Future Volume (vph)	678	13	103	216	1	188
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	9.5	33.0	10.0	10.0
Total Split (s)	55.0	55.0	15.0	70.0	40.0	40.0
Total Split (%)	50.0%	50.0%	13.6%	63.6%	36.4%	36.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 67.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	678	13	103	216	0	0	0	0	292	1	188
Future Volume (veh/h)	0	678	13	103	216	0	0	0	0	292	1	188
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1796	1559	1470	1796	0				1604	1900	1604
Adj Flow Rate, veh/h	0	737	14	112	235	0				317	1	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	7	23	29	7	0				20	0	20
Cap, veh/h	0	1064	412	131	1741	0				462	1	348
Arrive On Green	0.00	0.31	0.31	0.09	0.51	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	3503	1321	1400	3503	0				1804	6	1359
Grp Volume(v), veh/h	0	737	14	112	235	0				318	0	138
Grp Sat Flow(s),veh/h/ln	0	1706	1321	1400	1706	0				1810	0	1359
Q Serve(g_s), s	0.0	8.1	0.3	3.4	1.6	0.0				6.8	0.0	3.6
Cycle Q Clear(g_c), s	0.0	8.1	0.3	3.4	1.6	0.0				6.8	0.0	3.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1064	412	131	1741	0				464	0	348
V/C Ratio(X)	0.00	0.69	0.03	0.86	0.13	0.00				0.69	0.00	0.40
Avail Cap(c_a), veh/h	0	3986	1543	343	5182	0				1480	0	1111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.9	10.3	19.1	5.5	0.0				14.4	0.0	13.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	6.1	0.0	0.0				1.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.1	1.1	0.3	0.0				2.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.2	10.3	25.2	5.5	0.0				16.2	0.0	13.9
LnGrp LOS	A	B	B	C	A	A				B	A	B
Approach Vol, veh/h		751			347						456	
Approach Delay, s/veh		13.2			11.9						15.5	
Approach LOS		B			B						B	

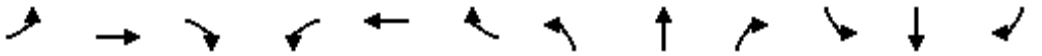
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.5	18.3		16.0		26.8
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	10.5	50.0		35.0		65.0
Max Q Clear Time (g_c+I1), s	5.4	10.1		8.8		3.6
Green Ext Time (p_c), s	0.1	3.2		2.2		0.9

Intersection Summary			
HCM 6th Ctrl Delay		13.6	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	410	559	295	795	3	31
Future Volume (vph)	410	559	295	795	3	31
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	33.0	29.0	29.0	10.0	10.0
Total Split (s)	20.0	90.0	70.0	70.0	15.0	15.0
Total Split (%)	19.0%	85.7%	66.7%	66.7%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 73.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-215 NB Ramp & Harley Knox Bl.

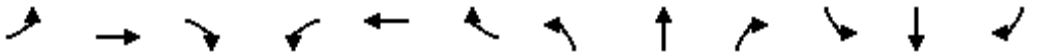


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	559	0	0	295	795	24	3	31	0	0	0
Future Volume (veh/h)	410	559	0	0	295	795	24	3	31	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1781	1618	0	0	1707	1752	1381	1900	1381			
Adj Flow Rate, veh/h	446	608	0	0	321	776	26	3	5			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	8	19	0	0	13	10	35	0	35			
Cap, veh/h	352	2559	0	0	1832	821	55	6	40			
Arrive On Green	0.21	0.83	0.00	0.00	0.56	0.56	0.03	0.03	0.03			
Sat Flow, veh/h	1697	3156	0	0	3329	1454	1630	188	1171			
Grp Volume(v), veh/h	446	608	0	0	321	776	29	0	5			
Grp Sat Flow(s),veh/h/ln	1697	1537	0	0	1622	1454	1818	0	1171			
Q Serve(g_s), s	15.5	3.1	0.0	0.0	3.6	37.2	1.2	0.0	0.3			
Cycle Q Clear(g_c), s	15.5	3.1	0.0	0.0	3.6	37.2	1.2	0.0	0.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.90		1.00			
Lane Grp Cap(c), veh/h	352	2559	0	0	1832	821	62	0	40			
V/C Ratio(X)	1.27	0.24	0.00	0.00	0.18	0.94	0.47	0.00	0.13			
Avail Cap(c_a), veh/h	352	3496	0	0	2821	1264	243	0	157			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.6	1.3	0.0	0.0	7.9	15.2	35.5	0.0	35.0			
Incr Delay (d2), s/veh	141.2	0.0	0.0	0.0	0.0	8.2	5.5	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	19.5	0.0	0.0	0.0	1.0	11.0	0.6	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.8	1.3	0.0	0.0	7.9	23.4	40.9	0.0	36.4			
LnGrp LOS	F	A	A	A	A	C	D	A	D			
Approach Vol, veh/h		1054			1097			34				
Approach Delay, s/veh		73.0			18.8			40.3				
Approach LOS		E			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		67.2			20.0	47.2		7.5				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		85.0			15.5	65.0		10.0				
Max Q Clear Time (g_c+I1), s		5.1			17.5	39.2		3.2				
Green Ext Time (p_c), s		2.6			0.0	3.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			45.3									
HCM 6th LOS			D									

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	409	50	300	198	0	147
Future Volume (vph)	409	50	300	198	0	147
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.0	29.0	9.5	33.0	10.5	10.5
Total Split (s)	55.0	55.0	15.0	70.0	40.0	40.0
Total Split (%)	50.0%	50.0%	13.6%	63.6%	36.4%	36.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 55.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	409	50	300	198	0	0	0	0	229	0	147
Future Volume (veh/h)	0	409	50	300	198	0	0	0	0	229	0	147
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1693	1663	1826	1781	0				1618	1900	1618
Adj Flow Rate, veh/h	0	465	46	341	225	0				260	0	92
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	14	16	5	8	0				19	0	19
Cap, veh/h	0	720	315	400	1886	0				387	0	293
Arrive On Green	0.00	0.22	0.22	0.23	0.56	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3300	1406	1739	3474	0				1810	0	1372
Grp Volume(v), veh/h	0	465	46	341	225	0				260	0	92
Grp Sat Flow(s),veh/h/ln	0	1608	1406	1739	1692	0				1810	0	1372
Q Serve(g_s), s	0.0	5.7	1.1	8.2	1.4	0.0				5.8	0.0	2.5
Cycle Q Clear(g_c), s	0.0	5.7	1.1	8.2	1.4	0.0				5.8	0.0	2.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	720	315	400	1886	0				387	0	293
V/C Ratio(X)	0.00	0.65	0.15	0.85	0.12	0.00				0.67	0.00	0.31
Avail Cap(c_a), veh/h	0	3681	1610	418	5037	0				1450	0	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.4	13.6	16.1	4.6	0.0				15.8	0.0	14.5
Incr Delay (d2), s/veh	0.0	0.4	0.1	14.1	0.0	0.0				2.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.3	4.0	0.2	0.0				2.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.7	13.7	30.2	4.6	0.0				17.8	0.0	15.1
LnGrp LOS	A	B	B	C	A	A				B	A	B
Approach Vol, veh/h		511			566						352	
Approach Delay, s/veh		15.6			20.0						17.1	
Approach LOS		B			C						B	

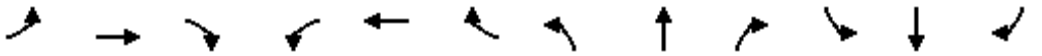
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.6	14.8		14.3		29.3
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	10.5	50.0		35.0		65.0
Max Q Clear Time (g_c+I1), s	10.2	7.7		7.8		3.4
Green Ext Time (p_c), s	0.0	2.0		1.7		0.9

Intersection Summary			
HCM 6th Ctrl Delay		17.7	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	257	381	470	454	3	209
Future Volume (vph)	257	381	470	454	3	209
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	33.0	29.0	29.0	10.0	10.0
Total Split (s)	15.0	90.0	75.0	75.0	15.0	15.0
Total Split (%)	14.3%	85.7%	71.4%	71.4%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	None	None

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 45.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-215 NB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	381	0	0	470	454	27	3	209	0	0	0
Future Volume (veh/h)	257	381	0	0	470	454	27	3	209	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1663	1633	0	0	1826	1707	1633	1900	1633			
Adj Flow Rate, veh/h	279	414	0	0	511	439	29	3	39			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	16	18	0	0	5	13	18	0	18			
Cap, veh/h	332	2167	0	0	1330	555	110	11	92			
Arrive On Green	0.21	0.70	0.00	0.00	0.38	0.38	0.07	0.07	0.07			
Sat Flow, veh/h	1584	3185	0	0	3561	1447	1647	170	1384			
Grp Volume(v), veh/h	279	414	0	0	511	439	32	0	39			
Grp Sat Flow(s),veh/h/ln	1584	1552	0	0	1735	1447	1818	0	1384			
Q Serve(g_s), s	7.2	2.0	0.0	0.0	4.5	11.4	0.7	0.0	1.2			
Cycle Q Clear(g_c), s	7.2	2.0	0.0	0.0	4.5	11.4	0.7	0.0	1.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.91		1.00			
Lane Grp Cap(c), veh/h	332	2167	0	0	1330	555	121	0	92			
V/C Ratio(X)	0.84	0.19	0.00	0.00	0.38	0.79	0.26	0.00	0.42			
Avail Cap(c_a), veh/h	390	6194	0	0	5703	2378	427	0	325			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.2	2.2	0.0	0.0	9.5	11.6	18.9	0.0	19.1			
Incr Delay (d2), s/veh	11.7	0.0	0.0	0.0	0.1	1.0	1.1	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	0.0	1.1	2.5	0.3	0.0	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	2.2	0.0	0.0	9.6	12.6	20.0	0.0	22.1			
LnGrp LOS	C	A	A	A	A	B	C	A	C			
Approach Vol, veh/h		693			950			71				
Approach Delay, s/veh		12.6			11.0			21.2				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		34.7			13.4	21.3		7.8				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		85.0			10.5	70.0		10.0				
Max Q Clear Time (g_c+I1), s		4.0			9.2	13.4		3.2				
Green Ext Time (p_c), s		1.7			0.1	2.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			12.0									
HCM 6th LOS			B									

ATTACHMENT C
QUEUING ANALYSIS

Intersection: 1: I-215 SB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R
Maximum Queue (ft)	409	304	4	159	251	238	1390	390
Average Queue (ft)	198	120	0	86	54	30	895	223
95th Queue (ft)	301	254	1	153	160	132	1809	518
Link Distance (ft)	809	809	809		284	284	1326	
Upstream Blk Time (%)							38	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)				90				265
Storage Blk Time (%)				16	0		46	
Queuing Penalty (veh)				15	0		64	

Intersection: 2: I-215 NB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	160	308	291	80	38	291	45	46
Average Queue (ft)	158	271	171	37	4	167	5	17
95th Queue (ft)	162	365	376	72	17	250	22	42
Link Distance (ft)		284	284	1532	1532	1532	1100	
Upstream Blk Time (%)		19	1					
Queuing Penalty (veh)		88	3					
Storage Bay Dist (ft)	60							270
Storage Blk Time (%)	70	0						
Queuing Penalty (veh)	194	1						

Network Summary

Network wide Queuing Penalty: 365

Intersection: 1: I-215 SB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R
Maximum Queue (ft)	170	132	22	160	271	62	214	93
Average Queue (ft)	85	17	4	117	63	17	99	34
95th Queue (ft)	140	70	13	180	207	46	188	65
Link Distance (ft)	809	809	809		284	284	1326	
Upstream Blk Time (%)					0			
Queuing Penalty (veh)					0			
Storage Bay Dist (ft)				90				265
Storage Blk Time (%)				24	0			
Queuing Penalty (veh)				22	0			

Intersection: 2: I-215 NB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	152	146	60	182	131	122	43	96
Average Queue (ft)	75	39	9	67	10	58	15	56
95th Queue (ft)	135	104	34	146	50	109	40	89
Link Distance (ft)		284	284	1532	1532	1532	1100	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	60							270
Storage Blk Time (%)	19	2						
Queuing Penalty (veh)	35	3						

Network Summary

Network wide Queuing Penalty: 60

Intersection: 1: I-215 SB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R
Maximum Queue (ft)	824	824	24	159	292	283	1390	390
Average Queue (ft)	574	509	1	101	77	40	1354	252
95th Queue (ft)	927	863	8	170	205	150	1389	552
Link Distance (ft)	809	809	809		284	284	1326	
Upstream Blk Time (%)	17	3			0	0	85	
Queuing Penalty (veh)	0	0			1	0	0	
Storage Bay Dist (ft)				90				265
Storage Blk Time (%)				26	0		85	
Queuing Penalty (veh)				28	0		160	

Intersection: 2: I-215 NB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	160	316	284	121	59	457	105	64
Average Queue (ft)	159	298	61	38	6	191	24	26
95th Queue (ft)	161	309	227	88	27	349	63	60
Link Distance (ft)		284	284	1532	1532	1532	1100	
Upstream Blk Time (%)		52	0					
Queuing Penalty (veh)		253	1					
Storage Bay Dist (ft)	60							270
Storage Blk Time (%)	80	1						
Queuing Penalty (veh)	224	3						

Network Summary

Network wide Queuing Penalty: 670

Intersection: 1: I-215 SB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	T	LT	R
Maximum Queue (ft)	227	169	42	160	302	284	198	100
Average Queue (ft)	117	29	8	123	118	48	111	43
95th Queue (ft)	203	94	25	182	290	166	185	79
Link Distance (ft)	809	809	809		284	284	1326	
Upstream Blk Time (%)					1	0		
Queuing Penalty (veh)					2	0		
Storage Bay Dist (ft)				90				265
Storage Blk Time (%)				34	0			
Queuing Penalty (veh)				34	0			

Intersection: 2: I-215 NB Ramp & Harley Knox Bl.

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	LT	R
Maximum Queue (ft)	159	305	255	144	130	197	100	107
Average Queue (ft)	110	90	46	75	18	70	26	52
95th Queue (ft)	172	257	171	124	72	142	63	86
Link Distance (ft)		284	284	1532	1532	1532	1100	
Upstream Blk Time (%)		1						
Queuing Penalty (veh)		5						
Storage Bay Dist (ft)	60							270
Storage Blk Time (%)	34	1						
Queuing Penalty (veh)	65	2						

Network Summary

Network wide Queuing Penalty: 108

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