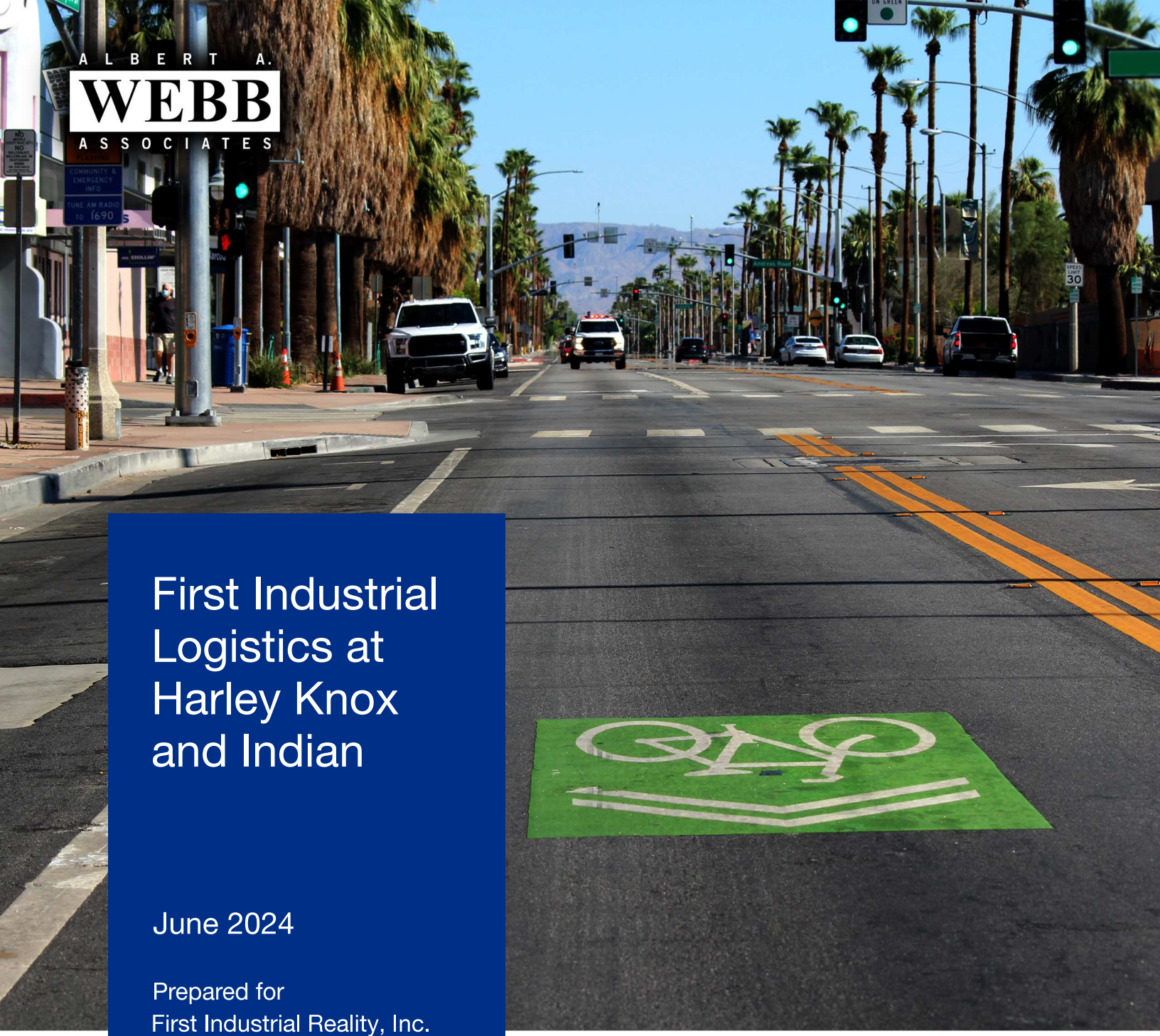


First Industrial Logistics at Harley Knox and Indian

June 2024

Prepared for
First Industrial Reality, Inc.
&
City of Perris

Prepared by
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Traffic Study

ALBERT A. WEBB ASSOCIATES

Corporate Headquarters
3788 McCray Street
Riverside, CA 92506
951.686.1070

June 19, 2024

Paul Loubet
First Industrial Realty, Inc.

RE: Traffic study for proposed First Industrial Logistics at Harley Knox and Indian (DPR 22-00026)

We are pleased to submit this focused traffic study for the proposed First Industrial Logistics at Harley Knox and Indian industrial project, which we have prepared at your request. The analysis and report have been prepared in accordance with the City of Perris General Plan and Traffic Impact Analysis Guidelines as well as the project's approved scoping form.

If you have any questions regarding this report, please contact the undersigned for clarification.

Sincerely,

ALBERT A. WEBB ASSOCIATES



Nicholas Lowe, PE, TE
Deputy Director, Traffic & Transportation

Kawai Mang, EIT
Project Engineer

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I. EXECUTIVE SUMMARY

Study Background

This study evaluates the potential effects on traffic operations from the proposed First Industrial Logistics development at the intersection of Harley Knox Boulevard and Indian Avenue in the City of Perris. The study objectives include:

- Document existing traffic conditions (2024) in the vicinity of the proposed project;
- Determine the expected project traffic;
- Evaluate opening-day traffic scenarios, including ambient growth and cumulative projects;
- Determine if the LOS required by the City will be maintained within the study area,
    - if not, determine the improvements needed to maintain the required LOS;
- Evaluate roadway segment capacities adjacent to the project;
- Evaluate peak-hour traffic signal warrants for unsignalized study intersections; and
- Evaluate vehicle queuing capacity at gated driveways.

Prior to conducting this study, a traffic scoping form was submitted to and approved by the City (**Appendix A**).

Project Description

The project is proposing to construct a 544,786 square-foot (sf) high-cube warehouse, with 4,000 sf of second-floor office space. This study assumes that the project would be developed in a single phase, to be completed and operational in 2025. The project will also provide roadway pavement and half-width improvements along Indian Avenue along the project frontage to the ultimate right-of-way per the City of Perris General Plan.

Project Access

Project access is proposed via two driveways on Indian Avenue and one driveway on Harley Knox Boulevard:

- The project driveway on Harley Knox Boulevard is proposed opposite the existing westerly driveway for the industrial property at 511 Harley Knox Boulevard, approximately 572 feet from the nearest existing driveway on the south side of Harley Knox Boulevard. Project access at this driveway is proposed to be restricted to passenger cars only and right turns only, to be controlled by the existing raised median on Harley Knox Boulevard and appropriate signage at the driveway.
- The southerly project driveway Indian Avenue is proposed at the approximate location of the existing driveway at the existing corner parcel, approximately 217 feet from the adjacent intersection of Harley Knox Boulevard and Indian Avenue. Project access at this driveway is proposed to be restricted to passenger car use only and right turns only, to be controlled by the existing raised median on Indian Avenue and appropriate signage at the driveway.
- The northerly project driveway on Indian Avenue is proposed at the northerly edge of the project site, approximately 458 feet from the adjacent intersection of Harley Knox Boulevard and Indian Avenue. Project access at this driveway is proposed to be restricted to truck access only, to be controlled by

signage at the driveway. A dedicated northbound left-turn lane is proposed to separate inbound left turns from northbound through traffic.

Project Trip Generation

Based on the existing site, proposed site plan, and the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, the project is expected to generate a total of approximately 386 net new daily vehicle trips, with 45 and 44 net new trips in the AM and PM peak hours, respectively. Using relevant regional studies and data, the expected project traffic in passenger-car equivalent (PCE) rates is **approximately 948 PCE trips daily, with 58 PCE trips in the AM peak hour and 65 PCE trips in the PM peak hour**.

Analysis and Findings

Level of Service

Per the City of Perris General Plan and LOS standards, the minimum acceptable LOS for this study is **LOS D**.

All study intersections are expected to operate at or above the minimum acceptable LOS standard in all study scenarios, including the addition of traffic from ambient area growth, cumulative projects, and the proposed project.

Under all study scenarios, the segment of Indian Avenue north of Harley Knox Boulevard is expected to operate above the existing lane capacity, and would require roadway improvements to the ultimate General Plan designation of 4 travel lanes to achieve acceptable LOS. The project proposes to provide one additional southbound travel lane along its frontage. However, the existing roadway bridge north of the project site presents a pre-existing physical constraint that precludes the northbound lanes from further expansion.

Traffic Signal Warrants

No unsignalized study intersections are expected to meet the peak-hour traffic signal warrant as outlined in the MUTCD in all analysis scenarios.

II. INTRODUCTION

Study Background

This study evaluates the potential effects on traffic operations from the proposed First Industrial Logistics development on the northwest corner of the intersection of Harley Knox Boulevard and Indian Avenue in the City of Perris. The study objectives include:

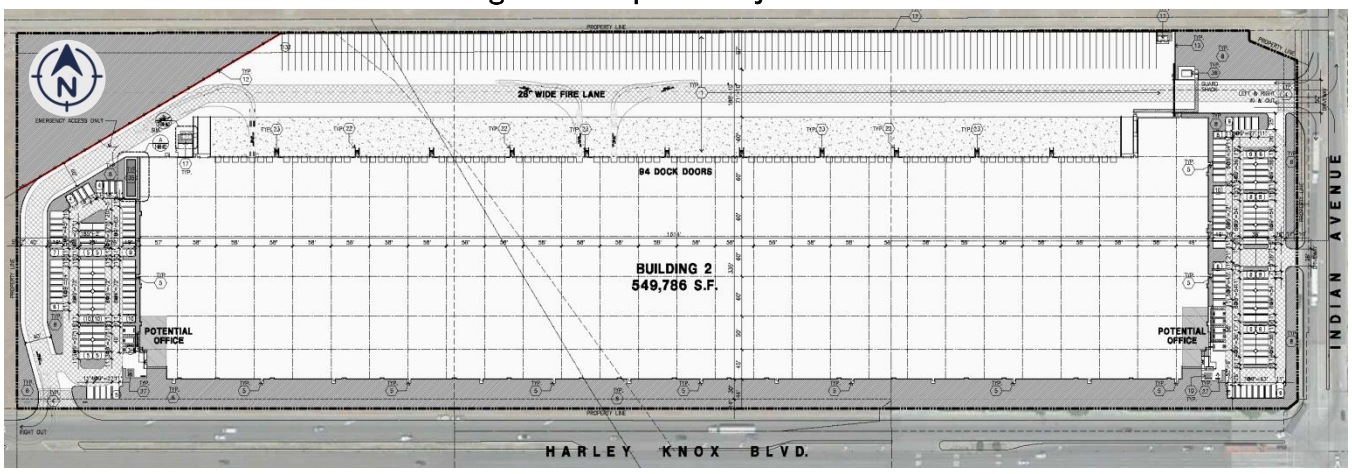
- Document existing traffic conditions (2024) in the vicinity of the proposed project;
- Determine the expected project traffic;
- Evaluate opening-day traffic scenarios, including ambient growth and cumulative projects;
- Determine if the LOS required by the City will be maintained within the study area,
    - if not, determine the improvements needed to maintain the required LOS;
- Evaluate roadway segment capacities adjacent to the project;
- Evaluate peak-hour traffic signal warrants for unsignalized study intersections; and
- Evaluate vehicle queuing capacity at gated driveways.

Prior to conducting this study, a traffic scoping form was submitted to and approved by the City (**Appendix A**).

Project Location and Description

The project is proposing to construct a 544,786 square-foot (sf) high-cube warehouse, with 4,000 sf of second-floor office space (**Figure 1**). This study assumes that the project would be developed in a single phase, to be completed and operational in 2025. The project will also provide roadway pavement and half-width improvements along Indian Avenue along the project frontage to the ultimate right-of-way per the City of Perris General Plan.

Figure 1: **Proposed Project Site Plan**



Project Access

The Perris Valley Commerce Center Specific Plan (PVCC SP) provides the following minimum driveway spacing standards along the project frontage:

- 1,320 feet minimum spacing along Harley Knox Boulevard, classified as an Arterial in the City's General Plan, and
- 660 feet minimum spacing along Indian Avenue, classified as a Secondary in the City's General Plan.

Project access is proposed via two driveways on Indian Avenue and one driveway on Harley Knox Boulevard:

- The project driveway on Harley Knox Boulevard is proposed opposite the existing westerly driveway for the industrial property at 511 Harley Knox Boulevard, approximately 572 feet from the nearest existing driveway on the south side of Harley Knox Boulevard, which is below the PVCC minimum spacing. However, with multiple existing driveways on the south side of Harley Knox Boulevard across from the project site, there would be no possible driveway location over 1,320 feet from any existing driveway. Project access at this driveway is proposed to be restricted to passenger cars only and right turns only, to be controlled by the existing raised median on Harley Knox Boulevard and appropriate signage at the driveway.
- The southerly project driveway Indian Avenue is proposed at the approximate location of the existing driveway at the existing corner parcel, approximately 217 feet from the adjacent intersection of Harley Knox Boulevard and Indian Avenue, which is below the PVCC minimum spacing. However, as Indian Avenue and the project site are both constrained to the north by the existing channel and bridge, there would be no possible driveway location over 660 feet from the existing intersection. Project access at this driveway is proposed to be restricted to passenger car use only and right turns only, to be controlled by the existing raised median on Indian Avenue and appropriate signage at the driveway.
- The northerly project driveway on Indian Avenue is proposed at the northerly edge of the project site, approximately 458 feet from the adjacent intersection of Harley Knox Boulevard and Indian Avenue, which is below the PVCC minimum spacing. However, as Indian Avenue and the project site are both constrained to the north by the existing channel and bridge, there would be no possible driveway location over 660 feet from the existing intersection. Project access at this driveway is proposed to be restricted to truck access only, to be controlled by signage at the driveway. A dedicated northbound left-turn lane is proposed to be provided to separate inbound left turns from northbound through traffic.

Study Location

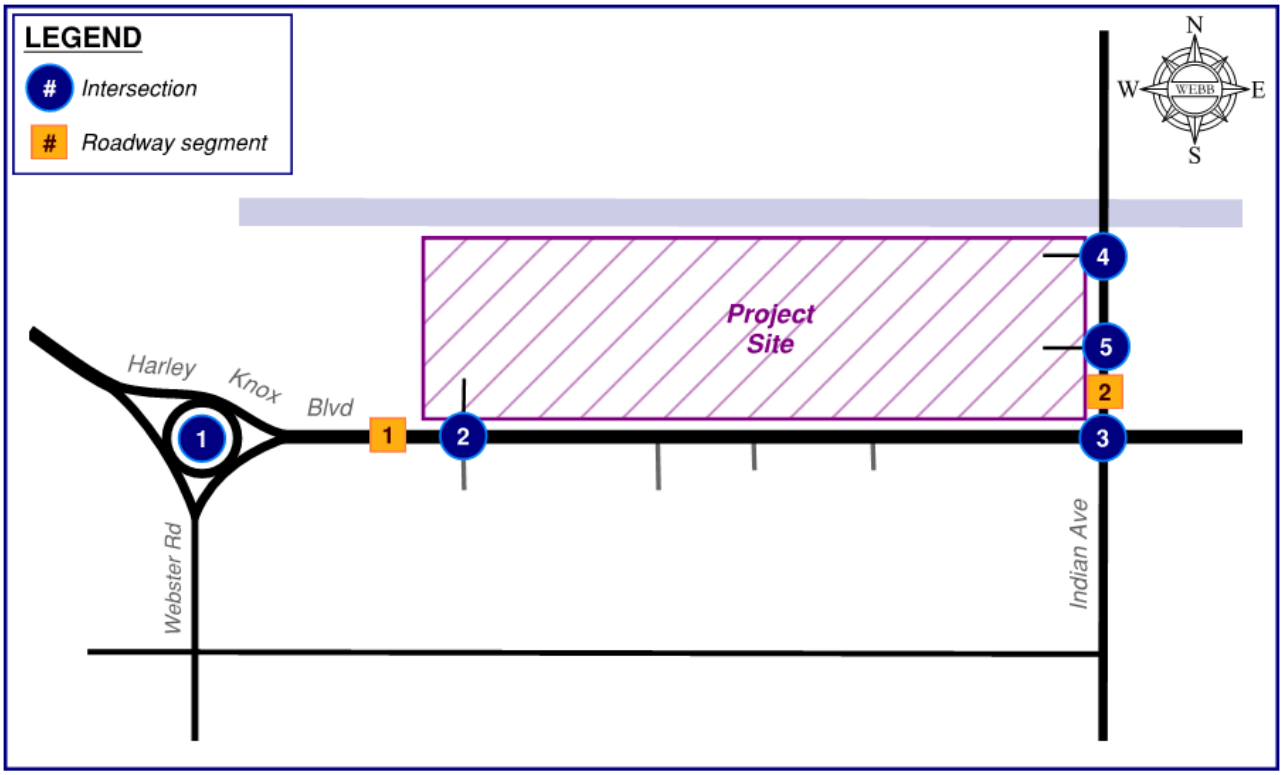
The following study intersections were selected for analysis in conjunction with the City of Perris (**Figure 2**):

1. Harley Knox Boulevard @ Webster Road
2. Harley Knox Boulevard @ project driveway / 511 Harley Knox driveway
3. Harley Knox Boulevard @ Indian Avenue
4. Indian Avenue @ N project driveway
5. Indian Avenue @ S project driveway

The following roadway segments were selected for analysis in conjunction with the City of Perris (**Figure 2**):

1. Harley Knox Boulevard west of Indian Avenue
2. Indian Avenue north of Harley Knox Boulevard

Figure 2: Study Area



Analysis Methodology

This study uses methodology from the Transportation Research Board *Highway Capacity Manual* (HCM 6th Edition, 2016) to analyze traffic operations via Level of Service (LOS) rankings for the following scenarios:

- Existing conditions (2024)
- Existing conditions plus project (2024)
- Opening Day conditions (existing traffic + ambient growth + cumulative project traffic, 2025)
- Opening Day conditions plus project
  (existing traffic + ambient growth + cumulative project traffic + project, 2025)

Per the HCM, LOS at intersections is ranked by from LOS A (optimal conditions) to LOS F (congested or overcrowded conditions) based on average control delay in seconds per vehicle, or how long vehicles typically wait to proceed through the intersection compared with free-flow conditions. This study uses Vistro traffic modeling software to evaluate intersection LOS.

For signalized intersections, LOS rankings are based on the average control delay of all vehicles passing through the intersection. For two-way or side-street stop-controlled intersections, LOS rankings are based on the highest average control delay of all controlled movements. **Tables 1 and 2** show the LOS delay thresholds for signalized and unsignalized intersections, respectively.

Table 1: Level of Service at Signalized Intersections

Control Delay (sec/vehicle)	Level of Service	Description
0 - 10	A	Minimal delay and primarily free-flow operation. Most vehicles do not stop or only stop for a brief amount of time.
10 - 20	B	Short delay and reasonably unimpeded operation. Many vehicles do not stop or only stop for a short time. More vehicles stop than with LOS A.
20 - 35	C	Moderate delay and stable operation. Individual cycle failures may begin to appear. The number of vehicles stopping is significant.
35 - 55	D	Less stable operation; small increases in vehicles may cause substantial increases in delay. Many vehicles stop, individual cycle failures noticeable.
55 - 80	E	Significant delay and unstable operation. Most vehicles stop and individual cycle failures are frequent.
80 +	F	Considerable delay and extensive queuing. Almost all vehicles stop and most cycles fail to clear the queue.

Source: Transportation Research Board, Highway Capacity Manual 6 (2016)

Table 2: Level of Service at Unsignalized Intersections

Control Delay (sec/vehicle)	Level of Service	Description
0 - 10	A	Minimal delay. Usually no conflicting traffic.
10 - 15	B	Short delay. Occasionally some conflicting traffic.
15 - 25	C	Noticeable delay, but not inconveniencing. Usually some conflicting traffic.
25 - 35	D	Noticeable delay and irritating. A significant amount of conflicting traffic. Increased likelihood of risk taking.
35 - 50	E	Significant delay approaching tolerance level. Lots of conflicting traffic, with some gaps of suitable size. Risk taking behavior likely.
50 +	F	Considerable delay exceeding tolerance level. Lots of conflicting traffic, with not enough gaps of suitable size. High likelihood of risk taking.

Source: Transportation Research Board, Highway Capacity Manual 6 (2016)

Level of Service Standards

The City's traffic operations standards are to maintain the following levels of service:

- LOS D along all City-maintained roads (including intersections) and LOS D along I-215 and SR-74 (including intersections with local streets and roads). An exception to the local road standard is LOS E, at intersections of any Arterials and Expressways with SR-74, the Ramona-Cajalco Expressway, or at I-215 freeway ramps.

- LOS E may be allowed within the boundaries of the Downtown Specific Plan Area to the extent that it would support transit-oriented development and walkable communities. Increased congestion in this area will facilitate an increase in transit ridership and encourage development of a complementary mix of land uses within a comfortable walking distance from light rail stations.

Per the City of Perris General Plan and LOS standards, the minimum acceptable LOS for this study is **LOS D**.

Traffic Impact Thresholds

To determine whether the addition of project-generated trips (or alternative-generated trips) results in a project traffic impact, and thus requires improvement, the analysis evaluates project impacts based on the following criteria:

- A **project-related impact** is considered direct when a study intersection operates at an acceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable Level of Service for existing plus project conditions.
- A **project-related impact** is considered direct when a study intersection operates at an unacceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more.
- A **cumulative impact** is considered direct when a study intersection is forecast to operate at an acceptable Level of Service without the project and with the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable Level of Service.
- A **cumulative impact** is considered indirect when a study intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and the project contributes 50 or more a.m. or p.m. peak hour project trips and causes the intersection delay to increase by 2 seconds or more.

III. PROPOSED PROJECT TRAFFIC

To estimate project traffic volumes, project trip generation estimates the project traffic on a typical weekday. Then, trip distribution identifies typical travel patterns to allocate project traffic along the circulation network.

Project Trip Generation

Trip Generation Rates

Trip generation represents the amount of traffic accessing a site, both inbound and outbound vehicle trips. Based on nationwide study data, the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) provides common trip generation characteristics by land use. Per County standards and regional studies, passenger-car equivalent (PCE) factors are also applied to the trip generation to account for the increased effect of large vehicles as used in industrial operations. This study uses trip generation rates for Land Use 154, High-Cube Warehousing, for the proposed project trip generation (**Table 3**).

Table 3: Trip Generation Rates – High-Cube Warehousing

Vehicle Type	PCE Factor[1]	Estimated Mix[2]	Units[3]	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Generation Rates (classification, non-PCE) [4]										
Passenger Cars[5]	-	-	KSF	1.18	0.052	0.008	**0.06**	0.023	0.067	**0.09**
2-axle Trucks	-	16.7%		0.037	0.0016	0.0017	**0.003**	0.0008	0.0009	**0.002**
3-axle Trucks	-	20.7%		0.046	0.0020	0.0021	**0.004**	0.0010	0.0011	**0.002**
4-axle Trucks	-	62.5%		0.138	0.0061	0.0064	**0.013**	0.0029	0.0033	**0.006**
Total		**100%**		**1.40**	**0.062**	**0.018**	**0.08**	**0.028**	**0.072**	**0.10**
Calculated Trip Generation Rates (PCE)										
Passenger Cars[5]	1	-	KSF	1.18	0.052	0.008	**0.06**	0.023	0.067	**0.09**
2-axle Trucks	1.5	16.7%		0.055	0.0025	0.0026	**0.005**	0.0012	0.0013	**0.003**
3-axle Trucks	2	20.7%		0.091	0.0041	0.0042	**0.008**	0.0019	0.0022	**0.004**
4-axle Trucks	3	62.5%		0.41	0.0184	0.0191	**0.038**	0.0088	0.0099	**0.019**
Total		**100%**		**1.74**	**0.077**	**0.034**	**0.11**	**0.035**	**0.080**	**0.12**

[1] PCE factors per Riverside County guidelines

[2] Truck mix per High-Cube Warehouse Vehicle Trip Generation Analysis, ITE (2017); Warehouse Truck Trip Study, SCAQMD (2014)

[3] KSF = 1,000 square feet gross floor area

[4] ITE Trip Generation Manual 11th Ed, 2021 - Land Use 154, High-Cube Transload and Short-Term Storage Warehouse

[5] Passenger car rates per ITE vehicle trip generation rates less ITE truck trip generation rates.

Trip Credits

Project trip calculations typically include trip credits for existing site traffic. Although the project site includes a previously existing industrial building, it was demolished prior to this analysis. For a conservative analysis, this study does not apply trip credits for the existing industrial building.

Project Trip Generation

The project traffic volumes are developed by multiplying the trip generation rates by the size of the project and existing facilities, respectively. Per the ITE *Manual* description for high-cube warehousing, the trip generation for the proposed project uses the building footprint size, excluding any second-floor or mezzanine square footage. Accordingly, the project is expected to generate approximately **948 net new PCE trips daily, with 58 net new PCE trips in the AM peak hour and 65 net new PCE trips in the PM peak hour** (Table 4).

Table 4: Project Trip Generation

Vehicle Type	PCE Factor[1]	Units[2]	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Project Trip Generation (classification, non-PCE)[3]									
Passenger Cars	-	545 KSF	643	28	4	**32**	13	36	**49**
2-axle Trucks	-		20	1	1	**2**	0	0	**0**
3-axle Trucks	-		25	1	1	**2**	1	1	**2**
4-axle Trucks	-		75	3	3	**6**	2	2	**4**
Total			**763**	**33**	**9**	**42**	**16**	**39**	**55**
Proposed Project Trip Generation (classification, non-PCE)[3]									
Passenger Cars	1	545 KSF	643	28	4	**32**	13	36	**49**
2-axle Trucks	1.5		30	2	2	**4**	0	0	**0**
3-axle Trucks	2		50	2	2	**4**	2	2	**4**
4-axle Trucks	3		225	9	9	**18**	6	6	**12**
Total			**948**	**41**	**17**	**58**	**21**	**44**	**65**

[1] PCE factors per Riverside County guidelines

[2] KSF = 1,000 square feet gross floor area

[3] Trip generation per ITE Trip Generation Manual 11th Ed, 2021- Land Use 154, High-Cube Transload and Short-Term Storage Warehouse

Project Trip Distribution and Assignment

Modal Split

Based on the project land use and its distance from existing transit, no project traffic reductions from public transit or active transportation (bicycling or walking) are considered in this study.

Trip Distribution

Trip distribution, or the directional orientation of traffic to and from the project, is based on the project driveways, project location, nearby land uses, and proximity to the regional roadways. The proposed project trip distribution for passenger vehicles and trucks are shown in **Figures 3 and 4**, respectively.

Figure 3: Directional Distribution of Project Traffic – Passenger Cars

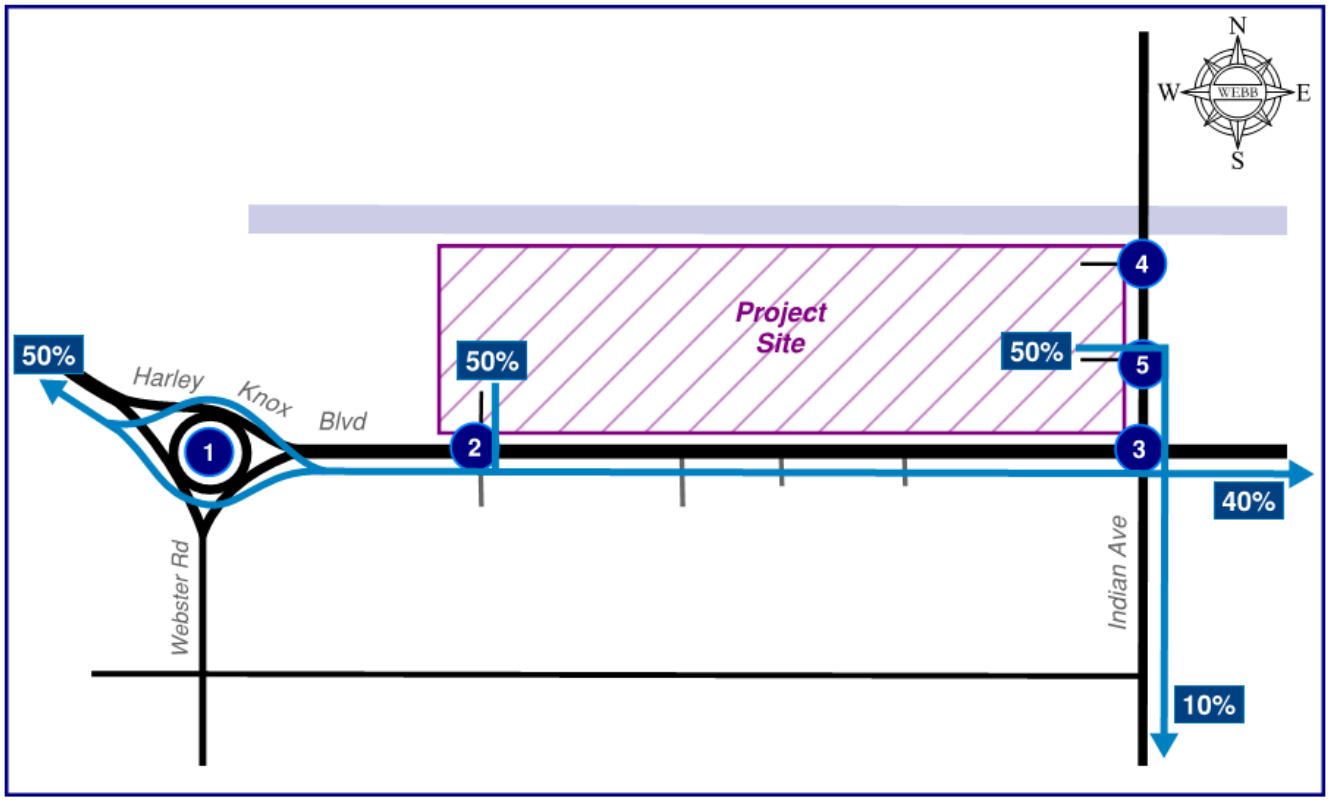
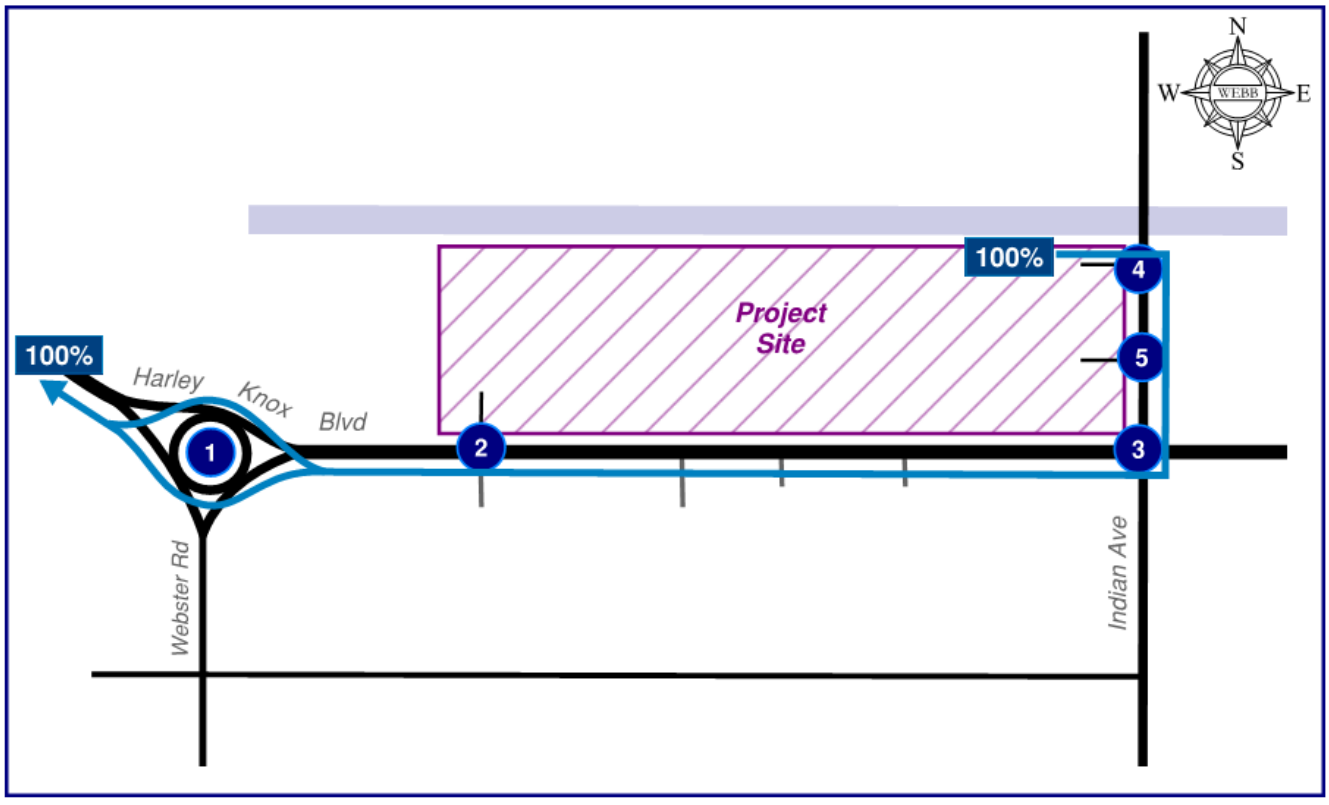


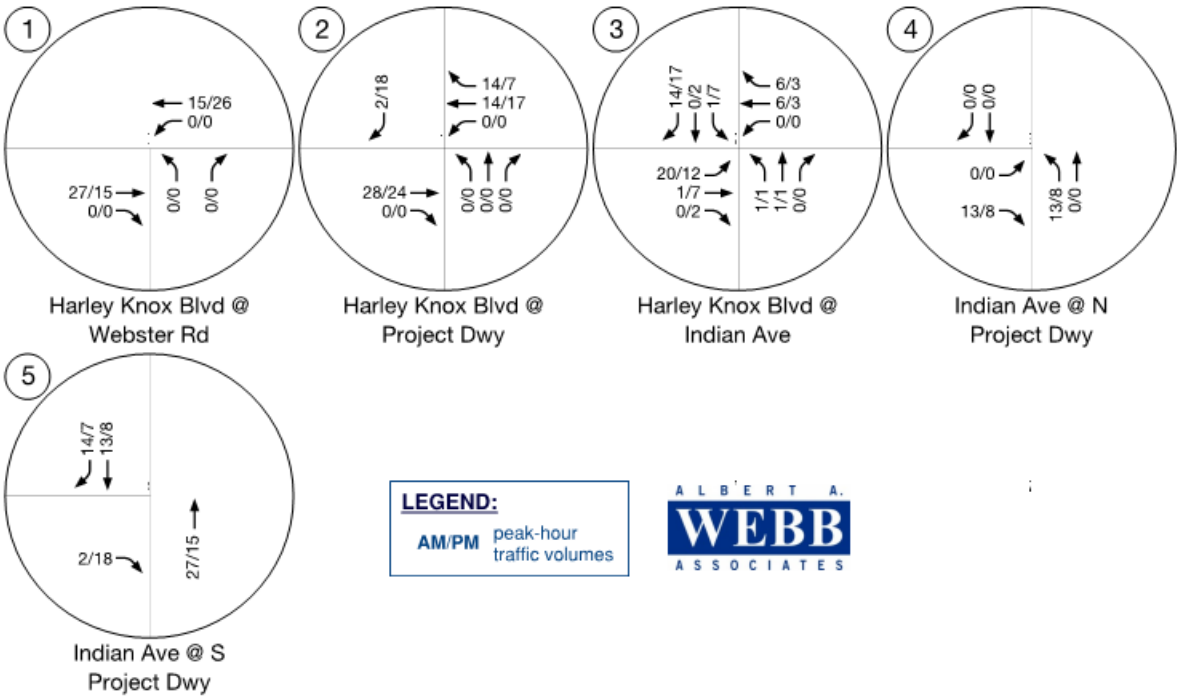
Figure 4: Directional Distribution of Project Traffic – Trucks



Trip Assignment

Figure 5 shows the peak-hour project trips at the study intersection, according to the expected project trip generation and trip distribution model.

Figure 5: **Project Traffic Volumes (PCE)**



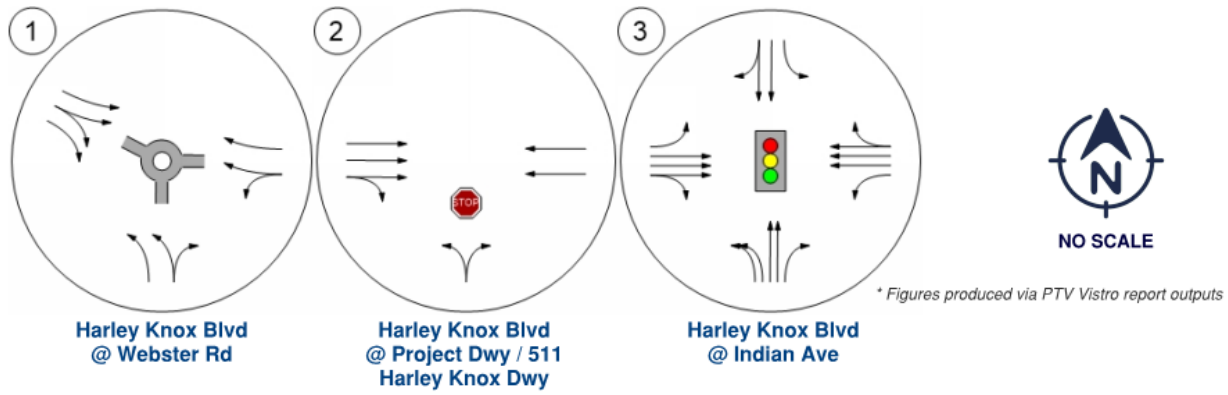
IV. EXISTING CONDITIONS (2024)

Located in the City of Perris, the proposed project site is located on the northwest corner of the intersection of Harley Knox Boulevard and Indian Avenue.

Existing Intersection Geometrics and Traffic Control

At the study location, **Harley Knox Boulevard** is designated as an Arterial in the City of Perris General Plan. Along the project frontage, it has a raised concrete median and varies from five to six travel lanes. **Indian Avenue** has a raised median and varies from two to three lanes. It is designated as a four-lane Secondary roadway in its ultimate configuration per the City's General Plan. **Figure 6** identifies the existing traffic controls and lane geometrics in the study area.

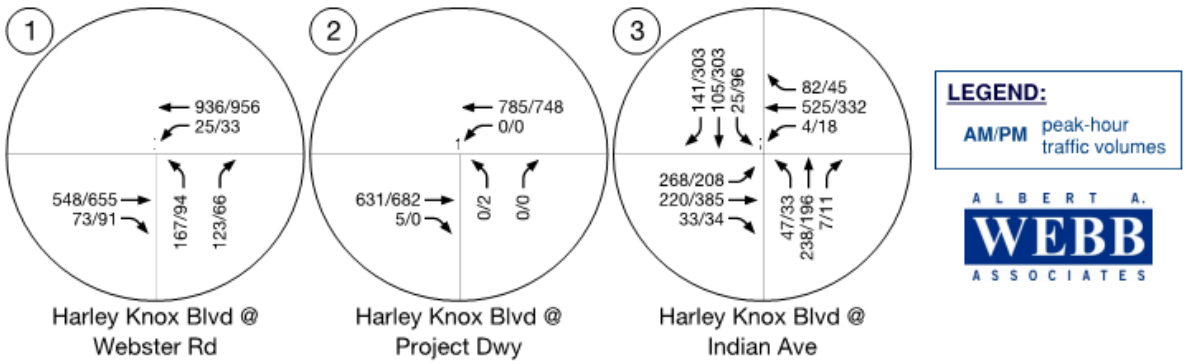
Figure 6: **Existing Intersection Geometrics and Traffic Control**



Existing Traffic Volumes

The existing conditions analysis is based on intersection turning movement counts collected on Thursday, September 8, 2022, for the AM and PM peak periods (**Appendix B**). The classification volumes are adjusted to 2024 conditions by applying a 3% annual ambient growth rate (6% total growth) and analyzed in passenger-car equivalents (PCE) to normalize the impact of large vehicles. The existing PCE traffic volumes at the study intersection are shown in **Figure 7**.

Figure 7: **Existing Traffic Volumes (PCE)**



Levels of Service – Existing Conditions (2024)

Under existing conditions, all study intersections currently operate above the minimum acceptable LOS (**Table 5**, see **Appendix C** for details):

Table 5: Intersection LOS – Existing Conditions (2024)

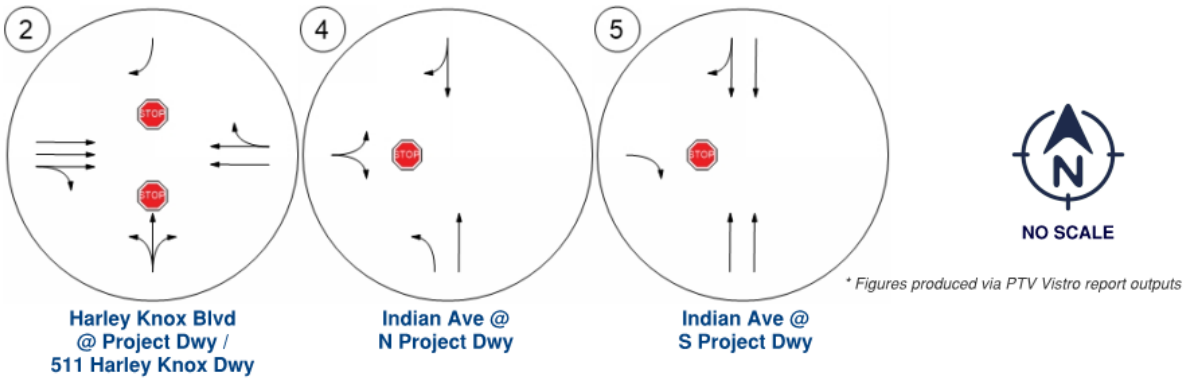
	Intersection	Traffic Control[1]	AM Peak Hr		PM Peak Hr	
			Delay	LOS[2]	Delay	LOS[2]
1	Harley Knox Blvd @ Webster Rd	Roundabout	6.5	**A**	6.4	**A**
2	Harley Knox Blvd @ project dwy / 511 Harley Knox dwy	OWSC	0.0	**A**	18.6	**C**
3	Harley Knox Blvd @ Indian Ave	Signal	28.9	**C**	33.3	**C**
4	Indian Ave @ N project dwy	*DOES NOT EXIST*				
5	Indian Ave @ S project dwy	*DOES NOT EXIST*				

[1] Existing intersection traffic control measure. OWSC = one-way stop control
[2] Level of service (LOS) rankings based on average control delay (sec/veh) per Highway Control Manual.

Project Driveways

The project is proposing to provide the ultimate right-of-way along its frontage on Indian Avenue. **Figure 8** shows the proposed driveway geometrics to be constructed with the project.

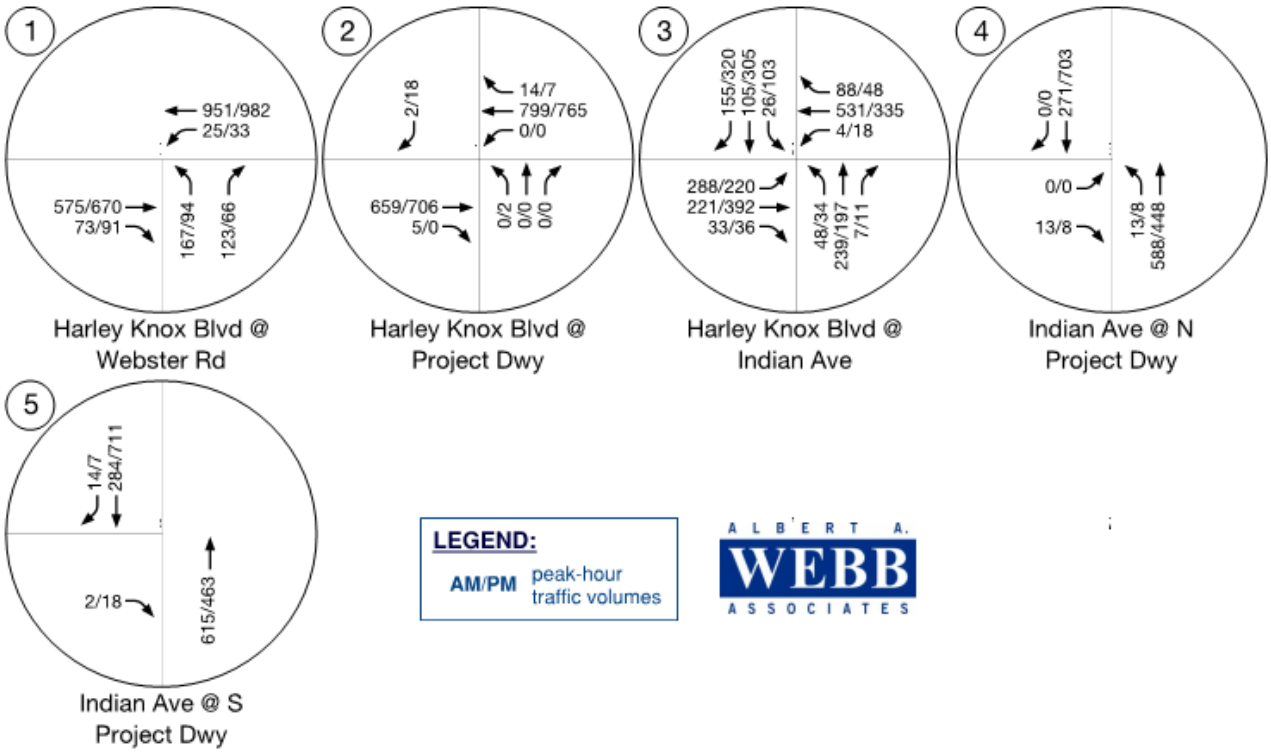
Figure 8: Proposed Intersection Geometrics



Levels of Service – Existing Conditions plus Project (2024)

The expected project traffic is then added to the existing traffic volumes for the "existing plus project" scenario (**Figure 9**).

Figure 9: **Existing plus Project Traffic Volumes (PCE)**



With the addition of expected project traffic, all study intersections are expected to continue operating above the minimum acceptable LOS (**Table 6**, details in **Appendix C**):

Table 6: **Intersection LOS – Existing Conditions plus Project (2024)**

	Intersection	Traffic Control[1]	AM Peak Hr Delay	AM Peak Hr LOS[2]	PM Peak Hr Delay	PM Peak Hr LOS[2]
1	Harley Knox Blvd @ Webster Rd	Roundabout	6.6	**A**	6.6	**A**
2	Harley Knox Blvd @ project dwy / 511 Harley Knox dwy	TWSC	12.5	**B**	23.7	**C**
3	Harley Knox Blvd @ Indian Ave	Signal	29.8	**C**	34.9	**C**
4	Indian Ave @ N project dwy	OWSC	9.8	**A**	13.7	**B**
5	Indian Ave @ S project dwy	OWSC	9.2	**A**	10.9	**B**

[1] Existing intersection traffic control measure. OWSC = one-way stop control, TWSC = two-way stop control
[2] Level of service (LOS) rankings based on average control delay (sec/veh) per Highway Control Manual.

V. PROJECT OPENING DAY CONDITIONS (2025)

Ambient Area Growth

Per the approved scoping agreement (Appendix A), this study uses a 3% annual ambient growth rate to account for regular growth in traffic volumes within the region.

Cumulative Projects

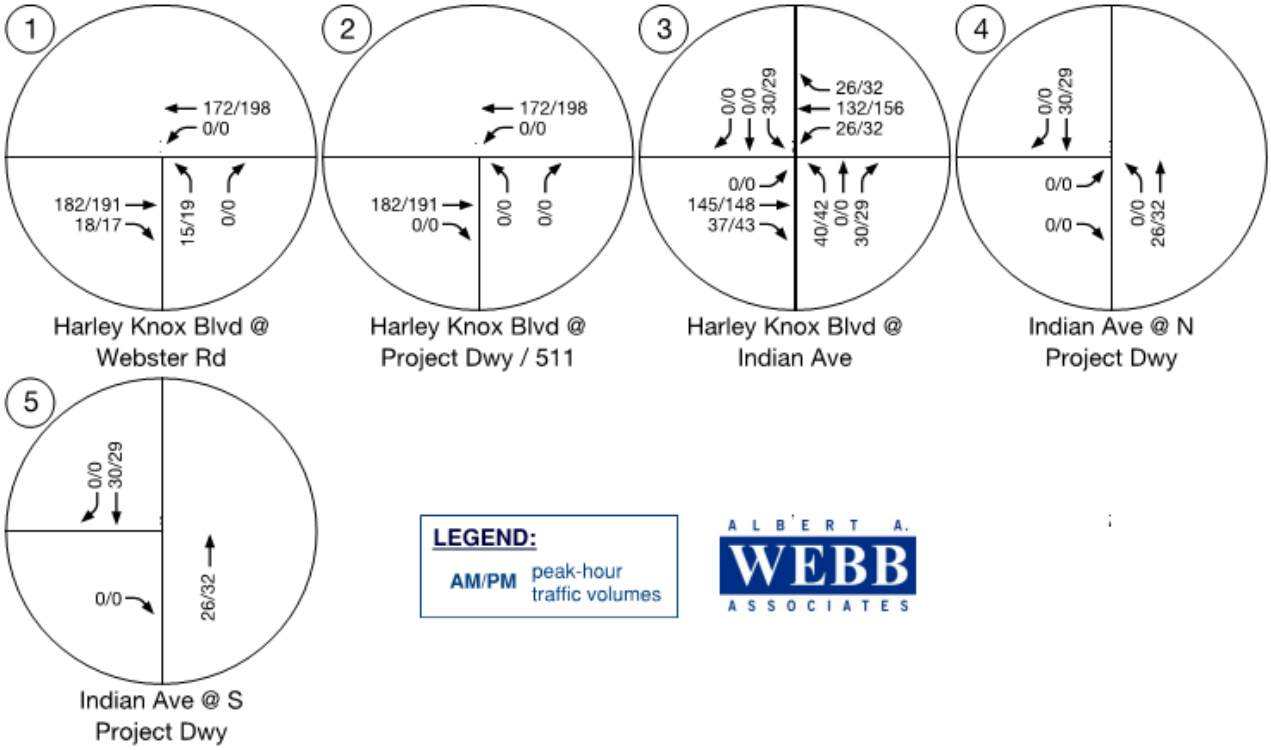
Cumulative projects are developments near the study area that are expected to be completed by the project's opening year. Cumulative project information used in this study is given in **Table 7,** with details in **Appendix D**. Cumulative project traffic volumes are provided in **Figure 10**.

Table 7: Cumulative Projects

	Project	Location	Land Use		Size[1]		Trip Generation[1]		
					Qty	Unit	AM	PM	Daily
1	**March Plaza**	NWC Harley Knox Blvd @ Perris Blvd	***821***	*Shopping Center (40-150ksf)*	47.3	KSF	82	245	3,191
2	**Beyond Food Mart**	NEC Harley Knox Blvd @ Perris Blvd	***945***	*Convenience Store/Gas Station*	7.25	KSF	662	572	9,305
			950	*Truck Stop*	12	VFP	168	185	2,688
3	**Prologis Industrial**	SEC Ramona Expy @ Webster Ave	***150***	*Warehousing*	552	KSF	94	99	944
4	**Perris-Harley Commerce Center**	SEC Harley Knox Blvd @ Perris Blvd	***150***	*Warehousing*	31.2	KSF	5	6	53
5	**Brew Industrial**	s/s Harley Knox Blvd w/o Perris Blvd	***110***	*General Light Industrial*	62	KSF	46	40	302
6	**Patterson Business Center**	w/s Patterson Ave n/o Harley Knox Blvd	***150***	*Warehousing*	94.5	KSF	16	17	162
7	**Perris Truck Terminal**	e/o Perris Blvd n/o Markham St	***N/A*** [3]		8.57	AC	37	49	766
8	**Nance Street Truck Terminal**	s/s Nance St e/o Perris Blvd	***N/A*** [3]		4.8	AC	21	27	429
Total Cumulative Projects Traffic Volumes							**1,131**	**1,240**	**17,840**

[1] KSF = 1,000 square feet; VFP = vehicle fueling positions
[2] Trip generation calculations per ITE Trip Generation Manual (11e, 2021) where Land Use Code is stated.
[3] Trip generation calculations for truck terminal based on similar site data.

Figure 10: Cumulative Project Traffic Volumes (PCE)



Levels of Service – Opening Day Conditions (2025)

Expected traffic volumes from ambient growth and cumulative projects are added to the existing peak-hour traffic volumes to estimate the opening day pre-project traffic conditions (**Figure 11**).

Figure 11: Opening Day Traffic Volumes (PCE)

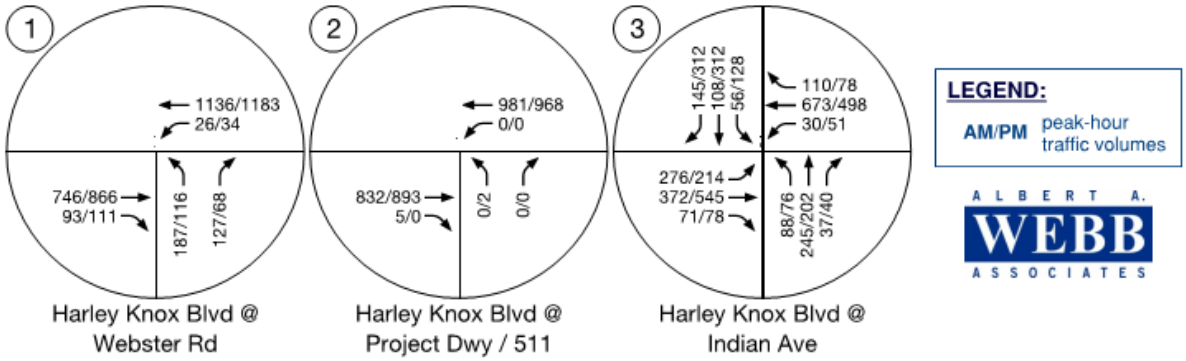


Table 8 gives the LOS analysis for the "opening day" scenario, with details in **Appendix C.** With the addition of ambient area growth and cumulative project traffic, all study intersections are expected to operate above the minimum acceptable LOS.

Table 8: Intersection LOS – Opening Day Conditions (2025)

	Intersection	Traffic Control[1]	AM Peak Hr		PM Peak Hr	
			Delay	LOS[2]	Delay	LOS[2]
1	Harley Knox Blvd @ Webster Rd	Roundabout	8.0	A	8.1	A
2	Harley Knox Blvd @ project dwy / 511 Harley Knox dwy	OWSC	0.0	A	25.5	D
3	Harley Knox Blvd @ Indian Ave	Signal	29.0	C	36.0	D
4	Indian Ave @ N project dwy	*DOES NOT EXIST*				
5	Indian Ave @ S project dwy	*DOES NOT EXIST*				

[1] Existing intersection traffic control measure. OWSC = one-way stop control
[2] Level of service (LOS) rankings based on average control delay (sec/veh) per Highway Control Manual.

Levels of Service – Opening Day plus Project (2025)

The expected project traffic is then added to the opening day traffic volumes to estimate the opening day traffic conditions with the completion of the project (**Figure 12**).

Figure 12: Opening Day Conditions plus Project Traffic Volumes (PCE)

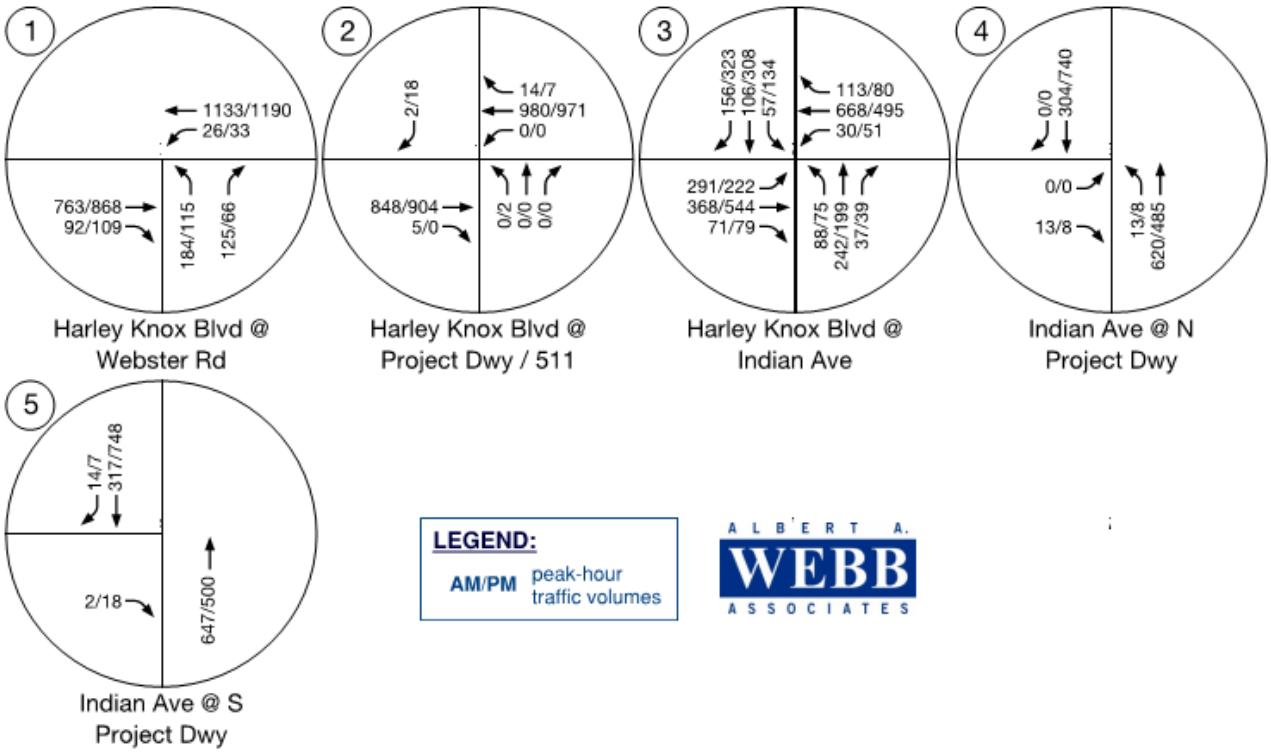


Table 9 summarizes the "opening day plus project" LOS analysis, with details in **Appendix C**. With the addition of traffic from ambient area growth, nearby cumulative projects, and the proposed project, the study intersection is expected to continue operating above the minimum acceptable LOS.

Table 9: Intersection LOS – Opening Day Conditions plus Project (2025)

Intersection		Traffic Control[1]	AM Peak Hr		PM Peak Hr	
			Delay	LOS[2]	Delay	LOS[2]
1	Harley Knox Blvd @ Webster Rd	Roundabout	8.0	A	8.1	A
2	Harley Knox Blvd @ project dwy / 511 Harley Knox dwy	TWSC	13.7	B	34.7	D
3	Harley Knox Blvd @ Indian Ave	Signal	29.7	C	38.1	D
4	Indian Ave @ N project dwy	OWSC	10.1	B	14.2	B
5	Indian Ave @ S project dwy	OWSC	9.3	A	11.1	B

[1] Existing intersection traffic control measure. OWSC = one-way stop control, TWSC = two-way stop control
[2] Level of service (LOS) rankings based on average control delay (sec/veh) per Highway Control Manual.

VI. OTHER PROJECT CONSIDERATIONS

Roadway Segment Analysis

This study update also analyzed roadway segment operational capacities adjacent to the project. LOS rankings for roadway segments indicate relative vehicle density or congestion based on estimated daily capacities as defined in the City's General Plan. Per the General Plan, the minimum acceptable LOS for roadway segments is LOS D.

At the study location, **Harley Knox Boulevard** is designated as an Arterial in the City of Perris General Plan. Along the project frontage, it has a raised concrete median and varies from five to six travel lanes.

At the study location, **Indian Avenue** has a raised median and varies from three lanes at Harley Knox Boulevard to two lanes north of the project site, where the two northbound lanes merge into a single lane to pass over the existing bridge. It is designated as a four-lane Secondary roadway in its ultimate configuration per the City's General Plan. The project is proposing to provide one additional southbound travel lane (total of two lanes) along its frontage. However, the existing roadway bridge north of the project site presents a pre-existing physical constraint that precludes the northbound lanes from further expansion. The expansion of this bridge is part of the North Perris Road and Bridge Benefit District (RBBD); RBBD fees assessed to this project will contribute to funding for this improvement project to be completed at a later date.

The roadway segment analysis is based on daily traffic volume data collected on Thursday, September 8, 2022 (**Appendix B**), with 3% annual ambient growth rate applied for 6% total growth from 2022 to 2024.

Table 10 provides the roadway segment LOS results under existing conditions. The segment of Indian Avenue north of Harley Knox Boulevard currently operates above the existing lane capacity, and would require roadway improvements to the ultimate General Plan designation of 4 travel lanes to achieve acceptable LOS. However, the existing roadway bridge north of the project site presents a pre-existing physical constraint that precludes the northbound lanes from further expansion. The expansion of this bridge will be completed at a later date as part of the North Perris RBBD, for which fees will be assessed to this project.

Table 10: Roadway Segment Analysis – Existing Conditions (2024)

Roadway Segment		Roadway Geometrics	Roadway Classification	# Lanes	Capacity	Existing Conditions		
						ADT	V/C	LOS
1	Harley Knox Blvd w/o Indian Ave	unimproved	Arterial	5	41,825	23,681	0.57	**A**
2	Indian Ave n/o Harley Knox Blvd	unimproved	Secondary	2	13,000	18,144	1.40	***F***
		ultimate		4	25,900	18,144	0.70	**C**

X *Segment does not meet minimum LOS standard*

Table 11 provides the roadway segment LOS results under "existing plus project" conditions. With the addition of project traffic, the segment of Indian Avenue north of Harley Knox Boulevard is expected to operate above the existing lane capacity, and would require roadway improvements to the ultimate General Plan designation of 4 travel lanes to achieve acceptable LOS. The project is proposing to provide one additional southbound travel lane along its frontage. However, the existing roadway bridge north of the project site presents a pre-existing physical constraint that precludes the northbound lanes from further expansion.

Table 11: Roadway Segment Analysis – Existing Conditions plus Project

Roadway Segment		Roadway Geometrics	Roadway Classification	# Lanes	Capacity	Existing + Project			
						Project ADT	Total ADT	V/C	LOS
1	Harley Knox Blvd w/o Indian Ave	unimproved	Arterial	5	41,825	627	24,308	0.58	**A**
2	Indian Ave n/o Harley Knox Blvd	proposed	Secondary	3	19,450	627	18,771	0.97	***E***
		ultimate		4	25,900	627	18,771	0.72	**C**

X *Segment does not meet minimum LOS standard*

Table 12 provides the roadway segment LOS results under opening day conditions. With the addition of traffic from ambient area growth and cumulative projects, the segment of Indian Avenue north of Harley Knox Boulevard is expected to operate above the existing lane capacity, and would require roadway improvements to the ultimate General Plan designation of 4 travel lanes to achieve acceptable LOS. However, the existing roadway bridge north of the project site presents a pre-existing physical constraint that precludes the northbound lanes from further expansion. The expansion of this bridge will be completed at a later date as part of the North Perris RBBD, for which fees will be assessed to this project.

Table 12: Roadway Segment Analysis – Opening Day Conditions (2025)

Roadway Segment		Roadway Geometrics	Roadway Classification	# Lanes	Capacity	Opening Day (2025)		
						ADT	V/C	LOS
1	Harley Knox Blvd w/o Indian Ave	unimproved	Arterial	5	41,825	28,948	0.69	**B**
2	Indian Ave n/o Harley Knox Blvd	unimproved	Secondary	2	13,000	19,446	1.50	***F***
		ultimate		4	25,900	19,446	0.75	**C**

X *Segment does not meet minimum LOS standard*

Table 13 provides the roadway segment LOS results under "opening day plus project" conditions. With the addition of project traffic, the segment of Indian Avenue north of Harley Knox Boulevard is expected to operate above the existing lane capacity, and would require roadway improvements to the ultimate General

Plan designation of 4 travel lanes to achieve acceptable LOS. The project is proposing to provide one additional southbound travel lane along its frontage. However, the existing roadway bridge north of the project site presents a pre-existing physical constraint that precludes the northbound lanes from further expansion. The expansion of this bridge will be completed at a later date as part of the North Perris RBBD, for which fees will be assessed to this project.

Table 13 also provides the project fair share percentage along each study segment, as the proportion of total traffic growth expected to be generated by the project only. The expansion of Indian Avenue is included in the North Perris RBBD and the project would contribute RBBD fees towards this improvement.

Table 13: Roadway Segment Analysis – Opening Day Conditions plus Project

Roadway Segment		Roadway Geometrics	Roadway Classification	# Lanes	Capacity	Opening Day + Project				
						Project ADT	Total ADT	V/C	LOS	Fair Share
1	Harley Knox Blvd w/o Indian Ave	unimproved	Arterial	5	41,825	627	29,575	0.71	**C**	**10.6%**
2	Indian Ave n/o Harley Knox Blvd	proposed	Secondary	3	19,450	627	20,073	1.03	***F***	**32.5%**
		ultimate		4	25,900	627	20,073	0.78	**C**	

X *Segment does not meet minimum LOS standard*

Traffic Signal Warrant Analysis

The California Manual on Uniform Control Devices (MUTCD) provides nine warrant guidelines for a traffic signal installation, of which the satisfaction of any single warrant shall not require the installation of a traffic signal. The peak-hour traffic signal warrant analysis is only an indicator that an unsignalized intersection is likely to meet one or more volume-based signal warrant. Per the MUTCD, an engineering study of the warrants should be conducted prior to installing a new traffic signal to assess traffic conditions and safety. Accordingly, this study finds that no unsignalized study intersections are expected to meet the peak-hour traffic signal warrant as outlined in the MUTCD in all analysis scenarios (see **Appendix E** for worksheets).

ALBERT A.
WEBB
ASSOCIATES

Corporate Headquarters
3788 McCray Street
Riverside, CA 92506
T: 951.686.1070

Appendix A

Approved Traffic Scoping Agreement

City of Perris
www.cityofperris.org

CITY OF PERRIS
VMT SCOPING FORM FOR LAND USE PROJECTS

This Scoping Form acknowledges the City of Perris requirements for the evaluation of transportation impacts under CEQA. The analysis provided in this form should follow the City of Perris TIA Guidelines, dated May 12, 2020.

I. Project Description

Tract/Case No. DPR 22-00026

Project Name: First Industrial Harley Knox

Project Location: 657 Harley Knox Boulevard, Perris, CA, at the northwest corner of the intersection of Harley Knox Blvd @ Indian Avenue

Project Description: 544,786 sf of high-cube transload/short-term storage warehouse with 5,000 sf mezzanine space
(Please attach a copy of the project Site Plan)

Current GP Land Use: General Industrial **Proposed GP Land Use:** General Industrial

Current Zoning: General Industrial **Proposed Zoning:** General Industrial

If a project requires a General Plan Amendment or Zone change, then additional information and analysis should be provided to ensure the project is consistent with RHNA and RTP/SCS Strategies.

II. VMT Screening Criteria

A. Is the Project 100% affordable housing?	**YES**		**NO**	**X**	Attachments:	
B. Is the Project within 1/2 mile of qualifying transit?	**YES**		**NO**	**X**	Attachments:	
C. Is the Project a local serving land use?	**YES**		**NO**	**X**	Attachments:	
D. Is the Project in a low VMT area?	**YES**		**NO**	**X**	Attachments:	
E. Are the Project's Net Daily Trips less than 500 ADT?	**YES**		**NO**	**X**	Attachments:	

Low VMT Area Evaluation:

Citywide VMT Averages[1]		
Citywide Home-Based VMT =	15.05	VMT/Capita
Citywide Employment-Based VMT =	11.62	VMT/Employee

WRCOG VMT MAP

Project TAZ	VMT Rate for Project TAZ[1]		Type of Project	
3754	**13.42**	VMT/Capita	Residential:	
	12.19	VMT/Employee	Non-Residential:	**X**

[1] Base year (2012) projections from RIVTAM.

Trip Generation Evaluation:

Source of Trip Generation: ITE 10th Edition Trip Generation

Project Trip Generation: **763** **Average Daily Trips (ADT)**

Internal Trip Credit:	YES		NO	**X**	% Trip Credit:	**0%**
Pass-By Trip Credit:	YES		NO	**X**	% Trip Credit:	**0%**
Affordable Housing Credit:	YES		NO	**X**	% Trip Credit:	**0%**
Existing Land Use Trip Credit:	YES		NO	**X**	Trip Credit:	**0**

Net Project Daily Trips: **763** **Average Daily Trips (ADT)** Attachments: **A**

Does project trip generation warrant an LOS evaluation outside of CEQA? **YES** | **X** | **NO** |

III. VMT Screening Summary

A. Is the Project presumed to have a less than significant impact on VMT?

A Project is presumed to have a less than significant impact on VMT if the Project satisfies at least one (1) of the VMT screening criteria.

Potentially Significant

B. Is mitigation required?

If the Project does not satisfy at least one (1) of the VMT screening criteria, then mitigation is required to reduce the Project's impact on VMT.

Mitigation Required

C. Is additional VMT modeling required to evaluate Project impacts?	YES		NO	X

If the Project requires a zone change and/or General Plan Amendment AND generates 2,500 or more net daily trips, then additional VMT modeling using RIVTAM/RIVCOM is required. If the project generates less than 2,500 net daily trips, the Project TAZ VMT Rate can be used for mitigation purposes.

IV. MITIGATION

A. Citywide Average VMT Rate (Threshold of Significance) for Mitigation Purposes:	**11.62**	**VMT/Employee**
B. Unmitigated Project TAZ VMT Rate:	**12.19**	**VMT/Employee**
C. Percentage Reduction Required to Achieve the Citywide Average VMT:	**4.68%**	

D. VMT Reduction Mitigation Measures:

Source of VMT Reduction Estimates:	**CAPCOA Fact Sheets (City of Perris VMT Guidelines)**

Project Location Setting	**Suburban**

	VMT Reduction Mitigation Measure:	Estimated VMT Reduction (%)
1.	TRT-1 Implement Voluntary CTR Programs	5.20%
2.	TRT-5 Provide End-Of-Trip Facilities	0.02%
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
Total VMT Reduction (%)		**5.22%**

(Attach additional pages, if necessary, and a copy of all mitigation calculations.)

E. Mitigated Project TAZ VMT Rate:	**11.55**	**VMT/Employee**

F. Is the project pressumed to have a less than significant impact with mitigation?

Impact Adequately Mitigated

If the mitigated Project VMT rate is below the Citywide Average Rate, then the Project is presumed to have a less than significant impact with mitigation. If the answer is no, then additional VMT modeling may be required and a potentially significant and unavoidable impact may occur. All mitigation measures identified in Section IV.D. are subject to become Conditions of Approval of the project. Development review and processing fees should be submitted with, or prior to the submittal of this Form. The Planning Department staff will not process the Form prior to fees being paid to the City.

Prepared By		Developer/Applicant	
Company:	Albert A. Webb Associates	**Company:**	First Industrial Realty Trust
Contact:	Kawai Mang	**Contact:**	Paul Loubet
Address:	3788 Mccray St, Riverside, CA, 92506	**Address:**	898 Pacific Coast Hwy #175, El Segundo, CA 9024
Phone:	951-320-6081	**Phone:**	310-321-3805
Email:	kawai.mang@webbassociates.com	**Email:**	PLOUBET@FIRSTINDUSTRIAL.COM
Date:	06/20/23	**Date:**	06/20/23

Approved by:

Perris Development Serivces Dept.	**Date**	**Perris Public Works Dept.**	**Date**

SCOPING AGREEMENT FOR TRAFFIC STUDY

This letter acknowledges the City of Perris requirements for traffic analysis of the following project, per the latest traffic study Guidelines.

Case DPR 22-00016
(TR, PM, CUP, PP, etc.)

Related Cases
(GPA, SP, EIR, CZ, etc. For SPs also list other projects within the SP.)

Project Name First Industrial Harley Knox

Project Address 657 Harley Knox Boulevard, Perris, CA

Project Description 544,786 sf high-cube transload/short-term storage warehouse with 5,000 sf mezzanine space
(site plan attached)

	Consultant	Applicant / Developer
Name	Albert A. Webb Associates	First Industrial Realty Trust
Address	3788 McCray St Riverside, CA 92506	898 N. Pacific Coast Highway Suite 175 El Segundo, CA 90245
Phone	(951) 320-6081	(310) 321-3805

A. Trip Generation Source: ITE 11th Edition (2021) – Land Use #154

Current Land Use	General Industrial	Proposed Land Use	General Industrial
Current Zoning	General Industrial	Proposed Zoning	General Industrial

	Current Trip Generation			**Proposed Trip Generation** (PCE)		
Passenger Cars	*In*	*Out*	***Total***	*In*	*Out*	***Total***
AM Peak Hour	0	0	0	28	4	**32**
PM Peak Hour	0	0	**0**	13	36	**49**
Trucks						
AM Peak Hour	0	0	**0**	13	13	**26**
PM Peak Hour	0	0	**0**	8	8	**16**

☐ Internal Trip Allowance (0 % trip discount)
☐ Pass-By Trip Allowance (0 % trip discount)

B. Trip Geographic Distribution (see attached):

Passenger Cars	**N**	0 %	**S**	10 %	**E**	40 %	**W**	50 %
Trucks	**N**	0 %	**S**	0 %	**E**	0 %	**W**	100 %

C. Background Traffic

Annual Ambient Growth Rate: 3 %
Project Opening Year/s (by phase): 2025
Other Area Projects For Analysis: (provided by agency)
Model/Forecast Method: build-up method
Future Peak-Hour Factor (PHF): existing PHF; where new traffic volumes, 0.95
(existing conditions use existing PHF)

D. Traffic Study Requirements

☒ Traffic study required ☐ Exempt from further analysis

☐ Focused study required: _____

E. Analysis Scenarios

☒ Existing ☐ Existing + Ambient + Project ☒ Existing + Ambient + Cumulative + Project

☐ General Plan Buildout ☐ General Plan Buildout + Project Buildout Analysis Year: _____

☒ Other: Existing + Project, Existing + Ambient + Cumulative

F. Study Intersections (see attached):

(subject to revision per review of project site plan, project traffic, other projects, or other agency comments)

1. Harley Knox Blvd @ Webster Rd
2. Harley Knox Blvd @ Amazon Dwy / project dwy
3. Harley Knox Blvd @ Indian Ave
4. Indian Ave @ N project dwy
5. Indian Ave @ S project dwy

G. Study Roadway Segments:

(subject to revision per review of project site plan, project traffic, other projects, or other agency comments)

1. Harley Knox Blvd between Webster Rd & Indian Ave
2. Indian Ave north of Harley Knox Blvd
3.
4.

H. Existing Conditions Traffic Volumes

Traffic Volume Data: ☐ New ☒ Recent, counts date: 09-08-2022

I. Other Jurisdictional Impacts:

☒ Project is within another City's sphere of influence, one mile of city boundaries, or adjacent to a State Highway

If so, agency/ies: Moreno Valley

J. Specific issues to be addressed (in addition to standard analysis described in the Guidelines)**:**

- Truck turning templates at project driveways
- Driveway spacing requirements per PVCCSP
- Queuing analysis at gated driveways
- Traffic signal warrants at unsignalized study intersections

Recommended by:



Albert A. Webb Associates — 6-21-2023 *Date*

Revised: 12-20-2023 *Date* _____ *Date*

Approved Scoping Agreement:

_____ _____

Agency Representative *Date*

Table 1: Trip Generation Rates

High-Cube Transload and Short-Term Storage Warehouse

Vehicle Type	PCE Factor[1]	Estimated Mix[2]	Units[3]	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Generation Rates (classification, non-PCE) [4]										
Passenger Cars [5]	-	-	KSF	1.18	0.052	0.008	**0.06**	0.023	0.067	**0.09**
2-axle Trucks	-	16.7%		0.037	0.0016	0.0017	**0.003**	0.0008	0.0009	**0.002**
3-axle Trucks	-	20.7%		0.046	0.0020	0.0021	**0.004**	0.0010	0.0011	**0.002**
4-axle Trucks	-	62.5%		0.138	0.0061	0.0064	**0.013**	0.0029	0.0033	**0.006**
Total		**100%**		**1.40**	**0.062**	**0.018**	**0.08**	**0.028**	**0.072**	**0.10**
Calculated Trip Generation Rates (PCE)										
Passenger Cars [5]	1	-	KSF	1.18	0.052	0.008	**0.06**	0.023	0.067	**0.09**
2-axle Trucks	1.5	16.7%		0.055	0.0025	0.0026	**0.005**	0.0012	0.0013	**0.003**
3-axle Trucks	2	20.7%		0.091	0.0041	0.0042	**0.008**	0.0019	0.0022	**0.004**
4-axle Trucks	3	62.5%		0.41	0.0184	0.0191	**0.038**	0.0088	0.0099	**0.019**
Total		**100%**		**1.74**	**0.077**	**0.034**	**0.11**	**0.035**	**0.080**	**0.12**

[1] PCE factors per Riverside County guidelines
[2] Truck mix per High-Cube Warehouse Vehicle Trip Generation Analysis, ITE (2017); Warehouse Truck Trip Study, SCAQMD (2014)
[3] KSF = 1,000 square feet gross floor area
[4] ITE Trip Generation Manual 11th Ed, 2021- Land Use 154, High-Cube Transload and Short-Term Storage Warehouse
[5] Passenger car rates per ITE vehicle trip generation rates less ITE truck trip generation rates.

Table 2: Project Trip Generation

FIR Harley Knox Indian

Vehicle Type	PCE Factor[1]	Units[2]	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Project Trip Generation (classification, non-PCE)[3]									
Passenger Cars	-	545 KSF	643	28	4	**32**	13	36	**49**
2-axle Trucks	-		20	1	1	**2**	0	0	**0**
3-axle Trucks	-		25	1	1	**2**	1	1	**2**
4-axle Trucks	-		75	3	3	**6**	2	2	**4**
Total			**763**	**33**	**9**	**42**	**16**	**39**	**55**
Passenger Car Equivalent (PCE) Project Trip Generation									
Passenger Cars	1	545 KSF	643	28	4	**32**	13	36	**49**
2-axle Trucks	1.5		30	2	2	**4**	0	0	**0**
3-axle Trucks	2		50	2	2	**4**	2	2	**4**
4-axle Trucks	3		225	9	9	**18**	6	6	**12**
Total			**948**	**41**	**17**	**58**	**21**	**44**	**65**

[1] PCE factors per Riverside County guidelines
[2] KSF = 1,000 square feet gross floor area
[3] Trip generation per ITE Trip Generation Manual 11th Ed, 2021- Land Use 154, High-Cube Transload and Short-Term Storage Warehouse

Figure 1: Study Area

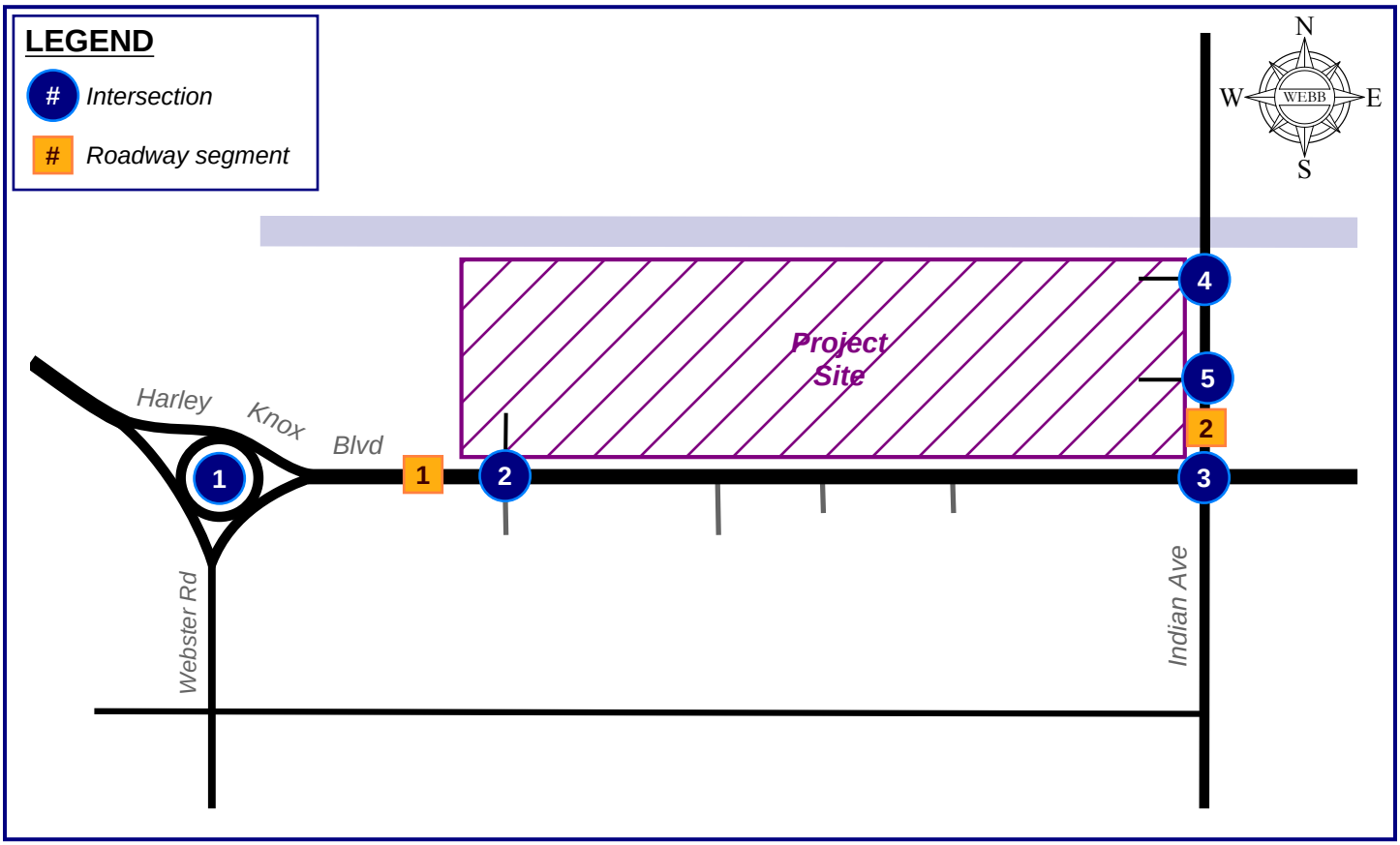


Figure 2: Project Trip Distribution - Passenger Cars

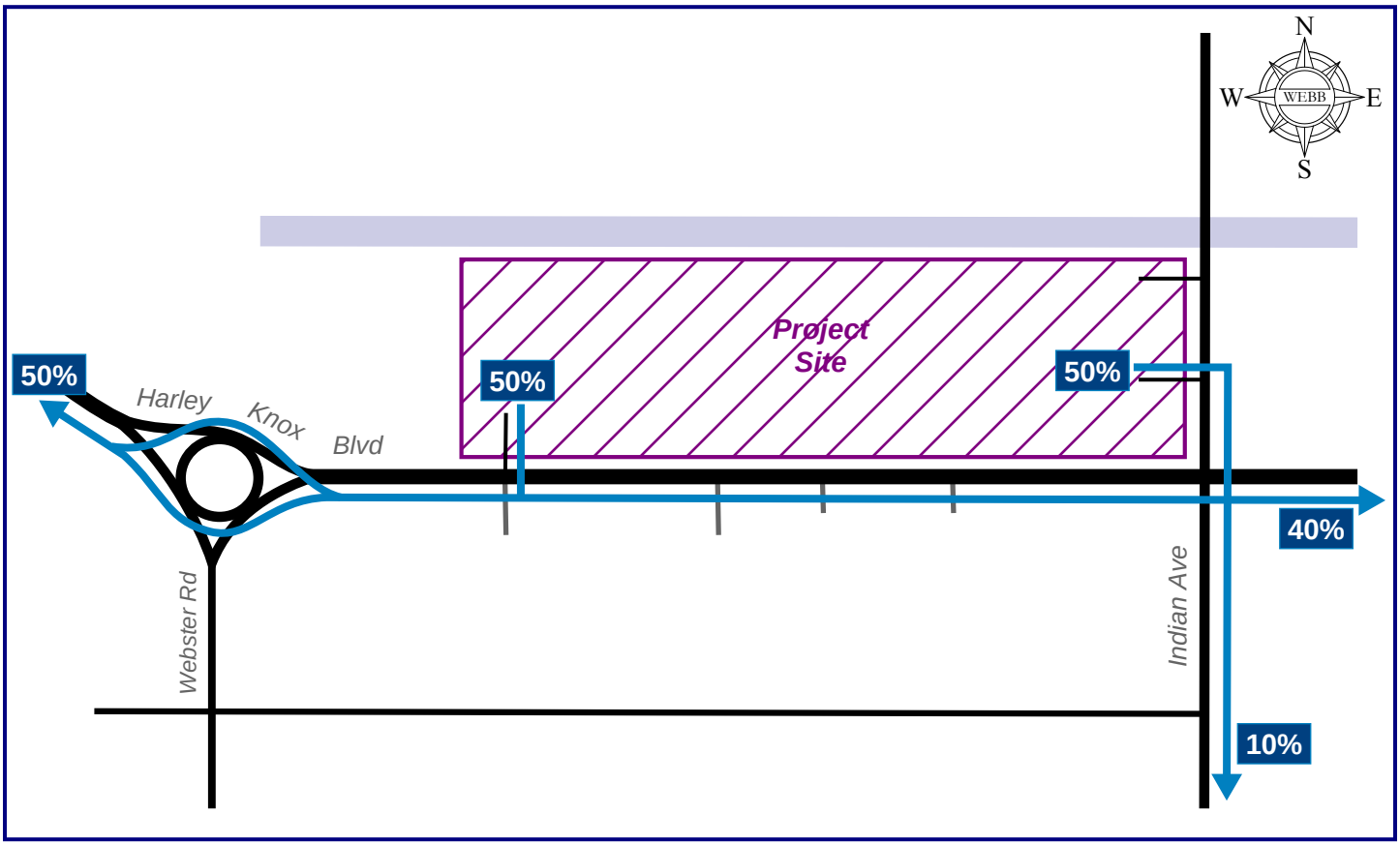
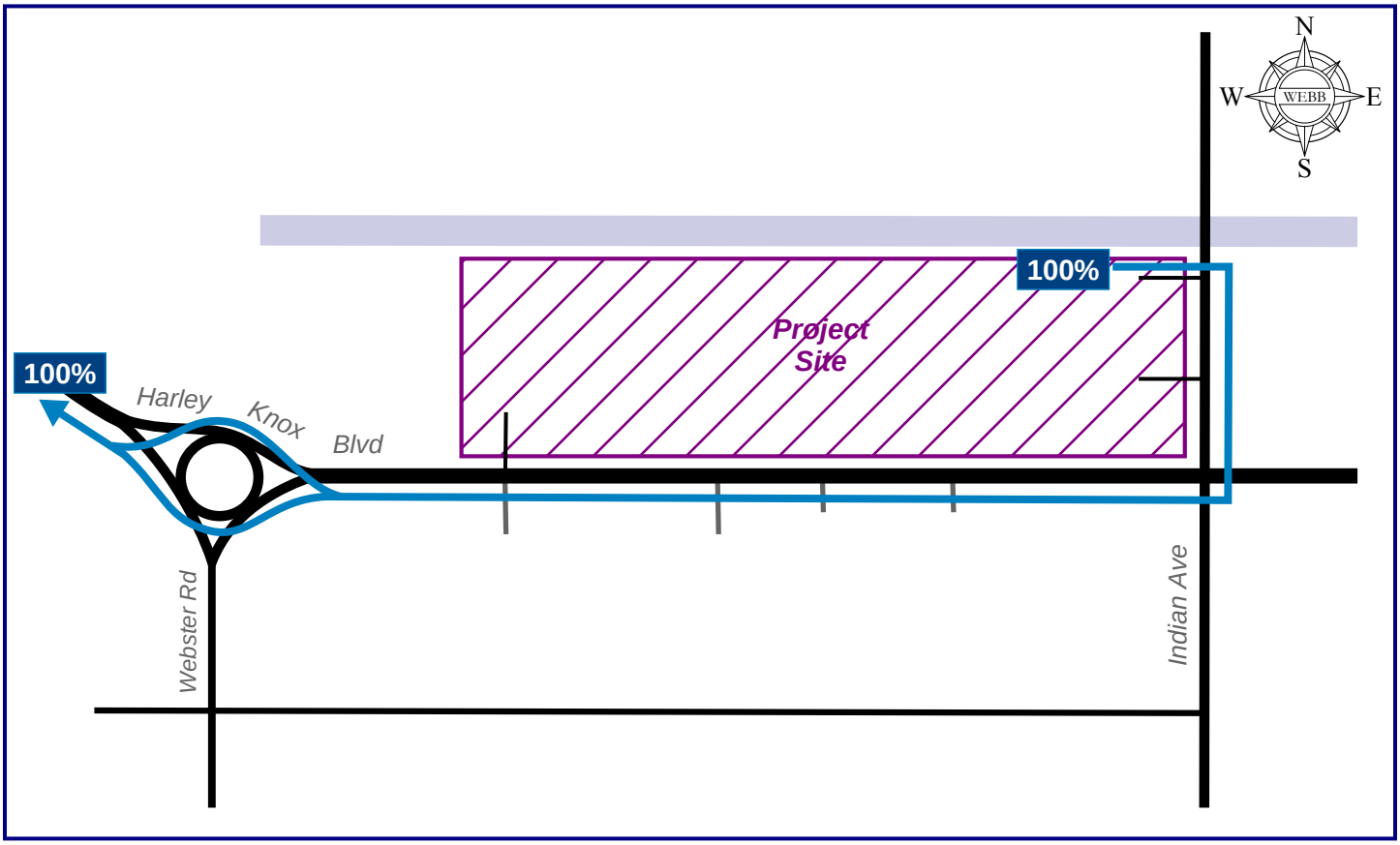
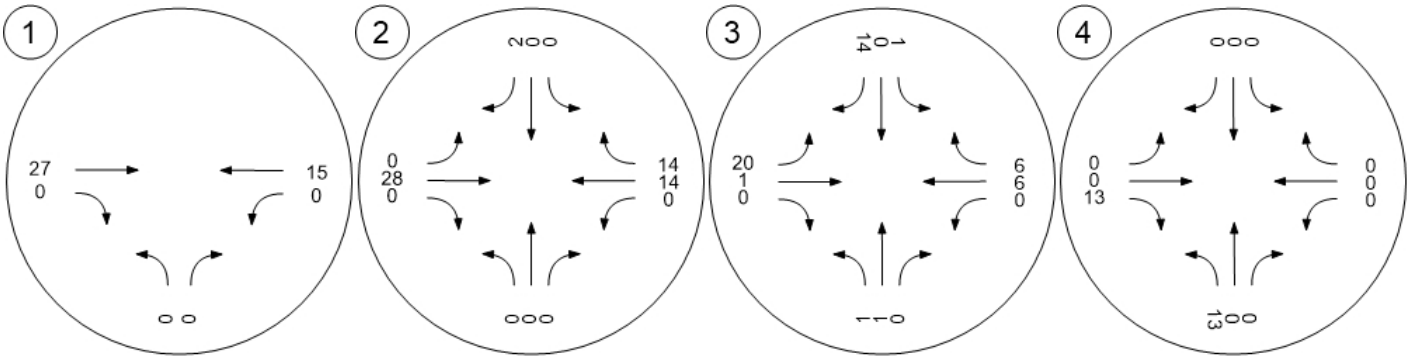


Figure 3: Project Trip Distribution - Trucks



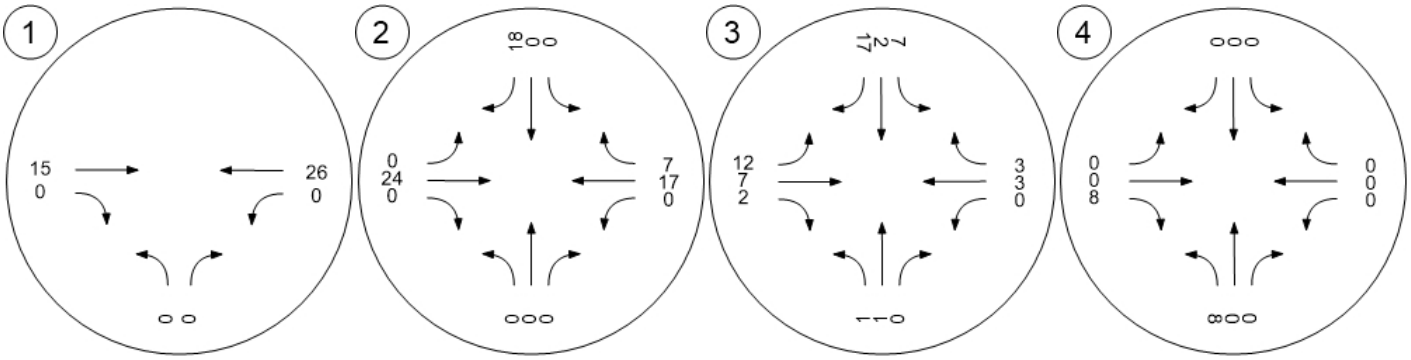
Traffic Volume - Net New Site Trips

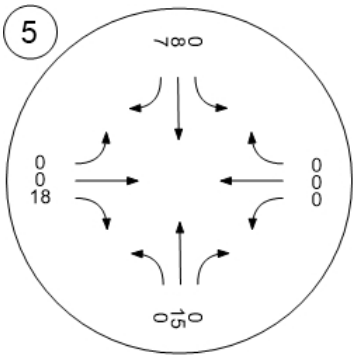


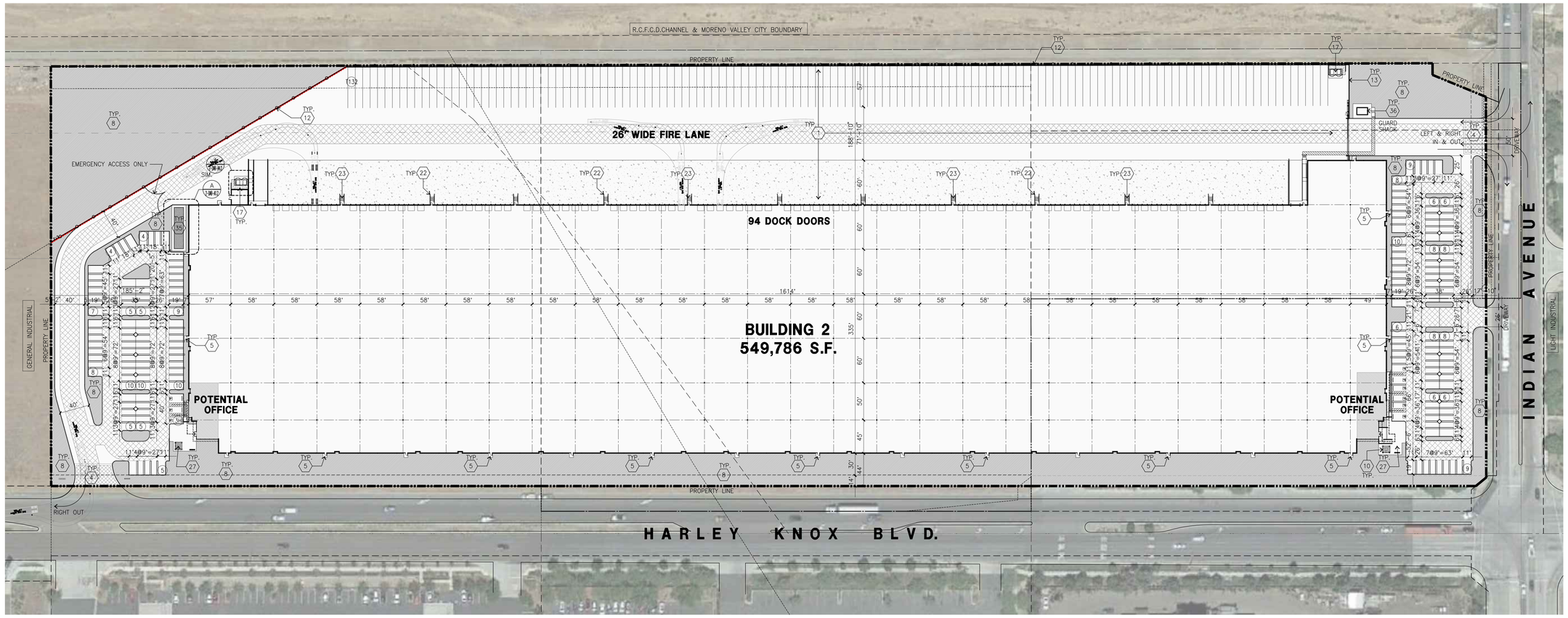


Traffic Volume - Net New Site Trips









OVERALL SITE PLAN

scale: 1" = 60'-0" (A)

SCALE: 1" = 60'-0"

0 60' 120' 180' TRUE NORTH

PROPERTY OWNER

FIRST INDUSTRIAL REALTY TRUST
898 N. PACIFIC COAST HIGHWAY SUITE 175
EL SEGUNDO, CA 90245
TEL: (310) 414-5400
CONTACT: MICHAEL GOODWIN
MGOODWIN@FIRSTINDUSTRIAL.COM

APPLICANT

FIRST INDUSTRIAL REALTY TRUST
898 N. PACIFIC COAST HIGHWAY SUITE 175
EL SEGUNDO, CA 90245
TEL: (310) 414-5400
CONTACT: MICHAEL GOODWIN
MGOODWIN@FIRSTINDUSTRIAL.COM

APPLICANT'S REPRESENTATIVE

HPA, INC.
18831 BARDEEN AVE SUITE 100
IRVINE CA 92612
TEL: 949-862-2116
ATTN: RUBEN CHOI

ADDRESS OF THE PROPERTY

657 HARLEY KNOX BOULEVARD PERRIS, CA

ASSESSOR'S PARCEL NUMBER

302-020-043, 302-020-048,
302-020-013, 302-020-028, 302-020-038
302-020-040, 302-020-032

ZONING

ZONING DESIGNATION - PERRIS VALLEY COMMERCE CENTER
GENERAL INDUSTRIAL

LEGAL DESCRIPTION

REFER TO CIVIL

REFERENCE FOR THE FULL LEGAL DESCRIPTION FOR CONCEPTUAL GRADING PLAN SHEET 1 OF 9

TR 1 : THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOT3 IN BLOCK 3 OF RIVERSIDE TRACT, IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 14, PAGE 668 OF MAPS, RECORD OF SAN DIEGO COUNTY.

TR 2 : THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL A: THE NORTH OF ONE HALF OF LOT 1 IN BLOCK 3 OF RIVERSIDE TRACT, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 14, PAGE 668 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA.

PARCEL B: LOT 2 OF BLOCK 3 OF RIVERSIDE TRACT, AS SHOWN BY MAP ON FILE IN BOOK 14 PAGE 668 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

TR 3 : REAL PROPERTY IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LOT 1 IN BLOCK 3 OF RIVERSIDE TRACT, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 14, PAGE(S) 668, OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, EXCEPTING THAT PORTION LYING SOUTH OF THE FOLLOWING DESCRIBED LINE :

BEGINNING AT THE INTERSECTION OF THE SOUTH LINE OF SAID SECTION 31 AND THE EAST LINE OF WEBSTER AVENUE AS SHOWN BY RECORD OF SURVEY ON FILE IN BOOK 64, PAGE 54, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA

TR 4 : LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF PERRIS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE SOUTH ½ OF LOT 1 IN BLOCK 3 OF RIVERSIDE TRACT, AS SHOWN BY MAP ON FILE IN BOOK 14, PAGE 668 OF MAPS, RECORDS OF SAN DIEGO COUNTY, EXCEPT THAT PORTION DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 1, SAID SOUTHEAST CORNER BEING A POINT ON THE WEST LINE OF INDIAN AVENUE, 60.00 FEET WIDE;

SITE PLAN KEYNOTES

1. HEAVY BROOM FINISH CONC. PAVEMENT.
2. PUMP HOUSE
3. CONCRETE WALKWAY
4. ENHANCED DRIVEWAY APRONS TO BE CONSTRUCTED PER "L" DRAWINGS.
5. 5'-6"X5'-6"X4" MIN. THICK CONCRETE EXTERIOR LANDING PAD TYP. AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREAS. FINISH TO BE MEDIUM BROOM FINISH. SLOPE TO BE 1/4" - 12" MAX. PROVIDE WALK TO PUBLIC WAY OR DRIVE WAY W/ 1:20 MAX. AS REQ. BY CITY INSPECTOR.
6. PROVIDE METAL, MANUAL OPERATED SLIDING GATES W/ PERFORATED SCREEN MESH & KNOX-PAD LOCK PER FIRE DEPARTMENT STANDARDS PER DRIVEWAY.
7. PROVIDE METAL, MANUAL OPERATED SWING GATES W/ PERFORATED SCREEN MESH & KNOX-PAD LOCK PER FIRE DEPARTMENT STANDARDS PER DRIVEWAY.
8. LANDSCAPE. SEE "L" DWGS.
9. CONCRETE TILT-UP SCREEN WALL
10. BIKE RACK. PLEASE SEE DETAIL D/DAB-A4.1
11. APPROXIMATE LOCATION OF TRANSFORMER.
12. 8'H WROUGHT IRON FENCE
13. 14' H SCREEN WALL WITH ANTI GRAFFITI COATING
14. ELECTRICAL ROOM
15. PROPOSED SITE LIGHT POLE.
16. PROPOSED STREET LIGHT
17. TRASH ENCLOSURE PER CITY STANDARD.
18. PROPOSED FIRE HYDRANT
19. HANDICAPPED PARKING STALL SIGN
20. HANDICAPPED ENTRY SIGN
21. PRE-CAST CONC. WHEEL STOP
22. CONC. FILLED GUARD POST "6 DIA. U.N.O. 42" H,
23. EXTERIOR CONC. STAIR.
24. CLEAR ZONE, THIS AREA TO BE SECURED FROM ANY OUTDOOR STORAGE AND PARKING. THIS AREA WILL BE UTILIZED FOR ON - SITE DRAINAGE
25. COLOR CONCRETE WITH SCORING LINES AT TRUCK DRIVEWAY
26. EMPLOYEE BREAK AREA WITH PICKLE BALL
27. EMPLOYEE BREAK AREA WITH CANOPY AND TABLE
28. FUTURE INDOOR EMPLOYEE BREAK AREA
29. AUTOMATIC BOOM BARRIER DOUBLE GATE
30. PROPOSED 8' CLASS I MULTIPURPOSE PATH
31. 3' WIDE WI SWING GATE W/LOCKSET
32. RAISED PLANTER
33. KNOX BOXES & KNOX DEVICES SHALL BE PROVIDED
34. PROPOSED FIRE DEPT CONNECTION(FDC) LOCATION
35. EMPLOYEE BREAK AREA WITH BOCCE BALL COURT
36. GUARD SHACK

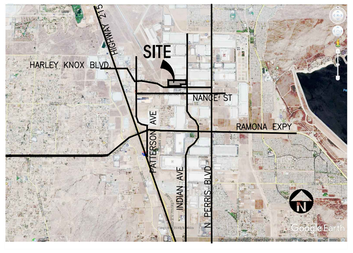
SITE PLAN GENERAL NOTES

1. THE SOILS REPORT PREPARED BY _____ SHOULD BE A PART OF THESE CONTRACT DOCUMENTS.
2. IF SOILS ARE EXPANSIVE IN NATURE, USE STEEL REINFORCING FOR ALL SITE CONCRETE.
3. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINE U.N.O.
4. SEE "C" PLANS FOR ALL CONCRETE CURBS, GUTTERS AND SWALES.
5. THE ENTIRE PROJECT SHALL BE PERMANENTLY MAINTAINED WITH AN AUTOMATIC IRRIGATION SYSTEM, PRIOR TO INSTALLATION & AT LEAST 60 DAYS BEFORE BLDG. COMPLETION.
6. SEE "C" DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR SHALL VERIFY ACTUAL UTILITY CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM BLDG. SEE "C" DRAWINGS.
8. CONTRACTOR TO REFER TO "C" DRAWINGS FOR ALL HORIZONTAL CONTROL DIMENSIONS. SITE PLANS ARE FOR GUIDANCE AND STARTING LAYOUT POINTS.
9. SEE "C" DRAWINGS FOR FINISH GRADE ELEVATIONS.
10. CONCRETE SIDEWALKS TO BE A MINIMUM OF 4" THICK W/ TOOLED JOINTS AT 6' O.C. EXPANSION/CONSTRUCTION JOINTS SHALL BE A MAXIMUM 12' EA. WAY W/ 1:20 MAX. SLOPE. EXPANSION JOINTS TO HAVE COMPRESSIVE EXPANSION FILLER MATERIAL OF 1/4". SEE "L" DRAWINGS FOR FINISH.
11. PROVIDE TWO FIRE HYDRANT ON THE SITE. FINAL LOCATION WILL DETERMINATE IN DURING SUBMITTAL.
12. PAINT CURBS AND PROVIDE SIGNS TO INFORM OF FIRE LANES AS REQUIRED BY FIRE DEPARTMENT.
13. CONSTRUCTION DOCUMENTS PERTAINING TO THE LANDSCAPE AND IRRIGATION OF THE ENTIRE PROJECT SITE SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND APPROVED BY PUBLIC FACILITIES DEVELOPMENT PRIOR TO ISSUANCE OF BUILDING PERMITS.
14. PRIOR TO FINAL CITY INSPECTION, THE LANDSCAPE ARCHITECT SHALL SUBMIT A CERTIFICATE OF COMPLETION TO PUBLIC FACILITIES DEVELOPMENT.
15. NOT USED
16. ALL LANDSCAPE AND IRRIGATION DESIGNS SHALL MEET CURRENT CITY STANDARDS AS LISTED IN GUIDELINES OR AS OBTAINED FROM PUBLIC FACILITIES DEVELOPMENT.
17. NOT USED.
18. LANDSCAPED AREAS SHALL BE DELINEATED WITH A MINIMUM SIX INCHES (6") HIGH CURB
19. APPROVED CONCEPTUAL LANDSCAPE PLAN PRIOR TO GRADING PERMIT

SITE LEGEND

- LANDSCAPED AREA
- SITE PAVING – SEE "C" DRWGS. FOR THICKNESS
- CONCRETE PAVING SEE "C" DRWGS. FOR THICKNESS
- STANDARD PARKING STALL (9' X 19')
- HANDICAP PARKING STALL (9' X 19')
- 26' FIRE LANE.
- FIRE LANE RED CURBS
- LIGHT STANDARD
- EXISTING PUBLIC FIRE HYDRANT
- PRIVATE FIRE HYDRANT– APPROXIMATE LOCATION
- PROPERTY LINE
- PATH OF TRAVEL
- TRUCK IN & OUT
- FIRE LANE

VICINITY MAP



PROJECT DATA

	BLDG. 2
SITE AREA	
In s.f.	1,094,727 s.f.
In acres	25.13 ac
BUILDING AREA	
Office - 1st floor	5,000 s.f.
Office - 2nd floor	5,000 s.f.
Warehouse	539,786 s.f.
TOTAL	549,786 s.f.
COVERAGE	49.8%
F.A.R. -	0.502
AUTO PARKING REQUIRED	
Office: (office area is less than 10%)	
Whse: 1st 20K @ 1/1,000 s.f.	20 stalls
2nd 20K @ 1/2,000 s.f.	10 stalls
above 40K @ 1/5,000 s.f.	102 stalls
TOTAL	132 stalls
AUTO PARKING PROVIDED	
Standard (9' x 19')	105 stalls
Standard (11' x 19')	42 stalls
Accessible Parking (Standard)(9'x18')	5 stalls
Accessible Parking (Van) (12'x18')	1 stalls
Standard EV Spaces (9' x 19')	32 stalls
Standard EVCS (9' x 19')	9 stalls
Accessible EVCS Parking (Standard) (9'x18')	1 stalls
Accessible EVCS Parking (Van) (12'x18')	1 stalls
Accessible EVCS Parking (Ambulatory) (12'x18')	1 stalls
TOTAL	188 stalls
TRAILER PARKING REQUIRED	
Trailer: 1/5,000 SF	110 stalls
TRAILER PARKING PROVIDED	
Trailer (10' x 55')	132 stalls
ZONING ORDINANCE FOR CITY	
Zoning Designation - Perris Valley Commerce Center - General Industrial	
MAXIMUM BUILDING HEIGHT ALLOWED	
Height - 50'	
MAXIMUM FLOOR AREA RATIO	
FAR - .75	
MAXIMUM LOT COVERAGE	
Coverage - 50%	
LANDSCAPE REQUIREMENT	
Percentage - 10%	109,473 s.f.
LANDSCAPE PROVIDED	
In s.f.	183,438 s.f.
Percentage	16.8%
SETBACKS	
Harley Knox - 15'	
Side/ Rear - none, adjoining R zone- 20'	

OFFICIAL USE ONLY

HPA architecture
hpa, inc.
18831 bardeen avenue, - ste. #100
irvine, ca
92612
tel: 949•863•1770
fax: 949•863•0851
email: hpa@hparchs.com

LICENSED ARCHITECT — LONG NAM — C-29451 — 3-31-23 RENEWAL DATE — STATE OF CALIFORNIA

Owner:

FIRST INDUSTRIAL REALTY TRUST

898 N. Pacific Coast Highway
El Segundo, CA 90245

tel: 310-414-5400

Project:

FIRST INDUSTRIAL HARLEY KNOX

657 HARLEY KNOX BOULEVARD
PERRIS, CA

Consultants:

CIVIL	THIENES
STRUCTURAL	-
MECHANICAL	-
PLUMBING	-
ELECTRICAL	-
LANDSCAPE	RLA
FIRE PROTECTION	-
SOILS ENGINEER	-

Title: OVERALL SITE PLAN

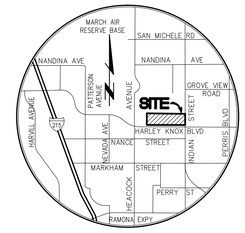
Project Number: 21300
Drawn by: RC
Date: 03/10/2023
Revision:

Sheet:

2-DAB-A1.1

Appendix B

Proposed Project Site Plan



VICINITY MAP

N.T.S.

Northerly driveway on Indian Ave: trucks only, full access

Southerly driveway on Indian Ave: passenger cars only, right turns only

Project driveway on Harley Knox Blvd: passenger cars only, right turns only

BUILDING AREA
549,786 S.F.

BUILDING AREA
549,786 S.F.

INDIAN AVENUE

572'-1"

304'-7"

346'-5"

671'-1"

217'-0"

293'-5"

HARLEY KNOX BOULEVARD

0 30 60 120 180

SCALE: 1"=60'

STRIPING LEGEND

- (A) EXISTING LEFT ARROW TRAFFIC SYMBOL TO REMAIN
- (B) EXISTING LEFT ARROW TRAFFIC SYMBOL TO BE REMOVED
- (C) EXISTING RIGHT ARROW TRAFFIC SYMBOL TO BE REMOVED
- (D) PROPOSED NEW LEFT ARROW TRAFFIC SYMBOL TO BE INSTALLED
- (E) PROPOSED NEW RIGHT ARROW TRAFFIC SYMBOL TO BE INSTALLED

PREPARED FOR:
FIRST INDUSTRIAL
HARLEY KNOX
PERRIS, CALIFORNIA

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH:(714)521-4811 FAX:(714)521-4173

CITY OF PERRIS
PUBLIC WORKS DEPARTMENT

STREET STRIPING EXHIBIT
SITE PLAN OPTION A
HARLEY KNOX

Designed by / Date	Approved by / Date
Checked by / Date	
Designed by / Date	Public Works Director / R.C.E. XXXXX
Checked by / Date	
	Sheet 1 of 1 Sheets

4066/1 OF 1 SHEET

DATE: 10/26/23 7:27:22A
DWG: C:\Projects\4066\Exhibits\OPTION A STREET STRIPING EXHIBIT.dwg

Appendix C

Existing Traffic Volume Data

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

City of Perris
N/S: Webster Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : PER_Web_HK AM
Site Code : 06722980
Start Date : 11/2/2022
Page No : 1

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

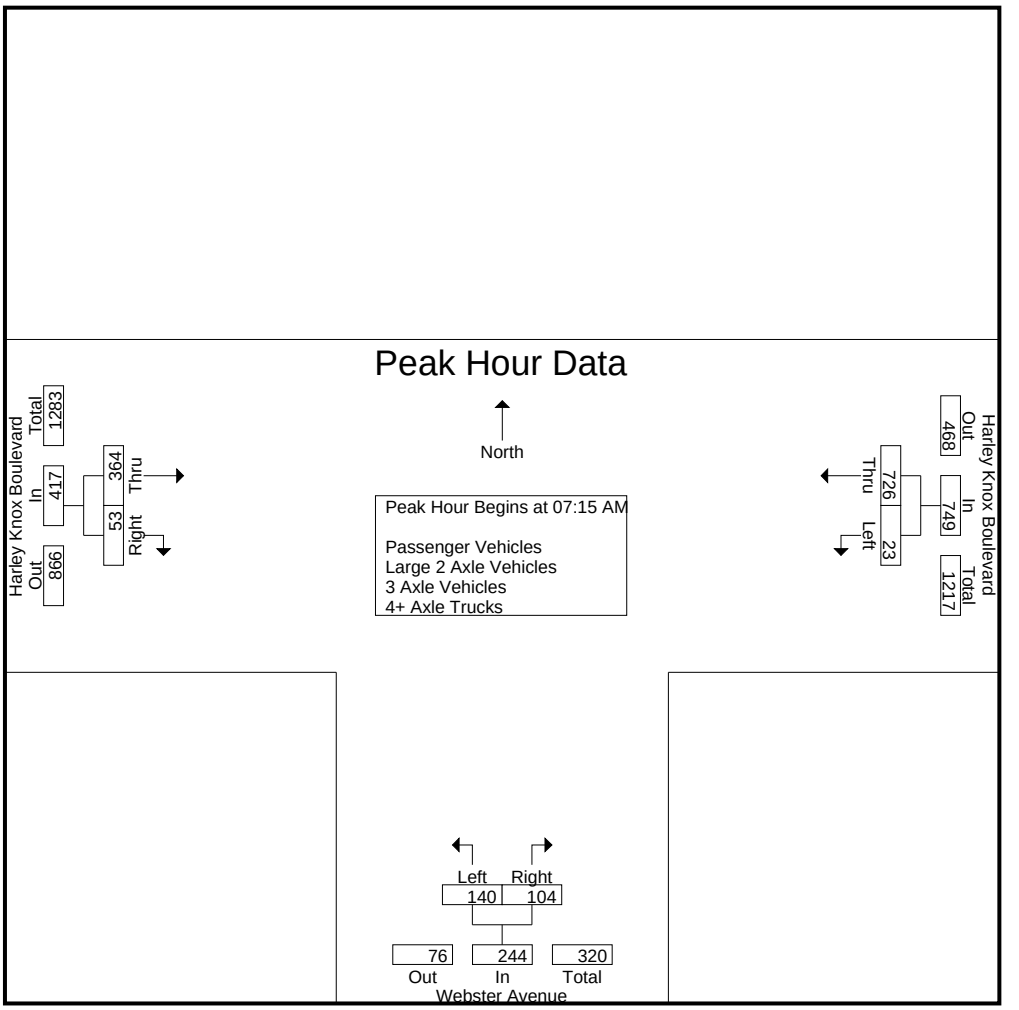
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	5	175	180	20	17	37	72	15	87	304
07:15 AM	6	190	196	33	20	53	101	17	118	367
07:30 AM	4	175	179	33	28	61	88	15	103	343
07:45 AM	6	193	199	38	34	72	109	12	121	392
Total	21	733	754	124	99	223	370	59	429	1406
08:00 AM	7	168	175	36	22	58	66	9	75	308
08:15 AM	4	117	121	18	10	28	84	14	98	247
08:30 AM	4	101	105	9	14	23	94	18	112	240
08:45 AM	3	72	75	10	16	26	76	18	94	195
Total	18	458	476	73	62	135	320	59	379	990
Grand Total	39	1191	1230	197	161	358	690	118	808	2396
Apprch %	3.2	96.8		55	45		85.4	14.6		
Total %	1.6	49.7	51.3	8.2	6.7	14.9	28.8	4.9	33.7	
Passenger Vehicles	36	998	1034	170	150	320	480	89	569	1923
% Passenger Vehicles	92.3	83.8	84.1	86.3	93.2	89.4	69.6	75.4	70.4	80.3
Large 2 Axle Vehicles	1	25	26	5	2	7	34	6	40	73
% Large 2 Axle Vehicles	2.6	2.1	2.1	2.5	1.2	2	4.9	5.1	5	3
3 Axle Vehicles	1	41	42	5	2	7	39	6	45	94
% 3 Axle Vehicles	2.6	3.4	3.4	2.5	1.2	2	5.7	5.1	5.6	3.9
4+ Axle Trucks	1	127	128	17	7	24	137	17	154	306
% 4+ Axle Trucks	2.6	10.7	10.4	8.6	4.3	6.7	19.9	14.4	19.1	12.8

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	6	190	196	33	20	53	101	**17**	118	367
07:30 AM	4	175	179	33	28	61	88	15	103	343
07:45 AM	6	**193**	**199**	**38**	**34**	**72**	**109**	12	**121**	**392**
08:00 AM	**7**	168	175	36	22	58	66	9	75	308
Total Volume	23	726	749	140	104	244	364	53	417	1410
% App. Total	3.1	96.9		57.4	42.6		87.3	12.7		
PHF	.821	.940	.941	.921	.765	.847	.835	.779	.862	.899

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

City of Perris
N/S: Webster Avenue
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Weather: Clear

File Name : PER_Web_HK AM
Site Code : 06722980
Start Date : 11/2/2022
Page No : 2



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

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	5	175	180	33	20	53	72	15	87
+15 mins.	**6**	190	196	33	28	61	101	**17**	118
+30 mins.	4	175	179	**38**	**34**	**72**	88	15	103
+45 mins.	6	**193**	**199**	36	22	58	**109**	12	**121**
Total Volume	21	733	754	140	104	244	370	59	429
% App. Total	2.8	97.2		57.4	42.6		86.2	13.8	
PHF	.875	.949	.947	.921	.765	.847	.849	.868	.886

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File Name : PER_Web_HK AM
Site Code : 06722980
Start Date : 11/2/2022
Page No : 1

Groups Printed- Passenger Vehicles

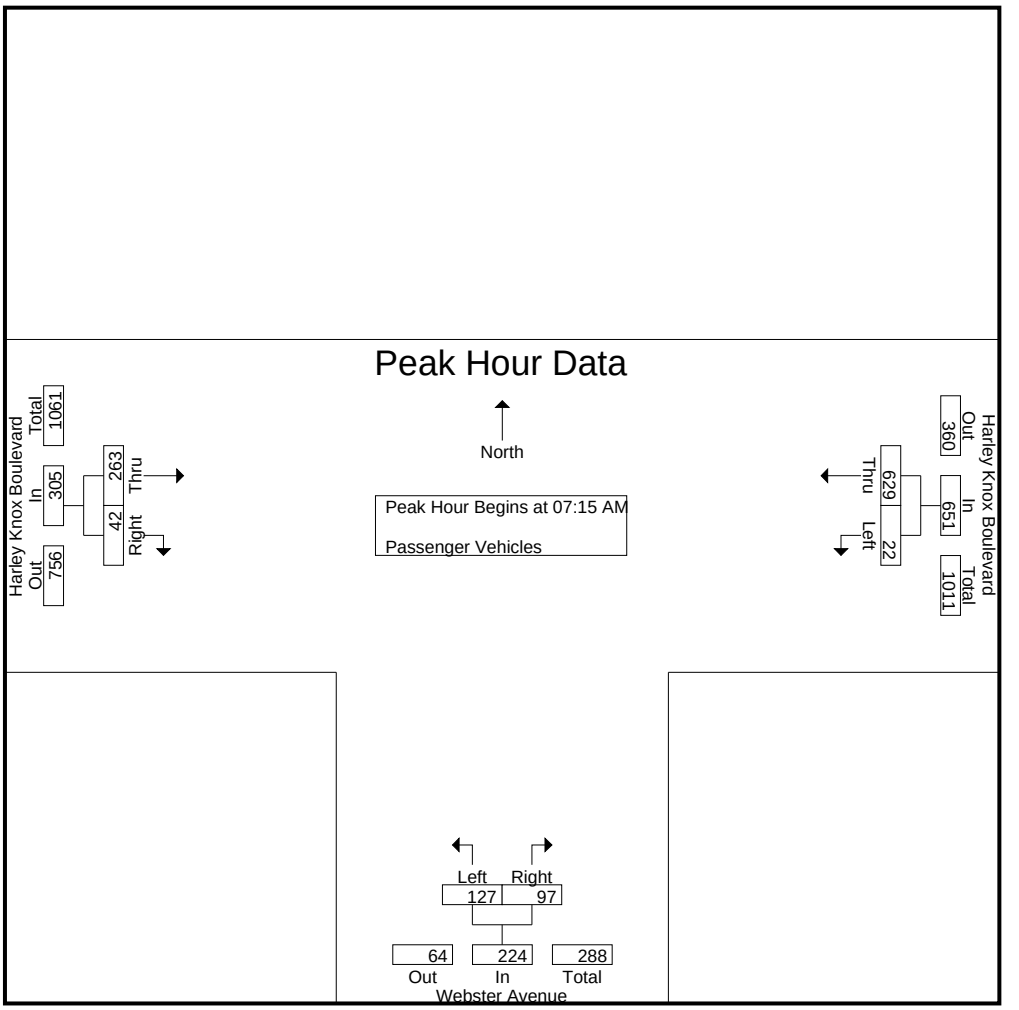
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	145	148	15	16	31	58	12	70	249
07:15 AM	5	169	174	30	19	49	76	10	86	309
07:30 AM	4	156	160	29	27	56	64	12	76	292
07:45 AM	6	167	173	35	30	65	87	11	98	336
Total	18	637	655	109	92	201	285	45	330	1186
08:00 AM	7	137	144	33	21	54	36	9	45	243
08:15 AM	4	101	105	13	8	21	61	9	70	196
08:30 AM	4	70	74	7	13	20	58	15	73	167
08:45 AM	3	53	56	8	16	24	40	11	51	131
Total	18	361	379	61	58	119	195	44	239	737
Grand Total	36	998	1034	170	150	320	480	89	569	1923
Apprch %	3.5	96.5		53.1	46.9		84.4	15.6		
Total %	1.9	51.9	53.8	8.8	7.8	16.6	25	4.6	29.6	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	5	**169**	**174**	30	19	49	76	10	86	309
07:30 AM	4	156	160	29	27	56	64	**12**	76	292
07:45 AM	6	167	173	**35**	**30**	**65**	**87**	11	**98**	**336**
08:00 AM	**7**	137	144	33	21	54	36	9	45	243
Total Volume	22	629	651	127	97	224	263	42	305	1180
% App. Total	3.4	96.6		56.7	43.3		86.2	13.8		
PHF	.786	.930	.935	.907	.808	.862	.756	.875	.778	.878

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	5	**169**	**174**	30	19	49	76	10	86
+15 mins.	4	156	160	29	27	56	64	**12**	76
+30 mins.	6	167	173	**35**	**30**	**65**	**87**	11	**98**
+45 mins.	**7**	137	144	33	21	54	36	9	45
Total Volume	22	629	651	127	97	224	263	42	305
% App. Total	3.4	96.6		56.7	43.3		86.2	13.8	
PHF	.786	.930	.935	.907	.808	.862	.756	.875	.778

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City of Perris
N/S: Webster Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : PER_Web_HK AM
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Groups Printed- Large 2 Axle Vehicles

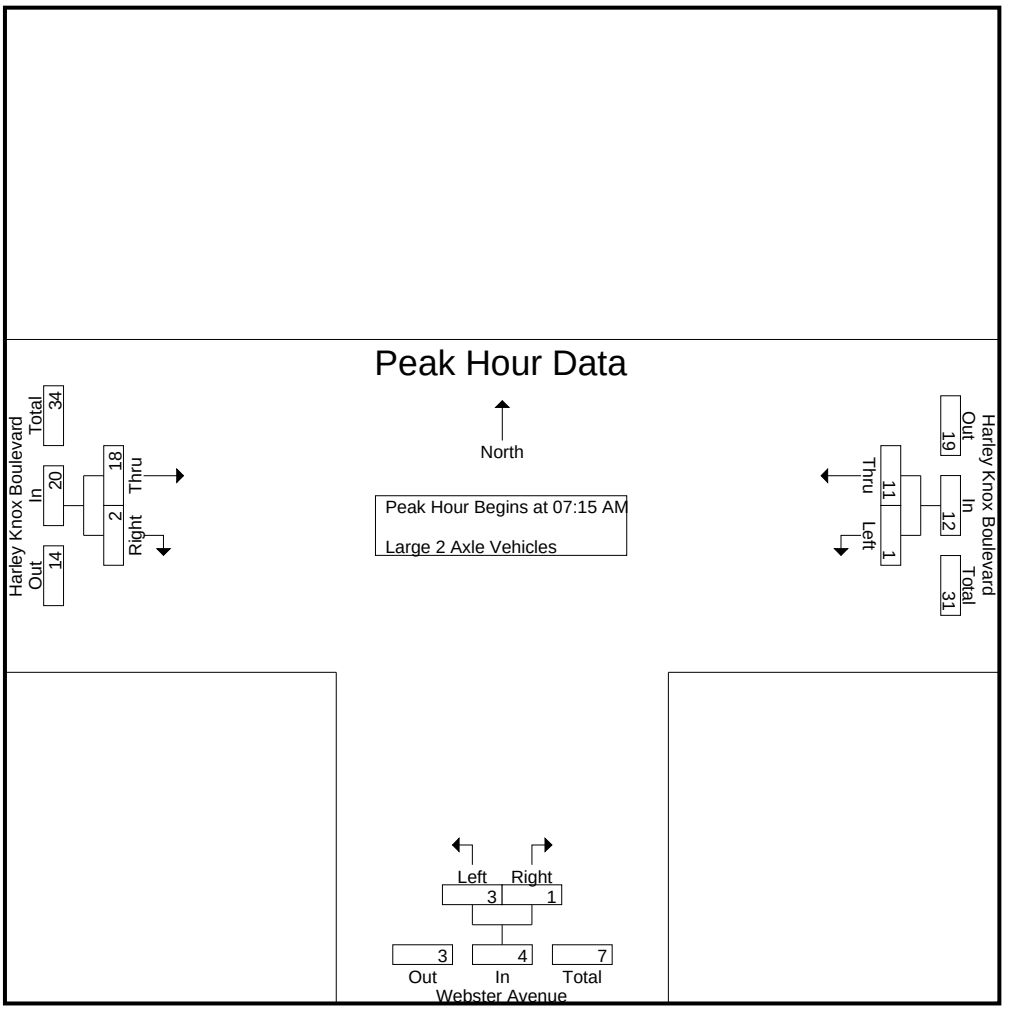
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	6	6	2	1	3	3	1	4	13
07:15 AM	1	2	3	1	0	1	4	1	5	9
07:30 AM	0	3	3	1	0	1	8	0	8	12
07:45 AM	0	3	3	0	1	1	2	1	3	7
Total	1	14	15	4	2	6	17	3	20	41
08:00 AM	0	3	3	1	0	1	4	0	4	8
08:15 AM	0	2	2	0	0	0	2	1	3	5
08:30 AM	0	3	3	0	0	0	5	0	5	8
08:45 AM	0	3	3	0	0	0	6	2	8	11
Total	0	11	11	1	0	1	17	3	20	32
Grand Total	1	25	26	5	2	7	34	6	40	73
Apprch %	3.8	96.2		71.4	28.6		85	15		
Total %	1.4	34.2	35.6	6.8	2.7	9.6	46.6	8.2	54.8	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	**1**	2	**3**	**1**	0	**1**	4	**1**	5	9
07:30 AM	0	**3**	3	1	0	1	**8**	0	**8**	**12**
07:45 AM	0	3	3	0	**1**	1	2	1	3	7
08:00 AM	0	3	3	1	0	1	4	0	4	8
Total Volume	1	11	12	3	1	4	18	2	20	36
% App. Total	8.3	91.7		75	25		90	10		
PHF	.250	.917	1.00	.750	.250	1.00	.563	.500	.625	.750

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	**1**	2	**3**	**1**	0	**1**	4	**1**	5
+15 mins.	0	**3**	3	1	0	1	**8**	0	**8**
+30 mins.	0	3	3	0	**1**	1	2	1	3
+45 mins.	0	3	3	1	0	1	4	0	4
Total Volume	1	11	12	3	1	4	18	2	20
% App. Total	8.3	91.7		75	25		90	10	
PHF	.250	.917	1.000	.750	.250	1.000	.563	.500	.625

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Groups Printed- 3 Axle Vehicles

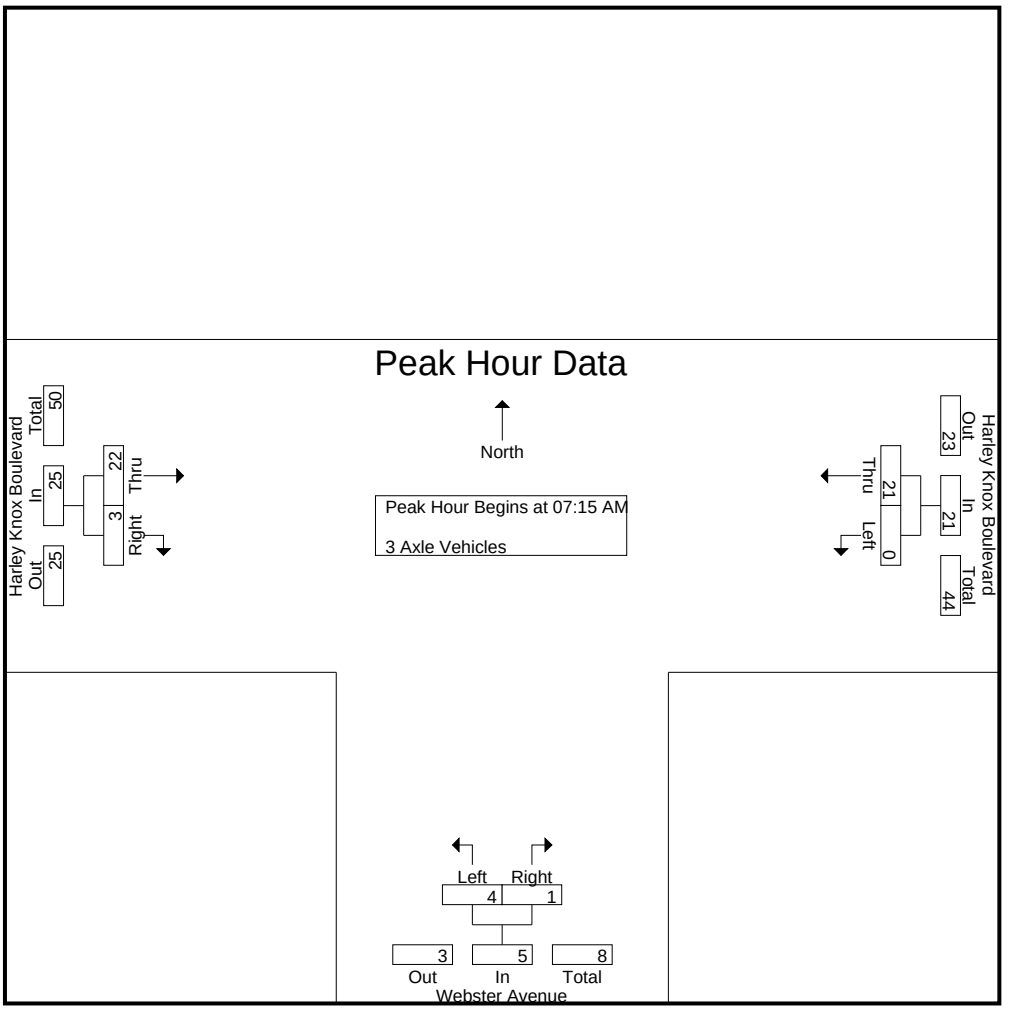
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	8	9	1	0	1	5	0	5	15
07:15 AM	0	4	4	1	0	1	5	2	7	12
07:30 AM	0	2	2	1	1	2	4	1	5	9
07:45 AM	0	8	8	1	0	1	5	0	5	14
Total	1	22	23	4	1	5	19	3	22	50
08:00 AM	0	7	7	1	0	1	8	0	8	16
08:15 AM	0	2	2	0	1	1	2	0	2	5
08:30 AM	0	8	8	0	0	0	2	1	3	11
08:45 AM	0	2	2	0	0	0	8	2	10	12
Total	0	19	19	1	1	2	20	3	23	44
Grand Total	1	41	42	5	2	7	39	6	45	94
Apprch %	2.4	97.6		71.4	28.6		86.7	13.3		
Total %	1.1	43.6	44.7	5.3	2.1	7.4	41.5	6.4	47.9	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	4	4	**1**	0	1	5	**2**	7	12
07:30 AM	0	2	2	1	**1**	**2**	4	1	5	9
07:45 AM	0	**8**	**8**	1	0	1	5	0	5	14
08:00 AM	0	7	7	1	0	1	**8**	0	**8**	**16**
Total Volume	0	21	21	4	1	5	22	3	25	51
% App. Total	0	100		80	20		88	12		
PHF	.000	.656	.656	1.00	.250	.625	.688	.375	.781	.797

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	4	4	**1**	0	1	5	**2**	7
+15 mins.	0	2	2	1	**1**	**2**	4	1	5
+30 mins.	0	**8**	**8**	1	0	1	5	0	5
+45 mins.	0	7	7	1	0	1	**8**	0	**8**
Total Volume	0	21	21	4	1	5	22	3	25
% App. Total	0	100		80	20		88	12	
PHF	.000	.656	.656	1.000	.250	.625	.688	.375	.781

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Groups Printed- 4+ Axle Trucks

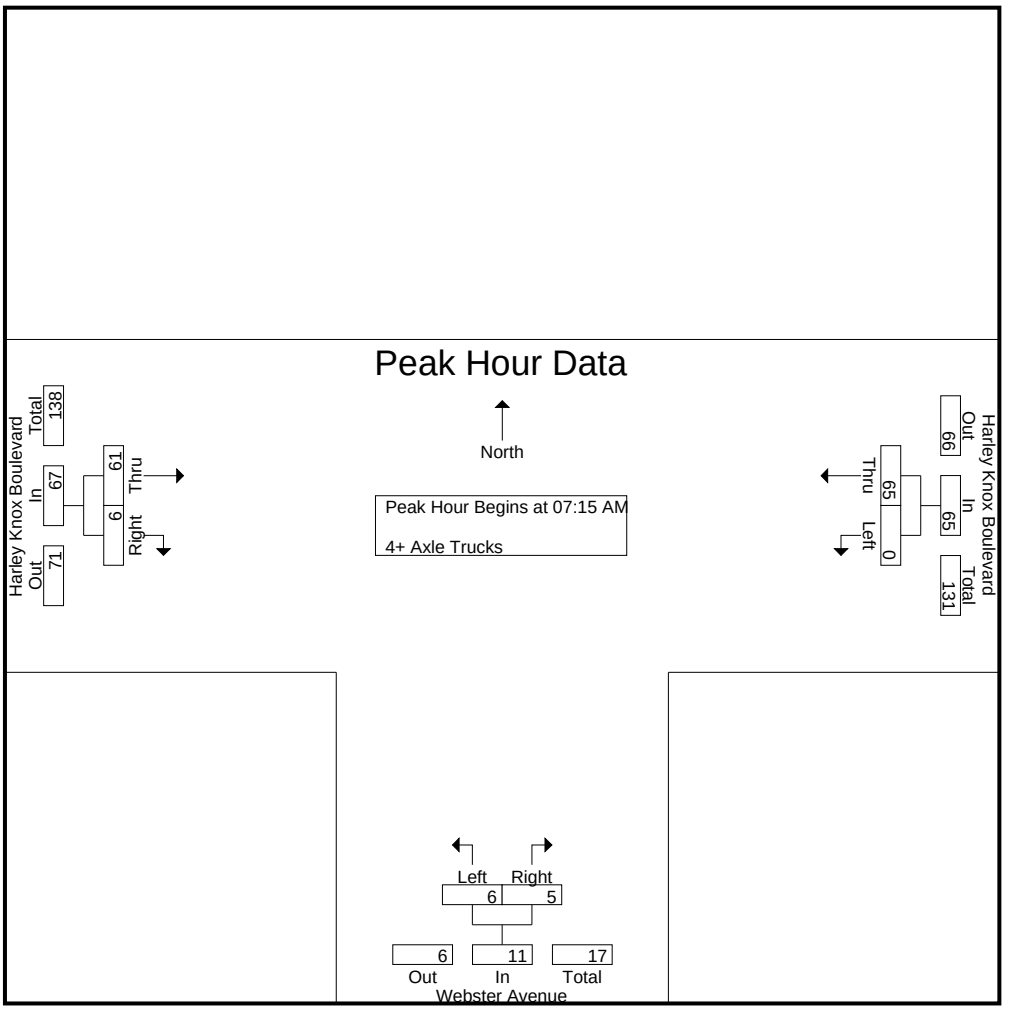
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	16	17	2	0	2	6	2	8	27
07:15 AM	0	15	15	1	1	2	16	4	20	37
07:30 AM	0	14	14	2	0	2	12	2	14	30
07:45 AM	0	15	15	2	3	5	15	0	15	35
Total	1	60	61	7	4	11	49	8	57	129
08:00 AM	0	21	21	1	1	2	18	0	18	41
08:15 AM	0	12	12	5	1	6	19	4	23	41
08:30 AM	0	20	20	2	1	3	29	2	31	54
08:45 AM	0	14	14	2	0	2	22	3	25	41
Total	0	67	67	10	3	13	88	9	97	177
Grand Total	1	127	128	17	7	24	137	17	154	306
Apprch %	0.8	99.2		70.8	29.2		89	11		
Total %	0.3	41.5	41.8	5.6	2.3	7.8	44.8	5.6	50.3	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	15	15	1	1	2	16	**4**	**20**	37
07:30 AM	0	14	14	**2**	0	2	12	2	14	30
07:45 AM	0	15	15	2	**3**	**5**	15	0	15	35
08:00 AM	0	**21**	**21**	1	1	2	**18**	0	18	**41**
Total Volume	0	65	65	6	5	11	61	6	67	143
% App. Total	0	100		54.5	45.5		91	9		
PHF	.000	.774	.774	.750	.417	.550	.847	.375	.838	.872

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	15	15	1	1	2	16	**4**	**20**
+15 mins.	0	14	14	**2**	0	2	12	2	14
+30 mins.	0	15	15	2	**3**	**5**	15	0	15
+45 mins.	0	**21**	**21**	1	1	2	**18**	0	18
Total Volume	0	65	65	6	5	11	61	6	67
% App. Total	0	100		54.5	45.5		91	9	
PHF	.000	.774	.774	.750	.417	.550	.847	.375	.838

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

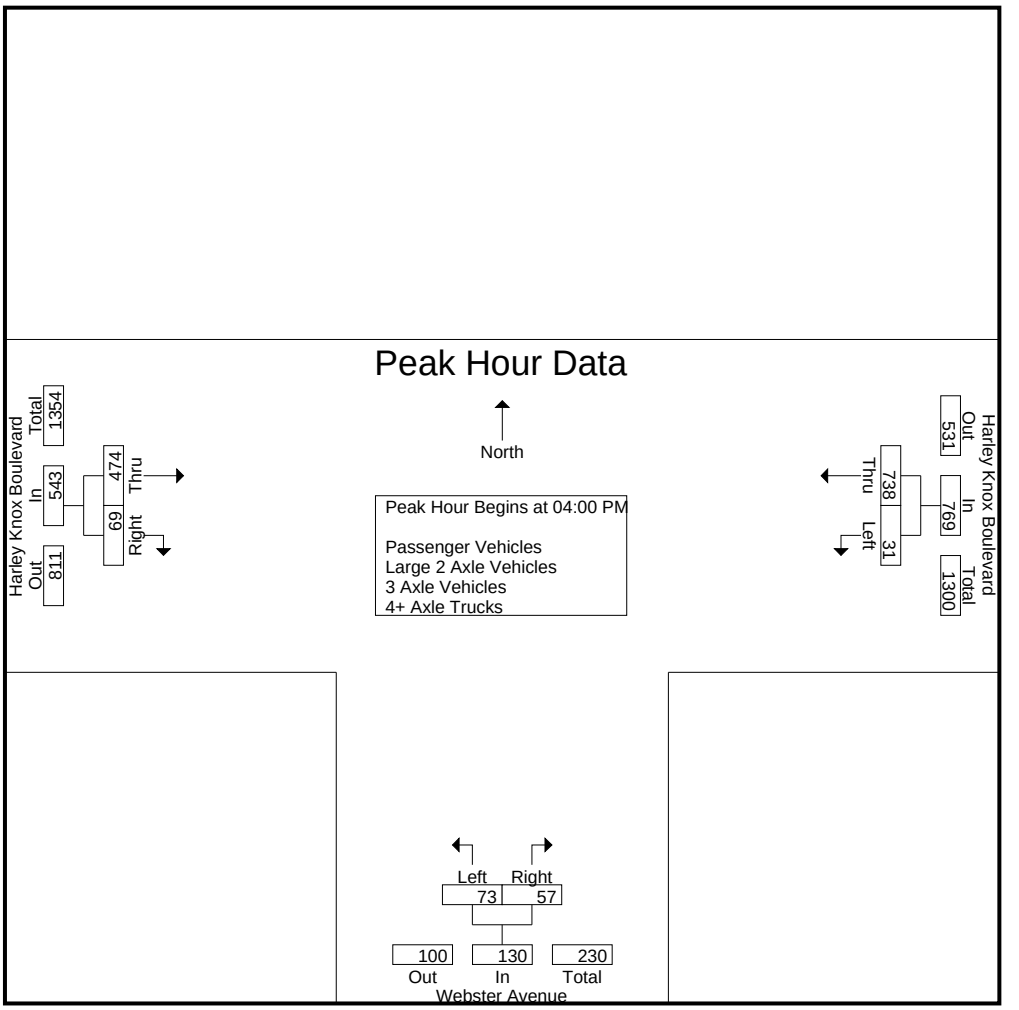
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	8	193	201	15	11	26	111	20	131	358
04:15 PM	7	135	142	18	11	29	122	16	138	309
04:30 PM	12	230	242	16	20	36	126	15	141	419
04:45 PM	4	180	184	24	15	39	115	18	133	356
Total	31	738	769	73	57	130	474	69	543	1442
05:00 PM	4	162	166	15	12	27	120	11	131	324
05:15 PM	3	146	149	16	7	23	118	22	140	312
05:30 PM	3	157	160	21	17	38	115	14	129	327
05:45 PM	4	108	112	14	8	22	125	15	140	274
Total	14	573	587	66	44	110	478	62	540	1237
Grand Total	45	1311	1356	139	101	240	952	131	1083	2679
Apprch %	3.3	96.7		57.9	42.1		87.9	12.1		
Total %	1.7	48.9	50.6	5.2	3.8	9	35.5	4.9	40.4	
Passenger Vehicles	43	1130	1173	122	94	216	740	114	854	2243
% Passenger Vehicles	95.6	86.2	86.5	87.8	93.1	90	77.7	87	78.9	83.7
Large 2 Axle Vehicles	0	27	27	5	3	8	22	2	24	59
% Large 2 Axle Vehicles	0	2.1	2	3.6	3	3.3	2.3	1.5	2.2	2.2
3 Axle Vehicles	1	39	40	1	1	2	70	5	75	117
% 3 Axle Vehicles	2.2	3	2.9	0.7	1	0.8	7.4	3.8	6.9	4.4
4+ Axle Trucks	1	115	116	11	3	14	120	10	130	260
% 4+ Axle Trucks	2.2	8.8	8.6	7.9	3	5.8	12.6	7.6	12	9.7

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	8	193	201	15	11	26	111	**20**	131	358
04:15 PM	7	135	142	18	11	29	122	16	138	309
04:30 PM	**12**	**230**	**242**	16	**20**	36	**126**	15	**141**	**419**
04:45 PM	4	180	184	**24**	15	**39**	115	18	133	356
Total Volume	31	738	769	73	57	130	474	69	543	1442
% App. Total	4	96		56.2	43.8		87.3	12.7		
PHF	.646	.802	.794	.760	.713	.833	.940	.863	.963	.860

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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			04:30 PM		
+0 mins.	8	193	201	18	11	29	**126**	15	**141**
+15 mins.	7	135	142	16	**20**	36	115	18	133
+30 mins.	**12**	**230**	**242**	**24**	15	**39**	120	11	131
+45 mins.	4	180	184	15	12	27	118	**22**	140
Total Volume	31	738	769	73	58	131	479	66	545
% App. Total	4	96		55.7	44.3		87.9	12.1	
PHF	.646	.802	.794	.760	.725	.840	.950	.750	.966

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Groups Printed- Passenger Vehicles

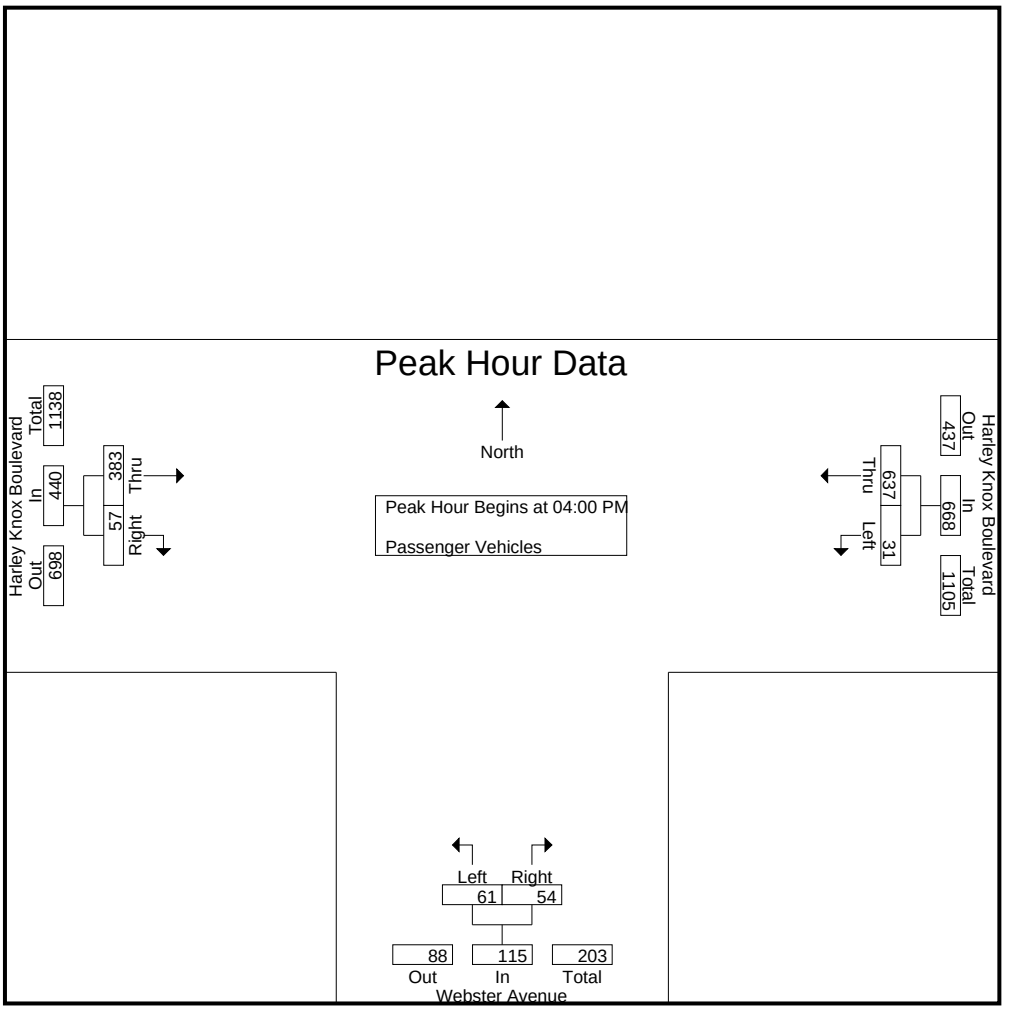
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	8	167	175	12	10	22	87	17	104	301
04:15 PM	7	114	121	14	10	24	94	13	107	252
04:30 PM	12	204	216	15	19	34	105	13	118	368
04:45 PM	4	152	156	20	15	35	97	14	111	302
Total	31	637	668	61	54	115	383	57	440	1223
05:00 PM	3	136	139	14	10	24	79	10	89	252
05:15 PM	3	129	132	14	7	21	90	22	112	265
05:30 PM	3	135	138	19	15	34	87	12	99	271
05:45 PM	3	93	96	14	8	22	101	13	114	232
Total	12	493	505	61	40	101	357	57	414	1020
Grand Total	43	1130	1173	122	94	216	740	114	854	2243
Apprch %	3.7	96.3		56.5	43.5		86.7	13.3		
Total %	1.9	50.4	52.3	5.4	4.2	9.6	33	5.1	38.1	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	8	167	175	12	10	22	87	**17**	104	301
04:15 PM	7	114	121	14	10	24	94	13	107	252
04:30 PM	**12**	**204**	**216**	15	**19**	34	**105**	13	**118**	**368**
04:45 PM	4	152	156	**20**	15	**35**	97	14	111	302
Total Volume	31	637	668	61	54	115	383	57	440	1223
% App. Total	4.6	95.4		53	47		87	13		
PHF	.646	.781	.773	.763	.711	.821	.912	.838	.932	.831

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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		
+0 mins.	8	167	175	12	10	22	87	**17**	104
+15 mins.	7	114	121	14	10	24	94	13	107
+30 mins.	**12**	**204**	**216**	15	**19**	34	**105**	13	**118**
+45 mins.	4	152	156	**20**	15	**35**	97	14	111
Total Volume	31	637	668	61	54	115	383	57	440
% App. Total	4.6	95.4		53	47		87	13	
PHF	.646	.781	.773	.763	.711	.821	.912	.838	.932

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Groups Printed- Large 2 Axle Vehicles

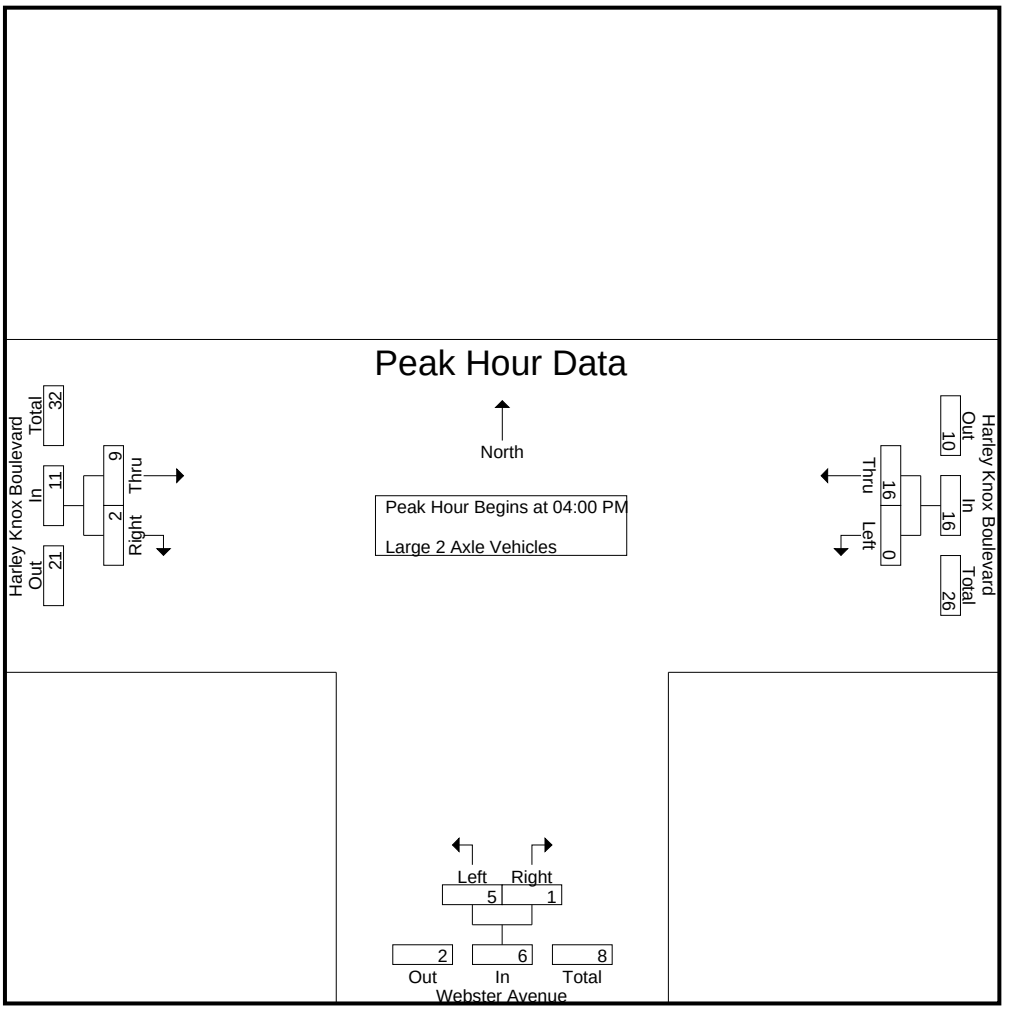
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	6	6	1	0	1	2	0	2	9
04:15 PM	0	3	3	2	1	3	4	0	4	10
04:30 PM	0	4	4	1	0	1	2	1	3	8
04:45 PM	0	3	3	1	0	1	1	1	2	6
Total	0	16	16	5	1	6	9	2	11	33
05:00 PM	0	5	5	0	1	1	6	0	6	12
05:15 PM	0	2	2	0	0	0	3	0	3	5
05:30 PM	0	2	2	0	1	1	2	0	2	5
05:45 PM	0	2	2	0	0	0	2	0	2	4
Total	0	11	11	0	2	2	13	0	13	26
Grand Total	0	27	27	5	3	8	22	2	24	59
Apprch %	0	100		62.5	37.5		91.7	8.3		
Total %	0	45.8	45.8	8.5	5.1	13.6	37.3	3.4	40.7	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	**6**	**6**	1	0	1	2	0	2	9
04:15 PM	0	3	3	**2**	**1**	**3**	**4**	0	**4**	**10**
04:30 PM	0	4	4	1	0	1	2	**1**	3	8
04:45 PM	0	3	3	1	0	1	1	1	2	6
Total Volume	0	16	16	5	1	6	9	2	11	33
% App. Total	0	100		83.3	16.7		81.8	18.2		
PHF	.000	.667	.667	.625	.250	.500	.563	.500	.688	.825

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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		
+0 mins.	0	**6**	**6**	1	0	1	2	0	2
+15 mins.	0	3	3	**2**	**1**	**3**	**4**	0	**4**
+30 mins.	0	4	4	1	0	1	2	**1**	3
+45 mins.	0	3	3	1	0	1	1	1	2
Total Volume	0	16	16	5	1	6	9	2	11
% App. Total	0	100		83.3	16.7		81.8	18.2	
PHF	.000	.667	.667	.625	.250	.500	.563	.500	.688

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City of Perris
N/S: Webster Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : PER_Web_HK PM
Site Code : 06722980
Start Date : 11/2/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

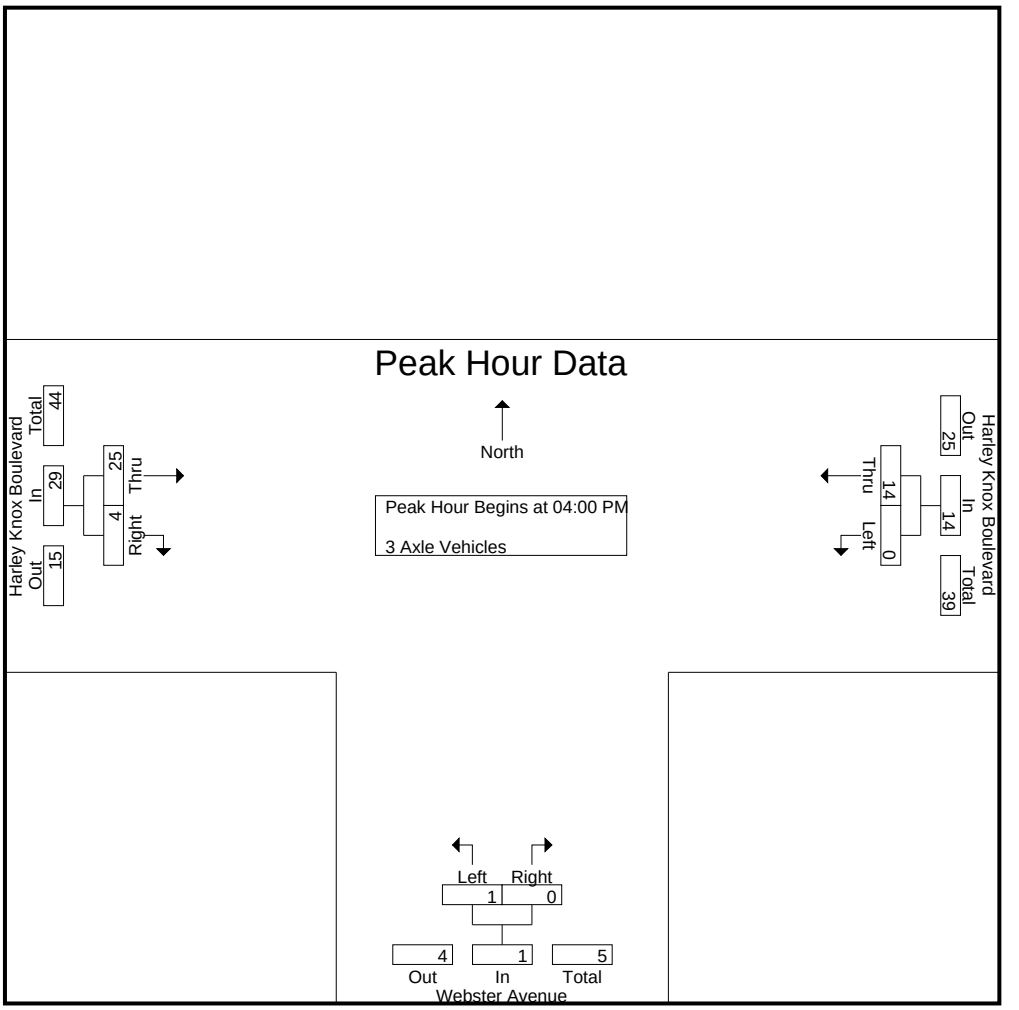
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	6	6	0	0	0	7	1	8	14
04:15 PM	0	2	2	0	0	0	6	2	8	10
04:30 PM	0	2	2	0	0	0	7	0	7	9
04:45 PM	0	4	4	1	0	1	5	1	6	11
Total	0	14	14	1	0	1	25	4	29	44
05:00 PM	1	7	8	0	0	0	17	0	17	25
05:15 PM	0	6	6	0	0	0	10	0	10	16
05:30 PM	0	7	7	0	1	1	10	0	10	18
05:45 PM	0	5	5	0	0	0	8	1	9	14
Total	1	25	26	0	1	1	45	1	46	73
Grand Total	1	39	40	1	1	2	70	5	75	117
Apprch %	2.5	97.5		50	50		93.3	6.7		
Total %	0.9	33.3	34.2	0.9	0.9	1.7	59.8	4.3	64.1	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	**6**	**6**	0	0	0	**7**	1	**8**	**14**
04:15 PM	0	2	2	0	0	0	6	**2**	8	10
04:30 PM	0	2	2	0	0	0	7	0	7	9
04:45 PM	0	4	4	**1**	0	**1**	5	1	6	11
Total Volume	0	14	14	1	0	1	25	4	29	44
% App. Total	0	100		100	0		86.2	13.8		
PHF	.000	.583	.583	.250	.000	.250	.893	.500	.906	.786

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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		
+0 mins.	0	**6**	**6**	0	0	0	**7**	1	**8**
+15 mins.	0	2	2	0	0	0	6	**2**	8
+30 mins.	0	2	2	0	0	0	7	0	7
+45 mins.	0	4	4	**1**	0	**1**	5	1	6
Total Volume	0	14	14	1	0	1	25	4	29
% App. Total	0	100		100	0		86.2	13.8	
PHF	.000	.583	.583	.250	.000	.250	.893	.500	.906

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City of Perris
N/S: Webster Avenue
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Weather: Clear

File Name : PER_Web_HK PM
Site Code : 06722980
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Page No : 1

Groups Printed- 4+ Axle Trucks

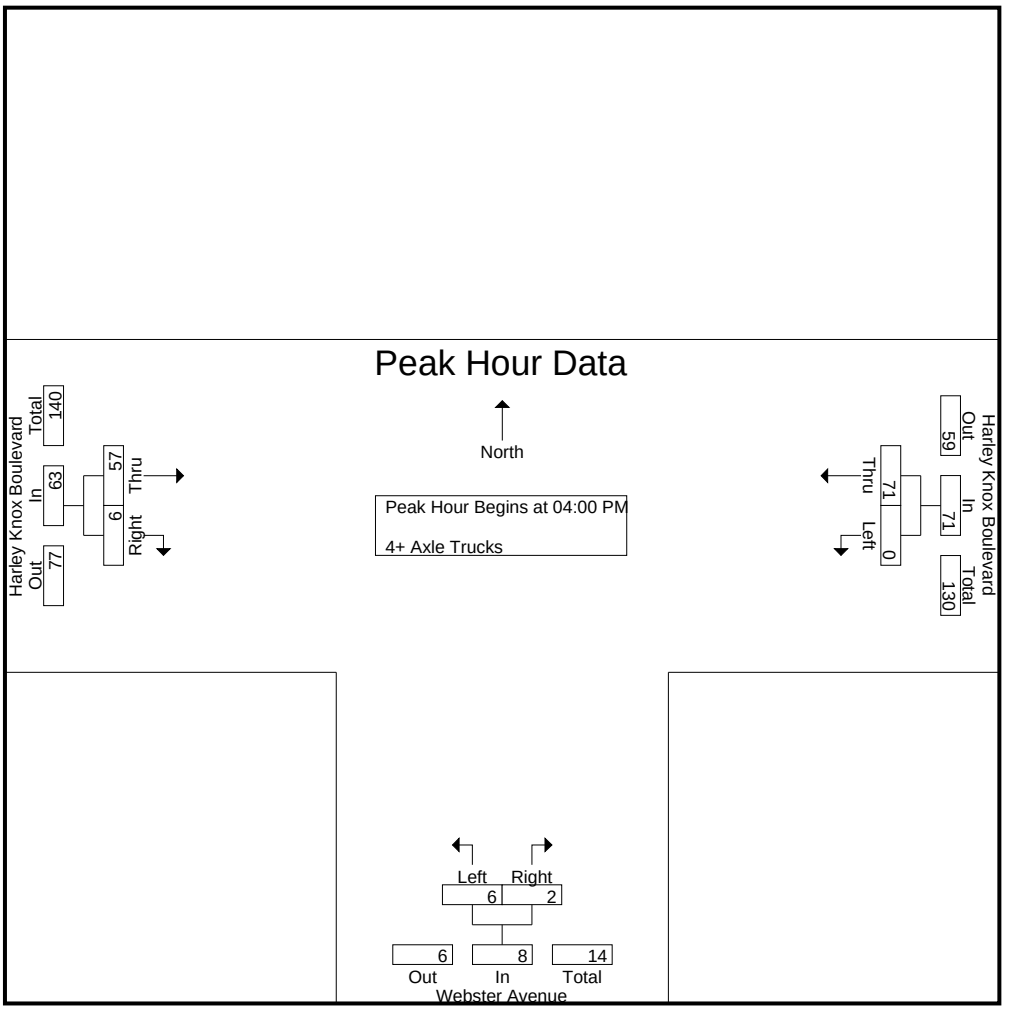
	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	14	14	2	1	3	15	2	17	34
04:15 PM	0	16	16	2	0	2	18	1	19	37
04:30 PM	0	20	20	0	1	1	12	1	13	34
04:45 PM	0	21	21	2	0	2	12	2	14	37
Total	0	71	71	6	2	8	57	6	63	142
05:00 PM	0	14	14	1	1	2	18	1	19	35
05:15 PM	0	9	9	2	0	2	15	0	15	26
05:30 PM	0	13	13	2	0	2	16	2	18	33
05:45 PM	1	8	9	0	0	0	14	1	15	24
Total	1	44	45	5	1	6	63	4	67	118
Grand Total	1	115	116	11	3	14	120	10	130	260
Apprch %	0.9	99.1		78.6	21.4		92.3	7.7		
Total %	0.4	44.2	44.6	4.2	1.2	5.4	46.2	3.8	50	

	Harley Knox Boulevard Westbound			Webster Avenue Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	14	14	**2**	**1**	**3**	15	**2**	17	34
04:15 PM	0	16	16	2	0	2	**18**	1	**19**	**37**
04:30 PM	0	20	20	0	1	1	12	1	13	34
04:45 PM	0	**21**	**21**	2	0	2	12	2	14	37
Total Volume	0	71	71	6	2	8	57	6	63	142
% App. Total	0	100		75	25		90.5	9.5		
PHF	.000	.845	.845	.750	.500	.667	.792	.750	.829	.959

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File Name : PER_Web_HK PM
Site Code : 06722980
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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		
+0 mins.	0	14	14	**2**	**1**	**3**	15	**2**	17
+15 mins.	0	16	16	2	0	2	**18**	1	**19**
+30 mins.	0	20	20	0	1	1	12	1	13
+45 mins.	0	**21**	**21**	2	0	2	12	2	14
Total Volume	0	71	71	6	2	8	57	6	63
% App. Total	0	100		75	25		90.5	9.5	
PHF	.000	.845	.845	.750	.500	.667	.792	.750	.829

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022
Page No : 1

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

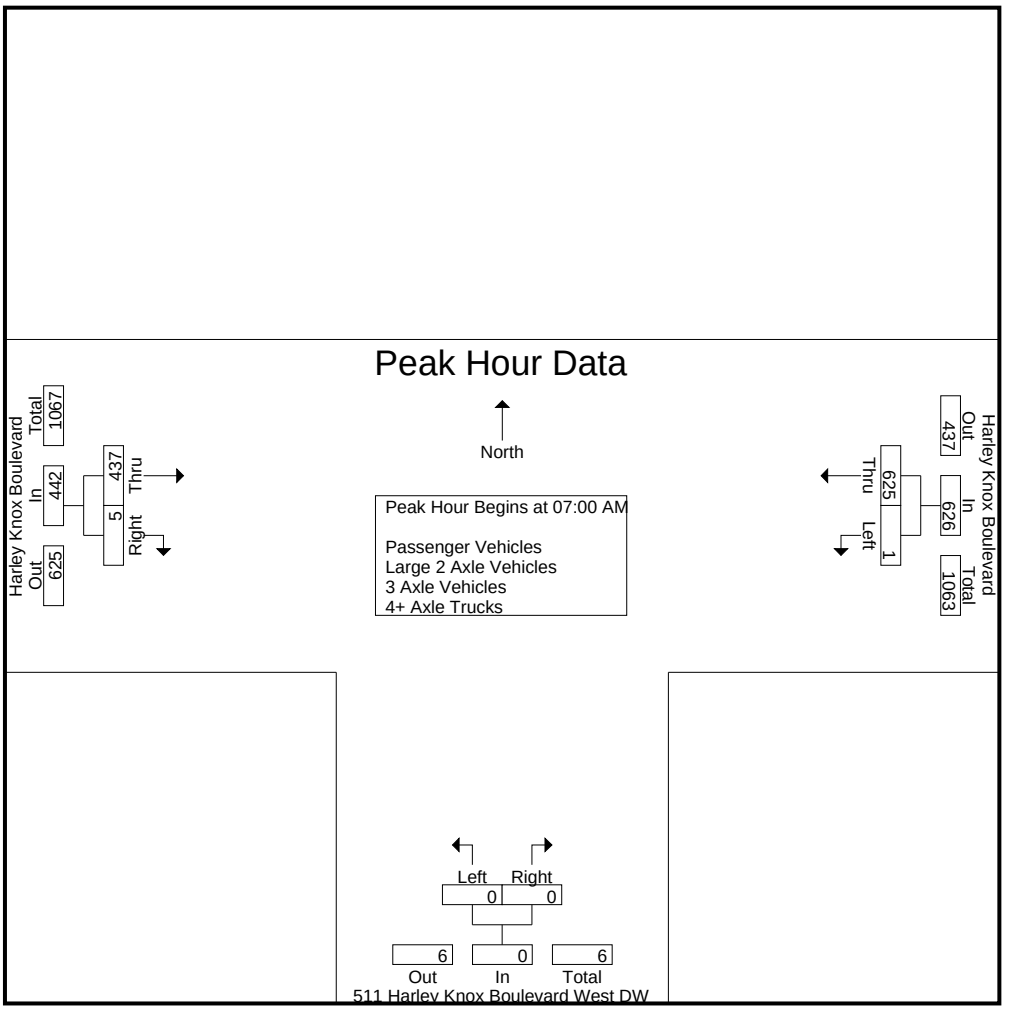
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	146	147	0	0	0	110	0	110	257
07:15 AM	0	157	157	0	0	0	108	1	109	266
07:30 AM	0	152	152	0	0	0	100	0	100	252
07:45 AM	0	170	170	0	0	0	119	4	123	293
Total	1	625	626	0	0	0	437	5	442	1068
08:00 AM	3	123	126	0	0	0	100	5	105	231
08:15 AM	0	98	98	0	0	0	94	1	95	193
08:30 AM	0	93	93	0	0	0	117	0	117	210
08:45 AM	0	80	80	0	0	0	112	0	112	192
Total	3	394	397	0	0	0	423	6	429	826
Grand Total	4	1019	1023	0	0	0	860	11	871	1894
Apprch %	0.4	99.6		0	0		98.7	1.3		
Total %	0.2	53.8	54	0	0	0	45.4	0.6	46	
Passenger Vehicles	4	848	852	0	0	0	643	11	654	1506
% Passenger Vehicles	100	83.2	83.3	0	0	0	74.8	100	75.1	79.5
Large 2 Axle Vehicles	0	34	34	0	0	0	41	0	41	75
% Large 2 Axle Vehicles	0	3.3	3.3	0	0	0	4.8	0	4.7	4
3 Axle Vehicles	0	42	42	0	0	0	57	0	57	99
% 3 Axle Vehicles	0	4.1	4.1	0	0	0	6.6	0	6.5	5.2
4+ Axle Trucks	0	95	95	0	0	0	119	0	119	214
% 4+ Axle Trucks	0	9.3	9.3	0	0	0	13.8	0	13.7	11.3

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	**1**	146	147	0	0	0	110	0	110	257
07:15 AM	0	157	157	0	0	0	108	1	109	266
07:30 AM	0	152	152	0	0	0	100	0	100	252
07:45 AM	0	**170**	**170**	0	0	0	**119**	**4**	**123**	**293**
Total Volume	1	625	626	0	0	0	437	5	442	1068
% App. Total	0.2	99.8		0	0		98.9	1.1		
PHF	.250	.919	.921	.000	.000	.000	.918	.313	.898	.911

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City of Perris
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Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022



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		
+0 mins.	**1**	146	147	0	0	0	110	0	110
+15 mins.	0	157	157	0	0	0	108	1	109
+30 mins.	0	152	152	0	0	0	100	0	100
+45 mins.	0	**170**	**170**	0	0	0	**119**	**4**	**123**
Total Volume	1	625	626	0	0	0	437	5	442
% App. Total	0.2	99.8		0	0		98.9	1.1	
PHF	.250	.919	.921	.000	.000	.000	.918	.313	.898

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022
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Groups Printed- Passenger Vehicles

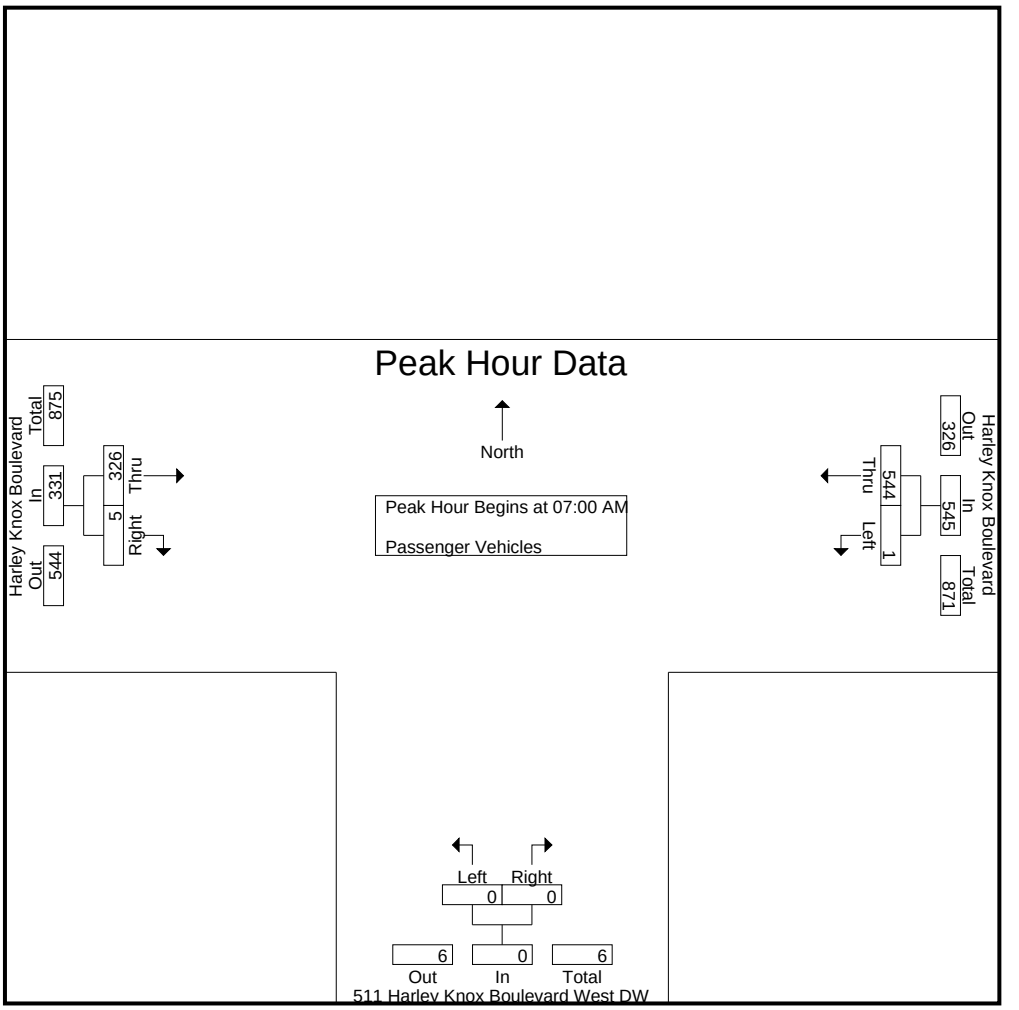
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	128	129	0	0	0	86	0	86	215
07:15 AM	0	141	141	0	0	0	84	1	85	226
07:30 AM	0	134	134	0	0	0	68	0	68	202
07:45 AM	0	141	141	0	0	0	88	4	92	233
Total	1	544	545	0	0	0	326	5	331	876
08:00 AM	3	98	101	0	0	0	79	5	84	185
08:15 AM	0	85	85	0	0	0	77	1	78	163
08:30 AM	0	65	65	0	0	0	88	0	88	153
08:45 AM	0	56	56	0	0	0	73	0	73	129
Total	3	304	307	0	0	0	317	6	323	630
Grand Total	4	848	852	0	0	0	643	11	654	1506
Apprch %	0.5	99.5		0	0		98.3	1.7		
Total %	0.3	56.3	56.6	0	0	0	42.7	0.7	43.4	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	**1**	128	129	0	0	0	86	0	86	215
07:15 AM	0	**141**	**141**	0	0	0	84	1	85	226
07:30 AM	0	134	134	0	0	0	68	0	68	202
07:45 AM	0	141	141	0	0	0	**88**	**4**	**92**	**233**
Total Volume	1	544	545	0	0	0	326	5	331	876
% App. Total	0.2	99.8		0	0		98.5	1.5		
PHF	.250	.965	.966	.000	.000	.000	.926	.313	.899	.940

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Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
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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		
+0 mins.	**1**	128	129	0	0	0	86	0	86
+15 mins.	0	**141**	**141**	0	0	0	84	1	85
+30 mins.	0	134	134	0	0	0	68	0	68
+45 mins.	0	141	141	0	0	0	**88**	**4**	**92**
Total Volume	1	544	545	0	0	0	326	5	331
% App. Total	0.2	99.8		0	0		98.5	1.5	
PHF	.250	.965	.966	.000	.000	.000	.926	.313	.899

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022

Groups Printed- Large 2 Axle Vehicles

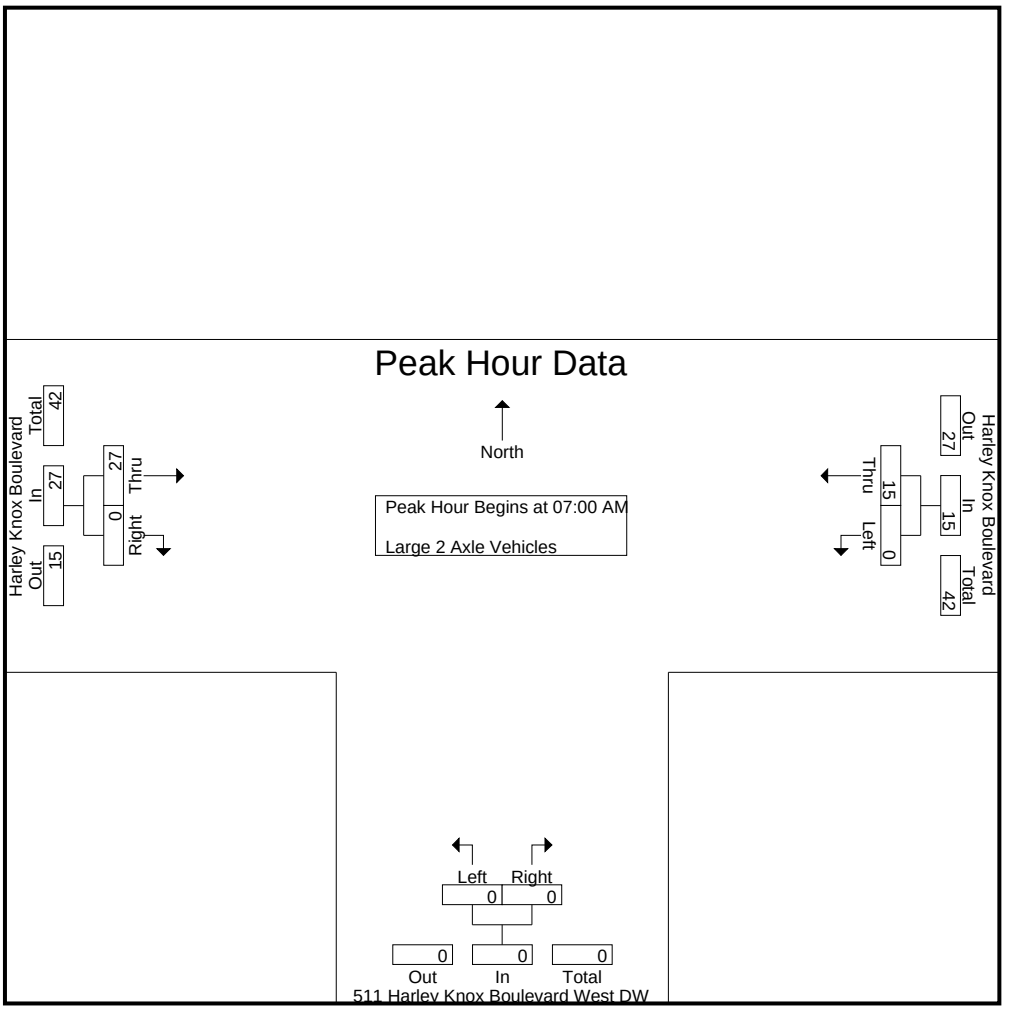
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	4	0	0	0	2	0	2	6
07:15 AM	0	0	0	0	0	0	10	0	10	10
07:30 AM	0	3	3	0	0	0	8	0	8	11
07:45 AM	0	8	8	0	0	0	7	0	7	15
Total	0	15	15	0	0	0	27	0	27	42
08:00 AM	0	6	6	0	0	0	2	0	2	8
08:15 AM	0	3	3	0	0	0	4	0	4	7
08:30 AM	0	6	6	0	0	0	4	0	4	10
08:45 AM	0	4	4	0	0	0	4	0	4	8
Total	0	19	19	0	0	0	14	0	14	33
Grand Total	0	34	34	0	0	0	41	0	41	75
Apprch %	0	100		0	0		100	0		
Total %	0	45.3	45.3	0	0	0	54.7	0	54.7	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	4	4	0	0	0	2	0	2	6
07:15 AM	0	0	0	0	0	0	**10**	0	**10**	10
07:30 AM	0	3	3	0	0	0	8	0	8	11
07:45 AM	0	**8**	**8**	0	0	0	7	0	7	**15**
Total Volume	0	15	15	0	0	0	27	0	27	42
% App. Total	0	100		0	0		100	0		
PHF	.000	.469	.469	.000	.000	.000	.675	.000	.675	.700

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
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Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022



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		
+0 mins.	0	4	4	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	0	**10**	0	**10**
+30 mins.	0	3	3	0	0	0	8	0	8
+45 mins.	0	**8**	**8**	0	0	0	7	0	7
Total Volume	0	15	15	0	0	0	27	0	27
% App. Total	0	100		0	0		100	0	
PHF	.000	.469	.469	.000	.000	.000	.675	.000	.675

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
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Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022
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Groups Printed- 3 Axle Vehicles

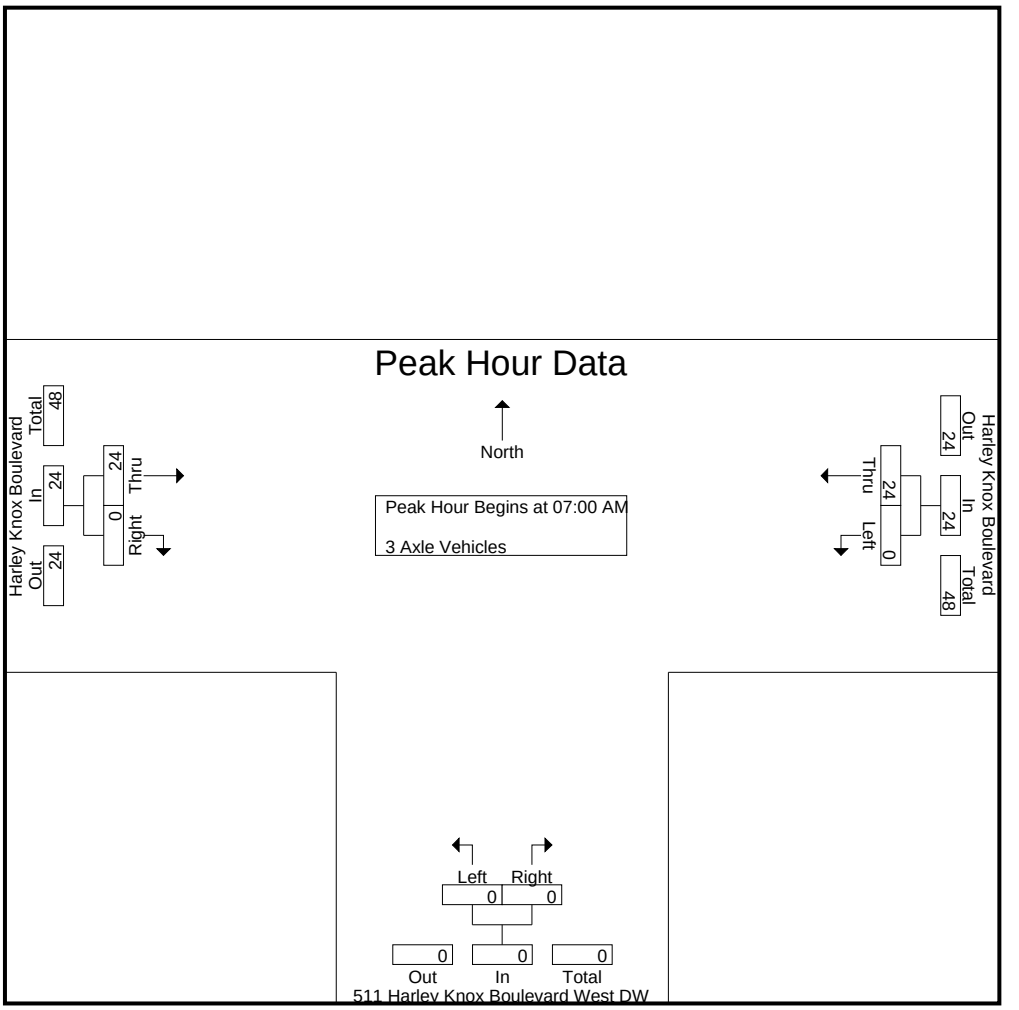
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	6	6	0	0	0	3	0	3	9
07:15 AM	0	4	4	0	0	0	4	0	4	8
07:30 AM	0	4	4	0	0	0	9	0	9	13
07:45 AM	0	10	10	0	0	0	8	0	8	18
Total	0	24	24	0	0	0	24	0	24	48
08:00 AM	0	4	4	0	0	0	8	0	8	12
08:15 AM	0	0	0	0	0	0	2	0	2	2
08:30 AM	0	7	7	0	0	0	7	0	7	14
08:45 AM	0	7	7	0	0	0	16	0	16	23
Total	0	18	18	0	0	0	33	0	33	51
Grand Total	0	42	42	0	0	0	57	0	57	99
Apprch %	0	100		0	0		100	0		
Total %	0	42.4	42.4	0	0	0	57.6	0	57.6	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	6	6	0	0	0	3	0	3	9
07:15 AM	0	4	4	0	0	0	4	0	4	8
07:30 AM	0	4	4	0	0	0	**9**	0	**9**	13
07:45 AM	0	**10**	**10**	0	0	0	8	0	8	**18**
Total Volume	0	24	24	0	0	0	24	0	24	48
% App. Total	0	100		0	0		100	0		
PHF	.000	.600	.600	.000	.000	.000	.667	.000	.667	.667

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022
Page No : 2



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		
+0 mins.	0	6	6	0	0	0	3	0	3
+15 mins.	0	4	4	0	0	0	4	0	4
+30 mins.	0	4	4	0	0	0	**9**	0	**9**
+45 mins.	0	**10**	**10**	0	0	0	8	0	8
Total Volume	0	24	24	0	0	0	24	0	24
% App. Total	0	100		0	0		100	0	
PHF	.000	.600	.600	.000	.000	.000	.667	.000	.667

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
Start Date : 9/8/2022

Groups Printed- 4+ Axle Trucks

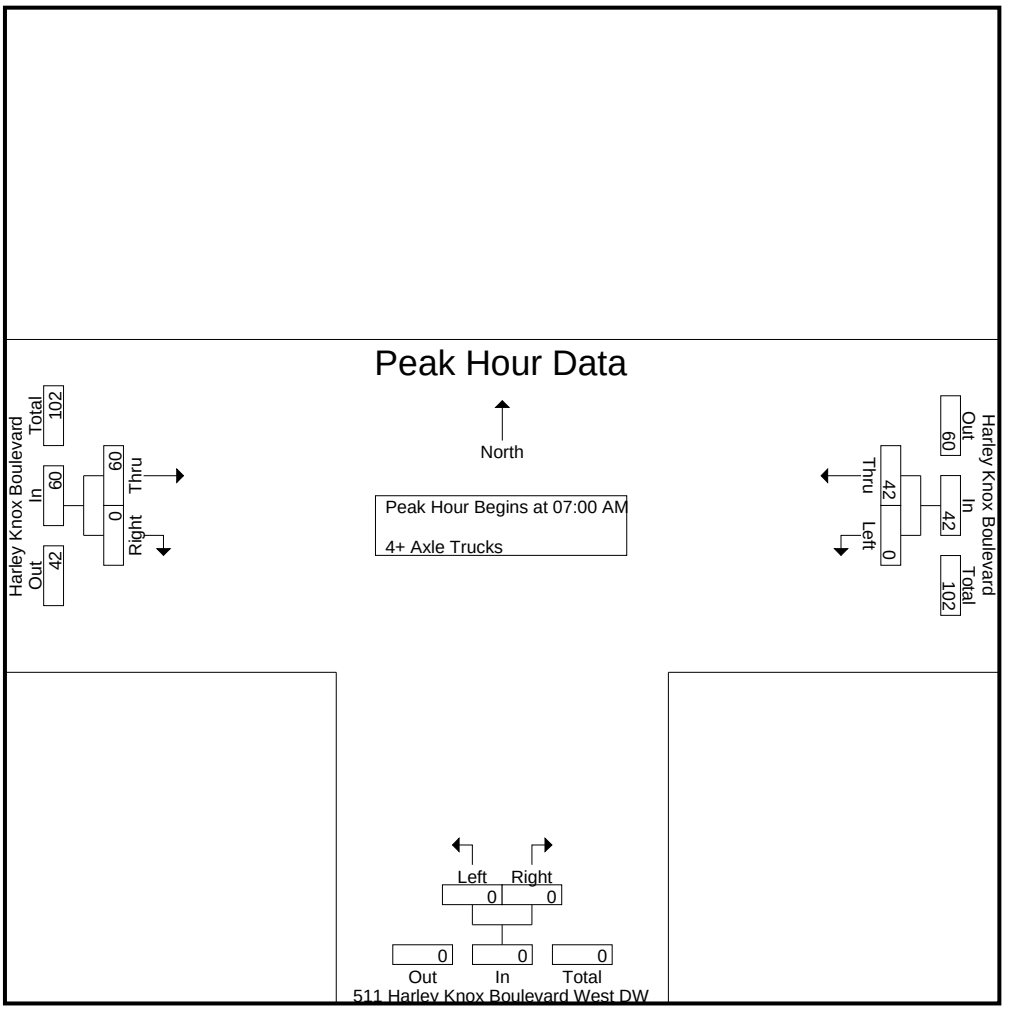
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	8	8	0	0	0	19	0	19	27
07:15 AM	0	12	12	0	0	0	10	0	10	22
07:30 AM	0	11	11	0	0	0	15	0	15	26
07:45 AM	0	11	11	0	0	0	16	0	16	27
Total	0	42	42	0	0	0	60	0	60	102
08:00 AM	0	15	15	0	0	0	11	0	11	26
08:15 AM	0	10	10	0	0	0	11	0	11	21
08:30 AM	0	15	15	0	0	0	18	0	18	33
08:45 AM	0	13	13	0	0	0	19	0	19	32
Total	0	53	53	0	0	0	59	0	59	112
Grand Total	0	95	95	0	0	0	119	0	119	214
Apprch %	0	100		0	0		100	0		
Total %	0	44.4	44.4	0	0	0	55.6	0	55.6	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	8	8	0	0	0	**19**	0	**19**	**27**
07:15 AM	0	**12**	**12**	0	0	0	10	0	10	22
07:30 AM	0	11	11	0	0	0	15	0	15	26
07:45 AM	0	11	11	0	0	0	16	0	16	27
Total Volume	0	42	42	0	0	0	60	0	60	102
% App. Total	0	100		0	0		100	0		
PHF	.000	.875	.875	.000	.000	.000	.789	.000	.789	.944

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Weather: Clear

File Name : 01C_511 HKD_HK AM
Site Code : 06722787
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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		
+0 mins.	0	8	8	0	0	0	**19**	0	**19**
+15 mins.	0	**12**	**12**	0	0	0	10	0	10
+30 mins.	0	11	11	0	0	0	15	0	15
+45 mins.	0	11	11	0	0	0	16	0	16
Total Volume	0	42	42	0	0	0	60	0	60
% App. Total	0	100		0	0		100	0	
PHF	.000	.875	.875	.000	.000	.000	.789	.000	.789

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City of Perris
N/S: 511 Harley Knox Blvd West Driveway
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Weather: Clear

File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022
Page No : 1

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

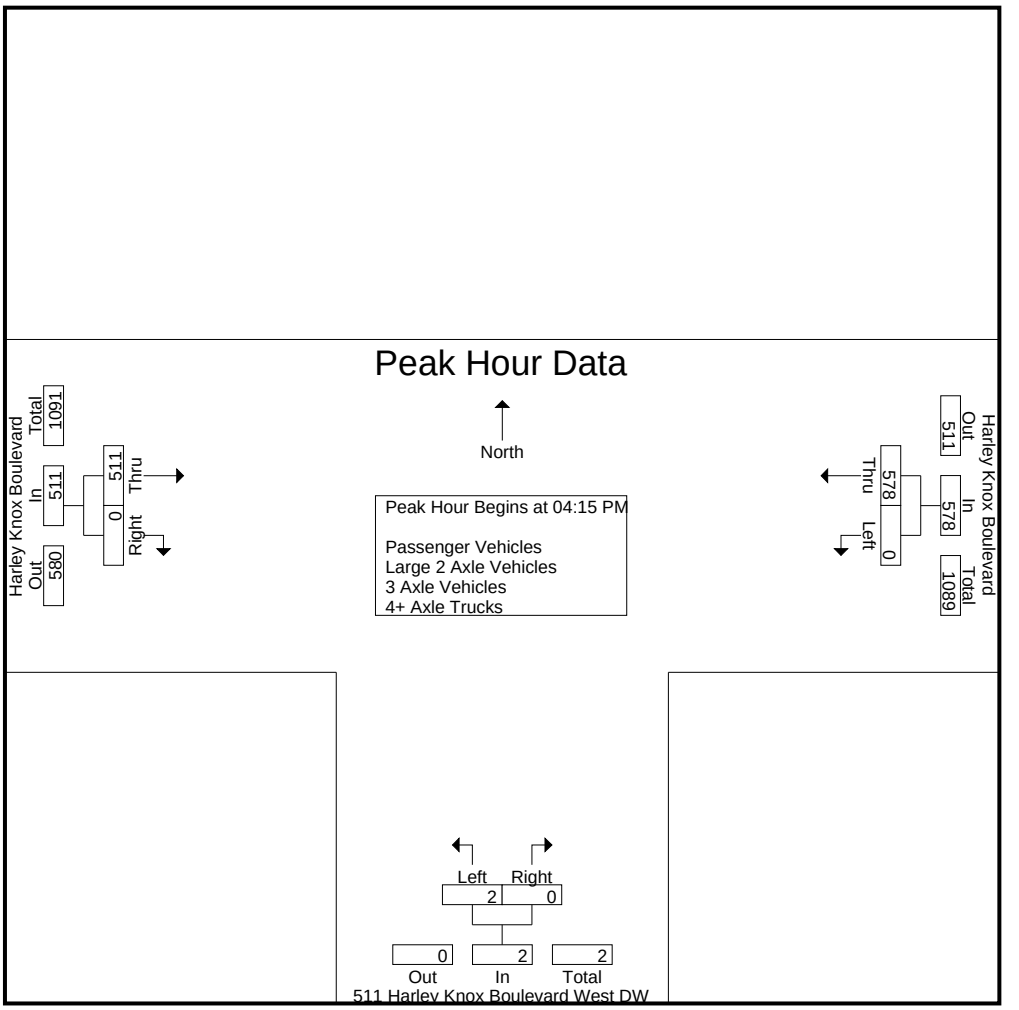
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	114	114	1	0	1	103	0	103	218
04:15 PM	0	142	142	0	0	0	132	0	132	274
04:30 PM	0	180	180	1	0	1	137	0	137	318
04:45 PM	0	133	133	0	0	0	120	0	120	253
Total	0	569	569	2	0	2	492	0	492	1063
05:00 PM	0	123	123	1	0	1	122	0	122	246
05:15 PM	0	142	142	0	0	0	128	1	129	271
05:30 PM	0	148	148	1	0	1	118	0	118	267
05:45 PM	0	96	96	0	0	0	86	0	86	182
Total	0	509	509	2	0	2	454	1	455	966
Grand Total	0	1078	1078	4	0	4	946	1	947	2029
Apprch %	0	100		100	0		99.9	0.1		
Total %	0	53.1	53.1	0.2	0	0.2	46.6	0	46.7	
Passenger Vehicles	0	928	928	3	0	3	768	0	768	1699
% Passenger Vehicles	0	86.1	86.1	75	0	75	81.2	0	81.1	83.7
Large 2 Axle Vehicles	0	23	23	0	0	0	23	0	23	46
% Large 2 Axle Vehicles	0	2.1	2.1	0	0	0	2.4	0	2.4	2.3
3 Axle Vehicles	0	25	25	0	0	0	67	0	67	92
% 3 Axle Vehicles	0	2.3	2.3	0	0	0	7.1	0	7.1	4.5
4+ Axle Trucks	0	102	102	1	0	1	88	1	89	192
% 4+ Axle Trucks	0	9.5	9.5	25	0	25	9.3	100	9.4	9.5

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	0	142	142	0	0	0	132	0	132	274
04:30 PM	0	**180**	**180**	**1**	0	**1**	**137**	0	**137**	**318**
04:45 PM	0	133	133	0	0	0	120	0	120	253
05:00 PM	0	123	123	1	0	1	122	0	122	246
Total Volume	0	578	578	2	0	2	511	0	511	1091
% App. Total	0	100		100	0		100	0		
PHF	.000	.803	.803	.500	.000	.500	.932	.000	.932	.858

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City of Perris
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Weather: Clear

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

	04:15 PM			04:00 PM			04:15 PM		
+0 mins.	0	142	142	**1**	0	**1**	132	0	132
+15 mins.	0	**180**	**180**	0	0	0	**137**	0	**137**
+30 mins.	0	133	133	1	0	1	120	0	120
+45 mins.	0	123	123	0	0	0	122	0	122
Total Volume	0	578	578	2	0	2	511	0	511
% App. Total	0	100		100	0		100	0	
PHF	.000	.803	.803	.500	.000	.500	.932	.000	.932

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Weather: Clear

File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022

Groups Printed- Passenger Vehicles

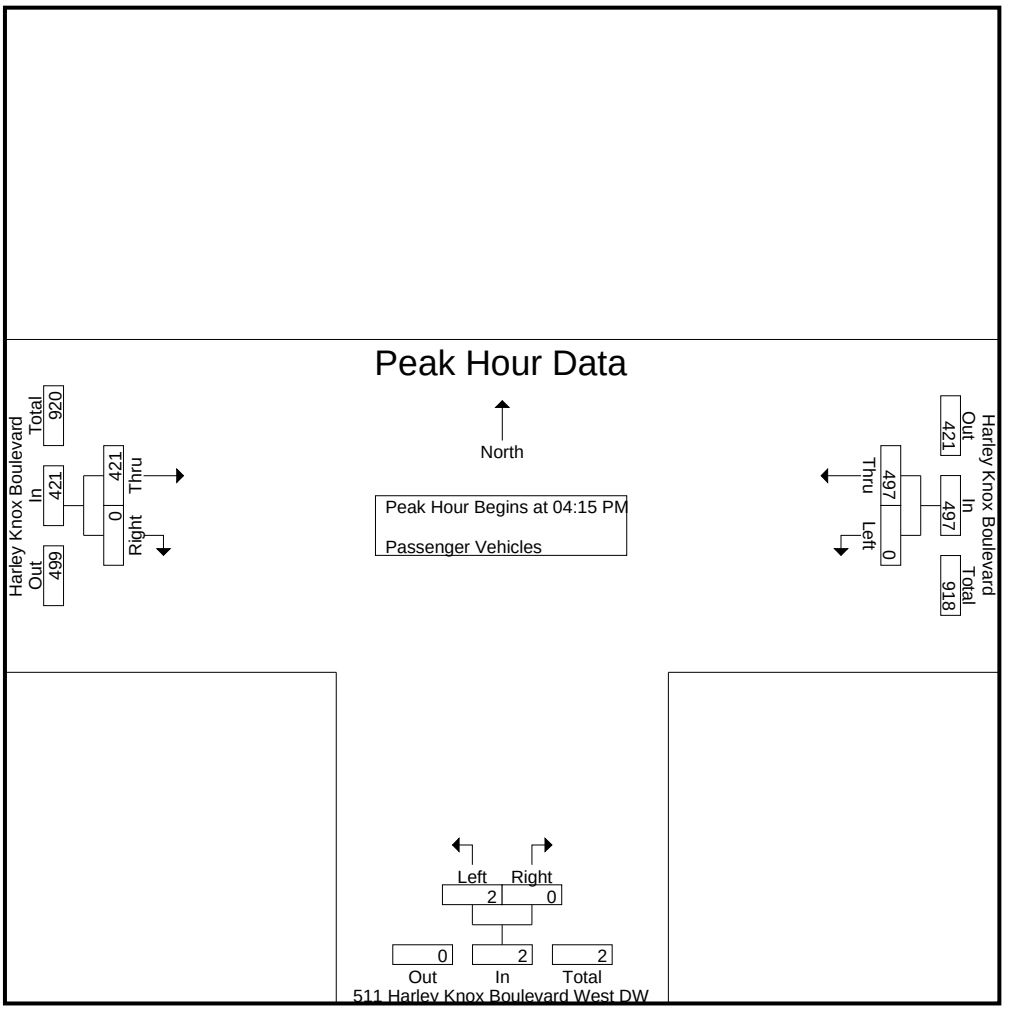
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	94	94	1	0	1	81	0	81	176
04:15 PM	0	117	117	0	0	0	111	0	111	228
04:30 PM	0	161	161	1	0	1	113	0	113	275
04:45 PM	0	110	110	0	0	0	97	0	97	207
Total	0	482	482	2	0	2	402	0	402	886
05:00 PM	0	109	109	1	0	1	100	0	100	210
05:15 PM	0	124	124	0	0	0	100	0	100	224
05:30 PM	0	132	132	0	0	0	92	0	92	224
05:45 PM	0	81	81	0	0	0	74	0	74	155
Total	0	446	446	1	0	1	366	0	366	813
Grand Total	0	928	928	3	0	3	768	0	768	1699
Apprch %	0	100		100	0		100	0		
Total %	0	54.6	54.6	0.2	0	0.2	45.2	0	45.2	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	0	117	117	0	0	0	111	0	111	228
04:30 PM	0	**161**	**161**	**1**	0	**1**	**113**	0	**113**	**275**
04:45 PM	0	110	110	0	0	0	97	0	97	207
05:00 PM	0	109	109	1	0	1	100	0	100	210
Total Volume	0	497	497	2	0	2	421	0	421	920
% App. Total	0	100		100	0		100	0		
PHF	.000	.772	.772	.500	.000	.500	.931	.000	.931	.836

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Weather: Clear

File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022
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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		
+0 mins.	0	117	117	0	0	0	111	0	111
+15 mins.	0	**161**	**161**	**1**	0	**1**	**113**	0	**113**
+30 mins.	0	110	110	0	0	0	97	0	97
+45 mins.	0	109	109	1	0	1	100	0	100
Total Volume	0	497	497	2	0	2	421	0	421
% App. Total	0	100		100	0		100	0	
PHF	.000	.772	.772	.500	.000	.500	.931	.000	.931

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City of Perris
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Weather: Clear

File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022

Groups Printed- Large 2 Axle Vehicles

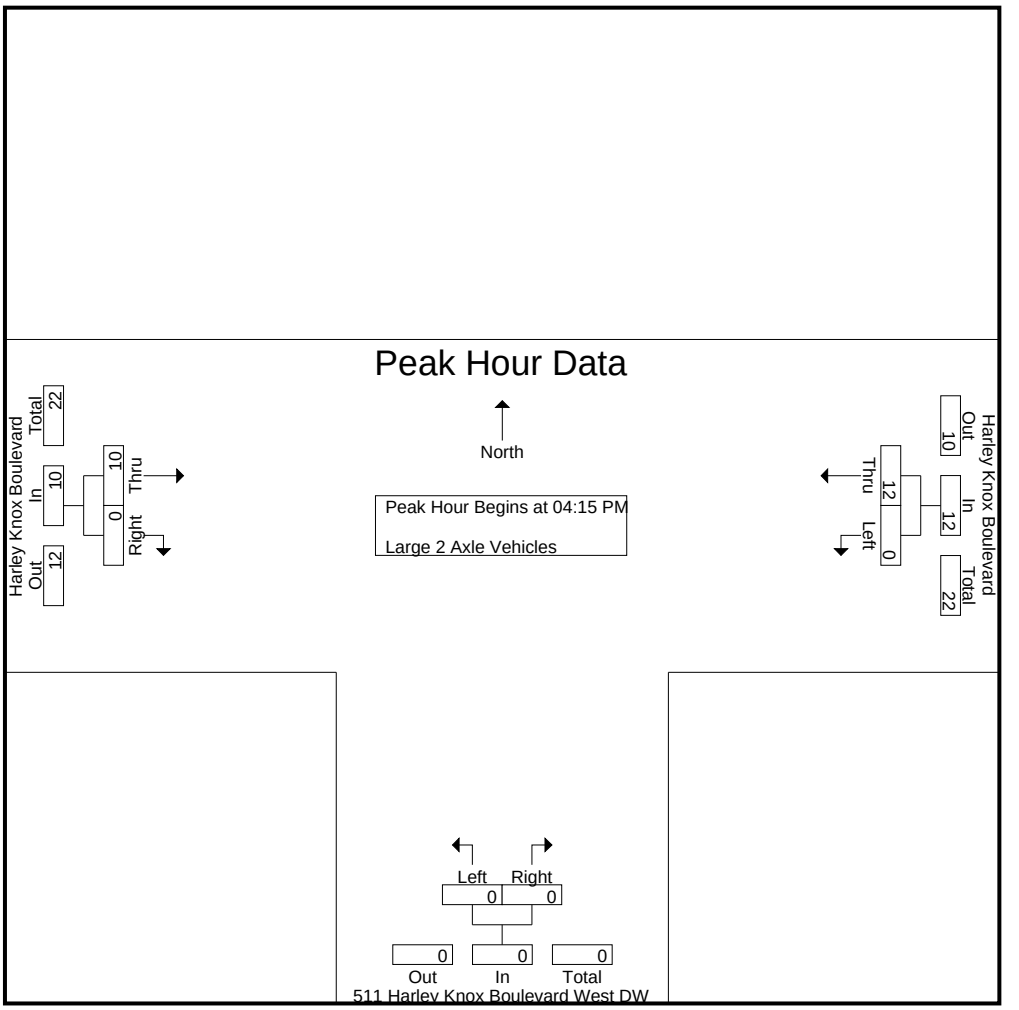
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	4	4	0	0	0	6	0	6	10
04:15 PM	0	2	2	0	0	0	4	0	4	6
04:30 PM	0	5	5	0	0	0	3	0	3	8
04:45 PM	0	5	5	0	0	0	2	0	2	7
Total	0	16	16	0	0	0	15	0	15	31
05:00 PM	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	5	5	0	0	0	5	0	5	10
05:30 PM	0	2	2	0	0	0	1	0	1	3
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	7	7	0	0	0	8	0	8	15
Grand Total	0	23	23	0	0	0	23	0	23	46
Apprch %	0	100		0	0		100	0		
Total %	0	50	50	0	0	0	50	0	50	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	0	2	2	0	0	0	**4**	0	**4**	6
04:30 PM	0	**5**	**5**	0	0	0	3	0	3	**8**
04:45 PM	0	5	5	0	0	0	2	0	2	7
05:00 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	12	12	0	0	0	10	0	10	22
% App. Total	0	100		0	0		100	0		
PHF	.000	.600	.600	.000	.000	.000	.625	.000	.625	.688

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Site Code : 06722787
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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		
+0 mins.	0	2	2	0	0	0	**4**	0	**4**
+15 mins.	0	**5**	**5**	0	0	0	3	0	3
+30 mins.	0	5	5	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	12	12	0	0	0	10	0	10
% App. Total	0	100		0	0		100	0	
PHF	.000	.600	.600	.000	.000	.000	.625	.000	.625

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City of Perris
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Weather: Clear

File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022

Groups Printed- 3 Axle Vehicles

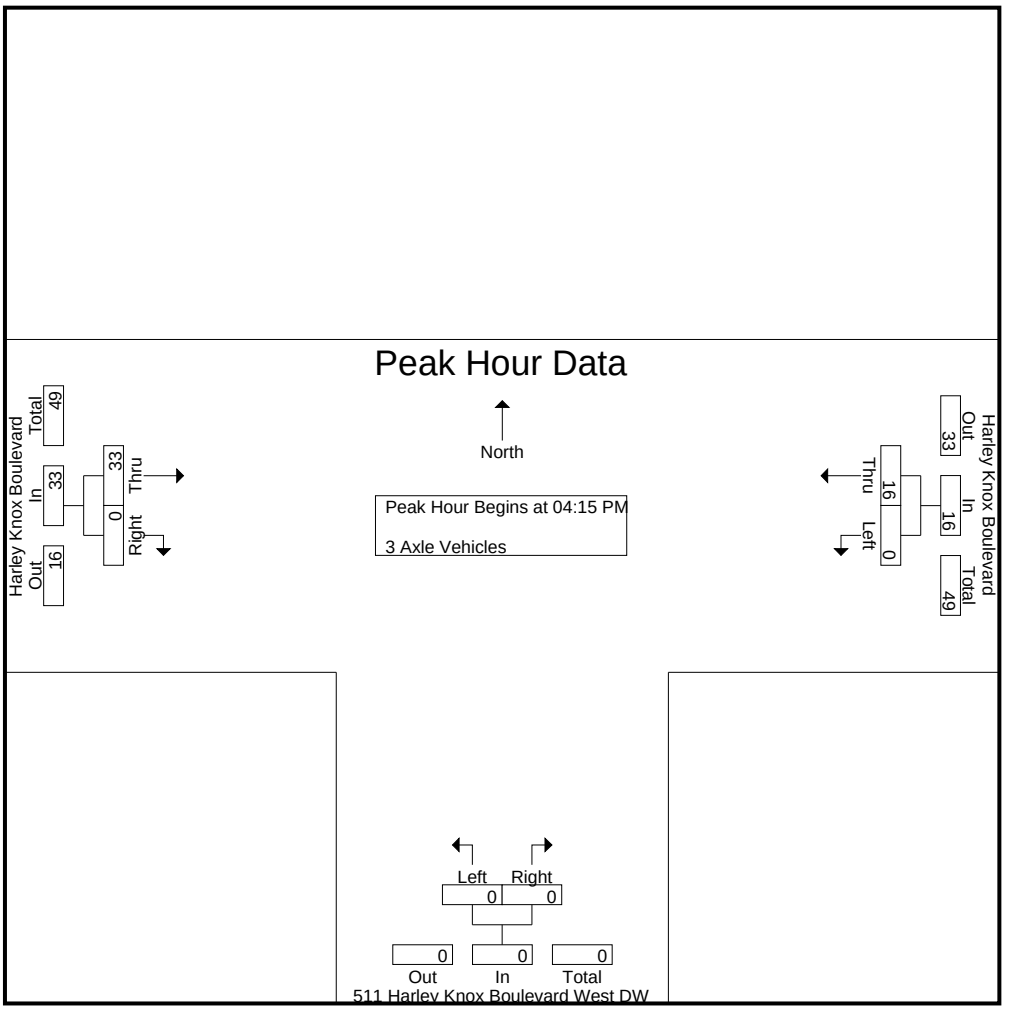
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	3	3	0	0	0	5	0	5	8
04:15 PM	0	3	3	0	0	0	4	0	4	7
04:30 PM	0	2	2	0	0	0	8	0	8	10
04:45 PM	0	6	6	0	0	0	9	0	9	15
Total	0	14	14	0	0	0	26	0	26	40
05:00 PM	0	5	5	0	0	0	12	0	12	17
05:15 PM	0	3	3	0	0	0	13	0	13	16
05:30 PM	0	3	3	0	0	0	9	0	9	12
05:45 PM	0	0	0	0	0	0	7	0	7	7
Total	0	11	11	0	0	0	41	0	41	52
Grand Total	0	25	25	0	0	0	67	0	67	92
Apprch %	0	100		0	0		100	0		
Total %	0	27.2	27.2	0	0	0	72.8	0	72.8	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	0	3	3	0	0	0	4	0	4	7
04:30 PM	0	2	2	0	0	0	8	0	8	10
04:45 PM	0	**6**	**6**	0	0	0	9	0	9	15
05:00 PM	0	5	5	0	0	0	**12**	0	**12**	**17**
Total Volume	0	16	16	0	0	0	33	0	33	49
% App. Total	0	100		0	0		100	0		
PHF	.000	.667	.667	.000	.000	.000	.688	.000	.688	.721

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File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022



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		
+0 mins.	0	3	3	0	0	0	4	0	4
+15 mins.	0	2	2	0	0	0	8	0	8
+30 mins.	0	**6**	**6**	0	0	0	9	0	9
+45 mins.	0	5	5	0	0	0	**12**	0	**12**
Total Volume	0	16	16	0	0	0	33	0	33
% App. Total	0	100		0	0		100	0	
PHF	.000	.667	.667	.000	.000	.000	.688	.000	.688

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Groups Printed- 4+ Axle Trucks

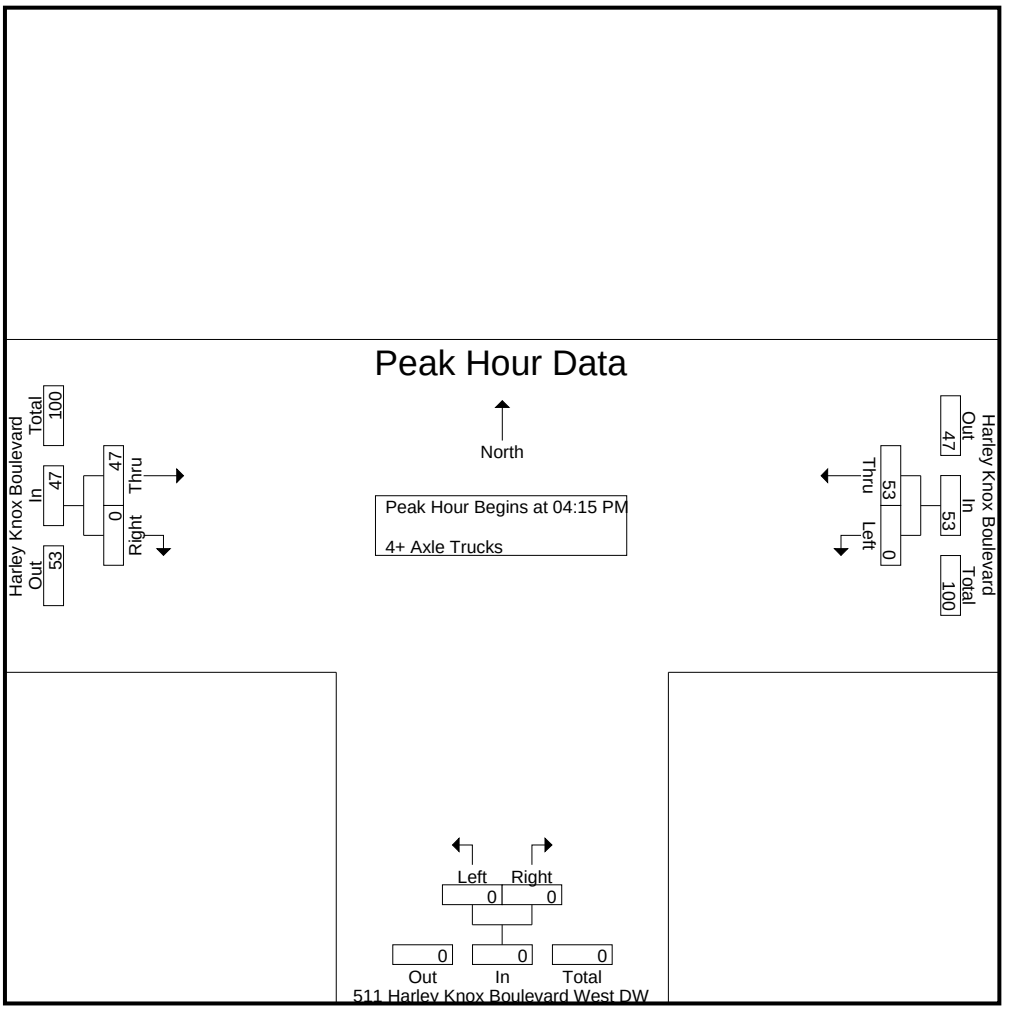
	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	13	13	0	0	0	11	0	11	24
04:15 PM	0	20	20	0	0	0	13	0	13	33
04:30 PM	0	12	12	0	0	0	13	0	13	25
04:45 PM	0	12	12	0	0	0	12	0	12	24
Total	0	57	57	0	0	0	49	0	49	106
05:00 PM	0	9	9	0	0	0	9	0	9	18
05:15 PM	0	10	10	0	0	0	10	1	11	21
05:30 PM	0	11	11	1	0	1	16	0	16	28
05:45 PM	0	15	15	0	0	0	4	0	4	19
Total	0	45	45	1	0	1	39	1	40	86
Grand Total	0	102	102	1	0	1	88	1	89	192
Apprch %	0	100		100	0		98.9	1.1		
Total %	0	53.1	53.1	0.5	0	0.5	45.8	0.5	46.4	

	Harley Knox Boulevard Westbound			511 Harley Knox Boulevard West DW Northbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	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	0	**20**	**20**	0	0	0	**13**	0	**13**	**33**
04:30 PM	0	12	12	0	0	0	13	0	13	25
04:45 PM	0	12	12	0	0	0	12	0	12	24
05:00 PM	0	9	9	0	0	0	9	0	9	18
Total Volume	0	53	53	0	0	0	47	0	47	100
% App. Total	0	100		0	0		100	0		
PHF	.000	.663	.663	.000	.000	.000	.904	.000	.904	.758

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City of Perris
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Weather: Clear

File Name : 01C_511 HKD_HK PM
Site Code : 06722787
Start Date : 9/8/2022



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		
+0 mins.	0	**20**	**20**	0	0	0	**13**	0	**13**
+15 mins.	0	12	12	0	0	0	13	0	13
+30 mins.	0	12	12	0	0	0	12	0	12
+45 mins.	0	9	9	0	0	0	9	0	9
Total Volume	0	53	53	0	0	0	47	0	47
% App. Total	0	100		0	0		100	0	
PHF	.000	.663	.663	.000	.000	.000	.904	.000	.904

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City of Perris
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03C_Ind_HK AM
Site Code : 06722787
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

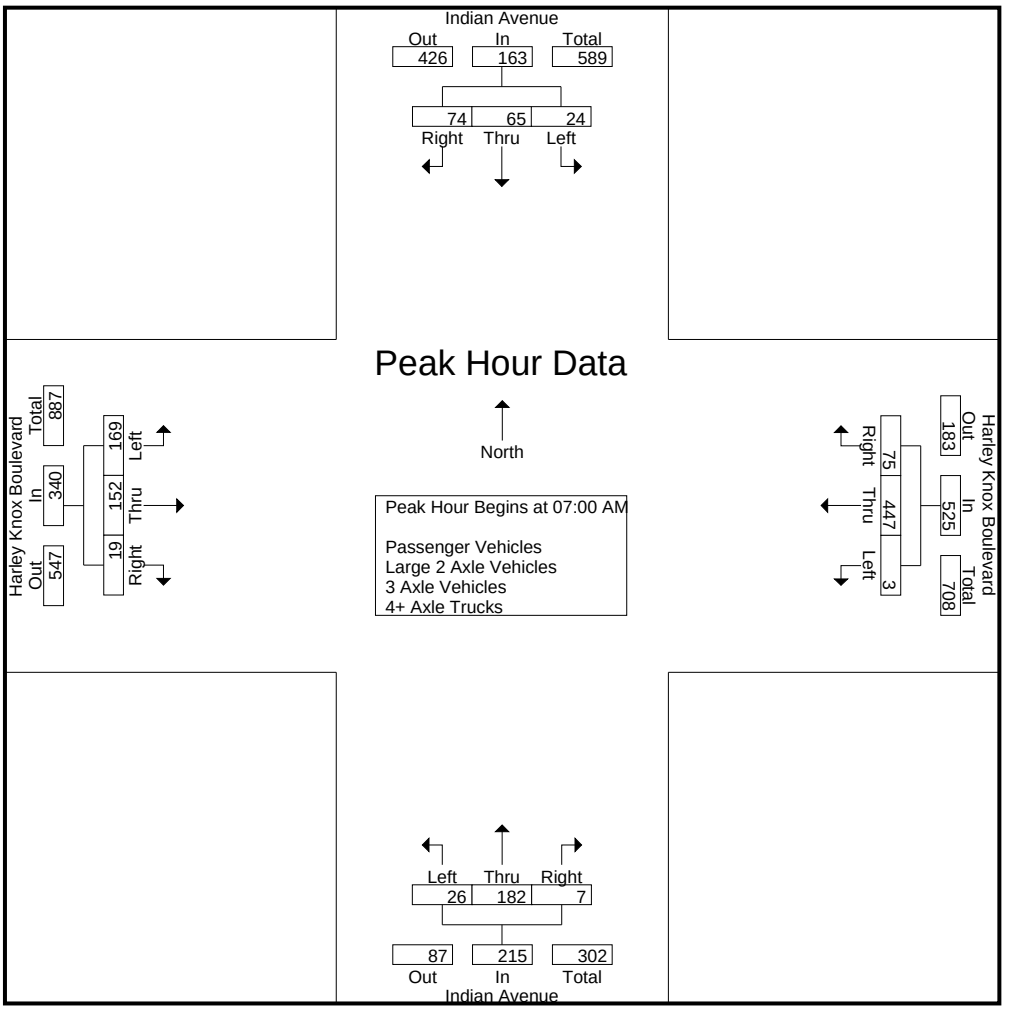
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	8	17	33	1	92	17	110	1	41	2	44	40	32	3	75	262
07:15 AM	3	11	17	31	0	119	16	135	9	56	1	66	50	42	7	99	331
07:30 AM	8	22	21	51	2	119	14	135	7	48	2	57	39	37	5	81	324
07:45 AM	5	24	19	48	0	117	28	145	9	37	2	48	40	41	4	85	326
Total	24	65	74	163	3	447	75	525	26	182	7	215	169	152	19	340	1243
08:00 AM	6	18	18	42	0	76	8	84	5	33	2	40	37	39	1	77	243
08:15 AM	0	18	8	26	0	74	6	80	3	18	1	22	36	42	3	81	209
08:30 AM	6	11	8	25	1	49	6	56	3	23	1	27	22	60	4	86	194
08:45 AM	5	21	16	42	1	44	6	51	3	17	0	20	39	43	3	85	198
Total	17	68	50	135	2	243	26	271	14	91	4	109	134	184	11	329	844
Grand Total	41	133	124	298	5	690	101	796	40	273	11	324	303	336	30	669	2087
Apprch %	13.8	44.6	41.6		0.6	86.7	12.7		12.3	84.3	3.4		45.3	50.2	4.5		
Total %	2	6.4	5.9	14.3	0.2	33.1	4.8	38.1	1.9	13.1	0.5	15.5	14.5	16.1	1.4	32.1	
Passenger Vehicles	38	92	45	175	4	627	94	725	20	224	9	253	187	266	15	468	1621
% Passenger Vehicles	92.7	69.2	36.3	58.7	80	90.9	93.1	91.1	50	82.1	81.8	78.1	61.7	79.2	50	70	77.7
Large 2 Axle Vehicles	2	12	19	33	0	15	1	16	2	6	0	8	17	12	2	31	88
% Large 2 Axle Vehicles	4.9	9	15.3	11.1	0	2.2	1	2	5	2.2	0	2.5	5.6	3.6	6.7	4.6	4.2
3 Axle Vehicles	1	8	8	17	1	8	3	12	7	10	1	18	28	15	3	46	93
% 3 Axle Vehicles	2.4	6	6.5	5.7	20	1.2	3	1.5	17.5	3.7	9.1	5.6	9.2	4.5	10	6.9	4.5
4+ Axle Trucks	0	21	52	73	0	40	3	43	11	33	1	45	71	43	10	124	285
% 4+ Axle Trucks	0	15.8	41.9	24.5	0	5.8	3	5.4	27.5	12.1	9.1	13.9	23.4	12.8	33.3	18.5	13.7

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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	**8**	8	17	33	1	92	17	110	1	41	**2**	44	40	32	3	75	262
07:15 AM	3	11	17	31	0	**119**	16	135	**9**	**56**	1	**66**	**50**	**42**	**7**	**99**	**331**
07:30 AM	8	22	**21**	**51**	**2**	119	14	135	7	48	2	57	39	37	5	81	324
07:45 AM	5	**24**	19	48	0	117	**28**	**145**	9	37	2	48	40	41	4	85	326
Total Volume	24	65	74	163	3	447	75	525	26	182	7	215	169	152	19	340	1243
% App. Total	14.7	39.9	45.4		0.6	85.1	14.3		12.1	84.7	3.3		49.7	44.7	5.6		
PHF	.750	.677	.881	.799	.375	.939	.670	.905	.722	.813	.875	.814	.845	.905	.679	.859	.939

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City of Perris
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File Name : 03C_Ind_HK AM
Site Code : 06722787
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	3	11	17	31	1	92	17	110	1	41	**2**	44	**50**	**42**	**7**	**99**
+15 mins.	**8**	22	**21**	**51**	0	**119**	16	135	**9**	**56**	1	**66**	39	37	5	81
+30 mins.	5	**24**	19	48	**2**	119	14	135	7	48	2	57	40	41	4	85
+45 mins.	6	18	18	42	0	117	**28**	**145**	9	37	2	48	37	39	1	77
Total Volume	22	75	75	172	3	447	75	525	26	182	7	215	166	159	17	342
% App. Total	12.8	43.6	43.6		0.6	85.1	14.3		12.1	84.7	3.3		48.5	46.5	5	
PHF	.688	.781	.893	.843	.375	.939	.670	.905	.722	.813	.875	.814	.830	.946	.607	.864

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File Name : 03C_Ind_HK AM
Site Code : 06722787
Start Date : 9/8/2022
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Groups Printed- Passenger Vehicles

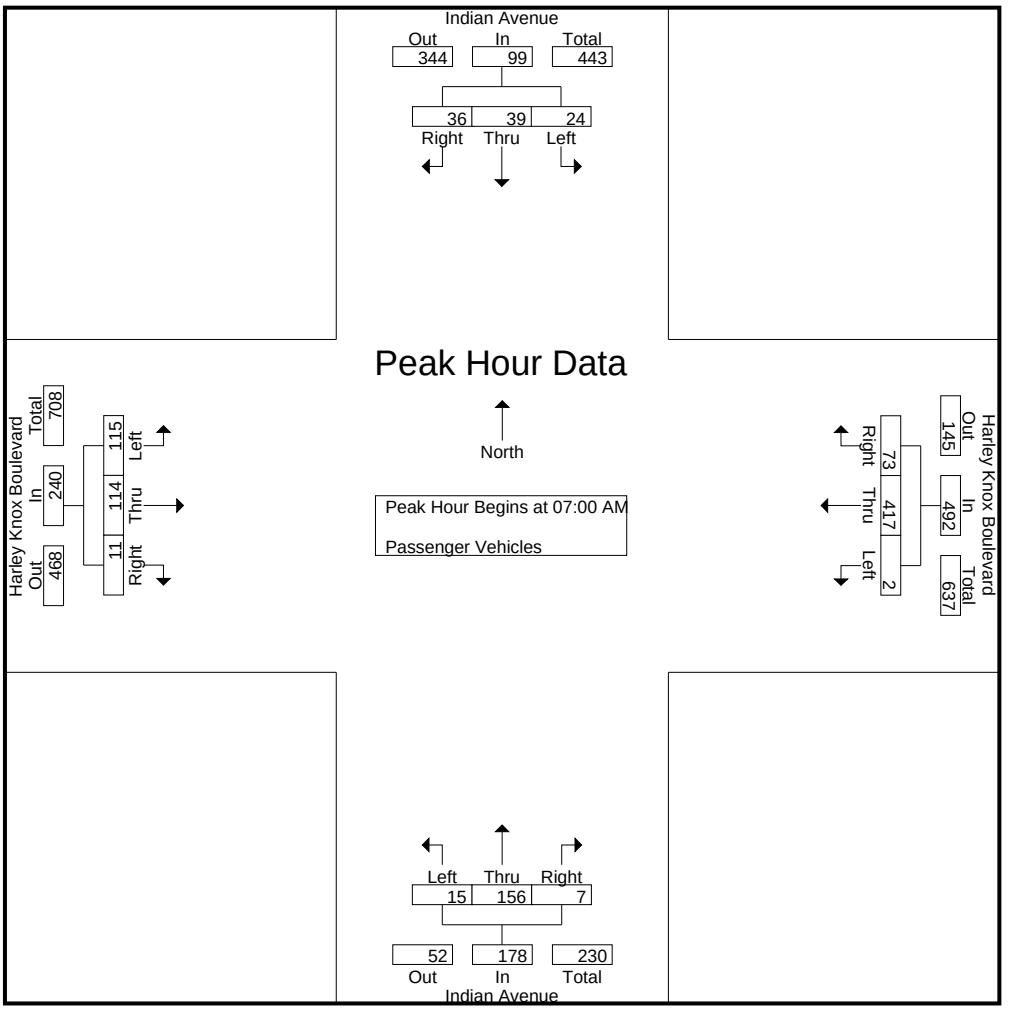
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	3	5	16	1	87	17	105	0	36	2	38	26	21	3	50	209
07:15 AM	3	0	12	15	0	111	14	125	6	52	1	59	38	38	5	81	280
07:30 AM	8	18	13	39	1	112	14	127	4	38	2	44	26	27	0	53	263
07:45 AM	5	18	6	29	0	107	28	135	5	30	2	37	25	28	3	56	257
Total	24	39	36	99	2	417	73	492	15	156	7	178	115	114	11	240	1009
08:00 AM	6	14	9	29	0	66	7	73	4	27	1	32	23	34	0	57	191
08:15 AM	0	15	0	15	0	65	5	70	1	11	1	13	24	34	2	60	158
08:30 AM	5	10	0	15	1	38	5	44	0	18	0	18	7	49	2	58	135
08:45 AM	3	14	0	17	1	41	4	46	0	12	0	12	18	35	0	53	128
Total	14	53	9	76	2	210	21	233	5	68	2	75	72	152	4	228	612
Grand Total	38	92	45	175	4	627	94	725	20	224	9	253	187	266	15	468	1621
Apprch %	21.7	52.6	25.7		0.6	86.5	13		7.9	88.5	3.6		40	56.8	3.2		
Total %	2.3	5.7	2.8	10.8	0.2	38.7	5.8	44.7	1.2	13.8	0.6	15.6	11.5	16.4	0.9	28.9	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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	**8**	3	5	16	**1**	87	17	105	0	36	**2**	38	26	21	3	50	209
07:15 AM	3	0	12	15	0	111	14	125	**6**	**52**	1	**59**	**38**	**38**	**5**	**81**	**280**
07:30 AM	8	**18**	**13**	**39**	1	**112**	14	127	4	38	2	44	26	27	0	53	263
07:45 AM	5	18	6	29	0	107	**28**	**135**	5	30	2	37	25	28	3	56	257
Total Volume	24	39	36	99	2	417	73	492	15	156	7	178	115	114	11	240	1009
% App. Total	24.2	39.4	36.4		0.4	84.8	14.8		8.4	87.6	3.9		47.9	47.5	4.6		
PHF	.750	.542	.692	.635	.500	.931	.652	.911	.625	.750	.875	.754	.757	.750	.550	.741	.901

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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.	**8**	3	5	16	**1**	87	17	105	0	36	**2**	38	26	21	3	50
+15 mins.	3	0	12	15	0	111	14	125	**6**	**52**	1	**59**	**38**	**38**	**5**	**81**
+30 mins.	8	**18**	**13**	**39**	1	**112**	14	127	4	38	2	44	26	27	0	53
+45 mins.	5	18	6	29	0	107	**28**	**135**	5	30	2	37	25	28	3	56
Total Volume	24	39	36	99	2	417	73	492	15	156	7	178	115	114	11	240
% App. Total	24.2	39.4	36.4		0.4	84.8	14.8		8.4	87.6	3.9		47.9	47.5	4.6	
PHF	.750	.542	.692	.635	.500	.931	.652	.911	.625	.750	.875	.754	.757	.750	.550	.741

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City of Perris
N/S: Indian Avenue
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File Name : 03C_Ind_HK AM
Site Code : 06722787
Start Date : 9/8/2022
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Groups Printed- Large 2 Axle Vehicles

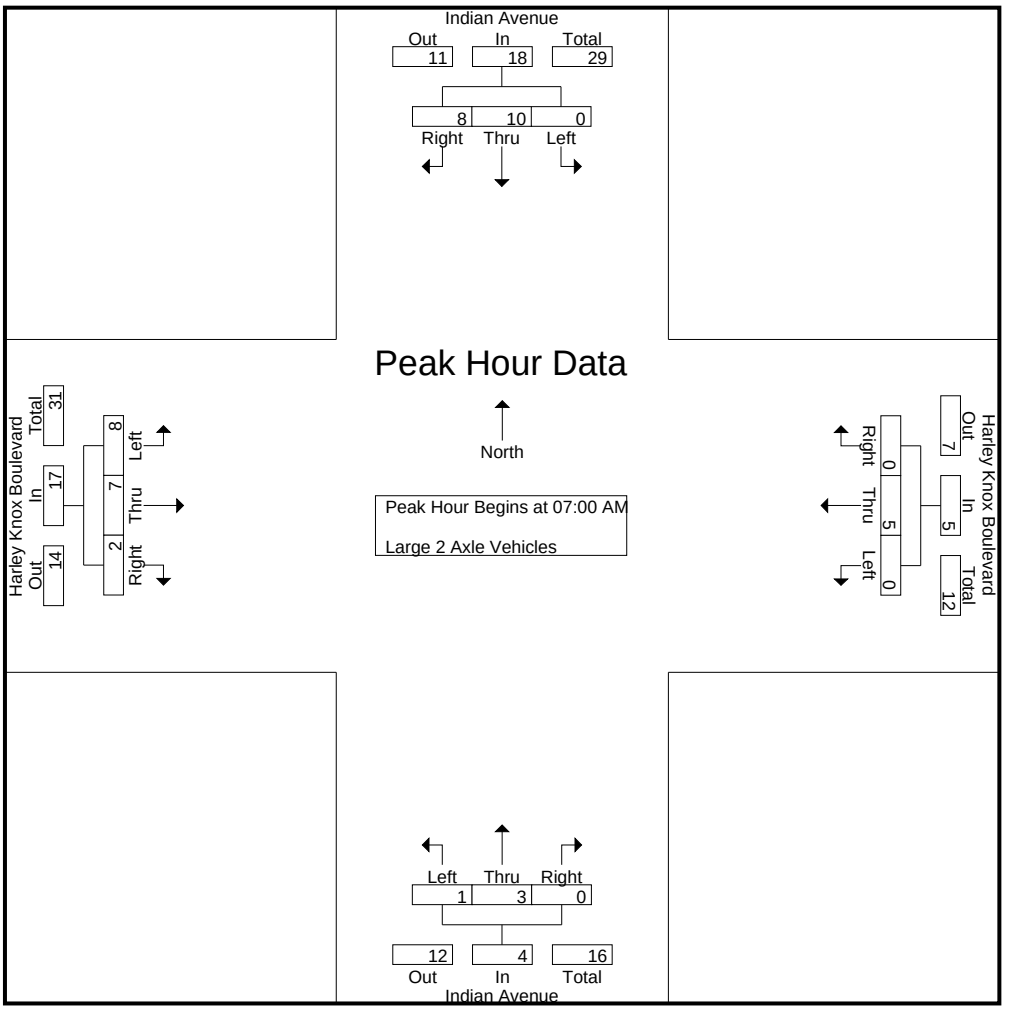
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	3	4	0	1	0	1	0	1	0	1	1	0	0	1	7
07:15 AM	0	5	0	5	0	0	0	0	0	1	0	1	2	1	1	4	10
07:30 AM	0	2	3	5	0	1	0	1	0	1	0	1	3	1	1	5	12
07:45 AM	0	2	2	4	0	3	0	3	1	0	0	1	2	5	0	7	15
Total	0	10	8	18	0	5	0	5	1	3	0	4	8	7	2	17	44
08:00 AM	0	1	3	4	0	4	0	4	0	2	0	2	3	0	0	3	13
08:15 AM	0	1	3	4	0	0	0	0	1	0	0	1	1	2	0	3	8
08:30 AM	1	0	2	3	0	5	0	5	0	1	0	1	3	2	0	5	14
08:45 AM	1	0	3	4	0	1	1	2	0	0	0	0	2	1	0	3	9
Total	2	2	11	15	0	10	1	11	1	3	0	4	9	5	0	14	44
Grand Total	2	12	19	33	0	15	1	16	2	6	0	8	17	12	2	31	88
Apprch %	6.1	36.4	57.6		0	93.8	6.2		25	75	0		54.8	38.7	6.5		
Total %	2.3	13.6	21.6	37.5	0	17	1.1	18.2	2.3	6.8	0	9.1	19.3	13.6	2.3	35.2	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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	1	**3**	4	0	1	0	1	0	**1**	0	**1**	1	0	0	1	7
07:15 AM	0	**5**	0	**5**	0	0	0	0	0	1	0	1	2	1	**1**	4	10
07:30 AM	0	2	3	5	0	1	0	1	0	1	0	1	**3**	1	1	5	12
07:45 AM	0	2	2	4	0	**3**	0	**3**	**1**	0	0	1	2	**5**	0	**7**	**15**
Total Volume	0	10	8	18	0	5	0	5	1	3	0	4	8	7	2	17	44
% App. Total	0	55.6	44.4		0	100	0		25	75	0		47.1	41.2	11.8		
PHF	.000	.500	.667	.900	.000	.417	.000	.417	.250	.750	.000	1.00	.667	.350	.500	.607	.733

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File Name : 03C_Ind_HK AM
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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	1	**3**	4	0	1	0	1	0	**1**	0	**1**	1	0	0	1
+15 mins.	0	**5**	0	**5**	0	0	0	0	0	1	0	1	2	1	**1**	4
+30 mins.	0	2	3	5	0	1	0	1	0	1	0	1	**3**	1	1	5
+45 mins.	0	2	2	4	0	**3**	0	**3**	**1**	0	0	1	2	**5**	0	**7**
Total Volume	0	10	8	18	0	5	0	5	1	3	0	4	8	7	2	17
% App. Total	0	55.6	44.4		0	100	0		25	75	0		47.1	41.2	11.8	
PHF	.000	.500	.667	.900	.000	.417	.000	.417	.250	.750	.000	1.000	.667	.350	.500	.607

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File Name : 03C_Ind_HK AM
Site Code : 06722787
Start Date : 9/8/2022

Groups Printed- 3 Axle Vehicles

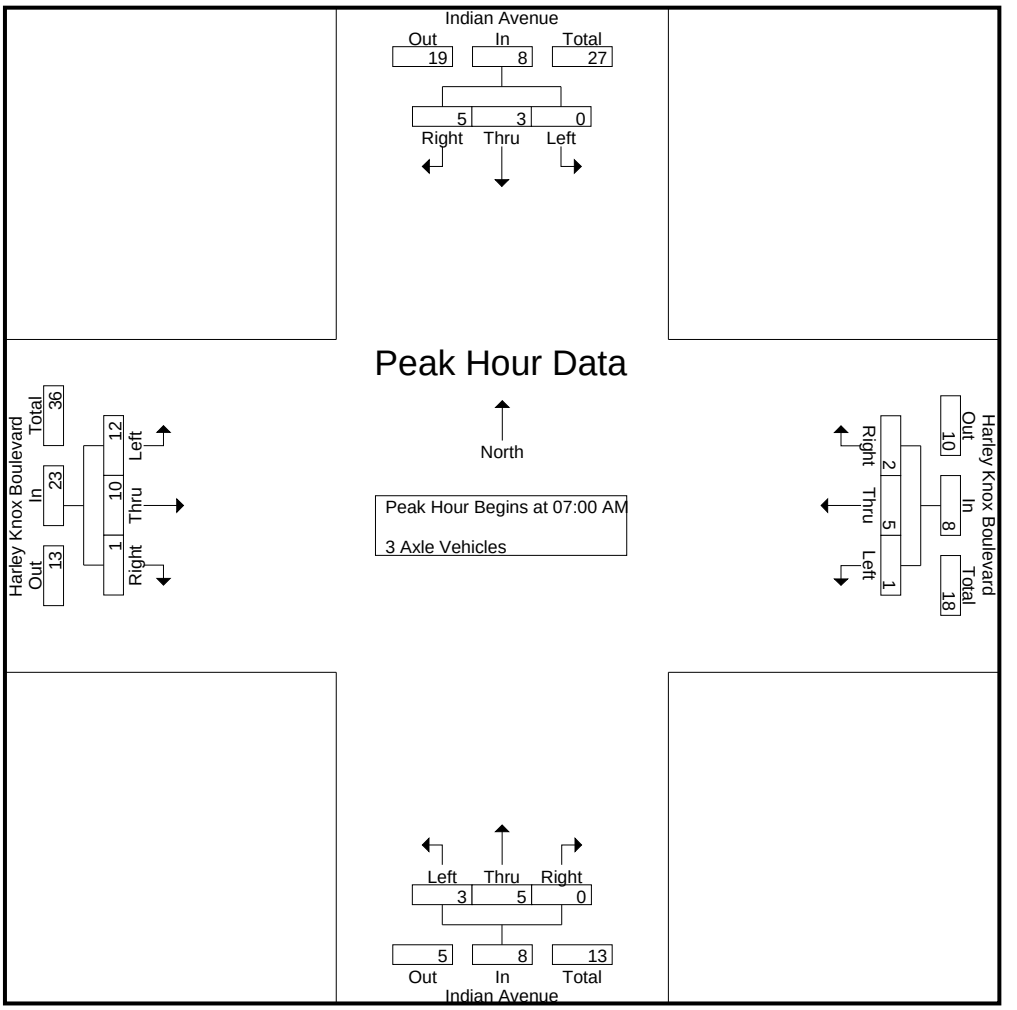
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	1	0	1	0	1	0	1	3	2	0	5	8
07:15 AM	0	0	2	2	0	1	2	3	1	0	0	1	2	1	0	3	9
07:30 AM	0	1	1	2	1	1	0	2	0	4	0	4	2	4	1	7	15
07:45 AM	0	1	2	3	0	2	0	2	2	0	0	2	5	3	0	8	15
Total	0	3	5	8	1	5	2	8	3	5	0	8	12	10	1	23	47
08:00 AM	0	1	0	1	0	1	0	1	1	1	1	3	3	1	0	4	9
08:15 AM	0	1	0	1	0	0	1	1	0	2	0	2	3	1	0	4	8
08:30 AM	0	1	1	2	0	2	0	2	2	1	0	3	6	0	0	6	13
08:45 AM	1	2	2	5	0	0	0	0	1	1	0	2	4	3	2	9	16
Total	1	5	3	9	0	3	1	4	4	5	1	10	16	5	2	23	46
Grand Total	1	8	8	17	1	8	3	12	7	10	1	18	28	15	3	46	93
Apprch %	5.9	47.1	47.1		8.3	66.7	25		38.9	55.6	5.6		60.9	32.6	6.5		
Total %	1.1	8.6	8.6	18.3	1.1	8.6	3.2	12.9	7.5	10.8	1.1	19.4	30.1	16.1	3.2	49.5	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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	**1**	0	1	0	1	0	1	0	1	0	1	3	2	0	5	8
07:15 AM	0	0	**2**	2	0	1	**2**	**3**	1	0	0	1	2	1	0	3	9
07:30 AM	0	1	1	2	**1**	1	0	2	0	**4**	0	**4**	2	**4**	**1**	7	**15**
07:45 AM	0	1	2	**3**	0	**2**	0	2	**2**	0	0	2	**5**	3	0	**8**	15
Total Volume	0	3	5	8	1	5	2	8	3	5	0	8	12	10	1	23	47
% App. Total	0	37.5	62.5		12.5	62.5	25		37.5	62.5	0		52.2	43.5	4.3		
PHF	.000	.750	.625	.667	.250	.625	.250	.667	.375	.313	.000	.500	.600	.625	.250	.719	.783

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Site Code : 06722787
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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	**1**	0	1	0	1	0	1	0	1	0	1	3	2	0	5
+15 mins.	0	0	**2**	2	0	1	**2**	**3**	1	0	0	1	2	1	0	3
+30 mins.	0	1	1	2	**1**	1	0	2	0	**4**	0	**4**	2	**4**	**1**	7
+45 mins.	0	1	2	**3**	0	**2**	0	2	**2**	0	0	2	**5**	3	0	**8**
Total Volume	0	3	5	8	1	5	2	8	3	5	0	8	12	10	1	23
% App. Total	0	37.5	62.5		12.5	62.5	25		37.5	62.5	0		52.2	43.5	4.3	
PHF	.000	.750	.625	.667	.250	.625	.250	.667	.375	.313	.000	.500	.600	.625	.250	.719

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File Name : 03C_Ind_HK AM
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Groups Printed- 4+ Axle Trucks

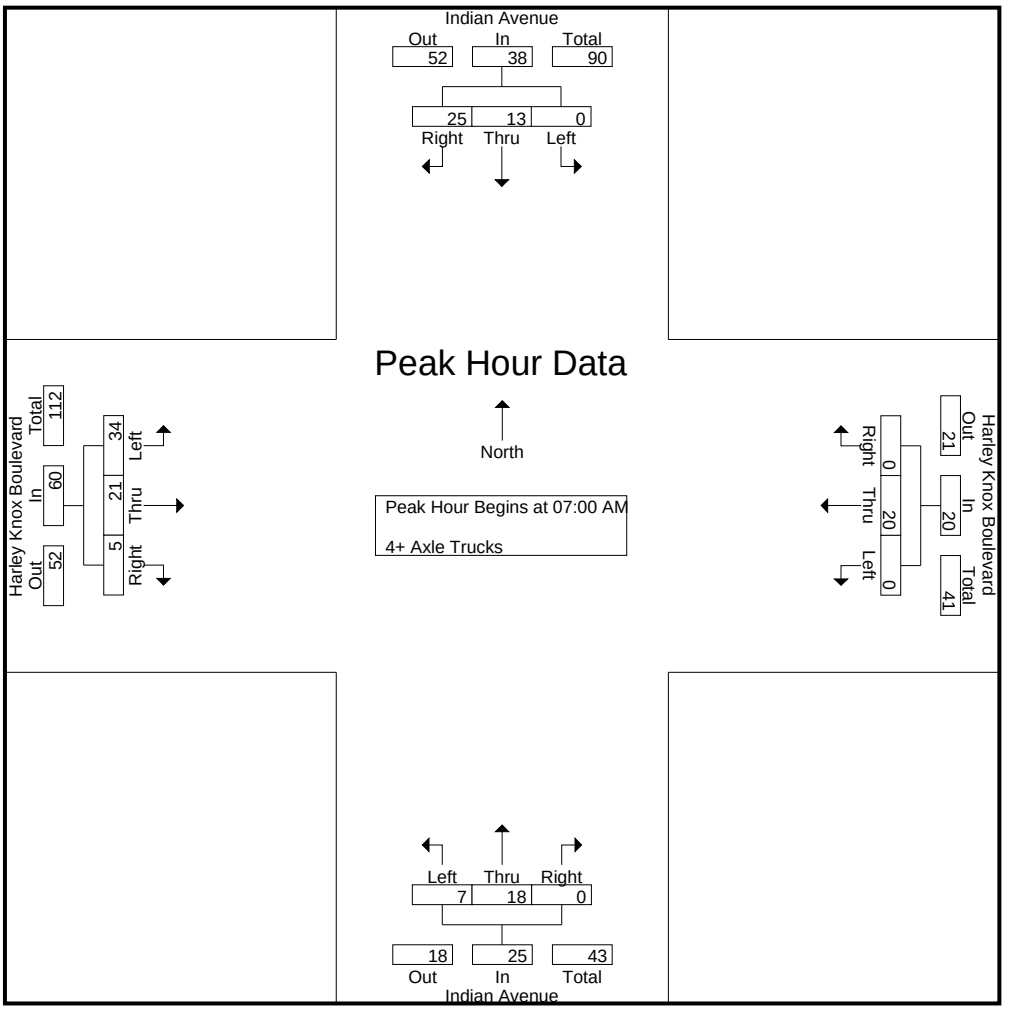
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	9	12	0	3	0	3	1	3	0	4	10	9	0	19	38
07:15 AM	0	6	3	9	0	7	0	7	2	3	0	5	8	2	1	11	32
07:30 AM	0	1	4	5	0	5	0	5	3	5	0	8	8	5	3	16	34
07:45 AM	0	3	9	12	0	5	0	5	1	7	0	8	8	5	1	14	39
Total	0	13	25	38	0	20	0	20	7	18	0	25	34	21	5	60	143
08:00 AM	0	2	6	8	0	5	1	6	0	3	0	3	8	4	1	13	30
08:15 AM	0	1	5	6	0	9	0	9	1	5	0	6	8	5	1	14	35
08:30 AM	0	0	5	5	0	4	1	5	1	3	1	5	6	9	2	17	32
08:45 AM	0	5	11	16	0	2	1	3	2	4	0	6	15	4	1	20	45
Total	0	8	27	35	0	20	3	23	4	15	1	20	37	22	5	64	142
Grand Total	0	21	52	73	0	40	3	43	11	33	1	45	71	43	10	124	285
Apprch %	0	28.8	71.2		0	93	7		24.4	73.3	2.2		57.3	34.7	8.1		
Total %	0	7.4	18.2	25.6	0	14	1.1	15.1	3.9	11.6	0.4	15.8	24.9	15.1	3.5	43.5	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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	3	**9**	**12**	0	3	0	3	1	3	0	4	**10**	**9**	0	**19**	38
07:15 AM	0	**6**	3	9	0	**7**	0	**7**	2	3	0	5	8	2	1	11	32
07:30 AM	0	1	4	5	0	5	0	5	**3**	5	0	**8**	8	5	**3**	16	34
07:45 AM	0	3	9	12	0	5	0	5	1	**7**	0	8	8	5	1	14	**39**
Total Volume	0	13	25	38	0	20	0	20	7	18	0	25	34	21	5	60	143
% App. Total	0	34.2	65.8		0	100	0		28	72	0		56.7	35	8.3		
PHF	.000	.542	.694	.792	.000	.714	.000	.714	.583	.643	.000	.781	.850	.583	.417	.789	.917

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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	3	**9**	**12**	0	3	0	3	1	3	0	4	**10**	**9**	0	**19**
+15 mins.	0	**6**	3	9	0	**7**	0	**7**	2	3	0	5	8	2	1	11
+30 mins.	0	1	4	5	0	5	0	5	**3**	5	0	**8**	8	5	**3**	16
+45 mins.	0	3	9	12	0	5	0	5	1	**7**	0	8	8	5	1	14
Total Volume	0	13	25	38	0	20	0	20	7	18	0	25	34	21	5	60
% App. Total	0	34.2	65.8		0	100	0		28	72	0		56.7	35	8.3	
PHF	.000	.542	.694	.792	.000	.714	.000	.714	.583	.643	.000	.781	.850	.583	.417	.789

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

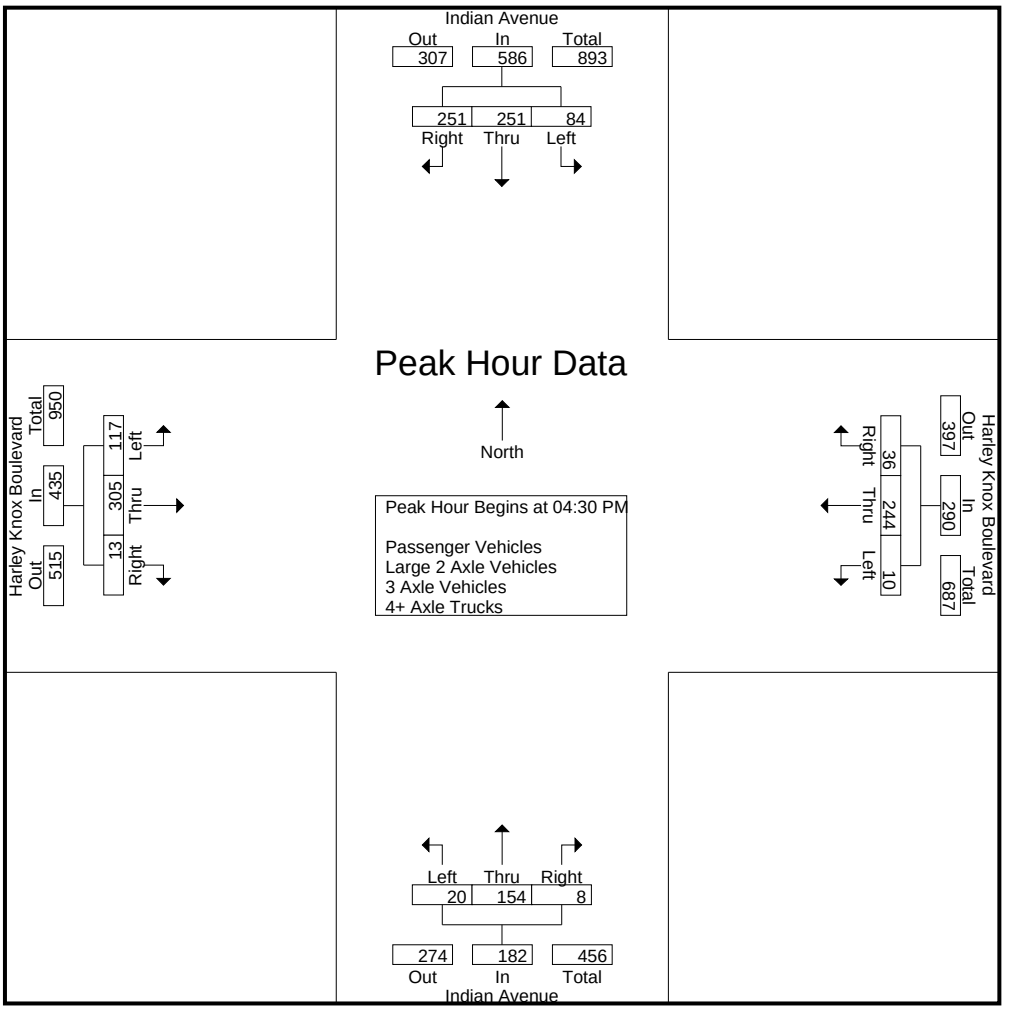
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	13	53	39	105	2	49	10	61	8	42	2	52	23	61	2	86	304
04:15 PM	23	41	37	101	3	63	17	83	8	34	1	43	33	63	0	96	323
04:30 PM	27	82	88	197	4	71	11	86	7	70	2	79	48	69	2	119	481
04:45 PM	19	78	59	156	2	53	14	69	1	42	2	45	30	79	2	111	381
Total	82	254	223	559	11	236	52	299	24	188	7	219	134	272	6	412	1489
05:00 PM	15	40	54	109	2	56	4	62	5	21	2	28	19	83	4	106	305
05:15 PM	23	51	50	124	2	64	7	73	7	21	2	30	20	74	5	99	326
05:30 PM	15	55	64	134	2	52	2	56	3	16	3	22	28	62	2	92	304
05:45 PM	12	43	34	89	2	52	3	57	5	24	0	29	20	59	1	80	255
Total	65	189	202	456	8	224	16	248	20	82	7	109	87	278	12	377	1190
Grand Total	147	443	425	1015	19	460	68	547	44	270	14	328	221	550	18	789	2679
Apprch %	14.5	43.6	41.9		3.5	84.1	12.4		13.4	82.3	4.3		28	69.7	2.3		
Total %	5.5	16.5	15.9	37.9	0.7	17.2	2.5	20.4	1.6	10.1	0.5	12.2	8.2	20.5	0.7	29.5	
Passenger Vehicles	139	403	372	914	13	381	58	452	30	231	11	272	133	489	5	627	2265
% Passenger Vehicles	94.6	91	87.5	90	68.4	82.8	85.3	82.6	68.2	85.6	78.6	82.9	60.2	88.9	27.8	79.5	84.5
Large 2 Axle Vehicles	3	7	4	14	1	10	0	11	2	3	0	5	9	4	0	13	43
% Large 2 Axle Vehicles	2	1.6	0.9	1.4	5.3	2.2	0	2	4.5	1.1	0	1.5	4.1	0.7	0	1.6	1.6
3 Axle Vehicles	1	12	12	25	1	12	5	18	0	13	1	14	9	13	2	24	81
% 3 Axle Vehicles	0.7	2.7	2.8	2.5	5.3	2.6	7.4	3.3	0	4.8	7.1	4.3	4.1	2.4	11.1	3	3
4+ Axle Trucks	4	21	37	62	4	57	5	66	12	23	2	37	70	44	11	125	290
% 4+ Axle Trucks	2.7	4.7	8.7	6.1	21.1	12.4	7.4	12.1	27.3	8.5	14.3	11.3	31.7	8	61.1	15.8	10.8

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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 04:30 PM																	
04:30 PM	**27**	**82**	**88**	**197**	**4**	**71**	11	**86**	**7**	**70**	**2**	**79**	**48**	69	2	**119**	**481**
04:45 PM	19	78	59	156	2	53	**14**	69	1	42	2	45	30	79	2	111	381
05:00 PM	15	40	54	109	2	56	4	62	5	21	2	28	19	**83**	4	106	305
05:15 PM	23	51	50	124	2	64	7	73	7	21	2	30	20	74	**5**	99	326
Total Volume	84	251	251	586	10	244	36	290	20	154	8	182	117	305	13	435	1493
% App. Total	14.3	42.8	42.8		3.4	84.1	12.4		11	84.6	4.4		26.9	70.1	3		
PHF	.778	.765	.713	.744	.625	.859	.643	.843	.714	.550	1.00	.576	.609	.919	.650	.914	.776

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

	04:30 PM				04:15 PM				04:00 PM				04:30 PM			
+0 mins.	**27**	**82**	**88**	**197**	3	63	**17**	83	**8**	42	**2**	52	**48**	69	2	**119**
+15 mins.	19	78	59	156	**4**	**71**	11	**86**	8	34	1	43	30	79	2	111
+30 mins.	15	40	54	109	2	53	14	69	7	**70**	2	**79**	19	**83**	4	106
+45 mins.	23	51	50	124	2	56	4	62	1	42	2	45	20	74	**5**	99
Total Volume	84	251	251	586	11	243	46	300	24	188	7	219	117	305	13	435
% App. Total	14.3	42.8	42.8		3.7	81	15.3		11	85.8	3.2		26.9	70.1	3	
PHF	.778	.765	.713	.744	.688	.856	.676	.872	.750	.671	.875	.693	.609	.919	.650	.914

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Groups Printed- Passenger Vehicles

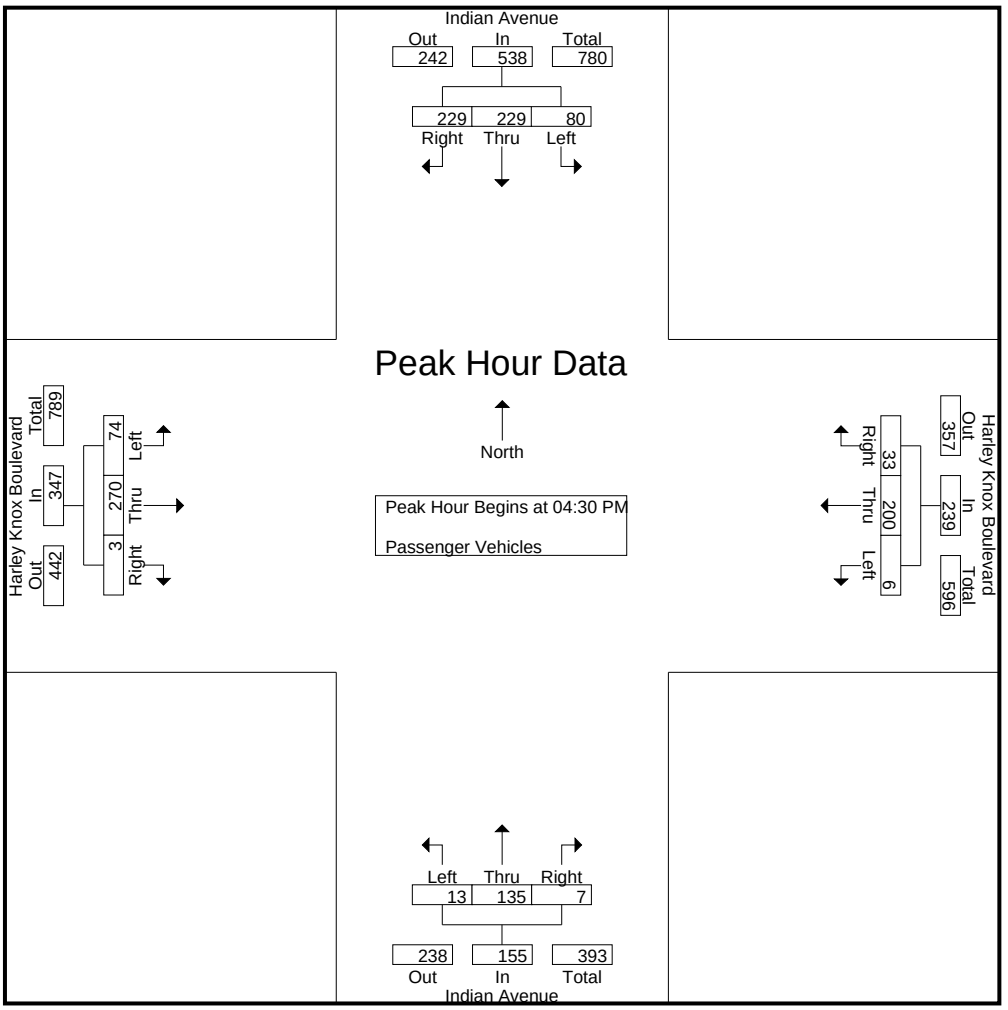
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	11	51	29	91	1	43	8	52	6	34	1	41	11	58	0	69	253
04:15 PM	22	37	26	85	3	49	15	67	7	30	0	37	23	55	0	78	267
04:30 PM	26	73	83	182	3	61	10	74	4	66	1	71	40	58	0	98	425
04:45 PM	18	72	55	145	0	41	13	54	0	36	2	38	20	71	0	91	328
Total	77	233	193	503	7	194	46	247	17	166	4	187	94	242	0	336	1273
05:00 PM	13	37	48	98	1	44	3	48	3	16	2	21	5	78	1	84	251
05:15 PM	23	47	43	113	2	54	7	63	6	17	2	25	9	63	2	74	275
05:30 PM	14	54	58	126	2	45	0	47	1	12	3	16	12	52	1	65	254
05:45 PM	12	32	30	74	1	44	2	47	3	20	0	23	13	54	1	68	212
Total	62	170	179	411	6	187	12	205	13	65	7	85	39	247	5	291	992
Grand Total	139	403	372	914	13	381	58	452	30	231	11	272	133	489	5	627	2265
Apprch %	15.2	44.1	40.7		2.9	84.3	12.8		11	84.9	4		21.2	78	0.8		
Total %	6.1	17.8	16.4	40.4	0.6	16.8	2.6	20	1.3	10.2	0.5	12	5.9	21.6	0.2	27.7	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**26**	**73**	**83**	**182**	**3**	**61**	10	**74**	4	**66**	1	**71**	**40**	58	0	**98**	**425**
04:45 PM	18	72	55	145	0	41	**13**	54	0	36	**2**	38	20	71	0	91	328
05:00 PM	13	37	48	98	1	44	3	48	3	16	2	21	5	**78**	1	84	251
05:15 PM	23	47	43	113	2	54	7	63	**6**	17	2	25	9	63	**2**	74	275
Total Volume	80	229	229	538	6	200	33	239	13	135	7	155	74	270	3	347	1279
% App. Total	14.9	42.6	42.6		2.5	83.7	13.8		8.4	87.1	4.5		21.3	77.8	0.9		
PHF	.769	.784	.690	.739	.500	.820	.635	.807	.542	.511	.875	.546	.463	.865	.375	.885	.752

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**26**	**73**	**83**	**182**	**3**	**61**	10	**74**	4	**66**	1	**71**	**40**	58	0	**98**
+15 mins.	18	72	55	145	0	41	**13**	54	0	36	**2**	38	20	71	0	91
+30 mins.	13	37	48	98	1	44	3	48	3	16	2	21	5	**78**	1	84
+45 mins.	23	47	43	113	2	54	7	63	**6**	17	2	25	9	63	**2**	74
Total Volume	80	229	229	538	6	200	33	239	13	135	7	155	74	270	3	347
% App. Total	14.9	42.6	42.6		2.5	83.7	13.8		8.4	87.1	4.5		21.3	77.8	0.9	
PHF	.769	.784	.690	.739	.500	.820	.635	.807	.542	.511	.875	.546	.463	.865	.375	.885

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File Name : 03C_Ind_HK PM
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Groups Printed- Large 2 Axle Vehicles

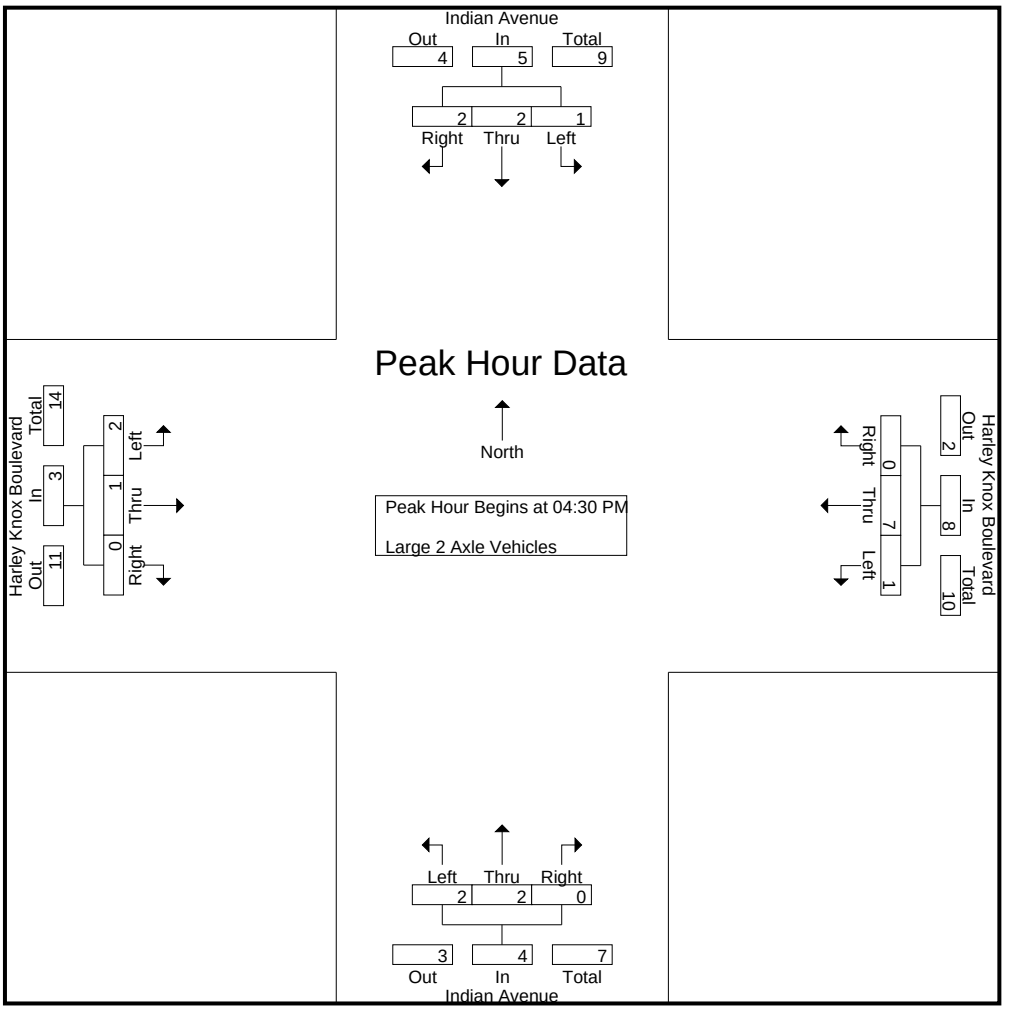
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	1	2	0	1	0	1	0	1	0	1	4	0	0	4	8
04:15 PM	0	3	0	3	0	2	0	2	0	0	0	0	2	2	0	4	9
04:30 PM	1	1	0	2	0	3	0	3	0	1	0	1	0	1	0	1	7
04:45 PM	0	1	1	2	1	3	0	4	1	1	0	2	1	0	0	1	9
Total	2	5	2	9	1	9	0	10	1	3	0	4	7	3	0	10	33
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	2
05:15 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:30 PM	1	0	1	2	0	0	0	0	0	0	0	0	0	1	0	1	3
05:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	1	2	2	5	0	1	0	1	1	0	0	1	2	1	0	3	10
Grand Total	3	7	4	14	1	10	0	11	2	3	0	5	9	4	0	13	43
Apprch %	21.4	50	28.6		9.1	90.9	0		40	60	0		69.2	30.8	0		
Total %	7	16.3	9.3	32.6	2.3	23.3	0	25.6	4.7	7	0	11.6	20.9	9.3	0	30.2	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	**1**	0	**2**	0	**3**	0	3	0	**1**	0	1	0	**1**	0	**1**	7
04:45 PM	0	1	**1**	2	**1**	3	0	**4**	**1**	1	0	**2**	**1**	0	0	1	**9**
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	2
05:15 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Total Volume	1	2	2	5	1	7	0	8	2	2	0	4	2	1	0	3	20
% App. Total	20	40	40		12.5	87.5	0		50	50	0		66.7	33.3	0		
PHF	.250	.500	.500	.625	.250	.583	.000	.500	.500	.500	.000	.500	.500	.250	.000	.750	.556

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**1**	**1**	0	**2**	0	**3**	0	3	0	**1**	0	1	0	**1**	0	**1**
+15 mins.	0	1	**1**	2	**1**	3	0	**4**	**1**	1	0	**2**	**1**	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1
+45 mins.	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	1	2	2	5	1	7	0	8	2	2	0	4	2	1	0	3
% App. Total	20	40	40		12.5	87.5	0		50	50	0		66.7	33.3	0	
PHF	.250	.500	.500	.625	.250	.583	.000	.500	.500	.500	.000	.500	.500	.250	.000	.750

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File Name : 03C_Ind_HK PM
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Start Date : 9/8/2022

Groups Printed- 3 Axle Vehicles

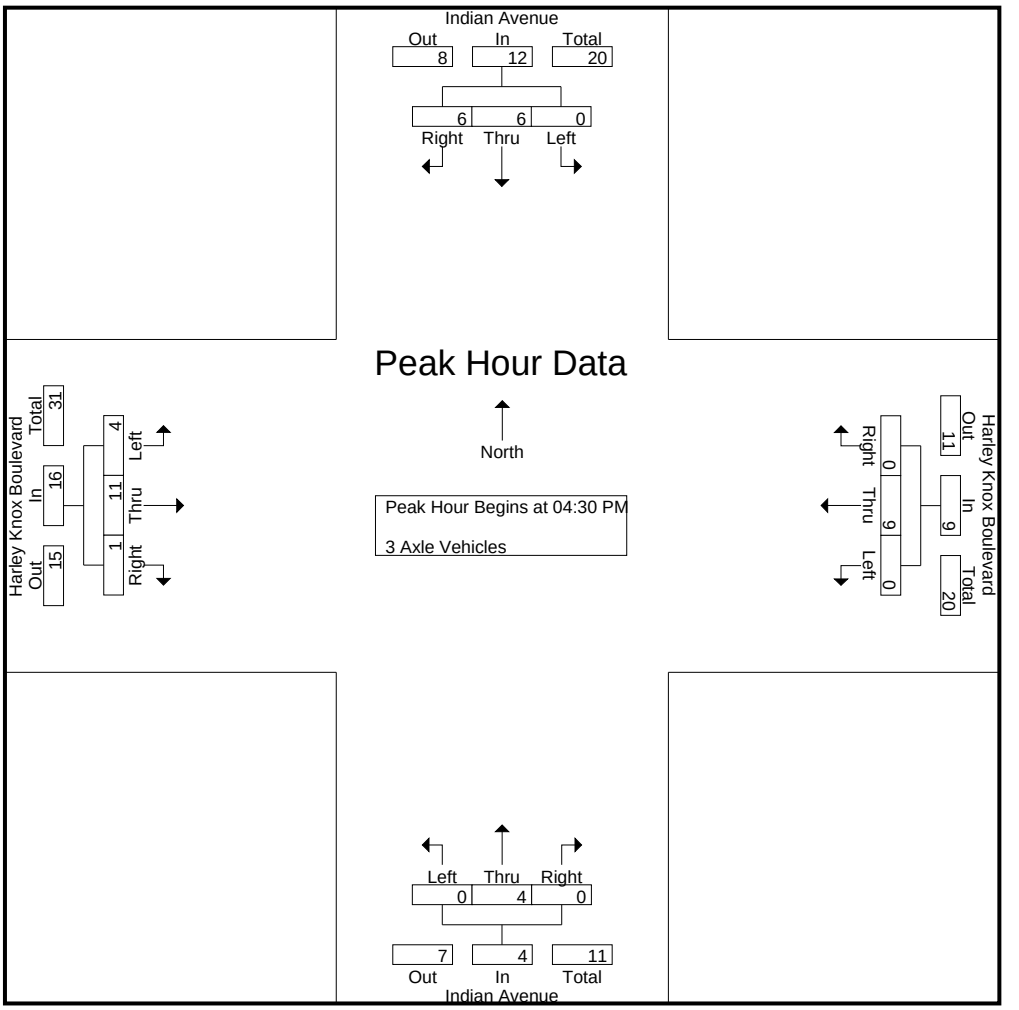
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	3	4	0	0	0	0	0	3	1	4	2	0	1	3	11
04:15 PM	1	0	2	3	0	1	2	3	0	3	0	3	1	0	0	1	10
04:30 PM	0	3	1	4	0	0	0	0	0	1	0	1	0	1	0	1	6
04:45 PM	0	1	1	2	0	4	0	4	0	2	0	2	1	3	0	4	12
Total	1	5	7	13	0	5	2	7	0	9	1	10	4	4	1	9	39
05:00 PM	0	0	4	4	0	2	0	2	0	0	0	0	1	1	1	3	9
05:15 PM	0	2	0	2	0	3	0	3	0	1	0	1	2	6	0	8	14
05:30 PM	0	0	1	1	0	2	2	4	0	2	0	2	1	0	0	1	8
05:45 PM	0	5	0	5	1	0	1	2	0	1	0	1	1	2	0	3	11
Total	0	7	5	12	1	7	3	11	0	4	0	4	5	9	1	15	42
Grand Total	1	12	12	25	1	12	5	18	0	13	1	14	9	13	2	24	81
Apprch %	4	48	48		5.6	66.7	27.8		0	92.9	7.1		37.5	54.2	8.3		
Total %	1.2	14.8	14.8	30.9	1.2	14.8	6.2	22.2	0	16	1.2	17.3	11.1	16	2.5	29.6	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**3**	1	**4**	0	0	0	0	0	1	0	1	0	1	0	1	6
04:45 PM	0	1	1	2	0	**4**	0	**4**	0	**2**	0	**2**	1	3	0	4	12
05:00 PM	0	0	**4**	4	0	2	0	2	0	0	0	0	1	1	**1**	3	9
05:15 PM	0	2	0	2	0	3	0	3	0	1	0	1	**2**	**6**	0	**8**	**14**
Total Volume	0	6	6	12	0	9	0	9	0	4	0	4	4	11	1	16	41
% App. Total	0	50	50		0	100	0		0	100	0		25	68.8	6.2		
PHF	.000	.500	.375	.750	.000	.563	.000	.563	.000	.500	.000	.500	.500	.458	.250	.500	.732

Counts Unlimited, Inc.
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City of Perris
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03C_Ind_HK PM
Site Code : 06722787
Start Date : 9/8/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**3**	1	**4**	0	0	0	0	0	1	0	1	0	1	0	1
+15 mins.	0	1	1	2	0	**4**	0	**4**	0	**2**	0	**2**	1	3	0	4
+30 mins.	0	0	**4**	4	0	2	0	2	0	0	0	0	1	1	**1**	3
+45 mins.	0	2	0	2	0	3	0	3	0	1	0	1	**2**	**6**	0	**8**
Total Volume	0	6	6	12	0	9	0	9	0	4	0	4	4	11	1	16
% App. Total	0	50	50		0	100	0		0	100	0		25	68.8	6.2	
PHF	.000	.500	.375	.750	.000	.563	.000	.563	.000	.500	.000	.500	.500	.458	.250	.500

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City of Perris
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03C_Ind_HK PM
Site Code : 06722787
Start Date : 9/8/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

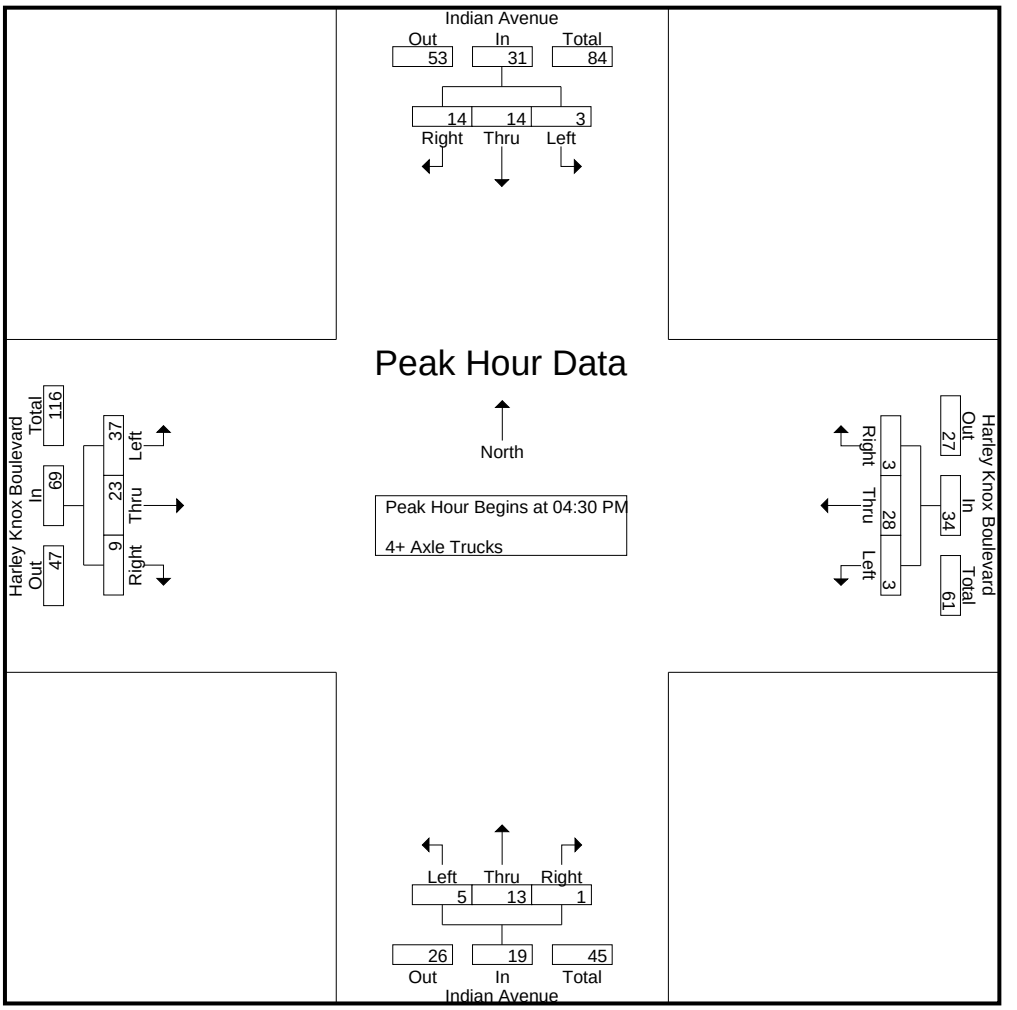
	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	6	8	1	5	2	8	2	4	0	6	6	3	1	10	32
04:15 PM	0	1	9	10	0	11	0	11	1	1	1	3	7	6	0	13	37
04:30 PM	0	5	4	9	1	7	1	9	3	2	1	6	8	9	2	19	43
04:45 PM	1	4	2	7	1	5	1	7	0	3	0	3	8	5	2	15	32
Total	2	11	21	34	3	28	4	35	6	10	2	18	29	23	5	57	144
05:00 PM	2	3	2	7	1	10	1	12	1	5	0	6	12	4	2	18	43
05:15 PM	0	2	6	8	0	6	0	6	1	3	0	4	9	5	3	17	35
05:30 PM	0	1	4	5	0	5	0	5	2	2	0	4	15	9	1	25	39
05:45 PM	0	4	4	8	0	8	0	8	2	3	0	5	5	3	0	8	29
Total	2	10	16	28	1	29	1	31	6	13	0	19	41	21	6	68	146
Grand Total	4	21	37	62	4	57	5	66	12	23	2	37	70	44	11	125	290
Apprch %	6.5	33.9	59.7		6.1	86.4	7.6		32.4	62.2	5.4		56	35.2	8.8		
Total %	1.4	7.2	12.8	21.4	1.4	19.7	1.7	22.8	4.1	7.9	0.7	12.8	24.1	15.2	3.8	43.1	

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue 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 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**5**	4	**9**	**1**	7	**1**	9	**3**	2	**1**	**6**	8	**9**	2	**19**	**43**
04:45 PM	1	4	2	7	1	5	1	7	0	3	0	3	8	5	2	15	32
05:00 PM	**2**	3	2	7	1	**10**	1	**12**	1	**5**	0	6	**12**	4	2	18	43
05:15 PM	0	2	**6**	8	0	6	0	6	1	3	0	4	9	5	**3**	17	35
Total Volume	3	14	14	31	3	28	3	34	5	13	1	19	37	23	9	69	153
% App. Total	9.7	45.2	45.2		8.8	82.4	8.8		26.3	68.4	5.3		53.6	33.3	13		
PHF	.375	.700	.583	.861	.750	.700	.750	.708	.417	.650	.250	.792	.771	.639	.750	.908	.890

Counts Unlimited, Inc.
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City of Perris
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03C_Ind_HK PM
Site Code : 06722787
Start Date : 9/8/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**5**	4	**9**	**1**	7	**1**	9	**3**	2	**1**	**6**	8	**9**	2	**19**
+15 mins.	1	4	2	7	1	5	1	7	0	3	0	3	8	5	2	15
+30 mins.	**2**	3	2	7	1	**10**	1	**12**	1	**5**	0	6	**12**	4	2	18
+45 mins.	0	2	**6**	8	0	6	0	6	1	3	0	4	9	5	**3**	17
Total Volume	3	14	14	31	3	28	3	34	5	13	1	19	37	23	9	69
% App. Total	9.7	45.2	45.2		8.8	82.4	8.8		26.3	68.4	5.3		53.6	33.3	13	
PHF	.375	.700	.583	.861	.750	.700	.750	.708	.417	.650	.250	.792	.771	.639	.750	.908

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City of Perris
Indian Avenue
N/ Harley Knox Boulevard
24 Hour Directional Classification Count

PER003
Site Code: 067-22787

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/08/22	1	21	3	0	1	9	0	1	10	0	0	0	0	46
01:00	0	26	0	0	0	6	0	1	8	0	0	**1**	0	42
02:00	0	36	5	0	2	11	0	1	15	0	0	0	0	70
03:00	0	140	12	0	1	9	0	0	26	0	0	0	0	188
04:00	**6**	339	50	0	1	7	0	0	32	0	0	0	0	435
05:00	1	**411**	**55**	2	4	11	0	1	37	0	0	0	0	**522**
06:00	1	253	37	0	6	11	1	1	29	0	0	0	0	339
07:00	4	367	55	**3**	8	19	4	4	44	0	0	0	0	508
08:00	1	214	37	0	**13**	**22**	2	**7**	42	**4**	0	0	0	342
09:00	0	136	34	0	6	22	7	4	**52**	0	0	0	0	261
10:00	0	90	27	1	10	17	9	3	52	1	0	0	0	210
11:00	2	99	30	1	10	22	**25**	3	47	3	0	0	0	242
12 PM	0	159	43	1	8	20	20	1	47	1	0	0	0	300
13:00	0	262	60	**4**	5	19	10	**7**	**56**	**5**	0	0	0	428
14:00	0	190	52	0	**14**	**23**	4	5	47	0	0	0	0	335
15:00	**2**	259	**68**	0	9	17	14	2	38	4	0	0	0	413
16:00	1	**328**	45	1	9	15	19	2	21	1	0	0	0	**442**
17:00	1	146	38	0	2	12	**31**	2	20	1	0	**1**	0	254
18:00	0	118	16	0	3	10	10	1	34	2	0	0	0	194
19:00	1	58	8	0	10	11	2	7	30	0	0	0	0	127
20:00	1	76	9	0	3	12	0	1	34	0	0	0	0	136
21:00	0	60	5	0	2	7	0	0	31	0	0	0	0	105
22:00	1	69	7	0	0	3	0	1	22	0	0	0	0	103
23:00	0	71	5	0	1	5	0	0	18	0	0	0	0	100
Total	23	3928	701	13	128	320	158	55	792	22	0	2	0	6142
Percent	0.4%	64.0%	11.4%	0.2%	2.1%	5.2%	2.6%	0.9%	12.9%	0.4%	0.0%	0.0%	0.0%	
AM Peak	04:00	05:00	05:00	07:00	08:00	08:00	11:00	08:00	09:00	08:00		01:00		05:00
Vol.	6	411	55	3	13	22	25	7	52	4		1		522
PM Peak	15:00	16:00	15:00	13:00	14:00	14:00	17:00	13:00	13:00	13:00		17:00		16:00
Vol.	2	328	68	4	14	23	31	7	56	5		1		442
Grand Total	23	3928	701	13	128	320	158	55	792	22	0	2	0	6142
Percent	0.4%	64.0%	11.4%	0.2%	2.1%	5.2%	2.6%	0.9%	12.9%	0.4%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Perris
Indian Avenue
N/ Harley Knox Boulevard
24 Hour Directional Classification Count

PER003
Site Code: 067-22787

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/08/22	0	39	3	0	4	5	1	0	31	0	0	0	0	83
01:00	0	37	5	0	2	6	0	0	21	0	0	0	0	71
02:00	1	89	12	0	0	13	0	0	26	0	0	0	0	141
03:00	0	**203**	23	1	2	6	2	0	28	0	0	1	0	266
04:00	0	162	30	0	4	16	0	0	29	0	0	0	0	241
05:00	1	198	28	0	5	12	**7**	0	25	0	0	**2**	0	**278**
06:00	1	86	19	1	11	10	2	0	26	0	0	0	0	156
07:00	0	134	29	0	**18**	8	3	0	37	0	0	0	0	229
08:00	**2**	107	27	**2**	15	9	4	0	38	0	0	0	**1**	205
09:00	0	88	**43**	1	11	14	4	0	49	1	0	0	0	211
10:00	0	88	36	0	14	**21**	7	**1**	**58**	0	0	1	0	226
11:00	0	111	31	1	11	16	6	1	58	**3**	0	0	0	238
12 PM	0	167	24	0	**21**	**28**	**4**	4	40	**1**	0	0	0	289
13:00	1	257	69	1	18	18	0	2	40	0	0	0	0	406
14:00	**4**	306	78	2	18	23	0	**5**	48	0	0	0	0	484
15:00	1	376	72	0	7	18	1	3	37	1	0	0	0	516
16:00	3	**467**	**89**	**3**	6	13	0	3	31	0	0	0	0	**615**
17:00	3	378	75	2	3	12	0	0	28	0	0	0	0	501
18:00	0	274	49	2	4	8	0	0	25	0	0	0	0	362
19:00	0	80	17	2	4	12	0	0	40	0	0	0	0	155
20:00	2	73	8	1	3	16	0	0	**55**	0	0	0	0	158
21:00	0	83	8	0	2	8	0	0	35	0	0	0	0	136
22:00	1	94	9	0	3	16	0	0	27	0	0	0	0	150
23:00	1	90	11	0	0	20	0	1	30	0	0	0	0	153
Total	21	3987	795	19	186	328	41	20	862	6	0	4	1	6270
Percent	0.3%	63.6%	12.7%	0.3%	3.0%	5.2%	0.7%	0.3%	13.7%	0.1%	0.0%	0.1%	0.0%	
AM Peak	08:00	03:00	09:00	08:00	07:00	10:00	05:00	10:00	10:00	11:00		05:00	08:00	05:00
Vol.	2	203	43	2	18	21	7	1	58	3		2	1	278
PM Peak	14:00	16:00	16:00	16:00	12:00	12:00	12:00	14:00	20:00	12:00				16:00
Vol.	4	467	89	3	21	28	4	5	55	1				615
Grand Total	21	3987	795	19	186	328	41	20	862	6	0	4	1	6270
Percent	0.3%	63.6%	12.7%	0.3%	3.0%	5.2%	0.7%	0.3%	13.7%	0.1%	0.0%	0.1%	0.0%	

Counts Unlimited, Inc.

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City of Perris
Indian Avenue
N/ Harley Knox Boulevard
24 Hour Directional Classification Count
Northbound, Southbound

PER003
Site Code: 067-22787

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/08/22	1	60	6	0	5	14	1	1	41	0	0	0	0	129
01:00	0	63	5	0	2	12	0	1	29	0	0	1	0	113
02:00	1	125	17	0	2	24	0	1	41	0	0	0	0	211
03:00	0	343	35	1	3	15	2	0	54	0	0	1	0	454
04:00	**6**	501	80	0	5	23	0	0	61	0	0	0	0	676
05:00	2	**609**	83	2	9	23	7	1	62	0	0	**2**	0	**800**
06:00	2	339	56	1	17	21	3	1	55	0	0	0	0	495
07:00	4	501	**84**	**3**	26	27	7	4	81	0	0	0	0	737
08:00	3	321	64	2	**28**	31	6	**7**	80	4	0	0	**1**	547
09:00	0	224	77	1	17	36	11	4	101	1	0	0	0	472
10:00	0	178	63	1	24	**38**	16	4	**110**	1	0	1	0	436
11:00	2	210	61	2	21	38	**31**	4	105	**6**	0	0	0	480
12 PM	0	326	67	1	29	**48**	24	5	87	2	0	0	0	589
13:00	1	519	129	**5**	23	37	10	9	**96**	**5**	0	0	0	834
14:00	**4**	496	130	2	**32**	46	4	**10**	95	0	0	0	0	819
15:00	3	635	**140**	0	16	35	15	5	75	5	0	0	0	929
16:00	4	**795**	134	4	15	28	19	5	52	1	0	0	0	**1057**
17:00	4	524	113	2	5	24	**31**	2	48	1	0	**1**	0	755
18:00	0	392	65	2	7	18	10	1	59	2	0	0	0	556
19:00	1	138	25	2	14	23	2	7	70	0	0	0	0	282
20:00	3	149	17	1	6	28	0	1	89	0	0	0	0	294
21:00	0	143	13	0	4	15	0	0	66	0	0	0	0	241
22:00	2	163	16	0	3	19	0	1	49	0	0	0	0	253
23:00	1	161	16	0	1	25	0	1	48	0	0	0	0	253
Total	44	7915	1496	32	314	648	199	75	1654	28	0	6	1	12412
Percent	0.4%	63.8%	12.1%	0.3%	2.5%	5.2%	1.6%	0.6%	13.3%	0.2%	0.0%	0.0%	0.0%	
AM Peak	04:00	05:00	07:00	07:00	08:00	10:00	11:00	08:00	10:00	11:00		05:00	08:00	05:00
Vol.	6	609	84	3	28	38	31	7	110	6		2	1	800
PM Peak	14:00	16:00	15:00	13:00	14:00	12:00	17:00	14:00	13:00	13:00		17:00		16:00
Vol.	4	795	140	5	32	48	31	10	96	5		1		1057
Grand Total	44	7915	1496	32	314	648	199	75	1654	28	0	6	1	12412
Percent	0.4%	63.8%	12.1%	0.3%	2.5%	5.2%	1.6%	0.6%	13.3%	0.2%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Perris
Harley Knox Boulevard
W/ Indian Avenue
24 Hour Directional Classification Count

PER001
Site Code: 067-22787

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/08/22	1	45	3	0	1	6	0	0	14	0	0	0	0	70
01:00	0	36	3	0	0	4	1	1	16	0	0	**1**	0	62
02:00	0	46	5	0	1	3	0	1	21	0	0	0	0	77
03:00	1	131	12	0	2	6	1	0	24	0	0	0	0	177
04:00	**2**	301	50	0	2	13	0	0	47	0	0	0	0	415
05:00	2	**346**	57	0	5	6	0	4	49	0	0	0	0	**469**
06:00	1	229	48	1	17	13	2	3	44	0	**1**	1	0	360
07:00	2	265	**74**	**4**	13	**23**	4	3	55	0	0	0	0	443
08:00	0	259	70	3	11	23	2	**9**	55	**3**	0	0	0	435
09:00	0	121	51	0	13	21	4	0	**100**	0	0	0	0	310
10:00	0	128	55	1	19	15	6	7	84	1	0	0	0	316
11:00	1	161	66	1	**22**	20	**23**	6	84	1	0	0	0	385
12 PM	0	210	81	0	19	**27**	13	8	77	0	**1**	0	0	436
13:00	3	211	70	**4**	**24**	18	7	**10**	**79**	**5**	0	0	0	431
14:00	3	320	96	2	14	26	3	10	54	0	0	0	0	528
15:00	1	**360**	**123**	2	17	18	11	5	44	4	1	0	0	**586**
16:00	1	327	84	2	10	9	16	7	41	0	0	0	0	497
17:00	**4**	281	92	0	3	15	**27**	3	36	1	0	**1**	0	463
18:00	1	217	58	0	5	11	5	6	46	2	0	0	0	351
19:00	2	173	27	0	8	13	2	10	61	0	0	0	0	296
20:00	0	179	19	0	4	13	0	0	53	0	0	0	0	268
21:00	0	121	16	0	2	12	0	0	47	0	0	0	0	198
22:00	1	88	7	0	0	7	0	1	22	0	0	0	0	126
23:00	0	54	11	0	1	4	0	0	7	0	0	0	0	77
Total	26	4609	1178	20	213	326	127	94	1160	17	3	3	0	7776
Percent	0.3%	59.3%	15.1%	0.3%	2.7%	4.2%	1.6%	1.2%	14.9%	0.2%	0.0%	0.0%	0.0%	
AM Peak	04:00	05:00	07:00	07:00	11:00	07:00	11:00	08:00	09:00	08:00	06:00	01:00		05:00
Vol.	2	346	74	4	22	23	23	9	100	3	1	1		469
PM Peak	17:00	15:00	15:00	13:00	13:00	12:00	17:00	13:00	13:00	13:00	12:00	17:00		15:00
Vol.	4	360	123	4	24	27	27	10	79	5	1	1		586
Grand Total	26	4609	1178	20	213	326	127	94	1160	17	3	3	0	7776
Percent	0.3%	59.3%	15.1%	0.3%	2.7%	4.2%	1.6%	1.2%	14.9%	0.2%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
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City of Perris
Harley Knox Boulevard
W/ Indian Avenue
24 Hour Directional Classification Count

PER001
Site Code: 067-22787

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/08/22	0	41	0	0	2	7	1	2	34	0	0	0	0	87
01:00	0	34	4	0	1	7	0	1	30	0	0	0	0	77
02:00	0	77	9	0	0	15	0	0	36	0	0	0	0	137
03:00	1	158	14	0	2	8	0	1	35	0	0	**1**	0	220
04:00	0	196	24	0	6	19	0	0	54	0	0	0	0	299
05:00	1	244	76	0	4	11	24	0	36	0	0	1	0	397
06:00	**5**	326	85	2	3	16	**30**	0	46	0	0	0	0	513
07:00	0	**457**	**91**	0	14	13	7	1	44	0	0	0	0	**627**
08:00	0	250	57	**6**	**18**	10	5	1	52	0	0	0	0	399
09:00	0	137	63	1	11	15	3	1	77	**3**	0	0	0	311
10:00	0	129	70	0	11	**21**	8	**3**	84	0	0	1	0	327
11:00	2	145	55	1	17	18	6	3	**86**	3	0	0	0	336
12 PM	0	187	47	1	**20**	**38**	**6**	2	**70**	0	0	0	0	371
13:00	2	288	76	**5**	18	23	2	3	68	0	0	0	0	485
14:00	**4**	305	80	5	15	26	2	6	70	**1**	0	0	0	514
15:00	3	386	**92**	1	7	8	1	6	59	1	0	0	0	**564**
16:00	4	**392**	87	4	8	12	0	**8**	48	1	0	0	0	564
17:00	2	358	86	1	3	12	0	6	45	0	0	0	0	513
18:00	0	252	63	1	3	7	0	5	38	0	0	0	**1**	370
19:00	0	116	35	3	7	14	0	4	63	0	0	0	1	243
20:00	0	103	13	1	0	18	0	2	65	0	0	0	0	202
21:00	0	107	14	0	2	8	0	4	54	0	0	0	0	189
22:00	0	69	5	0	3	12	0	0	44	0	0	0	0	133
23:00	1	72	9	0	0	13	0	0	42	0	0	0	0	137
Total	25	4829	1155	32	175	351	95	59	1280	9	0	3	2	8015
Percent	0.3%	60.2%	14.4%	0.4%	2.2%	4.4%	1.2%	0.7%	16.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	08:00	08:00	10:00	06:00	10:00	11:00	09:00		03:00		07:00
Vol.	5	457	91	6	18	21	30	3	86	3		1		627
PM Peak	14:00	16:00	15:00	13:00	12:00	12:00	12:00	16:00	12:00	14:00			18:00	15:00
Vol.	4	392	92	5	20	38	6	8	70	1			1	564
Grand Total	25	4829	1155	32	175	351	95	59	1280	9	0	3	2	8015
Percent	0.3%	60.2%	14.4%	0.4%	2.2%	4.4%	1.2%	0.7%	16.0%	0.1%	0.0%	0.0%	0.0%	

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City of Perris
Harley Knox Boulevard
W/ Indian Avenue
24 Hour Directional Classification Count

PER001
Site Code: 067-22787

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/08/22	1	86	3	0	3	13	1	2	48	0	0	0	0	157
01:00	0	70	7	0	1	11	1	2	46	0	0	**1**	0	139
02:00	0	123	14	0	1	18	0	1	57	0	0	0	0	214
03:00	2	289	26	0	4	14	1	1	59	0	0	1	0	397
04:00	2	497	74	0	8	32	0	0	101	0	0	0	0	714
05:00	3	590	133	0	9	17	24	4	85	0	0	1	0	866
06:00	**6**	555	133	3	20	29	**32**	3	90	0	**1**	1	0	873
07:00	2	**722**	**165**	4	27	36	11	4	99	0	0	0	0	**1070**
08:00	0	509	127	**9**	29	33	7	**10**	107	3	0	0	0	834
09:00	0	258	114	1	24	36	7	1	**177**	3	0	0	0	621
10:00	0	257	125	1	30	36	14	10	168	1	0	1	0	643
11:00	3	306	121	2	**39**	**38**	29	9	170	**4**	0	0	0	721
12 PM	0	397	128	1	39	**65**	19	10	**147**	0	**1**	0	0	807
13:00	5	499	146	**9**	**42**	41	9	13	147	**5**	0	0	0	916
14:00	**7**	625	176	7	29	52	5	**16**	124	1	0	0	0	1042
15:00	4	**746**	**215**	3	24	26	12	11	103	5	1	0	0	**1150**
16:00	5	719	171	6	18	21	16	15	89	1	0	0	0	1061
17:00	6	639	178	1	6	27	**27**	9	81	1	0	**1**	0	976
18:00	1	469	121	1	8	18	5	11	84	2	0	0	**1**	721
19:00	2	289	62	3	15	27	2	14	124	0	0	0	1	539
20:00	0	282	32	1	4	31	0	2	118	0	0	0	0	470
21:00	0	228	30	0	4	20	0	4	101	0	0	0	0	387
22:00	1	157	12	0	3	19	0	1	66	0	0	0	0	259
23:00	1	126	20	0	1	17	0	0	49	0	0	0	0	214
Total	51	9438	2333	52	388	677	222	153	2440	26	3	6	2	15791
Percent	0.3%	59.8%	14.8%	0.3%	2.5%	4.3%	1.4%	1.0%	15.5%	0.2%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	08:00	11:00	11:00	06:00	08:00	09:00	11:00	06:00	01:00		07:00
Vol.	6	722	165	9	39	38	32	10	177	4	1	1		1070
PM Peak	14:00	15:00	15:00	13:00	13:00	12:00	17:00	14:00	12:00	13:00	12:00	17:00	18:00	15:00
Vol.	7	746	215	9	42	65	27	16	147	5	1	1	1	1150
Grand Total	51	9438	2333	52	388	677	222	153	2440	26	3	6	2	15791
Percent	0.3%	59.8%	14.8%	0.3%	2.5%	4.3%	1.4%	1.0%	15.5%	0.2%	0.0%	0.0%	0.0%	

Appendix D

Level of Service Analysis Worksheets

Appendix D-1

Existing Conditions Analysis

FIR Harley Knox Indian Warehouse

Vistro File: H:\...\22-142 FIR Harley Knox Indian warehouse.vistro

Scenario 1 Existing AM

Report File: H:\...\1 Existing AM.pdf

2024-03-12

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		6.5	A
2	Harley Knox Blvd @ Project Dwy	Two-way stop	HCM 6th Edition	WB Thru	0.009	0.0	A
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	WB Left	0.386	28.9	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: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	158	116	517	69	24	883
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
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]	167	123	548	73	25	936
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	34	152	20	7	260
Total Analysis Volume [veh/h]	186	137	610	81	28	1041
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	610		28		186	
Exiting Flow Rate [veh/h]	28		1227		747	
Demand Flow Rate [veh/h]	167	123	548	73	25	936
Adjusted Demand Flow Rate [veh/h]	186	137	610	81	28	1041

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	172	152	287	324	0	503	567
Capacity of Entry and Bypass Lanes [veh/h]	771	846	1316	1387	1387	1138	1213
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	771	846	1316	1387	1387	1138	1213
X, volume / capacity	0.22	0.18	0.22	0.23	0.06	0.44	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.85	0.65	0.83	0.91	0.19	2.31	2.55
95th-Percentile Queue Length [ft]	21.19	16.29	20.76	22.65	4.65	57.65	63.79
Approach Delay [s/veh]	6.63		4.39			7.87	
Approach LOS	A		A			A	
Intersection Delay [s/veh]	6.52						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 2: Harley Knox Blvd @ Project Dwy

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):	0.009

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	400.00	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		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	595	5	0	741
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	631	5	0	785
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9500	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	173	1	0	215
Total Analysis Volume [veh/h]	0	0	693	5	0	862
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

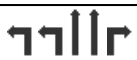
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	16.98	11.46	0.00	0.00	0.00	0.00
Movement LOS	C	B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.22		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.386

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	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	44	225	7	24	99	133	253	208	31	4	495	77
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	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]	47	239	7	25	105	141	268	220	33	4	525	82
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	13	64	2	7	28	38	71	59	9	1	140	22
Total Analysis Volume [veh/h]	50	255	7	27	112	150	285	234	35	4	559	87
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	No
Signal Coordination Group	-
Cycle Length [s]	100
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	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	36	0	9	36	36	23	33	0	22	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	4	13	13	3	12	12	18	68	68	1	51	51
g / C, Green / Cycle	0.04	0.13	0.13	0.03	0.12	0.12	0.18	0.68	0.68	0.01	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.00	0.01	0.06	0.09	0.16	0.05	0.05	0.00	0.12	0.12
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1778	1810	3618	1774
c, Capacity [veh/h]	136	464	207	50	223	189	319	2453	1205	12	1838	901
d1, Uniform Delay [s]	46.94	40.94	38.22	48.06	41.47	43.02	40.33	5.46	5.47	49.54	13.75	13.79
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.66	1.02	0.07	8.81	1.75	7.29	8.69	0.06	0.12	16.46	0.30	0.63
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	0.37	0.55	0.03	0.54	0.50	0.79	0.89	0.07	0.07	0.34	0.23	0.24
d, Delay for Lane Group [s/veh]	48.60	41.95	38.28	56.87	43.22	50.31	49.02	5.52	5.59	66.00	14.05	14.41
Lane Group LOS	D	D	D	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	3.00	0.15	0.78	2.69	3.97	7.31	0.52	0.55	0.15	2.54	2.63
50th-Percentile Queue Length [ft/ln]	15.91	74.88	3.85	19.61	67.18	99.15	182.86	13.07	13.71	3.75	63.43	65.68
95th-Percentile Queue Length [veh/ln]	1.15	5.39	0.28	1.41	4.84	7.14	11.75	0.94	0.99	0.27	4.57	4.73
95th-Percentile Queue Length [ft/ln]	28.63	134.78	6.93	35.30	120.92	178.47	293.74	23.53	24.67	6.74	114.17	118.22

Movement, Approach, & Intersection Results

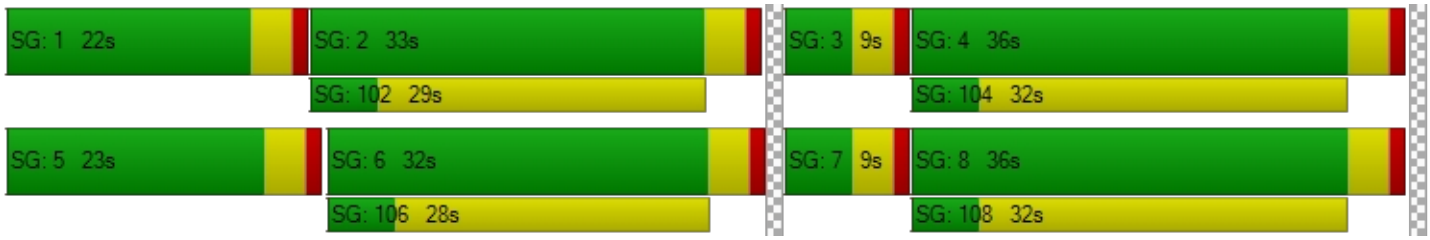
d_M, Delay for Movement [s/veh]	48.60	41.95	38.28	56.87	43.22	50.31	49.02	5.54	5.59	66.00	14.13	14.41
Movement LOS	D	D	D	E	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	42.94			48.18			27.91			14.49		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	28.92											
Intersection LOS	C											
Intersection V/C	0.386											

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]	41.44	41.44	41.44	41.44
l_p,int, Pedestrian LOS Score for Intersectio	2.665	2.485	2.875	2.792
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]	640	640	580	560
d_b, Bicycle Delay [s]	23.15	23.15	25.24	25.95
l_b,int, Bicycle LOS Score for Intersection	1.817	1.798	1.007	1.060
Bicycle LOS	A	A	A	A

Sequence

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



FIR Harley Knox Indian Warehouse

Vistro File: H:\...\22-142 FIR Harley Knox Indian warehouse.vistro
Scenario 2 Existing PM

Report File: H:\...\1 Existing PM.pdf
2024-03-12

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		6.4	A
2	Harley Knox Blvd @ Project Dwy	Two-way stop	HCM 6th Edition	NB Left	0.007	18.6	C
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	SB Left	0.493	33.3	C

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

Intersection Level Of Service Report
Intersection 1: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	6.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	89	62	618	86	31	902
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
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]	94	66	655	91	33	956
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	19	190	26	10	278
Total Analysis Volume [veh/h]	109	77	762	106	38	1112
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	762		38		109	
Exiting Flow Rate [veh/h]	38		1221		839	
Demand Flow Rate [veh/h]	94	66	655	91	33	956
Adjusted Demand Flow Rate [veh/h]	109	77	762	106	38	1112

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	99	88	359	404	0	541	610
Capacity of Entry and Bypass Lanes [veh/h]	670	744	1304	1375	1375	1222	1295
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	670	744	1304	1375	1375	1222	1295
X, volume / capacity	0.15	0.12	0.27	0.29	0.08	0.44	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.51	0.40	1.13	1.24	0.25	2.32	2.59
95th-Percentile Queue Length [ft]	12.85	9.95	28.14	30.88	6.26	57.97	64.79
Approach Delay [s/veh]	6.59		4.94		7.54		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	6.43						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 2: Harley Knox Blvd @ Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	400.00	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		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	643	0	0	706
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	682	0	0	748
Peak Hour Factor	0.8580	0.8580	0.8580	0.8580	0.9500	0.8580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	199	0	0	218
Total Analysis Volume [veh/h]	2	0	795	0	0	872
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

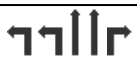
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	18.60	12.04	0.00	0.00	0.00	0.00
Movement LOS	C	B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.57	0.57	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.60		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.493

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	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	31	185	10	91	286	286	196	363	32	17	313	42
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	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]	33	196	11	96	303	303	208	385	34	18	332	45
Peak Hour Factor	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760
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]	11	63	4	31	98	98	67	124	11	6	107	14
Total Analysis Volume [veh/h]	43	253	14	124	390	390	268	496	44	23	428	58
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	No
Signal Coordination Group	-
Cycle Length [s]	100
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	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	36	0	12	39	39	20	35	0	17	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	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	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	4	23	23	8	27	27	16	51	51	2	37	37
g / C, Green / Cycle	0.04	0.23	0.23	0.08	0.27	0.27	0.16	0.51	0.51	0.02	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.01	0.07	0.21	0.24	0.15	0.10	0.10	0.01	0.09	0.09
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1822	1810	3618	1788
c, Capacity [veh/h]	127	816	364	146	513	436	290	1842	928	45	1352	668
d1, Uniform Delay [s]	47.11	32.29	30.30	45.42	33.55	35.15	41.44	13.39	13.40	48.23	21.57	21.62
k, delay calibration	0.11	0.11	0.11	0.11	0.14	0.21	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.57	0.21	0.04	12.60	2.95	11.75	12.03	0.24	0.47	8.75	0.42	0.87
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	0.34	0.31	0.04	0.85	0.76	0.89	0.92	0.19	0.20	0.51	0.24	0.24
d, Delay for Lane Group [s/veh]	48.68	32.51	30.34	58.02	36.50	46.90	53.47	13.63	13.87	56.98	21.98	22.49
Lane Group LOS	D	C	C	E	D	D	D	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.55	2.56	0.27	3.53	8.96	10.37	7.19	2.06	2.15	0.66	2.53	2.65
50th-Percentile Queue Length [ft/ln]	13.71	64.03	6.69	88.26	224.05	259.33	179.81	51.43	53.79	16.45	63.15	66.24
95th-Percentile Queue Length [veh/ln]	0.99	4.61	0.48	6.35	13.87	15.65	11.59	3.70	3.87	1.18	4.55	4.77
95th-Percentile Queue Length [ft/ln]	24.68	115.26	12.05	158.87	346.79	391.37	289.76	92.57	96.83	29.61	113.67	119.23

Movement, Approach, & Intersection Results

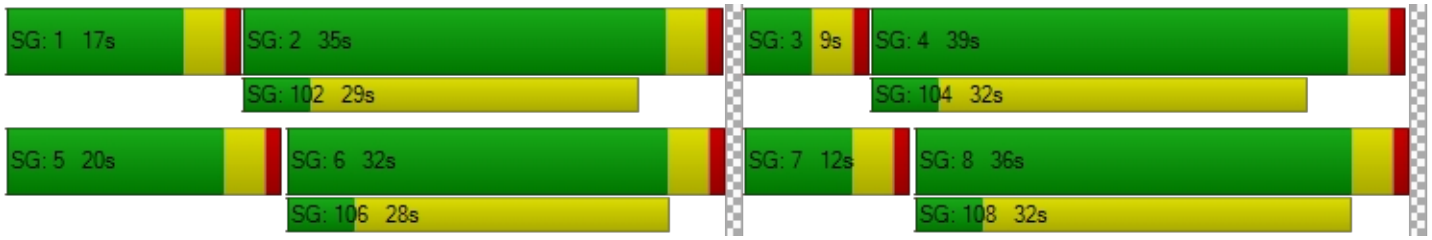
d_M, Delay for Movement [s/veh]	48.68	32.51	30.34	58.02	36.50	46.90	53.47	13.69	13.87	56.98	22.11	22.49
Movement LOS	D	C	C	E	D	D	D	B	B	E	C	C
d_A, Approach Delay [s/veh]	34.65			43.94			26.90			23.73		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	33.30											
Intersection LOS	C											
Intersection V/C	0.493											

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]	41.44	41.44	41.44	41.44
l_p,int, Pedestrian LOS Score for Intersectio	2.707	2.596	2.949	2.839
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]	640	700	620	560
d_b, Bicycle Delay [s]	23.15	21.16	23.84	25.95
l_b,int, Bicycle LOS Score for Intersection	1.815	2.305	1.146	0.982
Bicycle LOS	A	B	A	A

Sequence

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



Appendix D-2

Existing + Project Analysis

FIR Harley Knox Indian Warehouse

Vistro File: H:\...\22-142 FIR Harley Knox Indian warehouse.vistro
Scenario 3 Ex + P AM

Report File: H:\...\2 Ex + P AM.pdf
2024-03-12

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		6.6	A
2	Harley Knox Blvd @ Project Dwy	Two-way stop	HCM 6th Edition	SB Right	0.004	12.5	B
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	WB Left	0.410	29.8	C
4	Indian Ave @ N Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.018	9.8	A
5	Indian Ave @ S Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.002	9.2	A

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

Intersection Level Of Service Report
Intersection 1: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	158	116	517	69	24	883
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
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	27	0	0	15
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]	167	123	575	73	25	951
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	34	160	20	7	264
Total Analysis Volume [veh/h]	186	137	640	81	28	1058
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	640		28		186	
Exiting Flow Rate [veh/h]	28		1244		777	
Demand Flow Rate [veh/h]	167	123	575	73	25	951
Adjusted Demand Flow Rate [veh/h]	186	137	640	81	28	1058

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	172	152	301	340	0	511	576
Capacity of Entry and Bypass Lanes [veh/h]	750	825	1316	1387	1387	1138	1213
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	750	825	1316	1387	1387	1138	1213
X, volume / capacity	0.23	0.18	0.23	0.24	0.06	0.45	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.88	0.67	0.88	0.96	0.19	2.37	2.63
95th-Percentile Queue Length [ft]	21.94	16.80	22.08	24.11	4.65	59.24	65.63
Approach Delay [s/veh]	6.85		4.49			7.98	
Approach LOS	A		A			A	
Intersection Delay [s/veh]	6.63						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 2: Harley Knox Blvd @ Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

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	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	400.00	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			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	595	5	0	741	0
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0600	1.0000	1.0600	1.0600	1.0000	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	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	2	0	28	0	0	14	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
Total Hourly Volume [veh/h]	0	0	0	0	0	2	0	659	5	0	799	14
Peak Hour Factor	0.9110	0.9110	0.9110	0.9500	0.9500	0.9110	0.9500	0.9110	0.9110	0.9500	0.9110	0.9110
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	1	0	181	1	0	219	4
Total Analysis Volume [veh/h]	0	0	0	0	0	2	0	723	5	0	877	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

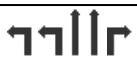
Movement, Approach, & Intersection Results

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	0.01	0.00
d_M, Delay for Movement [s/veh]	20.45	39.44	11.61	0.00	0.00	12.48	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	E	B			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01	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	0.31	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.83			12.48			0.00			0.00		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.02											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

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	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	44	225	7	24	99	133	253	208	31	4	495	77
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	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]	1	1	0	1	0	14	20	1	0	0	6	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]	48	240	7	26	105	155	288	221	33	4	531	88
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	13	64	2	7	28	41	77	59	9	1	141	23
Total Analysis Volume [veh/h]	51	256	7	28	112	165	307	235	35	4	565	94
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	No
Signal Coordination Group	-
Cycle Length [s]	100
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	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	36	0	9	36	36	23	33	0	22	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	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	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	4	14	14	3	13	13	19	67	67	1	49	49
g / C, Green / Cycle	0.04	0.14	0.14	0.03	0.13	0.13	0.19	0.67	0.67	0.01	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.00	0.02	0.06	0.10	0.17	0.05	0.05	0.00	0.12	0.12
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1778	1810	3618	1766
c, Capacity [veh/h]	137	497	222	51	240	204	339	2417	1188	12	1763	861
d1, Uniform Delay [s]	46.92	40.10	37.42	48.03	40.59	42.55	39.83	5.80	5.81	49.54	14.98	15.02
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.13	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.67	0.83	0.06	8.85	1.40	7.35	10.76	0.06	0.12	16.46	0.34	0.71
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	0.37	0.52	0.03	0.55	0.47	0.81	0.91	0.07	0.08	0.34	0.25	0.25
d, Delay for Lane Group [s/veh]	48.59	40.93	37.48	56.88	41.99	49.89	50.59	5.86	5.93	66.00	15.32	15.74
Lane Group LOS	D	D	D	E	D	D	D	A	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.65	2.96	0.15	0.81	2.64	4.35	8.05	0.55	0.58	0.15	2.75	2.84
50th-Percentile Queue Length [ft/ln]	16.22	74.11	3.80	20.31	66.03	108.78	201.28	13.77	14.41	3.75	68.73	70.94
95th-Percentile Queue Length [veh/ln]	1.17	5.34	0.27	1.46	4.75	7.77	12.70	0.99	1.04	0.27	4.95	5.11
95th-Percentile Queue Length [ft/ln]	29.20	133.40	6.84	36.55	118.86	194.30	317.62	24.79	25.93	6.74	123.71	127.70

Movement, Approach, & Intersection Results

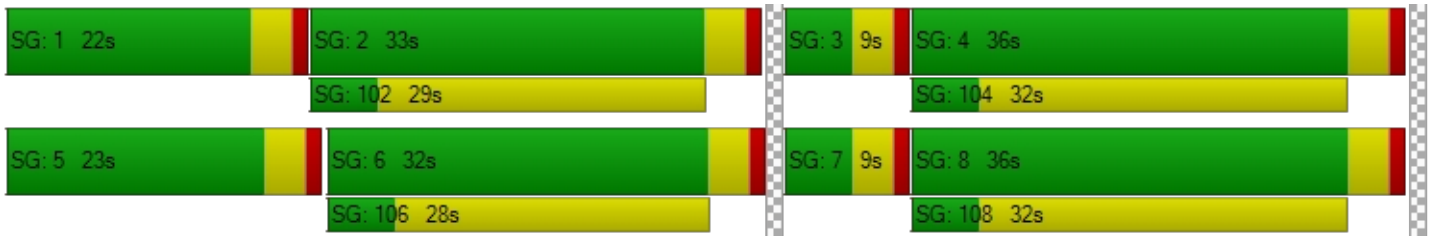
d_M, Delay for Movement [s/veh]	48.59	40.93	37.48	56.88	41.99	49.89	50.59	5.88	5.93	66.00	15.41	15.74
Movement LOS	D	D	D	E	D	D	D	A	A	E	B	B
d_A, Approach Delay [s/veh]	42.10			47.63			29.67			15.76		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.76											
Intersection LOS	C											
Intersection V/C	0.410											

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]	41.44	41.44	41.44	41.44
l_p,int, Pedestrian LOS Score for Intersectio	2.665	2.494	2.884	2.795
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]	640	640	580	560
d_b, Bicycle Delay [s]	23.15	23.15	25.24	25.95
l_b,int, Bicycle LOS Score for Intersection	1.819	1.811	1.019	1.067
Bicycle LOS	A	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 4: Indian Ave @ N Project Dwy

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):	0.018

Intersection Setup

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

Volumes

Name						
Base Volume Input [veh/h]	0	555	256	0	0	0
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
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]	13	0	0	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	588	271	0	0	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	155	71	0	0	3
Total Analysis Volume [veh/h]	14	619	285	0	0	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.82	0.00	0.00	0.00	17.36	9.83
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.82	0.82	0.00	0.00	1.41	1.41
d_A, Approach Delay [s/veh]	0.17		0.00		9.83	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Indian Ave @ S Project Dwy

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):	0.002

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	40.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	555	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	27	13	14	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	615	284	14	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	162	75	4	0	1
Total Analysis Volume [veh/h]	0	647	299	15	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.16
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.17
d_A, Approach Delay [s/veh]	0.00		0.00		9.16	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	A					

FIR Harley Knox Indian Warehouse

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Scenario 4 Ex + P PM

Report File: H:\...\2 Ex + P PM.pdf

2024-03-12

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		6.6	A
2	Harley Knox Blvd @ Project Dwy	Two-way stop	HCM 6th Edition	NB Left	0.010	23.7	C
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	SB Left	0.518	34.9	C
4	Indian Ave @ N Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.019	13.7	B
5	Indian Ave @ S Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.030	10.9	B

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

Intersection Level Of Service Report
Intersection 1: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	89	62	618	86	31	902
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
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	15	0	0	26
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]	94	66	670	91	33	982
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	19	195	26	10	285
Total Analysis Volume [veh/h]	109	77	779	106	38	1142
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	779		38		109	
Exiting Flow Rate [veh/h]	38		1251		856	
Demand Flow Rate [veh/h]	94	66	670	91	33	982
Adjusted Demand Flow Rate [veh/h]	109	77	779	106	38	1142

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	99	88	367	413	0	555	626
Capacity of Entry and Bypass Lanes [veh/h]	660	733	1304	1375	1375	1222	1295
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	660	733	1304	1375	1375	1222	1295
X, volume / capacity	0.15	0.12	0.28	0.30	0.08	0.45	0.48

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.52	0.40	1.16	1.27	0.25	2.43	2.72
95th-Percentile Queue Length [ft]	13.09	10.12	29.00	31.85	6.26	60.63	67.91
Approach Delay [s/veh]	6.70		5.00		7.71		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	6.56						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 2: Harley Knox Blvd @ Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

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	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	400.00	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			No			No		

Volumes

Name												
Base Volume Input [veh/h]	2	0	0	0	0	0	0	643	0	0	706	0
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0600	1.0000	1.0600	1.0600	1.0000	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	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	18	0	24	0	0	17	7
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]	2	0	0	0	0	18	0	706	0	0	765	7
Peak Hour Factor	0.8580	0.8580	0.8580	0.9500	0.9500	0.8580	0.9500	0.8580	0.8580	0.9500	0.8580	0.8580
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	0	0	0	0	5	0	206	0	0	223	2
Total Analysis Volume [veh/h]	2	0	0	0	0	21	0	823	0	0	892	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

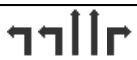
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	23.70	45.17	12.28	0.00	0.00	12.84	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	E	B			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.78	0.78	0.78	0.00	0.00	3.42	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.70			12.84			0.00			0.00		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.18											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

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	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	31	185	10	91	286	286	196	363	32	17	313	42
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	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]	1	1	0	7	2	17	12	7	2	0	3	3
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]	34	197	11	103	305	320	220	392	36	18	335	48
Peak Hour Factor	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760
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]	11	63	4	33	98	103	71	126	12	6	108	15
Total Analysis Volume [veh/h]	44	254	14	133	393	412	284	505	46	23	432	62
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	No
Signal Coordination Group	-
Cycle Length [s]	100
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	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	36	0	12	39	39	20	35	0	17	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	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	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	4	24	24	8	28	28	16	50	50	2	36	36
g / C, Green / Cycle	0.04	0.24	0.24	0.08	0.28	0.28	0.16	0.50	0.50	0.02	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.01	0.07	0.21	0.26	0.16	0.10	0.10	0.01	0.09	0.09
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1820	1810	3618	1782
c, Capacity [veh/h]	128	864	386	146	538	457	290	1794	903	45	1304	642
d1, Uniform Delay [s]	47.08	31.21	29.27	45.67	32.45	34.55	41.87	14.15	14.16	48.23	22.52	22.58
k, delay calibration	0.11	0.11	0.11	0.11	0.14	0.24	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.58	0.19	0.04	18.51	2.51	13.28	20.02	0.26	0.51	8.75	0.46	0.97
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	0.34	0.29	0.04	0.91	0.73	0.90	0.98	0.20	0.21	0.51	0.25	0.26
d, Delay for Lane Group [s/veh]	48.66	31.40	29.31	64.18	34.96	47.84	61.90	14.41	14.68	56.98	22.99	23.56
Lane Group LOS	D	C	C	E	C	D	E	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.56	2.52	0.26	4.01	8.82	11.11	8.28	2.18	2.28	0.66	2.64	2.77
50th-Percentile Queue Length [ft/ln]	14.02	62.99	6.56	100.17	220.50	277.85	206.92	54.56	56.98	16.45	66.12	69.27
95th-Percentile Queue Length [veh/ln]	1.01	4.54	0.47	7.21	13.69	16.58	13.00	3.93	4.10	1.18	4.76	4.99
95th-Percentile Queue Length [ft/ln]	25.24	113.39	11.80	180.31	342.26	414.54	324.88	98.21	102.57	29.61	119.02	124.69

Movement, Approach, & Intersection Results

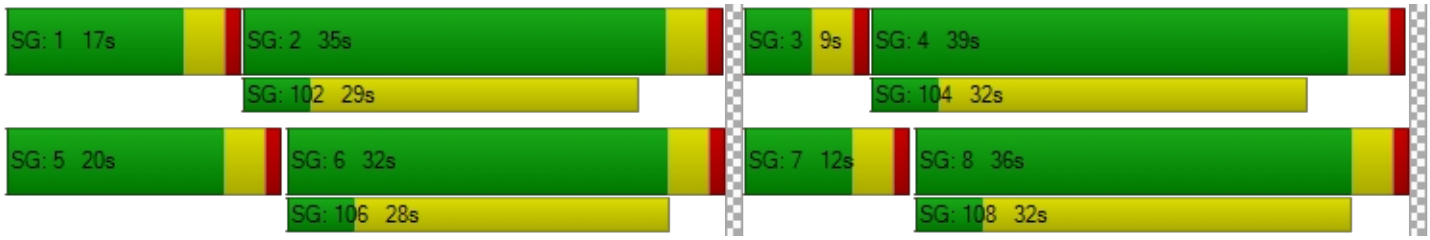
d_M, Delay for Movement [s/veh]	48.66	31.40	29.31	64.18	34.96	47.84	61.90	14.48	14.68	56.98	23.12	23.56
Movement LOS	D	C	C	E	C	D	E	B	B	E	C	C
d_A, Approach Delay [s/veh]	33.74			44.76			30.62			24.68		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	34.91											
Intersection LOS	C											
Intersection V/C	0.518											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.44	41.44	41.44	41.44
l_p,int, Pedestrian LOS Score for Intersectio	2.708	2.606	2.961	2.845
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]	640	700	620	560
d_b, Bicycle Delay [s]	23.15	21.16	23.84	25.95
l_b,int, Bicycle LOS Score for Intersection	1.817	2.333	1.161	0.986
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 4: Indian Ave @ N Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	13.7
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	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	423	663	0	0	0
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
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]	8	0	0	0	0	8
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]	8	448	703	0	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	118	185	0	0	2
Total Analysis Volume [veh/h]	8	472	740	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.15	0.00	0.00	0.00	23.52	13.74
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.69	0.69	0.00	0.00	1.45	1.45
d_A, Approach Delay [s/veh]	0.15		0.00		13.74	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Indian Ave @ S Project Dwy

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):	0.030

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	40.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	423	663	0	0	0
Base Volume Adjustment Factor	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	8	7	0	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	463	711	7	0	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	122	187	2	0	5
Total Analysis Volume [veh/h]	0	487	748	7	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.93
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.34
d_A, Approach Delay [s/veh]	0.00		0.00		10.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Appendix D-3

Opening Day Conditions

FIR Harley Knox Indian Warehouse

Vistro File: H:\...\22-142 FIR Harley Knox Indian warehouse.vistro
Scenario 5 Opening Day AM

Report File: H:\...\3 Opening Day AM.pdf
2024-06-18

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		8.0	A
2	Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy	Two-way stop	HCM 6th Edition	WB Thru	0.011	0.0	A
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	SB Left	0.441	29.0	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: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	158	116	517	69	24	883
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	182	18	0	172
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]	187	127	746	93	26	1136
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	35	207	26	7	316
Total Analysis Volume [veh/h]	208	141	830	103	29	1264
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	830		29		208	
Exiting Flow Rate [veh/h]	29		1472		971	
Demand Flow Rate [veh/h]	187	127	746	93	26	1136
Adjusted Demand Flow Rate [veh/h]	208	141	830	103	29	1264

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	185	165	391	440	0	608	686
Capacity of Entry and Bypass Lanes [veh/h]	630	702	1315	1386	1386	1115	1190
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	630	702	1315	1386	1386	1115	1190
X, volume / capacity	0.29	0.23	0.30	0.32	0.07	0.55	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	1.22	0.90	1.25	1.38	0.24	3.41	3.84
95th-Percentile Queue Length [ft]	30.56	22.59	31.31	34.49	6.01	85.28	96.01
Approach Delay [s/veh]	8.76		5.14			9.85	
Approach LOS	A		A			A	
Intersection Delay [s/veh]	7.99						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

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

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	400.00	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		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	595	5	0	741
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	182	0	0	172
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	832	5	0	981
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9500	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	228	1	0	269
Total Analysis Volume [veh/h]	0	0	913	5	0	1077
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

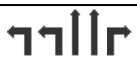
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	22.10	12.60	0.00	0.00	0.00	0.00
Movement LOS	C	B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.35		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	44	225	7	24	99	133	253	208	31	4	495	77
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	0	30	30	0	0	0	145	37	26	132	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	246	37	56	108	145	276	372	71	30	673	110
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	65	10	15	29	39	73	99	19	8	179	29
Total Analysis Volume [veh/h]	94	262	39	60	115	154	294	396	76	32	717	117
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	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
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 (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
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
Advanced 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
Advanced 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

Phasing & Timing: Pattern 1

Split [s]	9	36	0	11	38	38	21	39	0	14	32	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	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	

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	C	L	C	C
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	5	12	12	4	12	12	17	64	64	3	50	50
g / C, Green / Cycle	0.05	0.12	0.12	0.04	0.12	0.12	0.17	0.64	0.64	0.03	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.02	0.03	0.06	0.10	0.16	0.09	0.09	0.02	0.15	0.16
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1749	1810	3618	1768
c, Capacity [veh/h]	163	445	199	78	228	194	308	2329	1126	54	1823	891
d1, Uniform Delay [s]	46.72	41.45	39.40	47.35	41.23	42.82	41.13	6.95	6.96	47.89	14.55	14.59
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.20	1.24	0.48	14.57	1.73	7.26	15.99	0.12	0.26	9.77	0.44	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.59	0.20	0.77	0.51	0.80	0.96	0.14	0.14	0.59	0.31	0.31
d, Delay for Lane Group [s/veh]	49.92	42.69	39.88	61.92	42.96	50.08	57.12	7.07	7.22	57.67	14.99	15.49
Lane Group LOS	D	D	D	E	D	D	E	A	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.21	3.11	0.89	1.79	2.75	4.06	8.21	1.13	1.16	0.91	3.48	3.56
50th-Percentile Queue Length [ft/ln]	30.31	77.78	22.13	44.66	68.77	101.59	205.20	28.31	28.96	22.73	86.93	88.99
95th-Percentile Queue Length [veh/ln]	2.18	5.60	1.59	3.22	4.95	7.31	12.91	2.04	2.09	1.64	6.26	6.41
95th-Percentile Queue Length [ft/ln]	54.56	140.00	39.83	80.38	123.78	182.86	322.67	50.96	52.13	40.92	156.48	160.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.92	42.69	39.88	61.92	42.96	50.08	57.12	7.10	7.22	57.67	15.10	15.49
Movement LOS	D	D	D	E	D	D	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	44.14			49.75			26.31			16.73		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.05											
Intersection LOS	C											
Intersection V/C	0.441											

Emissions

Vehicle Miles Traveled [mph]	7.41	20.64	3.07	3.62	6.93	9.28	59.12	63.60	31.32	2.68	46.70	23.08
Stops [stops/h]	87.30	224.00	31.86	64.31	99.03	146.29	295.49	81.53	41.71	32.73	250.36	128.15
Fuel consumption [US gal/h]	1.74	4.36	0.62	1.26	1.84	2.76	9.12	3.65	1.82	0.87	6.42	3.25
CO [g/h]	121.77	305.01	43.27	88.08	128.46	192.90	637.31	255.07	127.27	61.11	448.49	227.48
NOx [g/h]	23.69	59.34	8.42	17.14	24.99	37.53	124.00	49.63	24.76	11.89	87.26	44.26
VOC [g/h]	28.22	70.69	10.03	20.41	29.77	44.71	147.70	59.11	29.50	14.16	103.94	52.72

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]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersectio	2.687	2.502	2.962	2.885
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]	640	680	700	560
d_b, Bicycle Delay [s]	23.12	21.78	21.13	25.92
l_b,int, Bicycle LOS Score for Intersection	1.885	1.831	1.123	1.178
Bicycle LOS	A	A	A	A

Sequence

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



FIR Harley Knox Indian Warehouse

Vistro File: H:\...\22-142 FIR Harley Knox Indian warehouse.vistro
Scenario 6 Opening Day PM

Report File: H:\...\3 Opening Day PM.pdf
2024-06-18

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		8.1	A
2	Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy	Two-way stop	HCM 6th Edition	NB Left	0.011	25.5	D
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	SB Left	0.568	36.0	D

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: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	89	62	618	86	31	902
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	191	17	0	198
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]	116	68	866	111	34	1183
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	20	252	32	10	344
Total Analysis Volume [veh/h]	135	79	1007	129	40	1376
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	1007		40		135	
Exiting Flow Rate [veh/h]	40		1511		1086	
Demand Flow Rate [veh/h]	116	68	866	111	34	1183
Adjusted Demand Flow Rate [veh/h]	135	79	1007	129	40	1376

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	114	101	474	534	0	666	751
Capacity of Entry and Bypass Lanes [veh/h]	535	604	1302	1373	1373	1193	1267
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	535	604	1302	1373	1373	1193	1267
X, volume / capacity	0.21	0.17	0.36	0.39	0.09	0.56	0.59

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.80	0.59	1.69	1.88	0.31	3.59	4.11
95th-Percentile Queue Length [ft]	19.90	14.86	42.19	46.88	7.76	89.85	102.63
Approach Delay [s/veh]	8.84		5.87		9.71		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	8.07						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Control Type:	Two-way stop	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	400.00	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		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	643	0	0	706
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	191	0	0	198
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]	2	0	893	0	0	968
Peak Hour Factor	0.8580	0.8580	0.8580	0.8580	0.9500	0.8580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	260	0	0	282
Total Analysis Volume [veh/h]	2	0	1041	0	0	1128
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

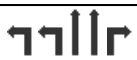
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	25.55	13.55	0.00	0.00	0.00	0.00
Movement LOS	D	B	A	A		A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.85	0.85	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	25.55		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	36.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

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	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	31	185	10	91	286	286	196	363	32	17	313	42
Base Volume Adjustment Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	0	29	29	0	0	0	148	43	32	156	32
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	202	40	128	312	312	214	545	78	51	498	78
Peak Hour Factor	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760
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]	24	65	13	41	101	101	69	176	25	16	160	25
Total Analysis Volume [veh/h]	98	260	52	165	402	402	276	702	101	66	642	101
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	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
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 (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
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
Advanced 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
Advanced 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

Phasing & Timing: Pattern 1

Split [s]	9	36	0	13	40	40	19	40	0	11	32	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	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	

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	C	L	C	C
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	5	23	23	9	28	28	15	47	47	5	37	37
g / C, Green / Cycle	0.05	0.23	0.23	0.09	0.28	0.28	0.15	0.47	0.47	0.05	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.03	0.09	0.21	0.25	0.15	0.15	0.15	0.04	0.14	0.14
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1781	1810	3618	1772
c, Capacity [veh/h]	165	848	378	163	527	448	271	1693	833	86	1323	648
d1, Uniform Delay [s]	46.73	31.58	30.29	45.50	33.11	34.75	42.50	16.63	16.64	47.05	23.32	23.37
k, delay calibration	0.11	0.11	0.11	0.11	0.15	0.23	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.42	0.20	0.16	36.09	3.17	12.44	29.67	0.49	1.01	12.92	0.82	1.70
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	0.60	0.31	0.14	1.01	0.76	0.90	1.02	0.32	0.32	0.76	0.38	0.38
d, Delay for Lane Group [s/veh]	50.15	31.79	30.45	81.59	36.28	47.19	72.17	17.12	17.65	59.97	24.13	25.06
Lane Group LOS	D	C	C	F	D	D	F	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.27	2.60	1.01	5.64	9.23	10.75	8.64	3.65	3.73	1.88	4.19	4.33
50th-Percentile Queue Length [ft/ln]	31.69	65.01	25.14	141.01	230.77	268.75	215.96	91.25	93.24	46.96	104.79	108.17
95th-Percentile Queue Length [veh/ln]	2.28	4.68	1.81	9.58	14.21	16.13	13.56	6.57	6.71	3.38	7.54	7.74
95th-Percentile Queue Length [ft/ln]	57.03	117.01	45.25	239.50	355.34	403.18	339.05	164.25	167.82	84.53	188.62	193.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.15	31.79	30.45	81.59	36.28	47.19	72.17	17.24	17.65	59.97	24.34	25.06
Movement LOS	D	C	C	F	D	D	F	B	B	E	C	C
d_A, Approach Delay [s/veh]	36.01			48.52			31.33			27.34		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	36.03											
Intersection LOS	D											
Intersection V/C	0.568											

Emissions

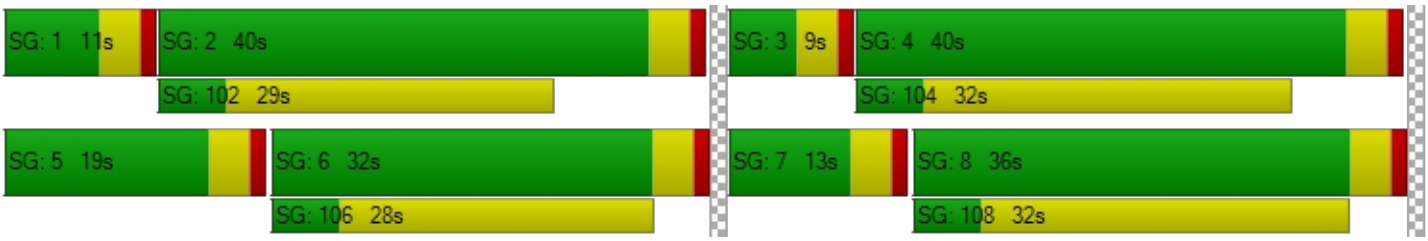
Vehicle Miles Traveled [mph]	7.72	20.48	4.10	9.94	24.23	24.23	55.50	108.07	53.42	5.52	41.54	20.62
Stops [stops/h]	91.25	187.21	36.20	203.05	332.31	387.00	310.99	262.80	134.26	67.63	301.79	155.76
Fuel consumption [US gal/h]	1.82	3.56	0.69	4.27	5.80	7.00	9.82	8.84	4.45	1.84	7.61	3.90
CO [g/h]	127.36	248.80	48.29	298.50	405.48	488.98	686.59	618.19	311.35	128.30	532.26	272.67
NOx [g/h]	24.78	48.41	9.40	58.08	78.89	95.14	133.58	120.28	60.58	24.96	103.56	53.05
VOC [g/h]	29.52	57.66	11.19	69.18	93.97	113.33	159.12	143.27	72.16	29.73	123.36	63.19

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]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersectio	2.737	2.620	3.065	2.962
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]	640	720	720	560
d_b, Bicycle Delay [s]	23.12	20.48	20.48	25.92
l_b,int, Bicycle LOS Score for Intersection	1.898	2.359	1.295	1.147
Bicycle LOS	A	B	A	A

Sequence

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



Appendix D-4

Opening Day + Project

FIR Harley Knox Indian Warehouse

Vistro File: H:\...\22-142 FIR Harley Knox Indian warehouse.vistro
Scenario 7 OD + P AM

Report File: H:\...\4 OD + P AM.pdf
2024-06-18

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		8.0	A
2	Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy	Two-way stop	HCM 6th Edition	SB Right	0.005	13.7	B
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	SB Left	0.457	29.7	C
4	Indian Ave @ N Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.019	10.1	B
5	Indian Ave @ S Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.002	9.3	A

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

Intersection Level Of Service Report
Intersection 1: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	158	116	517	69	24	883
Base Volume Adjustment Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	209	18	0	187
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]	184	125	763	92	26	1133
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	35	212	26	7	315
Total Analysis Volume [veh/h]	205	139	849	102	29	1260
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	849		29		205	
Exiting Flow Rate [veh/h]	29		1465		988	
Demand Flow Rate [veh/h]	184	125	763	92	26	1133
Adjusted Demand Flow Rate [veh/h]	205	139	849	102	29	1260

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	183	162	400	450	0	606	684
Capacity of Entry and Bypass Lanes [veh/h]	619	691	1315	1386	1386	1118	1193
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	619	691	1315	1386	1386	1118	1193
X, volume / capacity	0.29	0.23	0.30	0.32	0.07	0.54	0.57

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	1.23	0.91	1.29	1.43	0.24	3.37	3.79
95th-Percentile Queue Length [ft]	30.68	22.64	32.33	35.64	5.95	84.28	94.87
Approach Delay [s/veh]	8.90		5.21			9.76	
Approach LOS	A		A			A	
Intersection Delay [s/veh]	7.97						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
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	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	400.00	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			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	595	5	0	741	0
Base Volume Adjustment Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
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	2	0	210	0	0	186	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
Total Hourly Volume [veh/h]	0	0	0	0	0	2	0	848	5	0	980	14
Peak Hour Factor	0.9110	0.9110	0.9110	0.9500	0.9500	0.9110	0.9500	0.9110	0.9110	0.9500	0.9110	0.9110
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	1	0	233	1	0	269	4
Total Analysis Volume [veh/h]	0	0	0	0	0	2	0	931	5	0	1076	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

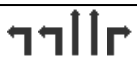
Movement, Approach, & Intersection Results

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	0.01	0.00
d_M, Delay for Movement [s/veh]	27.86	66.53	12.70	0.00	0.00	13.68	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D	F	B			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01	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	0.36	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	35.70			13.68			0.00			0.00		
Approach LOS	E			B			A			A		
d_I, Intersection Delay [s/veh]	0.01											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	44	225	7	24	99	133	253	208	31	4	495	77
Base Volume Adjustment 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
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	1	30	31	0	14	20	146	38	26	138	31
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	242	37	57	106	156	291	368	71	30	668	113
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	64	10	15	28	42	77	98	19	8	178	30
Total Analysis Volume [veh/h]	94	258	39	61	113	166	310	392	76	32	711	120
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
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
Advanced 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
Advanced 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

Phasing & Timing: Pattern 1

Split [s]	9	36	0	10	37	37	22	40	0	14	32	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	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	

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	C	L	C	C
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	5	13	13	4	13	13	18	64	64	3	49	49
g / C, Green / Cycle	0.05	0.13	0.13	0.04	0.13	0.13	0.18	0.64	0.64	0.03	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.02	0.03	0.06	0.10	0.17	0.09	0.09	0.02	0.15	0.16
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1748	1810	3618	1764
c, Capacity [veh/h]	163	469	210	79	242	205	326	2303	1113	54	1760	858
d1, Uniform Delay [s]	46.72	40.77	38.80	47.32	40.51	42.46	40.57	7.23	7.24	47.89	15.58	15.61
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.20	1.01	0.42	14.53	1.41	7.37	16.72	0.12	0.26	9.77	0.47	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.55	0.19	0.77	0.47	0.81	0.95	0.14	0.14	0.59	0.32	0.32
d, Delay for Lane Group [s/veh]	49.92	41.78	39.23	61.85	41.91	49.83	57.29	7.36	7.51	57.67	16.05	16.60
Lane Group LOS	D	D	D	E	D	D	E	A	A	E	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.21	3.02	0.88	1.81	2.66	4.37	8.70	1.16	1.18	0.91	3.63	3.71
50th-Percentile Queue Length [ft/ln]	30.31	75.60	21.90	45.36	66.56	109.37	217.50	28.95	29.56	22.73	90.72	92.75
95th-Percentile Queue Length [veh/ln]	2.18	5.44	1.58	3.27	4.79	7.81	13.54	2.08	2.13	1.64	6.53	6.68
95th-Percentile Queue Length [ft/ln]	54.56	136.08	39.41	81.64	119.80	195.13	338.43	52.11	53.21	40.92	163.30	166.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.92	41.78	39.23	61.85	41.91	49.83	57.29	7.39	7.51	57.67	16.17	16.60
Movement LOS	D	D	D	E	D	D	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	43.48			49.36			27.28			17.77		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.66											
Intersection LOS	C											
Intersection V/C	0.457											

Emissions

Vehicle Miles Traveled [mph]	7.41	20.33	3.07	3.68	6.81	10.00	62.34	63.09	31.03	2.68	46.55	22.97
Stops [stops/h]	87.30	217.73	31.53	65.31	95.84	157.49	313.20	83.37	42.57	32.73	261.29	133.56
Fuel consumption [US gal/h]	1.74	4.23	0.61	1.28	1.77	2.97	9.64	3.67	1.83	0.87	6.66	3.38
CO [g/h]	121.77	295.89	42.78	89.47	123.97	207.27	674.18	256.45	127.81	61.11	465.67	235.96
NOx [g/h]	23.69	57.57	8.32	17.41	24.12	40.33	131.17	49.90	24.87	11.89	90.60	45.91
VOC [g/h]	28.22	68.58	9.91	20.73	28.73	48.04	156.25	59.43	29.62	14.16	107.92	54.69

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]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersectio	2.686	2.507	2.966	2.884
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]	640	660	720	560
d_b, Bicycle Delay [s]	23.12	22.45	20.48	25.92
l_b,int, Bicycle LOS Score for Intersection	1.882	1.840	1.130	1.177
Bicycle LOS	A	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 4: Indian Ave @ N Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	10.1
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	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	555	256	0	0	0
Base Volume Adjustment Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	26	30	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	620	304	0	0	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	163	80	0	0	3
Total Analysis Volume [veh/h]	14	653	320	0	0	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	0.00	18.51	10.06
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.85	0.00	0.00	0.00	1.47	1.47
d_A, Approach Delay [s/veh]	0.17		0.00		10.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Indian Ave @ S Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	9.3
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	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	40.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	555	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	43	14	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	647	317	14	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	170	83	4	0	1
Total Analysis Volume [veh/h]	0	681	334	15	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.27
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.18
d_A, Approach Delay [s/veh]	0.00		0.00		9.27	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	A					

FIR Harley Knox Indian Warehouse

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Scenario 8 OD + P PM

Report File: H:\...\4 OD + P PM.pdf
2024-06-18

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Harley Knox Blvd @ Webster Rd	Roundabout	HCM 6th Edition	WB Thru		8.1	A
2	Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy	Two-way stop	HCM 6th Edition	NB Left	0.016	34.7	D
3	Harley Knox Blvd @ Indian Ave	Signalized	HCM 6th Edition	SB Left	0.582	38.1	D
4	Indian Ave @ N Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.020	14.2	B
5	Indian Ave @ S Project Dwy	Two-way stop	HCM 6th Edition	EB Right	0.031	11.1	B

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

Intersection Level Of Service Report
Intersection 1: Harley Knox Blvd @ Webster Rd

Control Type:	Roundabout	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	89	62	618	86	31	902
Base Volume Adjustment Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	206	17	0	224
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]	115	66	868	109	33	1190
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	19	252	32	10	346
Total Analysis Volume [veh/h]	134	77	1009	127	38	1384
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	1009		38		134	
Exiting Flow Rate [veh/h]	38		1518		1086	
Demand Flow Rate [veh/h]	115	66	868	109	33	1190
Adjusted Demand Flow Rate [veh/h]	134	77	1009	127	38	1384

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	112	100	475	535	0	669	754
Capacity of Entry and Bypass Lanes [veh/h]	534	603	1304	1375	1375	1194	1268
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	534	603	1304	1375	1375	1194	1268
X, volume / capacity	0.21	0.16	0.36	0.39	0.09	0.56	0.59

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.78	0.59	1.69	1.88	0.30	3.62	4.14
95th-Percentile Queue Length [ft]	19.60	14.65	42.20	46.90	7.62	90.47	103.42
Approach Delay [s/veh]	8.82		5.87		9.75		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	8.09						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Control Type:	Two-way stop	Delay (sec / veh):	34.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
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	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	400.00	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			No			No		

Volumes

Name												
Base Volume Input [veh/h]	2	0	0	0	0	0	0	643	0	0	706	0
Base Volume Adjustment Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0400	1.0000	1.0400	1.0400	1.0000	1.0400	1.0400
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
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	18	0	215	0	0	215	7
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]	2	0	0	0	0	18	0	904	0	0	971	7
Peak Hour Factor	0.8580	0.8580	0.8580	0.9500	0.9500	0.8580	0.9500	0.8580	0.8580	0.9500	0.8580	0.8580
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	0	0	0	0	5	0	263	0	0	283	2
Total Analysis Volume [veh/h]	2	0	0	0	0	21	0	1054	0	0	1132	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

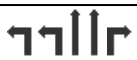
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	34.72	84.15	13.88	0.00	0.00	14.45	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D	F	B			B		A	A		A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.23	1.23	1.23	0.00	0.00	4.12	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	34.72			14.45			0.00			0.00		
Approach LOS	D			B			A			A		
d_I, Intersection Delay [s/veh]	0.17											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Harley Knox Blvd @ Indian Ave

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

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	2	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	350.00	100.00	250.00	100.00	100.00	200.00	360.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
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]	31	185	10	91	286	286	196	363	32	17	313	42
Base Volume Adjustment 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
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	1	29	36	2	17	12	155	45	32	159	35
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]	75	199	39	134	308	323	222	544	79	51	495	80
Peak Hour Factor	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760	0.7760
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]	24	64	13	43	99	104	72	175	25	16	159	26
Total Analysis Volume [veh/h]	97	256	50	173	397	416	286	701	102	66	638	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	4	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	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	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	27	0	0	27	27	0	24	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	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	2.0	2.0	2.0	0.0	2.0	2.0	0.0
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
Advanced 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
Advanced 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

Phasing & Timing: Pattern 1

Split [s]	9	36	0	13	40	40	19	33	0	18	32	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	10	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	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	

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	C	L	C	C
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	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]	5	24	24	9	29	29	15	46	46	5	36	36
g / C, Green / Cycle	0.05	0.24	0.24	0.09	0.29	0.29	0.15	0.46	0.46	0.05	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.03	0.07	0.03	0.10	0.21	0.26	0.16	0.15	0.15	0.04	0.14	0.14
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1779	1810	3618	1769
c, Capacity [veh/h]	164	875	391	163	542	461	271	1662	817	88	1295	633
d1, Uniform Delay [s]	46.73	30.92	29.65	45.50	32.28	34.40	42.50	17.17	17.18	46.96	23.88	23.93
k, delay calibration	0.11	0.11	0.11	0.11	0.14	0.24	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.37	0.18	0.15	50.59	2.55	13.48	40.81	0.52	1.06	11.88	0.86	1.79
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	0.59	0.29	0.13	1.06	0.73	0.90	1.05	0.32	0.32	0.75	0.38	0.39
d, Delay for Lane Group [s/veh]	50.10	31.10	29.79	96.09	34.84	47.88	83.31	17.69	18.24	58.84	24.73	25.72
Lane Group LOS	D	C	C	F	C	D	F	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.25	2.53	0.95	6.30	8.90	11.23	9.48	3.73	3.81	1.86	4.25	4.38
50th-Percentile Queue Length [ft/ln]	31.34	63.15	23.84	157.41	222.53	280.85	236.95	93.22	95.19	46.45	106.21	109.59
95th-Percentile Queue Length [veh/ln]	2.26	4.55	1.72	10.64	13.79	16.73	14.88	6.71	6.85	3.34	7.63	7.82
95th-Percentile Queue Length [ft/ln]	56.42	113.66	42.91	265.91	344.85	418.27	371.89	167.80	171.35	83.61	190.71	195.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.10	31.10	29.79	96.09	34.84	47.88	83.31	17.82	18.24	58.84	24.95	25.72
Movement LOS	D	C	C	F	C	D	F	B	B	E	C	C
d_A, Approach Delay [s/veh]	35.51			51.09			35.05			27.82		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	38.15											
Intersection LOS	D											
Intersection V/C	0.582											

Emissions

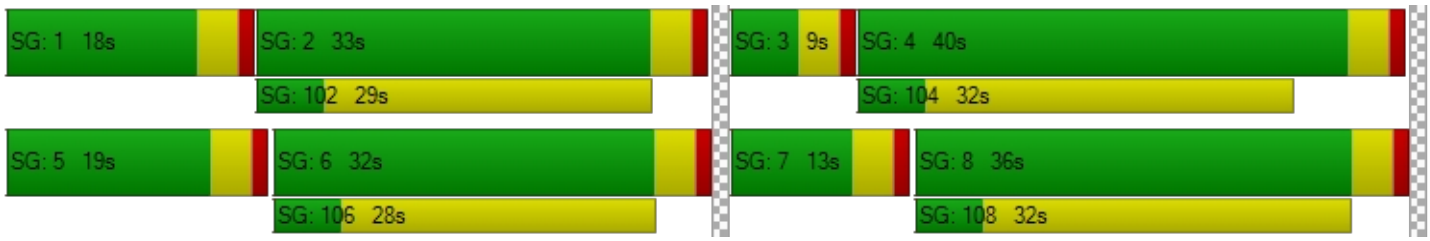
Vehicle Miles Traveled [mph]	7.64	20.17	3.94	10.43	23.92	25.07	57.51	108.10	53.39	5.52	41.45	20.55
Stops [stops/h]	90.27	181.86	34.33	226.67	320.44	404.43	341.21	268.49	137.08	66.89	305.87	157.81
Fuel consumption [US gal/h]	1.80	3.46	0.65	5.06	5.57	7.32	11.06	8.98	4.52	1.81	7.72	3.95
CO [g/h]	125.98	241.52	45.78	353.97	389.32	511.62	773.21	627.58	315.92	126.60	539.43	276.25
NOx [g/h]	24.51	46.99	8.91	68.87	75.75	99.54	150.44	122.10	61.47	24.63	104.95	53.75
VOC [g/h]	29.20	55.97	10.61	82.04	90.23	118.57	179.20	145.45	73.22	29.34	125.02	64.02

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]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersectio	2.735	2.625	3.069	2.962
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]	640	720	580	560
d_b, Bicycle Delay [s]	23.12	20.48	25.21	25.92
l_b,int, Bicycle LOS Score for Intersection	1.892	2.373	1.301	1.146
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 4: Indian Ave @ N Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	423	663	0	0	0
Base Volume Adjustment Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	32	29	0	0	8
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]	8	485	740	0	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	128	195	0	0	2
Total Analysis Volume [veh/h]	8	511	779	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.29	0.00	0.00	0.00	25.58	14.21
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.71	0.00	0.00	0.00	1.53	1.53
d_A, Approach Delay [s/veh]	0.14		0.00		14.21	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Indian Ave @ S Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	40.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	423	663	0	0	0
Base Volume Adjustment Factor	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	2.00	0.00
Growth Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	37	7	0	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	500	748	7	0	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	132	197	2	0	5
Total Analysis Volume [veh/h]	0	526	787	7	0	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.11
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.42
d_A, Approach Delay [s/veh]	0.00		0.00		11.11	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Appendix E

Cumulative Project Information

North Perris Development Map



March Plaza & 7/11



Beyond Food Fueling Station

Under Construction
Approved

360 Single Family Homes





Oasis Carwash



426,000 square feet of industrial warehouse



O'Reilly Autoparts



43,300 square feet of industrial warehouse



1.2 million square feet of industrial warehouse



1.3 million square feet of industrial warehouses



248,000 square feet of industrial warehouse



205,000 square feet of industrial warehouse



7/11 with Carwash



303,000 square feet of industrial warehouse



KFC and Little Ceasers in Spectrum Shopping Center



338,000 square feet of industrial warehouse

PROJECTS IN PROCESS

	Industrial Projects	Sq. Ft.	Acreage	Rezone	Location	Application Submittal Date	Project CEQA Status	Hearing Status
	North Area of City							
1	Harvest Landing MBU	1,031,500	235.51	R & MBU to LI	Between Frontage Rd & Perris, and Placentia Ave & Nuevo Rd	2022.1.13	CEQA EIR; no CEQA submittal to date	N/A
2	OLC 3	879,000	40	C to LI	SW Perris and Markham	2024.3.20	CEQA EIR; no CEQA submittal to date	N/A
3	Proglogis Indus - DC 11	551,922	30	N/A	SE Ramona and Webster	2023.1.3	CEQA EIR; Scoping Mt 2023.10.18; CEQA prepartion	N/A
4	First Industrial - Harley Knox II	549,796	25.13	N/A	NW Harley Knox and Indian	2022.6.2	CEQA EIR; no Scoping Mt yet; no CEQA submittal to date	N/A
5	Lakecreek Placentia - Cubes	508,776	25	N/A	NE of Placentia and Wilson	2021.11.1	CEQA EIR; Scoping Mt 2023.12.20; CEQA preparation	N/A
6	First Sinclair	423,224	19.7	N/A	100 W. Sinclair	2022.9.19	CEQA MND; CEQA public review closed 2024.3.18;	PC Anticipated 2nd Qt 2024
7	First March Logistics	544,372	25.8	N/A	W. Side of Natwar 300' N. of Nandina	2020.3.17	CEQA EIR; Scoping Mt. 2022.1.19;	PC anticipated 2nd Qt 2024
8	Michael Goodwin Indst. Realy Trust	345,316	26.52	N/A	657 Harley Knox Blvd.	2022.10.22	CEQA MND; no CEQA submittal to date	N/A
9	Perris-Harley Commerce Center	361,216	18.37	C to LI	SE corner of Perris & Harley Knox	2021.4.29	CEQA MND; no CEQA submittal to date	N/A
10	Alabassi Indus	291,000	12.55	C to LI	S. Side of Ramona btw Perris & Redlands	2022.12.16	CEQA EIR;Scoping Mt 2023.12.20; CEQA public review closed 2023.12.18;	PC Anticipated 2nd Qt 2024
11	Simington Ind	190,960	9	BPO to LI	NW of Rider & Webster	2023.9.21	CEQA MND; no CEQA submittal to date	N/A
12	Patterson Business Center	94,453	4.84	N/A	W. Side of Patterson; north of Harley Knox	2022.4.14	CEQA MND; CEQA public review ends 2024.4.29	PC Anticipated 3rd Qt 2024
13	March Plaza PDO	66,686	4.37	C to PDO	NW corner of Perris & Harley Knox	2022.11.1	CEQA MND; IS/ND, no CEQA submittal to date	N/A
14	Brew Indus	62,000	4	C to LI	S. side of Harley Knox west of Perris Blvd	2023.3.29	CEQA MND, CEQA public review period closed 3-20-24	PC Anticipated 2nd Qt 2024
15	Orbis Indus Truck Yard	45,000	25.6	BPO to LI	N. Placentia btw I-215 & Indian	2023.12.22	CEQA MND, no CEQA submittal date	N/A
16	Nance Street Truck Terminal	400	4.8	BPO to LI	E. Perris Blvd and S. side of Nance St	2023.1.05	CEQA MND; no CEQA submittal to date	N/A
	Industrial Projects	Sq. Ft.	Acreage	Rezone	Location	Application Submittal Date	Project CEQA Status	Hearing Status
	SOUTH AREA OF THE CITY							
17	Hillwood San Jacinto	4,297,410	221.35	New Perris SP to LI	SW San Jacinto and Murrieta	2023.2.13	CEQA EIR; no Scoping Mt yet; no CEQA submittal to date	N/A
18	Lewis Indus @ San Jacinto	848,000	50	C to LI	SW Corner of San Jacinto & Redlands	2023.3.8	CEQA EIR; Scoping Mt 2024.3.6; no CEAQ submittal to date	N/A
19	Perris Airport Logistics	742,000	77	N/A	S. side of Ellis btw Goetz and Case	2022.2.16	CEQA EIR; Scoping Mt 2023.11.1; no CEQA submittal to date	N/A
20	NewCastle Indus	670,000	35	N/A	S. Side of Ellis and 750' E. of Redlands	2022.6.6	CEQA EIR; Scoping Mt 2023.5.3; not CEQA submittal to date	N/A
21	Mapes Commerce Ind	648,630	37.5	N/A	NE Goetz and Mapes	2022.10.02	CEQA EIR; scoping Mt. 2022.9.7; No CEQA submittal to date	N/A
22	Richland Ind	500,000	20	N/A	SW of Watson & Case	2023.2.15	CEQA addendum EIR; Scopting Mt 2023.10.18,	PC anticipated 2nd Qt 2024
23	Ethanac Logistics Center	412,000	20.1	C to LI	NE Ethanac and Trumble	2022.12.06	CEQA EIR; Scoping Mt 2023.10.18	PC Anticipated 2nd Qt 2024
24	Blue Indus	329,500	19	N/A	SW corner Trumble and Mapes	2022.01.27	CEQA MND; Updated MND in Process	CC Anticipated 2nd Qt 2024
25	Waypoint Commerce (Bld 1)	204,269	9	N/A	S. Side of Mountain & 1,300 W of Goetz	2022.12.28	CEQA EIR; Scoping Mt. 2023.12.6; CEQA public review closed 2023.12.18;	PC anticipated 2nd Qt 2024
26	Waypoint Commerce (Bld 2)	155,583	7.17	N/A	S. Side of Mountain & 1,300 W of Goetz	2023.6.14	CEQA EIR; Scoping Mt. 2023.12.6; CEQA public review closed 2023.12.18;	PC anticipated 2nd Qt 2024
27	CH Truck Terminal	400	25.16	N/A	SW corner of Case and Ellis	2022.2.16	CEQA EIR; Scoping Mt 2023.11.1; no CEQA submittal to date	N/A
	Total Bld Square Footage	**14,753,413**						

NOTE:
Projects with Zone Change (Highlighted in RED)

October 28, 2022

Mr. Mathew Evans
City of Perris
135 N. D Street
Perris, CA 92570

PERRIS TRUCK TERMINAL (CUP 22-05172) TRAFFIC STUDY SCOPING AGREEMENT

Mr. Mathew Evans,

Urban Crossroads, Inc. is pleased to submit this scoping agreement for the proposed Perris Truck Terminal development ("Project"), which is located north of Markham Street and east of Perris Boulevard in the City of Perris, within the City's *Perris Valley Commerce Center Specific Plan* (PVCC SP). The purpose of this agreement is to obtain comments from City of Perris on the proposed traffic study scope of work. The remainder of this agreement describes the proposed analysis methodology, trip generation, trip distribution, and traffic assignment/project trips on the surrounding roadway network, which have been used to establish the proposed project study area and analysis locations. It should be noted that this scoping agreement has been prepared in accordance with the City of Perris Traffic Impact Analysis Guidelines (**City Guidelines**), dated August 2020.

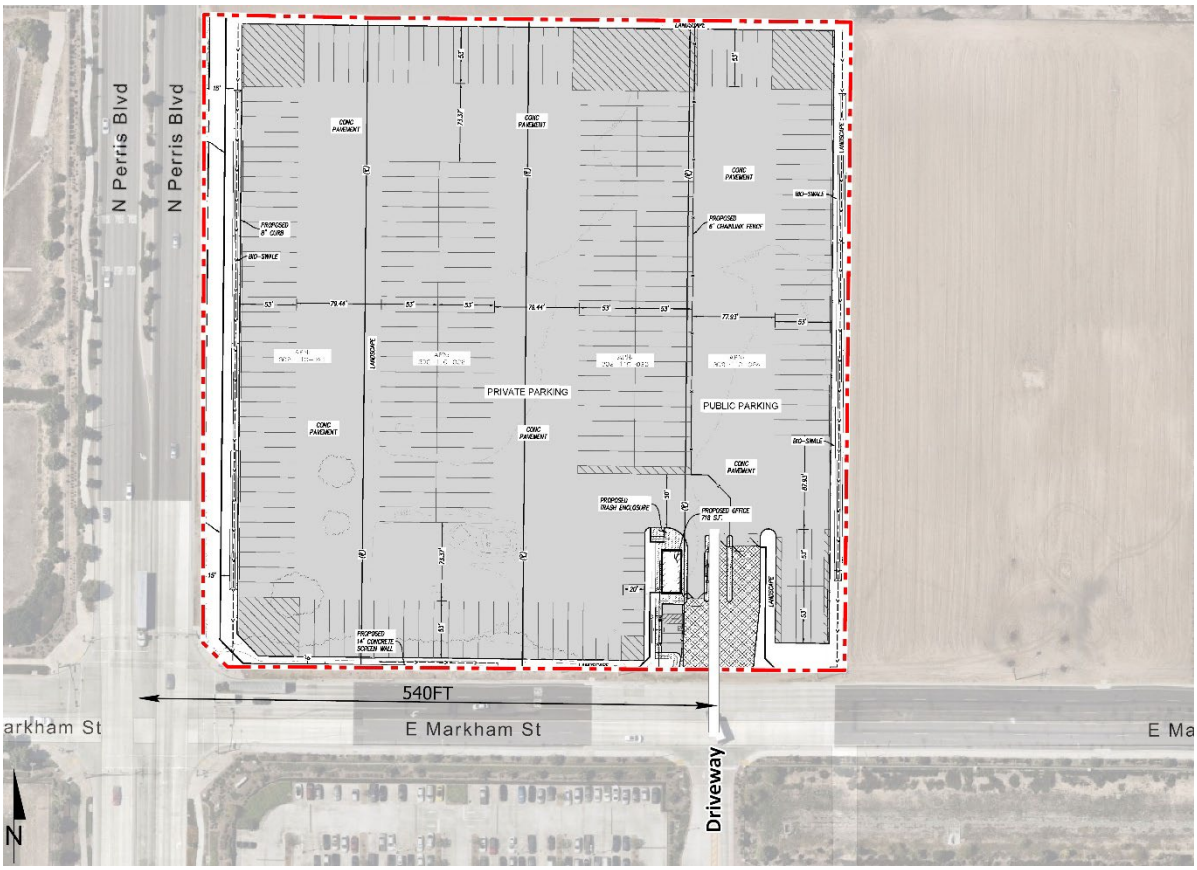
PROPOSED PROJECT

The Project is proposing to develop a truck and trailer parking lot on 8.57-gross acres with one 718 square foot office. The site will accommodate 205 14-foot by 53-foot truck and trailer parking stalls, 3 passenger car parking spaces, one accessible parking space, and 11 electric vehicle truck stalls. A preliminary site plan for the proposed Project is shown on Exhibit 1. As indicated on Exhibit 1, access to the site will be accommodated via a single driveway on Markham Street. The site will operate 24-hours a day, 7 days a week.

As shown on Exhibit 1, the proposed Project driveway does not meet the minimum 660-foot spacing for a Secondary Arterial per the Perris Valley Commerce Center Specific Plan (PVCC SP). The driveway location falls short by approximately 120-feet. However, the Project driveway does align with the existing driveway on the south side. Furthermore, it is not feasible to restrict the access at this driveway as all trucks must be directed to and from the east on Markham Street since Perris Boulevard is no longer a truck route (per the PVCC SP). As such, left turns from the driveway must be permissible from the driveway in order to head east on Markham Street towards Redlands Avenue.

There are at most 4 inbound passenger cars anticipated (during the PM peak hour). Conservatively assuming all of these trips were anticipated to enter from the west on Markham Street at the same time, this would require approximately 100-feet of stacking (assuming 25-feet per vehicle). There are no trucks anticipated to enter from the west since Perris Boulevard is not a truck route. The existing westbound left turn pocket on Markham Street at Perris Boulevard is 200-feet with a 90-foot transition. The back of the westbound left turn pocket transition at Perris Boulevard and Markham Street to the Project driveway on Markham Street accommodate 150-feet of storage within the painted median. As such, there is sufficient storage between the back of the westbound left turn pocket for Perris Boulevard at Markham Street and the proposed Project driveway to accommodate the anticipated PM peak hour inbound vehicle demand.

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

GENERAL PLAN LAND USE COMPARISON

The Project is proposing a zoning change from Business / Professional Office to Light Industrial. As such, a comparison between the proposed Project trip generation estimates and the allowable General Plan uses is shown on Table 1. As shown in Table 1, the Project is anticipated to generate

fewer peak hour trips than the allowable uses in the current General Plan land use. For this reason, we are proposing that Horizon Year traffic conditions not to be evaluated.

TABLE 1: TRIP GENERATION COMPARISON

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Passenger Car Equivalent (PCE) Trip Generation Rates:									
Manufacturing[3]	TSF	140	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars (AM=95.6%, PM=95.9%, Daily=90.5%)			0.500	0.150	0.650	0.217	0.493	0.710	4.300
2-Axle Trucks (AM=0.74%, PM=0.69%, Daily=1.59%)			0.005	0.003	0.008	0.003	0.004	0.008	0.113
3-Axle Trucks (AM=0.91%, PM=0.85%, Daily=1.97%)			0.006	0.006	0.012	0.005	0.007	0.012	0.186
4+-Axle Trucks (AM=3.73%, PM=2.56%, Daily=5.94%)			0.033	0.023	0.056	0.023	0.033	0.056	0.845
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars (AM=88.2%, PM=83.3%, Daily=64.9%)			0.120	0.030	0.150	0.034	0.116	0.150	1.110
2-Axle Trucks (AM=1.97%, PM=2.79%, Daily=5.86%)			0.003	0.002	0.005	0.005	0.003	0.008	0.150
3-Axle Trucks (AM=2.44%, PM=3.46%, Daily=7.27%)			0.004	0.004	0.008	0.006	0.006	0.012	0.248
4+-Axle Trucks (AM=7.39%, PM=10.45%, Daily=21.97%)			0.021	0.017	0.038	0.030	0.026	0.056	1.127
General Office Building	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84
Business Park	TSF	770	1.15	0.20	1.35	0.32	0.90	1.22	12.44

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Existing General Plan Land Use:									
Manufacturing (0.75 FAR)[2]	209.000	TSF	114	38	152	52	112	164	1,138
Warehousing (0.75 FAR)[2]	209.000	TSF	31	11	42	16	32	48	552
General Office Building (0.75 FAR)[2]	209.000	TSF	280	38	318	51	250	301	2,266
Business Park (0.75 FAR)[2]	209.000	TSF	240	42	282	66	189	255	2,600
Proposed Project (see Table 4):									
Perris Truck Storage/Parking Lot	8.570	AC	11	26	37	31	18	49	766
Net Reduction in Trip Generation (Manufacturing, 0.75 FAR):			-103	-12	-115	-21	-94	-115	-372
Net Reduction in Trip Generation (Warehousing, 0.75 FAR):			-20	15	-5	15	-14	1	214
Net Reduction in Trip Generation (General Office Building, 0.75 FAR):			-269	-12	-281	-20	-232	-252	-1,500
Net Reduction in Trip Generation (Business Park, 0.75 FAR):			-229	-16	-245	-35	-171	-206	-1,834

[1] TSF = thousand square feet

[2] Current General Plan land use and zoning is Business/Professional Office. Manufacturing (ITE 140), Warehousing (ITE 150), Business Park (ITE 770), and General Office Building (ITE 820) land use used to calculate trip generation.
The square footage was calculated assuming a 0.75 floor-to-area ratio (FAR):
9.52 acres x 43,560 square feet/acre x 0.75 FAR

[3] Vehicle Mix Source: ITE Trip Generation Manual (2021).
Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

DEVELOPMENT OF TRIP GENERATION RATES – EMPIRICAL DATA

The Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) does not currently have any trip generation rates for a truck yard, as such, trip generation rates for the proposed Project have been developed based on the weighted average of data collected at two other facilities with operations similar to those proposed. Table 2 summarizes the count data collected at each facility and the actual counts have been attached to this scoping agreement.

TABLE 2: EXISTING EMPIRICAL DATA

Existing Site	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Trip Generation Summary of Existing Uses:									
5087 Patterson Avenue, Perris[2]	4.500	AC							
Passenger Cars:			0	2	2	1	1	2	38
2-axle Trucks:			0	0	0	3	0	3	36
3-axle Trucks:			1	5	6	1	0	1	38
4+-axle Trucks:			1	0	1	0	3	3	58
Total Trucks (Actual Vehicles)			2	5	7	4	3	7	132
5087 Patterson Av. Total Trips (Actual Vehicles)			**2**	**7**	**9**	**5**	**4**	**9**	**170**
1938 5th Street, San Bernardino[3]	6.300	AC							
Passenger Cars:			0	0	0	4	3	7	99
2-axle Trucks:			1	1	2	0	0	0	4
3-axle Trucks:			2	3	5	3	3	6	85
4+-axle Trucks:			1	4	5	7	1	8	115
Total Trucks (Actual Vehicles)			4	8	12	10	4	14	204
1938 5th St. Total Trips (Actual Vehicles)			**4**	**8**	**12**	**14**	**7**	**21**	**303**

[1] AC = Acres (Total acreage of site)

[2] Data presented based on driveway counts conducted on January 23, 2019.

[3] Data presented based on driveway counts conducted on February 8, 2022.

PROPOSED PROJECT TRIP GENERATION

Table 3 shows the weighted average trip generation rates for the existing facilities which have been developed based on the acreage at each site shown on Table 2. The weighted average trip generation rates were calculated by dividing the sum of the total trips for both sites by the sum of the total acreage for both sites.

TABLE 3: CALCULATED TRIP GENERATION RATES

Land Use	Units[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles:								
Trailer Yard	AC							
Passenger Cars:		0.000	0.185	0.185	0.463	0.370	0.833	12.685
2-axle Trucks:		0.093	0.093	0.185	0.278	0.000	0.278	3.704
3-axle Trucks:		0.278	0.741	1.019	0.370	0.278	0.648	11.389
4+-axle Trucks:		0.185	0.370	0.556	0.648	0.370	1.019	16.019
Passenger Car Equivalent (PCE):								
Trailer Yard	AC							
Passenger Cars:		0.000	0.185	0.185	0.463	0.370	0.833	12.685
2-axle Trucks (PCE = 1.5):		0.139	0.139	0.278	0.417	0.000	0.417	5.556
3-axle Trucks (PCE = 2.0):		0.556	1.481	2.037	0.741	0.556	1.296	22.778
4+-axle Trucks (PCE = 3.0):		0.556	1.111	1.667	1.944	1.111	3.056	48.056

[1] Weighted average trip generation rate developed from empirical data summarized on Table 2.

[2] AC = Acres (Total acreage of site)

Based on the calculated trip generation rates shown on Table 3, the Project's trip generation is summarized on Table 4. The proposed Project trip generation is based on the anticipated operations for the site. As shown on Table 4, the Project is anticipated to generate a total of 766 PCE trip-ends per day with 37 AM PCE peak hour trips and 49 PM PCE peak hour trips.

TABLE 4: PROJECT TRIP GENERATION SUMMARY

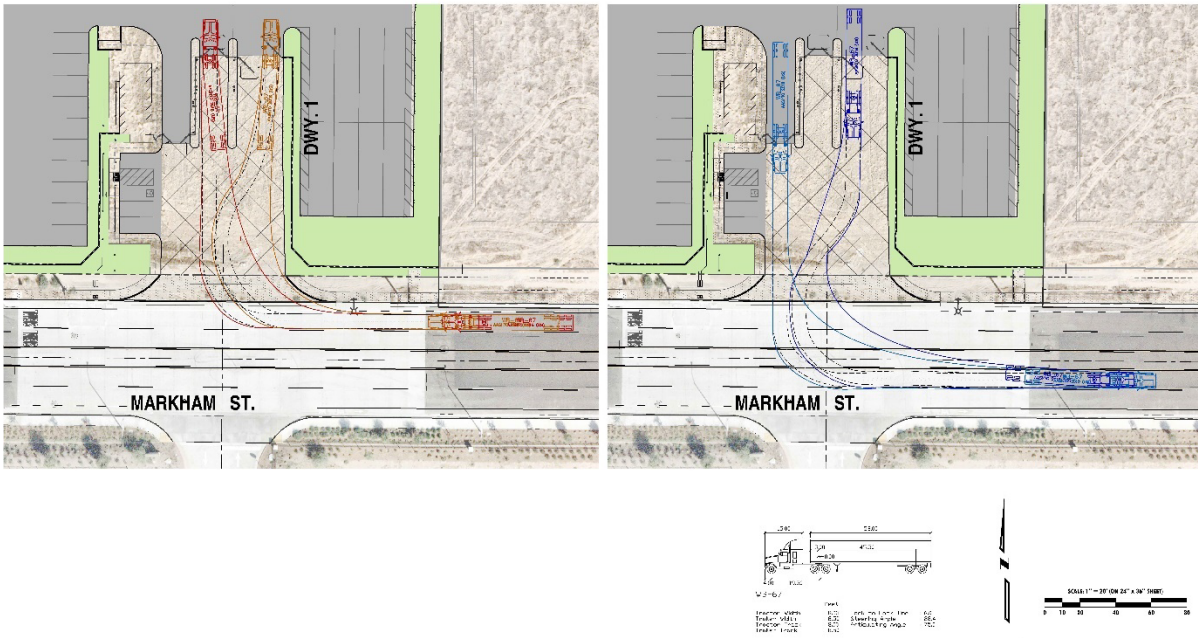
Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles									
Trailer Yard	8.570	AC							
Passenger Cars:			0	2	2	4	3	7	110
2-axle Trucks:			1	1	2	2	0	2	32
3-axle Trucks:			2	6	8	3	2	5	98
4+-axle Trucks:			2	3	5	6	3	9	138
Total Trucks (Actual Vehicles)			5	10	15	11	5	16	268
Total Project Trips (Actual Vehicles)			**5**	**12**	**17**	**15**	**8**	**23**	**378**
Passenger Car Equivalent (PCE)									
Trailer Yard	8.570	AC							
Passenger Cars:			0	2	2	4	3	7	110
2-axle Trucks:			1	1	2	4	0	4	48
3-axle Trucks:			5	13	18	6	5	11	196
4+-axle Trucks:			5	10	15	17	10	27	412
Total Trucks (PCE)			11	24	35	27	15	42	656
Total Project Trips (PCE)			**11**	**26**	**37**	**31**	**18**	**49**	**766**

[1] AC = Acres

TRUCK ACCESS & GATE STACKING

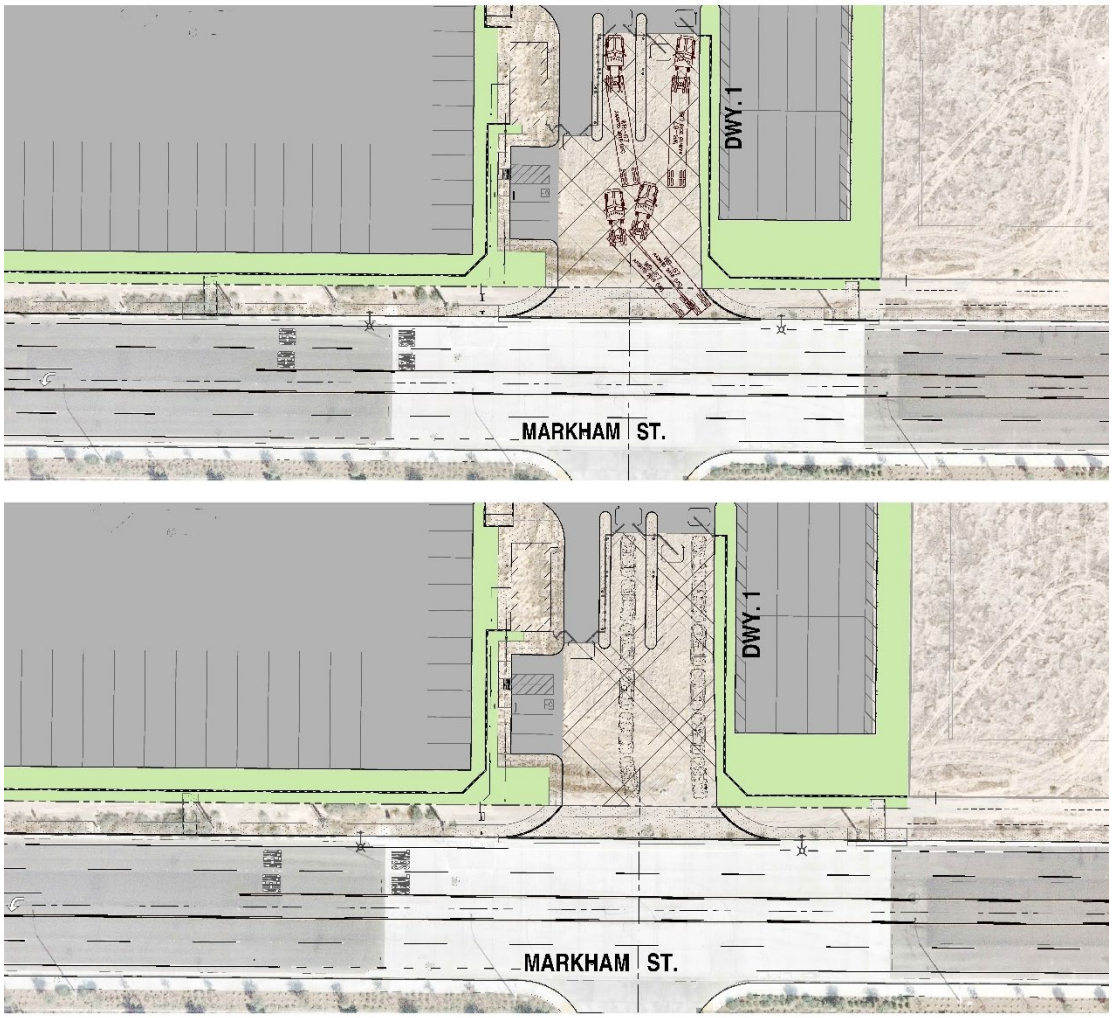
Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at the Project driveway which will be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 2). A WB-67 truck (53-foot trailer) has been utilized for the purposes of this assessment. As shown on Exhibit 2, the Project driveway is anticipated to accommodate the ingress and of heavy trucks as currently designed.

EXHIBIT 2: TRUCK ACCESS



Based on the Project trip generation and anticipated operations for the facility, no more than 1 truck is anticipated to be queued at any given time while the gate is closed. As shown on Exhibit 3, there is sufficient space to accommodate between 3 to 4 trucks stacked behind the gate and up to 12 passenger cars (there are dual entry lanes into the facility). As shown in the trip generation table (Table 4), the Project is anticipated to have only 6 inbound 4+-axle trucks during the PM peak hour (with fewer inbound trucks in the AM peak hour). This is on average 1 truck arriving every 10 minutes. In total, there are a maximum of 15 inbound vehicles anticipated (during the PM peak hour), which includes passenger cars and trucks. This is on average a peak demand of 0.25 vehicles per minute or 4 minutes per vehicle during the PM peak hour. There appears to be adequate spacing behind the gate to accommodate stacking of vehicles on-site.

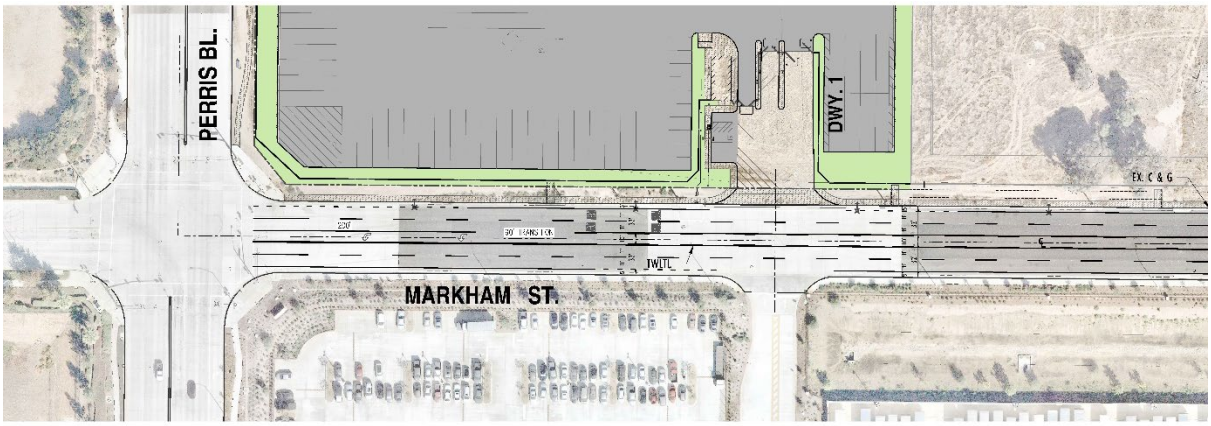
EXHIBIT 3: GATE STACKING



CONCEPTUAL STRIPING – MARKHAM STREET

Exhibit 4 illustrates the conceptual striping plan for Markham Street along the Project's frontage to Perris Boulevard. The concept striping plan provides lane widths, right-of-way, and curb-to-curb measurements.

EXHIBIT 4: CONCEPT STRIPING PLAN



There are at most 4 inbound passenger cars anticipated (during the PM peak hour). Conservatively assuming all of these trips were anticipated to enter from the west on Markham Street at the same time, this would require approximately 100-feet of stacking (assuming 25-feet per vehicle). There are no trucks anticipated to enter from the west since Perris Boulevard is not a truck route. The existing westbound left turn pocket on Markham Street at Perris Boulevard is 200-feet with a 90-foot transition. The back of the westbound left turn pocket transition at Perris Boulevard and Markham Street to the Project driveway on Markham Street accommodate 150-feet of storage within the painted median (no left turn striping recommended or needed). As such, there is sufficient storage between the back of the westbound left turn pocket for Perris Boulevard at Markham Street and the proposed Project driveway to accommodate the anticipated PM peak hour inbound vehicle demand. There are no recommended changes to the existing striping that would be necessary to facilitate site access off of Markham Street.

FINDINGS

Based on the City's Guidelines, the Project is anticipated to generate fewer than 50 peak hour trips during any peak hour and would therefore contribute fewer than 50 peak hour trips to any off-site study area intersection (in both actual vehicles and PCE). In addition, the Project would generate fewer than 500 two-way daily trips (actual vehicles). As such, additional traffic analysis beyond this scoping agreement does not appear to be necessary.

If you have any questions or comments, I can be reached at cso@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So

Charlene So, PE
Principal

REGISTERED PROFESSIONAL ENGINEER
CHARLENE HWANG SO
No. TR 2414
TRAFFIC
STATE OF CALIFORNIA

ATTACHMENT A

DRIVEWAY COUNTS

City: Perris
Location: 5087 Patterson Avenue
Date: 1/23/2019
Count Type: Classification

	Entering					
	Pass Veh	Large 2 Axle	3 Axle	4 Axle	5+ Axle	Total
0:00	0	0	0	0	0	0
0:15	0	0	0	0	0	0
0:30	0	0	0	0	0	0
0:45	1	0	0	0	0	1
1:00	1	0	0	0	0	1
1:15	0	0	0	0	0	0
1:30	0	0	0	0	0	0
1:45	0	0	1	0	0	1
2:00	0	0	0	0	0	0
2:15	0	0	0	0	0	0
2:30	0	0	0	0	0	0
2:45	0	0	0	0	0	0
3:00	0	0	0	0	0	0
3:15	0	0	0	0	0	0
3:30	0	0	0	0	0	0
3:45	0	0	0	0	0	0
4:00	0	0	0	0	0	0
4:15	0	0	0	0	0	0
4:30	0	0	0	0	0	0
4:45	0	0	0	0	0	0
5:00	0	0	0	0	0	0
5:15	0	0	0	0	0	0
5:30	0	0	0	0	0	0
5:45	0	0	0	0	0	0
6:00	1	0	0	0	0	1
6:15	0	0	0	0	1	1
6:30	0	0	0	0	1	1
6:45	2	0	0	0	3	5
7:00	0	0	0	0	0	0
7:15	0	0	1	0	0	1
7:30	0	0	0	0	1	1
7:45	0	0	0	0	0	0
8:00	2	0	0	0	0	2
8:15	0	0	0	0	0	0
8:30	0	0	0	0	0	0
8:45	0	1	0	0	0	1
9:00	1	0	0	1	1	3
9:15	0	0	0	0	0	0
9:30	0	0	0	0	0	0
9:45	1	0	0	0	0	1
10:00	0	0	0	0	0	0
10:15	0	0	0	0	0	0
10:30	0	0	0	0	0	0
10:45	0	0	0	0	0	0
11:00	0	0	0	0	1	1
11:15	0	0	1	0	1	2
11:30	0	1	1	0	1	3
11:45	0	0	0	0	0	0
12:00	0	1	0	0	0	1
12:15	0	1	0	0	2	3
12:30	0	2	0	0	0	2
12:45	0	0	0	0	1	1
13:00	0	0	1	0	1	2
13:15	0	0	0	0	0	0
13:30	1	0	0	2	1	4
13:45	0	0	0	0	0	0

	Exiting					
	Pass Veh	Large 2 Axle	3 Axle	4 Axle	5+ Axle	Total
0:00	0	0	0	0	0	0
0:15	0	0	0	0	0	0
0:30	0	0	0	0	0	0
0:45	0	0	0	0	0	0
1:00	0	0	0	0	0	0
1:15	0	0	0	0	0	0
1:30	0	0	0	0	0	0
1:45	0	0	0	0	0	0
2:00	0	0	1	0	0	1
2:15	0	0	0	0	0	0
2:30	0	0	0	0	0	0
2:45	0	0	0	0	0	0
3:00	1	0	0	0	0	1
3:15	1	0	0	0	0	1
3:30	0	0	0	0	0	0
3:45	0	0	0	0	0	0
4:00	0	0	0	0	0	0
4:15	0	0	0	0	0	0
4:30	0	0	0	0	0	0
4:45	0	0	0	0	0	0
5:00	0	0	0	0	0	0
5:15	0	0	0	0	0	0
5:30	0	0	0	0	0	0
5:45	0	0	0	0	0	0
6:00	0	0	0	0	0	0
6:15	0	0	0	0	0	0
6:30	1	0	1	0	0	2
6:45	0	0	0	0	0	0
7:00	1	0	3	0	0	4
7:15	1	0	1	0	0	2
7:30	0	0	1	0	0	1
7:45	0	0	0	0	0	0
8:00	0	1	0	0	0	1
8:15	1	0	0	0	0	1
8:30	0	0	0	0	0	0
8:45	0	1	0	0	0	1
9:00	0	0	0	0	0	0
9:15	1	0	0	0	0	1
9:30	0	1	0	0	0	1
9:45	0	0	1	0	0	1
10:00	1	0	0	0	0	1
10:15	0	0	0	0	0	0
10:30	0	0	0	0	0	0
10:45	0	0	0	0	0	0
11:00	0	0	0	0	0	0
11:15	0	0	1	0	0	1
11:30	0	0	2	0	0	2
11:45	0	0	0	1	1	2
12:00	0	0	1	0	0	1
12:15	0	0	0	2	0	2
12:30	0	0	2	0	0	2
12:45	0	0	0	0	0	0
13:00	1	0	2	2	0	5
13:15	0	0	1	0	0	1
13:30	1	0	1	0	0	2
13:45	0	2	0	0	0	2

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

City: Perris
Location: 5087 Patterson Avenue
Date: 1/23/2019
Count Type: Classification

	Entering					
	Pass Veh	Large 2 Axle	3 Axle	4 Axle	5+ Axle	Total
14:00	1	0	0	0	2	3
14:15	0	0	0	0	0	0
14:30	0	0	0	0	0	0
14:45	0	0	0	0	0	0
15:00	1	0	0	0	0	1
15:15	0	0	0	0	0	0
15:30	0	0	0	0	0	0
15:45	0	0	0	0	2	2
16:00	0	0	0	1	0	1
16:15	0	0	0	0	0	0
16:30	1	0	0	0	0	1
16:45	0	0	0	0	0	0
17:00	0	1	0	0	0	1
17:15	1	1	0	0	0	2
17:30	0	0	0	0	0	0
17:45	0	1	1	0	0	2
18:00	1	0	0	0	0	1
18:15	0	0	0	0	2	2
18:30	0	0	0	0	3	3
18:45	0	1	0	0	0	1
19:00	0	1	0	0	0	1
19:15	0	0	0	0	0	0
19:30	1	0	0	1	0	2
19:45	2	0	0	0	1	3
20:00	0	0	0	0	0	0
20:15	0	1	0	0	0	1
20:30	0	2	1	0	0	3
20:45	1	1	0	0	0	2
21:00	0	0	1	0	0	1
21:15	0	0	0	0	0	0
21:30	0	0	0	0	0	0
21:45	0	2	0	0	1	3
22:00	0	2	1	0	0	3
22:15	0	0	0	1	0	1
22:30	0	0	0	0	0	0
22:45	0	1	0	0	0	1
23:00	0	2	0	1	1	4
23:15	0	0	0	0	0	0
23:30	0	0	0	0	0	0
23:45	0	0	0	0	0	0
TOTAL	**19**	**22**	**9**	**7**	**27**	**84**

	Exiting					
	Pass Veh	Large 2 Axle	3 Axle	4 Axle	5+ Axle	Total
14:00	0	0	1	0	0	1
14:15	0	0	0	0	0	0
14:30	0	0	1	0	0	1
14:45	0	0	0	0	0	0
15:00	0	0	0	0	0	0
15:15	1	0	0	0	0	1
15:30	0	0	0	0	0	0
15:45	0	0	1	0	0	1
16:00	0	0	1	0	0	1
16:15	0	1	0	0	0	1
16:30	1	0	0	0	0	1
16:45	0	0	0	0	0	0
17:00	0	0	0	1	0	1
17:15	1	0	0	1	0	2
17:30	0	0	0	0	0	0
17:45	0	0	0	1	0	1
18:00	0	0	0	0	1	1
18:15	0	0	0	0	0	0
18:30	2	2	0	0	0	4
18:45	0	1	2	0	0	3
19:00	0	0	0	0	1	1
19:15	0	0	0	1	0	1
19:30	0	0	0	0	0	0
19:45	0	1	0	0	0	1
20:00	1	0	1	0	0	2
20:15	0	0	0	1	0	1
20:30	0	1	0	1	0	2
20:45	0	0	0	1	1	2
21:00	2	0	0	0	0	2
21:15	0	0	0	0	0	0
21:30	0	0	1	0	0	1
21:45	0	0	0	0	1	1
22:00	0	0	1	2	0	3
22:15	0	0	1	0	1	2
22:30	0	1	0	0	0	1
22:45	0	0	0	1	0	1
23:00	0	1	0	0	0	1
23:15	0	0	1	1	1	3
23:30	0	0	0	0	0	0
23:45	1	0	0	0	0	1
	19	**13**	**29**	**16**	**7**	**84**

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

City:	San Bernardino
Location:	1935 5th Street
Date:	2/8/2022
Count Type:	24 Hour Classified Driveway Count

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	1	1
0:15	0	0	1	0	1
0:30	0	0	0	0	0
0:45	0	0	0	2	2
1:00	0	0	0	0	0
1:15	0	0	0	0	0
1:30	0	0	0	0	0
1:45	2	0	0	0	2
2:00	0	0	1	0	1
2:15	1	0	2	0	3
2:30	1	0	0	1	2
2:45	0	0	0	0	0
3:00	0	0	0	0	0
3:15	0	0	0	2	2
3:30	0	0	0	0	0
3:45	1	0	0	1	2
4:00	1	0	1	0	2
4:15	2	0	0	0	2
4:30	3	0	1	0	4
4:45	2	0	1	1	4
5:00	4	0	0	1	5
5:15	0	0	0	1	1
5:30	1	0	0	0	1
5:45	3	0	1	1	5
6:00	1	0	1	0	2
6:15	0	0	0	0	0
6:30	1	0	0	1	2
6:45	2	0	0	0	2
7:00	1	0	0	0	1
7:15	0	0	0	0	0
7:30	0	1	1	0	2
7:45	0	0	0	1	1
8:00	0	0	0	0	0
8:15	0	0	1	0	1
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	0	0	0	2	2
9:15	0	0	0	1	1
9:30	0	0	0	0	0
9:45	1	0	0	1	2
10:00	0	0	2	0	2
10:15	0	0	0	0	0
10:30	0	0	0	0	0
10:45	0	0	0	2	2
11:00	0	0	0	0	0
11:15	0	0	1	0	1
11:30	0	0	1	0	1
11:45	0	0	1	1	2

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
0:00	0	0	0	0	0
0:15	0	0	0	0	0
0:30	0	0	0	0	0
0:45	1	0	0	0	1
1:00	0	0	1	0	1
1:15	1	0	0	0	1
1:30	0	0	0	0	0
1:45	1	0	2	0	3
2:00	0	0	0	1	1
2:15	0	0	1	0	1
2:30	0	0	0	2	2
2:45	0	0	0	1	1
3:00	0	0	0	1	1
3:15	1	0	0	0	1
3:30	0	0	0	1	1
3:45	0	0	0	1	1
4:00	1	0	0	1	2
4:15	1	0	2	0	3
4:30	0	0	1	0	1
4:45	0	0	0	0	0
5:00	1	0	1	1	3
5:15	2	0	2	0	4
5:30	1	0	0	3	4
5:45	0	0	0	0	0
6:00	2	0	0	0	2
6:15	1	0	0	1	2
6:30	0	0	2	0	2
6:45	0	0	1	1	2
7:00	1	0	0	2	3
7:15	0	0	0	0	0
7:30	0	0	3	2	5
7:45	0	0	0	0	0
8:00	0	0	0	0	0
8:15	0	1	0	2	3
8:30	1	0	1	0	2
8:45	0	0	0	1	1
9:00	0	0	0	0	0
9:15	0	0	0	0	0
9:30	0	0	0	2	2
9:45	0	0	0	0	0
10:00	0	0	1	0	1
10:15	0	0	0	1	1
10:30	0	0	2	1	3
10:45	0	0	1	0	1
11:00	0	0	1	1	2
11:15	0	0	1	0	1
11:30	0	0	2	1	3
11:45	0	0	0	0	0

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

City:	San Bernardino
Location:	1935 5th Street
Date:	2/8/2022
Count Type:	24 Hour Classified Driveway Count

	Entering				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	1	0	3	1	5
12:15	2	0	0	2	4
12:30	0	0	0	0	0
12:45	1	1	0	1	3
13:00	0	0	1	2	3
13:15	0	0	2	0	2
13:30	0	0	0	2	2
13:45	1	0	0	0	1
14:00	1	0	1	2	4
14:15	0	0	0	1	1
14:30	0	0	0	0	0
14:45	0	0	1	2	3
15:00	1	0	0	2	3
15:15	0	0	0	3	3
15:30	3	0	1	2	6
15:45	1	0	1	0	2
16:00	1	0	0	0	1
16:15	1	0	0	0	1
16:30	0	0	0	2	2
16:45	1	0	1	1	3
17:00	1	0	1	3	5
17:15	2	0	1	1	4
17:30	1	0	0	0	1
17:45	0	0	0	1	1
18:00	0	0	0	2	2
18:15	1	0	1	0	2
18:30	0	0	0	3	3
18:45	0	0	0	0	0
19:00	1	0	0	0	1
19:15	1	0	0	0	1
19:30	0	0	0	1	1
19:45	0	0	0	2	2
20:00	0	0	0	0	0
20:15	1	0	0	0	1
20:30	1	0	1	1	3
20:45	0	0	0	0	0
21:00	0	0	0	0	0
21:15	1	0	1	0	2
21:30	0	0	1	0	1
21:45	1	0	0	1	2
22:00	0	0	0	0	0
22:15	0	0	0	0	0
22:30	0	0	0	0	0
22:45	0	0	1	0	1
23:00	0	0	0	0	0
23:15	0	0	1	0	1
23:30	0	0	2	1	3
23:45	0	0	0	1	1
TOTAL	**52**	**2**	**37**	**60**	**151**

	Exiting				
	Pass Veh	Large 2 Axle	3 Axle	4+ Axle	Total
12:00	0	0	2	2	4
12:15	0	0	0	0	0
12:30	0	0	2	0	2
12:45	0	1	1	0	2
13:00	0	0	0	2	2
13:15	1	0	1	0	2
13:30	0	0	1	2	3
13:45	1	0	0	2	3
14:00	2	0	0	0	2
14:15	0	0	1	1	2
14:30	0	0	1	0	1
14:45	1	0	1	0	2
15:00	4	0	0	0	4
15:15	1	0	0	0	1
15:30	3	0	0	1	4
15:45	1	0	0	2	3
16:00	2	0	1	0	3
16:15	1	0	0	1	2
16:30	0	0	1	0	1
16:45	1	0	0	0	1
17:00	0	0	1	1	2
17:15	2	0	1	0	3
17:30	1	0	0	0	1
17:45	2	0	0	0	2
18:00	0	0	2	1	3
18:15	1	0	0	2	3
18:30	2	0	0	1	3
18:45	1	0	1	0	2
19:00	2	0	0	0	2
19:15	0	0	0	0	0
19:30	0	0	1	0	1
19:45	0	0	0	2	2
20:00	0	0	0	1	1
20:15	0	0	0	2	2
20:30	1	0	1	0	2
20:45	0	0	1	0	1
21:00	0	0	0	0	0
21:15	0	0	0	0	0
21:30	0	0	0	0	0
21:45	0	0	1	1	2
22:00	1	0	0	0	1
22:15	0	0	2	1	3
22:30	1	0	0	0	1
22:45	0	0	0	0	0
23:00	0	0	0	1	1
23:15	0	0	0	0	0
23:30	0	0	0	2	2
23:45	0	0	0	0	0
	47	**2**	**48**	**55**	**152**

Counts Unlimited, Inc.
PO Box 1178
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MAT Engineering, Inc.

www.matengineering.com
17192 Murphy Avenue #14902
Irvine, CA 92623
Ph: 949.344.1828

October 6, 2022

Mr. Dale Ulman
CGU CAPITAL MANAGEMENT
302 West Fifth Street, Suite 103
San Pedro, CA 90731

Subject: **5030 Patterson Avenue Industrial Project Trip Generation & Access Analysis & VMT Screening Study, City of Perris, California *(DPR-22-00013)***

Dear Dale,

MAT Engineering, Inc. is pleased to submit this trip generation study and VMT screening for the proposed 5030 Patterson Avenue Industrial project in the City of Perris.

The analysis contained in this technical letter and memorandum is based on the detailed scope of work previously reviewed and approved by the City of Perris.

A. Project Description & Location

The project site located at 5030 Patterson Avenue in the City of Perris and is planned to consist of approximately 94,453 square feet of industrial/warehouse use. The site is currently utilized for storage.

Access for the proposed project is planned as follows:

- One unsignalized northerly driveway on Patterson Avenue providing full access for passenger cars. This driveway will be approximately 27 feet from the northerly edge of the site. This driveway will be approximately 26 feet wide.

- One unsignalized southerly driveway on Patterson Avenue providing full access for trucks. This driveway will be approximately 6.5 feet from the southerly edge of the site and approximately 218 feet south of the project northerly driveway. This driveway will be approximately 45 feet wide.

Currently, the parcel across the project site on Patterson Avenue is generally vacant. Hence, there are currently no driveways across the street from the project site that would dictate the alignment and location of the project site driveways. It is recommended when the parcel across the street is

developed, its driveway spacing and locations take into account the project site driveway locations for alignment and enhanced traffic operations.

Exhibit A shows the project location. **Exhibit B** shows the proposed site plan.

B. Project Trip Generation

Trip generation represents the amount of trips attracted and produced by a land use.

The trip generation for the project is based upon the specific land uses that have been planned for this project and has been determined utilizing the Institute of Transportation Engineers (ITE) trip generation rates which is typically an industry standard for calculating trips associated with land uses

Table 1 shows the trip ITE trip generation rates for the proposed project which are based on the ITE Warehouse Land Use (ITE Code 150).

Table 1
ITE Trip Generation Rates

Land Use	ITE Code	Units	Peak Hour						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
Warehouse	150	TSF	0.13	0.04	0.17	0.05	0.13	0.18	1.71

Notes:

Source: 2021 ITE 11th Edition Trip Generation Manual;

TSF = Thousand Square Feet

Utilizing the ITE trip generation rates from Table 1, Table 2 shows a summary of the trip generation for the proposed project.

Table 2
Project Trip Generation [1]

Land Use		Quantity	Units	ITE Code	Peak Hour						Daily
					AM Peak Hour			PM Peak Hour			
					In	Out	Total	In	Out	Total	
Warehouse (Without PCE Adjustment)		94.453	TSF	150	12	4	16	5	12	17	162
Vehicle Type Breakdown											
Warehouse (72.5 % Passenger Cars) [2]					9	13	12	4	8	12	117
Warehouse (27.5% Trucks) [2]					3	1	4	1	4	5	45
Percent Mix of Vehicles [2]	2-Axle Trucks (16.7% of Truck Trips)				0.50	0.17	0.67	0.17	0.67	0.84	7.52
	3-Axle Trucks (20.7% of Truck Trips)				0.62	0.21	0.83	0.21	0.83	1.04	9.32
	4-Axle Trucks (62.5% of Truck Trips)				1.88	0.62	2.50	0.62	2.50	3.12	28.16
PCE-Adjusted Trips											
Passenger Car Equivalent (PCE)	2-Axle Trucks (2.0 PCE)				1	0	1	0	2	2	15
	3-Axle Trucks (2.5 PCE)				2	0	2	1	2	3	23
	4-Axle Trucks (3.0 PCE)				6	2	8	2	7	9	84
	Passenger Vehicles (1.0 PCE)				9	3	12	4	8	12	117
Total (PCE-Adjusted)					**18**	**5**	**23**	**7**	**19**	**26**	**239**

Source::

1 = Institute of Transportation Engineers (ITE) 2021 Trip Generation Manual (11th Edition) Source: 2021 ITE 11th Edition Trip Generation Manual;

2 = South Coast Air Quality Management District Normalized Truck Mix Data for Warehouse without Cold Storage

As shown in Table 2, without taking any credit for the trips associated with the existing displaced land uses:

- The proposed project is forecast to generate approximately 162 daily trips which include approximately 16 AM peak hour trips and approximately 17 PM peak hour trips.

- Since warehouse use is expected to generate truck traffic, the trip generation has been adjusted to account for truck trips using the *South Coast Air Quality Management District (SCAQMD) Normalized Truck Mix Data* for Warehouse Without Cold Storage Use, per the City of Perris requirements using the following truck mix assumptions:

    - Passenger Vehicle: 72.5% of the total trips

    - 2-axle Truck: 16.7% of the total truck trips

- 3-axle Truck: 20.7% of the total truck trips
- 4-axle Truck: 62.5% of the total truck trips

Since trucks move slower and occupy more space on the roadway than passenger vehicles, the truck trips have been converted to Passenger Car Equivalent (PCE) trips by applying the following PCE adjustment factors to the generated trips:

- Passenger Vehicle: 1.0 PCE
- 2-axle Truck: 2.0 PCE
- 3-axle Truck: 2.5 PCE
- 4-axle Truck: 3.0 PCE

After converting the truck trips to passenger Car Equivalents (PCE), the proposed project is forecast to generate approximately 239 PCE-adjusted daily trips which include approximately 23 PCE-adjusted AM peak hour trips and approximately 26 PCE-adjusted PM peak hour trips.

As requested by the City, a focused traffic analysis has been prepared for the proposed project to evaluate the following elements:

- Trip Generation Evaluation & Access Analysis to evaluate the following:
  - Provide a discussion of the total project trip generation as shown in Tables 1 and 2.
  - Discuss the movement of vehicles at the two driveways along with truck turning templates showing the movement of trucks at the southerly driveway.
  - Provide the expected magnitude of PCE-adjusted trips at each driveway.
  - Evaluate driveway spacing requirements per the *City of Perris Valley Commerce Center Specific Plan* criteria.

- Provide a conceptual striping plan showing the roadway striping along the project frontage on Patterson Avenue.

- Vehicle Miles Traveled (VMT) Screening Evaluation using the City's VMT tool.

C. Trip Generation Evaluation & Access Analysis

As shown in Table 2, without taking any credit for the trips associated with the existing displaced land uses:

- The proposed project is forecast to generate approximately 162 daily trips which include approximately 16 AM peak hour trips and approximately 17 PM peak hour trips.

- After converting the truck trips to passenger Car Equivalents (PCE), the proposed project is forecast to generate approximately 239 PCE-adjusted daily trips which include approximately 23 PCE-adjusted AM peak hour trips and approximately 26 PCE-adjusted PM peak hour trips.

Typically, a full traffic study is required when a project generates more than 50 peak hour trips. Since the proposed project is expected to generate a low number of trips, a full traffic study is not required for the proposed project. Due to the low number of trips, the project is expected to not have an adverse impact on the level of service and operations of the surrounding circulation system and roadway network.

C.1. Project Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site.

Trip distribution is heavily influenced by the geographical location of the site, the location of residential, employment and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses, and highways within the community and existing traffic volumes.

As previously noted, access for the proposed project is planned as follows:

- One unsignalized northerly driveway on Patterson Avenue providing full access for passenger cars. This driveway will be approximately 27 feet from the northerly edge of the site. This driveway will be approximately 26 feet wide.

- One unsignalized southerly driveway on Patterson Avenue providing full access for trucks. This driveway will be approximately 6.5 feet from the southerly edge of the site and approximately 218 feet south of the project northerly driveway. This driveway will be approximately 45 feet wide.

Exhibit C shows the City of Perris designated truck routes.

Exhibit D-1 shows the project trip distribution for passenger vehicles. **Exhibit D-2** shows the project trip distribution for trucks.

C.2. Project Trip Assignment

The assignment of traffic from the project site to the adjoining roadway system has been based upon the project's trip generation, trip distribution, and proposed arterial highway and local street systems that this traffic study assumes would be in place by the time of initial occupancy of the site.

Exhibit E shows the project traffic volumes (trip assignment) on the two driveways after accounting for PCE adjustments.

C.3. Truck Turning Movements at the Driveway

An evaluation has been prepared for truck maneuvers at the southerly driveway and on-site.

Exhibit F shows the truck turning maneuvers.

As shown in **Exhibit F**, truck turns can be accommodated without conflicting with the driveway curbs and physical on-site improvements.

C.4. Driveway Spacing Evaluation

The analysis includes an evaluation of driveway spacing per the *City of Perris Valley Commerce Center Specific Plan.*

Exhibit G shows the planned driveway spacing for the project driveways.

Based on the *City of Perris Valley Commerce Center Specific Plan,* the following driveway spacing and intersection intervals are recommended:

Table 3
Perris Valley Commerce Center On-Site Standards/Guidelines
Recommended Driveway Spacing

Roadway Type	Intersection Interval
Local	200 feet
Collector	330 feet
Major Collector	330 feet
Secondary Arterial (Painted Median)	660 feet
Secondary Arterial (Raised Median)	660 feet
Arterial	1,320 feet
Expressway	2,640 feet

Source: *Perris Valley Commerce Center On-Site Standards/Guidelines Table 4.0-2.*

Exhibit H shows the City of Perris General Plan Circulation Element. **Exhibit I** shows the City of Perris General Plan Typical Roadway Cross Sections.

As shown in **Exhibit H**, Patterson Avenue is designated as a Secondary Arterial. Per the *City of Perris Valley Commerce Center Specific Plan*, an intersection spacing of 660 feet is recommended for Patterson Avenue.

However, as shown in **Exhibit G**, the distance between the proposed driveways does not satisfy this recommendation.

Due to the size and shape of the project site and total length of the site frontage (approximately 322 feet), providing 660 feet of intersection spacing is not feasible for this site and also for most of the neighboring sites located on the two sides of Patterson Avenue.

Considering this constraint, the project driveways have been designed to have as much separation from each other as possible.

The two driveways are provided in order to improve site access and on-site circulation by separating truck traffic from passenger vehicle traffic as feasible.

Hence, even though the project driveway spacing does not meet the recommended separation from the *City of Perris Valley Commerce Center Specific Plan,* it is designed and planned as best as possible considering the physical constraints of the site and the surrounding environment.

C.5. Conceptual Striping

A conceptual striping plan will be prepared to show the lanes and layout of Patterson Avenue along the project site frontage when the half section of Patterson Avenue along the frontage is built by the project.

Exhibit J shows the conceptual striping plan.

D. Proposed Scope of Vehicle Miles Traveled (VMT) Analysis

In response to Senate Bill (SB) 743, the California Natural Resource Agency certified and adopted new CEQA Guidelines in December 2018 which now identify Vehicle Miles Traveled (VMT) as the most appropriate metric to evaluate a project's transportation impact under CEQA (§ 15064.3).

Effective July 1, 2020, the previous CEQA metric of LOS, typically measured in terms of automobile delay, roadway capacity and congestion, generally will no longer constitute a significant environmental impact.

The City of Perris has updated their transportation impact guidelines *City of Perris Transportation Impact Analysis Guidelines for CEQA (May 12, 2020)* to provide recommendations in the form of thresholds of significance and methodology for identifying VMT related impacts.

Based on the City's TIA Guidelines, there are various types of screening that may be applied to effectively screen out land use projects from project-level assessment. The screening criteria are the following:

- Projects that are 100% Affordable Housing
- Projects located within half mile of qualifying transit
- Projects that are local-serving uses
- Projects located within a low VMT area
- Project with net daily trips less than 500 trips per day

Based on the established and adopted criteria, projects that generate less than 500 daily trips are presumed to have a less than significant VMT impacts and screen out for requiring a full VMT analysis.

As shown previously in Table 2, without taking any credit for the trips associated with the existing displaced land uses:

- The proposed project is forecast to generate approximately 162 daily trips which include approximately 16 AM peak hour trips and approximately 17 PM peak hour trips.

- After converting the truck trips to passenger Car Equivalents (PCE), the proposed project is forecast to generate approximately 239 PCE-adjusted daily trips which include approximately 23 PCE-adjusted AM peak hour trips and approximately 26 PCE-adjusted PM peak hour trips.

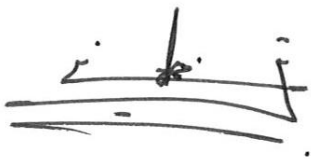
Hence, based on the City's adopted VMT guidelines, the proposed project is presumed to have a less than significant VMT impacts and screen out for requiring a full VMT analysis

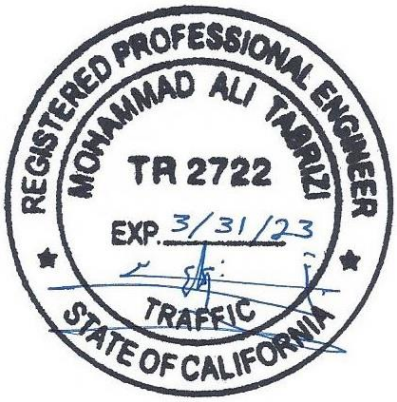
A City of Perris VMT screening tool form has been prepared for the proposed project and is contained in Attachment A.

MAT Engineering Inc. appreciates the opportunity to provide this technical letter and memorandum. If you have any questions, concerns, or comments, please contact us at 949-344-1828 or at@matengineering.com.

Respectfully submitted,

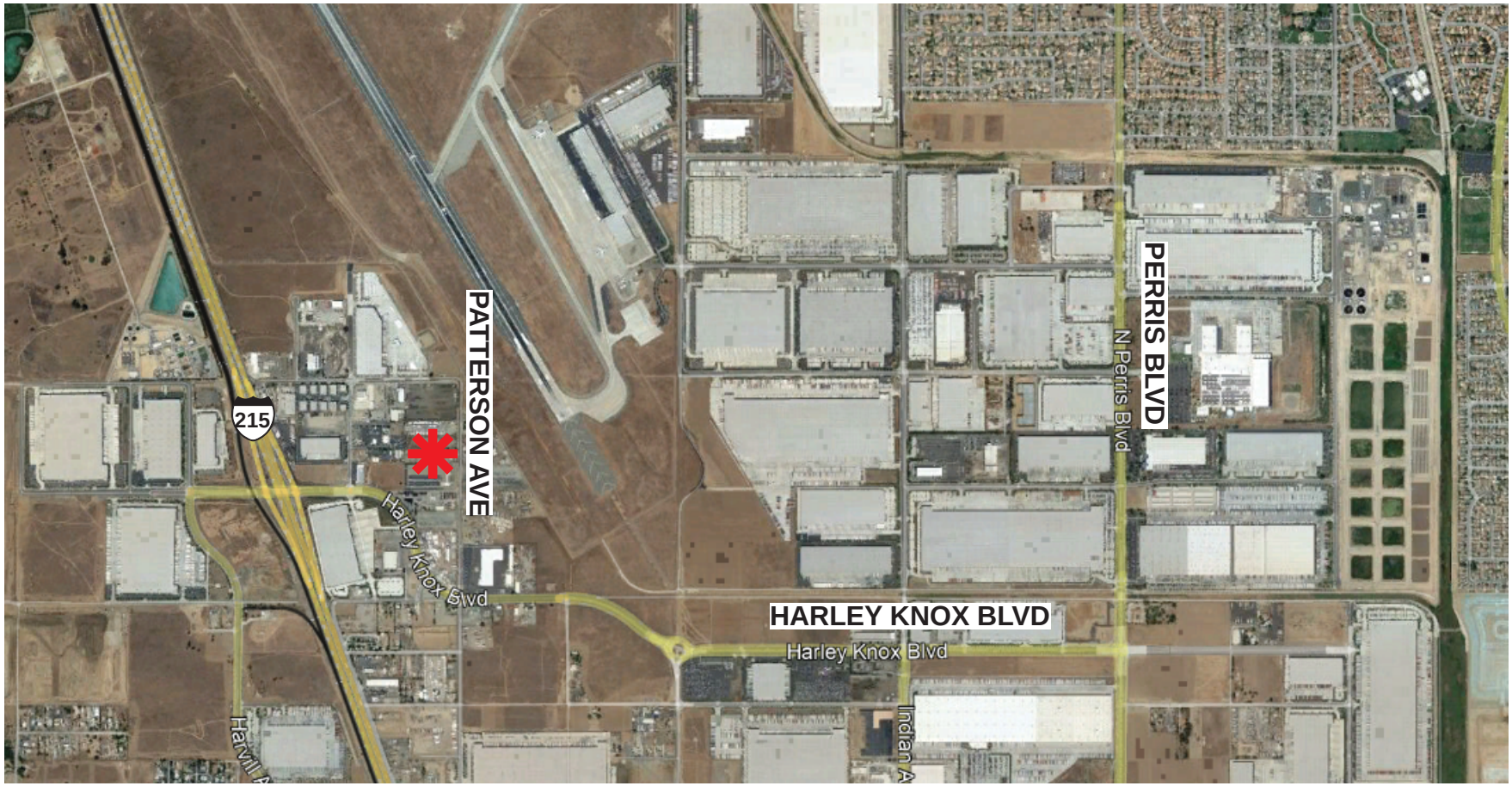
MAT ENGINEERING, INC.





Alex Tabrizi, PE, TE

President



Legend:

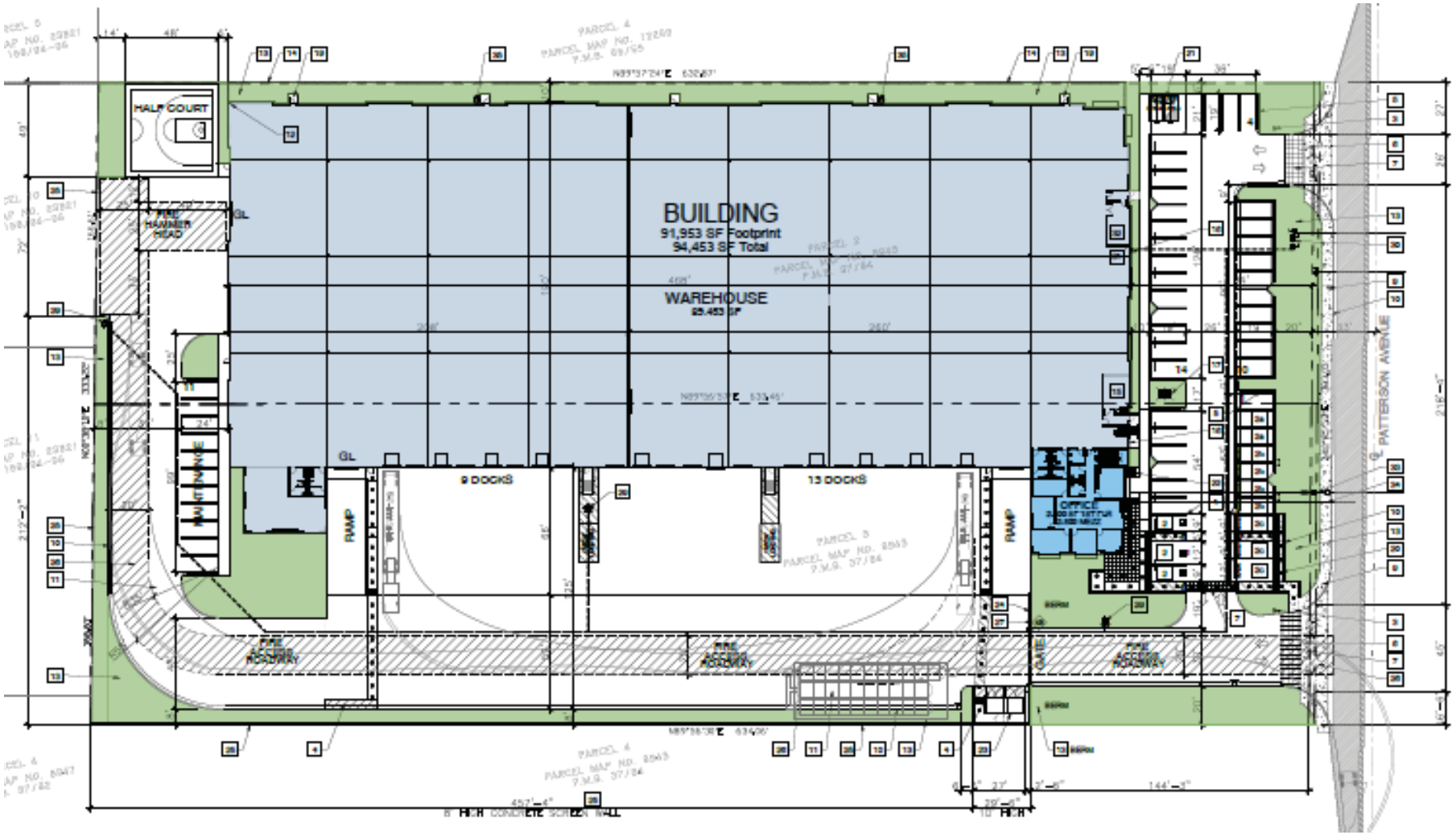
Site Location

Not to Scale

ENGINEERING, INC.

Project Location

Exhibit A



Not to Scale

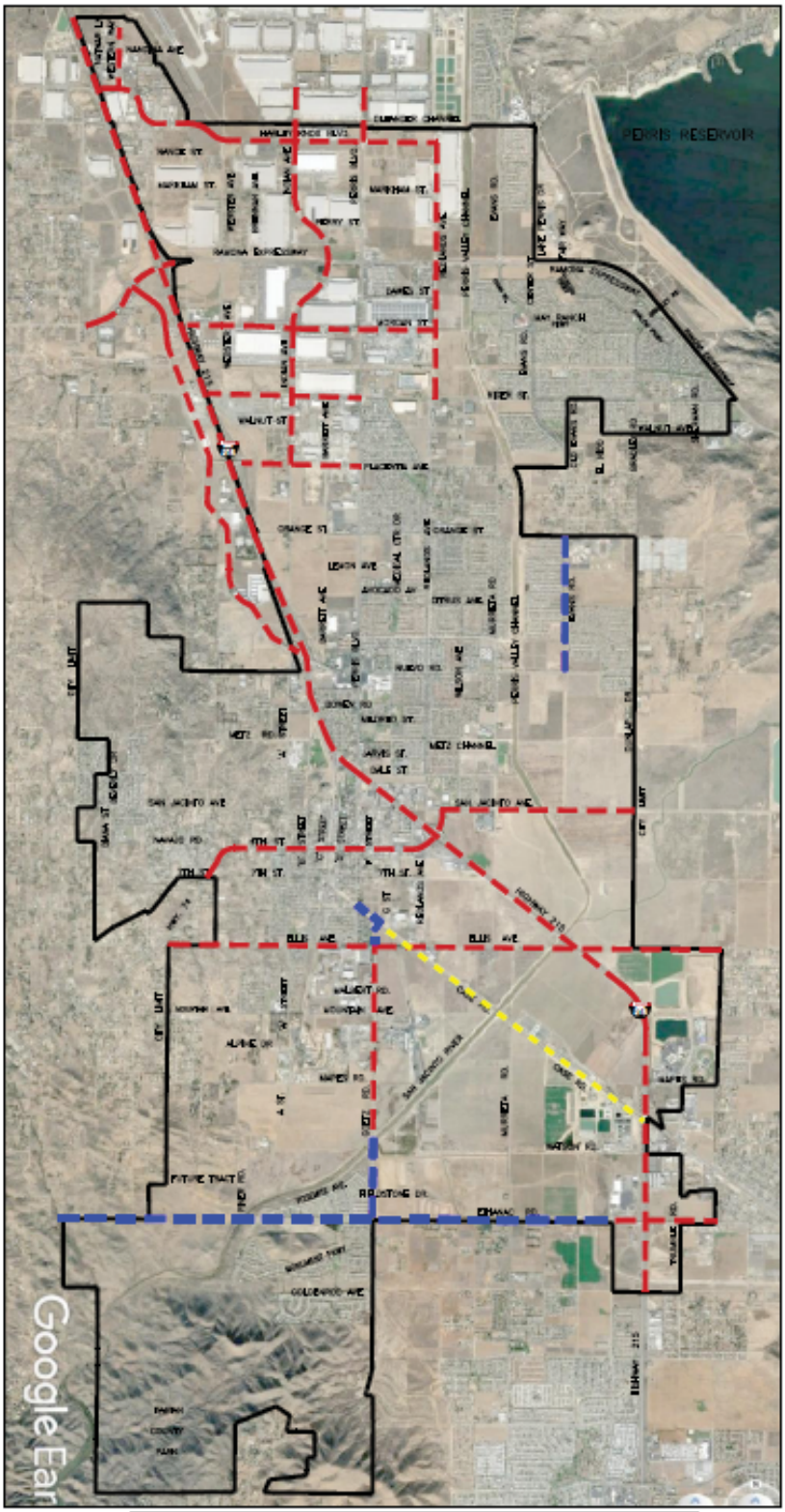
ENGINEERING, INC.

Site Plan

Exhibit B

CITY OF PERRIS TRUCK ROUTES

GPA22-05068 & OA22-05069



LEGEND:

- PERRIS CITY LIMITS
- TRUCK ROUTES TO REMAIN IN PLACE
- NEW TRUCK ROUTE
- REMOVED TRUCK ROUTES

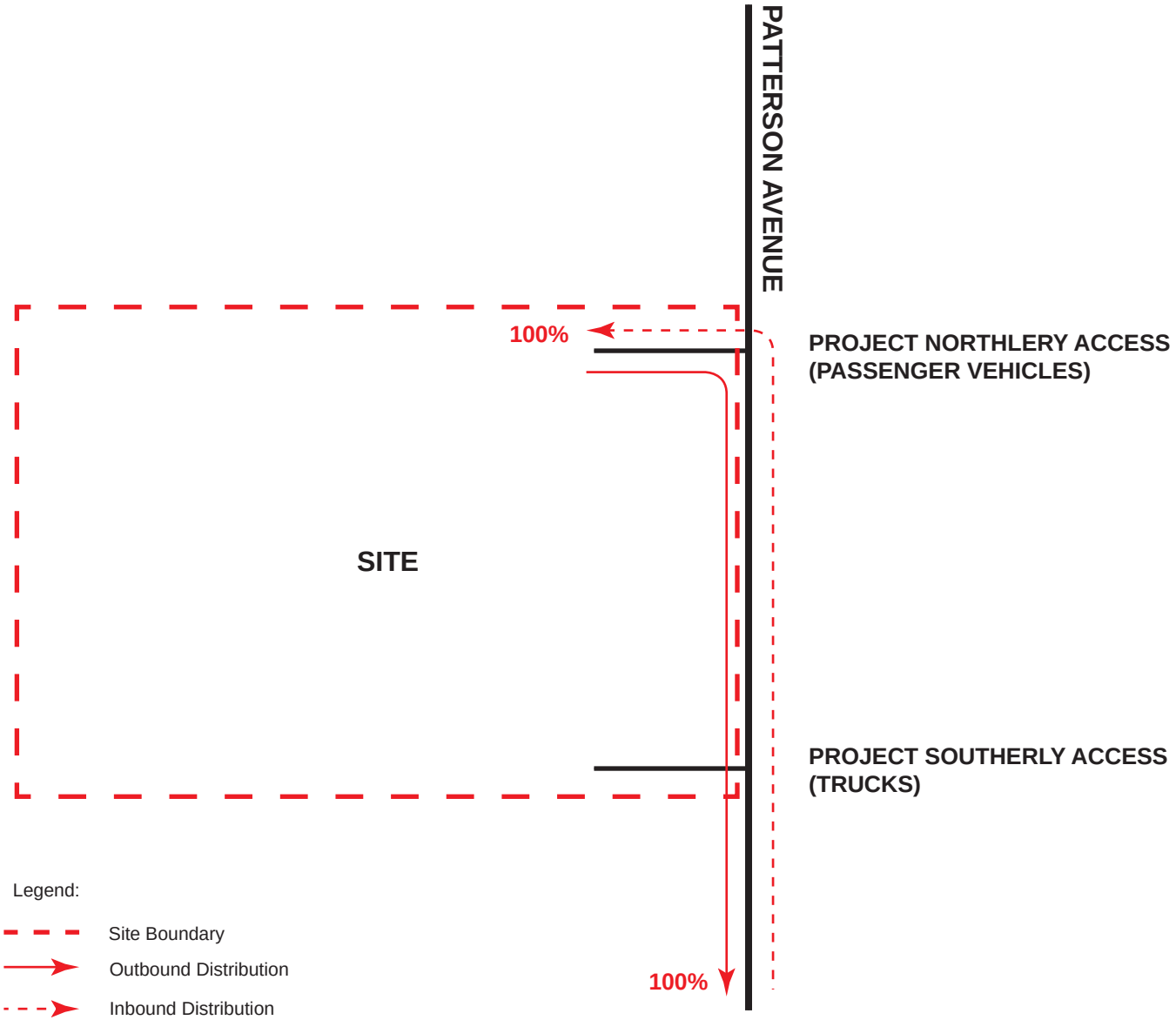
Not to Scale

ENGINEERING, INC.

City of Perris Designted Truck Routes

5030 Patterson Avenue Project, City of Perris, California / 0002-2022-01 SEP/2022

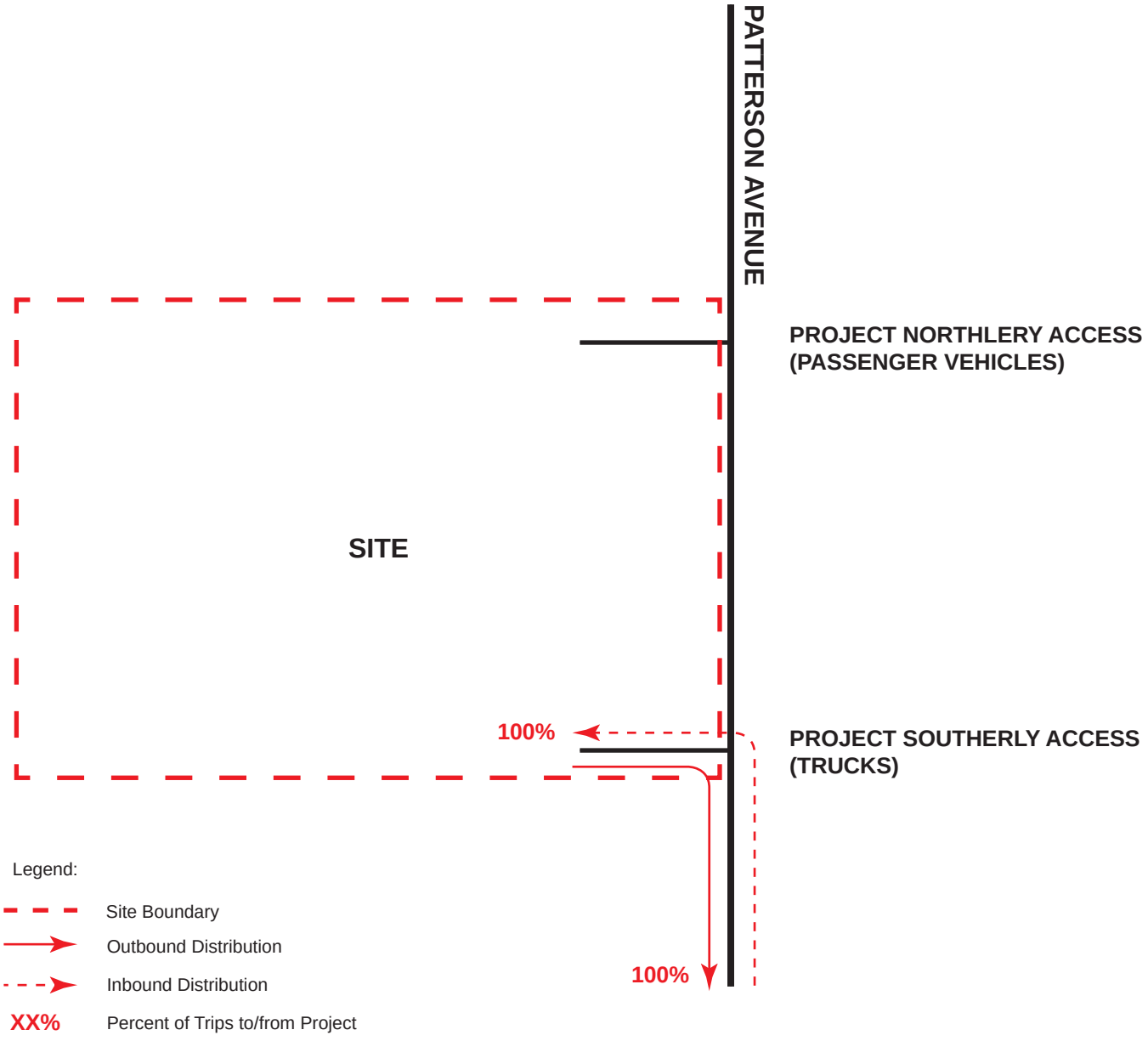
Exhibit C



Not to Scale

Project Trip Distribution (Passenger Vehicles)

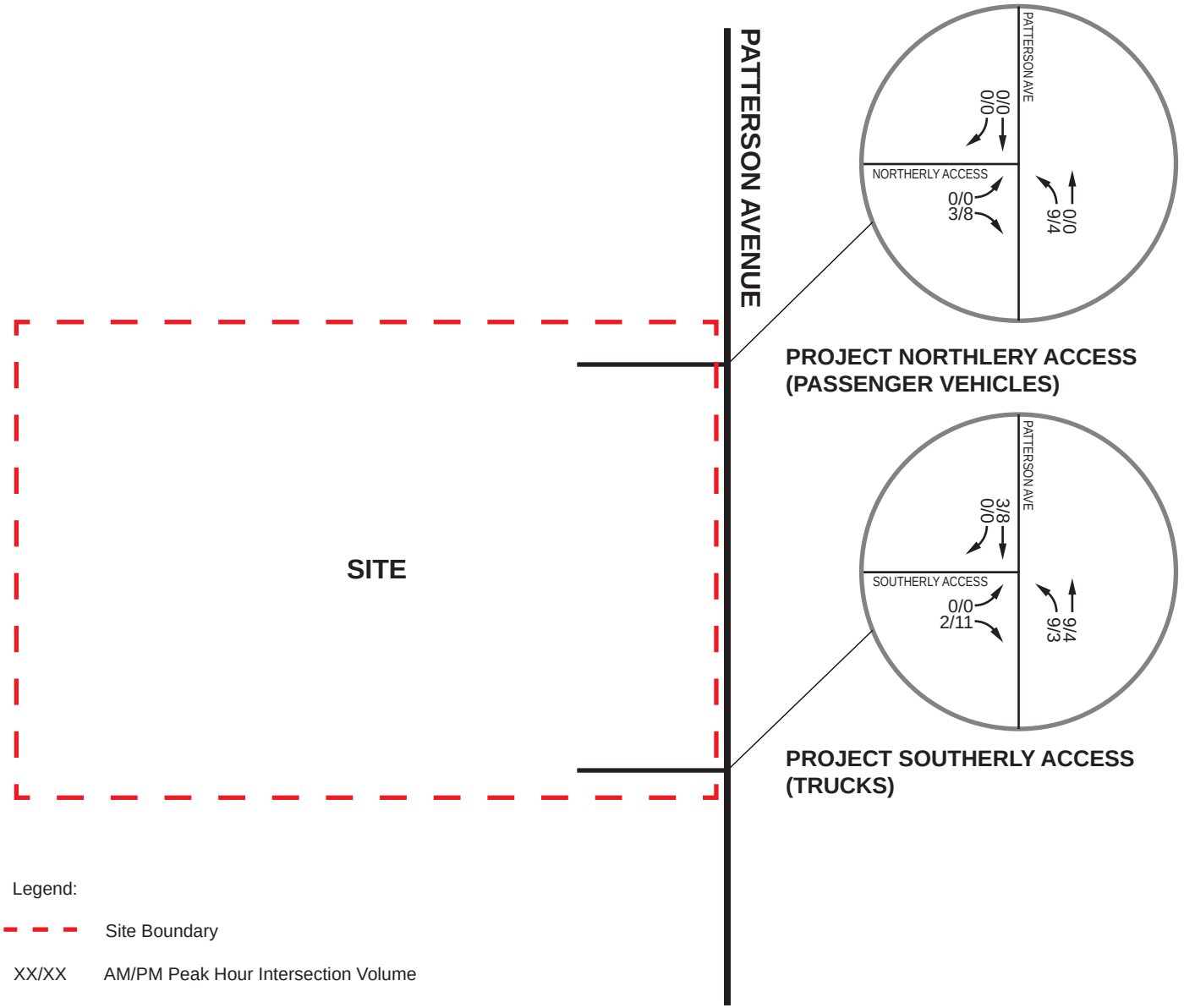
ENGINEERING, INC.



Not to Scale

ENGINEERING, INC.

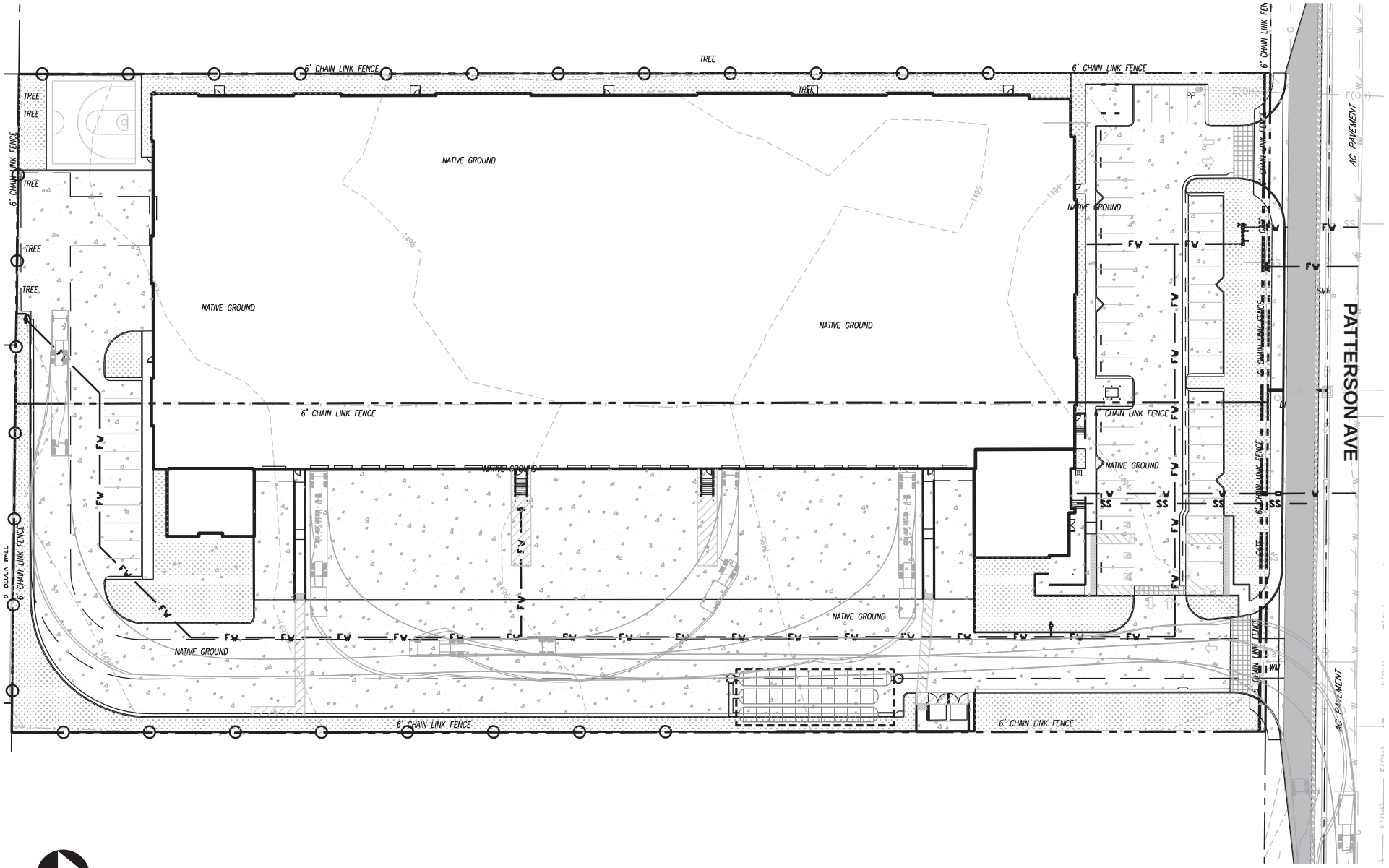
Project Trip Distribution (Trucks)



Not to Scale

ENGINEERING, INC.

Project Trip Assignment (PCE-Adjusted)



Not to Scale

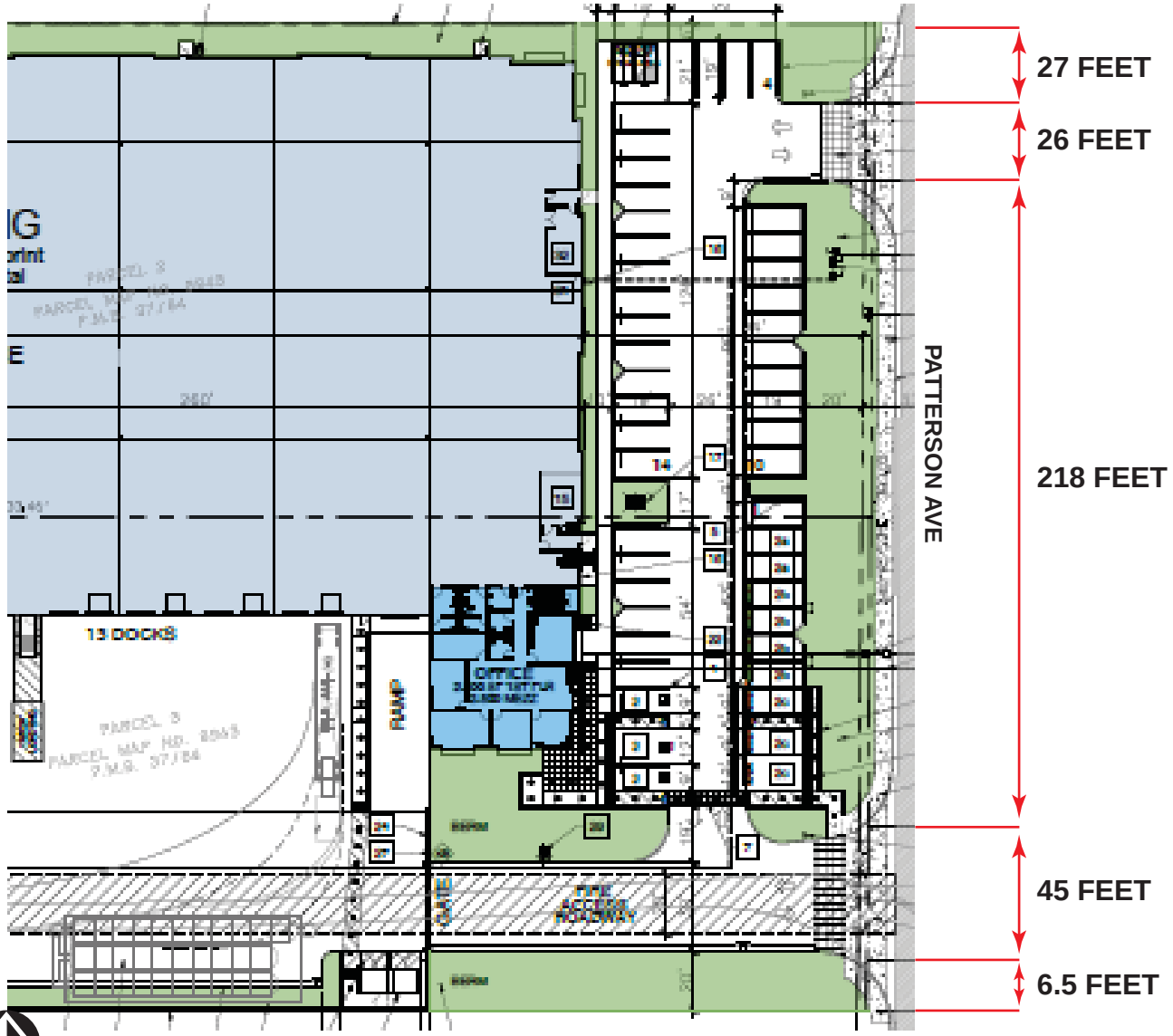
Truck Turning Manuevers

5030 Patterson Avenue Project, City of Perris, California / 0002-2022-01

SEP/2022

Exhibit F

ENGINEERING, INC.



Not to Scale

ENGINEERING, INC.

Proposed Driveway Spacing



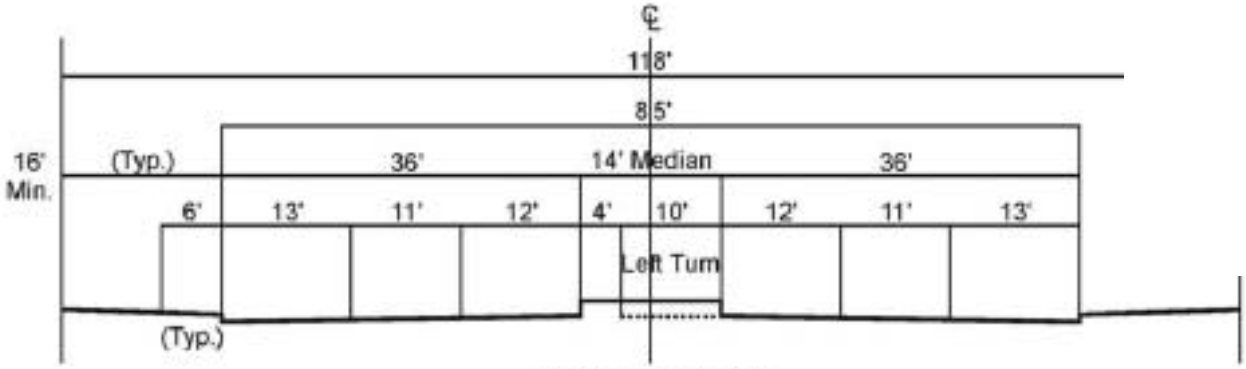
Not to Scale

ENGINEERING, INC.

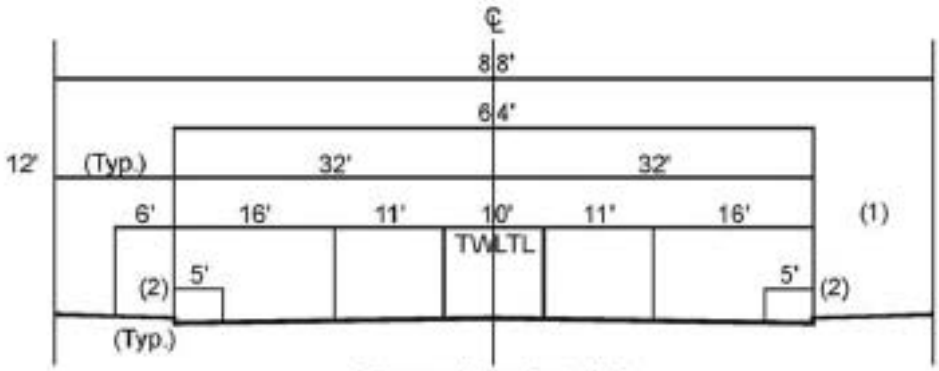
City of Perris General Plan Circulation

5030 Patterson Avenue Project, City of Perris, California / 0002-2022-01 JUL/2022

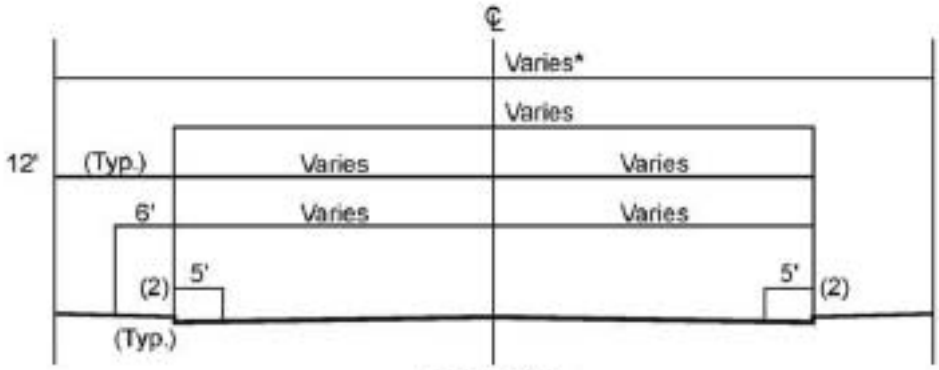
Exhibit H



Primary Arterial



Secondary Arterial



Collector

Legend

(1) No stopping any time both sides.

(2) Bike lane where designated.

* The width of the collector street can range from 40 feet to 64 feet curb-to-curb.

TWLTL = Two Way Left Turn Lane

Not to Scale

ENGINEERING, INC.

City of Perris Typical Roadway Cross Sections



Legend:

- (XX') Existing Lane Dimension
- XX' Proposed Lane Dimension
- ⇦ Direction of Travel
- 6-inch White Solid Line
- 6-inch Double Yellow Solid Line

Not to Scale

Patterson Avenue Proposed Conceptual Striping & Pavement Delineation

5030 Patterson Avenue Project, City of Perris, California / 0002-2022-01 SEP/2022

Exhibit J

ENGINEERING, INC.

Attachment A

City of Perris VMT Screening Form

City of Perris
www.cityofperris.org

CITY OF PERRIS
VMT SCOPING FORM FOR LAND USE PROJECTS

This Scoping Form acknowledges the City of Perris requirements for the evaluation of transportation impacts under CEQA. The analysis provided in this form should follow the City of Perris TIA Guidelines, dated May 12, 2020.

I. Project Description

Tract/Case No.: **5030 PATTERSON AVENUE - DPR-22-00013**

Project Name: **5030 PATTERSON AVENUE INDUSTRIAL/WAREHOUSE**

Project Location: **5030 PATTERSON AVENUE, PERRIS, CA**

Project Description: **94,453 SQUARE FEET OF WAREHOUSE USE**
(Please attach a copy of the project Site Plan)

Current GP Land Use: **COMMERCIAL / INDUSTRIAL**

Proposed GP Land Use:

Current Zoning: **COMMERCIAL / INDUSTRIAL**

Proposed Zoning: **COMMERCIAL / INDUSTRIAL**

If a project requires a General Plan Amendment or Zone change, then additional information and analysis should be provided to ensure the project is consistent with RHNA and RTP/SCS Strategies.

II. VMT Screening Criteria

	YES		NO		Attachments:
A. Is the Project 100% affordable housing?	YES		NO	X	
B. Is the Project within 1/2 mile of qualifying transit?	YES		NO	X	
C. Is the Project a local serving land use?	YES		NO	X	
D. Is the Project in a low VMT area?	YES		NO	X	
E. Are the Project's Net Daily Trips less than 500 ADT?	YES	X	NO		

Low VMT Area Evaluation:

Citywide VMT Averages[1]		
Citywide Home-Based VMT =	15.05	VMT/Capita
Citywide Employment-Based VMT =	11.62	VMT/Employee

WRCOG VMT MAP

Project TAZ	VMT Rate for Project TAZ[1]	Type of Project	
TAZ 3754	VMT/Capita	Residential:	13.42
	VMT/Employee	Non-Residential:	12.19

[1] Base year (2012) projections from RIVTAM.

Trip Generation Evaluation:

Source of Trip Generation: **ITE 11TH EDITION 2021**

Project Trip Generation: **162** Average Daily Trips (ADT)

	YES		NO		
Internal Trip Credit:	YES		NO	X	% Trip Credit:
Pass-By Trip Credit:	YES		NO	X	% Trip Credit:
Affordable Housing Credit:	YES		NO	X	% Trip Credit:
Existing Land Use Trip Credit:	YES		NO	X	Trip Credit:

Net Project Daily Trips: **162** Average Daily Trips (ADT) Attachments:

Does project trip generation warrant an LOS evaluation outside of CEQA?	YES	- -	NO	X

III. VMT Screening Summary

A. Is the Project presumed to have a less than significant impact on VMT?

A Project is presumed to have a less than significant impact on VMT if the Project satisfies at least one (1) of the VMT screening criteria.

YES

B. Is mitigation required?

If the Project does not satisfy at least one (1) of the VMT screening criteria, then mitigation is required to reduce the Project's impact on VMT.

NO

C. Is additional VMT modeling required to evaluate Project impacts?

YES	- -	NO	X

If the Project requires a zone change and/or General Plan Amendment AND generates 2,500 or more net daily trips, then additional VMT modeling using RIVTAM/RIVCOM is required. If the project generates less than 2,500 net daily trips, the Project TAZ VMT Rate can be used for mitigation purposes.

IV. MITIGATION

A. Citywide Average VMT Rate (Threshold of Significance) for Mitigation Purposes:	- -	- -
B. Unmitigated Project TAZ VMT Rate:	- -	- -
C. Percentage Reduction Required to Achieve the Citywide Average VMT:	- -	

D. VMT Reduction Mitigation Measures:

Source of VMT Reduction Estimates:	
Project Location Setting	

	VMT Reduction Mitigation Measure:	Estimated VMT Reduction (%)
1.		0.00%
2.		0.00%
3.		0.00%
4.		0.00%
5.		0.00%
6.		0.00%
7.		0.00%
8.		0.00%
9.		0.00%
10.		0.00%
Total VMT Reduction (%)		0.00%

(Attach additional pages, if necessary, and a copy of all mitigation calculations.)

E. Mitigated Project TAZ VMT Rate:	- -	- -

F. Is the project pressumed to have a less than significant impact with mitigation?

NO MITIGATION IS REQUIRED

If the mitigated Project VMT rate is below the Citywide Average Rate, then the Project is presumed to have a less than significant impact with mitigation. If the answer is no, then additional VMT modeling may be required and a potentially significant and unavoidable impact may occur. All mitigation measures identified in Section IV.D. are subject to become Conditions of Approval of the project. Development review and processing fees should be submitted with, or prior to the submittal of this Form. The Planning Department staff will not process the Form prior to fees being paid to the City.

Prepared By		Developer/Applicant	
Company:	MAT ENGINEERING, INC.	Company:	CGU CAPITAL MANAGEMENT
Contact:	ALEX TABRIZI, PE, TE	Contact:	DALE ULMAN
Address:	17192 MURPHY AVE #14902, IRVINE, CA 92623	Address:	302 WEST FIFTH ST, SUITE 103, SAN PEDRO, CA 90731
Phone:	949-344-1828	Phone:	
Email:	AT@MATENGINEERING.COM	Email:	dale@cgucapital.com
Date:	9/22/2022	Date:	9/22/2022

Approved by:

Perris Development Serivces Dept.	Date	Perris Public Works Dept.	Date

Appendix F

Traffic Signal Warrant Worksheets

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	785	636	0
2	761	617	0
3	746	604	0
4	699	566	0
5	620	502	0
6	612	496	0
7	604	490	0
8	550	445	0
9	542	439	0
10	534	432	0
11	463	375	0
12	432	350	0
13	424	343	0
14	314	254	0
15	314	254	0
16	220	178	0
17	126	102	0
18	126	102	0
19	71	57	0
20	39	32	0
21	24	19	0
22	8	6	0
23	8	6	0
24	8	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1421	1	0	No	No	No	No	No	No	No	No	No	No
2	3	1378	1	0	No	No	No	No	No	No	No	No	No	No
3	3	1350	1	0	No	No	No	No	No	No	No	No	No	No
4	3	1265	1	0	No	No	No	No	No	No	No	No	No	No
5	3	1122	1	0	No	No	No	No	No	No	No	No	No	No
6	3	1108	1	0	No	No	No	No	No	No	No	No	No	No
7	3	1094	1	0	No	No	No	No	No	No	No	No	No	No
8	3	995	1	0	No	No	No	No	No	No	No	No	No	No
9	3	981	1	0	No	No	No	No	No	No	No	No	No	No
10	3	966	1	0	No	No	No	No	No	No	No	No	No	No
11	3	838	1	0	No	No	No	No	No	No	No	No	No	No
12	3	782	1	0	No	No	No	No	No	No	No	No	No	No
13	3	767	1	0	No	No	No	No	No	No	No	No	No	No
14	3	568	1	0	No	No	No	No	No	No	No	No	No	No
15	3	568	1	0	No	No	No	No	No	No	No	No	No	No
16	3	398	1	0	No	No	No	No	No	No	No	No	No	No
17	3	228	1	0	No	No	No	No	No	No	No	No	No	No
18	3	228	1	0	No	No	No	No	No	No	No	No	No	No
19	3	128	1	0	No	No	No	No	No	No	No	No	No	No
20	3	71	1	0	No	No	No	No	No	No	No	No	No	No
21	3	43	1	0	No	No	No	No	No	No	No	No	No	No
22	3	14	1	0	No	No	No	No	No	No	No	No	No	No
23	3	14	1	0	No	No	No	No	No	No	No	No	No	No
24	3	14	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1421
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	748	682	2
2	726	662	2
3	711	648	2
4	666	607	2
5	591	539	2
6	583	532	2
7	576	525	2
8	524	477	1
9	516	471	1
10	509	464	1
11	441	402	1
12	411	375	1
13	404	368	1
14	299	273	1
15	299	273	1
16	209	191	1
17	120	109	0
18	120	109	0
19	67	61	0
20	37	34	0
21	22	20	0
22	7	7	0
23	7	7	0
24	7	7	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1430	1	2	No	No	No	No	No	No	No	No	No	No
2	3	1388	1	2	No	No	No	No	No	No	No	No	No	No
3	3	1359	1	2	No	No	No	No	No	No	No	No	No	No
4	3	1273	1	2	No	No	No	No	No	No	No	No	No	No
5	3	1130	1	2	No	No	No	No	No	No	No	No	No	No
6	3	1115	1	2	No	No	No	No	No	No	No	No	No	No
7	3	1101	1	2	No	No	No	No	No	No	No	No	No	No
8	3	1001	1	1	No	No	No	No	No	No	No	No	No	No
9	3	987	1	1	No	No	No	No	No	No	No	No	No	No
10	3	973	1	1	No	No	No	No	No	No	No	No	No	No
11	3	843	1	1	No	No	No	No	No	No	No	No	No	No
12	3	786	1	1	No	No	No	No	No	No	No	No	No	No
13	3	772	1	1	No	No	No	No	No	No	No	No	No	No
14	3	572	1	1	No	No	No	No	No	No	No	No	No	No
15	3	572	1	1	No	No	No	No	No	No	No	No	No	No
16	3	400	1	1	No	No	No	No	No	No	No	No	No	No
17	3	229	1	0	No	No	No	No	No	No	No	No	No	No
18	3	229	1	0	No	No	No	No	No	No	No	No	No	No
19	3	128	1	0	No	No	No	No	No	No	No	No	No	No
20	3	71	1	0	No	No	No	No	No	No	No	No	No	No
21	3	42	1	0	No	No	No	No	No	No	No	No	No	No
22	3	14	1	0	No	No	No	No	No	No	No	No	No	No
23	3	14	1	0	No	No	No	No	No	No	No	No	No	No
24	3	14	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.6
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	2
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1432
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	813	664	0	2
2	789	644	0	2
3	772	631	0	2
4	724	591	0	2
5	642	525	0	2
6	634	518	0	2
7	626	511	0	2
8	569	465	0	1
9	561	458	0	1
10	553	452	0	1
11	480	392	0	1
12	447	365	0	1
13	439	359	0	1
14	325	266	0	1
15	325	266	0	1
16	228	186	0	1
17	130	106	0	0
18	130	106	0	0
19	73	60	0	0
20	41	33	0	0
21	24	20	0	0
22	8	7	0	0
23	8	7	0	0
24	8	7	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1477	1	2	No	No	No	No	No	No	No	No	No	No
2	3	1433	1	2	No	No	No	No	No	No	No	No	No	No
3	3	1403	1	2	No	No	No	No	No	No	No	No	No	No
4	3	1315	1	2	No	No	No	No	No	No	No	No	No	No
5	3	1167	1	2	No	No	No	No	No	No	No	No	No	No
6	3	1152	1	2	No	No	No	No	No	No	No	No	No	No
7	3	1137	1	2	No	No	No	No	No	No	No	No	No	No
8	3	1034	1	1	No	No	No	No	No	No	No	No	No	No
9	3	1019	1	1	No	No	No	No	No	No	No	No	No	No
10	3	1005	1	1	No	No	No	No	No	No	No	No	No	No
11	3	872	1	1	No	No	No	No	No	No	No	No	No	No
12	3	812	1	1	No	No	No	No	No	No	No	No	No	No
13	3	798	1	1	No	No	No	No	No	No	No	No	No	No
14	3	591	1	1	No	No	No	No	No	No	No	No	No	No
15	3	591	1	1	No	No	No	No	No	No	No	No	No	No
16	3	414	1	1	No	No	No	No	No	No	No	No	No	No
17	3	236	1	0	No	No	No	No	No	No	No	No	No	No
18	3	236	1	0	No	No	No	No	No	No	No	No	No	No
19	3	133	1	0	No	No	No	No	No	No	No	No	No	No
20	3	74	1	0	No	No	No	No	No	No	No	No	No	No
21	3	44	1	0	No	No	No	No	No	No	No	No	No	No
22	3	15	1	0	No	No	No	No	No	No	No	No	No	No
23	3	15	1	0	No	No	No	No	No	No	No	No	No	No
24	3	15	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	23.8	12.5
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	0	2
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1479	1479
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 4: Indian Ave @ N Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	271	601	13
2	263	583	13
3	257	571	12
4	241	535	12
5	214	475	10
6	211	469	10
7	209	463	10
8	190	421	9
9	187	415	9
10	184	409	9
11	160	355	8
12	149	331	7
13	146	325	7
14	108	240	5
15	108	240	5
16	76	168	4
17	43	96	2
18	43	96	2
19	24	54	1
20	14	30	1
21	8	18	0
22	3	6	0
23	3	6	0
24	3	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	872	1	13	No	No	No	No	No	No	No	No	No	No
2	1	846	1	13	No	No	No	No	No	No	No	No	No	No
3	1	828	1	12	No	No	No	No	No	No	No	No	No	No
4	1	776	1	12	No	No	No	No	No	No	No	No	No	No
5	1	689	1	10	No	No	No	No	No	No	No	No	No	No
6	1	680	1	10	No	No	No	No	No	No	No	No	No	No
7	1	672	1	10	No	No	No	No	No	No	No	No	No	No
8	1	611	1	9	No	No	No	No	No	No	No	No	No	No
9	1	602	1	9	No	No	No	No	No	No	No	No	No	No
10	1	593	1	9	No	No	No	No	No	No	No	No	No	No
11	1	515	1	8	No	No	No	No	No	No	No	No	No	No
12	1	480	1	7	No	No	No	No	No	No	No	No	No	No
13	1	471	1	7	No	No	No	No	No	No	No	No	No	No
14	1	348	1	5	No	No	No	No	No	No	No	No	No	No
15	1	348	1	5	No	No	No	No	No	No	No	No	No	No
16	1	244	1	4	No	No	No	No	No	No	No	No	No	No
17	1	139	1	2	No	No	No	No	No	No	No	No	No	No
18	1	139	1	2	No	No	No	No	No	No	No	No	No	No
19	1	78	1	1	No	No	No	No	No	No	No	No	No	No
20	1	44	1	1	No	No	No	No	No	No	No	No	No	No
21	1	26	1	0	No	No	No	No	No	No	No	No	No	No
22	1	9	1	0	No	No	No	No	No	No	No	No	No	No
23	1	9	1	0	No	No	No	No	No	No	No	No	No	No
24	1	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	13
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	885
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 5: Indian Ave @ S Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	298	615	2
2	289	597	2
3	283	584	2
4	265	547	2
5	235	486	2
6	232	480	2
7	229	474	2
8	209	431	1
9	206	424	1
10	203	418	1
11	176	363	1
12	164	338	1
13	161	332	1
14	119	246	1
15	119	246	1
16	83	172	1
17	48	98	0
18	48	98	0
19	27	55	0
20	15	31	0
21	9	18	0
22	3	6	0
23	3	6	0
24	3	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	913	1	2	No	No	No	No	No	No	No	No	No	No
2	2	886	1	2	No	No	No	No	No	No	No	No	No	No
3	2	867	1	2	No	No	No	No	No	No	No	No	No	No
4	2	812	1	2	No	No	No	No	No	No	No	No	No	No
5	2	721	1	2	No	No	No	No	No	No	No	No	No	No
6	2	712	1	2	No	No	No	No	No	No	No	No	No	No
7	2	703	1	2	No	No	No	No	No	No	No	No	No	No
8	2	640	1	1	No	No	No	No	No	No	No	No	No	No
9	2	630	1	1	No	No	No	No	No	No	No	No	No	No
10	2	621	1	1	No	No	No	No	No	No	No	No	No	No
11	2	539	1	1	No	No	No	No	No	No	No	No	No	No
12	2	502	1	1	No	No	No	No	No	No	No	No	No	No
13	2	493	1	1	No	No	No	No	No	No	No	No	No	No
14	2	365	1	1	No	No	No	No	No	No	No	No	No	No
15	2	365	1	1	No	No	No	No	No	No	No	No	No	No
16	2	255	1	1	No	No	No	No	No	No	No	No	No	No
17	2	146	1	0	No	No	No	No	No	No	No	No	No	No
18	2	146	1	0	No	No	No	No	No	No	No	No	No	No
19	2	82	1	0	No	No	No	No	No	No	No	No	No	No
20	2	46	1	0	No	No	No	No	No	No	No	No	No	No
21	2	27	1	0	No	No	No	No	No	No	No	No	No	No
22	2	9	1	0	No	No	No	No	No	No	No	No	No	No
23	2	9	1	0	No	No	No	No	No	No	No	No	No	No
24	2	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	2
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	915
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	772	706	2	18
2	749	685	2	17
3	733	671	2	17
4	687	628	2	16
5	610	558	2	14
6	602	551	2	14
7	594	544	2	14
8	540	494	1	13
9	533	487	1	12
10	525	480	1	12
11	455	417	1	11
12	425	388	1	10
13	417	381	1	10
14	309	282	1	7
15	309	282	1	7
16	216	198	1	5
17	124	113	0	3
18	124	113	0	3
19	69	64	0	2
20	39	35	0	1
21	23	21	0	1
22	8	7	0	0
23	8	7	0	0
24	8	7	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1478	1	18	No	No	No	No	No	No	No	No	No	No
2	3	1434	1	17	No	No	No	No	No	No	No	No	No	No
3	3	1404	1	17	No	No	No	No	No	No	No	No	No	No
4	3	1315	1	16	No	No	No	No	No	No	No	No	No	No
5	3	1168	1	14	No	No	No	No	No	No	No	No	No	No
6	3	1153	1	14	No	No	No	No	No	No	No	No	No	No
7	3	1138	1	14	No	No	No	No	No	No	No	No	No	No
8	3	1034	1	13	No	No	No	No	No	No	No	No	No	No
9	3	1020	1	12	No	No	No	No	No	No	No	No	No	No
10	3	1005	1	12	No	No	No	No	No	No	No	No	No	No
11	3	872	1	11	No	No	No	No	No	No	No	No	No	No
12	3	813	1	10	No	No	No	No	No	No	No	No	No	No
13	3	798	1	10	No	No	No	No	No	No	No	No	No	No
14	3	591	1	7	No	No	No	No	No	No	No	No	No	No
15	3	591	1	7	No	No	No	No	No	No	No	No	No	No
16	3	414	1	5	No	No	No	No	No	No	No	No	No	No
17	3	237	1	3	No	No	No	No	No	No	No	No	No	No
18	3	237	1	3	No	No	No	No	No	No	No	No	No	No
19	3	133	1	2	No	No	No	No	No	No	No	No	No	No
20	3	74	1	1	No	No	No	No	No	No	No	No	No	No
21	3	44	1	1	No	No	No	No	No	No	No	No	No	No
22	3	15	1	0	No	No	No	No	No	No	No	No	No	No
23	3	15	1	0	No	No	No	No	No	No	No	No	No	No
24	3	15	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	23.7	12.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00	0:03
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	2	18
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1498	1498
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 4: Indian Ave @ N Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	703	456	8
2	682	442	8
3	668	433	8
4	626	406	7
5	555	360	6
6	548	356	6
7	541	351	6
8	492	319	6
9	485	315	6
10	478	310	5
11	415	269	5
12	387	251	4
13	380	246	4
14	281	182	3
15	281	182	3
16	197	128	2
17	112	73	1
18	112	73	1
19	63	41	1
20	35	23	0
21	21	14	0
22	7	5	0
23	7	5	0
24	7	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	1159	1	8	No	No	No	No	No	No	No	No	No	No
2	1	1124	1	8	No	No	No	No	No	No	No	No	No	No
3	1	1101	1	8	No	No	No	No	No	No	No	No	No	No
4	1	1032	1	7	No	No	No	No	No	No	No	No	No	No
5	1	915	1	6	No	No	No	No	No	No	No	No	No	No
6	1	904	1	6	No	No	No	No	No	No	No	No	No	No
7	1	892	1	6	No	No	No	No	No	No	No	No	No	No
8	1	811	1	6	No	No	No	No	No	No	No	No	No	No
9	1	800	1	6	No	No	No	No	No	No	No	No	No	No
10	1	788	1	5	No	No	No	No	No	No	No	No	No	No
11	1	684	1	5	No	No	No	No	No	No	No	No	No	No
12	1	638	1	4	No	No	No	No	No	No	No	No	No	No
13	1	626	1	4	No	No	No	No	No	No	No	No	No	No
14	1	463	1	3	No	No	No	No	No	No	No	No	No	No
15	1	463	1	3	No	No	No	No	No	No	No	No	No	No
16	1	325	1	2	No	No	No	No	No	No	No	No	No	No
17	1	185	1	1	No	No	No	No	No	No	No	No	No	No
18	1	185	1	1	No	No	No	No	No	No	No	No	No	No
19	1	104	1	1	No	No	No	No	No	No	No	No	No	No
20	1	58	1	0	No	No	No	No	No	No	No	No	No	No
21	1	35	1	0	No	No	No	No	No	No	No	No	No	No
22	1	12	1	0	No	No	No	No	No	No	No	No	No	No
23	1	12	1	0	No	No	No	No	No	No	No	No	No	No
24	1	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:01
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	8
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1167
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 5: Indian Ave @ S Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	718	463	18
2	696	449	17
3	682	440	17
4	639	412	16
5	567	366	14
6	560	361	14
7	553	357	14
8	503	324	13
9	495	319	12
10	488	315	12
11	424	273	11
12	395	255	10
13	388	250	10
14	287	185	7
15	287	185	7
16	201	130	5
17	115	74	3
18	115	74	3
19	65	42	2
20	36	23	1
21	22	14	1
22	7	5	0
23	7	5	0
24	7	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1181	1	18	No	No	No	No	No	No	No	No	No	No
2	2	1145	1	17	No	No	No	No	No	No	No	No	No	No
3	2	1122	1	17	No	No	No	No	No	No	No	No	No	No
4	2	1051	1	16	No	No	No	No	No	No	No	No	No	No
5	2	933	1	14	No	No	No	No	No	No	No	No	No	No
6	2	921	1	14	No	No	No	No	No	No	No	No	No	No
7	2	910	1	14	No	No	No	No	No	No	No	No	No	No
8	2	827	1	13	No	No	No	No	No	No	No	No	No	No
9	2	814	1	12	No	No	No	No	No	No	No	No	No	No
10	2	803	1	12	No	No	No	No	No	No	No	No	No	No
11	2	697	1	11	No	No	No	No	No	No	No	No	No	No
12	2	650	1	10	No	No	No	No	No	No	No	No	No	No
13	2	638	1	10	No	No	No	No	No	No	No	No	No	No
14	2	472	1	7	No	No	No	No	No	No	No	No	No	No
15	2	472	1	7	No	No	No	No	No	No	No	No	No	No
16	2	331	1	5	No	No	No	No	No	No	No	No	No	No
17	2	189	1	3	No	No	No	No	No	No	No	No	No	No
18	2	189	1	3	No	No	No	No	No	No	No	No	No	No
19	2	107	1	2	No	No	No	No	No	No	No	No	No	No
20	2	59	1	1	No	No	No	No	No	No	No	No	No	No
21	2	36	1	1	No	No	No	No	No	No	No	No	No	No
22	2	12	1	0	No	No	No	No	No	No	No	No	No	No
23	2	12	1	0	No	No	No	No	No	No	No	No	No	No
24	2	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	18
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1199
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	981	837	0
2	952	812	0
3	932	795	0
4	873	745	0
5	775	661	0
6	765	653	0
7	755	644	0
8	687	586	0
9	677	578	0
10	667	569	0
11	579	494	0
12	540	460	0
13	530	452	0
14	392	335	0
15	392	335	0
16	275	234	0
17	157	134	0
18	157	134	0
19	88	75	0
20	49	42	0
21	29	25	0
22	10	8	0
23	10	8	0
24	10	8	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1818	1	0	No	No	No	No	No	No	No	No	No	No
2	3	1764	1	0	No	No	No	No	No	No	No	No	No	No
3	3	1727	1	0	No	No	No	No	No	No	No	No	No	No
4	3	1618	1	0	No	No	No	No	No	No	No	No	No	No
5	3	1436	1	0	No	No	No	No	No	No	No	No	No	No
6	3	1418	1	0	No	No	No	No	No	No	No	No	No	No
7	3	1399	1	0	No	No	No	No	No	No	No	No	No	No
8	3	1273	1	0	No	No	No	No	No	No	No	No	No	No
9	3	1255	1	0	No	No	No	No	No	No	No	No	No	No
10	3	1236	1	0	No	No	No	No	No	No	No	No	No	No
11	3	1073	1	0	No	No	No	No	No	No	No	No	No	No
12	3	1000	1	0	No	No	No	No	No	No	No	No	No	No
13	3	982	1	0	No	No	No	No	No	No	No	No	No	No
14	3	727	1	0	No	No	No	No	No	No	No	No	No	No
15	3	727	1	0	No	No	No	No	No	No	No	No	No	No
16	3	509	1	0	No	No	No	No	No	No	No	No	No	No
17	3	291	1	0	No	No	No	No	No	No	No	No	No	No
18	3	291	1	0	No	No	No	No	No	No	No	No	No	No
19	3	163	1	0	No	No	No	No	No	No	No	No	No	No
20	3	91	1	0	No	No	No	No	No	No	No	No	No	No
21	3	54	1	0	No	No	No	No	No	No	No	No	No	No
22	3	18	1	0	No	No	No	No	No	No	No	No	No	No
23	3	18	1	0	No	No	No	No	No	No	No	No	No	No
24	3	18	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	0
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1818
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	968	893	2
2	939	866	2
3	920	848	2
4	862	795	2
5	765	705	2
6	755	697	2
7	745	688	2
8	678	625	1
9	668	616	1
10	658	607	1
11	571	527	1
12	532	491	1
13	523	482	1
14	387	357	1
15	387	357	1
16	271	250	1
17	155	143	0
18	155	143	0
19	87	80	0
20	48	45	0
21	29	27	0
22	10	9	0
23	10	9	0
24	10	9	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1861	1	2	No	No	No	No	No	No	No	No	No	No
2	3	1805	1	2	No	No	No	No	No	No	No	No	No	No
3	3	1768	1	2	No	No	No	No	No	No	No	No	No	No
4	3	1657	1	2	No	No	No	No	No	No	No	No	No	No
5	3	1470	1	2	No	No	No	No	No	No	No	No	No	No
6	3	1452	1	2	No	No	No	No	No	No	No	No	No	No
7	3	1433	1	2	No	No	No	No	No	No	No	No	No	No
8	3	1303	1	1	No	No	No	No	No	No	No	No	No	No
9	3	1284	1	1	No	No	No	No	No	No	No	No	No	No
10	3	1265	1	1	No	No	No	No	No	No	No	No	No	No
11	3	1098	1	1	No	No	No	No	No	No	No	No	No	No
12	3	1023	1	1	No	No	No	No	No	No	No	No	No	No
13	3	1005	1	1	No	No	No	No	No	No	No	No	No	No
14	3	744	1	1	No	No	No	No	No	No	No	No	No	No
15	3	744	1	1	No	No	No	No	No	No	No	No	No	No
16	3	521	1	1	No	No	No	No	No	No	No	No	No	No
17	3	298	1	0	No	No	No	No	No	No	No	No	No	No
18	3	298	1	0	No	No	No	No	No	No	No	No	No	No
19	3	167	1	0	No	No	No	No	No	No	No	No	No	No
20	3	93	1	0	No	No	No	No	No	No	No	No	No	No
21	3	56	1	0	No	No	No	No	No	No	No	No	No	No
22	3	19	1	0	No	No	No	No	No	No	No	No	No	No
23	3	19	1	0	No	No	No	No	No	No	No	No	No	No
24	3	19	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	25.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	2
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1863
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	994	853	0	2
2	964	827	0	2
3	944	810	0	2
4	885	759	0	2
5	785	674	0	2
6	775	665	0	2
7	765	657	0	2
8	696	597	0	1
9	686	589	0	1
10	676	580	0	1
11	586	503	0	1
12	547	469	0	1
13	537	461	0	1
14	398	341	0	1
15	398	341	0	1
16	278	239	0	1
17	159	136	0	0
18	159	136	0	0
19	89	77	0	0
20	50	43	0	0
21	30	26	0	0
22	10	9	0	0
23	10	9	0	0
24	10	9	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1847	1	2	No	No	No	No	No	No	No	No	No	No
2	3	1791	1	2	No	No	No	No	No	No	No	No	No	No
3	3	1754	1	2	No	No	No	No	No	No	No	No	No	No
4	3	1644	1	2	No	No	No	No	No	No	No	No	No	No
5	3	1459	1	2	No	No	No	No	No	No	No	No	No	No
6	3	1440	1	2	No	No	No	No	No	No	No	No	No	No
7	3	1422	1	2	No	No	No	No	No	No	No	No	No	No
8	3	1293	1	1	No	No	No	No	No	No	No	No	No	No
9	3	1275	1	1	No	No	No	No	No	No	No	No	No	No
10	3	1256	1	1	No	No	No	No	No	No	No	No	No	No
11	3	1089	1	1	No	No	No	No	No	No	No	No	No	No
12	3	1016	1	1	No	No	No	No	No	No	No	No	No	No
13	3	998	1	1	No	No	No	No	No	No	No	No	No	No
14	3	739	1	1	No	No	No	No	No	No	No	No	No	No
15	3	739	1	1	No	No	No	No	No	No	No	No	No	No
16	3	517	1	1	No	No	No	No	No	No	No	No	No	No
17	3	295	1	0	No	No	No	No	No	No	No	No	No	No
18	3	295	1	0	No	No	No	No	No	No	No	No	No	No
19	3	166	1	0	No	No	No	No	No	No	No	No	No	No
20	3	93	1	0	No	No	No	No	No	No	No	No	No	No
21	3	56	1	0	No	No	No	No	No	No	No	No	No	No
22	3	19	1	0	No	No	No	No	No	No	No	No	No	No
23	3	19	1	0	No	No	No	No	No	No	No	No	No	No
24	3	19	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	35.7	13.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00	0:00
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	0	2
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1849	1849
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 4: Indian Ave @ N Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	304	633	13
2	295	614	13
3	289	601	12
4	271	563	12
5	240	500	10
6	237	494	10
7	234	487	10
8	213	443	9
9	210	437	9
10	207	430	9
11	179	373	8
12	167	348	7
13	164	342	7
14	122	253	5
15	122	253	5
16	85	177	4
17	49	101	2
18	49	101	2
19	27	57	1
20	15	32	1
21	9	19	0
22	3	6	0
23	3	6	0
24	3	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	937	1	13	No	No	No	No	No	No	No	No	No	No
2	2	909	1	13	No	No	No	No	No	No	No	No	No	No
3	2	890	1	12	No	No	No	No	No	No	No	No	No	No
4	2	834	1	12	No	No	No	No	No	No	No	No	No	No
5	2	740	1	10	No	No	No	No	No	No	No	No	No	No
6	2	731	1	10	No	No	No	No	No	No	No	No	No	No
7	2	721	1	10	No	No	No	No	No	No	No	No	No	No
8	2	656	1	9	No	No	No	No	No	No	No	No	No	No
9	2	647	1	9	No	No	No	No	No	No	No	No	No	No
10	2	637	1	9	No	No	No	No	No	No	No	No	No	No
11	2	552	1	8	No	No	No	No	No	No	No	No	No	No
12	2	515	1	7	No	No	No	No	No	No	No	No	No	No
13	2	506	1	7	No	No	No	No	No	No	No	No	No	No
14	2	375	1	5	No	No	No	No	No	No	No	No	No	No
15	2	375	1	5	No	No	No	No	No	No	No	No	No	No
16	2	262	1	4	No	No	No	No	No	No	No	No	No	No
17	2	150	1	2	No	No	No	No	No	No	No	No	No	No
18	2	150	1	2	No	No	No	No	No	No	No	No	No	No
19	2	84	1	1	No	No	No	No	No	No	No	No	No	No
20	2	47	1	1	No	No	No	No	No	No	No	No	No	No
21	2	28	1	0	No	No	No	No	No	No	No	No	No	No
22	2	9	1	0	No	No	No	No	No	No	No	No	No	No
23	2	9	1	0	No	No	No	No	No	No	No	No	No	No
24	2	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	13
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	950
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 5: Indian Ave @ S Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	331	647	2
2	321	628	2
3	314	615	2
4	295	576	2
5	261	511	2
6	258	505	2
7	255	498	2
8	232	453	1
9	228	446	1
10	225	440	1
11	195	382	1
12	182	356	1
13	179	349	1
14	132	259	1
15	132	259	1
16	93	181	1
17	53	104	0
18	53	104	0
19	30	58	0
20	17	32	0
21	10	19	0
22	3	6	0
23	3	6	0
24	3	6	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	978	1	2	No	No	No	No	No	No	No	No	No	No
2	2	949	1	2	No	No	No	No	No	No	No	No	No	No
3	2	929	1	2	No	No	No	No	No	No	No	No	No	No
4	2	871	1	2	No	No	No	No	No	No	No	No	No	No
5	2	772	1	2	No	No	No	No	No	No	No	No	No	No
6	2	763	1	2	No	No	No	No	No	No	No	No	No	No
7	2	753	1	2	No	No	No	No	No	No	No	No	No	No
8	2	685	1	1	No	No	No	No	No	No	No	No	No	No
9	2	674	1	1	No	No	No	No	No	No	No	No	No	No
10	2	665	1	1	No	No	No	No	No	No	No	No	No	No
11	2	577	1	1	No	No	No	No	No	No	No	No	No	No
12	2	538	1	1	No	No	No	No	No	No	No	No	No	No
13	2	528	1	1	No	No	No	No	No	No	No	No	No	No
14	2	391	1	1	No	No	No	No	No	No	No	No	No	No
15	2	391	1	1	No	No	No	No	No	No	No	No	No	No
16	2	274	1	1	No	No	No	No	No	No	No	No	No	No
17	2	157	1	0	No	No	No	No	No	No	No	No	No	No
18	2	157	1	0	No	No	No	No	No	No	No	No	No	No
19	2	88	1	0	No	No	No	No	No	No	No	No	No	No
20	2	49	1	0	No	No	No	No	No	No	No	No	No	No
21	2	29	1	0	No	No	No	No	No	No	No	No	No	No
22	2	9	1	0	No	No	No	No	No	No	No	No	No	No
23	2	9	1	0	No	No	No	No	No	No	No	No	No	No
24	2	9	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:00
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	2
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	980
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 2: Harley Knox Blvd @ Project Dwy / 511 Harley Knox Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	978	904	2	18
2	949	877	2	17
3	929	859	2	17
4	870	805	2	16
5	773	714	2	14
6	763	705	2	14
7	753	696	2	14
8	685	633	1	13
9	675	624	1	12
10	665	615	1	12
11	577	533	1	11
12	538	497	1	10
13	528	488	1	10
14	391	362	1	7
15	391	362	1	7
16	274	253	1	5
17	156	145	0	3
18	156	145	0	3
19	88	81	0	2
20	49	45	0	1
21	29	27	0	1
22	10	9	0	0
23	10	9	0	0
24	10	9	0	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1882	1	18	No	No	No	No	No	No	No	No	No	No
2	3	1826	1	17	No	No	No	No	No	No	No	No	No	No
3	3	1788	1	17	No	No	No	No	No	No	No	No	No	No
4	3	1675	1	16	No	No	No	No	No	No	No	No	No	No
5	3	1487	1	14	No	No	No	No	No	No	No	No	No	No
6	3	1468	1	14	No	No	No	No	No	No	No	No	No	No
7	3	1449	1	14	No	No	No	No	No	No	No	No	No	No
8	3	1318	1	13	No	No	No	No	No	No	No	No	No	No
9	3	1299	1	12	No	No	No	No	No	No	No	No	No	No
10	3	1280	1	12	No	No	No	No	No	No	No	No	No	No
11	3	1110	1	11	No	No	No	No	No	No	No	No	No	No
12	3	1035	1	10	No	No	No	No	No	No	No	No	No	No
13	3	1016	1	10	No	No	No	No	No	No	No	No	No	No
14	3	753	1	7	No	No	No	No	No	No	No	No	No	No
15	3	753	1	7	No	No	No	No	No	No	No	No	No	No
16	3	527	1	5	No	No	No	No	No	No	No	No	No	No
17	3	301	1	3	No	No	No	No	No	No	No	No	No	No
18	3	301	1	3	No	No	No	No	No	No	No	No	No	No
19	3	169	1	2	No	No	No	No	No	No	No	No	No	No
20	3	94	1	1	No	No	No	No	No	No	No	No	No	No
21	3	56	1	1	No	No	No	No	No	No	No	No	No	No
22	3	19	1	0	No	No	No	No	No	No	No	No	No	No
23	3	19	1	0	No	No	No	No	No	No	No	No	No	No
24	3	19	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	34.7	14.4
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:01	0:04
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	2	18
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1902	1902
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	**No**	

Signal Warrants Report For Intersection 4: Indian Ave @ N Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	740	493	8
2	718	478	8
3	703	468	8
4	659	439	7
5	585	389	6
6	577	385	6
7	570	380	6
8	518	345	6
9	511	340	6
10	503	335	5
11	437	291	5
12	407	271	4
13	400	266	4
14	296	197	3
15	296	197	3
16	207	138	2
17	118	79	1
18	118	79	1
19	67	44	1
20	37	25	0
21	22	15	0
22	7	5	0
23	7	5	0
24	7	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1233	1	8	No	No	No	No	No	No	No	No	No	No
2	2	1196	1	8	No	No	No	No	No	No	No	No	No	No
3	2	1171	1	8	No	No	No	No	No	No	No	No	No	No
4	2	1098	1	7	No	No	No	No	No	No	No	No	No	No
5	2	974	1	6	No	No	No	No	No	No	No	No	No	No
6	2	962	1	6	No	No	No	No	No	No	No	No	No	No
7	2	950	1	6	No	No	No	No	No	No	No	No	No	No
8	2	863	1	6	No	No	No	No	No	No	No	No	No	No
9	2	851	1	6	No	No	No	No	No	No	No	No	No	No
10	2	838	1	5	No	No	No	No	No	No	No	No	No	No
11	2	728	1	5	No	No	No	No	No	No	No	No	No	No
12	2	678	1	4	No	No	No	No	No	No	No	No	No	No
13	2	666	1	4	No	No	No	No	No	No	No	No	No	No
14	2	493	1	3	No	No	No	No	No	No	No	No	No	No
15	2	493	1	3	No	No	No	No	No	No	No	No	No	No
16	2	345	1	2	No	No	No	No	No	No	No	No	No	No
17	2	197	1	1	No	No	No	No	No	No	No	No	No	No
18	2	197	1	1	No	No	No	No	No	No	No	No	No	No
19	2	111	1	1	No	No	No	No	No	No	No	No	No	No
20	2	62	1	0	No	No	No	No	No	No	No	No	No	No
21	2	37	1	0	No	No	No	No	No	No	No	No	No	No
22	2	12	1	0	No	No	No	No	No	No	No	No	No	No
23	2	12	1	0	No	No	No	No	No	No	No	No	No	No
24	2	12	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:01
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	8
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1241
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 5: Indian Ave @ S Project Dwy

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	755	500	18
2	732	485	17
3	717	475	17
4	672	445	16
5	596	395	14
6	589	390	14
7	581	385	14
8	529	350	13
9	521	345	12
10	513	340	12
11	445	295	11
12	415	275	10
13	408	270	10
14	302	200	7
15	302	200	7
16	211	140	5
17	121	80	3
18	121	80	3
19	68	45	2
20	38	25	1
21	23	15	1
22	8	5	0
23	8	5	0
24	8	5	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1255	1	18	No	No	No	No	No	No	No	No	No	No
2	2	1217	1	17	No	No	No	No	No	No	No	No	No	No
3	2	1192	1	17	No	No	No	No	No	No	No	No	No	No
4	2	1117	1	16	No	No	No	No	No	No	No	No	No	No
5	2	991	1	14	No	No	No	No	No	No	No	No	No	No
6	2	979	1	14	No	No	No	No	No	No	No	No	No	No
7	2	966	1	14	No	No	No	No	No	No	No	No	No	No
8	2	879	1	13	No	No	No	No	No	No	No	No	No	No
9	2	866	1	12	No	No	No	No	No	No	No	No	No	No
10	2	853	1	12	No	No	No	No	No	No	No	No	No	No
11	2	740	1	11	No	No	No	No	No	No	No	No	No	No
12	2	690	1	10	No	No	No	No	No	No	No	No	No	No
13	2	678	1	10	No	No	No	No	No	No	No	No	No	No
14	2	502	1	7	No	No	No	No	No	No	No	No	No	No
15	2	502	1	7	No	No	No	No	No	No	No	No	No	No
16	2	351	1	5	No	No	No	No	No	No	No	No	No	No
17	2	201	1	3	No	No	No	No	No	No	No	No	No	No
18	2	201	1	3	No	No	No	No	No	No	No	No	No	No
19	2	113	1	2	No	No	No	No	No	No	No	No	No	No
20	2	63	1	1	No	No	No	No	No	No	No	No	No	No
21	2	38	1	1	No	No	No	No	No	No	No	No	No	No
22	2	13	1	0	No	No	No	No	No	No	No	No	No	No
23	2	13	1	0	No	No	No	No	No	No	No	No	No	No
24	2	13	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	18
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1273
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**