



HEXAGON TRANSPORTATION CONSULTANTS, INC.



CenterPoint Warehouse

Local Transportation Analysis



Prepared for:

David J. Powers & Associates



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Hexagon Transportation Consultants, Inc.

Hexagon Office: 100 Century Center Court, Suite 501

San Jose, CA 95112

Phone: 408.971.6100

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Client Name: David J. Powers & Associates

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Executive Summary

This report presents the results of the transportation analysis (TA) conducted for the proposed CenterPoint Warehouse development in Hayward, California. The project proposes to demolish the existing buildings on three parcels (29469 Ruus Road, 1571-1593 Industrial Parkway West, and 1601-1617 Industrial Parkway West) to construct approximately 97,646 square feet (s.f.) of warehouse space and 5,760 s.f. of office space. Access to the site is provided by three driveways: one driveway on Ruus Road and two driveways on Industrial Parkway West.

The potential project related transportation deficiencies were evaluated in accordance with the standards and methodologies set forth by the City of Hayward. The study analyzes the transportation deficiencies caused by the proposed development on the key intersections in the vicinity of the site during the weekday AM, midday, and PM peak hours of traffic.

In addition, the study includes a queuing analysis, a review of site access and circulation, sight distance, emergency and truck access, parking, and effects on transit, bicycle, and pedestrian analysis.

Project Trip Estimates

After accounting for the trips generated by the existing uses, the proposed development is estimated to generate a net increase of 340 daily vehicle-level trips, with a net increase of 39 trips in the AM peak hour, a net increase of 27 trips in the midday peak hour, and a net increase of 75 trips in the PM peak hour. To fully evaluate the effects of truck traffic on the roadway network, truck trips are converted to their passenger-car equivalent (or PCE) trips. Depending on the type of truck, a truck trip is represented as 2 to 3 PCE trips. After converting the truck trips to PCE trips, the proposed development is estimated to generate a net increase of 742 daily PCE-level trips, with a net increase of 94 trips in the AM peak hour, a net increase of 70 trips in the midday peak hour, and a net increase of 147 trips in the PM peak hour.

Local Transportation Assessment (LTA)

The results of the Local Transportation Analysis (LTA) show that all the study intersections would operate at acceptable conditions during the AM, midday, and PM peak hours under all scenarios.

The results of the peak-hour traffic signal warrant checks indicate that all the unsignalized intersections would not meet the signal warrant under all scenarios.

Other Transportation Issues

Hexagon conducted a queuing analysis, truck analysis, driveway gap analysis, site plan review, parking analysis, and pedestrian/bike/transit facility review for the proposed project. Our recommendations are listed below.

Recommendations

- It is recommended that keep clear marking be striped on Ruus Road in front of the project driveway to facilitate project vehicles accessing the site and minimize potential queuing on northbound Ruus Road as a result of project vehicles waiting for the southbound queues to dissipate to turn into the project driveway.

- It is recommended that a right-turn only sign be placed at the Ruus Road project driveway facing outbound driveway traffic (i.e., eastbound traffic) as truck traffic is prohibited on Ruus Road north of Ruus Lane.
- Applicant should coordinate with City staff to seek approval of the proposed 40-foot driveways at Ruus Road and Industrial Parkway West.
- There are no obstructions at the proposed driveways that would impede vision for vehicles exiting the site. However, parking is permitted along Ruus Road. It is recommended to install 15 feet of red curbs on both sides of the driveway to provide clear sight distance for vehicles exiting the driveway.
- The site plan should be revised to meet the City standards for a standard parking space size of 9 feet wide by 19 feet long.
- The applicant should coordinate with City staff to ensure conditions along the project frontage on Industrial Parkway West and Ruus Road are conducive to the proposed improvements.

1. Introduction

This report presents the results of the transportation analysis (TA) conducted for the proposed CenterPoint Warehouse development in Hayward, California (see Figure 1). The project proposes to demolish the existing buildings on three parcels (29469 Ruus Road, 1571-1593 Industrial Parkway West, and 1601-1617 Industrial Parkway West) to construct approximately 97,646 square feet (s.f.) of warehouse space and 5,760 s.f. of office space. Access to the site will be provided by three driveways: one driveway on Ruus Road and two driveways on Industrial Parkway West (see Figure 2).

Scope of Study

The purpose of the study is to identify potential transportation adverse effects related to the proposed development. The potential adverse effects of the project were evaluated in accordance with the standards and methodologies set forth by the City of Hayward. An analysis of vehicle queuing, site access and on-site circulation, sight distance, emergency and truck access, parking, and the effects of transit, bicycle, and pedestrian analysis is included.

The study analyzes the traffic effects of the proposed development on the key intersections in the vicinity of the site during the weekday AM, midday, and PM peak hours of traffic. Locally, the AM peak hour of traffic is usually between 7:00 AM and 9:00 AM, the midday peak hour of traffic is between 10:00 AM and 2:00 PM, and the PM peak hour is typically between 4:00 PM and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday.

Study Intersections

The study includes those intersections that provide primary access to the project site and intersections that would experience a traffic increase of 10 or more peak-hour trips per lane. These intersections were selected in consultation with City of Hayward staff. The study intersections are listed below and shown on Figure 1.

1. Hesperian Boulevard and Industrial Parkway West
2. I-880 Southbound Off-Ramp and Industrial Parkway West
3. Stratford Road and Industrial Parkway West
4. Ruus Road/Industrial Parkway Southwest and Industrial Parkway West
5. Huntwood Avenue and Industrial Parkway West
6. Ruus Road and Site Access (unsignalized) (project analysis only)
7. Site Access 1 and Industrial Parkway West (unsignalized) (project analysis only)
8. Site Access 2 and Industrial Parkway West (unsignalized) (project analysis only)

It should be noted that the I-880 Northbound On-Ramp and Industrial Parkway West intersection was requested to be analyzed by City staff. However, the project would only add trips to the westbound slip lane onto I-880, which would not affect the operational capacity at this intersection. Moreover, this intersection would not have a controlled-approach and would not be adequately analyzed by the Highway Capacity Manual methodology. Therefore, the I-880 Northbound On-Ramp/Industrial Parkway West intersection was omitted from the analysis.

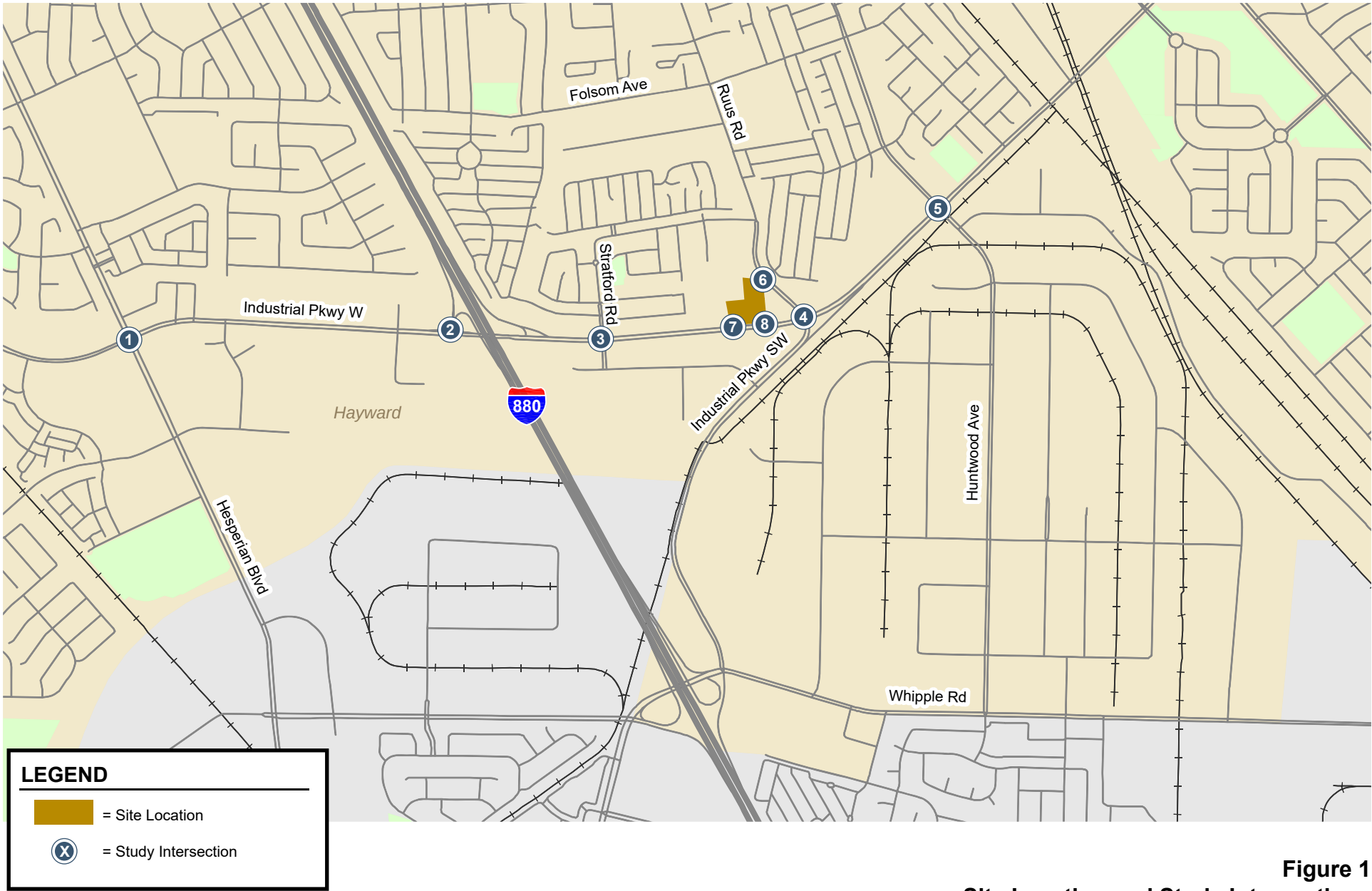


Figure 1
Site Location and Study Intersections

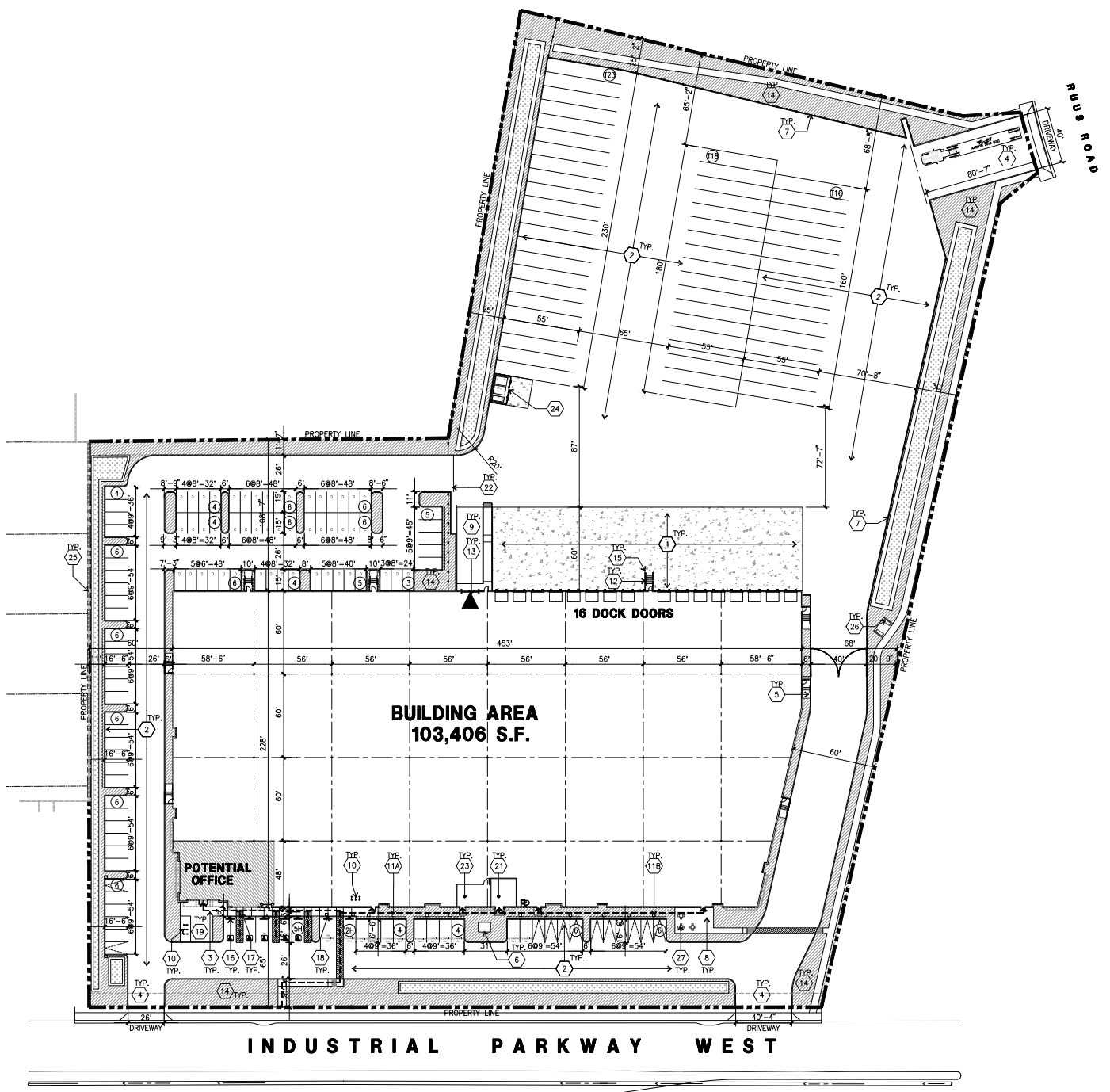


Figure 2
Proposed Site Plan

Intersection traffic conditions were evaluated for the following scenarios:

- **Existing Conditions.** Existing AM, midday, and PM peak-hour traffic volumes were obtained from turning-movement counts taken from the 31161 San Antonio Street Industrial traffic study and new turning-movement counts conducted in March 2023. Per guidance from the City, COVID-19 adjustments are no longer needed for newly collected counts.
- **Existing Plus Project Conditions.** Existing plus project traffic volumes were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project related adverse effects.
- **Background Conditions.** Background traffic volumes were estimated by applying a growth factor of 1.5% per year through the year 2028 (5 years) to existing conditions to represent traffic growth in the area. The growth factor was derived from the Hayward General Plan Update travel demand model. The background traffic volumes also include traffic generated by the 31161 San Antonio Street Industrial study.
- **Background Plus Project Conditions.** Background plus project conditions represent background peak hour traffic volumes with the addition of project traffic. Background plus project conditions were evaluated relative to background conditions in order to determine potential project related adverse effects.

Other Transportation Issues

The study includes a queuing analysis, a review of site access and circulation, sight distance, emergency and truck access, an analysis of parking, and the effects of transit, bicycle, and pedestrian analysis.

Methodology

This section presents the methods used to evaluate traffic conditions at the study intersections and the traffic impacts of the project. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from previous traffic studies, the City of Hayward and observations. The following data were collected from these sources:

- Existing traffic volumes,
- Existing bicycle facilities,
- Existing transit services,
- Signal timings, and
- Lane geometries

Intersection Level of Service Methodology and Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

Signalized Study Intersections

The City of Hayward level of service methodology for signalized intersections is the *Highway Capacity Manual (HCM)*, 6th Edition method. The study intersections were evaluated with a level of service analysis using SYNCHRO software in accordance with the *Highway Capacity Manual*, 6th Edition methodology. The 2010 HCM operations method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. As stated in the City of Hayward General Plan Goal M-4.3, the City of Hayward level of service standard for signalized intersections is LOS E or better during peak commute periods except when a LOS F may be acceptable due to costs of mitigation or when there would be other unacceptable impacts, such as right-of-way acquisition or degradation of the pedestrian environment. The correlation between average control delay and level of service is shown in Table 1.

Table 1
Signalized Intersection Level of Service Definitions Based on Average Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec/veh)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures being to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths or high V/C ratios. Many vehicle stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over	Greater than 80.0
Source: Highway Capacity Manual, 6th Edition, and Transportation Research Board (TRB) Special Report 209.		

Unsignalized Intersections

The City of Hayward does not have a level of service standard for unsignalized intersections. Level of service at unsignalized intersections was based on the *Highway Capacity Manual (HCM)*, 6th Edition method using the Synchro software. This method is applicable for both one-way, two-way, and all-way stop-controlled intersections. The correlation between average control delay and LOS for unsignalized intersections is shown in Table 2.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Delay Per Vehicle (sec/veh)
A	Little or no delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0
Source: Highway Capacity Manual, 6th Edition, and Transportation Research Board (TRB) Special Report 209.		

Traffic Signal Warrants

The unsignalized study intersections were analyzed for potential signalization based on the Peak-Hour Volume Signal Warrant, (Warrant #3 – Part B) described in the California Manual on Uniform Traffic Control Devices (MUTCD), 2014 Edition. This method provides an indication whether peak-hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal. Intersections that meet the peak hour warrant are subject to further analysis before determining that a traffic signal is necessary. Other options such as traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

The three driveways on Industrial Parkway West and on Ruus Road were analyzed for potential signalization.

Adverse Effects at Signalized and Unsignalized Intersections

According to the City of Hayward standards, a development is said to create an adverse effect on traffic conditions at a study intersection if for either peak hour:

1. The level of service at a signalized intersection degrades from an acceptable LOS E or better under no project conditions to an unacceptable LOS F under project conditions, or
2. A signalized or unsignalized intersection operates at LOS F without the project, and the addition of project trips causes the average control delay to increase by 5.0 seconds or greater.

Intersection Vehicle Queuing Analysis

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis at intersections where the project would add a substantial number of trips to the left-turn movements. The intersection queuing analysis was conducted using SYNCHRO traffic analysis software in accordance with the *Highway Capacity Manual, 6th Edition* methodology. SYNCHRO provides total movement delay and 95th-percentile queues for each movement.

Vehicle Miles Travelled (VMT) Analysis

All new development projects within the City of Hayward are required to evaluate the effects of development on the transportation system using the Vehicle Miles Traveled (VMT) metric and conform to the City of Hayward *Transportation Impact Guidelines*, which closely follows SB 743 and the Governor's Office of Planning and Research (OPR) recommendations. The *City of Hayward Transportation Analysis Guidelines, Dec 2020* provides CEQA transportation analysis exemption screening criteria for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

The office component of the project as proposed will meet the screening criteria as small infill project under 10,000 square feet for VMT analysis exemption. In addition, the office component will meet the location-based screening criteria for office projects because the project is located in an area where the VMT per employee is more than 15% below the regional average VMT (see Figure 3). The warehouse component of the project will meet the location-based screening criteria for industrial projects because the project is located in an area where the VMT per employee is more than 15% below the regional average VMT (see Figure 4).

Based on the project's land use type and location, the project is exempt from preparing a detailed CEQA Transportation Analysis (i.e., VMT Analysis) and its VMT impact is presumed to be less-than-significant.

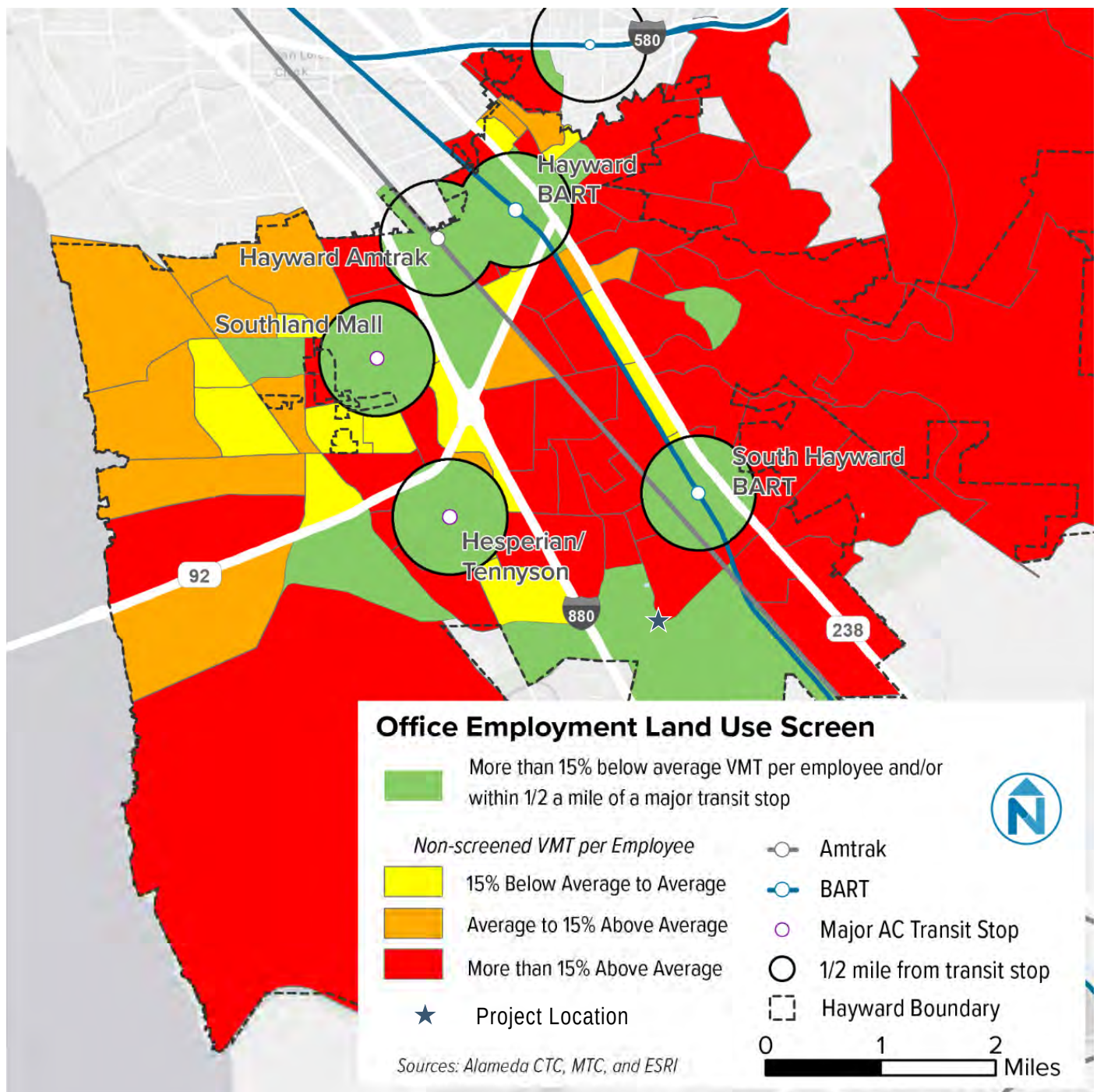


Figure 3
CEQA Transportation Screening Map for Office Projects

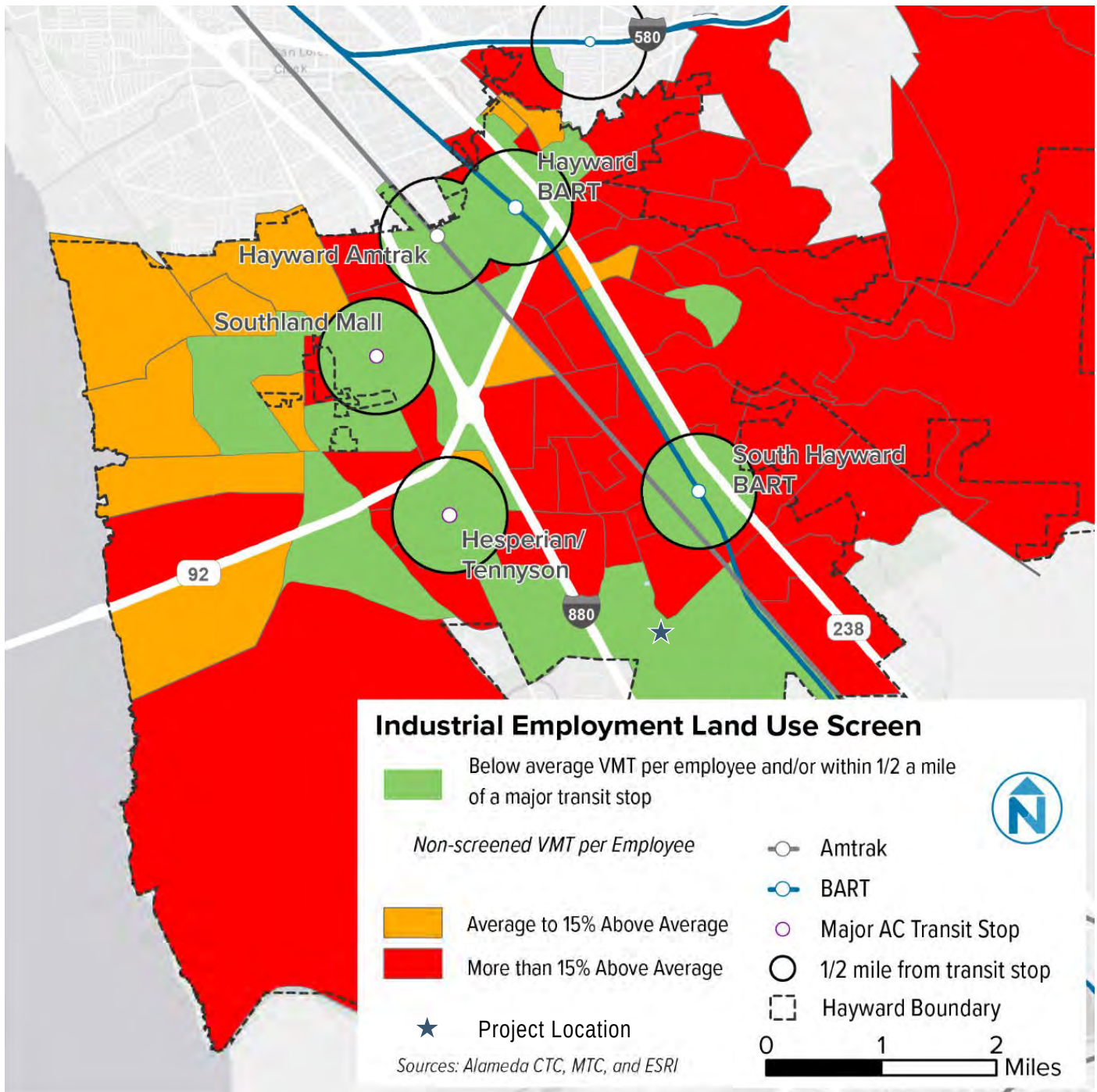


Figure 4
CEQA Transportation Screening Map for Industrial Projects

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit services, pedestrian and bicycle facilities, and traffic operations at the study intersections.

Existing Roadway Network

Regional access to the project site is provided by I-880. Local access to the project site is provided via Hesperian Boulevard, Industrial Parkway West, Stratford Road, Ruus Road, Industrial Parkway Southwest.

Interstate 880 (I-880) is a north-south freeway extending from Oakland to San Jose. In the vicinity of the project I-880 provides three mixed-flow lanes in both directions, with one express lane in each direction. Access to and from the project study area is provided via Industrial Parkway West and Whipple Road/Industrial Parkway Southwest.

Hesperian Boulevard is a north-south arterial street that extends from East 14th Street in San Leandro in the north to Alameda Creek in the south, where it transitions to Union City Boulevard. Hesperian Boulevard is six lanes wide and has a posted speed limit of 35 mph. Hesperian Boulevard has sidewalks on both sides of the street. On-street parking is prohibited. Within the vicinity of the project, Hesperian Boulevard has Class II bike lanes.

Industrial Parkway West is an east-west arterial street that extends from Hesperian Boulevard in the west to State Route 238 in the east. Within the vicinity of the project, Industrial Boulevard is four lanes wide and has a posted speed limit of 45 mph. Industrial Parkway West has sidewalks on both sides of the street with a few exceptions where the sidewalk is discontinuous. On-street parking is prohibited along Industrial Parkway West. Class II bike lanes are present on Industrial Parkway West between Stratford Road and Ruus Road on both sides of the street.

Stratford Road is a north-south collector street that extends from Ruus Lane in the north to Addison Way in the east. Stratford Road is two to three lanes wide and has a prima facie speed limit of 25 mph. Stratford Road has sidewalks on both sides of the street. Parking is prohibited along Stratford Road between Pacheco Way and Addison Way.

Ruus Road is a north-south collector street that extends from Tennyson Road in the north to Industrial Parkway West in the south, where it transitions to Industrial Parkway Southwest. Ruus Road is two lanes wide and has a posted speed limit of 25 mph. Ruus Road has Class II bike lanes and has sidewalks on both sides of the street. Parking is permitted on both sides of the street.

Industrial Parkway Southwest is a north-south arterial that extends from Whipple Road in the south to Industrial Parkway West, where it transitions to Ruus Road. Industrial Parkway Southwest is four lanes wide and has a posted speed limit of 35 mph. Industrial Parkway Southwest has Class II bike lanes on both sides of the street. Industrial Parkway Southwest has continuous sidewalks on the west side of the street and has sidewalks on the east side of the street between Whipple Road and 240 feet north of Whipple Road. Parking is prohibited along Industrial Parkway Southwest.

Existing Bicycle Facilities

The bicycle facilities in the vicinity of the project (see Figure 5) consist of multi-use paths (Class I bikeway), bicycle lanes (Class II bikeway), and bicycle routes (Class III bikeway). Bicycle facilities are described below:

Class I (Bicycle Paths) – Shared paths or multi-use paths separated from any street or highway for the exclusive use of bicycles and pedestrians.

Class II (Bicycle Lanes) – Striped on-street bikeways that provide a designated right-of-way for the use of bicycles. This facility can include a buffered space between the bike lane and motor vehicle travel lane.

Class III (Bicycle Routes) – Existing streets that accommodate bicycles but are not separate from the existing travel lanes. This facility is designated with signs but can also be designated with a share-lane marking (sharrow).

The existing bicycle facilities within the project area are present at the following:

Class I - south of Industrial Parkway West between Ruus Road and Mission Boulevard.

Class II - Ruus Road between Thiel Road and Industrial Parkway West

- Huntwood Avenue between Schafer Road and Whipple Road
- Hesperian Boulevard between Industrial Parkway West to Union City Boulevard in Union City
- Industrial Parkway West between Stratford Avenue and Ruus Road.

Class III - Industrial Parkway Southwest between Industrial Parkway West and Whipple Road

- Stratford Avenue between Pacheco Way and Industrial Parkway West.

Existing Pedestrian Facilities

Sidewalks are generally found on both sides of all previously-described roadways in the study area in the immediate vicinity of the site, except on Industrial Parkway West and Industrial Parkway Southwest where sidewalks are discontinuous in places. All signalized study intersections have pedestrian crosswalks and curb ramps.

Although all the signalized study intersections have crosswalks, some of them lack crosswalks on some of the legs. At the I-880 Southbound Off-Ramp/Industrial Parkway West intersection, there are crosswalks on the north and west legs of the intersection. At the Ruus Road/Industrial Parkway West intersection, there is no crosswalk on the west leg of the intersection. The other signalized intersections have crosswalks on all legs.

Existing Transit Services

Existing bus service in the project vicinity is provided by the Alameda-Contra Costa Transit District (AC Transit). There are two bus routes in the area, described below. Existing transit service is shown in Figure 6.

Local Route 41 provides service between the Hayward BART station and the Union Landing Transit Center. Route 41 operates along Huntwood Avenue in the project study area, with 60-minute headways

during the weekday peak commute hours and on weekends. The closest bus stop is located on Huntwood Avenue near Industrial Parkway West, approximately 2,760 feet from the project site.

Local Route 56 provides service between the Hayward BART station and the Union Landing Transit Center. Route 56 operates along Industrial Parkway West, Stratford Road, Ruus Lane, and Huntwood Avenue in the project study area, with 60-minute headways during the weekday peak commute hours and on weekends. The closest bus stop is located on Industrial Parkway West near Ruus Road/Industrial Parkway Southwest, approximately 650 feet from the project site.

Existing Collision Data

Collision data within a quarter-mile of the project area was provided by city staff and included in Appendix G. The collision data shows that 25 collisions occurred from 2017 through 2022. Among the 25 collisions, 3 of the collisions were categorized as severe injuries, but none of the severe injury collisions involved bicyclists or pedestrians. Among the 25 collisions, 19 of the collisions occurred near the project site on Ruus Road, Ruus Lane, or Industrial Parkway. The types of collisions near the project site include: head-on (4 incidents), sideswipe (3 incidents), rear end (3 incidents), broadside (7 incidents), hit object (1 incident), and overturned (1 incident). 16 of the recorded collisions occurred within the intersection of Ruus Road and Industrial Parkway. As shown on Table 3, compared against similar types of intersections in the State of California, this intersection's observed collision rate is lower than the state average collision rates. The project is not changing the existing roadway and intersection geometries and the driveways will be designed to standard, thus, the project is not expected to have an adverse effect on collisions near the project site.

Table 3
Collision Data Analysis

#	Intersection	ADT ¹	Collision Data ²					Observed Collision Rates (per mil. Vehicles)					State-Average Rates (per mil. Vehicles) ³		
			Total # of Collisions	Collision Severity				Collision Severity					Collision Severity		
				Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	All	Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	All	Fatality	Injury
1	Industrial Pkwy & Ruus Rd	34,620	16	0	2	2	12	0.25	0	0.03	0.03	0.19	0.33	0.002	0.157
Notes: 1. ADT (Average Daily Traffic) is estimated using peak hour intersection volumes. 2. Collision data referenced TIMS database from 2017 to 2022. Collision severity referenced recorded collision severity categories. 3. Average accident rates are based on California average rates for four-legged and multi-legged signalized intersections in urban areas as indicated in <i>2020 Collision data on California State Highways</i> .															

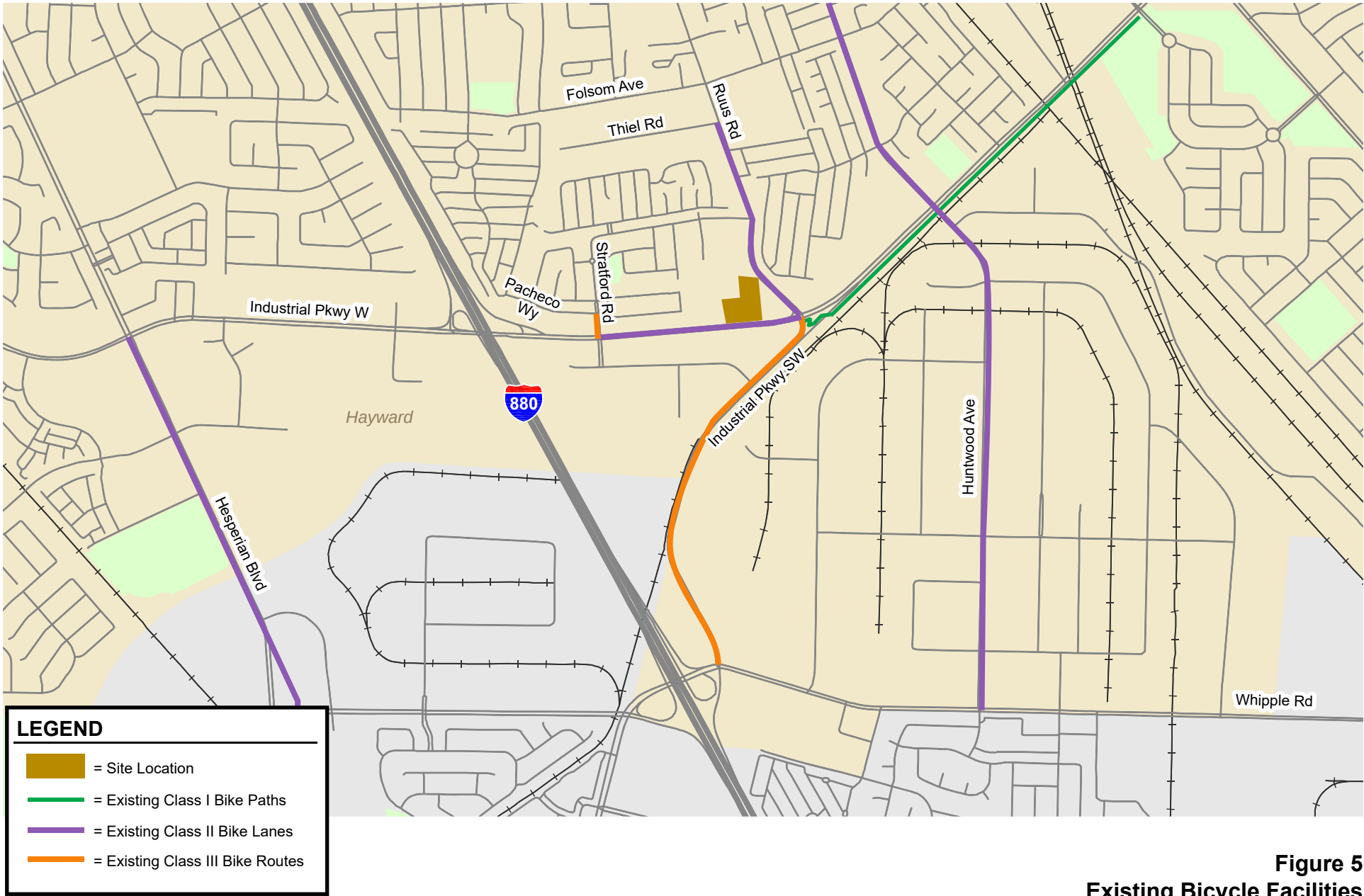


Figure 5
Existing Bicycle Facilities



Figure 6
Existing Transit Services

Existing Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were obtained from previous traffic studies and observations (see Figure 7).

Existing peak-hour intersection volumes (see Figure 8) were obtained from previous traffic studies and new turning movement counts. The AM and PM peak hour volumes for the Huntwood Avenue/Industrial Parkway intersection were obtained from the 31161 San Antonio Street Industrial traffic study. The other study intersection counts were collected in March 2023, between 7:00 AM and 9:00 AM, between 10:00 AM and 2:00 PM, and between 4:00 PM and 6:00 PM.

The intersection turning-movement counts conducted for this analysis are presented in Appendix A. Traffic volumes for all components of traffic are tabulated in Appendix B.

CenterPoint Warehouse

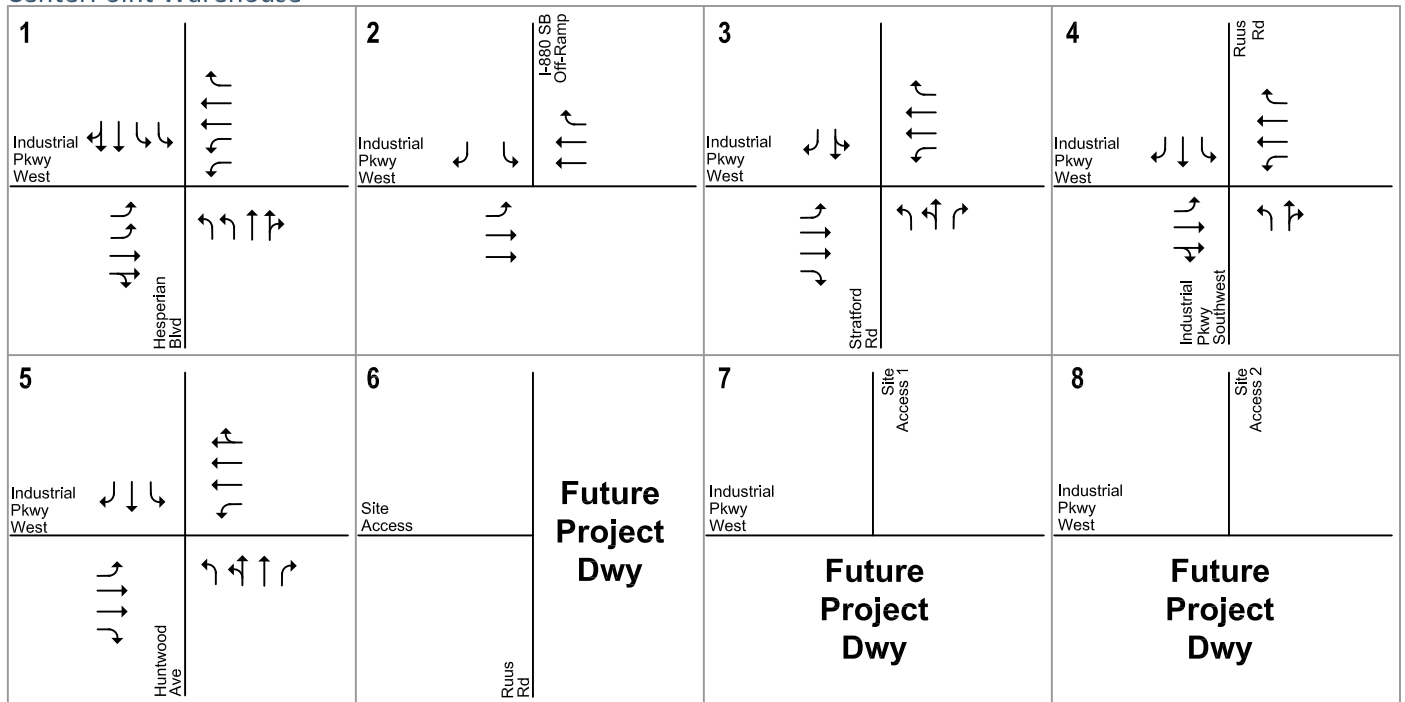
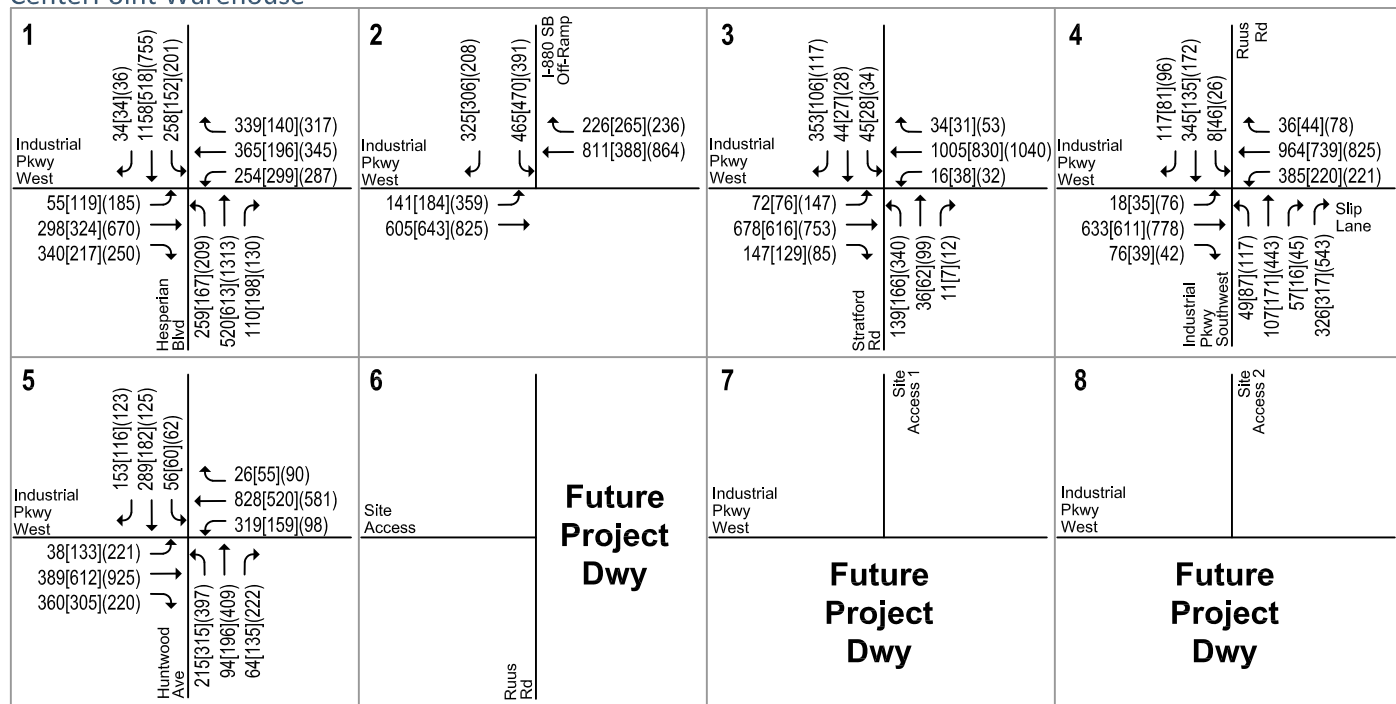


Figure 7
Existing Lane Configurations

CenterPoint Warehouse



LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Traffic Volumes

Figure 8
Existing Traffic Volumes

Existing Intersection Levels of Service

Intersection levels of service were evaluated against the City of Hayward level of service standards. The results of the intersection level of service analysis show that all of the study intersections operate at acceptable level of service during the AM, midday, and PM peak hours (see Table 4).

The intersection levels of service calculation sheets are included in Appendix C.

Table 4
Existing Intersection Levels of Service

#	Intersection	Intersection Control	LOS Standard	Peak Hour	Count Date	Existing Conditions	
						Delay ¹ (sec/veh)	LOS
1	Hesperian Boulevard & Industrial Parkway West	Signal	E	AM	03/07/23	48.2	D
				MD	03/07/23	27.0	C
				PM	03/07/23	45.2	D
2	I-880 Southbound Off-Ramp & Industrial Parkway West	Signal	E	AM	03/07/23	20.0	B
				MD	03/07/23	18.7	B
				PM	03/07/23	28.1	C
3	Stratford Road & Industrial Parkway West	Signal	E	AM	03/07/23	32.2	C
				MD	03/07/23	18.4	B
				PM	03/07/23	36.5	D
4	Ruus Road/Industrial Parkway Southwest & Industrial Parkway West	Signal	E	AM	03/07/23	27.3	C
				MD	03/07/23	15.1	B
				PM	03/07/23	21.3	C
5	Huntwood Avenue & Industrial Parkway West	Signal	E	AM	05/31/22	46.7	D
				MD	03/07/23	31.2	C
				PM	05/31/22	41.4	D
6	Ruus Road & Site Access	One-Way Stop	F	AM	-	-	-
				MD	-	-	-
				PM	-	-	-
7	Site Access 1 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-
				MD	-	-	-
				PM	-	-	-
8	Site Access 2 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-
				MD	-	-	-
				PM	-	-	-
<u>Notes:</u> MD = Mid-Afternoon peak hour ¹ The delay reported for the signalized intersections and all way stop controlled intersections is the average stopped delay for all vehicles entering the intersection and the delay reported for the side street stop controlled intersection is the delay experienced by vehicles on the stop controlled approach. ² Existing conditions are based on turning movement counts collected in May 2022 and March 2023 at study intersections 1 through 5 and do not include counts for the site driveways.							

Existing Field Observations

Field observations were conducted on Tuesday, March 7, 2023 during the AM, midday, and PM peak hours. Below are the observations at each study intersection.

Hesperian Boulevard & Industrial Parkway West

During the AM peak hour, it was observed most of the westbound left traffic were able to cross the intersection in one cycle. However, occasionally, about 5 vehicles per cycle at the end of the queue cannot be served by the first signal cycle and to cross the intersection for the westbound left traffic.

I-880 Southbound Off-Ramp & Industrial Parkway West

During the AM peak hour, it was observed that most of the southbound left traffic were able to cross the intersection in one cycle. However, it was observed sometimes, about 5 vehicles required more than 1 cycle to cross intersection for the southbound left traffic.

During the midday peak hour, no operational issues were observed.

During the PM peak hour, it was observed that the eastbound left turn traffic occasionally extends out of the turn pocket and 2-4 vehicles at the back of the queue required more than one cycle to make the left turn.

Stratford Avenue & Industrial Parkway West

During the AM, midday, and PM peak hour, no operational issues were observed.

Ruus Road & Industrial Parkway West

During the AM peak hour, it was observed that more than 5 vehicles required more than 1 cycle to cross the intersection for the southbound left/thru traffic. Prior to given green time, southbound traffic is queued towards Ruus Lane.

During the midday and PM peak hours, no operational issues were observed.

Huntwood Avenue & Industrial Parkway West

During the AM peak hour, it was observed that sometimes, southbound traffic required more than one cycle to clear the intersection.

During the midday peak hour, no operational issues were observed.

During the PM peak hour, it was observed that sometimes, northbound vehicle queues at the downstream Huntwood Avenue and Olympic Avenue intersection would back up into the Industrial Parkway West intersection, and cause 2-3 northbound vehicles to require more than one cycle to clear the intersection.

3. Existing Plus Project Conditions

This chapter describes existing plus project traffic conditions with the addition of the traffic that would be generated by the proposed project. Existing plus project traffic conditions could potentially occur if the project were to be occupied prior to the other approved projects in the area.

Roadway Network under Existing Plus Project Conditions

The roadway network under existing plus project conditions would be the same as the existing roadway network because the project would not alter the existing intersection lane configurations.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed project site was estimated for the AM, midday, and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Proposed Trip Generation

Vehicle trips generated by the proposed project were estimated using the trips rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition* (2021). for "General Office" (Land Use 710) and "High-Cube Fulfillment Center Warehouse (Sort)" (Land Use 155). Currently, the future tenant and use for the warehouse is not known. Therefore, the ITE rate that would generate the highest AM and PM peak hour project trips, High-Cube Fulfillment Center Warehouse (Sort) (Land Use 155), was used for the industrial component of the project. General Office Building (Land Use 710) trip rate was used to generate the trips for the office component of the project. For the midday peak hour trip generation, ITE Land Use 155 does not provide any data. However, Hexagon collected daily driveway counts for a similar facility in Milpitas in November 2020 (see Table 5). The derived percentage of daily trips that occurred during the midday peak hour was used to estimate the midday trips for the project. The counts show that the midday peak hour traffic is approximately 11% of the daily traffic with in and out splits of 42% and 58%, respectively.

Table 5
Midday Peak Hour Warehouse Trip Generation

Site	Daily Trips	Midday Peak Hour			
		In	Out	Total	% of Daily Traffic
Milpitas Amazon Warehouse	2,799	126 42%	174 58%	300	10.7%
<u>Notes:</u> ¹ Counts collected at the Amazon Delivery Station in Milpitas, California on Thursday, November 19, 2020.					

Truck Trips

A truck trip generation was also estimated to determine the number of trucks utilizing the project site. For the purpose of this study, trucks are defined as vehicles categorized as Class 5 (two axle) or above per FHWA. The truck trip generation was based on a percentage of total vehicle trips recommended in the *Fontana Truck Trip Generation Study, August 2003*. The Heavy Warehouse land use in the Fontana study is a comparable land use that generated the largest truck mix. For a conservative analysis, this study referenced the Heavy Warehouse's truck mix for the AM (37%) and PM (36%) peak hour. The daily truck mix and midday truck mix assumed the average of the AM and PM peak hour truck mix (rounded to 37%). The Fontana truck trip percentage rates are higher than truck rates found in the ITE Trip Generation Manual and thus, the truck trip generation rate represents a conservative analysis for truck traffic. The estimated truck trip generation is presented in Table 6 below.

Passenger Car Equivalent (PCE)

Compared to passenger cars, trucks are generally much longer, and require lengthier distance with vehicles ahead of them when travelling. One truck thus take up more roadway capacity than one passenger car. In order to more accurately reflect the effects of trucks on vehicular operations, truck trips are converted to passenger car equivalent (PCE) trips. The passenger-car equivalency (PCE) rates were taken from the *Fontana TIA Guidelines, October 2020*, for large 2-axle, 3-axle, and 4 or more axle trucks. Table 6 shows the PCE rates.

As shown in Table 7, the project is estimated to generate 691 gross daily vehicle-level trips, with 94 gross trips occurring during the AM peak hour, 45 gross trips during the midday peak hour, and 125 gross trips during the PM peak hour. After converting the truck trips to PCE trips, the project is estimated to generate 1,093 gross daily PCE-level trips, with 149 gross trips occurring during the AM peak hour, 69 gross trips during the midday peak hour, and 197 gross trips during PM peak hour. PCE-level trip generation is used in the intersection operations analysis and queuing analysis, while the vehicle-level trip generation is used in the gap analysis at the project driveways.

Table 6
Passenger Vehicle Equivalent Rates

Passenger Car Equivalent (PCE)		
Large 2 Axle	3 Axle	4+ Axle
2	2.5	3
Note: Passenger Car Equivalent (PCE) taken from the <i>Fontana TIA Guidelines, October 2020</i> .		

Existing Trip Credits

Trips generated by the existing uses on the site can be credited against the proposed development. The existing uses are an assortment of manufacturing, distribution, and wholesale buildings. Traffic counts were collected in March 2023 for the AM and PM peak hours and May 2023 for the midday peak hour at the driveways to determine the trips generated by the existing uses.

It is estimated that the existing manufacturing facility generates approximately 351 daily trips with 55 trips during the AM peak hour, 76 trips during the midday peak hour, and 50 trips during the PM peak hours. It was assumed that the existing trips were non-truck trips and therefore, the existing PCE-level trip generation would be the same as the vehicle-level trip generation. In addition, this assumption is a more conservative approach.

Net Project Traffic

After accounting for the trips generated by the existing uses, the proposed development is estimated to generate a net increase of 340 daily vehicle-level trips, with a net increase of 39 trips in the AM peak hour, a net increase of 27 trips in the midday peak hour, and a net increase of 75 trips in the PM peak hour. After converting the truck trips to PCE trips, the proposed development is estimated to generate a net increase of 742 daily PCE-level trips, with a net increase of 94 trips in the AM peak hour, a net increase of 70 trips in the midday peak hour, and a net increase of 147 trips in the PM peak hour.

Table 7
Project Trip Generation Estimates

	Size	Daily		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
		Rate	Trip	Rate	Trip			Rate	Trip			Rate	Trip		
					In	Out	Total		In	Out	Total		In	Out	Total
Proposed Uses															
General Office Building ¹	5,760 s.f.	10.84	62	1.52	8	1	9	1.04	3	3	6	1.44	1	7	8
High-Cube Fulfillment Center Warehouse (Sort) ²	97,646 s.f.	6.44	629	0.87	69	16	85	0.69	28	39	67	1.20	46	71	117
Truck Trip Generation ³		37%	233	37%	26	6	32	37%	10	14	25	36%	17	25	42
Passenger Vehicles		63%	396	63%	43	10	53	63%	18	25	42	64%	29	46	75
Total Project Trips			691		77	17	94		31	42	73		47	78	125
Total Project Trips (PCE) ⁴			1,093		122	27	149		48	66	114		76	121	197
Existing Uses ⁵			(351)		(42)	(13)	(55)		(23)	(23)	(46)		(15)	(35)	(50)
Net Project Trips			340		35	4	39		8	19	27		32	43	75
Net Project Trips (PCE)			742		80	14	94		25	43	68		61	86	147

Notes:

s.f. = square feet

¹ Land Use Code 710: General Office Building (average rates expressed in trips per 1,000 s.f.).² Land Use Code 155: High-Cube Fulfillment Center Warehouse (average rates expressed in trips per 1,000 s.f.). Midday peak hour rates based on counts collected at a similar facility.³ Weighted Average percentage for Truck Trips taken from the *Fontana Truck Trip Generation Study, August 2003*. Daily and midday trip rates are the average of AM and PM peak hour trip rates.⁴ Vehicle Mix taken from the *Fontana Truck Trip Generation Study, August 2003*. Passenger Car Equivalent (PCE) taken from the *Fontana TIA Guidelines, October 2020*.⁵ Existing use trips based on peak-hour driveway counts collected in March 2023 for the AM and PM peak hours and in May 2023 for the midday peak hour. Daily traffic estimated based on AM and PM peak hours.

Trip Distribution and Assignment

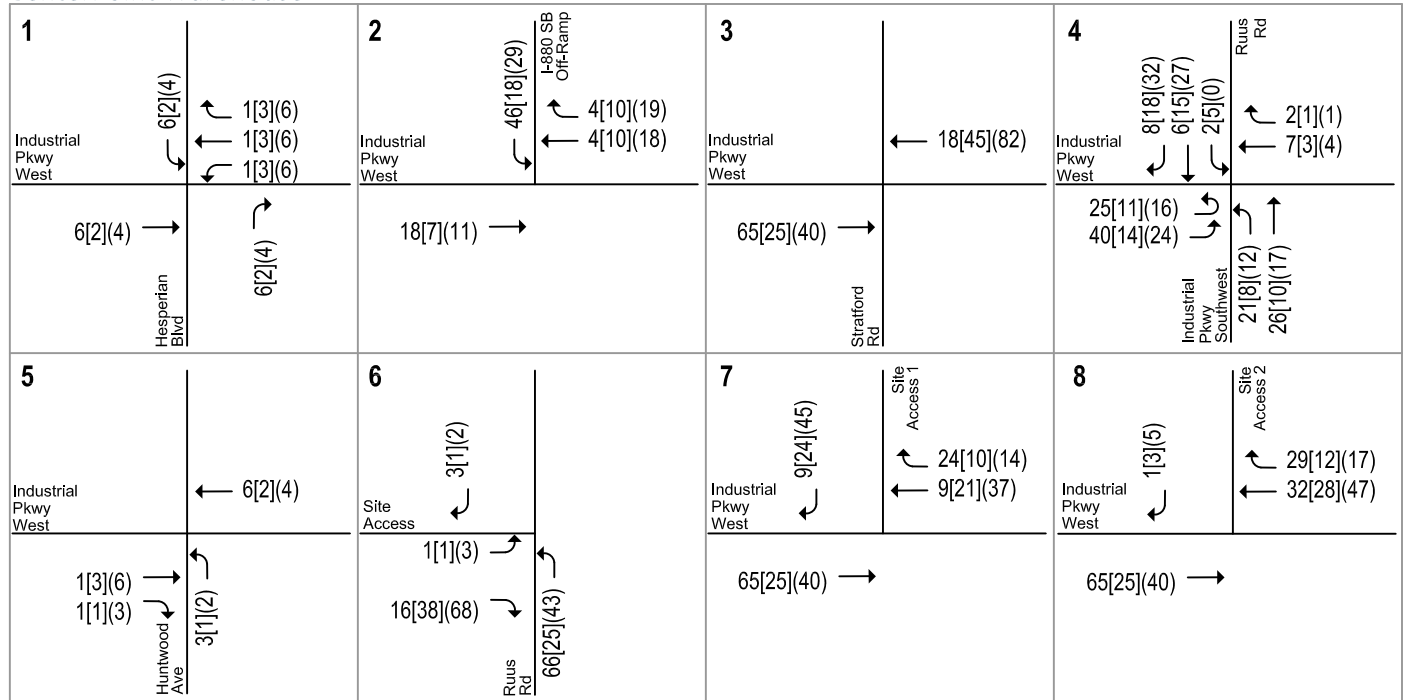
The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway network, the locations of complementary land uses. The trip distribution pattern for the project is shown on Figure 9. The peak-hour trips generated by the project were assigned to the roadway network in accordance with the project trip distribution pattern. The truck routes were based on the Hayward truck routes in the General Plan. The western driveway on Industrial Parkway West would serve only employees accessing the site. The eastern driveway on Industrial Parkway West and the Ruus Road driveway would serve the trucks and employees accessing the site. Figure 10 shows the trip assignment of the gross project trips at each study intersection with the passenger car equivalent factor. Additional trip assignment figures, including the existing site trips and net project trips with and without the passenger car equivalent factor, are provided in Appendix F.

A tabular summary of project traffic at each study intersection is contained in Appendix B.



Figure 9
Project Trip Distribution Pattern

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XX[XX](XX) = AM[Midday](PM) Peak-Hour Trips

Figure 10
Gross Vehicle Trip Assignment (with PCE)

Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes (see Figure 11).

Existing Plus Project Intersection Levels of Service

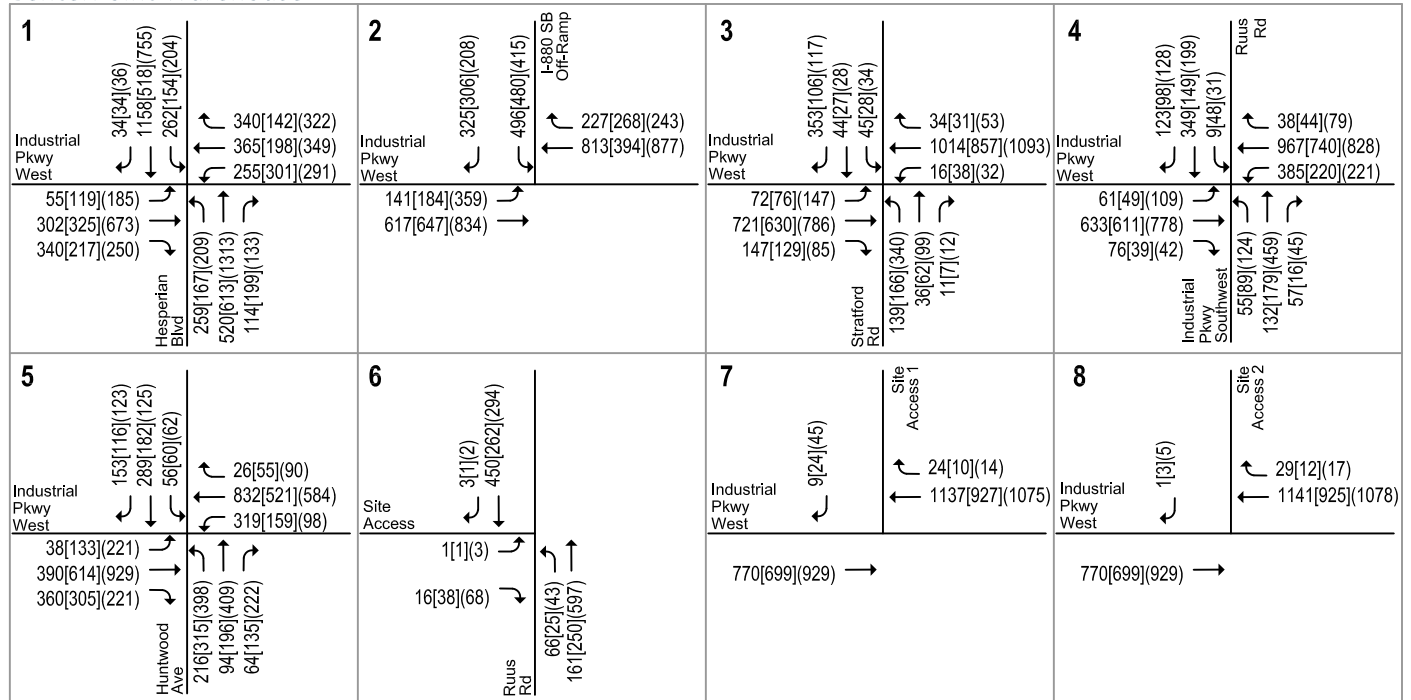
The results of the intersection level of service analysis under existing plus project conditions are summarized in Table 8. The results of the intersection level of service analysis show that all of the study intersections operate at acceptable level of service during the AM, midday, and PM peak hours.

Table 8
Existing Plus Project Intersection Levels of Service

#	Intersection	Intersection Control	LOS Standard	Peak Hour	Count Date	Existing Conditions		Existing plus Project		
						Delay ¹ (sec/veh)	LOS	Delay ¹ (sec/veh)	LOS	Incr. in Delay
1	Hesperian Boulevard & Industrial Parkway West	Signal	E	AM	03/07/23	48.2	D	48.4	D	0.2
				MD	03/07/23	27.0	C	27.1	C	0.1
				PM	03/07/23	45.2	D	45.8	D	0.6
2	I-880 Southbound Off-Ramp & Industrial Parkway West	Signal	E	AM	03/07/23	20.0	B	21.9	C	1.9
				MD	03/07/23	18.7	B	19.4	B	0.7
				PM	03/07/23	28.1	C	30.8	C	2.7
3	Stratford Road & Industrial Parkway West	Signal	E	AM	03/07/23	32.2	C	32.3	C	0.1
				MD	03/07/23	18.4	B	18.6	B	0.2
				PM	03/07/23	36.5	D	38.0	D	1.5
4	Ruus Road/Industrial Parkway Southwest & Industrial Parkway West	Signal	E	AM	03/07/23	27.3	C	29.3	C	2.0
				MD	03/07/23	15.1	B	15.8	B	0.7
				PM	03/07/23	21.3	C	22.8	C	1.5
5	Huntwood Avenue & Industrial Parkway West	Signal	E	AM	05/31/22	46.7	D	46.8	D	0.1
				MD	03/07/23	31.2	C	31.2	C	0.0
				PM	05/31/22	41.4	D	41.5	D	0.1
6	Ruus Road & Site Access	One-Way Stop	F	AM	-	-	-	11.7	B	-
				MD	-	-	-	10.2	B	-
				PM	-	-	-	11.2	B	-
7	Site Access 1 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-	13.7	B	-
				MD	-	-	-	12.5	B	-
				PM	-	-	-	14.0	B	-
8	Site Access 2 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-	13.6	B	-
				MD	-	-	-	12.1	B	-
				PM	-	-	-	13.2	B	-

Notes:
MD = Mid-Afternoon peak hour
¹ The delay reported for the signalized intersections and all way stop controlled intersections is the average stopped delay for all vehicles entering the intersection and the delay reported for the side street stop controlled intersection is the delay experienced by vehicles on the stop controlled approach.
² Existing conditions are based on turning movement counts collected in May 2022 and March 2023 at study intersections 1 through 5 and do not include counts for the site driveways.

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LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Traffic Volumes

Figure 11
Existing Plus Project Traffic Volumes

4. Background Conditions

This chapter presents background traffic conditions, which are defined as conditions just prior to completion of the proposed project. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions.

Roadway Network Under Background Conditions

The roadway network under background conditions would stay the same as existing conditions except at the Huntwood Avenue and Industrial Parkway West intersection. There is a planned improvement at this intersection that would restripe the northbound approach to have 2 left-turn lanes, a thru lane, and a thru/right turn lane configuration. In addition, the phasing for the northbound-southbound traffic would be converted from split phasing to protected phasing.

Background Traffic Volumes

Background traffic volumes for the study intersections (see Figure 12) were estimated by applying a growth factor of 1.5% per year through the year 2028 (five years) to represent background traffic growth in the area. The growth factor was derived from the Hayward General Plan Update travel demand model. The background traffic volumes also include project traffic generated by the 31161 San Antonino Street Industrial project.

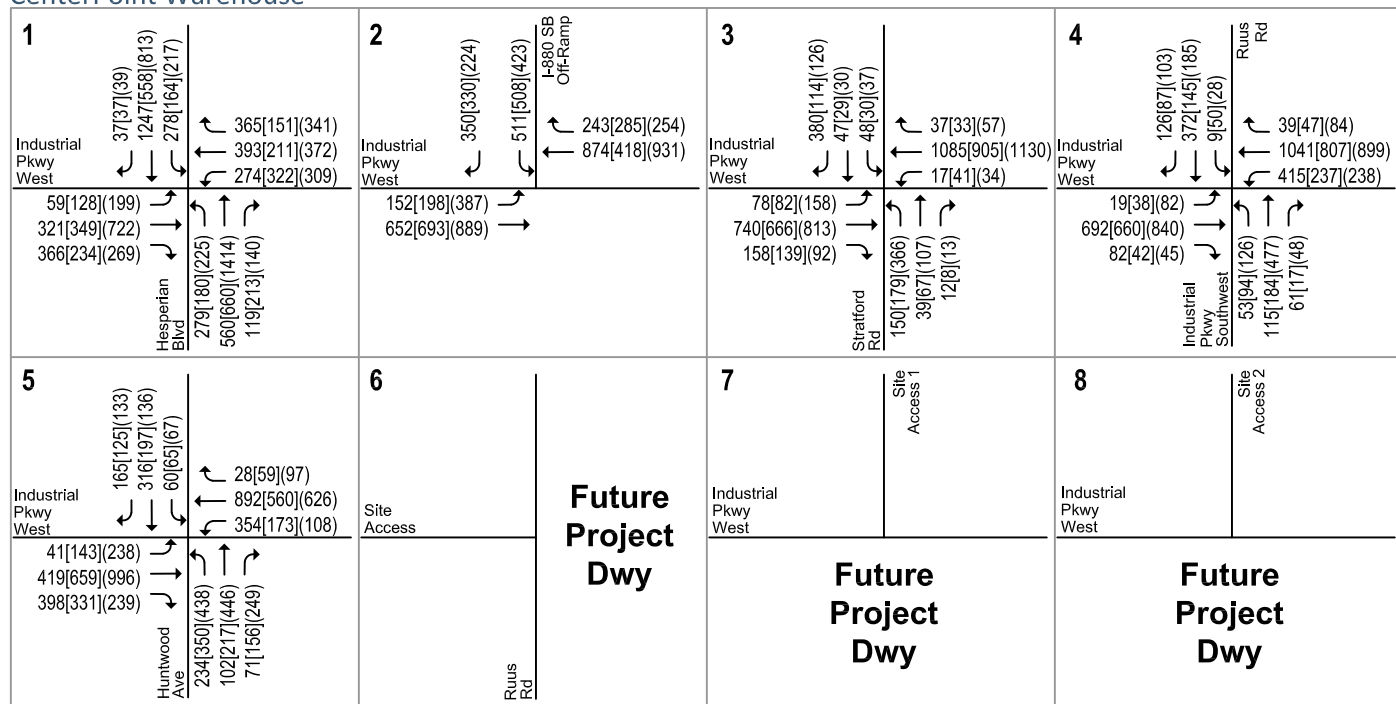
Volumes under background conditions are presented in Appendix B.

Background Intersection Levels of Service

The results of the level of service analysis under background conditions (see Table 9) show that all of the study intersections would continue to operate at an acceptable level of service during the AM, midday, and PM peak hours.

Intersection level of service calculation sheets are included in Appendix C.

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LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Traffic Volumes

Figure 12
Background Traffic Volumes

Table 9
Background Intersection Levels of Service

#	Intersection	Intersection Control	LOS Standard	Peak Hour	Count Date	Existing Conditions		Background Conditions	
						Delay ¹ (sec/veh)	LOS	Delay ¹ (sec/veh)	LOS
1	Hesperian Boulevard & Industrial Parkway West	Signal	E	AM	03/07/23	48.2	D	57.8	E
				MD	03/07/23	27.0	C	29.9	C
				PM	03/07/23	45.2	D	53.8	D
2	I-880 Southbound Off-Ramp & Industrial Parkway West	Signal	E	AM	03/07/23	20.0	B	25.0	C
				MD	03/07/23	18.7	B	22.5	C
				PM	03/07/23	28.1	C	35.7	D
3	Stratford Road & Industrial Parkway West	Signal	E	AM	03/07/23	32.2	C	39.0	D
				MD	03/07/23	18.4	B	20.0	B
				PM	03/07/23	36.5	D	45.4	D
4	Ruus Road/Industrial Parkway Southwest & Industrial Parkway West	Signal	E	AM	03/07/23	27.3	C	35.5	D
				MD	03/07/23	15.1	B	16.5	B
				PM	03/07/23	21.3	C	25.1	C
5	Huntwood Avenue & Industrial Parkway West	Signal	E	AM	05/31/22	46.7	D	54.6	D
				MD	03/07/23	31.2	C	31.8	C
				PM	05/31/22	41.4	D	38.5	D
6	Ruus Road & Site Access	One-Way Stop	F	AM	-	-	-	-	-
				MD	-	-	-	-	-
				PM	-	-	-	-	-
7	Site Access 1 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-	-	-
				MD	-	-	-	-	-
				PM	-	-	-	-	-
8	Site Access 2 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-	-	-
				MD	-	-	-	-	-
				PM	-	-	-	-	-

Notes:
MD = Mid-Afternoon peak hour
¹ The delay reported for the signalized intersections and all way stop controlled intersections is the average stopped delay for all vehicles entering the intersection and the delay reported for the side street stop controlled intersection is the delay experienced by vehicles on the stop controlled approach.
² Existing conditions are based on turning movement counts collected in May 2022 and March 2023 at study intersections 1 through 5 and do not include counts for the site driveways.

5. Background Plus Project Conditions

This chapter describes background plus project traffic conditions. Background plus project conditions were evaluated relative to background conditions in order to determine potential project operational deficiencies.

Roadway Network Under Background Plus Project Conditions

The roadway network under background plus project conditions would be the same as the background roadway network as described in Chapter 4.

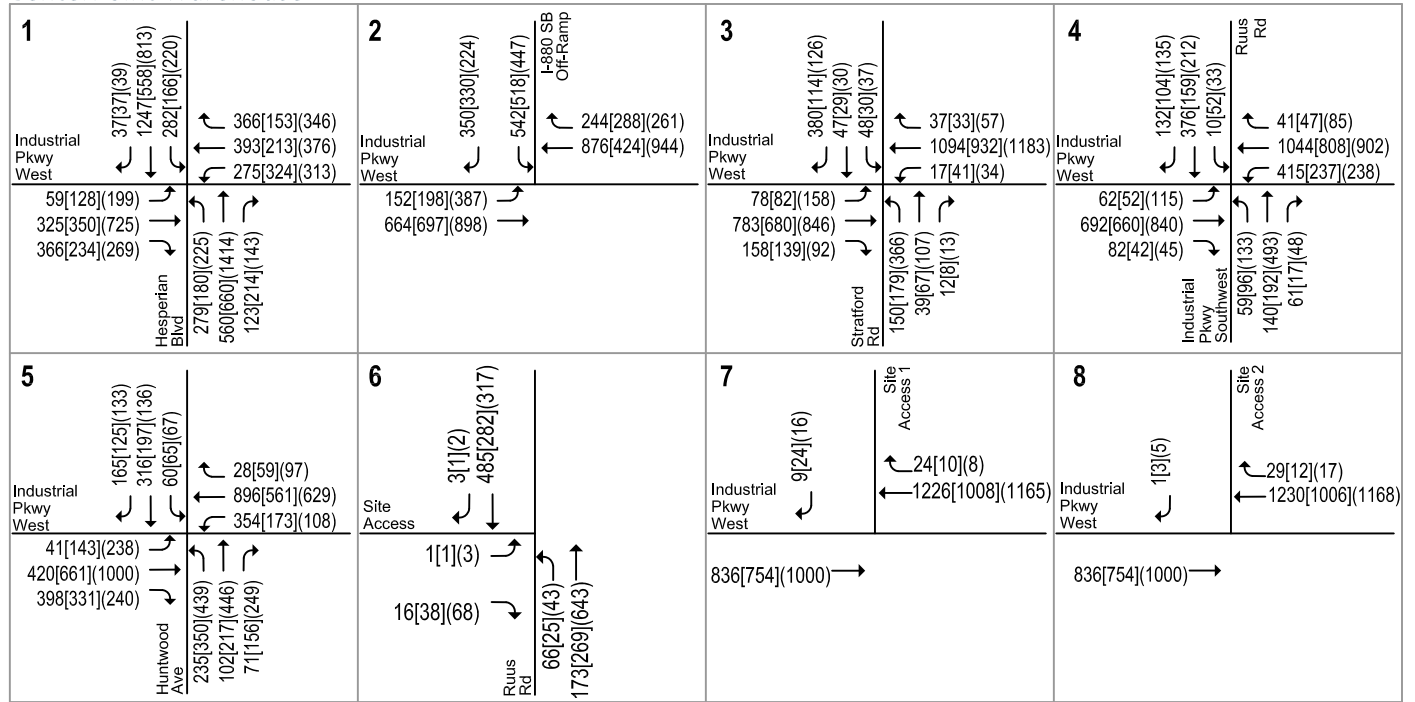
Project Trip Estimates

The estimated project trip generation, distribution and assignment are the same under background plus project conditions as previously described under existing plus project conditions (see Chapter 3).

Background Plus Project Traffic Volumes

Project trips were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 13).

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LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Traffic Volumes

Figure 13
Background Plus Project Traffic Volumes

Background Plus Project Intersection Levels of Service

The results of the level of service analysis under background plus project conditions (see Table 10) show that the results of the intersection level of service analysis show that all of the study intersections operate at acceptable level of service during the AM, midday, and PM peak hours.

Intersection level of service calculation sheets are included in Appendix C.

The results of the peak-hour traffic signal warrant checks indicate that all the unsignalized intersections would not meet the signal warrant under background or background plus project conditions. The peak-hour signal warrant sheets are contained in Appendix D.

Signal Warrant Analysis

The unsignalized study intersections were analyzed for signalization, based on Peak-Hour Volume Signal Warrant, (Warrant #3 – Part B) described in the *California Manual on Uniform Traffic Control Devices* (CA MUTCD), 2014 Edition. This method provides an indication whether peak-hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal. Intersections that meet the peak hour warrant are subject to further analysis before determining that a traffic signal is necessary. Other options such as traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

The following unsignalized intersections were analyzed:

- Ruus Road and Site Access
- Site Access 1 and Industrial Parkway West
- Site Access 2 and Industrial Parkway West

The results of the peak-hour traffic signal warrant checks indicate that all the unsignalized intersections would not meet the signal warrant under project conditions. The peak-hour signal warrant sheets are contained in Appendix D.

Daily Truck Traffic

Average daily traffic (ADT) counts were conducted at two locations: Industrial Parkway West, of Ruus Road, and Industrial Parkway SW, south of Industrial Parkway West. The ADT counts were conducted in March 2023. These counts were conducted to analyze the daily truck traffic at these locations. Table 11 shows that daily truck traffic at the two count locations vary between 4.8% and 13.3% of daily traffic. The project would increase the daily truck traffic at the two count locations by up to 7.04%, however, the project's increase in total daily traffic due to the new truck trips would be less than 1%. As shown in the level of service analysis, the increase in truck traffic is not expected to have an adverse effect on traffic operations for the surrounding roadway network.

Table 10
Background Plus Project Intersection Levels of Service

#	Intersection	Intersection Control	LOS Standard	Peak Hour	Count Date	Background Conditions		Background plus Project		
						Delay ¹ (sec/veh)	LOS	Delay ¹ (sec/veh)	LOS	Incr. in Delay
1	Hesperian Boulevard & Industrial Parkway West	Signal	E	AM	03/07/23	57.8	E	58.0	E	0.2
				MD	03/07/23	29.9	C	30.1	C	0.2
				PM	03/07/23	53.8	D	54.4	D	0.6
2	I-880 Southbound Off-Ramp & Industrial Parkway West	Signal	E	AM	03/07/23	25.0	C	27.7	C	2.7
				MD	03/07/23	22.5	C	23.4	C	0.9
				PM	03/07/23	35.7	D	38.9	D	3.2
3	Stratford Road & Industrial Parkway West	Signal	E	AM	03/07/23	39.0	D	39.1	D	0.1
				MD	03/07/23	20.0	B	20.2	C	0.2
				PM	03/07/23	45.4	D	47.2	D	1.8
4	Ruus Road/Industrial Parkway Southwest & Industrial Parkway West	Signal	E	AM	03/07/23	35.5	D	37.5	D	2.0
				MD	03/07/23	16.5	B	17.3	B	0.8
				PM	03/07/23	25.1	C	27.1	C	2.0
5	Huntwood Avenue & Industrial Parkway West	Signal	E	AM	05/31/22	54.6	D	54.7	D	0.1
				MD	03/07/23	31.8	C	31.8	C	0.0
				PM	05/31/22	38.5	D	38.8	D	0.3
6	Ruus Road & Site Access	One-Way Stop	F	AM	-	-	-	12.1	B	-
				MD	-	-	-	10.3	B	-
				PM	-	-	-	11.5	B	-
7	Site Access 1 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-	14.4	B	-
				MD	-	-	-	13.0	B	-
				PM	-	-	-	14.8	B	-
8	Site Access 2 & Industrial Parkway West	One-Way Stop	F	AM	-	-	-	14.2	B	-
				MD	-	-	-	12.6	B	-
				PM	-	-	-	13.8	B	-
Notes: MD = Mid-Afternoon peak hour ¹ The delay reported for the signalized intersections and all way stop controlled intersections is the average stopped delay for all vehicles entering the intersection and the delay reported for the side street stop controlled intersection is the delay experienced by vehicles on the stop controlled approach.										

Table 11
ADT Counts and Daily Truck Trips

Location	Direction	Existing Conditions			Project Conditions		
		Average Daily Traffic ¹	Daily Truck Traffic ²	Daily Truck %	Daily Project Truck Trips	Increase in Truck Trips	Increase in Daily Trips
Industrial Parkway West,	EB	10,895	1,449	13.3%	102	7.04%	0.94%
West of Ruus Road	WB	14,297	1,601	11.2%	36	2.25%	0.25%
South of Industrial Parkway	NB	12,505	888	7.1%	58	6.53%	0.46%
West	SB	6,861	329	4.8%	15	4.56%	0.22%

Notes:

¹ ADT counts taken in March 2023.

² Percentage of trucks taken from ADT counts in March 2023.

6. Other Transportation Issues

This chapter presents other transportation issues associated with the project, including:

- Intersection vehicle queuing analysis
- Site access and circulation
- Sight Distance
- Emergency and Truck Access
- Parking
- Effects of Transit, Bicycle, and Pedestrian Analysis

Intersection Vehicle Queuing Analysis

A vehicle queuing and storage analysis was conducted for high demand turn movements at the selected study intersections where project traffic would add more than 10 trips per lane. The following intersections would add more than 10 trips:

- I-880 Southbound Off-Ramp and Industrial Parkway West intersection – southbound left turn movement
- Ruus Road/Industrial Parkway Southwest and Industrial Parkway West intersection – eastbound left turn movement
- Ruus Road and Site Access – northbound left turn movement

The intersection queuing analysis was conducted using SYNCHRO traffic analysis software. Along with providing overall control delay and level of service for the intersection, SYNCHRO provides total movement delay and 95th-percentile vehicle queues for each movement. The results of this analysis are summarized below and in Table 12 for the AM, midday, and PM peak hours.

Table 12
Queuing Analysis Summary

Intersection	Movement	Peak Period	Storage Length (ft)	Existing	Existing plus Project		Background	Background plus Project	
				95th Percentile Queue (ft) ³	95th Percentile Queue (ft) ³	Estimated Increase in 95th Percentile Queue (ft)	95th Percentile Queue (ft) ³	95th Percentile Queue (ft) ³	Estimated Increase in 95th Percentile Queue (ft)
I-880 SB Off-Ramp and Industrial Parkway West	SB LT	AM	350	525	575	50	600	650	50
		Mid	350	475	500	25	550	575	25
		PM	350	525	550	25	575	600	25
Ruus Road/Industrial Parkway SW and Industrial Parkway West	EB LT	AM	250	50	100	50	50	100	50
		Mid	250	75	75	0	75	75	0
		PM	250	100	150	50	125	150	25
Ruus Road and Site Access	NB LT	AM	750	-	25	-	-	25	-
		Mid	750	-	25	-	-	25	-
		PM	750	-	25	-	-	25	-

Notes:

BOLD = exceeds storage length

WB = westbound; EB = eastbound; SB = southbound; NB = northbound

RT = right turn movement; LT = left turn movement; TH = through movement

¹ Based on 95th percentile queue reported by Synchro software using the HCM methodology.

² 25 feet per vehicle queued

³ Queue lengths rounded up to nearest 25 feet

I-880 Southbound Off-Ramp and Industrial Parkway West

The project would add 13 vehicle-level trips during the AM peak hour, 0 trips during midday peak hour, and 12 trips during PM peak hour to the southbound left-turn on I-880 Southbound Off-Ramp at the intersection with Industrial Parkway West. The analysis indicates that the 95th percentile vehicle queues are not accommodated by the existing storage space under existing conditions and will continue under background conditions. With the addition of the project traffic, the estimated increase in the 95th percentile queue for the southbound left-turn movement would be 2 vehicles under existing plus project and background plus project conditions during the AM peak hour and 1 vehicle under existing plus project and background plus project conditions during the PM peak hour. There is room in the southbound off-ramp lane on I-880 to lengthen the left turn pocket.

Ruus Road and Project Site Access

While the queuing analysis shows no considerable queuing issue for the northbound left-turn vehicles into the project site, field observations indicated that queues in the southbound direction waiting for the signal at the Industrial Parkway West intersection frequently backs up past the project driveway.

Recommendation

It is recommended that keep clear marking be striped on Ruus Road in front of the project driveway to facilitate project vehicles accessing the site and minimize potential queuing on northbound Ruus Road as a result of project vehicles waiting for the southbound queues to dissipate to turn into the project driveway.

Site Access and Circulation

A review of the project site plan was performed to determine whether adequate site access and circulation would be provided, using commonly accepted transportation planning principles and traffic engineering standards. This review was based on the site plan prepared by HPA Architecture dated March 23, 2023, shown in Figure 2.

Vehicle Site Access

Vehicle access to the project site would be provided via three driveways: two driveways on Industrial Parkway West and one driveway on Ruus Road. As stated in Chapter 3, the western driveway on Industrial Parkway West would serve only employees accessing the site. The eastern driveway on Industrial Parkway West and the Ruus Road driveway would serve the trucks and employees accessing the site. As shown in Table 6, there would be 77 inbound and 17 outbound trips accessing the driveways during the AM peak hour, 33 inbound and 12 outbound trips during the midday peak hour, and 47 inbound and 78 outbound trips during the PM peak hour. The project will include a security gate on the Ruus Road driveway that would be setback 90' from Ruus Road, which would be adequate to allow one inbound truck to queue onsite.

According to the City of Hayward Standard Details, the minimum driveway width is 25 feet and the maximum driveway width is 35 feet. According to the site plan, the western driveway along Industrial Parkway West would be 26 feet, which meets the City Standard. The eastern driveway along Industrial Parkway West and the driveway along Ruus Road would be approximately 40 feet, which exceeds the City Standard driveway width of 35 feet. According to the Hayward Municipal Code, a driveway shall not exceed one-third the width of the project frontage or 35 feet in industrial districts, unless otherwise approved by the Planning Director.

Recommendation: Applicant should coordinate with City staff to seek approval of the 40-foot driveways at Ruus Road and Industrial Parkway West.

Sight Distance Analysis

Sight distance was evaluated to determine if a driver would have adequate visibility to enter Industrial Parkway West and Ruus Road from the driveways. The project access points should be free and clear of any obstructions that would materially and adversely affect sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on adjacent roadways. Landscaping and parking should not conflict with a driver's ability to locate a gap in traffic and see oncoming pedestrians and bicyclists. Adequate corner sight distance (sight distance triangles) should be provided at all site access points in accordance with the City's standards. Sight distance requirements vary depending on the roadway speeds.

The speed limit on Industrial Parkway West is 45 mph. According to the Highway Design Manual (HDM), Chapter 200, 2018, the required minimum stopping sight distance for design speed of 45 mph is 360 feet. The line of sight for vehicles exiting the driveways and vehicles travelling westbound on Industrial Parkway West are clear and visible for approximately 550 feet. There are no obstructions on the site plan that would impede vision for vehicles exiting the site. Parking is prohibited along Industrial Parkway West. Vehicles exiting both driveways will be visible to the vehicles travelling westbound on Industrial Parkway West. Therefore, the driveways on Industrial Parkway West provide sufficient sight distance.

The speed limit on Ruus Road is 25 mph. According to the Highway Design Manual (HDM), Chapter 200, 2018, the required minimum stopping sight distance for design speed of 25 mph is 150 feet. The line of sight for vehicles exiting the driveways and vehicles travelling northbound and southbound on Ruus Road are clear and visible for at least 350 feet in each direction. There are no obstructions on the site plan that would impede vision for vehicles exiting the site. However, parking is permitted along Ruus Road. It is recommended to install 15 feet of red curbs on both sides of the driveway to provide clear sight distance for vehicles exiting the driveway.

Recommendation: The project should install 15 feet of red curbs on both sides of the Ruus Road driveway to provide clear sight distance for vehicles exiting the driveway.

On-Site Circulation

On-site circulation was reviewed in accordance with generally accepted traffic engineering standards. In the parking lot, there would be two-way drive aisles with 90-degree perpendicular parking spaces. Employee parking would be located around the warehouse building at the south, west, and northwest end of the project site, and truck parking would be located at the northeast end of the project site. According to the City of Hayward Municipal Code, the drive aisles shall be at least 12 feet for 1-way traffic flow and 20 feet wide for 2-way traffic flow. The drive aisles that lead to the employee parking spaces would be 26 feet for 2-way traffic flow and would provide sufficient space for vehicles to back out of the parking stalls. The drive aisles that lead to the truck loading and parking range between 40 and 87 feet wide. This would provide sufficient space for trucks to enter and exit the distribution facility. Generally, the proposed plan would provide sufficient space for vehicle traffic with adequate connectivity through the parking areas. It is expected that operations would not create spillback onto Industrial Parkway West and Ruus Road given the adequate space provided within the project site.

According to the Hayward Municipal Code, the parking dimensions for a compact parking space are 8 feet wide by 15 feet long. The parking dimensions for a standard parking space are 9 feet wide by 19 feet long. The site plan shows that the compact parking space is 8 feet wide by 15 feet long, which meets the City standard. The site plan shows that the standard parking space is 9 feet wide by 18 feet 6 inches long.

The site plan also shows that the parking space dimensions for trailer parking are 10 feet wide by 55 feet long. The City of Hayward does not have a standard size dimension for trailer parking.

Recommendation: The site plan should be revised to meet the City standards for a standard parking space size of 9 feet wide by 19 feet long.

Emergency Vehicle Access

According to the site plan, the drive aisles throughout the site would provide adequate emergency vehicle access. The California Fire Code, emergency vehicle access roads shall have a minimum width of 20 feet. The drive aisles throughout the site provides at least 26 feet, which exceeds the requirement.

Truck Access

Truck access at the project driveways on Ruus Road and Industrial Parkway West was conducted to determine whether additional traffic control is needed to allow trucks to enter and exit the site without disrupting other traffic on the roadways. Thus, a queuing analysis was conducted. The results of the queuing analysis (see Table 13) for the project driveways show that the 95th percentile vehicle queues can be accommodated by the proposed storage space during peak periods for all project scenarios.

It is recommended that a right-turn only sign be placed at the Ruus Road project driveway facing outbound driveway traffic (i.e., eastbound traffic) as Ruus Road north of Ruus Lane is not a City designated truck route and truck traffic is prohibited on this section of Ruus Road.

Table 13
Driveway Queuing Analysis Summary

Intersection	Movement	Peak Period	Storage Length (ft)	Existing	Existing plus Project		Background	Background plus Project	
				95th Percentile Queue (ft) ³	95th Percentile Queue (ft) ³	Estimated Increase in 95th Percentile Queue (ft)	95th Percentile Queue (ft) ³	95th Percentile Queue (ft) ³	Estimated Increase in 95th Percentile Queue (ft)
Ruus Road and Site Access	EB LT/RT	AM	75	-	25	-	-	25	-
		Mid	75	-	25	-	-	25	-
		PM	75	-	25	-	-	25	-
Site Access 1 and Industrial Parkway West	SB RT	AM	375	-	25	-	-	25	-
		Mid	375	-	25	-	-	25	-
		PM	375	-	25	-	-	25	-
Site Access 2 and Industrial Parkway West	SB RT	AM	300	-	25	-	-	25	-
		Mid	300	-	25	-	-	25	-
		PM	300	-	25	-	-	25	-

Notes:
BOLD = exceeds storage length
 WB = westbound; EB = eastbound; SB = southbound; NB = northbound
 RT = right turn movement; LT = left turn movement; TH = through movement
¹ Based on 95th percentile queue reported by Synchro software using the HCM methodology.
² 25 feet per vehicle queued
³ Queue lengths rounded up to nearest 25 feet

A gap analysis was also conducted at the Ruus Road driveway for vehicles entering the project site from the northbound direction. The AASHTO 2018's *A Policy on Geometric Design of Highways and Streets* (The Green Book) was used to determine if adequate gaps for the project traffic to turn into the project site during the AM, midday, and PM peak hours. The AASHTO time gap for left turns from a major road, the number of gaps provided, and the project trips that would make the left turn are shown in Table 14, respectively. Observations were also conducted to see the number of gaps provided during the peak hours. Based on the observed data and AASHTO Green Book, there are adequate gap times for vehicles to turn left into the project driveway from northbound Ruus Road. As discussed in the queuing analysis above, a "Keep Clear" marking is recommended to be installed on Ruus Road at the project driveway to minimize potential queues as a result of project vehicles waiting for a gap to turn into the project site.

Table 14
AASHTO Gap Times and Gaps on Ruus Road

Design Vehicle	Time Gap at Design Speed of Major Road (sec) ¹	Gaps during the peak hour ²			Project Trips making Left Turn		
		AM	Midday	PM	AM	Midday	PM
Passenger Car	5.5	147	158	176	0	0	0
Single-Unit Truck	6.5	132	149	163	10	4	6
Combination Truck	7.5	116	138	149	14	5	10

Note:
¹ AASHTO: A Policy on Geometric Design of Highways and Streets (2018).
² Gaps based on the AASHTO Gap times for each design vehicle.

Parking

Parking provided on the site was evaluated based on the parking requirements set forth by the City of Hayward. According to the City of Hayward Municipal Code, warehouse uses requires one space for each 2,000 square feet of gross floor area. The parking requirement for the office component of the project is one space for each 250 square feet of gross floor area. Based on the City of Hayward Municipal Code, the project is required to provide 24 parking spaces for the office component and 49 parking spaces for the warehouse component, which totals 73 spaces. The project proposes to provide 115 passenger vehicle parking spaces and 58 trailer parking spaces. The total parking spaces provided is 173 parking spaces, which meets the City requirement.

The project is also required to provide ADA parking spaces on site. According to the Hayward Municipal Code, a development that provides 101 to 150 total parking spaces must provide 5 ADA parking spaces. The project proposes to provide 4 ADA parking spaces and 1 ADA van parking space, which would meet the City standard. The ADA parking spaces would be located in front of the building entrance.

The project is required to provide electric vehicle (EV) parking spaces on-site. The Hayward Municipal Code requires that 20 percent of the required parking spaces be EV parking spaces, which is 23 EV parking spaces. The project proposes to provide 24 EV parking spaces, with 1 ADA EV parking space and 1 ADA EV van parking space. This would meet the City standard.

The project is also required to provide on-site bicycle parking per the City of Hayward Municipal Code. According to the City of Hayward Municipal Code, the minimum number of bicycle parking for office use is the greater of 4 spaces or 20 percent of required off-street automobile parking spaces for short-term parking, and 1 space per 10 automobile spaces, minimum of 2 spaces. Therefore, the project is required to provide 5 short-term bicycle parking spaces (24 automobile spaces for office use x 20% = 5 bicycle spaces) and 2 long-term bicycle parking spaces (24 automobile spaces for office use x 1 bicycle space per 10 automobile spaces). The project proposes to provide 6 short-term bicycle parking spaces and 6 long-term bicycle parking spaces, which meets the City requirement. There is no bicycle parking requirement for warehouse use.

Effects of Transit, Pedestrian and Bicycle Analysis

A significant impact would occur if the proposed project conflicted with applicable or adopted policies, plans or programs related to pedestrian facilities or otherwise decreased the performance or safety of pedestrian facilities.

The project proposes to implement pedestrian facilities within the site. The project would provide a walkway path located along the east end of the project area. The eastern walkway would connect to the

project building, Ruus Road, and Industrial Parkway West. This walkway would shorten the walking distance for pedestrians walking between Industrial Parkway West and Ruus Road. An additional walkway path would be provided that connects to Industrial Parkway West and the project building at the south end of the site. According to the Hayward Municipal code, sidewalks shall be a minimum width of 4 feet. The site plan shows that the proposed walkways would be 5 feet wide, which meets the City Standard. It is expected that the project would generate minimal pedestrian traffic in the project area.

According to the site plan, the project proposes to relocate the two existing driveways on Industrial Parkway West closer to west and east ends of the project site. The project also proposes to widen the existing 32-foot wide Ruus Road driveway to 40 feet. The widening of the driveway would be necessary to allow for the size of the proposed trucks (WB-67) to enter and exit the project site without damaging the sidewalk. It should also be noted the proposed driveway width would require Planning Director approval as it would exceed the maximum driveway width allowed by Code. The project is not expected to generate a significant impact to pedestrian facilities.

Along the project frontage, the Hayward Bicycle and Pedestrian Master Plan proposes to transform Industrial Parkway West, and Ruus Road, to Class IV Separated Bikeways. A Class IV Separated Bikeway is a bikeway for the exclusive use of bicycles and includes a separation between bikeway and through vehicle traffic. It is recommended that the project applicant coordinate with City staff to ensure conditions along the project frontage on Industrial Parkway West and Ruus Road are conducive to the proposed improvements.

Recommendation: The applicant should coordinate with City staff to ensure conditions along the project frontage on Industrial Parkway West and Ruus Road are conducive to the proposed improvements.

The project proposes to install bike racks on the west side of the project in front of the project building entrance and inside the warehouse building. The bike racks located in front of the building entrance is provided for short-term bicycle parking and bike racks located inside the warehouse building on the southern end would be provided for long-term bicycle parking.

An impact to bicyclists would occur if the proposed project disrupted existing bicycle facilities; or conflicted with or created inconsistencies with adopted bicycle system plans, guidelines, and policies. The proposed project would not conflict with existing and planned bicycle facilities; therefore, the impact to bicycle facilities is less-than-significant.

The proposed project is expected to generate very few trips via transit services, which can be accommodated by the existing transit capacity, and, hence, the project is anticipated to have a less-than-significant impact on transit facilities or services.

7. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Hayward. The study analyzes the traffic impacts of the proposed development on the key intersections during the weekday AM and PM peak hours of traffic. In addition, the study includes a vehicle queuing analysis at selected intersections, a review of site access and circulation, and an evaluation of parking.

Project Trip Estimates

After accounting for the trips generated by the existing uses, the proposed development is estimated to generate a net increase of 340 daily vehicle-level trips, with a net increase of 39 trips in the AM peak hour, a net decrease of 31 trips in the midday peak hour, and a net increase of 75 trips in the PM peak hour. After converting the truck trips to PCE trips, the proposed development is estimated to generate a net increase of 742 daily PCE-level trips, with a net increase of 94 trips in the AM peak hour, a net decrease of 7 trips in the midday peak hour, and a net increase of 147 trips in the PM peak hour.

Local Transportation Assessment (LTA)

The results of the Local Transportation Analysis (LTA) show that all the study intersections would operate at acceptable conditions during the AM, midday, and PM peak hours under all scenarios.

The results of the peak-hour traffic signal warrant checks indicate that all the unsignalized intersections would not meet the signal warrant under all scenarios.

Other Transportation Issues

Hexagon conducted a queuing analysis, truck analysis, driveway gap analysis, site plan review, parking analysis, and pedestrian/bike/transit facility review for the proposed project. Our recommendations are listed below.

Recommendations

- It is recommended that keep clear marking be striped on Ruus Road in front of the project driveway to facilitate project vehicles accessing the site and minimize potential queuing on northbound Ruus Road as a result of project vehicles waiting for the southbound queues to dissipate to turn into the project driveway.
- It is recommended that a right-turn only sign be placed at the Ruus Road project driveway facing outbound driveway traffic (i.e., eastbound traffic) as Ruus Road north of Ruus Lane does not allow truck traffic.
- Applicant should coordinate with City staff to seek approval of the proposed 40-foot driveways at Ruus Road and Industrial Parkway West.
- There are no obstructions at the proposed driveways that would impede vision for vehicles exiting the site. However, parking is permitted along Ruus Road. It is recommended to install 15 feet of red curbs on both sides of the driveway to provide clear sight distance for vehicles exiting the driveway.

- The site plan should be revised to meet the City standards for a standard parking space size of 9 feet wide by 19 feet long.
- The applicant should coordinate with City staff to ensure conditions along the project frontage on Industrial Parkway West and Ruus Road are conducive to the proposed improvements.

CenterPoint Warehouse Development

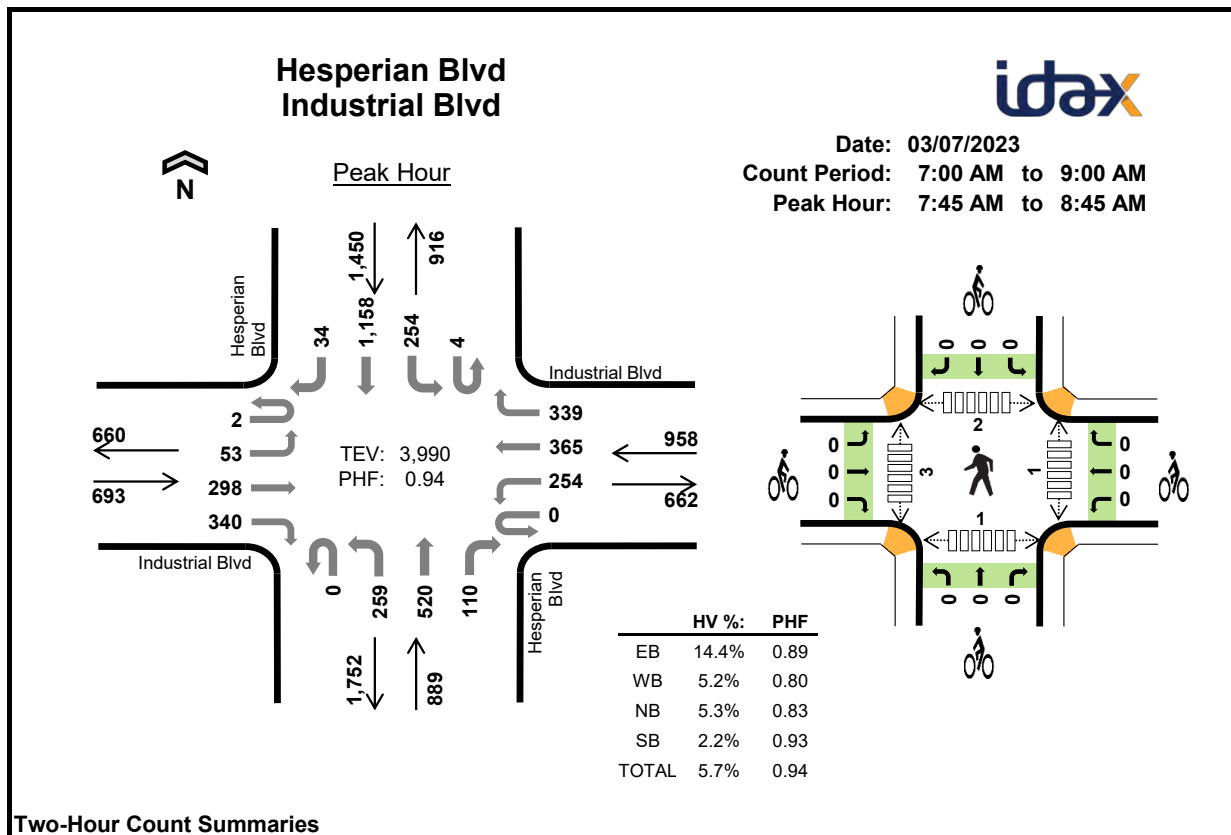
Technical Appendices

Appendix A

Traffic Counts

Appendix A

Traffic Counts

**Two-Hour Count Summaries**

Interval Start		Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	4	58	68	0	29	45	26	0	30	49	16	0	49	291	2	668	0
7:15 AM		0	9	51	76	0	52	64	26	0	40	80	21	1	57	306	3	786	0
7:30 AM		0	10	63	103	0	50	61	38	0	47	108	26	0	65	298	4	873	0
7:45 AM		0	7	83	83	0	40	90	79	0	64	101	27	0	76	282	4	936	3,263
8:00 AM		1	13	75	72	0	60	95	89	0	79	152	36	1	64	313	10	1,060	3,655
8:15 AM		0	20	54	91	0	85	91	123	0	64	146	27	2	56	283	9	1,051	3,920
8:30 AM		1	13	86	94	0	69	89	48	0	52	121	20	1	58	280	11	943	3,990
8:45 AM		0	9	63	72	1	71	58	29	0	57	108	38	0	45	273	4	828	3,882
Count Total		3	85	533	659	1	456	593	458	0	433	865	211	5	470	2,326	47	7,145	0
Peak Hour	All	2	53	298	340	0	254	365	339	0	259	520	110	4	254	1,158	34	3,990	0
	HV	1	1	55	43	0	11	33	6	0	21	17	9	0	5	27	0	229	0
	HV%	50%	2%	18%	13%	-	4%	9%	2%	-	8%	3%	8%	0%	2%	2%	0%	6%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	16	7	10	5	38	0	1	0	1	2	1	2	1	0	4
7:15 AM	24	10	12	6	52	0	0	0	1	1	1	1	1	0	3
7:30 AM	33	8	10	9	60	0	0	0	0	0	0	1	0	0	1
7:45 AM	22	10	12	14	58	0	0	0	0	0	0	0	0	0	0
8:00 AM	21	14	9	7	51	0	0	0	0	0	0	0	0	1	1
8:15 AM	27	11	12	7	57	0	0	0	0	0	1	1	1	0	3
8:30 AM	30	15	14	4	63	0	0	0	0	0	0	2	1	0	3
8:45 AM	28	3	6	10	47	0	0	0	0	0	1	2	0	1	4
Count Total	201	78	85	62	426	0	1	0	2	3	4	9	4	2	19
Peak Hour	100	50	47	32	229	0	0	0	0	0	1	3	2	1	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	12	3	0	4	2	1	0	3	7	0	0	0	5	0	38	0
7:15 AM	0	2	13	9	0	2	6	2	0	5	6	1	0	1	5	0	52	0
7:30 AM	0	0	10	23	0	2	4	2	0	8	2	0	0	6	3	0	60	0
7:45 AM	0	0	9	13	0	4	5	1	0	5	4	3	0	2	12	0	58	208
8:00 AM	0	0	12	9	0	0	11	3	0	3	4	2	0	0	7	0	51	221
8:15 AM	0	0	18	9	0	1	9	1	0	8	4	0	0	2	5	0	57	226
8:30 AM	1	1	16	12	0	6	8	1	0	5	5	4	0	1	3	0	63	229
8:45 AM	0	0	16	12	0	0	3	0	0	2	3	1	0	2	8	0	47	218
Count Total	1	4	106	90	0	19	48	11	0	39	35	11	0	14	48	0	426	0
Peak Hour	1	1	55	43	0	11	33	6	0	21	17	9	0	5	27	0	229	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Industrial Blvd			Industrial Blvd			Hesperian Blvd			Hesperian Blvd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	1	0	0	0	0	0	1	0	2	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	1	0	0	0	0	0	2	0	3	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

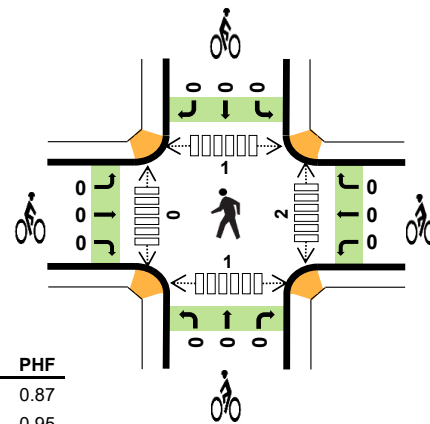
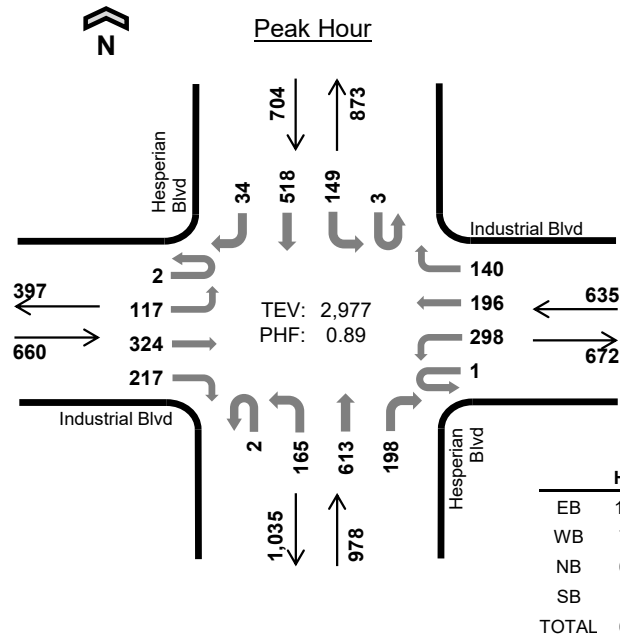
Hesperian Blvd Industrial Blvd



Date: 03/07/2023

Count Period: 10:00 AM to 2:00 PM

Peak Hour: 1:00 PM to 2:00 PM



Four-Hour Count Summaries

Interval Start		Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		0	27	84	41	0	69	54	33	0	32	128	48	1	26	135	8	686	0
1:15 PM		1	28	74	39	1	87	42	34	2	49	163	35	1	33	122	6	717	0
1:30 PM		1	27	97	51	0	66	48	34	0	41	139	47	1	48	130	12	742	0
1:45 PM		0	35	69	86	0	76	52	39	0	43	183	68	0	42	131	8	832	2,977
Peak Hour	All	2	117	324	217	1	298	196	140	2	165	613	198	3	149	518	34	2,977	0
	HV	0	1	51	31	0	9	35	3	0	30	19	11	0	6	4	3	203	0
	HV%	0%	1%	16%	14%	0%	3%	18%	2%	0%	18%	3%	6%	0%	4%	1%	9%	7%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	21	13	11	5	50	0	0	0	0	0	2	0	0	1	3
1:15 PM	23	16	15	1	55	0	0	0	0	0	0	0	0	0	0
1:30 PM	16	8	12	4	40	0	0	0	0	0	0	0	0	0	0
1:45 PM	23	10	22	3	58	0	0	0	0	0	0	0	1	0	1
Peak Hour	83	47	60	13	203	0	0	0	0	0	2	0	1	1	4

Four-Hour Count Summaries																			
Interval Start		Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM		1	16	51	32	0	61	37	23	1	40	109	39	0	28	153	10	601	
10:15 AM		0	20	59	56	0	54	47	26	0	37	108	39	0	29	133	6	614	
10:30 AM		0	23	61	32	0	59	54	35	0	40	136	39	0	30	110	8	627	
10:45 AM		0	26	52	33	0	74	58	28	0	39	162	51	0	26	122	10	681	
11:00 AM		0	21	62	37	0	71	74	26	0	63	166	32	0	41	132	12	737	
11:15 AM		0	27	65	43	0	71	47	25	1	56	153	51	0	33	110	7	689	
11:30 AM		0	29	58	35	0	75	46	25	0	33	137	39	0	40	135	10	662	
11:45 AM		1	31	75	38	0	79	44	38	0	26	160	52	0	37	131	9	721	
12:00 PM		0	22	52	40	0	55	38	32	0	36	147	45	0	37	141	8	653	
12:15 PM		1	40	69	34	1	89	50	33	0	34	169	57	0	24	133	11	745	
12:30 PM		0	25	91	50	0	76	41	35	0	18	167	47	0	30	147	10	737	
12:45 PM		0	47	60	44	1	90	52	32	0	41	131	40	0	31	112	9	690	
1:00 PM		0	27	84	41	0	69	54	33	0	32	128	48	1	26	135	8	686	
1:15 PM		1	28	74	39	1	87	42	34	2	49	163	35	1	33	122	6	717	
1:30 PM		1	27	97	51	0	66	48	34	0	41	139	47	1	48	130	12	742	
1:45 PM		0	35	69	86	0	76	52	39	0	43	183	68	0	42	131	8	832	
Count Total		5	444	1,079	691	3	1,152	784	498	4	628	2,358	729	3	535	2,077	144	11,134	
Peak Hour	All	2	117	324	217	1	298	196	140	2	165	613	198	3	149	518	34	2,977	
	HV	0	1	51	31	0	9	35	3	0	30	19	11	0	6	4	3	203	
	HV%	0%	1%	16%	14%	0%	3%	18%	2%	0%	18%	3%	6%	0%	4%	1%	9%	7%	
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)								
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total				
10:00 AM		12	12	5	4	33	0	0	0	0	0	2	1	1	0	4			
10:15 AM		18	12	5	6	41	0	0	0	0	0	0	5	4	0	9			
10:30 AM		17	14	12	5	48	0	0	0	0	0	0	2	3	0	5			
10:45 AM		21	13	14	5	53	0	0	0	0	0	0	0	0	0	0			
11:00 AM		17	19	16	6	58	1	0	0	0	1	0	0	0	1	1			
11:15 AM		19	17	13	4	53	0	0	0	0	0	0	0	0	0	0			
11:30 AM		14	10	16	5	45	0	0	1	0	1	3	0	0	2	5			
11:45 AM		19	12	12	3	46	1	0	0	0	1	0	0	1	1	2			
12:00 PM		14	5	8	4	31	0	0	0	0	0	0	3	3	0	6			
12:15 PM		18	12	9	2	41	0	1	0	0	1	1	0	0	1	2			
12:30 PM		19	9	12	4	44	1	0	0	0	1	1	1	0	2	4			
12:45 PM		10	11	15	4	40	0	0	0	0	0	1	1	1	0	3			
1:00 PM		21	13	11	5	50	0	0	0	0	0	2	0	0	1	3			
1:15 PM		23	16	15	1	55	0	0	0	0	0	0	0	0	0	0			
1:30 PM		16	8	12	4	40	0	0	0	0	0	0	0	0	0	0			
1:45 PM		23	10	22	3	58	0	0	0	0	0	0	0	1	0	1			
Count Total		281	193	197	65	736	3	1	1	0	5	10	13	14	8	45			
Peak Hour		83	47	60	13	203	0	0	0	0	0	2	0	1	1	4			

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM	0	1	5	6	0	0	12	0	0	2	2	1	0	1	2	1	33	0
10:15 AM	0	0	10	8	0	3	8	1	0	3	1	1	0	3	3	0	41	0
10:30 AM	0	1	11	5	0	2	10	2	0	6	2	4	0	2	3	0	48	0
10:45 AM	0	1	13	7	0	3	9	1	0	5	7	2	0	2	3	0	53	175
11:00 AM	0	0	11	6	0	1	14	4	0	7	6	3	0	2	3	1	58	200
11:15 AM	0	0	14	5	0	0	15	2	0	7	4	2	0	3	1	0	53	212
11:30 AM	0	0	9	5	0	2	7	1	0	7	7	2	0	2	3	0	45	209
11:45 AM	0	0	15	4	0	4	6	2	0	5	5	2	0	1	2	0	46	202
12:00 PM	0	0	11	3	0	0	5	0	0	5	3	0	0	0	4	0	31	175
12:15 PM	1	1	11	5	0	3	7	2	0	4	4	1	0	0	1	1	41	163
12:30 PM	0	0	13	6	0	1	6	2	0	1	5	6	0	1	3	0	44	162
12:45 PM	0	0	6	4	0	7	4	0	0	8	5	2	0	3	1	0	40	156
1:00 PM	0	1	10	10	0	4	8	1	0	7	3	1	0	3	2	0	50	175
1:15 PM	0	0	15	8	0	1	14	1	0	6	6	3	0	1	0	0	55	189
1:30 PM	0	0	14	2	0	3	5	0	0	7	3	2	0	1	1	2	40	185
1:45 PM	0	0	12	11	0	1	8	1	0	10	7	5	0	1	1	1	58	203
Count Total	1	5	180	95	0	35	138	20	0	90	70	37	0	26	33	6	736	0
Peak Hour	0	1	51	31	0	9	35	3	0	30	19	11	0	6	4	3	203	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Industrial Blvd			Industrial Blvd			Hesperian Blvd			Hesperian Blvd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1				
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	2				
11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	3				
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
12:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	3				
12:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	3				
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	3	0	0	0	1	0	1	0	0	0	0	5	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

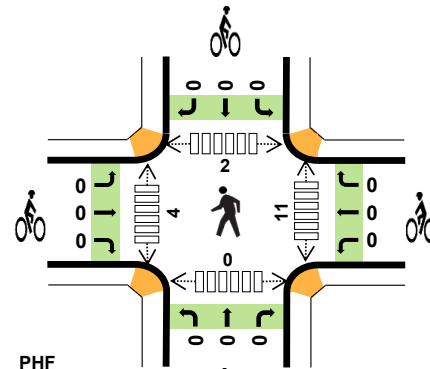
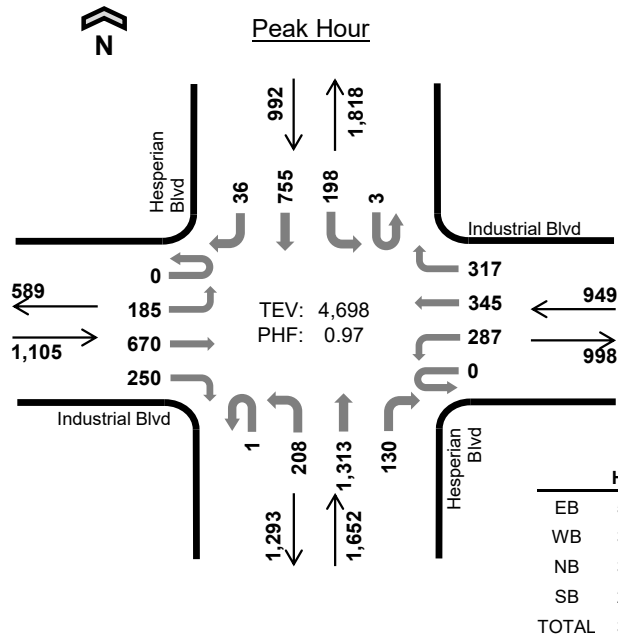
Hesperian Blvd Industrial Blvd



Date: 03/07/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	5.4%	0.95
WB	3.9%	0.87
NB	3.9%	0.90
SB	2.1%	0.88
TOTAL	3.9%	0.97

Two-Hour Count Summaries

Interval Start		Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	42	157	49	0	71	85	86	0	54	312	47	1	64	151	7	1,126	0
4:15 PM		0	55	174	54	0	66	76	68	0	51	331	32	0	51	220	11	1,189	0
4:30 PM		0	42	179	69	0	59	84	84	0	47	301	34	2	44	170	8	1,123	0
4:45 PM		0	47	137	56	0	79	88	72	1	61	364	33	1	49	183	10	1,181	4,619
5:00 PM		0	41	180	71	0	83	97	93	0	49	317	31	0	54	182	7	1,205	4,698
5:15 PM		0	50	167	66	0	84	117	76	0	54	290	46	0	57	149	5	1,161	4,670
5:30 PM		0	54	171	61	0	61	87	92	2	47	310	36	0	42	159	4	1,126	4,673
5:45 PM		0	48	175	72	0	59	107	101	1	45	283	31	3	40	151	5	1,121	4,613
Count Total		0	379	1,340	498	0	562	741	672	4	408	2,508	290	7	401	1,365	57	9,232	0
Peak Hour	All	0	185	670	250	0	287	345	317	1	208	1,313	130	3	198	755	36	4,698	0
	HV	0	2	40	18	0	4	32	1	0	27	33	4	0	3	17	1	182	0
	HV%	-	1%	6%	7%	-	1%	9%	0%	0%	13%	3%	3%	0%	2%	2%	3%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

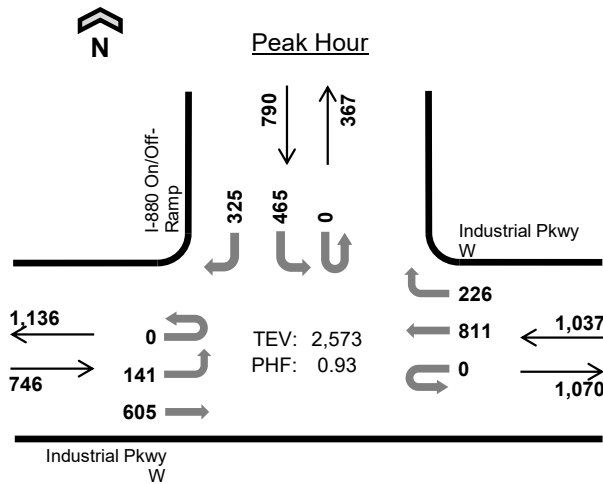
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	23	12	17	5	57	0	0	0	0	0	3	6	9	0	18
4:15 PM	17	9	17	7	50	0	0	0	0	0	2	4	2	0	8
4:30 PM	19	9	14	3	45	0	0	0	0	0	5	0	0	0	5
4:45 PM	9	10	14	5	38	0	0	0	0	0	3	0	0	0	3
5:00 PM	15	9	19	6	49	0	0	0	0	0	1	0	0	0	1
5:15 PM	13	6	15	4	38	0	0	0	0	0	0	0	1	0	1
5:30 PM	14	9	11	2	36	0	0	0	0	0	0	1	1	0	2
5:45 PM	26	10	5	4	45	0	0	0	0	0	0	1	2	0	3
Count Total	136	74	112	36	358	0	0	0	0	0	14	12	15	0	41
Peak Hour	60	37	64	21	182	0	0	0	0	0	11	4	2	0	17

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Blvd				Industrial Blvd				Hesperian Blvd				Hesperian Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	19	4	0	0	11	1	0	13	2	2	0	2	3	0	57	0
4:15 PM	0	1	12	4	0	2	7	0	0	8	7	2	0	0	6	1	50	0
4:30 PM	0	0	11	8	0	0	8	1	0	6	7	1	0	0	3	0	45	0
4:45 PM	0	0	7	2	0	2	8	0	0	8	6	0	0	1	4	0	38	190
5:00 PM	0	1	10	4	0	0	9	0	0	5	13	1	0	2	4	0	49	182
5:15 PM	0	1	10	2	0	1	5	0	0	7	6	2	0	2	2	0	38	170
5:30 PM	0	1	9	4	0	0	9	0	0	2	5	4	0	1	1	0	36	161
5:45 PM	0	1	19	6	0	2	8	0	0	4	1	0	0	0	4	0	45	168
Count Total	0	5	97	34	0	7	65	2	0	53	47	12	0	8	27	1	358	0
Peak Hour	0	2	40	18	0	4	32	1	0	27	33	4	0	3	17	1	182	0

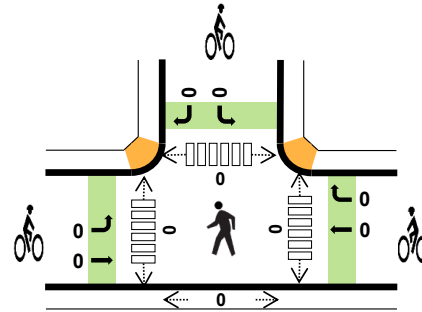
Two-Hour Count Summaries - Bikes																		
Interval Start	Industrial Blvd			Industrial Blvd			Hesperian Blvd			Hesperian Blvd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

I-880 On/Off-Ramp Industrial Pkwy W



Date: 03/07/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	12.2%	0.88
WB	4.8%	0.88
NB	-	-
SB	7.7%	0.86
TOTAL	7.9%	0.93

Two-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	40	107	0	0	0	91	102	0	0	0	0	0	72	0	51	463	0
7:15 AM		0	42	97	0	0	0	129	80	0	0	0	0	0	76	0	9	433	0
7:30 AM		0	42	139	0	0	0	128	108	0	0	0	0	1	90	0	49	557	0
7:45 AM		0	51	162	0	0	0	222	72	0	0	0	0	0	98	0	64	669	2,122
8:00 AM		0	30	152	0	0	0	208	59	0	0	0	0	0	121	0	67	637	2,296
8:15 AM		0	27	158	0	0	0	232	45	0	0	0	0	0	121	0	109	692	2,555
8:30 AM		0	33	133	0	0	0	149	50	0	0	0	0	0	125	0	85	575	2,573
8:45 AM		0	23	135	0	0	0	117	38	0	0	0	0	0	104	0	76	493	2,397
Count Total		0	288	1,083	0	0	0	1,276	554	0	0	0	0	1	807	0	510	4,519	0
Peak Hour	All	0	141	605	0	0	0	811	226	0	0	0	0	0	465	0	325	2,573	0
	HV	0	23	68	0	0	0	35	15	0	0	0	0	0	40	0	21	202	0
	HV%	-	16%	11%	-	-	-	4%	7%	-	-	-	-	-	9%	-	6%	8%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

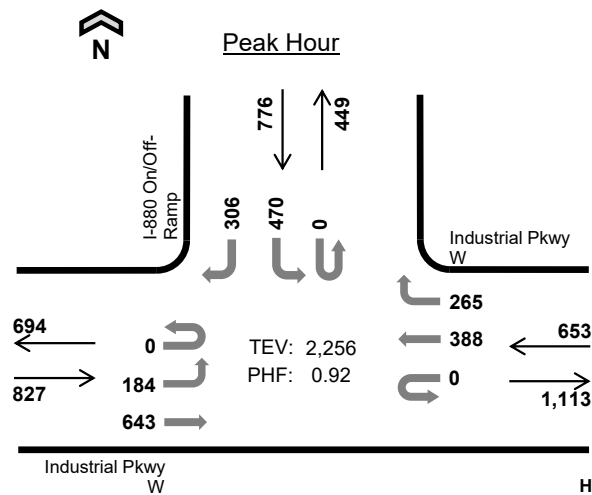
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	21	12	0	12	45	0	0	0	0	0	0	0	0	0	0
7:15 AM	21	11	0	11	43	0	0	0	0	0	0	0	0	0	0
7:30 AM	14	6	0	15	35	0	0	0	0	0	0	0	0	0	0
7:45 AM	20	18	0	13	51	0	0	0	0	0	0	0	0	0	0
8:00 AM	14	12	0	13	39	0	0	0	0	0	0	0	0	0	0
8:15 AM	31	8	0	15	54	0	0	0	0	0	0	0	0	0	0
8:30 AM	26	12	0	20	58	0	0	0	0	0	0	0	0	0	0
8:45 AM	27	5	0	17	49	0	0	0	0	0	0	0	0	0	0
Count Total	174	84	0	116	374	0	0	0	0	0	0	0	0	0	0
Peak Hr	91	50	0	61	202	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	15	0	0	0	3	9	0	0	0	0	0	3	0	9	45	0
7:15 AM	0	7	14	0	0	0	9	2	0	0	0	0	0	7	0	4	43	0
7:30 AM	0	5	9	0	0	0	3	3	0	0	0	0	0	8	0	7	35	0
7:45 AM	0	6	14	0	0	0	12	6	0	0	0	0	0	7	0	6	51	174
8:00 AM	0	4	10	0	0	0	8	4	0	0	0	0	0	12	0	1	39	168
8:15 AM	0	8	23	0	0	0	6	2	0	0	0	0	0	8	0	7	54	179
8:30 AM	0	5	21	0	0	0	9	3	0	0	0	0	0	13	0	7	58	202
8:45 AM	0	7	20	0	0	0	2	3	0	0	0	0	0	11	0	6	49	200
Count Total	0	48	126	0	0	0	52	32	0	0	0	0	0	69	0	47	374	0
Peak Hour	0	23	68	0	0	0	35	15	0	0	0	0	0	40	0	21	202	0

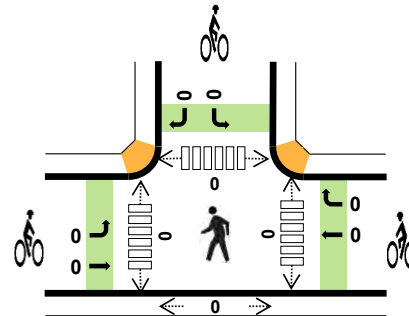
Two-Hour Count Summaries - Bikes																	
Interval Start	Industrial Pkwy W			Industrial Pkwy W			0			I-880 On/Off-Ramp			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

I-880 On/Off-Ramp Industrial Pkwy W



Date: 03/07/2023
Count Period: 10:00 AM to 2:00 PM
Peak Hour: 1:00 PM to 2:00 PM



	HV %:	PHF
EB	8.8%	0.86
WB	9.0%	0.94
NB	-	-
SB	11.2%	0.96
TOTAL	9.7%	0.92

Four-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		0	37	151	0	0	0	108	64	0	0	0	0	0	108	0	73	541	0
1:15 PM		0	50	137	0	0	0	90	52	0	0	0	0	0	113	0	78	520	0
1:30 PM		0	50	190	0	0	0	97	77	0	0	0	0	0	124	0	78	616	0
1:45 PM		0	47	165	0	0	0	93	72	0	0	0	0	0	125	0	77	579	2,256
Peak Hour	All	0	184	643	0	0	0	388	265	0	0	0	0	0	470	0	306	2,256	0
	HV	0	15	58	0	0	0	45	14	0	0	0	0	0	58	0	29	219	0
	HV%	-	8%	9%	-	-	-	12%	5%	-	-	-	-	-	12%	-	9%	10%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	20	16	0	17	53	0	0	0	0	0	0	0	0	0	0
1:15 PM	22	16	0	25	63	0	0	0	0	0	0	0	0	0	0
1:30 PM	16	15	0	22	53	0	0	0	0	0	0	0	0	0	0
1:45 PM	15	12	0	23	50	0	0	0	0	0	0	0	0	0	0
Peak Hour	73	59	0	87	219	0	0	0	0	0	0	0	0	0	0

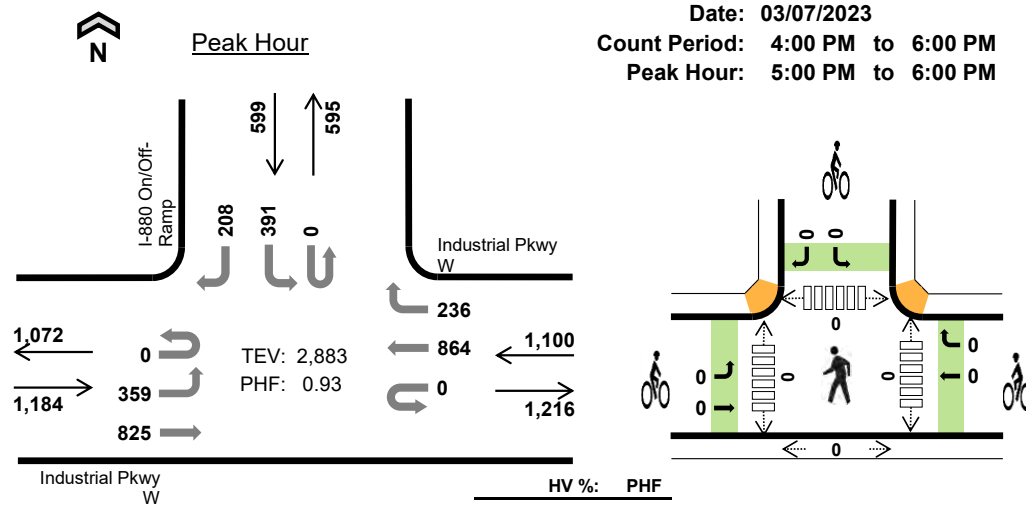
Four-Hour Count Summaries																			
Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
10:00 AM	0	35	119	0	0	0	90	56	0	0	0	0	0	87	0	62	449	0	
10:15 AM	0	39	122	0	0	0	82	44	0	0	0	0	0	74	0	60	421	0	
10:30 AM	0	38	125	0	0	0	104	63	0	0	0	0	0	89	0	60	479	0	
10:45 AM	0	35	124	0	0	0	105	49	0	0	0	0	0	97	0	49	459	1,808	
11:00 AM	0	44	127	0	0	0	127	55	0	0	0	0	0	92	0	61	506	1,865	
11:15 AM	0	47	142	0	0	0	89	66	0	0	0	0	0	65	0	45	454	1,898	
11:30 AM	0	50	140	0	0	0	100	61	0	0	0	0	0	106	0	68	525	1,944	
11:45 AM	0	44	161	0	0	0	104	48	0	0	0	0	0	114	0	83	554	2,039	
12:00 PM	0	46	131	0	0	0	83	58	0	0	0	0	0	104	0	65	487	2,020	
12:15 PM	0	48	135	0	0	0	106	59	0	0	0	0	0	107	0	68	523	2,089	
12:30 PM	0	50	167	0	0	0	96	53	0	0	0	0	0	98	0	88	552	2,116	
12:45 PM	0	35	148	0	0	0	115	59	0	0	0	0	0	115	0	73	545	2,107	
1:00 PM	0	37	151	0	0	0	108	64	0	0	0	0	0	108	0	73	541	2,161	
1:15 PM	0	50	137	0	0	0	90	52	0	0	0	0	0	113	0	78	520	2,158	
1:30 PM	0	50	190	0	0	0	97	77	0	0	0	0	0	124	0	78	616	2,222	
1:45 PM	0	47	165	0	0	0	93	72	0	0	0	0	0	125	0	77	579	2,256	
Count Total		0	695	2,284	0	0	0	1,589	936	0	0	0	0	0	1,618	0	1,088	8,210	0
Peak Hour	All	0	184	643	0	0	0	388	265	0	0	0	0	0	470	0	306	2,256	0
	HV	0	15	58	0	0	0	45	14	0	0	0	0	0	58	0	29	219	0
	HV%	-	8%	9%	-	-	-	12%	5%	-	-	-	-	-	12%	-	9%	10%	0
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start		Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)							
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total			
10:00 AM	21	13	0	23	57	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	24	10	0	21	55	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	25	13	0	18	56	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	28	14	0	19	61	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	30	15	0	16	61	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	28	21	0	15	64	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	25	15	0	27	67	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	22	13	0	30	65	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00 PM	20	10	0	30	60	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	17	13	0	18	48	0	2	0	0	2	0	0	0	0	0	0	0	0	
12:30 PM	22	13	0	28	63	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 PM	14	12	0	22	48	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	20	16	0	17	53	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	22	16	0	25	63	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	16	15	0	22	53	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	15	12	0	23	50	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total		349	221	0	354	924	0	2	0	0	2	0	0	0	0	0	0	0	
Peak Hr		73	59	0	87	219	0	0	0	0	0	0	0	0	0	0	0	0	

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM	0	1	20	0	0	0	8	5	0	0	0	0	0	14	0	9	57	0
10:15 AM	0	7	17	0	0	0	6	4	0	0	0	0	0	15	0	6	55	0
10:30 AM	0	2	23	0	0	0	8	5	0	0	0	0	0	14	0	4	56	0
10:45 AM	0	5	23	0	0	0	12	2	0	0	0	0	0	16	0	3	61	229
11:00 AM	0	6	24	0	0	0	12	3	0	0	0	0	0	9	0	7	61	233
11:15 AM	0	5	23	0	0	0	11	10	0	0	0	0	0	12	0	3	64	242
11:30 AM	0	3	22	0	0	0	13	2	0	0	0	0	0	23	0	4	67	253
11:45 AM	0	10	12	0	0	0	9	4	0	0	0	0	0	27	0	3	65	257
12:00 PM	0	5	15	0	0	0	3	7	0	0	0	0	0	20	0	10	60	256
12:15 PM	0	9	8	0	0	0	12	1	0	0	0	0	0	13	0	5	48	240
12:30 PM	0	9	13	0	0	0	6	7	0	0	0	0	0	22	0	6	63	236
12:45 PM	0	3	11	0	0	0	8	4	0	0	0	0	0	14	0	8	48	219
1:00 PM	0	4	16	0	0	0	11	5	0	0	0	0	0	10	0	7	53	212
1:15 PM	0	5	17	0	0	0	15	1	0	0	0	0	0	20	0	5	63	227
1:30 PM	0	4	12	0	0	0	10	5	0	0	0	0	0	12	0	10	53	217
1:45 PM	0	2	13	0	0	0	9	3	0	0	0	0	0	16	0	7	50	219
Count Total	0	80	269	0	0	0	153	68	0	0	0	0	0	257	0	97	924	0
Peak Hour	0	15	58	0	0	0	45	14	0	0	0	0	0	58	0	29	219	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W			Industrial Pkwy W			0			I-880 On/Off-Ramp			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	2				
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	2	0	0	0	0	0	0	0	2	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

I-880 On/Off-Ramp Industrial Pkwy W



Two-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	102	231	0	0	0	189	59	0	0	0	0	1	96	0	66	744	0
4:15 PM		0	125	216	0	0	0	161	51	0	0	0	0	0	100	0	59	712	0
4:30 PM		0	84	209	0	0	0	206	60	0	0	0	0	0	78	0	53	690	0
4:45 PM		0	79	201	0	0	0	192	54	0	0	0	0	0	94	0	40	660	2,806
5:00 PM		0	89	228	0	0	0	236	67	0	0	0	0	0	91	0	60	771	2,833
5:15 PM		0	76	200	0	0	0	209	57	0	0	0	0	0	99	0	51	692	2,813
5:30 PM		0	92	215	0	0	0	205	60	0	0	0	0	0	104	0	40	716	2,839
5:45 PM		0	102	182	0	0	0	214	52	0	0	0	0	0	97	0	57	704	2,883
Count Total		0	749	1,682	0	0	0	1,612	460	0	0	0	0	1	759	0	426	5,689	0
Peak Hour	All	0	359	825	0	0	0	864	236	0	0	0	0	0	391	0	208	2,883	0
	HV	0	27	29	0	0	0	40	7	0	0	0	0	0	15	0	31	149	0
	HV%	-	8%	4%	-	-	-	5%	3%	-	-	-	-	-	4%	-	15%	5%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

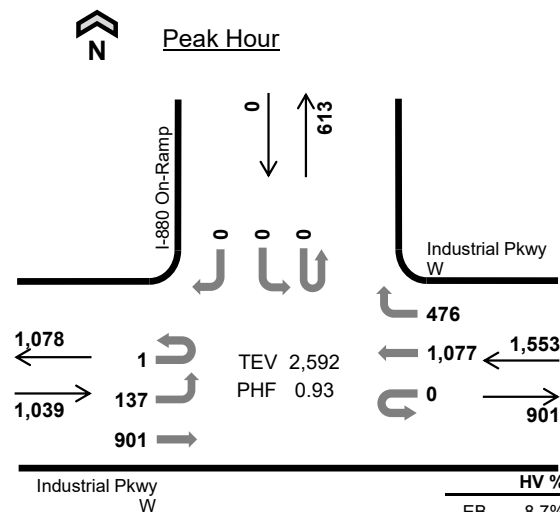
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	19	14	0	18	51	0	0	0	0	0	0	0	0	0	0
4:15 PM	10	12	0	24	46	0	0	0	0	0	0	0	0	0	0
4:30 PM	19	16	0	17	52	0	0	0	0	0	0	0	0	0	0
4:45 PM	15	19	0	9	43	0	0	0	0	0	0	0	0	0	0
5:00 PM	12	15	0	13	40	0	0	0	0	0	0	0	0	0	0
5:15 PM	10	17	0	10	37	0	0	0	0	0	0	0	0	0	0
5:30 PM	20	8	0	13	41	0	0	0	0	0	0	0	0	0	0
5:45 PM	14	7	0	10	31	0	0	0	0	0	0	0	0	0	0
Count Total	119	108	0	114	341	0	0	0	0	0	0	0	0	0	0
Peak Hr	56	47	0	46	149	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	16	0	0	0	12	2	0	0	0	0	0	12	0	6	51	0
4:15 PM	0	4	6	0	0	0	10	2	0	0	0	0	0	13	0	11	46	0
4:30 PM	0	11	8	0	0	0	14	2	0	0	0	0	0	8	0	9	52	0
4:45 PM	0	10	5	0	0	0	18	1	0	0	0	0	0	3	0	6	43	192
5:00 PM	0	6	6	0	0	0	11	4	0	0	0	0	0	3	0	10	40	181
5:15 PM	0	4	6	0	0	0	15	2	0	0	0	0	0	3	0	7	37	172
5:30 PM	0	11	9	0	0	0	7	1	0	0	0	0	0	6	0	7	41	161
5:45 PM	0	6	8	0	0	0	7	0	0	0	0	0	0	3	0	7	31	149
Count Total	0	55	64	0	0	0	94	14	0	0	0	0	0	51	0	63	341	0
Peak Hour	0	27	29	0	0	0	40	7	0	0	0	0	0	15	0	31	149	0

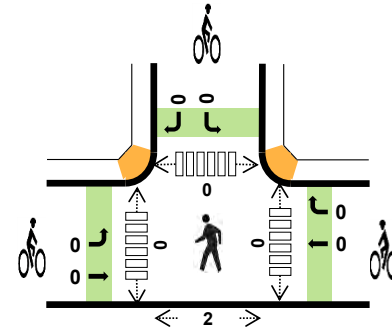
Two-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On/Off-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	LT	TH	RT		LT	TH	RT		LT	TH	RT		LT	TH	RT			
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Count Total	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0		0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

I-880 On-Ramp Industrial Pkwy W



Date: 03/07/2023
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	8.7%	0.94
WB	6.5%	0.88
NB	-	-
SB	-	-
TOTAL	7.4%	0.93

Two-Hour Count Summaries

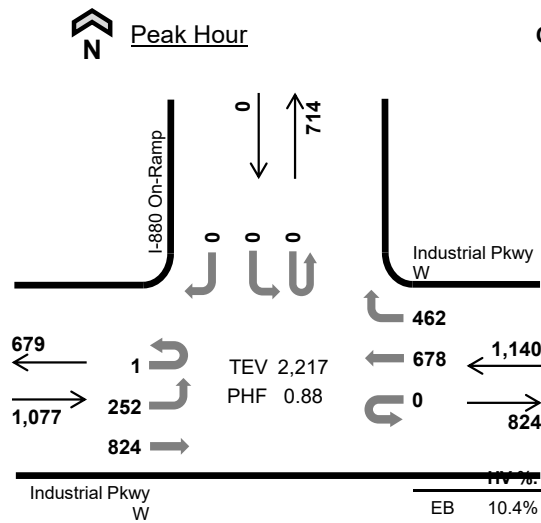
Interval Start	Industrial Pkwy W Eastbound				Industrial Pkwy W Westbound				0 Northbound				I-880 On-Ramp Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	33	151	0	0	0	198	107	0	0	0	0	0	0	0	0	489	0
7:15 AM	0	29	146	0	1	0	215	102	0	0	0	0	0	0	0	0	493	0
7:30 AM	1	33	197	0	0	0	230	122	0	0	0	0	0	0	0	0	583	0
7:45 AM	0	43	214	0	0	0	300	142	0	0	0	0	0	0	0	0	699	2,264
8:00 AM	0	27	248	0	0	0	261	104	0	0	0	0	0	0	0	0	640	2,415
8:15 AM	0	34	242	0	0	0	286	108	0	0	0	0	0	0	0	0	670	2,592
8:30 AM	0	31	226	0	0	0	204	106	0	0	0	0	0	0	0	0	567	2,576
8:45 AM	0	42	195	0	0	0	144	82	0	0	0	0	0	0	0	0	463	2,340
Count Total	1	272	1,619	0	1	0	1,838	873	0	0	0	0	0	0	0	0	4,604	0
Peak Hour	All	1	137	901	0	0	0	1,077	476	0	0	0	0	0	0	0	2,592	0
	HV	0	19	71	0	0	0	45	56	0	0	0	0	0	0	0	191	0
	HV%	0%	14%	8%	-	-	-	4%	12%	-	-	-	-	-	-	-	7%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

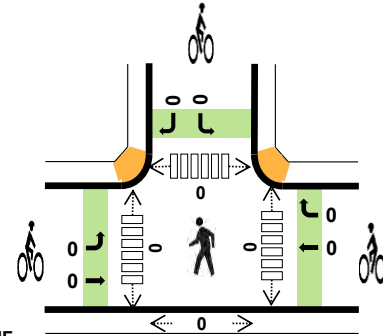
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	18	23	0	0	41	0	0	0	0	0	0	0	0	0	0
7:15 AM	21	32	0	0	53	0	0	0	0	0	0	0	0	0	0
7:30 AM	17	24	0	0	41	0	0	0	0	0	0	0	0	1	1
7:45 AM	21	37	0	0	58	0	0	0	0	0	0	0	0	1	1
8:00 AM	21	22	0	0	43	0	0	0	0	0	0	0	0	0	0
8:15 AM	31	18	0	0	49	0	0	0	0	0	0	0	0	0	0
8:30 AM	35	25	0	0	60	0	0	0	0	0	0	0	0	0	0
8:45 AM	31	16	0	0	47	0	0	0	0	0	0	0	0	0	0
Count Total	195	197	0	0	392	0	0	0	0	0	0	0	0	2	2
Peak Hr	90	101	0	0	191	0	0	0	0	0	0	0	0	2	2

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	11	0	0	0	12	11	0	0	0	0	0	0	0	0	41	0
7:15 AM	0	8	13	0	0	0	12	20	0	0	0	0	0	0	0	0	53	0
7:30 AM	0	2	15	0	0	0	7	17	0	0	0	0	0	0	0	0	41	0
7:45 AM	0	6	15	0	0	0	17	20	0	0	0	0	0	0	0	0	58	193
8:00 AM	0	3	18	0	0	0	12	10	0	0	0	0	0	0	0	0	43	195
8:15 AM	0	8	23	0	0	0	9	9	0	0	0	0	0	0	0	0	49	191
8:30 AM	0	10	25	0	0	0	14	11	0	0	0	0	0	0	0	0	60	210
8:45 AM	0	9	22	0	0	0	6	10	0	0	0	0	0	0	0	0	47	199
Count Total	0	53	142	0	0	0	89	108	0	0	0	0	0	0	0	0	392	0
Peak Hour	0	19	71	0	0	0	45	56	0	0	0	0	0	0	0	0	191	0
Two-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W			Industrial Pkwy W			0			I-880 On-Ramp			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Note: U-Turn volumes for bikes are included in Left-Turn, if any.																		

I-880 On-Ramp Industrial Pkwy W



Date: 03/07/2023
 Count Period: 10:00 AM to 2:00 PM
 Peak Hour: 12:45 PM to 1:45 PM



	HV%	PHF
EB	10.4%	0.87
WB	10.5%	0.89
NB	-	-
SB	-	-
TOTAL	10.5%	0.88

Four-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:45 PM		0	57	209	0	0	0	181	106	0	0	0	0	0	0	0	0	553	0
1:00 PM		1	60	194	0	0	0	164	104	0	0	0	0	0	0	0	0	523	0
1:15 PM		0	48	199	0	0	0	149	115	0	0	0	0	0	0	0	0	511	0
1:30 PM		0	87	222	0	0	0	184	137	0	0	0	0	0	0	0	0	630	2,217
Peak Hour	All	1	252	824	0	0	0	678	462	0	0	0	0	0	0	0	0	2,217	0
	HV	0	23	89	0	0	0	64	56	0	0	0	0	0	0	0	0	232	0
	HV%	0%	9%	11%	-	-	-	9%	12%	-	-	-	-	-	-	-	-	10%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
12:45 PM	28	26	0	0	54	0	0	0	0	0	0	0	0	0	0
1:00 PM	23	33	0	0	56	0	0	0	0	0	0	0	0	0	0
1:15 PM	37	30	0	0	67	0	0	0	0	0	0	0	0	0	0
1:30 PM	24	31	0	0	55	0	0	0	0	0	0	0	0	0	0
Peak Hour	112	120	0	0	232	0	0	0	0	0	0	0	0	0	0

Four-Hour Count Summaries																			
Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	10:00 AM	0	56	150	0	0	0	143	84	0	0	0	0	0	0	0	0	433	0
	10:15 AM	1	44	151	0	0	0	126	106	0	0	0	0	0	0	0	0	428	0
	10:30 AM	2	34	179	0	0	0	164	93	0	0	0	0	0	0	0	0	472	0
	10:45 AM	1	44	176	0	0	0	159	96	0	0	0	0	0	0	0	0	476	1,809
	11:00 AM	0	45	173	0	0	0	182	106	0	0	0	0	0	0	0	0	506	1,882
	11:15 AM	0	49	158	0	0	0	154	100	0	0	0	0	0	0	0	0	461	1,915
	11:30 AM	0	46	202	0	0	0	163	106	0	0	0	0	0	0	0	0	517	1,960
	11:45 AM	0	57	216	0	0	0	152	104	0	0	0	0	0	0	0	0	529	2,013
	12:00 PM	1	45	189	0	1	0	144	121	0	0	0	0	0	0	0	0	501	2,008
	12:15 PM	0	60	184	0	0	0	174	120	0	0	0	0	0	0	0	0	538	2,085
	12:30 PM	2	73	188	0	0	0	144	133	0	0	0	0	0	0	0	0	540	2,108
	12:45 PM	0	57	209	0	0	0	181	106	0	0	0	0	0	0	0	0	553	2,132
	1:00 PM	1	60	194	0	0	0	164	104	0	0	0	0	0	0	0	0	523	2,154
	1:15 PM	0	48	199	0	0	0	149	115	0	0	0	0	0	0	0	0	511	2,127
	1:30 PM	0	87	222	0	0	0	184	137	0	0	0	0	0	0	0	0	630	2,217
	1:45 PM	1	70	226	0	0	0	153	97	0	0	0	0	0	0	0	0	547	2,211
Count Total		9	875	3,016	0	1	0	2,536	1,728	0	0	0	0	0	0	0	0	8,165	0
Peak Hour	All	1	252	824	0	0	0	678	462	0	0	0	0	0	0	0	0	2,217	0
	HV	0	23	89	0	0	0	64	56	0	0	0	0	0	0	0	0	232	0
	HV%	0%	9%	11%	-	-	-	9%	12%	-	-	-	-	-	-	-	-	10%	0
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start		Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)							
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total			
	10:00 AM	34	26	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:15 AM	31	29	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:30 AM	39	26	0	0	65	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:45 AM	37	29	0	0	66	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	33	37	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:15 AM	34	37	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:30 AM	45	26	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:45 AM	39	36	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	35	28	0	0	63	0	0	0	0	0	0	0	0	0	2	0	2	0
	12:15 PM	24	25	0	0	49	0	2	0	0	2	0	0	0	0	0	0	0	0
	12:30 PM	34	33	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	28	26	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	23	33	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15 PM	37	30	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:30 PM	24	31	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:45 PM	29	23	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total		526	475	0	0	1,001	0	2	0	0	2	0	0	2	0	2	0	2	
Peak Hr		112	120	0	0	232	0	0	0	0	0	0	0	0	0	0	0	0	

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM	0	13	21	0	0	0	14	12	0	0	0	0	0	0	0	0	60	0
10:15 AM	0	16	15	0	0	0	8	21	0	0	0	0	0	0	0	0	60	0
10:30 AM	0	11	28	0	0	0	18	8	0	0	0	0	0	0	0	0	65	0
10:45 AM	0	13	24	0	0	0	15	14	0	0	0	0	0	0	0	0	66	251
11:00 AM	0	14	19	0	0	0	17	20	0	0	0	0	0	0	0	0	70	261
11:15 AM	0	10	24	0	0	0	22	15	0	0	0	0	0	0	0	0	71	272
11:30 AM	0	7	38	0	0	0	14	12	0	0	0	0	0	0	0	0	71	278
11:45 AM	0	3	36	0	0	0	14	22	0	0	0	0	0	0	0	0	75	287
12:00 PM	0	7	28	0	0	0	8	20	0	0	0	0	0	0	0	0	63	280
12:15 PM	0	4	20	0	0	0	11	14	0	0	0	0	0	0	0	0	49	258
12:30 PM	0	7	27	0	0	0	12	21	0	0	0	0	0	0	0	0	67	254
12:45 PM	0	4	24	0	0	0	13	13	0	0	0	0	0	0	0	0	54	233
1:00 PM	0	4	19	0	0	0	15	18	0	0	0	0	0	0	0	0	56	226
1:15 PM	0	5	32	0	0	0	18	12	0	0	0	0	0	0	0	0	67	244
1:30 PM	0	10	14	0	0	0	18	13	0	0	0	0	0	0	0	0	55	232
1:45 PM	0	3	26	0	0	0	8	15	0	0	0	0	0	0	0	0	52	230
Count Total	0	131	395	0	0	0	225	250	0	0	0	0	0	0	0	0	1,001	0
Peak Hour	0	23	89	0	0	0	64	56	0	0	0	0	0	0	0	0	232	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	LT	TH	RT		LT	TH	RT		LT	TH	RT		LT	TH	RT			
10:00 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
10:15 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
10:30 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
10:45 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
11:00 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
11:15 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
11:30 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
11:45 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
12:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
12:15 PM	0	0	0		0	2	0		0	0	0		0	0	0		2	2
12:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	2
12:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	2
1:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	2
1:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Count Total	0	0	0		0	2	0		0	0	0		0	0	0		2	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0		0	0

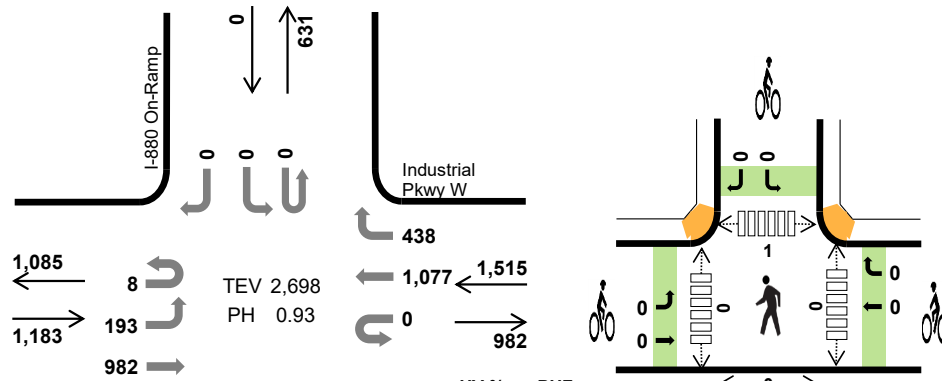
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

I-880 On-Ramp Industrial Pkwy W



Peak Hour
N

Date: 03/07/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
Industrial Pkwy W	EB 3.4%	0.97
	WB 5.3%	0.90
	NB -	-
	SB -	-
TOTAL	4.4%	0.93

Two-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	62	280	0	0	0	239	133	0	0	0	0	0	0	0	0	714	0
4:15 PM		0	31	284	0	0	0	213	79	0	0	0	0	0	0	0	0	607	0
4:30 PM		1	48	241	0	0	0	260	106	0	0	0	0	0	0	0	0	656	0
4:45 PM		1	48	244	0	0	0	249	105	0	0	0	0	0	0	0	0	647	2,624
5:00 PM		4	53	249	0	0	0	297	125	0	0	0	0	0	0	0	0	728	2,638
5:15 PM		2	44	248	0	0	0	271	102	0	0	0	0	0	0	0	0	667	2,698
5:30 PM		3	66	248	0	0	0	250	80	0	0	0	0	0	0	0	0	647	2,689
5:45 PM		0	32	249	0	0	0	271	93	0	0	0	0	0	0	0	0	645	2,687
Count Total		11	384	2,043	0	0	0	2,050	823	0	0	0	0	0	0	0	0	5,311	0
Peak Hour	All	8	193	982	0	0	0	1,077	438	0	0	0	0	0	0	0	0	2,698	0
	HV	0	10	30	0	0	0	58	22	0	0	0	0	0	0	0	0	120	0
	HV%	0%	5%	3%	-	-	-	5%	5%	-	-	-	-	-	-	-	-	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	29	23	0	0	52	0	0	0	0	0	0	0	0	0	0
4:15 PM	20	16	0	0	36	0	0	0	0	0	0	0	0	0	0
4:30 PM	16	22	0	0	38	0	0	0	0	0	0	0	0	0	0
4:45 PM	12	23	0	0	35	0	0	0	0	0	0	0	0	0	0
5:00 PM	3	20	0	0	23	0	0	0	0	0	0	0	0	0	0
5:15 PM	9	15	0	0	24	0	0	0	0	0	0	0	1	0	1
5:30 PM	16	9	0	0	25	0	0	0	0	0	0	0	0	0	0
5:45 PM	10	14	0	0	24	0	0	0	0	0	0	0	0	0	0
Count Total	115	142	0	0	257	0	0	0	0	0	0	0	1	0	1
Peak Hr	40	80	0	0	120	0	0	0	0	0	0	0	1	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				0				I-880 On-Ramp				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	5	24	0	0	0	13	10	0	0	0	0	0	0	0	0	52	0
4:15 PM	0	0	20	0	0	0	11	5	0	0	0	0	0	0	0	0	36	0
4:30 PM	0	3	13	0	0	0	16	6	0	0	0	0	0	0	0	0	38	0
4:45 PM	0	2	10	0	0	0	16	7	0	0	0	0	0	0	0	0	35	161
5:00 PM	0	2	1	0	0	0	14	6	0	0	0	0	0	0	0	0	23	132
5:15 PM	0	3	6	0	0	0	12	3	0	0	0	0	0	0	0	0	24	120
5:30 PM	0	5	11	0	0	0	7	2	0	0	0	0	0	0	0	0	25	107
5:45 PM	0	4	6	0	0	0	7	7	0	0	0	0	0	0	0	0	24	96
Count Total	0	24	91	0	0	0	96	46	0	0	0	0	0	0	0	0	257	0
Peak Hour	0	10	30	0	0	0	58	22	0	0	0	0	0	0	0	0	120	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W			Industrial Pkwy W			0			I-880 On-Ramp						15-min Total	Rolling One Hour	
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Stratford Rd				Stratford Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	10	1	0	0	23	2	0	0	0	0	0	1	0	0	38	0
7:15 AM	0	0	12	2	0	0	29	1	0	2	0	0	0	0	0	0	46	0
7:30 AM	0	1	11	1	0	0	19	0	0	3	0	0	0	0	0	1	36	0
7:45 AM	0	0	15	1	0	0	32	1	0	4	1	0	0	0	1	0	55	175
8:00 AM	0	0	17	2	0	0	20	0	0	2	0	0	0	0	0	0	41	178
8:15 AM	0	0	20	3	0	1	16	0	0	1	0	1	0	1	0	1	44	176
8:30 AM	0	1	22	0	0	1	23	0	0	1	0	0	0	0	0	0	48	188
8:45 AM	0	1	20	1	0	0	15	2	0	1	0	0	0	0	0	2	42	175
Count Total	0	4	127	11	0	2	177	6	0	14	1	1	0	3	0	4	350	0
Peak Hour	0	1	63	7	0	1	87	1	0	10	1	1	0	2	0	2	176	0

Two-Hour Count Summaries - Bikes																
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Stratford Rd			Stratford Rd			15-min Total	Rolling One Hour		
	Eastbound			Westbound			Northbound			Southbound						
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	2		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	0	0	0	0	0	0	0	0	0	2	0	2	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	2	0	2	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

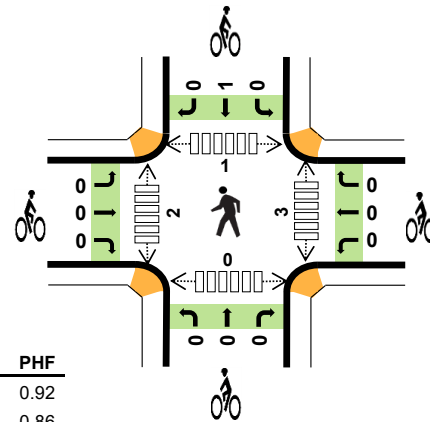
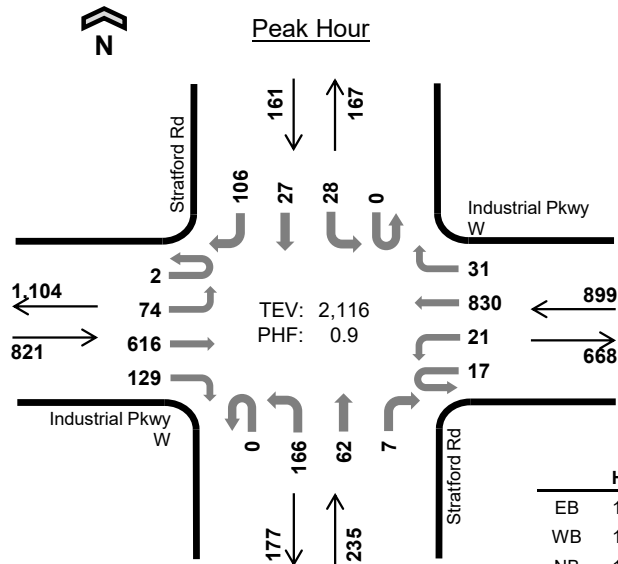
Stratford Rd Industrial Pkwy W



Date: 03/07/2023

Count Period: 10:00 AM to 2:00 PM

Peak Hour: 12:45 PM to 1:45 PM



	HV %:	PHF
EB	11.3%	0.92
WB	11.0%	0.86
NB	11.1%	0.86
SB	0.0%	0.88
TOTAL	10.3%	0.90

Four-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				Stratford Rd				Stratford Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
12:45 PM		1	20	160	29	3	5	201	11	0	47	18	3	0	12	4	23	537	0
1:00 PM		0	19	143	27	6	4	194	4	0	40	17	1	0	1	10	27	493	0
1:15 PM		0	18	140	40	7	7	187	8	0	39	13	2	0	4	3	31	499	0
1:30 PM		1	17	173	33	1	5	248	8	0	40	14	1	0	11	10	25	587	2,116
Peak Hour	All	2	74	616	129	17	21	830	31	0	166	62	7	0	28	27	106	2,116	0
	HV	0	0	82	11	0	3	94	2	0	24	0	2	0	0	0	0	218	0
	HV%	0%	0%	13%	9%	0%	14%	11%	6%	-	14%	0%	29%	-	0%	0%	0%	10%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
12:45 PM	25	21	9	0	55	0	0	0	0	0	0	0	0	0	0
1:00 PM	20	27	6	0	53	0	0	0	0	0	0	1	0	0	1
1:15 PM	32	24	7	0	63	0	0	0	0	0	3	0	1	0	4
1:30 PM	16	27	4	0	47	0	0	0	1	1	0	1	0	0	1
Peak Hour	93	99	26	0	218	0	0	0	1	1	3	2	1	0	6

Four-Hour Count Summaries																			
Interval Start		Industrial Pkwy W				Industrial Pkwy W				Stratford Rd				Stratford Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM		1	23	105	19	3	1	162	8	0	28	7	0	0	7	5	28	397	0
10:15 AM		3	24	96	26	0	5	171	7	0	26	8	1	0	8	9	25	409	0
10:30 AM		4	27	118	26	4	5	197	8	0	25	9	1	0	9	4	32	469	0
10:45 AM		2	24	115	33	6	2	174	15	0	45	20	2	0	5	4	28	475	1,750
11:00 AM		2	29	117	33	3	5	206	7	0	47	8	5	0	7	9	28	506	1,859
11:15 AM		0	17	114	27	4	3	188	7	0	35	14	3	0	9	5	26	452	1,902
11:30 AM		0	29	136	34	5	5	196	6	0	32	23	3	0	7	6	30	512	1,945
11:45 AM		0	27	154	31	2	3	188	5	0	31	14	6	0	5	6	29	501	1,971
12:00 PM		5	26	143	21	8	4	206	7	0	24	7	6	0	16	7	24	504	1,969
12:15 PM		3	24	135	25	9	3	213	4	0	39	12	1	0	15	9	33	525	2,042
12:30 PM		1	27	139	23	4	6	197	6	0	39	19	4	0	11	7	35	518	2,048
12:45 PM		1	20	160	29	3	5	201	11	0	47	18	3	0	12	4	23	537	2,084
1:00 PM		0	19	143	27	6	4	194	4	0	40	17	1	0	1	10	27	493	2,073
1:15 PM		0	18	140	40	7	7	187	8	0	39	13	2	0	4	3	31	499	2,047
1:30 PM		1	17	173	33	1	5	248	8	0	40	14	1	0	11	10	25	587	2,116
1:45 PM		1	23	174	31	2	2	170	16	0	41	22	4	0	9	4	36	535	2,114
Count Total		24	374	2,162	458	67	65	3,098	127	0	578	225	43	0	136	102	460	7,919	0
Peak Hour	All	2	74	616	129	17	21	830	31	0	166	62	7	0	28	27	106	2,116	0
	HV	0	0	82	11	0	3	94	2	0	24	0	2	0	0	0	0	218	0
	HV%	0%	0%	13%	9%	0%	14%	11%	6%	-	14%	0%	29%	-	0%	0%	0%	10%	0
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start		Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)							
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total			
10:00 AM		21	24	4	1	50	0	0	0	0	0	2	0	1	0	0	3		
10:15 AM		17	25	5	1	48	0	0	0	0	0	2	0	1	0	0	3		
10:30 AM		23	24	1	1	49	0	0	0	0	0	0	0	0	0	0	0		
10:45 AM		27	24	7	1	59	0	0	0	0	0	0	1	0	0	0	1		
11:00 AM		20	29	7	1	57	0	0	0	0	0	0	0	0	0	0	0		
11:15 AM		23	32	6	2	63	0	0	0	0	0	0	0	0	0	0	0		
11:30 AM		39	22	6	1	68	0	0	0	0	0	1	0	0	0	0	1		
11:45 AM		33	35	2	0	70	0	0	0	0	0	2	2	0	2	6			
12:00 PM		30	26	1	2	59	0	0	0	0	0	2	2	0	0	4			
12:15 PM		20	19	10	3	52	0	2	0	0	2	1	2	0	0	3			
12:30 PM		22	27	5	1	55	0	0	0	0	0	1	0	0	1	2			
12:45 PM		25	21	9	0	55	0	0	0	0	0	0	0	0	0	0	0		
1:00 PM		20	27	6	0	53	0	0	0	0	0	0	1	0	0	1			
1:15 PM		32	24	7	0	63	0	0	0	0	0	3	0	1	0	4			
1:30 PM		16	27	4	0	47	0	0	0	1	1	0	1	0	0	1			
1:45 PM		27	21	4	1	53	0	0	0	0	0	1	0	0	0	1			
Count Total		395	407	84	15	901	0	2	0	1	3	15	9	3	3	30			
Peak Hour		93	99	26	0	218	0	0	0	1	1	3	2	1	0	6			

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Stratford Rd				Stratford Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM	0	0	21	0	0	0	22	2	0	4	0	0	0	1	0	0	50	0
10:15 AM	0	0	13	4	0	2	23	0	0	5	0	0	0	0	0	1	48	0
10:30 AM	0	0	23	0	0	0	24	0	0	1	0	0	0	0	0	1	49	0
10:45 AM	0	2	22	3	0	0	21	3	0	7	0	0	0	0	0	1	59	206
11:00 AM	0	1	19	0	0	0	28	1	0	7	0	0	0	0	0	1	57	213
11:15 AM	0	2	17	4	1	0	31	0	0	6	0	0	0	1	0	1	63	228
11:30 AM	0	2	28	9	0	0	22	0	0	4	1	1	0	1	0	0	68	247
11:45 AM	0	0	30	3	0	0	34	1	0	2	0	0	0	0	0	0	70	258
12:00 PM	0	0	28	2	0	0	26	0	0	0	0	1	0	1	0	1	59	260
12:15 PM	0	0	17	3	1	2	16	0	0	10	0	0	0	1	1	1	52	249
12:30 PM	0	0	19	3	0	0	27	0	0	5	0	0	0	1	0	0	55	236
12:45 PM	0	0	23	2	0	1	18	2	0	8	0	1	0	0	0	0	55	221
1:00 PM	0	0	18	2	0	0	27	0	0	5	0	1	0	0	0	0	53	215
1:15 PM	0	0	26	6	0	1	23	0	0	7	0	0	0	0	0	0	63	226
1:30 PM	0	0	15	1	0	1	26	0	0	4	0	0	0	0	0	0	47	218
1:45 PM	0	0	24	3	0	0	20	1	0	3	1	0	0	0	0	1	53	216
Count Total	0	7	343	45	2	7	388	10	0	78	2	4	0	6	1	8	901	0
Peak Hour	0	0	82	11	0	3	94	2	0	24	0	2	0	0	0	0	218	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Stratford Rd			Stratford Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	2				
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1				
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Count Total	0	0	0	0	2	0	0	0	0	0	1	0	3	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	1	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

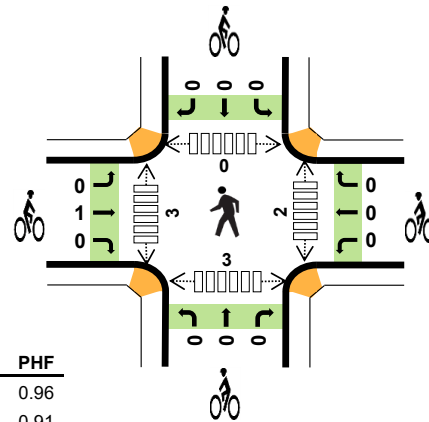
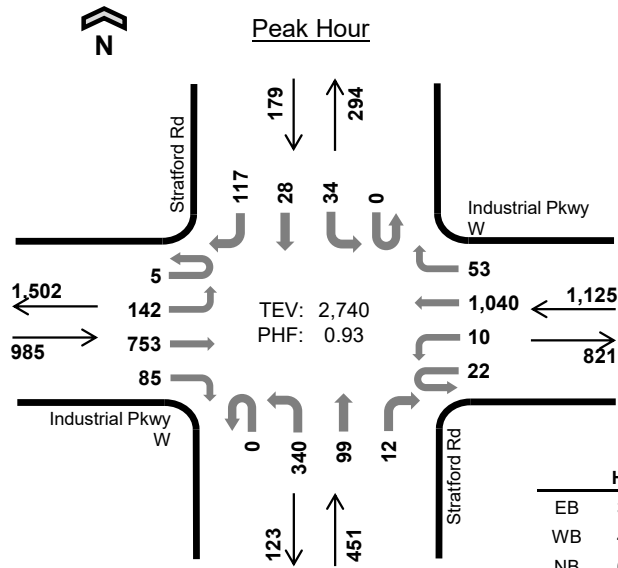
Stratford Rd Industrial Pkwy W



Date: 03/07/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	3.5%	0.96
WB	4.5%	0.91
NB	6.7%	0.87
SB	2.2%	0.86
TOTAL	4.3%	0.93

Two-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				Stratford Rd				Stratford Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	27	224	22	2	4	220	16	0	87	25	3	0	10	3	38	681	0
4:15 PM		2	31	212	35	2	0	193	11	0	56	28	4	0	7	16	28	625	0
4:30 PM		1	34	190	20	4	2	245	16	0	80	29	4	0	14	5	33	677	0
4:45 PM		2	40	174	23	6	4	240	14	0	80	25	3	0	8	7	28	654	2,637
5:00 PM		2	36	196	23	5	1	292	10	0	102	25	2	0	5	7	29	735	2,691
5:15 PM		0	32	193	19	7	3	263	13	0	78	20	3	0	7	9	27	674	2,740
5:30 PM		7	33	184	22	2	3	211	11	0	100	26	0	0	6	7	25	637	2,700
5:45 PM		1	36	187	32	4	4	252	12	0	80	31	0	0	12	7	28	686	2,732
Count Total		15	269	1,560	196	32	21	1,916	103	0	663	209	19	0	69	61	236	5,369	0
Peak Hour	All	5	142	753	85	22	10	1,040	53	0	340	99	12	0	34	28	117	2,740	0
	HV	0	4	25	5	0	0	50	1	0	28	0	2	0	1	2	1	119	0
	HV%	0%	3%	3%	6%	0%	0%	5%	2%	-	8%	0%	17%	-	3%	7%	1%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	24	16	7	1	48	0	0	0	0	0	0	0	0	0	0
4:15 PM	20	11	4	1	36	0	0	0	0	0	0	2	0	0	2
4:30 PM	13	12	9	2	36	0	0	0	0	0	0	3	0	0	3
4:45 PM	10	17	7	1	35	0	0	0	0	0	2	0	0	3	5
5:00 PM	5	13	7	0	25	0	0	0	0	0	0	0	0	0	0
5:15 PM	6	9	7	1	23	1	0	0	0	1	0	0	0	0	0
5:30 PM	8	6	5	0	19	1	0	0	0	1	2	0	0	0	2
5:45 PM	5	9	6	1	21	0	0	0	0	0	1	0	1	0	2
Count Total	91	93	52	7	243	2	0	0	0	2	5	5	1	3	14
Peak Hour	34	51	30	4	119	1	0	0	0	1	2	3	0	3	8

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Stratford Rd				Stratford Rd				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	18	6	0	0	15	1	0	7	0	0	0	0	0	0	1	48	0
4:15 PM	0	0	16	4	0	0	11	0	0	4	0	0	0	0	1	0	0	36	0
4:30 PM	0	1	10	2	0	0	12	0	0	8	0	1	0	0	0	1	1	36	0
4:45 PM	0	1	6	3	0	0	16	1	0	7	0	0	0	0	0	1	0	35	155
5:00 PM	0	2	3	0	0	0	13	0	0	7	0	0	0	0	0	0	0	25	132
5:15 PM	0	0	6	0	0	0	9	0	0	6	0	1	0	0	1	0	0	23	119
5:30 PM	0	0	8	0	0	0	5	1	0	5	0	0	0	0	0	0	0	19	102
5:45 PM	0	0	5	0	0	1	8	0	0	6	0	0	0	0	1	0	0	21	88
Count Total	0	4	72	15	0	1	89	3	0	50	0	2	0	3	2	2	2	243	0
Peak Hour	0	4	25	5	0	0	50	1	0	28	0	2	0	1	2	1	1	119	0

Two-Hour Count Summaries - Bikes																			
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Stratford Rd			Stratford Rd			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Count Total	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

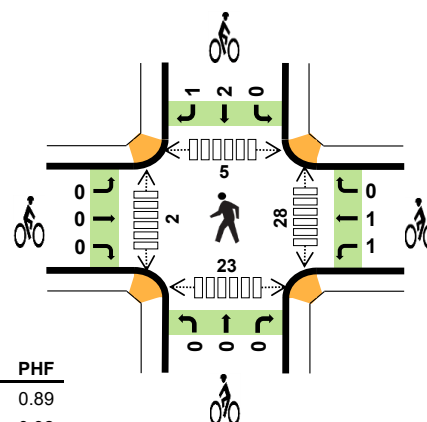
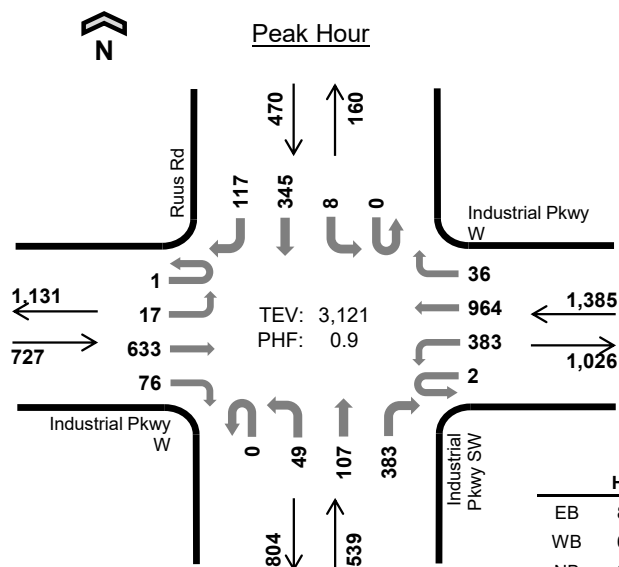
Ruus Rd Industrial Pkwy W



Date: 03/07/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	8.8%	0.89
WB	6.1%	0.92
NB	3.2%	0.86
SB	2.6%	0.89
TOTAL	5.7%	0.90

Two-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	7:00 AM	0	3	106	12	0	57	211	4	0	7	15	46	0	3	61	34	559	0
	7:15 AM	0	9	94	9	0	65	233	4	0	8	22	61	0	1	99	19	624	0
	7:30 AM	0	3	110	24	1	105	224	12	0	7	20	93	0	5	98	25	727	0
	7:45 AM	0	3	183	13	0	106	265	7	0	11	30	115	0	1	106	25	865	2,775
	8:00 AM	0	7	178	20	1	93	237	6	0	14	20	82	0	2	74	36	770	2,986
	8:15 AM	1	4	162	19	0	79	238	11	0	17	37	93	0	0	67	31	759	3,121
	8:30 AM	1	9	152	12	0	90	209	6	0	17	33	82	0	1	70	17	699	3,093
	8:45 AM	0	6	166	4	2	78	149	7	0	16	29	86	0	0	44	22	609	2,837
Count Total		2	44	1,151	113	4	673	1,766	57	0	97	206	658	0	13	619	209	5,612	0
Peak Hour	All	1	17	633	76	2	383	964	36	0	49	107	383	0	8	345	117	3,121	0
	HV	1	1	57	5	0	13	68	3	0	7	1	9	0	0	6	6	177	0
	HV%	100%	6%	9%	7%	0%	3%	7%	8%	-	14%	1%	2%	-	0%	2%	5%	6%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	8	18	4	3	33	1	1	0	1	3	7	2	0	6	15
7:15 AM	11	34	7	1	53	0	0	0	1	1	7	0	1	7	15
7:30 AM	7	21	3	5	36	0	2	0	2	4	4	1	1	3	9
7:45 AM	18	26	7	4	55	0	0	0	0	0	10	1	1	10	22
8:00 AM	18	23	4	3	48	0	0	0	0	0	4	0	2	3	9
8:15 AM	21	14	3	0	38	0	0	0	1	1	10	0	1	7	18
8:30 AM	18	22	10	1	51	0	0	0	0	0	4	0	0	3	7
8:45 AM	19	17	5	1	42	0	0	0	0	0	0	2	0	0	2
Count Total	120	175	43	18	356	1	3	0	5	9	46	6	6	39	97
Peak Hour	64	84	17	12	177	0	2	0	3	5	28	2	5	23	58

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	7	0	0	0	18	0	0	3	0	1	0	0	1	2	33	0
7:15 AM	0	2	7	2	0	2	31	1	0	3	2	2	0	0	1	0	53	0
7:30 AM	0	0	7	0	0	2	17	2	0	1	0	2	0	0	2	3	36	0
7:45 AM	0	0	16	2	0	2	23	1	0	2	1	4	0	0	3	1	55	177
8:00 AM	0	1	14	3	0	7	16	0	0	2	0	2	0	0	1	2	48	192
8:15 AM	1	0	20	0	0	2	12	0	0	2	0	1	0	0	0	0	38	177
8:30 AM	0	0	17	1	0	1	21	0	0	4	0	6	0	0	1	0	51	192
8:45 AM	0	0	18	1	0	1	16	0	0	0	0	5	0	0	0	1	42	179
Count Total	1	4	106	9	0	17	154	4	0	17	3	23	0	0	9	9	356	0
Peak Hour	1	1	57	5	0	13	68	3	0	7	1	9	0	0	6	6	177	0

Two-Hour Count Summaries - Bikes																
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Industrial Pkwy SW			Ruus Rd			15-min Total	Rolling One Hour		
	Eastbound			Westbound			Northbound			Southbound						
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
7:00 AM	0	0	1	1	0	0	0	0	0	0	1	0	3	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0		
7:30 AM	0	0	0	1	1	0	0	0	0	0	2	0	4	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	8		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	5		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Count Total	0	0	1	2	1	0	0	0	0	0	4	1	9	0		
Peak Hour	0	0	0	1	1	0	0	0	0	0	2	1	5	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

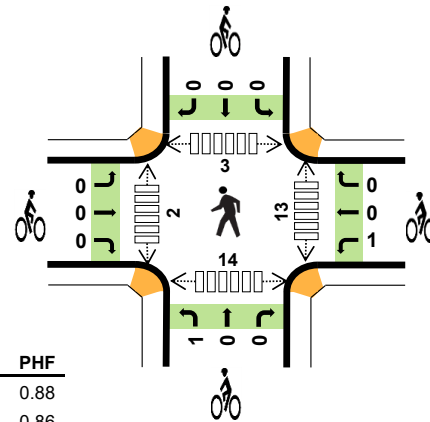
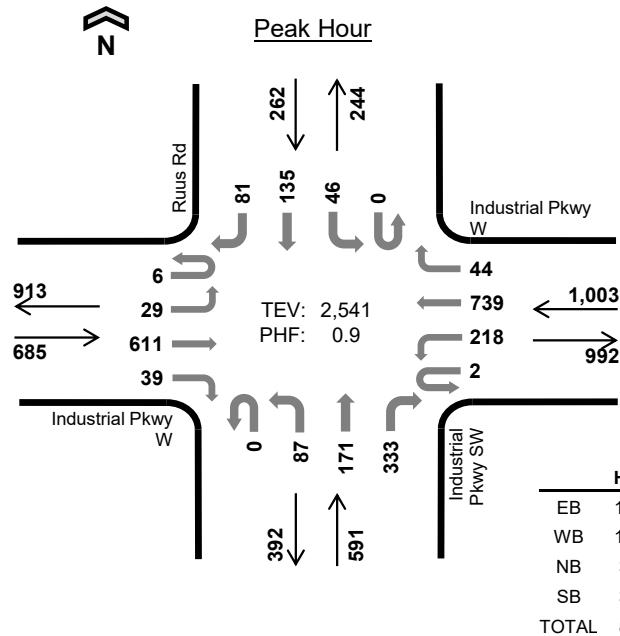
Ruus Rd Industrial Pkwy W



Date: 03/07/2023

Count Period: 10:00 AM to 2:00 PM

Peak Hour: 1:00 PM to 2:00 PM



	HV %:	PHF
EB	11.8%	0.88
WB	10.1%	0.86
NB	3.7%	0.92
SB	3.4%	0.91
TOTAL	8.4%	0.90

Four-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		1	9	133	13	1	50	173	5	0	24	39	89	0	8	35	24	604	0
1:15 PM		1	8	142	9	0	61	178	10	0	19	42	73	0	23	28	21	615	0
1:30 PM		1	4	179	11	1	55	223	14	0	27	41	92	0	5	34	15	702	0
1:45 PM		3	8	157	6	0	52	165	15	0	17	49	79	0	10	38	21	620	2,541
Peak Hour	All	6	29	611	39	2	218	739	44	0	87	171	333	0	46	135	81	2,541	0
	HV	1	6	71	3	0	5	92	4	0	18	0	4	0	1	2	6	213	0
	HV%	17%	21%	12%	8%	0%	2%	12%	9%	-	21%	0%	1%	-	2%	1%	7%	8%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	20	30	6	1	57	0	0	1	0	1	3	1	2	3	9
1:15 PM	23	26	8	1	58	0	0	0	0	0	4	0	0	6	10
1:30 PM	16	21	4	4	45	0	0	0	0	0	3	1	1	2	7
1:45 PM	22	24	4	3	53	0	1	0	0	1	3	0	0	3	6
Peak Hour	81	101	22	9	213	0	1	1	0	2	13	2	3	14	32

Four-Hour Count Summaries																			
Interval Start		Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM		2	8	89	9	1	44	136	10	0	17	21	69	0	2	31	14	453	
10:15 AM		1	6	97	8	0	46	164	6	0	14	25	70	0	5	37	19	498	
10:30 AM		1	16	105	9	1	64	169	4	0	19	54	102	0	5	36	24	609	
10:45 AM		0	8	111	15	0	62	145	10	0	34	39	99	0	0	40	19	582	
11:00 AM		0	14	113	14	0	44	171	9	0	31	36	108	0	5	27	24	596	
11:15 AM		1	4	104	6	0	51	171	6	0	23	45	90	0	2	33	22	558	
11:30 AM		1	12	109	14	1	65	154	9	0	23	37	85	0	3	33	15	561	
11:45 AM		0	13	135	6	0	57	163	9	0	21	45	91	0	2	31	12	585	
12:00 PM		1	11	164	14	0	54	197	7	0	18	54	77	0	8	41	19	665	
12:15 PM		1	8	131	12	1	62	178	12	0	22	45	87	0	10	31	23	623	
12:30 PM		1	6	129	13	1	60	166	7	0	19	57	64	0	3	24	24	574	
12:45 PM		0	11	151	8	2	60	162	9	0	19	53	60	0	6	30	22	593	
1:00 PM		1	9	133	13	1	50	173	5	0	24	39	89	0	8	35	24	604	
1:15 PM		1	8	142	9	0	61	178	10	0	19	42	73	0	23	28	21	615	
1:30 PM		1	4	179	11	1	55	223	14	0	27	41	92	0	5	34	15	702	
1:45 PM		3	8	157	6	0	52	165	15	0	17	49	79	0	10	38	21	620	
Count Total		15	146	2,049	167	9	887	2,715	142	0	347	682	1,335	0	97	529	318	9,438	
Peak Hour	All	6	29	611	39	2	218	739	44	0	87	171	333	0	46	135	81	2,541	
	HV	1	6	71	3	0	5	92	4	0	18	0	4	0	1	2	6	213	
	HV%	17%	21%	12%	8%	0%	2%	12%	9%	-	21%	0%	1%	-	2%	1%	7%	8%	
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start		Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)							
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total			
10:00 AM		23	17	11	1	52	0	6	0	0	6	1	1	1	1	4			
10:15 AM		16	25	8	0	49	0	0	0	0	0	4	1	1	4	10			
10:30 AM		20	25	5	1	51	0	0	0	0	0	0	0	0	0	0			
10:45 AM		24	20	6	2	52	0	0	0	0	0	0	0	1	0	1			
11:00 AM		20	24	11	3	58	0	0	0	0	0	1	0	3	2	6			
11:15 AM		14	28	5	2	49	0	1	0	0	1	1	0	0	1	2			
11:30 AM		30	22	12	0	64	0	0	0	0	0	5	1	0	7	13			
11:45 AM		26	29	4	3	62	0	0	0	0	0	2	1	0	3	6			
12:00 PM		28	27	3	4	62	1	0	0	0	1	0	0	4	1	5			
12:15 PM		21	18	6	3	48	0	2	0	0	2	0	0	1	0	1			
12:30 PM		24	21	5	2	52	0	0	0	0	0	6	0	4	6	16			
12:45 PM		24	19	4	1	48	0	0	0	0	0	2	0	1	2	5			
1:00 PM		20	30	6	1	57	0	0	1	0	1	3	1	2	3	9			
1:15 PM		23	26	8	1	58	0	0	0	0	0	4	0	0	6	10			
1:30 PM		16	21	4	4	45	0	0	0	0	0	3	1	1	2	7			
1:45 PM		22	24	4	3	53	0	1	0	0	1	3	0	0	3	6			
Count Total		351	376	102	31	860	1	10	1	0	12	35	6	19	41	101			
Peak Hour		81	101	22	9	213	0	1	1	0	2	13	2	3	14	32			

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM	0	1	21	1	0	2	15	0	0	8	0	3	0	0	1	0	52	0
10:15 AM	0	0	13	3	0	1	24	0	0	4	2	2	0	0	0	0	49	0
10:30 AM	0	2	16	2	0	2	23	0	0	3	2	0	0	0	0	1	51	0
10:45 AM	0	0	19	5	0	2	17	1	0	4	0	2	0	0	0	2	52	204
11:00 AM	0	0	19	1	0	0	24	0	0	7	0	4	0	0	1	2	58	210
11:15 AM	1	0	13	0	0	1	27	0	0	2	2	1	0	0	0	2	49	210
11:30 AM	1	0	27	2	0	0	21	1	0	4	3	5	0	0	0	0	64	223
11:45 AM	0	1	25	0	0	0	27	2	0	3	0	1	0	0	0	3	62	233
12:00 PM	0	1	25	2	0	1	26	0	0	3	0	0	0	2	1	1	62	237
12:15 PM	0	1	20	0	0	3	14	1	0	6	0	0	0	0	1	2	48	236
12:30 PM	0	1	20	3	0	3	17	1	0	4	1	0	0	0	0	2	52	224
12:45 PM	0	1	21	2	0	0	19	0	0	4	0	0	0	0	0	1	48	210
1:00 PM	0	1	19	0	0	0	29	1	0	5	0	1	0	0	1	0	57	205
1:15 PM	1	4	17	1	0	0	25	1	0	6	0	2	0	0	0	1	58	215
1:30 PM	0	0	15	1	0	2	19	0	0	3	0	1	0	1	1	2	45	208
1:45 PM	0	1	20	1	0	3	19	2	0	4	0	0	0	0	0	3	53	213
Count Total	3	14	310	24	0	20	346	10	0	70	10	22	0	3	6	22	860	0
Peak Hour	1	6	71	3	0	5	92	4	0	18	0	4	0	1	2	6	213	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Industrial Pkwy SW			Ruus Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
10:00 AM	0	0	0	6	0	0	0	0	0	0	0	0	6	0				
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6				
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	1				
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
12:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	2				
12:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	3				
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
1:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	3				
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
1:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	2				
Count Total	0	0	1	8	2	0	1	0	0	0	0	0	12	0				
Peak Hour	0	0	0	1	0	0	1	0	0	0	0	0	2	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

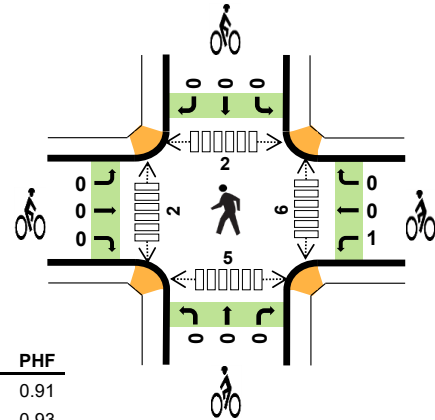
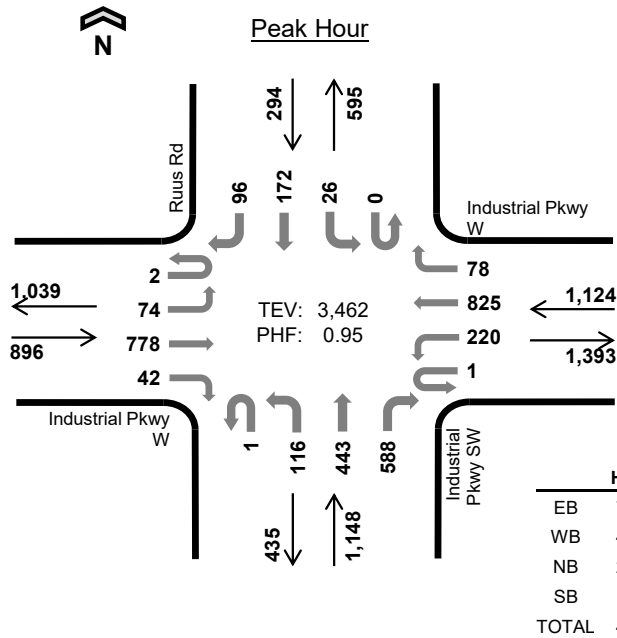
Ruus Rd Industrial Pkwy W



Date: 03/07/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



Two-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	25	198	13	1	59	219	24	0	32	88	133	0	9	44	22	867	0
4:15 PM		0	18	216	11	0	60	191	22	1	23	121	181	0	7	30	27	908	0
4:30 PM		0	17	198	13	0	55	203	17	0	35	111	143	0	4	50	26	872	0
4:45 PM		2	14	166	5	0	46	212	15	0	26	123	131	0	6	48	21	815	3,462
5:00 PM		0	19	167	9	0	54	247	13	0	32	118	150	0	3	34	18	864	3,459
5:15 PM		0	16	183	11	0	58	216	16	0	36	113	147	0	1	36	19	852	3,403
5:30 PM		0	17	184	7	1	68	194	18	0	43	115	159	0	2	33	17	858	3,389
5:45 PM		0	14	177	7	2	70	207	9	0	35	96	163	0	0	29	11	820	3,394
Count Total		2	140	1,489	76	4	470	1,689	134	1	262	885	1,207	0	32	304	161	6,856	0
Peak Hour	All	2	74	778	42	1	220	825	78	1	116	443	588	0	26	172	96	3,462	0
	HV	0	3	62	2	0	3	44	1	0	10	4	12	0	2	1	0	144	0
	HV%	0%	4%	8%	5%	0%	1%	5%	1%	0%	9%	1%	2%	-	8%	1%	0%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	21	12	7	1	41	0	1	0	0	1	1	1	0	1	3
4:15 PM	21	10	4	0	35	0	0	0	0	0	2	0	0	2	4
4:30 PM	17	14	11	0	42	0	0	0	0	0	1	0	0	0	1
4:45 PM	8	12	4	2	26	0	0	0	0	0	2	1	2	2	7
5:00 PM	12	12	4	1	29	0	0	0	0	0	1	1	0	3	5
5:15 PM	10	7	6	0	23	0	1	0	0	1	1	0	1	0	2
5:30 PM	14	7	5	0	26	0	0	0	0	0	0	0	0	1	1
5:45 PM	5	10	2	1	18	0	0	0	0	0	0	0	1	0	1
Count Total	108	84	43	5	240	0	2	0	0	2	8	3	4	9	24
Peak Hour	67	48	26	3	144	0	1	0	0	1	6	2	2	5	15

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Industrial Pkwy SW				Ruus Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	20	0	0	1	11	0	0	4	0	3	0	1	0	0	41	0
4:15 PM	0	0	20	1	0	0	9	1	0	0	0	4	0	0	0	0	35	0
4:30 PM	0	1	15	1	0	2	12	0	0	4	3	4	0	0	0	0	42	0
4:45 PM	0	1	7	0	0	0	12	0	0	2	1	1	0	1	1	0	26	144
5:00 PM	0	0	9	3	0	0	12	0	0	2	2	0	0	1	0	0	29	132
5:15 PM	0	0	9	1	0	0	6	1	0	2	3	1	0	0	0	0	23	120
5:30 PM	0	0	13	1	0	0	7	0	0	1	3	1	0	0	0	0	26	104
5:45 PM	0	0	5	0	0	0	10	0	0	1	0	1	0	0	0	1	18	96
Count Total	0	3	98	7	0	3	79	2	0	16	12	15	0	3	1	1	240	0
Peak Hour	0	3	62	2	0	3	44	1	0	10	4	12	0	2	1	0	144	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Industrial Pkwy SW			Ruus Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	1			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
Count Total	0	0	0	1	1	0	0	0	0	0	0	0	2	0			
Peak Hour	0	0	0	1	0	0	0	0	0	0	0	0	1	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

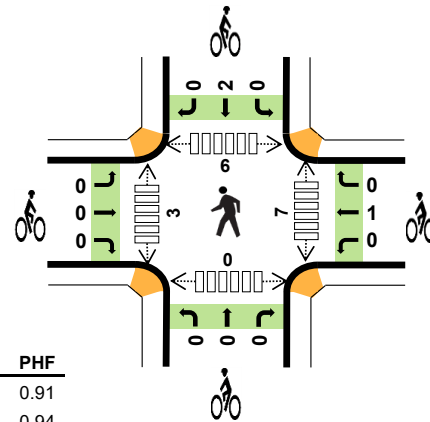
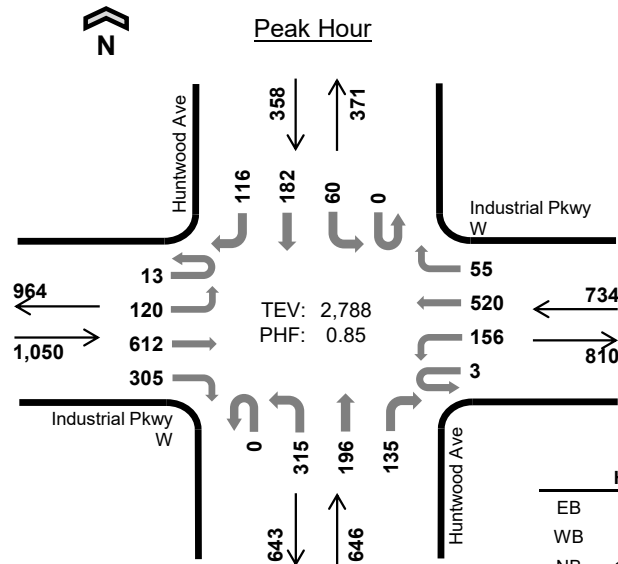
Huntwood Ave Industrial Pkwy W



Date: 03/07/2023

Count Period: 10:00 AM to 2:00 PM

Peak Hour: 1:00 PM to 2:00 PM



	HV %:	PHF
EB	8.4%	0.91
WB	4.8%	0.94
NB	12.1%	0.69
SB	2.5%	0.76
TOTAL	7.5%	0.85

Four-Hour Count Summaries

Interval Start		Industrial Pkwy W				Industrial Pkwy W				Huntwood Ave				Huntwood Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		2	27	138	61	0	28	120	9	0	65	43	39	0	16	29	21	598	0
1:15 PM		1	33	154	71	0	41	137	17	0	67	32	25	0	14	30	30	652	0
1:30 PM		4	25	168	79	1	38	139	13	0	112	75	46	0	17	63	38	818	0
1:45 PM		6	35	152	94	2	49	124	16	0	71	46	25	0	13	60	27	720	2,788
Peak Hour	All	13	120	612	305	3	156	520	55	0	315	196	135	0	60	182	116	2,788	0
	HV	0	2	14	72	0	12	23	0	0	68	4	6	0	1	3	5	210	0
	HV%	0%	2%	2%	24%	0%	8%	4%	0%	-	22%	2%	4%	-	2%	2%	4%	8%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	21	13	21	2	57	0	0	0	1	1	2	0	1	0	3
1:15 PM	20	4	21	1	46	0	0	0	0	0	4	1	2	0	7
1:30 PM	20	9	21	4	54	0	1	0	1	2	1	0	2	0	3
1:45 PM	27	9	15	2	53	0	0	0	0	0	0	2	1	0	3
Peak Hour	88	35	78	9	210	0	1	0	2	3	7	3	6	0	16

Four-Hour Count Summaries																			
Interval Start		Industrial Pkwy W				Industrial Pkwy W				Huntwood Ave				Huntwood Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM		3	14	99	51	3	36	111	12	0	71	19	16	0	5	27	13	480	
10:15 AM		1	13	99	39	1	27	140	7	0	40	25	19	0	11	25	23	470	
10:30 AM		1	16	167	50	0	26	167	9	0	62	28	29	0	5	39	31	630	
10:45 AM		1	31	127	50	3	35	104	12	0	49	20	36	0	9	26	23	526	
11:00 AM		6	19	153	62	1	17	141	13	0	64	37	25	1	7	19	24	589	
11:15 AM		4	31	106	48	2	33	132	16	0	60	37	27	0	13	16	22	547	
11:30 AM		3	31	137	67	1	33	138	13	0	51	39	26	0	17	43	28	627	
11:45 AM		6	23	141	70	2	27	142	14	0	71	42	25	0	12	29	23	627	
12:00 PM		5	31	136	69	1	28	141	9	0	74	29	37	0	10	35	19	624	
12:15 PM		7	29	165	52	0	21	126	15	0	63	38	39	0	11	31	31	628	
12:30 PM		6	23	140	51	1	30	118	13	0	74	38	38	0	16	40	24	612	
12:45 PM		3	26	155	79	1	27	151	12	0	47	31	38	0	18	40	39	667	
1:00 PM		2	27	138	61	0	28	120	9	0	65	43	39	0	16	29	21	598	
1:15 PM		1	33	154	71	0	41	137	17	0	67	32	25	0	14	30	30	652	
1:30 PM		4	25	168	79	1	38	139	13	0	112	75	46	0	17	63	38	818	
1:45 PM		6	35	152	94	2	49	124	16	0	71	46	25	0	13	60	27	720	
Count Total		59	407	2,237	993	19	496	2,131	200	0	1,041	579	490	1	194	552	416	9,815	
Peak Hour	All	13	120	612	305	3	156	520	55	0	315	196	135	0	60	182	116	2,788	
	HV	0	2	14	72	0	12	23	0	0	68	4	6	0	1	3	5	210	
	HV%	0%	2%	2%	24%	0%	8%	4%	0%	-	22%	2%	4%	-	2%	2%	4%	8%	
Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.																			
Interval Start		Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)							
		EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total			
10:00 AM		30	6	18	0	54	0	0	0	0	0	1	1	1	0	3			
10:15 AM		16	10	20	2	48	0	0	0	0	0	1	1	1	0	3			
10:30 AM		24	13	22	1	60	0	0	0	1	1	2	1	0	0	3			
10:45 AM		21	5	19	7	52	0	0	1	0	1	0	0	0	0	0			
11:00 AM		25	12	19	2	58	0	0	0	0	0	2	0	0	0	2			
11:15 AM		17	7	29	2	55	0	0	0	0	0	2	0	0	0	2			
11:30 AM		30	4	18	3	55	0	0	0	0	0	1	0	0	1	2			
11:45 AM		29	11	24	2	66	0	0	0	0	0	2	0	0	0	2			
12:00 PM		27	10	16	2	55	0	0	0	0	0	3	0	0	0	3			
12:15 PM		19	8	14	2	43	0	2	0	0	2	0	0	3	0	3			
12:30 PM		22	6	17	3	48	0	0	0	1	1	0	0	0	0	0			
12:45 PM		26	9	15	3	53	0	0	0	0	0	2	1	1	0	4			
1:00 PM		21	13	21	2	57	0	0	0	1	1	2	0	1	0	3			
1:15 PM		20	4	21	1	46	0	0	0	0	0	4	1	2	0	7			
1:30 PM		20	9	21	4	54	0	1	0	1	2	1	0	2	0	3			
1:45 PM		27	9	15	2	53	0	0	0	0	0	0	2	1	0	3			
Count Total		374	136	309	38	857	0	3	1	4	8	23	7	12	1	43			
Peak Hour		88	35	78	9	210	0	1	0	2	3	7	3	6	0	16			

Four-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Industrial Pkwy W				Industrial Pkwy W				Huntwood Ave				Huntwood Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
10:00 AM	0	0	8	22	0	2	4	0	0	16	0	2	0	0	0	0	54	0
10:15 AM	0	1	3	12	0	5	4	1	0	17	2	1	0	0	1	1	48	0
10:30 AM	0	0	9	15	0	4	9	0	0	17	0	5	0	1	0	0	60	0
10:45 AM	0	1	3	17	1	1	3	0	0	15	1	3	0	0	6	1	52	214
11:00 AM	1	0	6	18	0	5	7	0	0	17	1	1	0	0	1	1	58	218
11:15 AM	0	0	3	14	0	3	4	0	0	24	3	2	0	1	0	1	55	225
11:30 AM	0	0	10	20	0	1	3	0	0	12	3	3	0	2	1	0	55	220
11:45 AM	0	0	4	25	0	4	6	1	0	23	0	1	0	1	0	1	66	234
12:00 PM	0	0	6	21	0	3	7	0	0	13	1	2	0	0	1	1	55	231
12:15 PM	0	0	8	11	0	0	7	1	0	9	1	4	0	0	1	1	43	219
12:30 PM	0	0	6	16	0	2	4	0	0	13	1	3	0	0	3	0	48	212
12:45 PM	0	0	9	17	0	4	5	0	0	11	2	2	0	1	0	2	53	199
1:00 PM	0	2	2	17	0	3	10	0	0	19	0	2	0	0	0	2	57	201
1:15 PM	0	0	3	17	0	1	3	0	0	18	1	2	0	0	1	0	46	204
1:30 PM	0	0	5	15	0	5	4	0	0	18	1	2	0	0	2	2	54	210
1:45 PM	0	0	4	23	0	3	6	0	0	13	2	0	0	1	0	1	53	210
Count Total	1	4	89	280	1	46	86	3	0	255	19	35	0	7	17	14	857	0
Peak Hour	0	2	14	72	0	12	23	0	0	68	4	6	0	1	3	5	210	0

Four-Hour Count Summaries - Bikes																		
Interval Start	Industrial Pkwy W			Industrial Pkwy W			Huntwood Ave			Huntwood Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0				
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	2				
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	2				
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	3				
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	4				
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
1:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	2	3				
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	0	0	0	0	3	0	0	1	0	0	3	1	8	0				
Peak Hour	0	0	0	0	1	0	0	0	0	0	2	0	3	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Location: Ruus Rd / Industrial Pkwy W
Date: 03/07/2023
Site Code: 5

	Tuesday, March 07, 2023				
	Light Vehicles		Heavy Vehicles		Total
Time	Volume		Volume		
	NB Right Turn	NB Slip Lane	NB Right Turn	NB Slip Lane	
7:00	6	39	0	1	315
7:15	7	52	0	2	
7:30	9	82	1	1	
7:45	18	93	1	3	
8:00	12	68	2	0	343
8:15	14	78	0	1	
8:30	3	73	0	6	
8:45	6	75	1	4	
10:00	1	65	1	2	340
10:15	1	67	0	2	
10:30	1	101	0	0	
10:45	2	95	0	2	
11:00	3	101	0	4	374
11:15	1	88	0	1	
11:30	2	78	0	5	
11:45	0	90	0	1	
12:00	2	75	0	0	288
12:15	3	84	0	0	
12:30	2	62	0	0	
12:45	3	57	0	0	
13:00	6	82	0	1	333
13:15	3	68	0	2	
13:30	5	86	0	1	
13:45	2	77	0	0	
16:00	11	119	0	3	588
16:15	16	161	2	2	
16:30	7	132	1	3	
16:45	8	122	0	1	
17:00	9	141	0	0	619
17:15	12	134	1	0	
17:30	11	147	0	1	
17:45	4	158	0	1	
8-HOUR TOTAL	190	2950	10	50	3200

Appendix B

Volume Summary

Appendix B

Volume Summary

Intersection Number:	1												
Traffic Node Number:	1												
Intersection Name:	Hesperian Boulevard & Industrial Parkway West												
Peak Hour:	AM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	34	1158	258	339	365	254	110	520	259	340	298	55	3990
Background Growth 31161 San Antonio Industrial	3	89	20	26	28	20	9	40	20	26	23	4	308
	0	0	0	0	0	0	0	0	0	0	0	0	0
Background Conditions	37	1247	278	365	393	274	119	560	279	366	321	59	4298
Project Trips	0	0	4	1	0	1	4	0	0	0	4	0	14
Existing + Project	34	1158	262	340	365	255	114	520	259	340	302	55	4004
Background + Project	37	1247	282	366	393	275	123	560	279	366	325	59	4312
Intersection Number:	2												
Traffic Node Number:	2												
Intersection Name:	I-880 Southbound Off-Ra & Industrial Parkway West												
Peak Hour:	AM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	325	0	465	226	811	0	0	0	0	0	605	141	2573
Background Growth 31161 San Antonio Industrial	25	0	36	17	63	0	0	0	0	0	47	11	199
	0	0	10	0	0	0	0	0	0	0	0	0	10
Background Conditions	350	0	511	243	874	0	0	0	0	0	652	152	2782
Project Trips	0	0	31	1	2	0	0	0	0	0	12	0	46
Existing + Project	325	0	496	227	813	0	0	0	0	0	617	141	2619
Background + Project	350	0	542	244	876	0	0	0	0	0	664	152	2828

CenterPoint Warehouse Traffic Study AM Conditions

Intersection Number:	3												
Traffic Node Number:	3												
Intersection Name:	Stratford Road	& Industrial Parkway West											
Peak Hour:	AM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
Annual Growth Rate 1.5%													
Number of Background Years 5													
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	353	44	45	34	1005	16	11	36	139	147	678	72	2580
Background Growth 31161 San Antonio Industrial	27	3	3	3	78	1	1	3	11	11	52	6	199
	0	0	0	0	2	0	0	0	0	0	10	0	12
Background Conditions	380	47	48	37	1085	17	12	39	150	158	740	78	2791
Project Trips	0	0	0	0	9	0	0	0	0	0	43	0	52
Existing + Project	353	44	45	34	1014	16	11	36	139	147	721	72	2632
Background + Project	380	47	48	37	1094	17	12	39	150	158	783	78	2843

Intersection Number:	4												
Traffic Node Number:	4												
Intersection Name:	Ruus Road/Industrial Par	& Industrial Parkway West											
Peak Hour:	AM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
Annual Growth Rate 1.5%													
Number of Background Years 5													
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	117	345	8	36	964	385	57	107	49	76	633	18	2795
Background Growth 31161 San Antonio Industrial	9	27	1	3	75	30	4	8	4	6	49	1	217
	0	0	0	0	2	0	0	0	0	0	10	0	12
Background Conditions	126	372	9	39	1041	415	61	115	53	82	692	19	3024
Project Trips	6	4	1	2	3	0	0	25	6	0	0	43	90
Existing + Project	123	349	9	38	967	385	57	132	55	76	633	61	2885
Background + Project	132	376	10	41	1044	415	61	140	59	82	692	62	3114

Intersection Number:	5												
Traffic Node Number:	5												
Intersection Name:	Huntwood Avenue	& Industrial Parkway West											
Peak Hour:	AM	Date of Analysis: 03/29/23											
Count Date:	05/31/22												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	153	289	56	26	828	319	64	94	215	360	389	38	2831
Background Growth 31161 San Antonio Industrial	12	22	4	2	64	25	5	7	17	28	30	3	219
	0	5	0	0	0	10	2	1	2	10	0	0	30
Background Conditions	165	316	60	28	892	354	71	102	234	398	419	41	3080
Project Trips	0	0	0	0	4	0	0	0	1	0	1	0	6
Existing + Project	153	289	56	26	832	319	64	94	216	360	390	38	2837
Background + Project	165	316	60	28	896	354	71	102	235	398	420	41	3086
Intersection Number:	6												
Traffic Node Number:	6												
Intersection Name:	Ruus Road	& Site Access											
Peak Hour:	AM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	2	450	0	0	0	0	0	161	2	5	0	0	620
Background Growth 31161 San Antonio Industrial	0	35	0	0	0	0	0	12	0	0	0	0	47
	0	0	0	0	0	0	0	0	0	0	0	0	0
Background Conditions	2	485	0	0	0	0	0	173	2	5	0	0	667
Project Trips	1	0	0	0	0	0	0	0	64	11	0	1	77
Existing + Project	3	450	0	0	0	0	0	161	66	16	0	1	697
Background + Project	3	485	0	0	0	0	0	173	66	16	0	1	744

Intersection Number:		7												
Traffix Node Number:		7												
Intersection Name:		Site Access 1 & Industrial Parkway West												
Peak Hour:		AM										Date of Analysis: 03/29/23		
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
												Annual Growth Rate	1.5%	
												Number of Background Years	5	
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		7	0	0	19	1130	0	0	0	0	0	727	0	1883
Background Growth		0	0	0	0	87	0	0	0	0	0	56	0	143
31161 San Antonio Industrial		0	0	0	0	2	0	0	0	0	0	10	0	12
Background Conditions		7	0	0	19	1219	0	0	0	0	0	793	0	2038
Project Trips		2	0	0	5	7	0	0	0	0	0	43	0	57
Existing + Project		9	0	0	24	1137	0	0	0	0	0	770	0	1940
Background + Project		9	0	0	24	1226	0	0	0	0	0	836	0	2095
Intersection Number:		8												
Traffix Node Number:		8												
Intersection Name:		Site Access 2 & Industrial Parkway West												
Peak Hour:		AM										Date of Analysis: 03/29/23		
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
												Annual Growth Rate	1.5%	
												Number of Background Years	5	
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		0	0	0	19	1130	0	0	0	0	0	727	0	1876
Background Growth		0	0	0	0	87	0	0	0	0	0	56	0	143
31161 San Antonio Industrial		0	0	0	0	2	0	0	0	0	0	10	0	12
Background Conditions		0	0	0	19	1219	0	0	0	0	0	793	0	2031
Project Trips		1	0	0	10	11	0	0	0	0	0	43	0	65
Existing + Project		1	0	0	29	1141	0	0	0	0	0	770	0	1941
Background + Project		1	0	0	29	1230	0	0	0	0	0	836	0	2096

CenterPoint Warehouse Traffic Study Midday Conditions

Intersection Number:		1											
Traffix Node Number:		1											
Intersection Name:		Hesperian Boulevard & Industrial Parkway West											
Peak Hour:		Midday											
Count Date:		03/07/23											
Scenario:		CenterPoint Warehouse											
												Annual Growth Rate	1.5%
												Number of Background Years	5
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX													
PHF													
User Adjustment													
Existing Conditions													
Background Growth													
31161 San Antonio Industrial													
Background Conditions													
Project Trips													
Existing + Project													
Background + Project													
Intersection Number:		2											
Traffix Node Number:		2											
Intersection Name:		I-880 Southbound Off-Ra & Industrial Parkway West											
Peak Hour:		Midday											
Count Date:		03/07/23											
Scenario:		CenterPoint Warehouse											
												Annual Growth Rate	1.5%
												Number of Background Years	5
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX													
PHF													
User Adjustment													
Existing Conditions													
Background Growth													
31161 San Antonio Industrial													
Background Conditions													
Project Trips													
Existing + Project													
Background + Project													
Intersection Number:		2											
Traffix Node Number:		2											
Intersection Name:		I-880 Southbound Off-Ra & Industrial Parkway West											
Peak Hour:		Midday											
Count Date:		03/07/23											
Scenario:		CenterPoint Warehouse											
												Annual Growth Rate	1.5%
												Number of Background Years	5
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX													
PHF													
User Adjustment													
Existing Conditions													
Background Growth													
31161 San Antonio Industrial													
Background Conditions													
Project Trips													
Existing + Project													
Background + Project													
Existing + Project Check													
Background+Project Check													

CenterPoint Warehouse Traffic Study Midday Conditions

Intersection Number:		3												
Traffix Node Number:		3												
Intersection Name:		Stratford Road & Industrial Parkway West												
Peak Hour:		Midday												
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
		Annual Growth Rate 1.5%												
		Number of Background Years 5												
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		106	27	28	31	830	38	7	62	166	129	616	76	2116
Background Growth		8	2	2	2	64	3	1	5	13	10	48	6	164
31161 San Antonio Industrial		0	0	0	0	11	0	0	0	0	0	2	0	13
Background Conditions		114	29	30	33	905	41	8	67	179	139	666	82	2293
Project Trips		0	0	0	0	27	0	0	0	0	0	14	0	41
Existing + Project		106	27	28	31	857	38	7	62	166	129	630	76	2157
Background + Project		114	29	30	33	932	41	8	67	179	139	680	82	2334
Intersection Number:		4												
Traffix Node Number:		4												
Intersection Name:		Ruus Road/Industrial Par & Industrial Parkway West												
Peak Hour:		Midday												
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
		Annual Growth Rate 1.5%												
		Number of Background Years 5												
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		81	135	46	44	739	220	16	171	87	39	611	35	2224
Background Growth		6	10	4	3	57	17	1	13	7	3	47	3	171
31161 San Antonio Industrial		0	0	0	0	11	0	0	0	0	0	2	0	13
Background Conditions		87	145	50	47	807	237	17	184	94	42	660	38	2408
Project Trips		17	14	2	0	1	0	0	8	2	0	0	14	58
Existing + Project		98	149	48	44	740	220	16	179	89	39	611	49	2282
Background + Project		104	159	52	47	808	237	17	192	96	42	660	52	2466

CenterPoint Warehouse Traffic Study Midday Conditions

Intersection Number:		5												
Traffix Node Number:		5												
Intersection Name:		Huntwood Avenue & Industrial Parkway West												
Peak Hour:		Midday												
Count Date:		05/31/22												
Scenario:		CenterPoint Warehouse												
											Annual Growth Rate	1.5%		
											Number of Background Years	5		
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		116	182	60	55	520	159	135	196	315	305	612	133	2788
Background Growth		9	14	5	4	40	12	10	15	24	24	47	10	214
31161 San Antonio Industrial		0	1	0	0	0	2	11	6	11	2	0	0	33
Background Conditions		125	197	65	59	560	173	156	217	350	331	659	143	3035
Project Trips		0	0	0	0	1	0	0	0	0	0	2	0	3
Existing + Project		116	182	60	55	521	159	135	196	315	305	614	133	2791
Background + Project		125	197	65	59	561	173	156	217	350	331	661	143	3038
Intersection Number:		6												
Traffix Node Number:		6												
Intersection Name:		Ruus Road & Site Access												
Peak Hour:		Midday												
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
											Annual Growth Rate	1.5%		
											Number of Background Years	5		
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		1	262	0	0	0	0	0	250	3	5	0	1	522
Background Growth		0	20	0	0	0	0	0	19	0	0	0	0	39
31161 San Antonio Industrial		0	0	0	0	0	0	0	0	0	0	0	0	0
Background Conditions		1	282	0	0	0	0	0	269	3	5	0	1	561
Project Trips		0	0	0	0	0	0	0	0	22	33	0	0	55
Existing + Project		1	262	0	0	0	0	0	250	25	38	0	1	577
Background + Project		1	282	0	0	0	0	0	269	25	38	0	1	616

Intersection Number:		7												
Traffix Node Number:		7												
Intersection Name:		Site Access 1 & Industrial Parkway West												
Peak Hour:		Midday										Date of Analysis: 03/29/23		
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
												Annual Growth Rate	1.5%	
												Number of Background Years	5	
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		17	0	0	9	907	0	0	0	0	0	685	0	1618
Background Growth		0	0	0	0	70	0	0	0	0	0	53	0	123
31161 San Antonio Industrial		0	0	0	0	11	0	0	0	0	0	2	0	13
Background Conditions		17	0	0	9	988	0	0	0	0	0	740	0	1754
Project Trips		7	0	0	1	20	0	0	0	0	0	14	0	42
Existing + Project		24	0	0	10	927	0	0	0	0	0	699	0	1660
Background + Project		24	0	0	10	1008	0	0	0	0	0	754	0	1796
Intersection Number:		8												
Traffix Node Number:		8												
Intersection Name:		Site Access 2 & Industrial Parkway West												
Peak Hour:		Midday										Date of Analysis: 03/29/23		
Count Date:		03/07/23												
Scenario:		CenterPoint Warehouse												
												Annual Growth Rate	1.5%	
												Number of Background Years	5	
Movements														
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
INDEX		7	6	5	13	12	11	4	3	2	10	9	8	
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions		0	0	0	10	907	0	0	0	0	0	685	0	1602
Background Growth		0	0	0	0	70	0	0	0	0	0	53	0	123
31161 San Antonio Industrial		0	0	0	0	11	0	0	0	0	0	2	0	13
Background Conditions		0	0	0	10	988	0	0	0	0	0	740	0	1738
Project Trips		3	0	0	2	18	0	0	0	0	0	14	0	37
Existing + Project		3	0	0	12	925	0	0	0	0	0	699	0	1639
Background + Project		3	0	0	12	1006	0	0	0	0	0	754	0	1775

Intersection Number:	1												
Traffic Node Number:	1												
Intersection Name:	Hesperian Boulevard & Industrial Parkway West												
Peak Hour:	PM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	36	755	201	317	345	287	130	1313	209	250	670	185	4698
Background Growth 31161 San Antonio Industrial	3	58	16	24	27	22	10	101	16	19	52	14	362
	0	0	0	0	0	0	0	0	0	0	0	0	0
Background Conditions	39	813	217	341	372	309	140	1414	225	269	722	199	5060
Project Trips	0	0	3	5	4	4	3	0	0	0	3	0	22
Existing + Project	36	755	204	322	349	291	133	1313	209	250	673	185	4720
Background + Project	39	813	220	346	376	313	143	1414	225	269	725	199	5082
Intersection Number:	2												
Traffic Node Number:	2												
Intersection Name:	I-880 Southbound Off-Ra & Industrial Parkway West												
Peak Hour:	PM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	208	0	391	236	864	0	0	0	0	0	825	359	2883
Background Growth 31161 San Antonio Industrial	16	0	30	18	67	0	0	0	0	0	64	28	223
	0	0	2	0	0	0	0	0	0	0	0	0	2
Background Conditions	224	0	423	254	931	0	0	0	0	0	889	387	3108
Project Trips	0	0	24	7	13	0	0	0	0	0	9	0	53
Existing + Project	208	0	415	243	877	0	0	0	0	0	834	359	2936
Background + Project	224	0	447	261	944	0	0	0	0	0	898	387	3161

Intersection Number:	3													
Traffic Node Number:	3													
Intersection Name:	Stratford Road	& Industrial Parkway West												
Peak Hour:	PM											Date of Analysis: 03/29/23		
Count Date:	03/07/23													
Scenario:	CenterPoint Warehouse													
													Annual Growth Rate	1.5%
													Number of Background Years	5
Movements														
Scenario:	North Approach			East Approach			South Approach			West Approach			Total	
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT		
INDEX	7	6	5	13	12	11	4	3	2	10	9	8		
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Existing Conditions	117	28	34	53	1040	32	12	99	340	85	753	147	2740	
Background Growth 31161 San Antonio Industrial	9	2	3	4	80	2	1	8	26	7	58	11	211	
	0	0	0	0	10	0	0	0	0	0	2	0	12	
Background Conditions	126	30	37	57	1130	34	13	107	366	92	813	158	2963	
Project Trips	0	0	0	0	53	0	0	0	0	0	33	0	86	
Existing + Project	117	28	34	53	1093	32	12	99	340	85	786	147	2826	
Background + Project	126	30	37	57	1183	34	13	107	366	92	846	158	3049	
Intersection Number:	4													
Traffic Node Number:	4													
Intersection Name:	Ruus Road/Industrial Par	& Industrial Parkway West												
Peak Hour:	PM											Date of Analysis: 03/29/23		
Count Date:	03/07/23													
Scenario:	CenterPoint Warehouse													
													Annual Growth Rate	1.5%
													Number of Background Years	5
Movements														
Scenario:	North Approach			East Approach			South Approach			West Approach			Total	
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT		
INDEX	7	6	5	13	12	11	4	3	2	10	9	8		
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Existing Conditions	96	172	26	78	825	221	45	443	117	42	778	76	2919	
Background Growth 31161 San Antonio Industrial	7	13	2	6	64	17	3	34	9	3	60	6	224	
	0	0	0	0	10	0	0	0	0	0	2	0	12	
Background Conditions	103	185	28	84	899	238	48	477	126	45	840	82	3155	
Project Trips	32	27	5	1	3	0	0	16	7	0	0	33	124	
Existing + Project	128	199	31	79	828	221	45	459	124	42	778	109	3043	
Background + Project	135	212	33	85	902	238	48	493	133	45	840	115	3279	

Intersection Number:		5													
Traffix Node Number:		5													
Intersection Name:		Huntwood Avenue & Industrial Parkway West													
Peak Hour:		PM										Date of Analysis:		03/29/23	
Count Date:		03/07/23													
Scenario:		CenterPoint Warehouse													
												Annual Growth Rate	1.5%		
												Number of Background Years	5		
Movements															
		North Approach			East Approach			South Approach			West Approach				
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total	
INDEX		7	6	5	13	12	11	4	3	2	10	9	8		
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Existing Conditions		123	125	62	90	581	98	222	409	397	220	925	221	3473	
Background Growth		10	10	5	7	45	8	17	32	31	17	71	17	270	
31161 San Antonio Industrial		0	1	0	0	0	2	10	5	10	2	0	0	30	
Background Conditions		133	136	67	97	626	108	249	446	438	239	996	238	3773	
Project Trips		0	0	0	0	3	0	0	0	1	1	4	0	9	
Existing + Project		123	125	62	90	584	98	222	409	398	221	929	221	3482	
Background + Project		133	136	67	97	629	108	249	446	439	240	1000	238	3782	
Intersection Number:		6													
Traffix Node Number:		6													
Intersection Name:		Ruus Road & Site Access													
Peak Hour:		PM										Date of Analysis:		03/29/23	
Count Date:		03/07/23													
Scenario:		CenterPoint Warehouse													
												Annual Growth Rate	1.5%		
												Number of Background Years	5		
Movements															
		North Approach			East Approach			South Approach			West Approach				
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total	
INDEX		7	6	5	13	12	11	4	3	2	10	9	8		
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
User Adjustment		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Existing Conditions		1	294	0	0	0	0	0	597	1	4	0	2	899	
Background Growth		0	23	0	0	0	0	0	46	0	0	0	0	69	
31161 San Antonio Industrial		0	0	0	0	0	0	0	0	0	0	0	0	0	
Background Conditions		1	317	0	0	0	0	0	643	1	4	0	2	968	
Project Trips		1	0	0	0	0	0	0	0	42	64	0	1	108	
Existing + Project		2	294	0	0	0	0	0	597	43	68	0	3	1007	
Background + Project		2	317	0	0	0	0	0	643	43	68	0	3	1076	

Intersection Number:	7												
Traffic Node Number:	7												
Intersection Name:	Site Access 1	& Industrial Parkway West											
Peak Hour:	PM	Date of Analysis: 03/29/23											
Count Date:	03/07/23												
Scenario:	CenterPoint Warehouse												
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	29	0	0	6	1038	0	0	0	0	0	896	0	1969
Background Growth 31161 San Antonio Industrial	0	0	0	0	80	0	0	0	0	0	69	0	149
	0	0	0	0	10	0	0	0	0	0	2	0	12
Background Conditions	29	0	0	6	1128	0	0	0	0	0	967	0	2130
Project Trips	16	0	0	8	37	0	0	0	0	0	33	0	94
Existing + Project	45	0	0	14	1075	0	0	0	0	0	929	0	2063
Background + Project	45	0	0	14	1165	0	0	0	0	0	1000	0	2224
Intersection Number: 8													
Traffic Node Number: 8													
Intersection Name: Site Access 2 & Industrial Parkway West													
Peak Hour: PM Date of Analysis: 03/29/23													
Count Date: 03/07/23													
Scenario: CenterPoint Warehouse													
		Annual Growth Rate 1.5%											
		Number of Background Years 5											
Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
INDEX	7	6	5	13	12	11	4	3	2	10	9	8	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
User Adjustment	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Existing Conditions	0	0	0	7	1038	0	0	0	0	0	896	0	1941
Background Growth 31161 San Antonio Industrial	0	0	0	0	80	0	0	0	0	0	69	0	149
	0	0	0	0	10	0	0	0	0	0	2	0	12
Background Conditions	0	0	0	7	1128	0	0	0	0	0	967	0	2102
Project Trips	5	0	0	10	40	0	0	0	0	0	33	0	88
Existing + Project	5	0	0	17	1078	0	0	0	0	0	929	0	2029
Background + Project	5	0	0	17	1168	0	0	0	0	0	1000	0	2190

Appendix C

Level of Service Calculations

Appendix C

Level of Service Calculations

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Exist AM
03/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	298	340	254	365	339	259	520	110	258	1158	34
Future Volume (veh/h)	55	298	340	254	365	339	259	520	110	258	1158	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	59	317	362	270	388	361	276	553	117	274	1232	36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	116	429	382	323	1070	477	334	1690	350	332	1404	41
Arrive On Green	0.03	0.25	0.25	0.10	0.31	0.31	0.10	0.41	0.41	0.10	0.41	0.41
Sat Flow, veh/h	3346	1721	1535	3346	3441	1535	3346	4103	851	3346	3414	100
Grp Volume(v), veh/h	59	317	362	270	388	361	276	442	228	274	621	647
Grp Sat Flow(s),veh/h/ln	1673	1721	1535	1673	1721	1535	1673	1648	1658	1673	1721	1793
Q Serve(g_s), s	2.2	21.3	29.1	10.0	11.0	26.6	10.2	11.4	11.8	10.1	41.7	41.8
Cycle Q Clear(g_c), s	2.2	21.3	29.1	10.0	11.0	26.6	10.2	11.4	11.8	10.1	41.7	41.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		0.06
Lane Grp Cap(c), veh/h	116	429	382	323	1070	477	334	1358	683	332	708	737
V/C Ratio(X)	0.51	0.74	0.95	0.84	0.36	0.76	0.83	0.33	0.33	0.82	0.88	0.88
Avail Cap(c_a), veh/h	360	431	385	360	1070	477	439	1561	785	439	815	849
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	43.4	46.3	55.8	33.6	39.0	55.5	25.1	25.2	55.5	34.1	34.1
Incr Delay (d2), s/veh	3.4	6.6	32.3	14.5	0.2	6.8	9.5	0.1	0.3	9.3	9.7	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	9.8	14.5	4.9	4.7	10.9	4.7	4.5	4.7	4.7	19.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	50.0	78.7	70.3	33.8	45.8	65.0	25.2	25.5	64.8	43.7	43.5
LnGrp LOS	E	D	E	E	C	D	E	C	C	E	D	D
Approach Vol, veh/h	738			1019			946			1542		
Approach Delay, s/veh	65.1			47.8			36.9			47.4		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	56.2	16.6	35.8	17.0	56.2	8.9	43.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	59.5	13.5	31.5	16.5	59.5	13.5	31.5				
Max Q Clear Time (g_c+I1), s	12.1	13.8	12.0	31.1	12.2	43.8	4.2	28.6				
Green Ext Time (p_c), s	0.4	5.2	0.2	0.2	0.4	7.9	0.1	1.1				
Intersection Summary												
HCM 6th Ctrl Delay	48.2											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Exist AM
03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	141	605	811	226	465	325
Future Volume (veh/h)	141	605	811	226	465	325
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	152	651	872	243	500	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	191	1830	1230	548	559	
Arrive On Green	0.11	0.54	0.36	0.36	0.33	0.00
Sat Flow, veh/h	1697	3474	3474	1510	1697	1510
Grp Volume(v), veh/h	152	651	872	243	500	0
Grp Sat Flow(s), veh/h/ln	1697	1692	1692	1510	1697	1510
Q Serve(g_s), s	6.1	7.6	15.3	8.5	19.4	0.0
Cycle Q Clear(g_c), s	6.1	7.6	15.3	8.5	19.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	191	1830	1230	548	559	
V/C Ratio(X)	0.80	0.36	0.71	0.44	0.89	
Avail Cap(c_a), veh/h	355	3001	2074	925	844	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.0	9.1	18.9	16.8	22.1	0.0
Incr Delay (d2), s/veh	7.3	0.1	0.8	0.6	8.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.8	2.4	5.6	2.8	8.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	37.3	9.2	19.7	17.3	30.5	0.0
LnGrp LOS	D	A	B	B	C	
Approach Vol, veh/h		803	1115		500	
Approach Delay, s/veh		14.5	19.2		30.5	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		27.4		42.0		12.3 29.7
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		34.5		61.5		14.5 42.5
Max Q Clear Time (g_c+l1), s		21.4		9.6		8.1 17.3
Green Ext Time (p_c), s		1.4		5.3		0.2 7.9
Intersection Summary						
HCM 6th Ctrl Delay			20.0			
HCM 6th LOS			B			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Exist AM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	678	147	16	1005	34	139	36	11	45	44	353
Future Volume (veh/h)	72	678	147	16	1005	34	139	36	11	45	44	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	77	729	158	17	1081	37	94	116	12	48	47	380
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	97	1441	643	33	1313	585	159	167	141	229	224	394
Arrive On Green	0.06	0.42	0.42	0.02	0.38	0.38	0.09	0.09	0.09	0.26	0.26	0.26
Sat Flow, veh/h	1711	3413	1522	1711	3413	1522	1711	1796	1522	885	867	1522
Grp Volume(v), veh/h	77	729	158	17	1081	37	94	116	12	95	0	380
Grp Sat Flow(s), veh/h/ln	1711	1706	1522	1711	1706	1522	1711	1796	1522	1752	0	1522
Q Serve(g_s), s	3.9	13.6	5.8	0.9	24.8	1.3	4.6	5.4	0.6	3.7	0.0	21.4
Cycle Q Clear(g_c), s	3.9	13.6	5.8	0.9	24.8	1.3	4.6	5.4	0.6	3.7	0.0	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.51		1.00
Lane Grp Cap(c), veh/h	97	1441	643	33	1313	585	159	167	141	453	0	394
V/C Ratio(X)	0.79	0.51	0.25	0.51	0.82	0.06	0.59	0.70	0.09	0.21	0.00	0.96
Avail Cap(c_a), veh/h	108	1590	709	108	1590	709	364	382	324	453	0	394
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	18.5	16.2	42.2	24.1	16.9	37.9	38.3	36.1	25.3	0.0	31.8
Incr Delay (d2), s/veh	29.2	0.3	0.2	11.7	3.1	0.0	3.5	5.2	0.3	0.2	0.0	36.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.4	5.2	2.0	0.5	10.0	0.5	2.0	2.6	0.2	1.5	0.0	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	69.6	18.7	16.4	54.0	27.2	16.9	41.4	43.4	36.3	25.5	0.0	67.9
LnGrp LOS	E	B	B	D	C	B	D	D	D	C	A	E
Approach Vol, veh/h	964			1135			222			475		
Approach Delay, s/veh	22.4			27.2			42.2			59.4		
Approach LOS	C			C			D			E		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	12.6			6.2			41.2			27.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			5.5			40.5			22.5		
Max Q Clear Time (g_c+I1), s	7.4			2.9			15.6			23.4		
Green Ext Time (p_c), s	0.7			0.0			6.1			0.0		

Intersection Summary

HCM 6th Ctrl Delay 32.2
HCM 6th LOS C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Exist AM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	633	76	385	964	36	49	107	57	8	345	117
Future Volume (veh/h)	18	633	76	385	964	36	49	107	57	8	345	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	20	703	84	428	1071	40	54	119	63	9	383	130
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	38	902	108	463	1849	825	162	512	434	355	512	434
Arrive On Green	0.02	0.29	0.29	0.27	0.54	0.54	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1725	3095	370	1725	3441	1535	859	1811	1535	1164	1811	1535
Grp Volume(v), veh/h	20	391	396	428	1071	40	54	119	63	9	383	130
Grp Sat Flow(s), veh/h/ln	1725	1721	1745	1725	1721	1535	859	1811	1535	1164	1811	1535
Q Serve(g_s), s	1.0	17.8	17.9	20.7	17.9	1.1	5.2	4.3	2.6	0.5	16.5	5.7
Cycle Q Clear(g_c), s	1.0	17.8	17.9	20.7	17.9	1.1	21.7	4.3	2.6	4.8	16.5	5.7
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	38	501	508	463	1849	825	162	512	434	355	512	434
V/C Ratio(X)	0.52	0.78	0.78	0.92	0.58	0.05	0.33	0.23	0.15	0.03	0.75	0.30
Avail Cap(c_a), veh/h	191	813	825	493	2229	994	215	624	528	426	624	528
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	27.8	27.8	30.5	13.3	9.4	37.8	23.6	23.0	25.4	27.9	24.1
Incr Delay (d2), s/veh	10.7	2.7	2.6	22.7	0.3	0.0	1.2	0.2	0.2	0.0	4.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.5	7.4	7.6	11.2	6.4	0.3	1.1	1.8	0.9	0.1	7.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.2	30.5	30.5	53.2	13.6	9.4	39.0	23.8	23.1	25.5	31.9	24.5
LnGrp LOS	D	C	C	D	B	A	D	C	C	C	C	C
Approach Vol, veh/h	807			1539			236			522		
Approach Delay, s/veh	31.0			24.5			27.1			29.9		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	28.7			27.5			29.5			28.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	29.5			24.5			40.5			29.5		
Max Q Clear Time (g_c+I1), s	23.7			22.7			19.9			18.5		
Green Ext Time (p_c), s	0.5			0.3			5.1			2.2		

Intersection Summary

HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Exist AM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	389	360	319	828	26	215	94	64	56	289	153
Future Volume (veh/h)	38	389	360	319	828	26	215	94	64	56	289	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1811	1618	1856	1856	1841	1292	1796	1781	1826	1870	1826
Adj Flow Rate, veh/h	41	418	387	343	890	28	231	101	69	60	311	165
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	6	19	3	3	4	41	7	8	5	2	5
Cap, veh/h	78	1125	448	315	2299	72	299	218	183	340	365	302
Arrive On Green	0.05	0.33	0.33	0.18	0.46	0.46	0.12	0.12	0.12	0.20	0.20	0.20
Sat Flow, veh/h	1739	3441	1372	1767	5046	159	2462	1796	1510	1739	1870	1547
Grp Volume(v), veh/h	41	418	387	343	595	323	231	101	69	60	311	165
Grp Sat Flow(s), veh/h/ln	1739	1721	1372	1767	1689	1827	1231	1796	1510	1739	1870	1547
Q Serve(g_s), s	2.6	10.4	29.7	20.0	13.1	13.1	10.2	5.9	4.7	3.2	18.0	10.8
Cycle Q Clear(g_c), s	2.6	10.4	29.7	20.0	13.1	13.1	10.2	5.9	4.7	3.2	18.0	10.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	1125	448	315	1539	832	299	218	183	340	365	302
V/C Ratio(X)	0.52	0.37	0.86	1.09	0.39	0.39	0.77	0.46	0.38	0.18	0.85	0.55
Avail Cap(c_a), veh/h	310	1227	489	315	1539	832	570	416	350	465	500	414
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	28.9	35.4	46.1	20.2	20.2	47.8	45.9	45.4	37.6	43.6	40.7
Incr Delay (d2), s/veh	5.3	0.7	17.9	76.6	0.2	0.3	4.3	1.5	1.3	0.2	10.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.3	11.6	15.2	4.9	5.3	3.3	2.7	1.8	1.4	9.3	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	29.7	53.3	122.7	20.3	20.5	52.0	47.4	46.7	37.9	53.6	42.2
LnGrp LOS	E	C	D	F	C	C	D	D	D	D	D	D
Approach Vol, veh/h	846			1261			401			536		
Approach Delay, s/veh	41.8			48.2			50.0			48.3		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.0	42.7		27.4	9.5	57.1		18.1				
Change Period (Y+Rc), s	4.0	6.0		5.5	4.5	6.0		4.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		26.0				
Max Q Clear Time (g_c+Q_c), s	22.0	31.7		20.0	4.6	15.1		12.2				
Green Ext Time (p_c), s	0.0	5.0		1.9	0.0	5.8		1.4				

Intersection Summary

HCM 6th Ctrl Delay 46.7
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

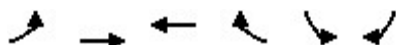
Exist Midday
03/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	324	217	299	196	140	167	613	198	152	518	34
Future Volume (veh/h)	119	324	217	299	196	140	167	613	198	152	518	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	134	364	244	336	220	157	188	689	222	171	582	38
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	217	504	333	442	1105	493	284	1065	338	264	921	60
Arrive On Green	0.07	0.26	0.26	0.13	0.32	0.32	0.09	0.29	0.29	0.08	0.28	0.28
Sat Flow, veh/h	3319	1970	1299	3319	3413	1522	3319	3685	1170	3319	3252	212
Grp Volume(v), veh/h	134	315	293	336	220	157	188	610	301	171	305	315
Grp Sat Flow(s),veh/h/ln	1659	1706	1562	1659	1706	1522	1659	1635	1586	1659	1706	1758
Q Serve(g_s), s	2.9	12.5	12.8	7.3	3.5	5.8	4.1	12.1	12.4	3.7	11.6	11.6
Cycle Q Clear(g_c), s	2.9	12.5	12.8	7.3	3.5	5.8	4.1	12.1	12.4	3.7	11.6	11.6
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.74	1.00		0.12
Lane Grp Cap(c), veh/h	217	437	400	442	1105	493	284	945	458	264	483	498
V/C Ratio(X)	0.62	0.72	0.73	0.76	0.20	0.32	0.66	0.65	0.66	0.65	0.63	0.63
Avail Cap(c_a), veh/h	692	998	914	692	1997	891	737	1913	928	737	998	1029
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	25.2	25.3	31.1	18.2	19.0	32.9	23.1	23.2	33.2	23.3	23.3
Incr Delay (d2), s/veh	2.8	2.3	2.6	2.7	0.1	0.4	2.6	0.7	1.6	2.7	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.1	4.8	3.0	1.3	2.0	1.7	4.5	4.6	1.6	4.6	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	27.5	28.0	33.8	18.3	19.3	35.6	23.8	24.8	35.9	24.6	24.6
LnGrp LOS	D	C	C	C	B	B	D	C	C	D	C	C
Approach Vol, veh/h		742			713			1099			791	
Approach Delay, s/veh		29.3			25.8			26.1			27.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	26.0	14.4	23.5	10.9	25.5	9.4	28.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	43.5	15.5	43.5	16.5	43.5	15.5	43.5				
Max Q Clear Time (g_c+I1), s	5.7	14.4	9.3	14.8	6.1	13.6	4.9	7.8				
Green Ext Time (p_c), s	0.4	7.1	0.6	4.2	0.4	4.2	0.3	2.1				
Intersection Summary												
HCM 6th Ctrl Delay				27.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Exist Midday
03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	184	643	388	265	470	306
Future Volume (veh/h)	184	643	388	265	470	306
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	200	699	422	288	511	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	252	1673	920	410	578	
Arrive On Green	0.15	0.50	0.28	0.28	0.35	0.00
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	200	699	422	288	511	0
Grp Sat Flow(s), veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	6.9	7.9	6.3	10.4	17.2	0.0
Cycle Q Clear(g_c), s	6.9	7.9	6.3	10.4	17.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	252	1673	920	410	578	
V/C Ratio(X)	0.79	0.42	0.46	0.70	0.88	
Avail Cap(c_a), veh/h	602	3657	2205	984	882	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	9.3	17.9	19.4	18.4	0.0
Incr Delay (d2), s/veh	5.6	0.2	0.4	2.2	7.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.9	2.4	2.2	3.5	7.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.1	9.5	18.2	21.6	25.5	0.0
LnGrp LOS	C	A	B	C	C	
Approach Vol, veh/h		899	710		511	
Approach Delay, s/veh		14.1	19.6		25.5	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		25.1		34.5		13.5 21.0
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		31.5		65.5		21.5 39.5
Max Q Clear Time (g_c+l1), s		19.2		9.9		8.9 12.4
Green Ext Time (p_c), s		1.4		5.9		0.4 4.1

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Exist Midday
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	616	129	38	830	31	166	62	7	28	27	106
Future Volume (veh/h)	76	616	129	38	830	31	166	62	7	28	27	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	84	684	143	42	922	34	126	149	8	31	30	118
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	105	1397	623	70	1327	592	215	226	192	98	94	167
Arrive On Green	0.06	0.42	0.42	0.04	0.40	0.40	0.13	0.13	0.13	0.11	0.11	0.11
Sat Flow, veh/h	1668	3328	1485	1668	3328	1485	1668	1752	1485	868	840	1485
Grp Volume(v), veh/h	84	684	143	42	922	34	126	149	8	61	0	118
Grp Sat Flow(s), veh/h/ln	1668	1664	1485	1668	1664	1485	1668	1752	1485	1708	0	1485
Q Serve(g_s), s	3.0	9.1	3.8	1.5	14.0	0.9	4.3	4.9	0.3	2.0	0.0	4.6
Cycle Q Clear(g_c), s	3.0	9.1	3.8	1.5	14.0	0.9	4.3	4.9	0.3	2.0	0.0	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.51		1.00
Lane Grp Cap(c), veh/h	105	1397	623	70	1327	592	215	226	192	192	0	167
V/C Ratio(X)	0.80	0.49	0.23	0.60	0.69	0.06	0.58	0.66	0.04	0.32	0.00	0.71
Avail Cap(c_a), veh/h	206	2827	1261	206	2827	1261	564	592	502	549	0	477
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	12.8	11.3	28.6	15.2	11.2	24.9	25.1	23.1	24.8	0.0	25.9
Incr Delay (d2), s/veh	12.9	0.3	0.2	8.1	0.7	0.0	2.5	3.3	0.1	0.9	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.0	1.1	0.7	4.7	0.3	1.8	2.1	0.1	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	13.1	11.5	36.6	15.8	11.3	27.4	28.4	23.2	25.7	0.0	31.4
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	A	C
Approach Vol, veh/h	911			998			283			179		
Approach Delay, s/veh	15.4			16.6			27.8			29.4		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	12.3			7.0			30.0			11.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			7.5			51.5			19.5		
Max Q Clear Time (g_c+I1), s	6.9			3.5			11.1			6.6		
Green Ext Time (p_c), s	1.0			0.0			6.2			0.5		

Intersection Summary

HCM 6th Ctrl Delay 18.4
HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Exist Midday

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	611	39	220	739	44	87	171	16	46	135	81
Future Volume (veh/h)	35	611	39	220	739	44	87	171	16	46	135	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	39	679	43	244	821	49	97	190	18	51	150	90
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	71	1036	66	311	1563	697	312	400	339	293	400	339
Arrive On Green	0.04	0.32	0.32	0.18	0.46	0.46	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1697	3232	205	1697	3385	1510	1086	1781	1510	1118	1781	1510
Grp Volume(v), veh/h	39	355	367	244	821	49	97	190	18	51	150	90
Grp Sat Flow(s),veh/h/ln	1697	1692	1745	1697	1692	1510	1086	1781	1510	1118	1781	1510
Q Serve(g_s), s	1.1	9.0	9.0	6.8	8.6	0.9	4.1	4.6	0.5	2.1	3.5	2.4
Cycle Q Clear(g_c), s	1.1	9.0	9.0	6.8	8.6	0.9	7.7	4.6	0.5	6.7	3.5	2.4
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	71	543	559	311	1563	697	312	400	339	293	400	339
V/C Ratio(X)	0.55	0.65	0.66	0.79	0.53	0.07	0.31	0.47	0.05	0.17	0.37	0.27
Avail Cap(c_a), veh/h	529	1310	1351	802	3165	1412	755	1128	956	750	1128	956
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	14.5	14.5	19.4	9.5	7.4	19.6	16.7	15.1	19.6	16.3	15.9
Incr Delay (d2), s/veh	6.5	1.3	1.3	4.4	0.3	0.0	0.6	0.9	0.1	0.3	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	3.2	2.8	2.5	0.2	1.0	1.8	0.1	0.5	1.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	15.9	15.8	23.8	9.8	7.5	20.1	17.6	15.2	19.9	16.9	16.3
LnGrp LOS	C	B	B	C	A	A	C	B	B	B	B	B
Approach Vol, veh/h	761		1114				305			291		
Approach Delay, s/veh	16.6		12.7				18.3			17.2		
Approach LOS	B		B				B			B		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	15.7		13.6		20.4		15.7		6.6		27.5	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	31.5		23.5		38.5		31.5		15.5		46.5	
Max Q Clear Time (g_c+I1), s	9.7		8.8		11.0		8.7		3.1		10.6	
Green Ext Time (p_c), s	1.5		0.6		5.0		1.3		0.0		7.1	
Intersection Summary												
HCM 6th Ctrl Delay	15.1											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Exist Midday
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	612	305	159	520	55	315	196	135	60	182	116
Future Volume (veh/h)	133	612	305	159	520	55	315	196	135	60	182	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	156	720	359	187	612	65	371	231	159	71	214	136
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	191	1085	484	223	1517	160	626	329	279	263	276	234
Arrive On Green	0.11	0.32	0.32	0.13	0.34	0.34	0.18	0.18	0.18	0.15	0.15	0.15
Sat Flow, veh/h	1697	3385	1510	1697	4469	470	3393	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	156	720	359	187	442	235	371	231	159	71	214	136
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1621	1697	1697	1781	1510	1697	1781	1510
Q Serve(g_s), s	7.8	15.8	18.3	9.3	9.0	9.2	8.6	10.5	8.3	3.2	10.0	7.2
Cycle Q Clear(g_c), s	7.8	15.8	18.3	9.3	9.0	9.2	8.6	10.5	8.3	3.2	10.0	7.2
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1085	484	223	1101	576	626	329	279	263	276	234
V/C Ratio(X)	0.82	0.66	0.74	0.84	0.40	0.41	0.59	0.70	0.57	0.27	0.78	0.58
Avail Cap(c_a), veh/h	305	2019	901	305	1934	1012	1553	815	691	442	464	393
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	25.3	26.1	36.6	21.8	21.9	32.2	33.0	32.1	32.2	35.0	33.9
Incr Delay (d2), s/veh	9.0	0.7	2.3	13.9	0.2	0.5	0.9	2.7	1.8	0.5	4.6	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	6.2	6.6	4.6	3.4	3.6	3.5	4.7	3.1	1.3	4.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	26.0	28.4	50.5	22.0	22.3	33.1	35.7	33.9	32.7	39.7	36.2
LnGrp LOS	D	C	C	D	C	C	C	D	C	C	D	D
Approach Vol, veh/h	1235					864		761		421		
Approach Delay, s/veh	29.3					28.3		34.1		37.4		
Approach LOS	C					C		C		D		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	20.4		15.8		32.2		17.9		14.2		33.8	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	39.5		15.5		51.5		22.5		15.5		51.5	
Max Q Clear Time (g_c+I1), s	12.5		11.3		20.3		12.0		9.8		11.2	
Green Ext Time (p_c), s	3.4		0.2		7.4		1.4		0.2		5.1	
Intersection Summary												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

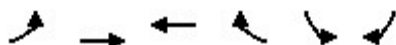
Exist PM
03/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	 	
Traffic Volume (veh/h)	185	670	250	287	345	317	209	1313	130	201	755	36
Future Volume (veh/h)	185	670	250	287	345	317	209	1313	130	201	755	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	191	691	258	296	356	327	215	1354	134	207	778	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	258	784	293	366	1212	541	509	1598	158	271	931	44
Arrive On Green	0.08	0.31	0.31	0.11	0.35	0.35	0.15	0.34	0.34	0.08	0.27	0.27
Sat Flow, veh/h	3401	2492	930	3401	3497	1560	3401	4648	460	3401	3399	162
Grp Volume(v), veh/h	191	485	464	296	356	327	215	976	512	207	400	415
Grp Sat Flow(s),veh/h/ln	1700	1749	1673	1700	1749	1560	1700	1675	1758	1700	1749	1812
Q Serve(g_s), s	6.4	30.7	30.7	9.9	8.6	20.2	6.7	31.5	31.5	7.0	25.2	25.2
Cycle Q Clear(g_c), s	6.4	30.7	30.7	9.9	8.6	20.2	6.7	31.5	31.5	7.0	25.2	25.2
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.26	1.00		0.09
Lane Grp Cap(c), veh/h	258	551	527	366	1212	541	509	1152	604	271	479	496
V/C Ratio(X)	0.74	0.88	0.88	0.81	0.29	0.60	0.42	0.85	0.85	0.76	0.84	0.84
Avail Cap(c_a), veh/h	568	622	595	568	1243	555	509	1248	655	452	652	675
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	37.9	37.9	50.9	27.7	31.5	45.1	35.5	35.5	52.6	39.9	39.9
Incr Delay (d2), s/veh	4.2	12.8	13.3	4.9	0.1	1.8	0.6	5.3	9.6	4.5	6.9	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	14.9	14.4	4.5	3.6	7.8	2.9	13.5	14.9	3.1	11.6	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	50.7	51.2	55.8	27.9	33.3	45.6	40.8	45.0	57.1	46.8	46.6
LnGrp LOS	E	D	D	E	C	C	D	D	D	E	D	D
Approach Vol, veh/h		1140			979			1703			1022	
Approach Delay, s/veh		52.0			38.2			42.7			48.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	44.6	17.1	41.3	22.0	36.5	13.3	45.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	43.5	19.5	41.5	15.5	43.5	19.5	41.5				
Max Q Clear Time (g_c+I1), s	9.0	33.5	11.9	32.7	8.7	27.2	8.4	22.2				
Green Ext Time (p_c), s	0.4	6.6	0.6	4.1	0.4	4.8	0.4	3.4				
Intersection Summary												
HCM 6th Ctrl Delay			45.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Exist PM
03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	359	825	864	236	391	208
Future Volume (veh/h)	359	825	864	236	391	208
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	386	887	929	254	420	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	427	2212	1186	529	457	
Arrive On Green	0.25	0.64	0.34	0.34	0.26	0.00
Sat Flow, veh/h	1739	3561	3561	1547	1739	1547
Grp Volume(v), veh/h	386	887	929	254	420	0
Grp Sat Flow(s), veh/h/ln	1739	1735	1735	1547	1739	1547
Q Serve(g_s), s	19.4	11.2	21.7	11.6	21.1	0.0
Cycle Q Clear(g_c), s	19.4	11.2	21.7	11.6	21.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	427	2212	1186	529	457	
V/C Ratio(X)	0.90	0.40	0.78	0.48	0.92	
Avail Cap(c_a), veh/h	551	2833	1561	696	512	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.9	7.9	26.6	23.3	32.3	0.0
Incr Delay (d2), s/veh	15.4	0.1	2.0	0.7	20.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	9.8	3.7	8.9	4.2	11.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	48.3	8.1	28.6	24.0	53.0	0.0
LnGrp LOS	D	A	C	C	D	
Approach Vol, veh/h		1273	1183		420	
Approach Delay, s/veh		20.3	27.6		53.0	
Approach LOS		C	C		D	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		28.1		61.9		26.6 35.3
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		26.5		73.5		28.5 40.5
Max Q Clear Time (g_c+l1), s		23.1		13.2		21.4 23.7
Green Ext Time (p_c), s		0.5		8.0		0.8 7.1
Intersection Summary						
HCM 6th Ctrl Delay			28.1			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Exist PM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	753	85	32	1040	53	340	99	12	34	28	117
Future Volume (veh/h)	147	753	85	32	1040	53	340	99	12	34	28	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	158	810	91	34	1118	57	236	288	13	37	30	126
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	114	1575	702	57	1461	652	346	364	308	106	86	167
Arrive On Green	0.07	0.45	0.45	0.03	0.42	0.42	0.20	0.20	0.20	0.11	0.11	0.11
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	1841	1560	989	802	1560
Grp Volume(v), veh/h	158	810	91	34	1118	57	236	288	13	67	0	126
Grp Sat Flow(s), veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1841	1560	1791	0	1560
Q Serve(g_s), s	5.5	14.0	2.9	1.6	23.1	1.9	10.6	12.6	0.6	2.9	0.0	6.6
Cycle Q Clear(g_c), s	5.5	14.0	2.9	1.6	23.1	1.9	10.6	12.6	0.6	2.9	0.0	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.55		1.00
Lane Grp Cap(c), veh/h	114	1575	702	57	1461	652	346	364	308	191	0	167
V/C Ratio(X)	1.39	0.51	0.13	0.60	0.77	0.09	0.68	0.79	0.04	0.35	0.00	0.76
Avail Cap(c_a), veh/h	114	2295	1024	114	2295	1024	591	620	526	392	0	341
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	16.6	13.6	40.4	21.1	14.9	31.5	32.3	27.5	35.0	0.0	36.7
Incr Delay (d2), s/veh	218.7	0.3	0.1	9.6	0.9	0.1	2.4	3.9	0.1	1.1	0.0	6.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	9.2	5.3	1.0	0.8	9.0	0.6	4.6	5.8	0.2	1.3	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	258.2	16.9	13.7	49.9	21.9	14.9	33.8	36.2	27.5	36.1	0.0	43.5
LnGrp LOS	F	B	B	D	C	B	C	D	C	D	A	D
Approach Vol, veh/h	1059			1209			537			193		
Approach Delay, s/veh	52.6			22.4			34.9			41.0		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	21.2			7.3			42.6			13.5		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	28.5			5.5			55.5			18.5		
Max Q Clear Time (g_c+I1), s	14.6			3.6			16.0			8.6		
Green Ext Time (p_c), s	2.1			0.0			7.2			0.5		

Intersection Summary

HCM 6th Ctrl Delay 36.5
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Exist PM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	778	42	221	825	78	117	443	45	26	172	96
Future Volume (veh/h)	76	778	42	221	825	78	117	443	45	26	172	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	80	819	44	233	868	82	123	466	47	27	181	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	104	1106	59	286	1510	673	360	573	486	173	573	486
Arrive On Green	0.06	0.33	0.33	0.16	0.43	0.43	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1753	3375	181	1753	3497	1560	1080	1841	1560	873	1841	1560
Grp Volume(v), veh/h	80	424	439	233	868	82	123	466	47	27	181	101
Grp Sat Flow(s), veh/h/ln	1753	1749	1808	1753	1749	1560	1080	1841	1560	873	1841	1560
Q Serve(g_s), s	3.1	14.7	14.7	8.8	12.8	2.2	6.7	15.9	1.5	2.0	5.1	3.3
Cycle Q Clear(g_c), s	3.1	14.7	14.7	8.8	12.8	2.2	11.8	15.9	1.5	17.9	5.1	3.3
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	573	592	286	1510	673	360	573	486	173	573	486
V/C Ratio(X)	0.77	0.74	0.74	0.81	0.57	0.12	0.34	0.81	0.10	0.16	0.32	0.21
Avail Cap(c_a), veh/h	424	961	993	604	2280	1017	554	903	766	330	903	766
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	20.4	20.4	27.6	14.7	11.6	22.5	21.7	16.7	30.0	18.0	17.3
Incr Delay (d2), s/veh	11.3	1.9	1.8	5.6	0.3	0.1	0.6	3.2	0.1	0.4	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.8	6.0	3.9	4.6	0.7	1.7	6.9	0.5	0.4	2.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	22.3	22.2	33.1	15.0	11.7	23.0	24.9	16.8	30.4	18.3	17.5
LnGrp LOS	D	C	C	C	B	B	C	C	B	C	B	B
Approach Vol, veh/h	943			1183			636			309		
Approach Delay, s/veh	24.0			18.3			23.9			19.1		
Approach LOS	C			B			C			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	25.7			15.6			26.9			25.7		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	33.5			23.5			37.5			33.5		
Max Q Clear Time (g_c+I1), s	17.9			10.8			16.7			19.9		
Green Ext Time (p_c), s	3.3			0.5			5.7			1.2		

Intersection Summary

HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Exist PM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	925	220	98	581	90	397	409	222	62	125	123
Future Volume (veh/h)	221	925	220	98	581	90	397	409	222	62	125	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1485	1796	1856	1841	1781	1870	1870	1900	1811	1856
Adj Flow Rate, veh/h	228	954	227	101	599	93	465	343	229	64	129	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	28	7	3	4	8	2	2	0	6	3
Cap, veh/h	260	1212	433	127	1185	181	728	401	340	333	333	289
Arrive On Green	0.15	0.34	0.34	0.07	0.27	0.27	0.21	0.21	0.21	0.18	0.18	0.18
Sat Flow, veh/h	1781	3526	1259	1711	4432	679	3393	1870	1585	1810	1811	1572
Grp Volume(v), veh/h	228	954	227	101	454	238	465	343	229	64	129	127
Grp Sat Flow(s), veh/h/ln	1781	1763	1259	1711	1689	1733	1697	1870	1585	1810	1811	1572
Q Serve(g_s), s	13.6	26.5	15.7	6.3	12.4	12.7	13.6	19.2	14.4	3.3	6.8	7.8
Cycle Q Clear(g_c), s	13.6	26.5	15.7	6.3	12.4	12.7	13.6	19.2	14.4	3.3	6.8	7.8
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1212	433	127	903	464	728	401	340	333	333	289
V/C Ratio(X)	0.88	0.79	0.52	0.80	0.50	0.51	0.64	0.85	0.67	0.19	0.39	0.44
Avail Cap(c_a), veh/h	327	1296	463	314	1242	637	811	447	379	499	499	434
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	32.1	28.6	49.6	33.7	33.8	38.9	41.1	39.2	37.6	39.0	39.4
Incr Delay (d2), s/veh	19.3	4.7	3.6	10.7	0.4	0.9	1.4	13.9	4.0	0.3	0.7	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	7.2	11.4	4.9	3.0	4.9	5.2	5.8	10.3	6.0	1.5	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.8	36.8	32.1	60.2	34.2	34.7	40.3	55.0	43.3	37.8	39.8	40.5
LnGrp LOS	E	D	C	E	C	C	D	D	D	D	D	D
Approach Vol, veh/h	1409			793			1037			320		
Approach Delay, s/veh	40.6			37.6			45.8			39.7		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.1	43.4		25.5	20.4	35.1		27.8				
Change Period (Y+Rc), s	4.0	6.0		5.5	4.5	6.0		4.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		26.0				
Max Q Clear Time (g_c+I), s	19.3	28.5		9.8	15.6	14.7		21.2				
Green Ext Time (p_c), s	0.2	8.9		1.2	0.2	4.2		2.1				

Intersection Summary

HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

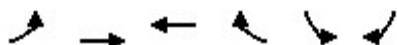
Exist+P AM
03/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	302	340	255	365	340	259	520	114	262	1158	34
Future Volume (veh/h)	55	302	340	255	365	340	259	520	114	262	1158	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	59	321	362	271	388	362	276	553	121	279	1232	36
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	116	429	382	324	1070	477	334	1673	359	337	1404	41
Arrive On Green	0.03	0.25	0.25	0.10	0.31	0.31	0.10	0.41	0.41	0.10	0.41	0.41
Sat Flow, veh/h	3346	1721	1535	3346	3441	1535	3346	4076	874	3346	3414	100
Grp Volume(v), veh/h	59	321	362	271	388	362	276	445	229	279	621	647
Grp Sat Flow(s),veh/h/ln	1673	1721	1535	1673	1721	1535	1673	1648	1654	1673	1721	1793
Q Serve(g_s), s	2.2	21.7	29.1	10.0	11.0	26.7	10.2	11.6	11.9	10.3	41.8	41.8
Cycle Q Clear(g_c), s	2.2	21.7	29.1	10.0	11.0	26.7	10.2	11.6	11.9	10.3	41.8	41.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.06
Lane Grp Cap(c), veh/h	116	429	382	324	1070	477	334	1353	679	337	707	737
V/C Ratio(X)	0.51	0.75	0.95	0.84	0.36	0.76	0.83	0.33	0.34	0.83	0.88	0.88
Avail Cap(c_a), veh/h	359	431	385	359	1070	477	439	1560	783	439	814	849
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	43.6	46.4	55.8	33.6	39.0	55.5	25.3	25.4	55.5	34.1	34.1
Incr Delay (d2), s/veh	3.4	7.1	32.4	14.7	0.2	6.9	9.5	0.1	0.3	9.8	9.7	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	10.1	14.5	4.9	4.7	10.9	4.7	4.6	4.8	4.8	19.1	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	50.6	78.8	70.5	33.8	45.9	65.0	25.4	25.7	65.2	43.8	43.5
LnGrp LOS	E	D	E	E	C	D	E	C	C	E	D	D
Approach Vol, veh/h	742				1021				950			
Approach Delay, s/veh	65.4				47.9				37.0			
Approach LOS	E				D				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.2	56.1	16.7	35.8	17.1	56.2	8.9	43.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	59.5	13.5	31.5	16.5	59.5	13.5	31.5				
Max Q Clear Time (g_c+l1), s	12.3	13.9	12.0	31.1	12.2	43.8	4.2	28.7				
Green Ext Time (p_c), s	0.4	5.2	0.1	0.2	0.4	7.9	0.1	1.1				
Intersection Summary												
HCM 6th Ctrl Delay	48.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Exist+P AM
03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	141	617	813	227	496	325
Future Volume (veh/h)	141	617	813	227	496	325
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	152	663	874	244	533	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	190	1797	1210	539	587	
Arrive On Green	0.11	0.53	0.36	0.36	0.35	0.00
Sat Flow, veh/h	1697	3474	3474	1510	1697	1510
Grp Volume(v), veh/h	152	663	874	244	533	0
Grp Sat Flow(s), veh/h/ln	1697	1692	1692	1510	1697	1510
Q Serve(g_s), s	6.4	8.4	16.4	9.1	21.9	0.0
Cycle Q Clear(g_c), s	6.4	8.4	16.4	9.1	21.9	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	190	1797	1210	539	587	
V/C Ratio(X)	0.80	0.37	0.72	0.45	0.91	
Avail Cap(c_a), veh/h	336	2844	1966	877	800	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.7	10.0	20.4	18.0	22.8	0.0
Incr Delay (d2), s/veh	7.6	0.1	0.8	0.6	11.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.8	6.1	3.1	9.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.3	10.1	21.2	18.6	34.1	0.0
LnGrp LOS	D	B	C	B	C	
Approach Vol, veh/h		815	1118		533	
Approach Delay, s/veh		15.6	20.6		34.1	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		29.8		43.3		12.7 30.7
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		34.5		61.5		14.5 42.5
Max Q Clear Time (g_c+I1), s		23.9		10.4		8.4 18.4
Green Ext Time (p_c), s		1.4		5.4		0.2 7.8
Intersection Summary						
HCM 6th Ctrl Delay			21.9			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Exist+P AM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	721	147	16	1014	34	139	36	11	45	44	353
Future Volume (veh/h)	72	721	147	16	1014	34	139	36	11	45	44	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	77	775	158	17	1090	37	94	116	12	48	47	380
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	97	1447	645	33	1319	588	158	166	141	228	223	392
Arrive On Green	0.06	0.42	0.42	0.02	0.39	0.39	0.09	0.09	0.09	0.26	0.26	0.26
Sat Flow, veh/h	1711	3413	1522	1711	3413	1522	1711	1796	1522	885	867	1522
Grp Volume(v), veh/h	77	775	158	17	1090	37	94	116	12	95	0	380
Grp Sat Flow(s), veh/h/ln	1711	1706	1522	1711	1706	1522	1711	1796	1522	1752	0	1522
Q Serve(g_s), s	3.9	14.8	5.8	0.9	25.1	1.3	4.6	5.5	0.6	3.7	0.0	21.5
Cycle Q Clear(g_c), s	3.9	14.8	5.8	0.9	25.1	1.3	4.6	5.5	0.6	3.7	0.0	21.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.51		1.00
Lane Grp Cap(c), veh/h	97	1447	645	33	1319	588	158	166	141	452	0	392
V/C Ratio(X)	0.79	0.54	0.24	0.51	0.83	0.06	0.59	0.70	0.09	0.21	0.00	0.97
Avail Cap(c_a), veh/h	108	1584	706	108	1584	706	363	381	323	452	0	392
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	18.7	16.2	42.4	24.1	16.8	38.0	38.4	36.2	25.4	0.0	32.0
Incr Delay (d2), s/veh	29.3	0.3	0.2	11.8	3.2	0.0	3.5	5.2	0.3	0.2	0.0	37.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.4	5.6	2.0	0.5	10.2	0.5	2.1	2.6	0.2	1.5	0.0	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.0	19.0	16.4	54.2	27.3	16.9	41.5	43.6	36.5	25.6	0.0	69.0
LnGrp LOS	E	B	B	D	C	B	D	D	D	C	A	E
Approach Vol, veh/h	1010			1144			222			475		
Approach Delay, s/veh	22.5			27.4			42.3			60.4		
Approach LOS	C			C			D			E		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	12.6			6.2			41.5			27.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			5.5			40.5			22.5		
Max Q Clear Time (g_c+I1), s	7.5			2.9			16.8			23.5		
Green Ext Time (p_c), s	0.7			0.0			6.4			0.0		

Intersection Summary

HCM 6th Ctrl Delay 32.3
HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Exist+P AM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	633	76	385	967	38	55	132	57	9	349	123
Future Volume (veh/h)	61	633	76	385	967	38	55	132	57	9	349	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	68	703	84	428	1074	42	61	147	63	10	388	137
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	87	894	107	460	1739	776	165	528	447	341	528	447
Arrive On Green	0.05	0.29	0.29	0.27	0.51	0.51	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1725	3095	370	1725	3441	1535	850	1811	1535	1135	1811	1535
Grp Volume(v), veh/h	68	391	396	428	1074	42	61	147	63	10	388	137
Grp Sat Flow(s),veh/h/ln	1725	1721	1745	1725	1721	1535	850	1811	1535	1135	1811	1535
Q Serve(g_s), s	3.4	18.4	18.5	21.4	19.8	1.2	6.2	5.5	2.7	0.6	17.1	6.1
Cycle Q Clear(g_c), s	3.4	18.4	18.5	21.4	19.8	1.2	23.2	5.5	2.7	6.1	17.1	6.1
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	497	504	460	1739	776	165	528	447	341	528	447
V/C Ratio(X)	0.78	0.79	0.79	0.93	0.62	0.05	0.37	0.28	0.14	0.03	0.74	0.31
Avail Cap(c_a), veh/h	186	789	800	479	2163	965	201	605	513	390	605	513
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	28.9	28.9	31.6	15.7	11.1	38.7	24.1	23.1	26.5	28.2	24.3
Incr Delay (d2), s/veh	14.1	2.8	2.8	24.4	0.4	0.0	1.4	0.3	0.1	0.0	4.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	7.7	7.9	11.7	7.3	0.4	1.3	2.4	1.0	0.2	7.7	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	31.7	31.7	56.0	16.1	11.1	40.1	24.4	23.3	26.5	32.2	24.7
LnGrp LOS	E	C	C	E	B	B	D	C	C	C	C	C
Approach Vol, veh/h	855		1544				271			535		
Approach Delay, s/veh	33.6		27.0				27.7			30.2		
Approach LOS	C		C				C			C		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	30.2		28.1		30.0		30.2		8.9		49.1	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	29.5		24.5		40.5		29.5		9.5		55.5	
Max Q Clear Time (g_c+I1), s	25.2		23.4		20.5		19.1		5.4		21.8	
Green Ext Time (p_c), s	0.5		0.2		5.0		2.2		0.0		9.9	
Intersection Summary												
HCM 6th Ctrl Delay	29.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Exist+P AM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	390	360	319	832	26	216	94	64	56	289	153
Future Volume (veh/h)	38	390	360	319	832	26	216	94	64	56	289	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1811	1618	1856	1856	1841	1292	1796	1781	1826	1870	1826
Adj Flow Rate, veh/h	41	419	387	343	895	28	232	101	69	60	311	165
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	6	19	3	3	4	41	7	8	5	2	5
Cap, veh/h	78	1127	449	314	2301	72	300	219	184	339	365	302
Arrive On Green	0.04	0.33	0.33	0.18	0.46	0.46	0.12	0.12	0.12	0.20	0.20	0.20
Sat Flow, veh/h	1739	3441	1372	1767	5047	158	2462	1796	1510	1739	1870	1547
Grp Volume(v), veh/h	41	419	387	343	599	324	232	101	69	60	311	165
Grp Sat Flow(s), veh/h/ln	1739	1721	1372	1767	1689	1827	1231	1796	1510	1739	1870	1547
Q Serve(g_s), s	2.6	10.5	29.7	20.0	13.2	13.2	10.3	5.9	4.7	3.2	18.1	10.8
Cycle Q Clear(g_c), s	2.6	10.5	29.7	20.0	13.2	13.2	10.3	5.9	4.7	3.2	18.1	10.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	1127	449	314	1540	833	300	219	184	339	365	302
V/C Ratio(X)	0.52	0.37	0.86	1.09	0.39	0.39	0.77	0.46	0.38	0.18	0.85	0.55
Avail Cap(c_a), veh/h	309	1223	488	314	1540	833	569	415	349	464	499	413
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	29.0	35.4	46.3	20.2	20.2	47.9	46.0	45.5	37.7	43.7	40.8
Incr Delay (d2), s/veh	5.4	0.7	17.7	77.6	0.2	0.3	4.3	1.5	1.3	0.2	10.1	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.2	4.4	12.0	15.5	5.2	5.6	3.3	2.7	1.8	1.4	9.3	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.9	29.7	53.1	123.8	20.4	20.5	52.2	47.5	46.7	38.0	53.8	42.3
LnGrp LOS	E	C	D	F	C	C	D	D	D	D	D	D
Approach Vol, veh/h	847			1266			402			536		
Approach Delay, s/veh	41.8			48.5			50.1			48.5		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.0	42.9		27.5	9.6	57.3		18.2				
Change Period (Y+Rc), s	4.0	6.0		5.5	4.5	6.0		4.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		26.0				
Max Q Clear Time (g_c+Q_c), s	22.0	31.7		20.1	4.6	15.2		12.3				
Green Ext Time (p_c), s	0.0	5.1		1.9	0.1	6.7		1.4				

Intersection Summary

HCM 6th Ctrl Delay 46.8
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	16	66	161	450	3
Future Vol, veh/h	1	16	66	161	450	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	17	72	175	489	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	810	491	492	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	349	578	1071	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	323	578	1071	-	-	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.7	2.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1071	-	552	-	-	
HCM Lane V/C Ratio	0.067	-	0.033	-	-	
HCM Control Delay (s)	8.6	-	11.7	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-	

HCM 6th TWSC
7: Industrial Parkway West & Project Driveway 1

Exist+P AM
03/29/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	770	1137	24	0	9
Future Vol, veh/h	0	770	1137	24	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	837	1236	26	0	10
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	631
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	424
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.7		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	424		
HCM Lane V/C Ratio	-	-	-	0.023		
HCM Control Delay (s)	-	-	-	13.7		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.1		

HCM 6th TWSC
8: Industrial Parkway West & Project Driveway 2

Exist+P AM
03/29/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	770	1141	29	0	1
Future Vol, veh/h	0	770	1141	29	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	837	1240	32	0	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	636
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	421
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	421
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.6		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	421		
HCM Lane V/C Ratio	-	-	-	0.003		
HCM Control Delay (s)	-	-	-	13.6		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

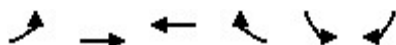
Exist+P Midday
06/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	 	
Traffic Volume (veh/h)	119	325	217	301	198	142	167	613	199	154	518	34
Future Volume (veh/h)	119	325	217	301	198	142	167	613	199	154	518	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	134	365	244	338	222	160	188	689	224	173	582	38
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	217	505	332	443	1106	493	284	1063	341	266	923	60
Arrive On Green	0.07	0.26	0.26	0.13	0.32	0.32	0.09	0.29	0.29	0.08	0.28	0.28
Sat Flow, veh/h	3319	1972	1297	3319	3413	1522	3319	3676	1178	3319	3252	212
Grp Volume(v), veh/h	134	315	294	338	222	160	188	612	301	173	305	315
Grp Sat Flow(s),veh/h/ln	1659	1706	1563	1659	1706	1522	1659	1635	1584	1659	1706	1758
Q Serve(g_s), s	2.9	12.6	12.9	7.3	3.5	5.9	4.1	12.2	12.5	3.8	11.6	11.7
Cycle Q Clear(g_c), s	2.9	12.6	12.9	7.3	3.5	5.9	4.1	12.2	12.5	3.8	11.6	11.7
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.74	1.00		0.12
Lane Grp Cap(c), veh/h	217	437	400	443	1106	493	284	946	458	266	484	499
V/C Ratio(X)	0.62	0.72	0.73	0.76	0.20	0.32	0.66	0.65	0.66	0.65	0.63	0.63
Avail Cap(c_a), veh/h	689	994	910	689	1987	886	733	1904	923	733	994	1024
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	25.4	25.5	31.2	18.2	19.1	33.1	23.2	23.3	33.3	23.3	23.3
Incr Delay (d2), s/veh	2.8	2.3	2.6	2.7	0.1	0.4	2.6	0.7	1.6	2.7	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.1	4.8	3.0	1.3	2.0	1.7	4.6	4.6	1.6	4.6	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	27.6	28.1	34.0	18.3	19.4	35.7	24.0	24.9	36.0	24.7	24.7
LnGrp LOS	D	C	C	C	B	B	D	C	C	D	C	C
Approach Vol, veh/h		743			720			1101			793	
Approach Delay, s/veh		29.5			25.9			26.2			27.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	26.1	14.5	23.6	10.9	25.7	9.4	28.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	43.5	15.5	43.5	16.5	43.5	15.5	43.5				
Max Q Clear Time (g_c+l1), s	5.8	14.5	9.3	14.9	6.1	13.7	4.9	7.9				
Green Ext Time (p_c), s	0.4	7.1	0.6	4.2	0.4	4.2	0.3	2.1				
Intersection Summary												
HCM 6th Ctrl Delay				27.1								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Exist+P Midday
06/20/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	184	647	394	268	480	306
Future Volume (veh/h)	184	647	394	268	480	306
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	200	703	428	291	522	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	251	1668	922	411	587	
Arrive On Green	0.15	0.50	0.28	0.28	0.35	0.00
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	200	703	428	291	522	0
Grp Sat Flow(s), veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	7.1	8.2	6.5	10.8	18.0	0.0
Cycle Q Clear(g_c), s	7.1	8.2	6.5	10.8	18.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	251	1668	922	411	587	
V/C Ratio(X)	0.80	0.42	0.46	0.71	0.89	
Avail Cap(c_a), veh/h	587	3570	2153	960	861	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.0	9.6	18.3	19.9	18.7	0.0
Incr Delay (d2), s/veh	5.7	0.2	0.4	2.3	8.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.0	2.5	2.3	3.7	7.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.8	9.8	18.7	22.1	26.8	0.0
LnGrp LOS	C	A	B	C	C	
Approach Vol, veh/h		903	719		522	
Approach Delay, s/veh		14.4	20.1		26.8	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		26.0		35.1		13.7 21.4
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		31.5		65.5		21.5 39.5
Max Q Clear Time (g_c+l1), s		20.0		10.2		9.1 12.8
Green Ext Time (p_c), s		1.4		5.9		0.4 4.1
Intersection Summary						
HCM 6th Ctrl Delay			19.4			
HCM 6th LOS			B			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Exist+P Midday
06/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	630	129	38	857	31	166	62	7	28	27	106
Future Volume (veh/h)	76	630	129	38	857	31	166	62	7	28	27	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	84	700	143	42	952	34	126	149	8	31	30	118
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	105	1426	636	69	1355	604	214	224	190	97	94	166
Arrive On Green	0.06	0.43	0.43	0.04	0.41	0.41	0.13	0.13	0.13	0.11	0.11	0.11
Sat Flow, veh/h	1668	3328	1485	1668	3328	1485	1668	1752	1485	868	840	1485
Grp Volume(v), veh/h	84	700	143	42	952	34	126	149	8	61	0	118
Grp Sat Flow(s), veh/h/ln	1668	1664	1485	1668	1664	1485	1668	1752	1485	1708	0	1485
Q Serve(g_s), s	3.1	9.4	3.8	1.5	14.7	0.9	4.4	5.0	0.3	2.0	0.0	4.8
Cycle Q Clear(g_c), s	3.1	9.4	3.8	1.5	14.7	0.9	4.4	5.0	0.3	2.0	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.51		1.00
Lane Grp Cap(c), veh/h	105	1426	636	69	1355	604	214	224	190	191	0	166
V/C Ratio(X)	0.80	0.49	0.22	0.61	0.70	0.06	0.59	0.66	0.04	0.32	0.00	0.71
Avail Cap(c_a), veh/h	202	2761	1231	202	2761	1231	551	578	490	537	0	466
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	12.8	11.2	29.3	15.3	11.2	25.5	25.8	23.7	25.4	0.0	26.6
Incr Delay (d2), s/veh	12.8	0.3	0.2	8.3	0.7	0.0	2.6	3.3	0.1	1.0	0.0	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.1	1.1	0.7	5.0	0.3	1.8	2.2	0.1	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.5	13.1	11.4	37.5	16.0	11.2	28.1	29.1	23.8	26.3	0.0	32.1
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	A	C
Approach Vol, veh/h	927			1028			283			179		
Approach Delay, s/veh	15.4			16.7			28.5			30.1		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	12.5			7.1			31.1			11.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			7.5			51.5			19.5		
Max Q Clear Time (g_c+I1), s	7.0			3.5			11.4			6.8		
Green Ext Time (p_c), s	1.0			0.0			6.3			0.5		

Intersection Summary

HCM 6th Ctrl Delay 18.6
HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Exist+P Midday

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

06/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑		↰	↑↑	↰	↰	↑	↰	↰	↑	↰
Traffic Volume (veh/h)	49	611	39	220	740	44	89	179	16	48	149	98
Future Volume (veh/h)	49	611	39	220	740	44	89	179	16	48	149	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	54	679	43	244	822	49	99	199	18	53	166	109
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	89	1026	65	309	1514	675	307	421	356	296	421	356
Arrive On Green	0.05	0.32	0.32	0.18	0.45	0.45	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1697	3232	205	1697	3385	1510	1052	1781	1510	1109	1781	1510
Grp Volume(v), veh/h	54	355	367	244	822	49	99	199	18	53	166	109
Grp Sat Flow(s), veh/h/ln	1697	1692	1745	1697	1692	1510	1052	1781	1510	1109	1781	1510
Q Serve(g_s), s	1.6	9.3	9.3	7.0	9.1	0.9	4.5	4.9	0.5	2.2	4.0	3.0
Cycle Q Clear(g_c), s	1.6	9.3	9.3	7.0	9.1	0.9	8.5	4.9	0.5	7.1	4.0	3.0
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	537	554	309	1514	675	307	421	356	296	421	356
V/C Ratio(X)	0.61	0.66	0.66	0.79	0.54	0.07	0.32	0.47	0.05	0.18	0.39	0.31
Avail Cap(c_a), veh/h	514	1275	1314	780	3079	1373	706	1098	930	718	1098	930
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	15.1	15.1	20.0	10.3	8.1	20.0	16.8	15.1	19.9	16.4	16.1
Incr Delay (d2), s/veh	6.5	1.4	1.4	4.5	0.3	0.0	0.6	0.8	0.1	0.3	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.3	3.4	2.9	2.8	0.3	1.0	1.9	0.2	0.5	1.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	16.5	16.4	24.4	10.6	8.1	20.6	17.6	15.2	20.1	17.0	16.6
LnGrp LOS	C	B	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h	776			1115			316			328		
Approach Delay, s/veh	17.4			13.5			18.4			17.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	16.6			13.8			20.7			16.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	31.5			23.5			38.5			31.5		
Max Q Clear Time (g_c+l1), s	10.5			9.0			11.3			9.1		
Green Ext Time (p_c), s	1.6			0.6			4.9			1.5		

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Exist+P Midday
06/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	614	305	159	521	55	315	196	135	60	182	116
Future Volume (veh/h)	133	614	305	159	521	55	315	196	135	60	182	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	156	722	359	187	613	65	371	231	159	71	214	136
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	191	1085	484	223	1518	159	626	329	279	263	276	234
Arrive On Green	0.11	0.32	0.32	0.13	0.34	0.34	0.18	0.18	0.18	0.15	0.15	0.15
Sat Flow, veh/h	1697	3385	1510	1697	4470	469	3393	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	156	722	359	187	443	235	371	231	159	71	214	136
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1621	1697	1697	1781	1510	1697	1781	1510
Q Serve(g_s), s	7.8	15.9	18.3	9.3	9.0	9.2	8.6	10.5	8.3	3.2	10.0	7.2
Cycle Q Clear(g_c), s	7.8	15.9	18.3	9.3	9.0	9.2	8.6	10.5	8.3	3.2	10.0	7.2
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1085	484	223	1101	576	626	329	279	263	276	234
V/C Ratio(X)	0.82	0.67	0.74	0.84	0.40	0.41	0.59	0.70	0.57	0.27	0.78	0.58
Avail Cap(c_a), veh/h	304	2018	900	304	1933	1012	1552	815	690	442	464	393
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	25.3	26.1	36.6	21.8	21.9	32.2	33.0	32.1	32.2	35.0	33.9
Incr Delay (d2), s/veh	9.0	0.7	2.3	13.9	0.2	0.5	0.9	2.7	1.8	0.5	4.6	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	6.3	6.6	4.6	3.4	3.6	3.6	4.7	3.1	1.3	4.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	26.0	28.4	50.5	22.0	22.3	33.1	35.7	33.9	32.7	39.7	36.2
LnGrp LOS	D	C	C	D	C	C	C	D	C	C	D	D
Approach Vol, veh/h	1237			865			761			421		
Approach Delay, s/veh	29.3			28.3			34.1			37.4		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	20.4		15.9	32.2		17.9	14.2	33.8				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	39.5		15.5	51.5		22.5	15.5	51.5				
Max Q Clear Time (g_c+I1), s	12.5		11.3	20.3		12.0	9.8	11.2				
Green Ext Time (p_c), s	3.4		0.2	7.4		1.4	0.2	5.1				
Intersection Summary												
HCM 6th Ctrl Delay	31.2											
HCM 6th LOS	C											
Notes												

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	38	25	250	262	1
Future Vol, veh/h	1	38	25	250	262	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	41	27	272	285	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	612	286	286	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	456	753	1276	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	445	753	1276	-	-	-
Mov Cap-2 Maneuver	445	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.2	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1276	-	740	-	-	
HCM Lane V/C Ratio	0.021	-	0.057	-	-	
HCM Control Delay (s)	7.9	-	10.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	699	927	10	0	24
Future Vol, veh/h	0	699	927	10	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	760	1008	11	0	26
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	510
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	509
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	509
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		12.5		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	509		
HCM Lane V/C Ratio	-	-	-	0.051		
HCM Control Delay (s)	-	-	-	12.5		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.2		

HCM 6th TWSC
8: Industrial Parkway West & Project Driveway 2

Exist+P Middyay
06/20/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	699	925	12	0	3
Future Vol, veh/h	0	699	925	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	760	1005	13	0	3
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	509
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	509
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	509
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		12.1		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	509		
HCM Lane V/C Ratio	-	-	-	0.006		
HCM Control Delay (s)	-	-	-	12.1		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Exist+P PM
03/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	673	250	291	349	322	209	1313	133	204	755	36
Future Volume (veh/h)	185	673	250	291	349	322	209	1313	133	204	755	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	191	694	258	300	360	332	215	1354	137	210	778	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	257	785	292	369	1216	542	511	1591	161	274	929	44
Arrive On Green	0.08	0.31	0.31	0.11	0.35	0.35	0.15	0.34	0.34	0.08	0.27	0.27
Sat Flow, veh/h	3401	2495	927	3401	3497	1560	3401	4637	469	3401	3399	162
Grp Volume(v), veh/h	191	486	466	300	360	332	215	978	513	210	400	415
Grp Sat Flow(s),veh/h/ln	1700	1749	1674	1700	1749	1560	1700	1675	1756	1700	1749	1812
Q Serve(g_s), s	6.5	31.0	31.0	10.1	8.8	20.7	6.7	31.8	31.8	7.1	25.3	25.4
Cycle Q Clear(g_c), s	6.5	31.0	31.0	10.1	8.8	20.7	6.7	31.8	31.8	7.1	25.3	25.4
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.27	1.00		0.09
Lane Grp Cap(c), veh/h	257	550	527	369	1216	542	511	1149	602	274	478	495
V/C Ratio(X)	0.74	0.88	0.88	0.81	0.30	0.61	0.42	0.85	0.85	0.77	0.84	0.84
Avail Cap(c_a), veh/h	564	618	591	564	1235	551	511	1240	650	449	647	671
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	38.2	38.2	51.2	27.9	31.8	45.3	35.8	35.8	52.9	40.2	40.2
Incr Delay (d2), s/veh	4.2	13.2	13.7	5.3	0.1	2.0	0.6	5.5	10.0	4.5	7.1	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	15.2	14.6	4.6	3.7	8.1	2.9	13.7	15.1	3.2	11.7	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	51.4	51.9	56.5	28.0	33.7	45.9	41.4	45.8	57.4	47.3	47.1
LnGrp LOS	E	D	D	E	C	C	D	D	D	E	D	D
Approach Vol, veh/h	1143			992			1706			1025		
Approach Delay, s/veh	52.6			38.5			43.3			49.3		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	44.8	17.3	41.5	22.1	36.6	13.4	45.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	43.5	19.5	41.5	15.5	43.5	19.5	41.5				
Max Q Clear Time (g_c+I1), s	9.1	33.8	12.1	33.0	8.7	27.4	8.5	22.7				
Green Ext Time (p_c), s	0.4	6.5	0.6	4.0	0.4	4.8	0.4	3.4				
Intersection Summary												
HCM 6th Ctrl Delay	45.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Exist+P PM
03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	359	834	877	243	415	208
Future Volume (veh/h)	359	834	877	243	415	208
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	386	897	943	261	446	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	424	2191	1179	526	475	
Arrive On Green	0.24	0.63	0.34	0.34	0.27	0.00
Sat Flow, veh/h	1739	3561	3561	1547	1739	1547
Grp Volume(v), veh/h	386	897	943	261	446	0
Grp Sat Flow(s), veh/h/ln	1739	1735	1735	1547	1739	1547
Q Serve(g_s), s	20.4	12.2	23.3	12.7	23.7	0.0
Cycle Q Clear(g_c), s	20.4	12.2	23.3	12.7	23.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	424	2191	1179	526	475	
V/C Ratio(X)	0.91	0.41	0.80	0.50	0.94	
Avail Cap(c_a), veh/h	524	2697	1486	663	487	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.7	8.7	28.3	24.8	33.6	0.0
Incr Delay (d2), s/veh	17.5	0.1	2.5	0.7	25.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ft	0.5	4.1	9.8	4.6	13.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.2	8.8	30.8	25.5	59.4	0.0
LnGrp LOS	D	A	C	C	E	
Approach Vol, veh/h		1283	1204		446	
Approach Delay, s/veh		21.9	29.7		59.4	
Approach LOS		C	C		E	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		30.3		64.2		27.6 36.6
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		26.5		73.5		28.5 40.5
Max Q Clear Time (g_c+l1), s		25.7		14.2		22.4 25.3
Green Ext Time (p_c), s		0.1		8.2		0.7 6.8

Intersection Summary

HCM 6th Ctrl Delay 30.8
HCM 6th LOS C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Exist+P PM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	786	85	32	1093	53	340	99	12	34	28	117
Future Volume (veh/h)	147	786	85	32	1093	53	340	99	12	34	28	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	158	845	91	34	1175	57	236	288	13	37	30	126
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	110	1615	720	56	1508	673	343	360	305	105	85	165
Arrive On Green	0.06	0.46	0.46	0.03	0.43	0.43	0.20	0.20	0.20	0.11	0.11	0.11
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	1841	1560	989	802	1560
Grp Volume(v), veh/h	158	845	91	34	1175	57	236	288	13	67	0	126
Grp Sat Flow(s), veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1841	1560	1791	0	1560
Q Serve(g_s), s	5.5	15.1	2.9	1.7	25.3	1.9	11.0	13.1	0.6	3.1	0.0	6.9
Cycle Q Clear(g_c), s	5.5	15.1	2.9	1.7	25.3	1.9	11.0	13.1	0.6	3.1	0.0	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.55		1.00
Lane Grp Cap(c), veh/h	110	1615	720	56	1508	673	343	360	305	190	0	165
V/C Ratio(X)	1.44	0.52	0.13	0.60	0.78	0.08	0.69	0.80	0.04	0.35	0.00	0.76
Avail Cap(c_a), veh/h	110	2208	985	110	2208	985	568	597	506	377	0	328
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.2	16.8	13.5	42.0	21.4	14.8	32.9	33.7	28.7	36.5	0.0	38.2
Incr Delay (d2), s/veh	242.2	0.3	0.1	10.0	1.1	0.1	2.5	4.1	0.1	1.1	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.8	1.0	0.9	10.0	0.7	4.8	6.1	0.2	1.4	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	283.4	17.1	13.6	52.0	22.5	14.8	35.3	37.8	28.7	37.6	0.0	45.3
LnGrp LOS	F	B	B	D	C	B	D	D	C	D	A	D
Approach Vol, veh/h	1094			1266			537			193		
Approach Delay, s/veh	55.2			23.0			36.5			42.7		
Approach LOS	E			C			D			D		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	21.7			7.3			45.1			13.8		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	28.5			5.5			55.5			18.5		
Max Q Clear Time (g_c+I1), s	15.1			3.7			17.1			8.9		
Green Ext Time (p_c), s	2.1			0.0			7.6			0.5		

Intersection Summary

HCM 6th Ctrl Delay 38.0
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Exist+P PM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	778	42	221	828	79	124	459	45	31	199	128
Future Volume (veh/h)	109	778	42	221	828	79	124	459	45	31	199	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	115	819	44	233	872	83	131	483	47	33	209	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	149	1091	59	284	1401	625	344	598	507	174	598	507
Arrive On Green	0.09	0.32	0.32	0.16	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1753	3375	181	1753	3497	1560	1020	1841	1560	860	1841	1560
Grp Volume(v), veh/h	115	424	439	233	872	83	131	483	47	33	209	135
Grp Sat Flow(s),veh/h/ln	1753	1749	1808	1753	1749	1560	1020	1841	1560	860	1841	1560
Q Serve(g_s), s	4.6	15.4	15.4	9.1	14.2	2.4	8.0	17.1	1.5	2.6	6.2	4.6
Cycle Q Clear(g_c), s	4.6	15.4	15.4	9.1	14.2	2.4	14.1	17.1	1.5	19.7	6.2	4.6
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	565	585	284	1401	625	344	598	507	174	598	507
V/C Ratio(X)	0.77	0.75	0.75	0.82	0.62	0.13	0.38	0.81	0.09	0.19	0.35	0.27
Avail Cap(c_a), veh/h	406	921	952	578	2185	975	493	866	734	299	866	734
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	21.5	21.5	28.8	17.0	13.5	23.7	22.0	16.7	31.0	18.3	17.8
Incr Delay (d2), s/veh	8.1	2.0	2.0	5.8	0.5	0.1	0.7	3.7	0.1	0.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.2	6.4	4.1	5.3	0.8	1.9	7.5	0.5	0.5	2.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	23.6	23.5	34.6	17.5	13.6	24.4	25.7	16.8	31.5	18.7	18.0
LnGrp LOS	D	C	C	C	B	B	C	C	B	C	B	B
Approach Vol, veh/h	978			1188			661			377		
Approach Delay, s/veh	25.5			20.6			24.8			19.6		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	27.6			16.1			27.5			27.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	33.5			23.5			37.5			33.5		
Max Q Clear Time (g_c+l1), s	19.1			11.1			17.4			21.7		
Green Ext Time (p_c), s	3.4			0.5			5.6			1.4		

Intersection Summary

HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Exist+P PM
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	929	221	98	584	90	398	409	222	62	125	123
Future Volume (veh/h)	221	929	221	98	584	90	398	409	222	62	125	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1485	1796	1856	1841	1781	1870	1870	1900	1811	1856
Adj Flow Rate, veh/h	228	958	228	101	602	93	466	344	229	64	129	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	28	7	3	4	8	2	2	0	6	3
Cap, veh/h	260	1217	434	127	1193	182	728	401	340	331	331	288
Arrive On Green	0.15	0.35	0.35	0.07	0.27	0.27	0.21	0.21	0.21	0.18	0.18	0.18
Sat Flow, veh/h	1781	3526	1259	1711	4435	676	3393	1870	1585	1810	1811	1572
Grp Volume(v), veh/h	228	958	228	101	456	239	466	344	229	64	129	127
Grp Sat Flow(s), veh/h/ln	1781	1763	1259	1711	1689	1734	1697	1870	1585	1810	1811	1572
Q Serve(g_s), s	13.7	26.7	15.8	6.3	12.5	12.7	13.7	19.3	14.5	3.3	6.8	7.8
Cycle Q Clear(g_c), s	13.7	26.7	15.8	6.3	12.5	12.7	13.7	19.3	14.5	3.3	6.8	7.8
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1217	434	127	908	466	728	401	340	331	331	288
V/C Ratio(X)	0.88	0.79	0.52	0.79	0.50	0.51	0.64	0.86	0.67	0.19	0.39	0.44
Avail Cap(c_a), veh/h	326	1291	461	313	1236	635	807	445	377	497	497	432
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	32.2	28.6	49.8	33.8	33.9	39.1	41.3	39.4	37.8	39.3	39.7
Incr Delay (d2), s/veh	19.4	4.6	3.5	10.6	0.4	0.9	1.5	14.2	4.1	0.3	0.7	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	12.0	5.2	3.1	5.1	5.4	5.8	10.4	6.0	1.5	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	36.8	32.2	60.4	34.2	34.7	40.5	55.5	43.5	38.1	40.0	40.7
LnGrp LOS	E	D	C	E	C	C	D	E	D	D	D	D
Approach Vol, veh/h	1414			796			1039			320		
Approach Delay, s/veh	40.6			37.7			46.1			39.9		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.1	43.7		25.5	20.4	35.4		27.9				
Change Period (Y+Rc), s	4.0	6.0		5.5	4.5	6.0		4.5				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		26.0				
Max Q Clear Time (g_c+I), s	10.3	28.7		9.8	15.7	14.7		21.3				
Green Ext Time (p_c), s	0.2	9.0		1.2	0.3	4.9		2.1				

Intersection Summary

HCM 6th Ctrl Delay 41.5
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	68	43	597	294	2
Future Vol, veh/h	3	68	43	597	294	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	74	47	649	320	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1064	321	322	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	247	720	1238	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	232	720	1238	-	-	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.2	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1238	-	661	-	-	
HCM Lane V/C Ratio	0.038	-	0.117	-	-	
HCM Control Delay (s)	8	-	11.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

HCM 6th TWSC
7: Industrial Parkway West & Project Driveway 1

Exist+P PM
03/29/2023

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	929	1075	14	0	45
Future Vol, veh/h	0	929	1075	14	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1010	1168	15	0	49
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	592
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	449
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	449
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		14		
HCM LOS				B		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	449		
HCM Lane V/C Ratio	-	-	-	0.109		
HCM Control Delay (s)	-	-	-	14		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.4		

HCM 6th TWSC
8: Industrial Parkway West & Project Driveway 2

Exist+P PM
03/29/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	929	1078	17	0	5
Future Vol, veh/h	0	929	1078	17	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1010	1172	18	0	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	595
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	447
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	447
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.2		
HCM LOS	B					
Minor Lane/Major Mvmt		EBT	WBT	WBR	SBLn1	
Capacity (veh/h)		-	-	-	447	
HCM Lane V/C Ratio		-	-	-	0.012	
HCM Control Delay (s)		-	-	-	13.2	
HCM Lane LOS		-	-	-	B	
HCM 95th %tile Q(veh)		-	-	-	0	

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Background AM

03/29/2023

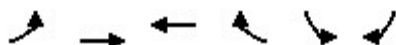
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	321	366	274	393	365	279	560	119	278	1247	37
Future Volume (veh/h)	59	321	366	274	393	365	279	560	119	278	1247	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	63	341	389	291	418	388	297	596	127	296	1327	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	113	406	363	337	1043	465	350	1736	363	349	1446	42
Arrive On Green	0.03	0.24	0.24	0.10	0.30	0.30	0.10	0.42	0.42	0.10	0.42	0.42
Sat Flow, veh/h	3346	1721	1535	3346	3441	1535	3346	4095	857	3346	3413	100
Grp Volume(v), veh/h	63	341	389	291	418	388	297	478	245	296	668	698
Grp Sat Flow(s),veh/h/ln	1673	1721	1535	1673	1721	1535	1673	1648	1657	1673	1721	1793
Q Serve(g_s), s	2.5	25.2	31.5	11.4	12.9	31.4	11.6	13.0	13.4	11.6	48.8	49.0
Cycle Q Clear(g_c), s	2.5	25.2	31.5	11.4	12.9	31.4	11.6	13.0	13.4	11.6	48.8	49.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.06
Lane Grp Cap(c), veh/h	113	406	363	337	1043	465	350	1397	702	349	729	760
V/C Ratio(X)	0.56	0.84	1.07	0.86	0.40	0.83	0.85	0.34	0.35	0.85	0.92	0.92
Avail Cap(c_a), veh/h	339	406	363	339	1043	465	414	1471	739	414	768	800
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	48.5	50.9	59.1	36.9	43.3	58.7	25.9	26.0	58.7	36.2	36.3
Incr Delay (d2), s/veh	4.2	14.4	68.1	19.9	0.2	12.4	13.5	0.1	0.3	13.4	15.4	15.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	12.4	18.9	5.8	5.5	13.5	5.6	5.2	5.4	5.6	23.3	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	62.9	119.0	78.9	37.1	55.7	72.2	26.0	26.3	72.1	51.6	51.4
LnGrp LOS	E	E	F	E	D	E	E	C	C	E	D	D
Approach Vol, veh/h	793				1097				1020			
Approach Delay, s/veh	90.8				54.8				39.5			
Approach LOS	F				D				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	61.0	17.9	36.0	18.4	61.0	9.0	44.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	59.5	13.5	31.5	16.5	59.5	13.5	31.5				
Max Q Clear Time (g_c+I1), s	13.6	15.4	13.4	33.5	13.6	51.0	4.5	33.4				
Green Ext Time (p_c), s	0.3	5.6	0.0	0.0	0.3	5.5	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	57.8											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Background AM

03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	652	874	243	511	350
Future Volume (veh/h)	152	652	874	243	511	350
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	163	701	940	261	549	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	199	1825	1240	553	594	
Arrive On Green	0.12	0.54	0.37	0.37	0.35	0.00
Sat Flow, veh/h	1697	3474	3474	1510	1697	1510
Grp Volume(v), veh/h	163	701	940	261	549	0
Grp Sat Flow(s), veh/h/ln	1697	1692	1692	1510	1697	1510
Q Serve(g_s), s	7.6	9.8	19.8	10.8	25.3	0.0
Cycle Q Clear(g_c), s	7.6	9.8	19.8	10.8	25.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	199	1825	1240	553	594	
V/C Ratio(X)	0.82	0.38	0.76	0.47	0.92	
Avail Cap(c_a), veh/h	302	2559	1768	789	719	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.0	10.9	22.6	19.7	25.4	0.0
Incr Delay (d2), s/veh	10.0	0.1	1.2	0.6	15.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.6	3.4	7.6	3.7	12.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	45.1	11.0	23.8	20.4	41.2	0.0
LnGrp LOS	D	B	C	C	D	
Approach Vol, veh/h		864	1201		549	
Approach Delay, s/veh		17.4	23.1		41.2	
Approach LOS		B	C		D	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		33.0		48.4		14.1 34.3
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		34.5		61.5		14.5 42.5
Max Q Clear Time (g_c+I1), s		27.3		11.8		9.6 21.8
Green Ext Time (p_c), s		1.2		5.8		0.2 8.0
Intersection Summary						
HCM 6th Ctrl Delay			25.0			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Background AM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	740	158	17	1085	37	150	39	12	48	47	380
Future Volume (veh/h)	78	740	158	17	1085	37	150	39	12	48	47	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	84	796	170	18	1167	40	102	125	13	52	51	409
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	103	1496	667	34	1359	606	166	174	147	218	214	376
Arrive On Green	0.06	0.44	0.44	0.02	0.40	0.40	0.10	0.10	0.10	0.25	0.25	0.25
Sat Flow, veh/h	1711	3413	1522	1711	3413	1522	1711	1796	1522	885	868	1522
Grp Volume(v), veh/h	84	796	170	18	1167	40	102	125	13	103	0	409
Grp Sat Flow(s), veh/h/ln	1711	1706	1522	1711	1706	1522	1711	1796	1522	1752	0	1522
Q Serve(g_s), s	4.4	15.6	6.4	0.9	28.5	1.5	5.2	6.2	0.7	4.3	0.0	22.5
Cycle Q Clear(g_c), s	4.4	15.6	6.4	0.9	28.5	1.5	5.2	6.2	0.7	4.3	0.0	22.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.50		1.00
Lane Grp Cap(c), veh/h	103	1496	667	34	1359	606	166	174	147	433	0	376
V/C Ratio(X)	0.81	0.53	0.25	0.52	0.86	0.07	0.62	0.72	0.09	0.24	0.00	1.09
Avail Cap(c_a), veh/h	103	1517	677	103	1517	677	347	365	309	433	0	376
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.3	18.7	16.2	44.2	25.1	16.9	39.5	39.9	37.5	27.4	0.0	34.3
Incr Delay (d2), s/veh	37.2	0.3	0.2	11.8	4.8	0.0	3.7	5.5	0.3	0.3	0.0	72.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.0	2.2	0.5	11.9	0.5	2.3	2.9	0.3	1.8	0.0	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.5	19.1	16.4	56.0	29.9	17.0	43.2	45.4	37.7	27.7	0.0	106.3
LnGrp LOS	E	B	B	E	C	B	D	D	D	C	A	F
Approach Vol, veh/h	1050			1225			240			512		
Approach Delay, s/veh	23.5			29.8			44.0			90.5		
Approach LOS	C			C			D			F		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	13.3			6.3			44.4			27.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			5.5			40.5			22.5		
Max Q Clear Time (g_c+I1), s	8.2			2.9			17.6			24.5		
Green Ext Time (p_c), s	0.7			0.0			6.6			0.0		

Intersection Summary

HCM 6th Ctrl Delay 39.0

HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Background AM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	692	82	415	1041	39	53	115	61	9	372	126
Future Volume (veh/h)	19	692	82	415	1041	39	53	115	61	9	372	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	21	769	91	461	1157	43	59	128	68	10	413	140
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	39	944	112	441	1851	825	151	541	459	357	541	459
Arrive On Green	0.02	0.30	0.30	0.26	0.54	0.54	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1725	3099	367	1725	3441	1535	828	1811	1535	1149	1811	1535
Grp Volume(v), veh/h	21	427	433	461	1157	43	59	128	68	10	413	140
Grp Sat Flow(s), veh/h/ln	1725	1721	1745	1725	1721	1535	828	1811	1535	1149	1811	1535
Q Serve(g_s), s	1.2	22.0	22.0	24.5	22.4	1.3	6.7	5.1	3.1	0.6	19.8	6.7
Cycle Q Clear(g_c), s	1.2	22.0	22.0	24.5	22.4	1.3	26.5	5.1	3.1	5.7	19.8	6.7
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	524	531	441	1851	825	151	541	459	357	541	459
V/C Ratio(X)	0.54	0.81	0.82	1.05	0.63	0.05	0.39	0.24	0.15	0.03	0.76	0.31
Avail Cap(c_a), veh/h	171	727	738	441	1993	889	159	558	473	368	558	473
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	30.8	30.8	35.7	15.4	10.5	42.5	25.3	24.6	27.5	30.5	25.9
Incr Delay (d2), s/veh	11.4	5.0	5.0	55.2	0.6	0.0	1.6	0.2	0.1	0.0	6.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	9.6	9.7	16.8	8.3	0.4	1.4	2.2	1.1	0.2	9.3	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	35.8	35.8	90.8	16.0	10.6	44.2	25.6	24.8	27.5	36.5	26.3
LnGrp LOS	E	D	D	F	B	B	D	C	C	C	D	C
Approach Vol, veh/h	881			1661			255			563		
Approach Delay, s/veh	36.3			36.6			29.7			33.8		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	33.1		29.0	33.7		33.1		6.6	56.0			
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5	4.5			
Max Green Setting (Gmax), s	29.5		24.5	40.5		29.5		9.5	55.5			
Max Q Clear Time (g_c+l1), s	28.5		26.5	24.0		21.8		3.2	24.4			
Green Ext Time (p_c), s	0.1		0.0	5.2		1.9		0.0	10.7			

Intersection Summary

HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Background AM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	419	398	354	892	28	234	102	71	60	316	165
Future Volume (veh/h)	41	419	398	354	892	28	234	102	71	60	316	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1811	1618	1856	1856	1841	1292	1796	1781	1826	1870	1826
Adj Flow Rate, veh/h	44	451	428	381	959	30	252	110	76	65	340	177
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	6	19	3	3	4	41	7	8	5	2	5
Cap, veh/h	80	908	362	415	2264	71	295	557	357	92	391	323
Arrive On Green	0.05	0.26	0.26	0.24	0.45	0.45	0.12	0.28	0.28	0.05	0.21	0.21
Sat Flow, veh/h	1739	3441	1372	1767	5047	158	2388	1994	1279	1739	1870	1547
Grp Volume(v), veh/h	44	451	428	381	641	348	252	93	93	65	340	177
Grp Sat Flow(s),veh/h/ln	1739	1721	1372	1767	1689	1827	1194	1706	1566	1739	1870	1547
Q Serve(g_s), s	2.9	12.8	30.5	24.3	14.9	15.0	12.0	4.8	5.3	4.3	20.3	11.8
Cycle Q Clear(g_c), s	2.9	12.8	30.5	24.3	14.9	15.0	12.0	4.8	5.3	4.3	20.3	11.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.82	1.00		1.00
Lane Grp Cap(c), veh/h	80	908	362	415	1515	820	295	477	438	92	391	323
V/C Ratio(X)	0.55	0.50	1.18	0.92	0.42	0.42	0.85	0.19	0.21	0.70	0.87	0.55
Avail Cap(c_a), veh/h	137	908	362	565	1691	915	372	573	526	161	510	422
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	36.1	42.6	43.1	21.7	21.7	49.6	31.7	31.9	53.9	44.2	40.8
Incr Delay (d2), s/veh	5.9	1.5	107.1	16.3	0.2	0.3	14.5	0.2	0.2	9.4	12.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.4	21.0	12.1	5.6	6.1	4.2	2.0	2.0	2.1	10.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	37.6	149.7	59.5	21.9	22.1	64.1	31.9	32.1	63.3	56.4	42.3
LnGrp LOS	E	D	F	E	C	C	E	C	C	E	E	D
Approach Vol, veh/h	923			1370			438			582		
Approach Delay, s/veh	90.6			32.4			50.5			52.9		
Approach LOS	F			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.2	36.5	18.3	29.7	9.8	57.9	10.1	37.8				
Change Period (Y+Rc), s	4.0	6.0	4.0	5.5	4.5	6.0	4.0	5.5				
Max Green Setting (Gmax), s	37.0	30.5	18.0	31.5	9.1	57.9	10.7	38.8				
Max Q Clear Time (g_c+20), s	26.3	32.5	14.0	22.3	4.9	17.0	6.3	7.3				
Green Ext Time (p_c), s	0.9	0.0	0.3	1.8	0.0	7.0	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay 54.6
 HCM 6th LOS D

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Background Midday

03/29/2023

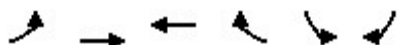
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	349	234	322	211	151	180	660	213	164	558	37
Future Volume (veh/h)	128	349	234	322	211	151	180	660	213	164	558	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	144	392	263	362	237	170	202	742	239	184	627	42
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	224	522	346	455	1143	510	292	1093	348	272	944	63
Arrive On Green	0.07	0.27	0.27	0.14	0.34	0.34	0.09	0.30	0.30	0.08	0.29	0.29
Sat Flow, veh/h	3319	1965	1303	3319	3413	1522	3319	3682	1173	3319	3246	217
Grp Volume(v), veh/h	144	340	315	362	237	170	202	658	323	184	329	340
Grp Sat Flow(s),veh/h/ln	1659	1706	1562	1659	1706	1522	1659	1635	1585	1659	1706	1757
Q Serve(g_s), s	3.5	15.0	15.3	8.7	4.1	6.9	4.9	14.6	14.8	4.4	14.0	14.0
Cycle Q Clear(g_c), s	3.5	15.0	15.3	8.7	4.1	6.9	4.9	14.6	14.8	4.4	14.0	14.0
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.74	1.00		0.12
Lane Grp Cap(c), veh/h	224	453	415	455	1143	510	292	970	470	272	496	511
V/C Ratio(X)	0.64	0.75	0.76	0.80	0.21	0.33	0.69	0.68	0.69	0.68	0.66	0.67
Avail Cap(c_a), veh/h	625	902	826	625	1805	805	666	1729	838	666	902	929
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	27.7	27.8	34.4	19.5	20.5	36.4	25.5	25.5	36.7	25.6	25.7
Incr Delay (d2), s/veh	3.1	2.5	2.9	5.0	0.1	0.4	2.9	0.8	1.8	2.9	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.2	5.8	3.7	1.6	2.4	2.0	5.5	5.6	1.9	5.6	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	30.2	30.7	39.3	19.6	20.9	39.4	26.3	27.3	39.7	27.2	27.2
LnGrp LOS	D	C	C	D	B	C	D	C	C	D	C	C
Approach Vol, veh/h		799			769			1183			853	
Approach Delay, s/veh		32.3			29.2			28.8			29.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	28.9	15.8	26.3	11.7	28.4	10.1	32.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	43.5	15.5	43.5	16.5	43.5	15.5	43.5				
Max Q Clear Time (g_c+I1), s	6.4	16.8	10.7	17.3	6.9	16.0	5.5	8.9				
Green Ext Time (p_c), s	0.4	7.6	0.6	4.5	0.4	4.5	0.3	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Background Midday

03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	198	693	418	285	508	330
Future Volume (veh/h)	198	693	418	285	508	330
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	215	753	454	310	552	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	263	1683	940	419	606	
Arrive On Green	0.16	0.51	0.28	0.28	0.36	0.00
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	215	753	454	310	552	0
Grp Sat Flow(s), veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	8.5	9.9	7.8	13.0	21.6	0.0
Cycle Q Clear(g_c), s	8.5	9.9	7.8	13.0	21.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	263	1683	940	419	606	
V/C Ratio(X)	0.82	0.45	0.48	0.74	0.91	
Avail Cap(c_a), veh/h	523	3181	1918	856	767	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.9	10.8	20.4	22.3	20.8	0.0
Incr Delay (d2), s/veh	6.2	0.2	0.4	2.6	13.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.7	3.2	2.9	4.5	9.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	34.1	11.0	20.8	24.9	33.7	0.0
LnGrp LOS	C	B	C	C	C	
Approach Vol, veh/h		968	764		552	
Approach Delay, s/veh		16.1	22.5		33.7	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		29.4		39.2		15.3 23.9
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		31.5		65.5		21.5 39.5
Max Q Clear Time (g_c+l1), s		23.6		11.9		10.5 15.0
Green Ext Time (p_c), s		1.3		6.4		0.4 4.4

Intersection Summary

HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Background Midday
03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	666	139	41	905	33	179	67	8	30	29	114
Future Volume (veh/h)	82	666	139	41	905	33	179	67	8	30	29	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	91	740	154	46	1006	37	136	161	9	33	32	127
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	114	1470	656	71	1385	618	221	232	197	101	98	174
Arrive On Green	0.07	0.44	0.44	0.04	0.42	0.42	0.13	0.13	0.13	0.12	0.12	0.12
Sat Flow, veh/h	1668	3328	1485	1668	3328	1485	1668	1752	1485	867	841	1485
Grp Volume(v), veh/h	91	740	154	46	1006	37	136	161	9	65	0	127
Grp Sat Flow(s), veh/h/ln	1668	1664	1485	1668	1664	1485	1668	1752	1485	1708	0	1485
Q Serve(g_s), s	3.6	10.8	4.4	1.8	17.1	1.0	5.2	5.9	0.4	2.4	0.0	5.6
Cycle Q Clear(g_c), s	3.6	10.8	4.4	1.8	17.1	1.0	5.2	5.9	0.4	2.4	0.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.51		1.00
Lane Grp Cap(c), veh/h	114	1470	656	71	1385	618	221	232	197	200	0	174
V/C Ratio(X)	0.80	0.50	0.23	0.64	0.73	0.06	0.62	0.69	0.05	0.33	0.00	0.73
Avail Cap(c_a), veh/h	185	2534	1130	185	2534	1130	506	531	450	492	0	428
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	13.6	11.8	31.9	16.5	11.8	27.7	28.0	25.6	27.4	0.0	28.8
Incr Delay (d2), s/veh	11.7	0.3	0.2	9.3	0.7	0.0	2.8	3.7	0.1	0.9	0.0	5.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.8	3.7	1.3	0.9	6.0	0.3	2.2	2.6	0.1	1.0	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.7	13.8	11.9	41.2	17.3	11.9	30.5	31.7	25.7	28.4	0.0	34.7
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	A	C
Approach Vol, veh/h	985			1089			306			192		
Approach Delay, s/veh	16.2			18.1			31.0			32.5		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	13.5			7.4			34.4			12.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			7.5			51.5			19.5		
Max Q Clear Time (g_c+I1), s	7.9			3.8			12.8			7.6		
Green Ext Time (p_c), s	1.0			0.0			6.8			0.5		

Intersection Summary

HCM 6th Ctrl Delay 20.0
HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

Background Midday

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	660	42	237	807	47	94	184	17	50	145	87
Future Volume (veh/h)	38	660	42	237	807	47	94	184	17	50	145	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	42	733	47	263	897	52	104	204	19	56	161	97
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	73	1066	68	327	1624	724	298	414	351	278	414	351
Arrive On Green	0.04	0.33	0.33	0.19	0.48	0.48	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1697	3230	207	1697	3385	1510	1068	1781	1510	1103	1781	1510
Grp Volume(v), veh/h	42	384	396	263	897	52	104	204	19	56	161	97
Grp Sat Flow(s),veh/h/ln	1697	1692	1744	1697	1692	1510	1068	1781	1510	1103	1781	1510
Q Serve(g_s), s	1.3	10.8	10.9	8.2	10.4	1.0	5.0	5.5	0.5	2.6	4.2	2.9
Cycle Q Clear(g_c), s	1.3	10.8	10.9	8.2	10.4	1.0	9.2	5.5	0.5	8.0	4.2	2.9
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	559	576	327	1624	724	298	414	351	278	414	351
V/C Ratio(X)	0.58	0.69	0.69	0.81	0.55	0.07	0.35	0.49	0.05	0.20	0.39	0.28
Avail Cap(c_a), veh/h	477	1181	1217	723	2852	1272	659	1017	862	651	1017	862
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	16.0	16.0	21.3	10.2	7.7	21.8	18.3	16.5	21.8	17.9	17.4
Incr Delay (d2), s/veh	7.0	1.5	1.5	4.7	0.3	0.0	0.7	0.9	0.1	0.4	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.9	4.0	3.4	3.2	0.3	1.2	2.1	0.2	0.6	1.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	17.5	17.5	26.0	10.5	7.8	22.5	19.3	16.5	22.2	18.5	17.8
LnGrp LOS	C	B	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h	822			1212			327			314		
Approach Delay, s/veh	18.3			13.7			20.1			18.9		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	17.3			15.1			22.7			17.3		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	31.5			23.5			38.5			31.5		
Max Q Clear Time (g_c+l1), s	11.2			10.2			12.9			10.0		
Green Ext Time (p_c), s	1.6			0.6			5.4			1.4		

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Background Midday

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	659	331	173	560	59	350	217	156	65	197	125
Future Volume (veh/h)	143	659	331	173	560	59	350	217	156	65	197	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	168	775	389	204	659	69	412	255	184	76	232	147
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	205	1133	506	244	1600	166	516	487	339	114	295	250
Arrive On Green	0.12	0.33	0.33	0.14	0.36	0.36	0.16	0.26	0.26	0.07	0.17	0.17
Sat Flow, veh/h	1697	3385	1510	1697	4475	465	3291	1908	1327	1697	1781	1510
Grp Volume(v), veh/h	168	775	389	204	476	252	412	225	214	76	232	147
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1621	1698	1646	1692	1543	1697	1781	1510
Q Serve(g_s), s	8.7	17.8	20.9	10.6	10.0	10.1	10.9	10.3	10.8	4.0	11.3	8.1
Cycle Q Clear(g_c), s	8.7	17.8	20.9	10.6	10.0	10.1	10.9	10.3	10.8	4.0	11.3	8.1
Prop In Lane	1.00		1.00	1.00		0.27	1.00		0.86	1.00		1.00
Lane Grp Cap(c), veh/h	205	1133	506	244	1159	607	516	432	394	114	295	250
V/C Ratio(X)	0.82	0.68	0.77	0.84	0.41	0.42	0.80	0.52	0.54	0.67	0.79	0.59
Avail Cap(c_a), veh/h	466	1704	760	516	1729	906	965	712	649	338	582	493
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	25.9	26.9	37.7	21.9	21.9	36.7	28.9	29.1	41.2	36.2	34.9
Incr Delay (d2), s/veh	7.8	0.7	2.7	7.4	0.2	0.5	2.9	1.0	1.2	6.6	4.7	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	7.1	7.6	4.8	3.7	4.0	4.5	4.2	4.1	1.8	5.2	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	26.7	29.6	45.1	22.1	22.4	39.6	29.9	30.3	47.7	40.9	37.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h	1332			932			851			455		
Approach Delay, s/veh	30.0			27.2			34.7			40.8		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), \$7.5	34.8	18.7	19.4	15.4	36.8	10.6	27.6					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	27.5	45.5	26.5	29.5	24.8	48.2	18.0	38.0				
Max Q Clear Time (g_c+T1), s	11.6	22.9	12.9	13.3	10.7	12.1	6.0	12.8				
Green Ext Time (p_c), s	0.5	7.4	1.3	1.6	0.4	5.5	0.1	2.8				

Intersection Summary

HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Background PM

03/29/2023

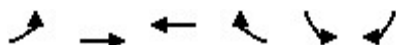
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	722	269	309	372	341	225	1414	140	217	813	39
Future Volume (veh/h)	199	722	269	309	372	341	225	1414	140	217	813	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	205	744	277	319	384	352	232	1458	144	224	838	40
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	267	799	297	382	1239	552	471	1584	156	283	970	46
Arrive On Green	0.08	0.32	0.32	0.11	0.35	0.35	0.14	0.34	0.34	0.08	0.29	0.29
Sat Flow, veh/h	3401	2494	928	3401	3497	1560	3401	4649	459	3401	3398	162
Grp Volume(v), veh/h	205	522	499	319	384	352	232	1050	552	224	431	447
Grp Sat Flow(s),veh/h/ln	1700	1749	1674	1700	1749	1560	1700	1675	1758	1700	1749	1812
Q Serve(g_s), s	7.4	36.3	36.3	11.5	10.0	23.6	7.9	37.8	37.8	8.1	29.4	29.4
Cycle Q Clear(g_c), s	7.4	36.3	36.3	11.5	10.0	23.6	7.9	37.8	37.8	8.1	29.4	29.4
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.26	1.00		0.09
Lane Grp Cap(c), veh/h	267	560	536	382	1239	552	471	1141	599	283	499	517
V/C Ratio(X)	0.77	0.93	0.93	0.83	0.31	0.64	0.49	0.92	0.92	0.79	0.86	0.86
Avail Cap(c_a), veh/h	528	578	553	528	1239	552	471	1161	609	420	606	628
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	41.3	41.3	54.6	29.4	33.8	50.0	39.8	39.8	56.5	42.5	42.5
Incr Delay (d2), s/veh	4.6	21.7	22.4	8.1	0.1	2.4	0.8	11.7	19.3	6.1	10.7	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	18.8	18.2	5.4	4.3	9.3	3.4	17.2	19.4	3.7	14.1	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	63.0	63.7	62.7	29.6	36.3	50.8	51.5	59.1	62.6	53.2	52.9
LnGrp LOS	E	E	E	E	C	D	D	D	E	E	D	D
Approach Vol, veh/h	1226			1055			1834			1102		
Approach Delay, s/veh	63.0			41.8			53.7			55.0		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	47.3	18.6	44.7	21.9	40.3	14.4	49.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	43.5	19.5	41.5	15.5	43.5	19.5	41.5				
Max Q Clear Time (g_c+l1), s	10.1	39.8	13.5	38.3	9.9	31.4	9.4	25.6				
Green Ext Time (p_c), s	0.3	2.9	0.6	1.9	0.4	4.5	0.5	3.5				
Intersection Summary												
HCM 6th Ctrl Delay	53.8											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Background PM

03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	387	889	931	254	423	224
Future Volume (veh/h)	387	889	931	254	423	224
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	416	956	1001	273	455	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	448	2249	1201	536	457	
Arrive On Green	0.26	0.65	0.35	0.35	0.26	0.00
Sat Flow, veh/h	1739	3561	3561	1547	1739	1547
Grp Volume(v), veh/h	416	956	1001	273	455	0
Grp Sat Flow(s), veh/h/ln	1739	1735	1735	1547	1739	1547
Q Serve(g_s), s	23.6	13.5	26.8	14.1	26.4	0.0
Cycle Q Clear(g_c), s	23.6	13.5	26.8	14.1	26.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	448	2249	1201	536	457	
V/C Ratio(X)	0.93	0.43	0.83	0.51	1.00	
Avail Cap(c_a), veh/h	491	2526	1392	621	457	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.6	8.6	30.3	26.2	37.2	0.0
Incr Delay (d2), s/veh	23.1	0.1	4.0	0.8	41.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ft	2.7	4.6	11.5	5.2	16.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	59.7	8.7	34.3	27.0	78.4	0.0
LnGrp LOS	E	A	C	C	E	
Approach Vol, veh/h		1372	1274		455	
Approach Delay, s/veh		24.2	32.7		78.4	
Approach LOS		C	C		E	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		31.0		69.9		30.5 39.4
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		26.5		73.5		28.5 40.5
Max Q Clear Time (g_c+I1), s		28.4		15.5		25.6 28.8
Green Ext Time (p_c), s		0.0		8.9		0.4 6.2

Intersection Summary

HCM 6th Ctrl Delay 35.7
 HCM 6th LOS D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Background PM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	813	92	34	1130	57	366	107	13	37	30	126
Future Volume (veh/h)	158	813	92	34	1130	57	366	107	13	37	30	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	170	874	99	37	1215	61	254	310	14	40	32	135
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	103	1610	718	58	1521	678	359	377	319	110	88	172
Arrive On Green	0.06	0.46	0.46	0.03	0.43	0.43	0.20	0.20	0.20	0.11	0.11	0.11
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	1841	1560	995	796	1560
Grp Volume(v), veh/h	170	874	99	37	1215	61	254	310	14	72	0	135
Grp Sat Flow(s), veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1841	1560	1791	0	1560
Q Serve(g_s), s	5.5	16.9	3.4	2.0	28.3	2.2	12.7	15.1	0.7	3.5	0.0	7.9
Cycle Q Clear(g_c), s	5.5	16.9	3.4	2.0	28.3	2.2	12.7	15.1	0.7	3.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.56		1.00
Lane Grp Cap(c), veh/h	103	1610	718	58	1521	678	359	377	319	198	0	172
V/C Ratio(X)	1.66	0.54	0.14	0.64	0.80	0.09	0.71	0.82	0.04	0.36	0.00	0.78
Avail Cap(c_a), veh/h	103	2066	921	103	2066	921	532	558	473	353	0	307
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.2	18.2	14.6	44.9	23.0	15.6	34.7	35.7	30.0	38.7	0.0	40.7
Incr Delay (d2), s/veh	334.5	0.3	0.1	11.2	1.6	0.1	2.6	6.2	0.1	1.1	0.0	7.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.9	6.6	1.2	1.0	11.4	0.8	5.6	7.3	0.3	1.6	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	378.8	18.5	14.7	56.1	24.6	15.7	37.3	41.9	30.0	39.9	0.0	48.3
LnGrp LOS	F	B	B	E	C	B	D	D	C	D	A	D
Approach Vol, veh/h	1143			1313			578			207		
Approach Delay, s/veh	71.8			25.1			39.6			45.4		
Approach LOS	E			C			D			D		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	23.7			7.6			47.8			14.9		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	28.5			5.5			55.5			18.5		
Max Q Clear Time (g_c+I1), s	17.1			4.0			18.9			9.9		
Green Ext Time (p_c), s	2.1			0.0			7.9			0.5		

Intersection Summary

HCM 6th Ctrl Delay 45.4

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Background PM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	840	45	238	899	84	126	477	48	28	185	103
Future Volume (veh/h)	82	840	45	238	899	84	126	477	48	28	185	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	86	884	47	251	946	88	133	502	51	29	195	108
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	112	1127	60	298	1539	686	351	598	507	152	598	507
Arrive On Green	0.06	0.33	0.33	0.17	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1753	3378	180	1753	3497	1560	1059	1841	1560	842	1841	1560
Grp Volume(v), veh/h	86	458	473	251	946	88	133	502	51	29	195	108
Grp Sat Flow(s), veh/h/ln	1753	1749	1808	1753	1749	1560	1059	1841	1560	842	1841	1560
Q Serve(g_s), s	3.8	18.6	18.6	10.9	16.4	2.6	8.6	20.0	1.8	2.6	6.3	4.0
Cycle Q Clear(g_c), s	3.8	18.6	18.6	10.9	16.4	2.6	14.9	20.0	1.8	22.6	6.3	4.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	112	584	603	298	1539	686	351	598	507	152	598	507
V/C Ratio(X)	0.77	0.78	0.78	0.84	0.61	0.13	0.38	0.84	0.10	0.19	0.33	0.21
Avail Cap(c_a), veh/h	367	831	860	522	1973	880	456	782	662	236	782	662
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	23.7	23.7	31.7	17.0	13.1	25.7	24.7	18.6	35.2	20.1	19.3
Incr Delay (d2), s/veh	10.5	3.2	3.1	6.4	0.4	0.1	0.7	6.3	0.1	0.6	0.3	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.9	7.8	8.0	5.0	6.2	0.9	2.1	9.3	0.6	0.5	2.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.9	26.9	26.8	38.1	17.4	13.2	26.4	31.0	18.7	35.8	20.4	19.5
LnGrp LOS	D	C	C	D	B	B	C	C	B	D	C	B
Approach Vol, veh/h	1017			1285			686			332		
Approach Delay, s/veh	28.6			21.1			29.2			21.5		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	30.2			17.9			30.8			30.2		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	33.5			23.5			37.5			33.5		
Max Q Clear Time (g_c+I1), s	22.0			12.9			20.6			24.6		
Green Ext Time (p_c), s	3.1			0.5			5.7			1.1		

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Background PM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	996	239	108	626	97	438	446	249	67	136	133
Future Volume (veh/h)	238	996	239	108	626	97	438	446	249	67	136	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1485	1796	1856	1841	1781	1870	1870	1900	1811	1856
Adj Flow Rate, veh/h	245	1027	246	111	645	100	452	460	257	69	140	137
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	28	7	3	4	8	2	2	0	6	3
Cap, veh/h	279	1419	507	137	1423	218	531	637	353	100	322	280
Arrive On Green	0.16	0.40	0.40	0.08	0.32	0.32	0.16	0.29	0.29	0.06	0.18	0.18
Sat Flow, veh/h	1781	3526	1259	1711	4432	679	3291	2204	1223	1810	1811	1572
Grp Volume(v), veh/h	245	1027	246	111	490	255	452	370	347	69	140	137
Grp Sat Flow(s),veh/h/ln	1781	1763	1259	1711	1689	1733	1646	1777	1650	1810	1811	1572
Q Serve(g_s), s	15.1	27.6	16.3	7.2	12.9	13.2	15.0	21.0	21.2	4.2	7.7	8.8
Cycle Q Clear(g_c), s	15.1	27.6	16.3	7.2	12.9	13.2	15.0	21.0	21.2	4.2	7.7	8.8
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	279	1419	507	137	1084	557	531	513	477	100	322	280
V/C Ratio(X)	0.88	0.72	0.49	0.81	0.45	0.46	0.85	0.72	0.73	0.69	0.43	0.49
Avail Cap(c_a), veh/h	471	1601	571	213	1084	557	747	649	602	177	419	364
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	28.3	24.9	50.8	30.3	30.4	45.8	35.9	36.0	52.1	41.1	41.6
Incr Delay (d2), s/veh	9.7	2.8	2.6	12.3	0.3	0.6	6.7	2.9	3.3	8.3	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	11.5	5.2	3.5	5.1	5.4	6.6	9.4	8.9	2.1	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	31.0	27.5	63.2	30.6	30.9	52.5	38.8	39.2	60.4	42.0	42.9
LnGrp LOS	E	C	C	E	C	C	D	D	D	E	D	D
Approach Vol, veh/h	1518			856			1169			346		
Approach Delay, s/veh	34.5			34.9			44.2			46.0		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.0	51.2	22.6	25.5	22.1	42.1	10.2	37.9				
Change Period (Y+Rc), s	4.0	6.0	4.5	5.5	4.5	6.0	4.0	5.5				
Max Green Setting (Gmax), s	4.0	51.0	25.5	26.0	29.7	34.8	11.0	41.0				
Max Q Clear Time (g_c+1.0), s	19.2	29.6	17.0	10.8	17.1	15.2	6.2	23.2				
Green Ext Time (p_c), s	0.1	15.6	1.1	1.0	0.5	4.3	0.0	4.4				

Intersection Summary

HCM 6th Ctrl Delay 38.5

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Background+P AM

03/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	325	366	275	393	366	279	560	123	282	1247	37
Future Volume (veh/h)	59	325	366	275	393	366	279	560	123	282	1247	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	63	346	389	293	418	389	297	596	131	300	1327	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	113	406	362	338	1044	466	350	1720	371	352	1445	42
Arrive On Green	0.03	0.24	0.24	0.10	0.30	0.30	0.10	0.42	0.42	0.11	0.42	0.42
Sat Flow, veh/h	3346	1721	1535	3346	3441	1535	3346	4070	879	3346	3413	100
Grp Volume(v), veh/h	63	346	389	293	418	389	297	481	246	300	668	698
Grp Sat Flow(s),veh/h/ln	1673	1721	1535	1673	1721	1535	1673	1648	1653	1673	1721	1793
Q Serve(g_s), s	2.5	25.7	31.5	11.5	12.9	31.6	11.6	13.2	13.5	11.8	48.9	49.0
Cycle Q Clear(g_c), s	2.5	25.7	31.5	11.5	12.9	31.6	11.6	13.2	13.5	11.8	48.9	49.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.06
Lane Grp Cap(c), veh/h	113	406	362	338	1044	466	350	1393	699	352	729	759
V/C Ratio(X)	0.56	0.85	1.07	0.87	0.40	0.84	0.85	0.34	0.35	0.85	0.92	0.92
Avail Cap(c_a), veh/h	338	406	362	338	1044	466	414	1470	737	414	767	799
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.5	48.8	51.0	59.1	36.9	43.4	58.7	26.0	26.1	58.7	36.3	36.3
Incr Delay (d2), s/veh	4.2	15.8	68.3	20.3	0.2	12.5	13.5	0.1	0.3	13.8	15.5	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	12.8	18.9	5.8	5.5	13.6	5.6	5.2	5.4	5.7	23.3	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	64.6	119.3	79.3	37.1	55.9	72.3	26.2	26.4	72.5	51.7	51.5
LnGrp LOS	E	E	F	E	D	E	E	C	C	E	D	D
Approach Vol, veh/h		798			1100			1024			1666	
Approach Delay, s/veh		91.5			55.0			39.6			55.4	
Approach LOS		F			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.6	60.9	18.0	36.0	18.4	61.0	9.0	45.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	59.5	13.5	31.5	16.5	59.5	13.5	31.5				
Max Q Clear Time (g_c+I1), s	13.8	15.5	13.5	33.5	13.6	51.0	4.5	33.6				
Green Ext Time (p_c), s	0.3	5.7	0.0	0.0	0.3	5.5	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			58.0									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Background+P AM

03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	664	876	244	542	350
Future Volume (veh/h)	152	664	876	244	542	350
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	163	714	942	262	583	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	198	1792	1220	544	620	
Arrive On Green	0.12	0.53	0.36	0.36	0.37	0.00
Sat Flow, veh/h	1697	3474	3474	1510	1697	1510
Grp Volume(v), veh/h	163	714	942	262	583	0
Grp Sat Flow(s), veh/h/ln	1697	1692	1692	1510	1697	1510
Q Serve(g_s), s	8.1	10.8	21.2	11.5	28.5	0.0
Cycle Q Clear(g_c), s	8.1	10.8	21.2	11.5	28.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	198	1792	1220	544	620	
V/C Ratio(X)	0.82	0.40	0.77	0.48	0.94	
Avail Cap(c_a), veh/h	287	2426	1677	748	682	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.0	12.0	24.3	21.2	26.3	0.0
Incr Delay (d2), s/veh	11.9	0.1	1.5	0.7	20.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.9	3.8	8.3	4.0	14.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	49.0	12.2	25.9	21.9	46.4	0.0
LnGrp LOS	D	B	C	C	D	
Approach Vol, veh/h		877	1204		583	
Approach Delay, s/veh		19.0	25.0		46.4	
Approach LOS		B	C		D	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		35.9		49.9		14.5 35.4
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		34.5		61.5		14.5 42.5
Max Q Clear Time (g_c+I1), s		30.5		12.8		10.1 23.2
Green Ext Time (p_c), s		0.9		6.0		0.2 7.8

Intersection Summary

HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Background+P AM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	783	158	17	1094	37	150	39	12	48	47	380
Future Volume (veh/h)	78	783	158	17	1094	37	150	39	12	48	47	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	84	842	170	18	1176	40	102	125	13	52	51	409
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	103	1501	669	34	1364	608	166	174	147	218	214	375
Arrive On Green	0.06	0.44	0.44	0.02	0.40	0.40	0.10	0.10	0.10	0.25	0.25	0.25
Sat Flow, veh/h	1711	3413	1522	1711	3413	1522	1711	1796	1522	885	868	1522
Grp Volume(v), veh/h	84	842	170	18	1176	40	102	125	13	103	0	409
Grp Sat Flow(s), veh/h/ln	1711	1706	1522	1711	1706	1522	1711	1796	1522	1752	0	1522
Q Serve(g_s), s	4.4	16.8	6.4	1.0	28.8	1.5	5.2	6.2	0.7	4.3	0.0	22.5
Cycle Q Clear(g_c), s	4.4	16.8	6.4	1.0	28.8	1.5	5.2	6.2	0.7	4.3	0.0	22.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.50		1.00
Lane Grp Cap(c), veh/h	103	1501	669	34	1364	608	166	174	147	432	0	375
V/C Ratio(X)	0.82	0.56	0.25	0.52	0.86	0.07	0.62	0.72	0.09	0.24	0.00	1.09
Avail Cap(c_a), veh/h	103	1513	675	103	1513	675	346	364	308	432	0	375
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	19.0	16.1	44.3	25.1	16.9	39.6	40.0	37.6	27.6	0.0	34.4
Incr Delay (d2), s/veh	37.7	0.5	0.2	11.8	5.0	0.0	3.7	5.5	0.3	0.3	0.0	73.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.9	6.4	2.2	0.5	12.0	0.5	2.3	3.0	0.3	1.8	0.0	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	80.2	19.5	16.3	56.2	30.1	17.0	43.3	45.5	37.8	27.8	0.0	107.5
LnGrp LOS	F	B	B	E	C	B	D	D	D	C	A	F
Approach Vol, veh/h	1096			1234			240			512		
Approach Delay, s/veh	23.7			30.1			44.2			91.5		
Approach LOS	C			C			D			F		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	13.3			6.3			44.7			27.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	18.5			5.5			40.5			22.5		
Max Q Clear Time (g_c+I1), s	8.2			3.0			18.8			24.5		
Green Ext Time (p_c), s	0.7			0.0			6.9			0.0		

Intersection Summary

HCM 6th Ctrl Delay 39.1

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Background+P AM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	692	82	415	1044	41	59	140	61	10	376	132
Future Volume (veh/h)	62	692	82	415	1044	41	59	140	61	10	376	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	69	769	91	461	1160	46	66	156	68	11	418	147
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	88	941	111	436	1739	775	153	551	467	342	551	467
Arrive On Green	0.05	0.30	0.30	0.25	0.51	0.51	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1725	3099	367	1725	3441	1535	819	1811	1535	1120	1811	1535
Grp Volume(v), veh/h	69	427	433	461	1160	46	66	156	68	11	418	147
Grp Sat Flow(s),veh/h/ln	1725	1721	1745	1725	1721	1535	819	1811	1535	1120	1811	1535
Q Serve(g_s), s	3.8	22.3	22.3	24.5	24.4	1.5	7.7	6.4	3.1	0.7	20.2	7.1
Cycle Q Clear(g_c), s	3.8	22.3	22.3	24.5	24.4	1.5	27.9	6.4	3.1	7.1	20.2	7.1
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	88	522	530	436	1739	775	153	551	467	342	551	467
V/C Ratio(X)	0.78	0.82	0.82	1.06	0.67	0.06	0.43	0.28	0.15	0.03	0.76	0.31
Avail Cap(c_a), veh/h	169	719	729	436	1970	879	153	551	467	342	551	467
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	31.3	31.3	36.2	17.9	12.2	43.1	25.7	24.5	28.4	30.5	25.9
Incr Delay (d2), s/veh	13.9	5.3	5.2	59.0	0.7	0.0	1.9	0.3	0.1	0.0	6.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.8	9.9	17.2	9.3	0.5	1.6	2.7	1.1	0.2	9.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	36.5	36.5	95.3	18.6	12.3	45.0	25.9	24.7	28.4	36.5	26.3
LnGrp LOS	E	D	D	F	B	B	D	C	C	C	D	C
Approach Vol, veh/h	929			1667			290			576		
Approach Delay, s/veh	38.2			39.6			30.0			33.8		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	34.0			29.0			33.9			34.0		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	29.5			24.5			40.5			29.5		
Max Q Clear Time (g_c+I1), s	29.9			26.5			24.3			22.2		
Green Ext Time (p_c), s	0.0			0.0			5.1			1.9		

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Background+P AM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	420	398	354	896	28	235	102	71	60	316	165
Future Volume (veh/h)	41	420	398	354	896	28	235	102	71	60	316	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1811	1618	1856	1856	1841	1292	1796	1781	1826	1870	1826
Adj Flow Rate, veh/h	44	452	428	381	963	30	253	110	76	65	340	177
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	6	19	3	3	4	41	7	8	5	2	5
Cap, veh/h	80	906	361	416	2264	70	296	558	358	92	391	323
Arrive On Green	0.05	0.26	0.26	0.24	0.45	0.45	0.12	0.28	0.28	0.05	0.21	0.21
Sat Flow, veh/h	1739	3441	1372	1767	5047	157	2388	1994	1279	1739	1870	1547
Grp Volume(v), veh/h	44	452	428	381	644	349	253	93	93	65	340	177
Grp Sat Flow(s),veh/h/ln	1739	1721	1372	1767	1689	1827	1194	1706	1566	1739	1870	1547
Q Serve(g_s), s	2.9	12.9	30.5	24.3	15.0	15.1	12.0	4.8	5.3	4.3	20.4	11.8
Cycle Q Clear(g_c), s	2.9	12.9	30.5	24.3	15.0	15.1	12.0	4.8	5.3	4.3	20.4	11.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.82	1.00		1.00
Lane Grp Cap(c), veh/h	80	906	361	416	1515	820	296	478	438	92	391	323
V/C Ratio(X)	0.55	0.50	1.18	0.92	0.43	0.43	0.85	0.19	0.21	0.71	0.87	0.55
Avail Cap(c_a), veh/h	138	906	361	565	1686	912	371	570	523	162	509	421
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	36.2	42.6	43.2	21.7	21.8	49.7	31.8	31.9	53.9	44.3	40.9
Incr Delay (d2), s/veh	5.9	1.5	107.8	16.2	0.2	0.4	14.6	0.2	0.2	9.4	12.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.6	21.0	12.4	6.0	6.5	4.2	2.0	2.0	2.1	10.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	37.7	150.4	59.4	21.9	22.1	64.3	32.0	32.2	63.4	56.5	42.4
LnGrp LOS	E	D	F	E	C	C	E	C	C	E	E	D
Approach Vol, veh/h	924			1374			439			582		
Approach Delay, s/veh	91.0			32.4			50.7			53.0		
Approach LOS	F			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.3	36.5	18.4	29.7	9.8	58.0	10.1	37.9				
Change Period (Y+Rc), s	4.0	6.0	4.0	5.5	4.5	6.0	4.0	5.5				
Max Green Setting (Gmax), s	37.0	30.5	18.0	31.5	9.2	57.8	10.8	38.7				
Max Q Clear Time (g_c+20), s	26.3	32.5	14.0	22.4	4.9	17.1	6.3	7.3				
Green Ext Time (p_c), s	0.9	0.0	0.3	1.8	0.0	8.2	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay 54.7

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	16	66	173	485	3
Future Vol, veh/h	1	16	66	173	485	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	17	72	188	527	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	861	529	530	0	-	0
Stage 1	529	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	326	550	1037	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	301	550	1037	-	-	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	545	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.1	2.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1037	-	524	-	-	
HCM Lane V/C Ratio	0.069	-	0.035	-	-	
HCM Control Delay (s)	8.7	-	12.1	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	836	1226	24	0	9
Future Vol, veh/h	0	836	1226	24	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	909	1333	26	0	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	680
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	393
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	393
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		14.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	393		
HCM Lane V/C Ratio	-	-	-	0.025		
HCM Control Delay (s)	-	-	-	14.4		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.1		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	836	1230	29	0	1
Future Vol, veh/h	0	836	1230	29	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	909	1337	32	0	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	685
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	391
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	391
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		14.2		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	391		
HCM Lane V/C Ratio	-	-	-	0.003		
HCM Control Delay (s)	-	-	-	14.2		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Background+P Midday

06/20/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	 	
Traffic Volume (veh/h)	128	350	234	324	213	153	180	660	214	166	558	37
Future Volume (veh/h)	128	350	234	324	213	153	180	660	214	166	558	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796	1796
Adj Flow Rate, veh/h	144	393	263	364	239	172	202	742	240	187	627	42
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	7	7	7	7	7	7	7	7	7
Cap, veh/h	224	522	345	456	1145	511	291	1091	349	275	946	63
Arrive On Green	0.07	0.27	0.27	0.14	0.34	0.34	0.09	0.30	0.30	0.08	0.29	0.29
Sat Flow, veh/h	3319	1968	1301	3319	3413	1522	3319	3678	1176	3319	3246	217
Grp Volume(v), veh/h	144	340	316	364	239	172	202	659	323	187	329	340
Grp Sat Flow(s),veh/h/ln	1659	1706	1562	1659	1706	1522	1659	1635	1585	1659	1706	1757
Q Serve(g_s), s	3.5	15.1	15.4	8.8	4.1	7.0	4.9	14.7	14.9	4.5	14.0	14.0
Cycle Q Clear(g_c), s	3.5	15.1	15.4	8.8	4.1	7.0	4.9	14.7	14.9	4.5	14.0	14.0
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.74	1.00		0.12
Lane Grp Cap(c), veh/h	224	453	415	456	1145	511	291	970	470	275	497	512
V/C Ratio(X)	0.64	0.75	0.76	0.80	0.21	0.34	0.69	0.68	0.69	0.68	0.66	0.66
Avail Cap(c_a), veh/h	622	898	822	622	1796	801	662	1720	834	662	898	925
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	27.9	28.0	34.5	19.6	20.6	36.6	25.6	25.7	36.9	25.7	25.7
Incr Delay (d2), s/veh	3.1	2.5	2.9	5.1	0.1	0.4	3.0	0.8	1.8	3.0	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.3	5.9	3.8	1.6	2.5	2.1	5.6	5.6	1.9	5.7	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	30.4	30.9	39.7	19.7	21.0	39.6	26.5	27.5	39.8	27.2	27.2
LnGrp LOS	D	C	C	D	B	C	D	C	C	D	C	C
Approach Vol, veh/h		800			775			1184			856	
Approach Delay, s/veh		32.4			29.4			29.0			30.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	29.0	15.9	26.4	11.8	28.6	10.1	32.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	43.5	15.5	43.5	16.5	43.5	15.5	43.5				
Max Q Clear Time (g_c+I1), s	6.5	16.9	10.8	17.4	6.9	16.0	5.5	9.0				
Green Ext Time (p_c), s	0.4	7.6	0.6	4.6	0.4	4.5	0.3	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Background+P Middyay

06/20/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	198	697	424	288	518	330
Future Volume (veh/h)	198	697	424	288	518	330
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	215	758	461	313	563	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10
Cap, veh/h	262	1678	942	420	614	
Arrive On Green	0.16	0.50	0.28	0.28	0.37	0.00
Sat Flow, veh/h	1668	3416	3416	1485	1668	1485
Grp Volume(v), veh/h	215	758	461	313	563	0
Grp Sat Flow(s), veh/h/ln	1668	1664	1664	1485	1668	1485
Q Serve(g_s), s	8.8	10.3	8.1	13.5	22.6	0.0
Cycle Q Clear(g_c), s	8.8	10.3	8.1	13.5	22.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	262	1678	942	420	614	
V/C Ratio(X)	0.82	0.45	0.49	0.75	0.92	
Avail Cap(c_a), veh/h	511	3103	1871	835	748	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.7	11.2	21.0	22.9	21.2	0.0
Incr Delay (d2), s/veh	6.3	0.2	0.4	2.6	14.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.8	3.4	3.0	4.7	10.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	34.9	11.4	21.4	25.5	35.6	0.0
LnGrp LOS	C	B	C	C	D	
Approach Vol, veh/h		973	774		563	
Approach Delay, s/veh		16.6	23.0		35.6	
Approach LOS		B	C		D	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		30.3		39.9		15.5 24.4
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		31.5		65.5		21.5 39.5
Max Q Clear Time (g_c+l1), s		24.6		12.3		10.8 15.5
Green Ext Time (p_c), s		1.2		6.5		0.4 4.4

Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Background+P Middyay
06/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	680	139	41	932	33	179	67	8	30	29	114
Future Volume (veh/h)	82	680	139	41	932	33	179	67	8	30	29	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	91	756	154	46	1036	37	136	161	9	33	32	127
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	114	1498	668	71	1410	629	219	230	195	101	98	173
Arrive On Green	0.07	0.45	0.45	0.04	0.42	0.42	0.13	0.13	0.13	0.12	0.12	0.12
Sat Flow, veh/h	1668	3328	1485	1668	3328	1485	1668	1752	1485	867	841	1485
Grp Volume(v), veh/h	91	756	154	46	1036	37	136	161	9	65	0	127
Grp Sat Flow(s), veh/h/ln	1668	1664	1485	1668	1664	1485	1668	1752	1485	1708	0	1485
Q Serve(g_s), s	3.7	11.2	4.4	1.9	18.0	1.0	5.3	6.1	0.4	2.4	0.0	5.7
Cycle Q Clear(g_c), s	3.7	11.2	4.4	1.9	18.0	1.0	5.3	6.1	0.4	2.4	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.51		1.00
Lane Grp Cap(c), veh/h	114	1498	668	71	1410	629	219	230	195	199	0	173
V/C Ratio(X)	0.79	0.50	0.23	0.65	0.73	0.06	0.62	0.70	0.05	0.33	0.00	0.73
Avail Cap(c_a), veh/h	181	2475	1104	181	2475	1104	494	518	439	481	0	418
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	13.6	11.7	32.7	16.7	11.8	28.4	28.8	26.3	28.1	0.0	29.6
Incr Delay (d2), s/veh	12.0	0.3	0.2	9.6	0.8	0.0	2.8	3.8	0.1	0.9	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.8	1.4	0.9	6.3	0.3	2.2	2.7	0.1	1.0	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	13.8	11.9	42.3	17.5	11.8	31.3	32.6	26.4	29.1	0.0	35.5
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	A	D
Approach Vol, veh/h	1001			1119			306			192		
Approach Delay, s/veh	16.2			18.3			31.8			33.3		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	13.6			7.4			35.7			12.6		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	20.5			7.5			51.5			19.5		
Max Q Clear Time (g_c+I1), s	8.1			3.9			13.2			7.7		
Green Ext Time (p_c), s	1.0			0.0			7.0			0.5		

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Background+P Midday

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

06/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	660	42	237	808	47	96	192	17	52	159	104
Future Volume (veh/h)	52	660	42	237	808	47	96	192	17	52	159	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	58	733	47	263	898	52	107	213	19	58	177	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	89	1055	68	325	1576	703	293	436	369	282	436	369
Arrive On Green	0.05	0.33	0.33	0.19	0.47	0.47	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1697	3230	207	1697	3385	1510	1035	1781	1510	1094	1781	1510
Grp Volume(v), veh/h	58	384	396	263	898	52	107	213	19	58	177	116
Grp Sat Flow(s),veh/h/ln	1697	1692	1744	1697	1692	1510	1035	1781	1510	1094	1781	1510
Q Serve(g_s), s	1.9	11.3	11.3	8.4	11.0	1.1	5.5	5.8	0.5	2.7	4.7	3.6
Cycle Q Clear(g_c), s	1.9	11.3	11.3	8.4	11.0	1.1	10.3	5.8	0.5	8.6	4.7	3.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	553	570	325	1576	703	293	436	369	282	436	369
V/C Ratio(X)	0.65	0.69	0.69	0.81	0.57	0.07	0.36	0.49	0.05	0.21	0.41	0.31
Avail Cap(c_a), veh/h	462	1144	1179	700	2764	1233	613	985	835	619	985	835
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	16.7	16.7	22.0	11.1	8.4	22.3	18.4	16.4	22.1	18.0	17.6
Incr Delay (d2), s/veh	7.6	1.6	1.5	4.8	0.3	0.0	0.8	0.8	0.1	0.4	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.1	4.2	3.5	3.5	0.3	1.3	2.3	0.2	0.7	1.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	18.3	18.2	26.8	11.4	8.5	23.1	19.3	16.5	22.5	18.6	18.1
LnGrp LOS	C	B	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h	838		1213			339			351			
Approach Delay, s/veh	19.4		14.6			20.3			19.1			
Approach LOS	B		B			C			B			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	18.4		15.4		23.1		18.4		7.5		31.0	
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5		4.5	
Max Green Setting (Gmax), s	31.5		23.5		38.5		31.5		15.5		46.5	
Max Q Clear Time (g_c+I1), s	12.3		10.4		13.3		10.6		3.9		13.0	
Green Ext Time (p_c), s	1.7		0.6		5.3		1.6		0.1		7.9	
Intersection Summary												
HCM 6th Ctrl Delay			17.3									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Background+P Midday

06/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	661	331	173	561	59	350	217	156	65	197	125
Future Volume (veh/h)	143	661	331	173	561	59	350	217	156	65	197	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	168	778	389	204	660	69	412	255	184	76	232	147
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	205	1134	506	244	1601	166	516	487	339	114	295	250
Arrive On Green	0.12	0.34	0.34	0.14	0.36	0.36	0.16	0.26	0.26	0.07	0.17	0.17
Sat Flow, veh/h	1697	3385	1510	1697	4476	464	3291	1908	1327	1697	1781	1510
Grp Volume(v), veh/h	168	778	389	204	476	253	412	225	214	76	232	147
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1621	1698	1646	1692	1543	1697	1781	1510
Q Serve(g_s), s	8.7	17.9	20.9	10.6	10.0	10.1	10.9	10.3	10.8	4.0	11.3	8.1
Cycle Q Clear(g_c), s	8.7	17.9	20.9	10.6	10.0	10.1	10.9	10.3	10.8	4.0	11.3	8.1
Prop In Lane	1.00		1.00	1.00		0.27	1.00		0.86	1.00		1.00
Lane Grp Cap(c), veh/h	205	1134	506	244	1160	607	516	432	394	114	295	250
V/C Ratio(X)	0.82	0.69	0.77	0.84	0.41	0.42	0.80	0.52	0.54	0.67	0.79	0.59
Avail Cap(c_a), veh/h	465	1703	760	516	1728	905	965	711	648	338	581	493
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	26.0	26.9	37.7	21.9	21.9	36.7	28.9	29.1	41.2	36.2	34.9
Incr Delay (d2), s/veh	7.8	0.7	2.7	7.4	0.2	0.5	2.9	1.0	1.2	6.6	4.7	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	7.1	7.6	4.8	3.7	4.0	4.5	4.2	4.1	1.8	5.2	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	26.7	29.6	45.1	22.1	22.4	39.6	29.9	30.3	47.8	40.9	37.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h	1335			933			851			455		
Approach Delay, s/veh	30.1			27.2			34.7			40.8		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	34.8	18.7	19.4	15.4	36.8	10.6	27.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.5	45.5	26.5	29.5	24.8	48.2	18.0	38.0				
Max Q Clear Time (g_c+T1), s	11.6	22.9	12.9	13.3	10.7	12.1	6.0	12.8				
Green Ext Time (p_c), s	0.5	7.4	1.3	1.6	0.4	5.5	0.1	2.8				

Intersection Summary

HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	38	25	269	282	1
Future Vol, veh/h	1	38	25	269	282	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	41	27	292	307	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	654	308	308	0	-	0
Stage 1	308	-	-	-	-	-
Stage 2	346	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	431	732	1253	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	420	732	1253	-	-	-
Mov Cap-2 Maneuver	420	-	-	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.3	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1253	-	718	-	-	
HCM Lane V/C Ratio	0.022	-	0.059	-	-	
HCM Control Delay (s)	7.9	-	10.3	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	754	1008	10	0	24
Future Vol, veh/h	0	754	1008	10	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	820	1096	11	0	26
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	554
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	476
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	476
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	476		
HCM Lane V/C Ratio	-	-	-	0.055		
HCM Control Delay (s)	-	-	-	13		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.2		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	754	1006	12	0	3
Future Vol, veh/h	0	754	1006	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	820	1093	13	0	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 553
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.32
Pot Cap-1 Maneuver	0	-	- 0 477
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 477
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	477
HCM Lane V/C Ratio	-	-	-	0.007
HCM Control Delay (s)	-	-	-	12.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

HCM 6th Signalized Intersection Summary

1: Hesperian Boulevard & Industrial Parkway West

Background+P PM

03/29/2023

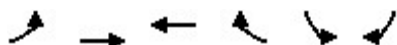
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	725	269	313	376	346	225	1414	143	220	813	39
Future Volume (veh/h)	199	725	269	313	376	346	225	1414	143	220	813	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	205	747	277	323	388	357	232	1458	147	227	838	40
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	267	799	296	386	1242	554	472	1576	159	286	969	46
Arrive On Green	0.08	0.32	0.32	0.11	0.35	0.35	0.14	0.34	0.34	0.08	0.29	0.29
Sat Flow, veh/h	3401	2497	926	3401	3497	1560	3401	4639	468	3401	3398	162
Grp Volume(v), veh/h	205	523	501	323	388	357	232	1053	552	227	431	447
Grp Sat Flow(s),veh/h/ln	1700	1749	1674	1700	1749	1560	1700	1675	1757	1700	1749	1812
Q Serve(g_s), s	7.5	36.6	36.6	11.7	10.2	24.1	8.0	38.2	38.2	8.3	29.5	29.5
Cycle Q Clear(g_c), s	7.5	36.6	36.6	11.7	10.2	24.1	8.0	38.2	38.2	8.3	29.5	29.5
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.27	1.00		0.09
Lane Grp Cap(c), veh/h	267	560	536	386	1242	554	472	1138	597	286	499	517
V/C Ratio(X)	0.77	0.93	0.93	0.84	0.31	0.64	0.49	0.92	0.93	0.79	0.86	0.86
Avail Cap(c_a), veh/h	526	575	551	526	1242	554	472	1155	606	418	603	625
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	41.6	41.6	54.8	29.5	34.0	50.2	40.1	40.1	56.7	42.8	42.8
Incr Delay (d2), s/veh	4.6	22.4	23.1	8.5	0.1	2.6	0.8	12.3	20.1	6.5	10.8	10.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	19.1	18.4	5.5	4.3	9.5	3.4	17.5	19.6	3.8	14.2	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	64.0	64.7	63.3	29.7	36.6	51.0	52.4	60.2	63.2	53.6	53.3
LnGrp LOS	E	E	E	E	C	D	D	D	E	E	D	D
Approach Vol, veh/h	1229			1068			1837			1105		
Approach Delay, s/veh	63.9			42.1			54.6			55.5		
Approach LOS	E			D			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	47.4	18.8	44.9	22.0	40.5	14.4	49.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	43.5	19.5	41.5	15.5	43.5	19.5	41.5				
Max Q Clear Time (g_c+l1), s	10.3	40.2	13.7	38.6	10.0	31.5	9.5	26.1				
Green Ext Time (p_c), s	0.3	2.7	0.6	1.8	0.4	4.4	0.5	3.5				
Intersection Summary												
HCM 6th Ctrl Delay	54.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

2: Industrial Parkway West & I-880 SB Off-Ramp

Background+P PM

03/29/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	387	898	944	261	447	224
Future Volume (veh/h)	387	898	944	261	447	224
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	416	966	1015	281	481	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	447	2256	1210	540	454	
Arrive On Green	0.26	0.65	0.35	0.35	0.26	0.00
Sat Flow, veh/h	1739	3561	3561	1547	1739	1547
Grp Volume(v), veh/h	416	966	1015	281	481	0
Grp Sat Flow(s), veh/h/ln	1739	1735	1735	1547	1739	1547
Q Serve(g_s), s	23.7	13.7	27.3	14.7	26.5	0.0
Cycle Q Clear(g_c), s	23.7	13.7	27.3	14.7	26.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	447	2256	1210	540	454	
V/C Ratio(X)	0.93	0.43	0.84	0.52	1.06	
Avail Cap(c_a), veh/h	488	2511	1384	617	454	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.8	8.6	30.4	26.3	37.5	0.0
Incr Delay (d2), s/veh	23.5	0.1	4.3	0.8	59.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ft	2.8	4.7	11.8	5.4	18.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.3	8.7	34.7	27.1	96.5	0.0
LnGrp LOS	E	A	C	C	F	
Approach Vol, veh/h		1382	1296		481	
Approach Delay, s/veh		24.2	33.1		96.5	
Approach LOS		C	C		F	
Timer - Assigned Phs		2		4		7 8
Phs Duration (G+Y+Rc), s		31.0		70.5		30.6 39.9
Change Period (Y+Rc), s		4.5		4.5		4.5 4.5
Max Green Setting (Gmax), s		26.5		73.5		28.5 40.5
Max Q Clear Time (g_c+l1), s		28.5		15.7		25.7 29.3
Green Ext Time (p_c), s		0.0		9.1		0.4 6.1

Intersection Summary

HCM 6th Ctrl Delay 38.9
 HCM 6th LOS D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Stratford Road & Industrial Parkway West

Background+P PM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	846	92	34	1183	57	366	107	13	37	30	126
Future Volume (veh/h)	158	846	92	34	1183	57	366	107	13	37	30	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	170	910	99	37	1272	61	254	310	14	40	32	135
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	99	1644	733	57	1560	696	356	374	317	109	87	171
Arrive On Green	0.06	0.47	0.47	0.03	0.45	0.45	0.20	0.20	0.20	0.11	0.11	0.11
Sat Flow, veh/h	1753	3497	1560	1753	3497	1560	1753	1841	1560	995	796	1560
Grp Volume(v), veh/h	170	910	99	37	1272	61	254	310	14	72	0	135
Grp Sat Flow(s), veh/h/ln	1753	1749	1560	1753	1749	1560	1753	1841	1560	1791	0	1560
Q Serve(g_s), s	5.5	18.1	3.5	2.0	30.8	2.2	13.1	15.7	0.7	3.6	0.0	8.2
Cycle Q Clear(g_c), s	5.5	18.1	3.5	2.0	30.8	2.2	13.1	15.7	0.7	3.6	0.0	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.56		1.00
Lane Grp Cap(c), veh/h	99	1644	733	57	1560	696	356	374	317	196	0	171
V/C Ratio(X)	1.72	0.55	0.13	0.65	0.82	0.09	0.71	0.83	0.04	0.37	0.00	0.79
Avail Cap(c_a), veh/h	99	1993	889	99	1993	889	513	539	457	340	0	296
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	18.5	14.6	46.6	23.5	15.5	36.2	37.2	31.2	40.2	0.0	42.3
Incr Delay (d2), s/veh	361.5	0.3	0.1	11.8	2.1	0.1	2.7	7.2	0.1	1.1	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ft	2.3	7.1	1.2	1.1	12.6	0.8	5.8	7.7	0.3	1.7	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	407.4	18.8	14.7	58.4	25.6	15.6	38.8	44.3	31.3	41.4	0.0	50.2
LnGrp LOS	F	B	B	E	C	B	D	D	C	D	A	D
Approach Vol, veh/h	1179			1370			578			207		
Approach Delay, s/veh	74.5			26.1			41.6			47.1		
Approach LOS	E			C			D			D		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	24.3			7.7			50.3			15.2		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	28.5			5.5			55.5			18.5		
Max Q Clear Time (g_c+l1), s	17.7			4.0			20.1			10.2		
Green Ext Time (p_c), s	2.1			0.0			8.3			0.5		

Intersection Summary

HCM 6th Ctrl Delay 47.2

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Background+P PM

4: Industrial Parkway Southwest/Ruus Road & Industrial Parkway West

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	840	45	238	902	85	133	493	48	33	212	135
Future Volume (veh/h)	115	840	45	238	902	85	133	493	48	33	212	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	121	884	47	251	949	89	140	519	51	35	223	142
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	154	1112	59	296	1434	639	334	623	528	152	623	528
Arrive On Green	0.09	0.33	0.33	0.17	0.41	0.41	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1753	3378	180	1753	3497	1560	1001	1841	1560	828	1841	1560
Grp Volume(v), veh/h	121	458	473	251	949	89	140	519	51	35	223	142
Grp Sat Flow(s),veh/h/ln	1753	1749	1808	1753	1749	1560	1001	1841	1560	828	1841	1560
Q Serve(g_s), s	5.6	19.6	19.6	11.5	18.1	2.9	10.1	21.4	1.8	3.4	7.5	5.5
Cycle Q Clear(g_c), s	5.6	19.6	19.6	11.5	18.1	2.9	17.6	21.4	1.8	24.8	7.5	5.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	576	595	296	1434	639	334	623	528	152	623	528
V/C Ratio(X)	0.78	0.80	0.80	0.85	0.66	0.14	0.42	0.83	0.10	0.23	0.36	0.27
Avail Cap(c_a), veh/h	351	795	823	500	1888	842	403	748	634	209	748	634
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	25.1	25.1	33.2	19.7	15.2	27.2	25.1	18.7	36.6	20.5	19.9
Incr Delay (d2), s/veh	8.4	3.9	3.8	6.8	0.5	0.1	0.8	6.9	0.1	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.4	8.6	5.3	7.0	1.0	2.4	10.1	0.7	0.7	3.2	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	29.0	28.9	40.0	20.2	15.3	28.0	32.0	18.7	37.3	20.9	20.1
LnGrp LOS	D	C	C	D	C	B	C	C	B	D	C	C
Approach Vol, veh/h	1052			1289			710			400		
Approach Delay, s/veh	30.8			23.7			30.3			22.1		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	32.4			18.4			31.6			32.4		
Change Period (Y+Rc), s	4.5			4.5			4.5			4.5		
Max Green Setting (Gmax), s	33.5			23.5			37.5			33.5		
Max Q Clear Time (g_c+I1), s	23.4			13.5			21.6			26.8		
Green Ext Time (p_c), s	3.1			0.5			5.5			1.1		

Intersection Summary

HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

5: Huntwood Avenue & Industrial Parkway West

Background+P PM

03/29/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	1000	240	108	629	97	439	446	249	67	136	133
Future Volume (veh/h)	238	1000	240	108	629	97	439	446	249	67	136	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1856	1485	1796	1856	1841	1781	1870	1870	1900	1811	1856
Adj Flow Rate, veh/h	245	1031	247	111	648	100	453	460	257	69	140	137
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	28	7	3	4	8	2	2	0	6	3
Cap, veh/h	280	1429	510	137	1436	219	531	634	352	99	320	278
Arrive On Green	0.16	0.41	0.41	0.08	0.32	0.32	0.16	0.29	0.29	0.05	0.18	0.18
Sat Flow, veh/h	1781	3526	1259	1711	4435	676	3291	2204	1223	1810	1811	1572
Grp Volume(v), veh/h	245	1031	247	111	492	256	453	370	347	69	140	137
Grp Sat Flow(s),veh/h/ln	1781	1763	1259	1711	1689	1734	1646	1777	1650	1810	1811	1572
Q Serve(g_s), s	15.2	27.8	16.4	7.2	13.0	13.3	15.2	21.2	21.4	4.2	7.8	8.9
Cycle Q Clear(g_c), s	15.2	27.8	16.4	7.2	13.0	13.3	15.2	21.2	21.4	4.2	7.8	8.9
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	280	1429	510	137	1094	561	531	511	475	99	320	278
V/C Ratio(X)	0.88	0.72	0.48	0.81	0.45	0.46	0.85	0.72	0.73	0.70	0.44	0.49
Avail Cap(c_a), veh/h	467	1588	567	212	1094	561	741	643	598	176	416	361
HCM 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
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	28.3	24.9	51.3	30.3	30.4	46.2	36.3	36.4	52.6	41.6	42.0
Incr Delay (d2), s/veh	9.8	2.7	2.6	12.7	0.3	0.6	6.9	3.0	3.4	8.5	0.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	12.1	5.2	3.6	5.3	5.6	6.7	9.6	9.0	2.2	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	31.0	27.5	63.9	30.6	31.0	53.1	39.3	39.8	61.0	42.5	43.4
LnGrp LOS	E	C	C	E	C	C	D	D	D	E	D	D
Approach Vol, veh/h	1523		859			1170			346			
Approach Delay, s/veh	34.5		35.0			44.8			46.6			
Approach LOS	C		C			D			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.0	51.9	22.8	25.5	22.3	42.7	10.2	38.1				
Change Period (Y+Rc), s	4.0	6.0	4.5	5.5	4.5	6.0	4.0	5.5				
Max Green Setting (Gmax), s	4.0	51.0	25.5	26.0	29.7	34.8	11.0	41.0				
Max Q Clear Time (g_c+1.0), s	19.2	29.8	17.2	10.9	17.2	15.3	6.2	23.4				
Green Ext Time (p_c), s	0.1	16.1	1.1	1.0	0.6	4.9	0.0	4.4				

Intersection Summary

HCM 6th Ctrl Delay 38.8

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	68	43	643	317	2
Future Vol, veh/h	3	68	43	643	317	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	74	47	699	345	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1139	346	347	0	-	0
Stage 1	346	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	223	697	1212	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	209	697	1212	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.5	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1212	-	634	-	-	
HCM Lane V/C Ratio	0.039	-	0.122	-	-	
HCM Control Delay (s)	8.1	-	11.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1000	1165	14	0	45
Future Vol, veh/h	0	1000	1165	14	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1087	1266	15	0	49
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	641
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	417
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	417
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		14.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	417		
HCM Lane V/C Ratio	-	-	-	0.117		
HCM Control Delay (s)	-	-	-	14.8		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.4		

HCM 6th TWSC
8: Industrial Parkway West & Project Driveway 2

Background+P PM
03/29/2023

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	1000	1168	17	0	5
Future Vol, veh/h	0	1000	1168	17	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1087	1270	18	0	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	644
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	416
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	416
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		13.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	416		
HCM Lane V/C Ratio	-	-	-	0.013		
HCM Control Delay (s)	-	-	-	13.8		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0		

Appendix D

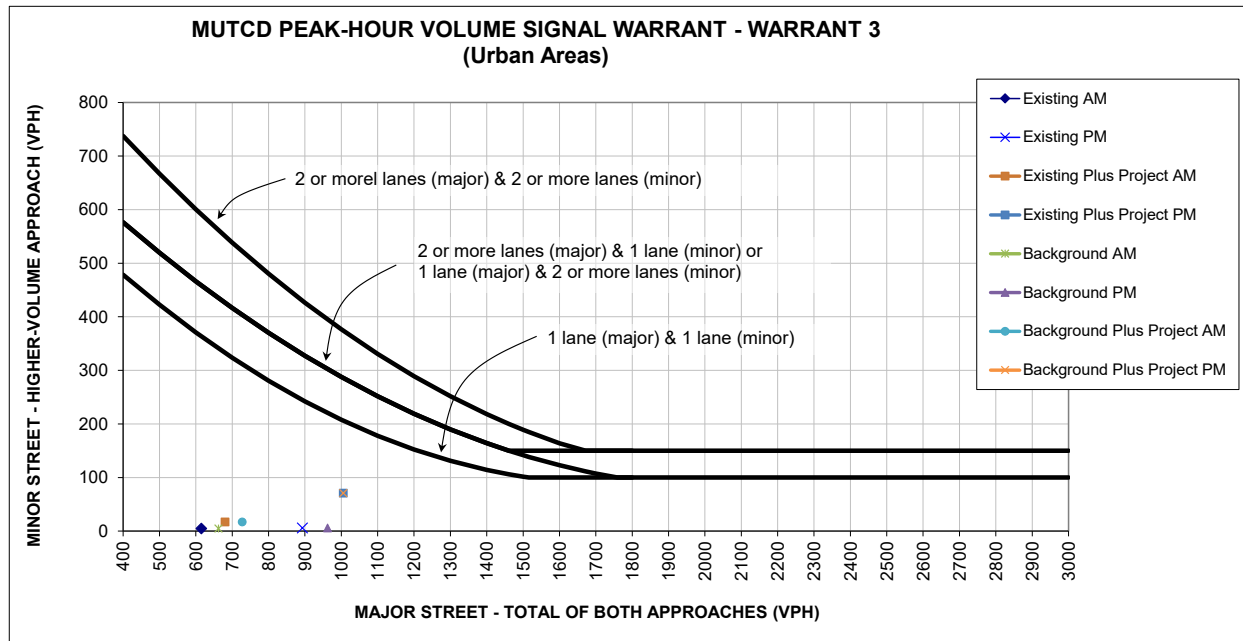
Signal Warrant Sheets

Appendix D

Signal Warrant Sheets

CenterPoint Warehouse LTA - Signal Warrant Analysis

Ruus Road (major) / Project Driveway (minor)



Source: Figure 4C-3 of the Manual on Uniform Traffic Control and Devices (MUTCD) 2014 Edition from California Department of Transportation (Caltrans).

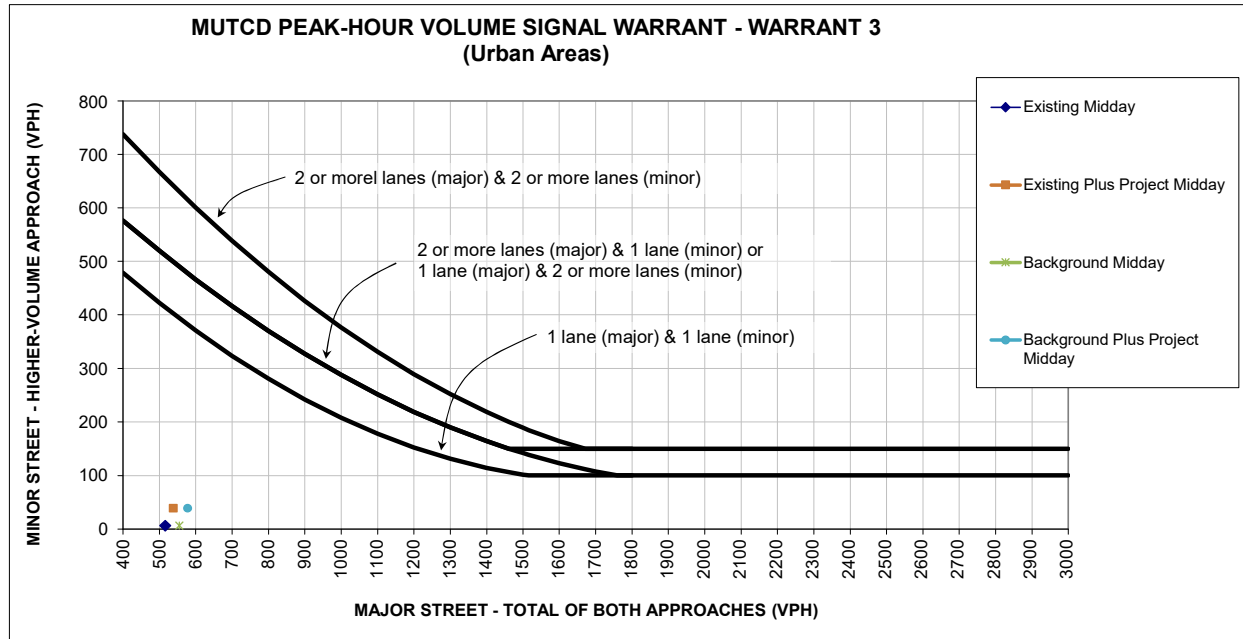
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Existing Approach Lanes		AM Peak Hour			
		2 or One	More	Existing AM	Existing Plus Project AM	Background AM	Background Plus Project AM
Major Street - Both Approaches	Ruus Road	X		615	680	662	727
Minor Street - Highest Approach	Project Driveway	X		5	17	5	17
Maximum warrant threshold for minor street volume				363	333	341	312
Difference between warrant threshold & minor street volume				358	316	336	295
Warrant Met?				No	No	No	No

		Existing Approach Lanes		PM Peak Hour			
		2 or One	More	Existing PM	Existing Plus Project PM	Background PM	Background Plus Project PM
Major Street - Both Approaches	Ruus Road	X		893	1005	962	1005
Minor Street - Highest Approach	Project Driveway	X		6	71	6	71
Maximum warrant threshold for minor street volume				245	206	220	206
Difference between warrant threshold & minor street volume				239	135	214	135
Warrant Met?				No	No	No	No

CenterPoint Warehouse LTA - Signal Warrant Analysis

Ruus Road (major) / Project Driveway (minor)



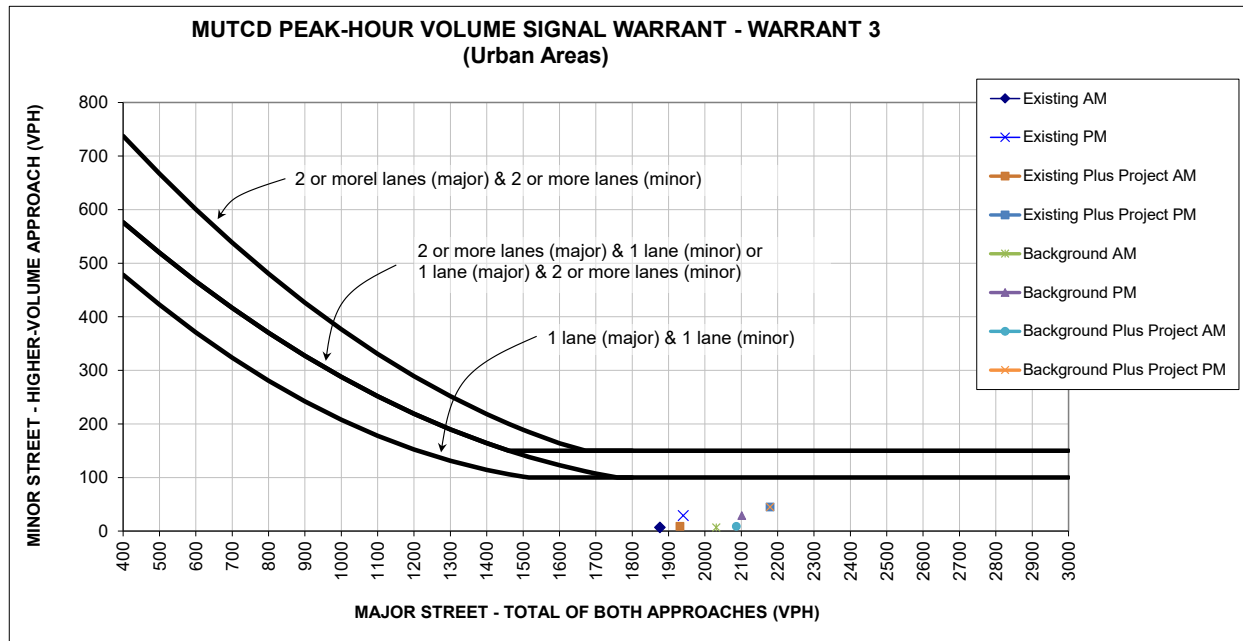
Source: Figure 4C-3 of the Manual on Uniform Traffic Control and Devices (MUTCD) 2014 Edition from California Department of Transportation (Caltrans).

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

		Existing Approach Lanes		Midday Peak Hour			
		One	Two or More	Existing MIDDAY	Existing Plus Project MIDDAY	Background MIDDAY	Background Plus Project MIDDAY
Major Street - Both Approaches	Ruus Road	X		516	538	555	577
Minor Street - Highest Approach	Project Driveway	X		6	39	6	39
Maximum warrant threshold for minor street volume				414	402	394	382
Difference between warrant threshold & minor street volume				408	363	388	343
Warrant Met?				No	No	No	No

CenterPoint Warehouse LTA - Signal Warrant Analysis

Industrial Parkway West (major) / Project Driveway (west) (minor)



Source: Figure 4C-3 of the Manual on Uniform Traffic Control and Devices (MUTCD) 2014 Edition from California Department of Transportation (Caltrans).

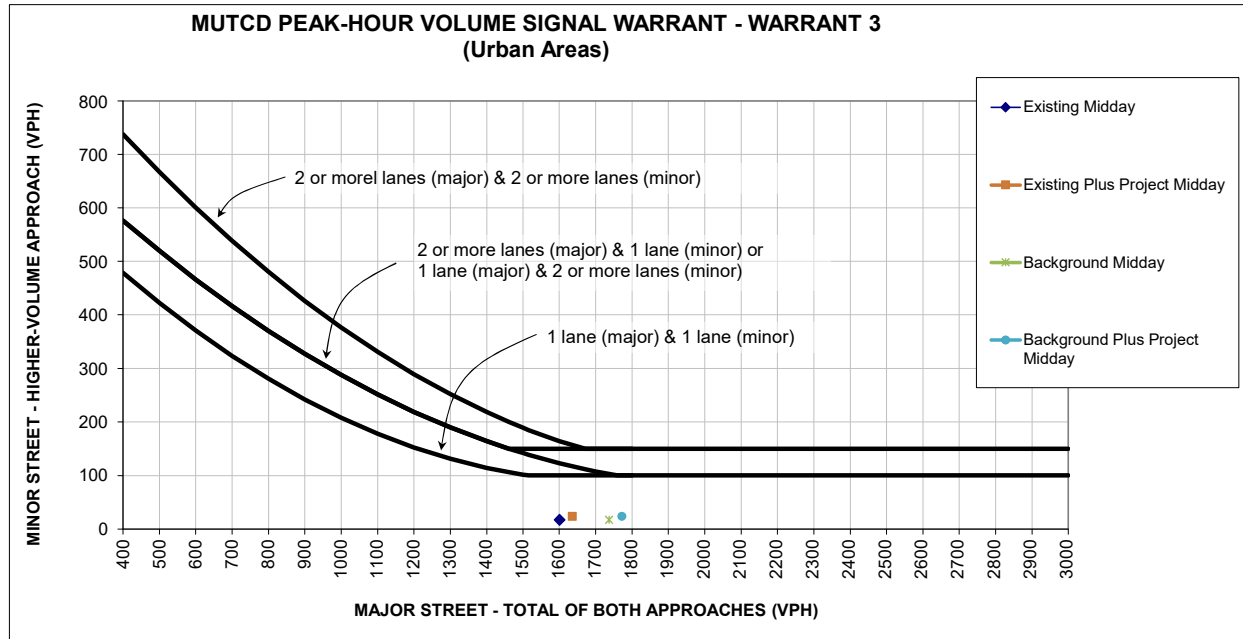
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

				AM Peak Hour			
		Existing Approach Lanes		Existing AM	Existing Plus Project AM	Background AM	Background Plus Project AM
		2 or One	More				
Major Street - Both Approaches	Industrial Pkwy W		X	1876	1931	2031	2086
Minor Street - Highest Approach	Project Driveway (west)	X		7	9	7	9
Maximum warrant threshold for minor street volume				100	100	100	100
Difference between warrant threshold & minor street volume				93	91	93	91
Warrant Met?				No	No	No	No

				PM Peak Hour			
		Existing Approach Lanes		Existing PM	Existing Plus Project PM	Background PM	Background Plus Project PM
		2 or One	More				
Major Street - Both Approaches	Industrial Pkwy W		X	1940	2179	2101	2179
Minor Street - Highest Approach	Project Driveway (west)	X		29	45	29	45
Maximum warrant threshold for minor street volume				100	100	100	100
Difference between warrant threshold & minor street volume				71	55	71	55
Warrant Met?				No	No	No	No

CenterPoint Warehouse LTA - Signal Warrant Analysis

Industrial Parkway West (major) / Project Driveway (west) (minor)



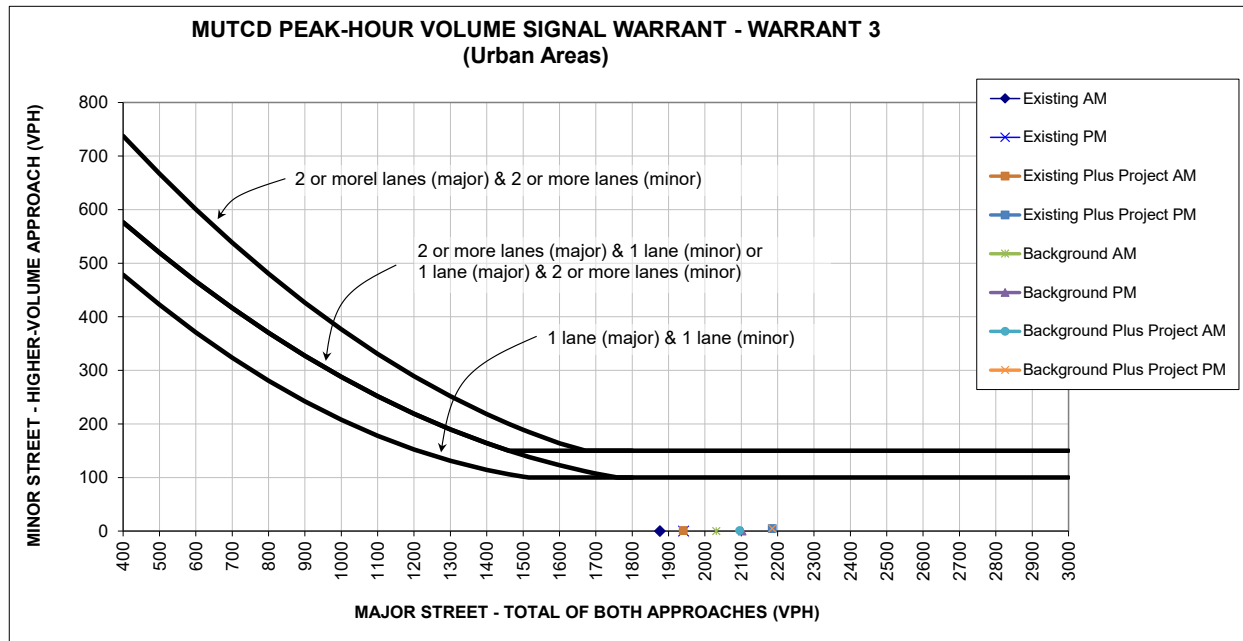
Source: Figure 4C-3 of the Manual on Uniform Traffic Control and Devices (MUTCD) 2014 Edition from California Department of Transportation (Caltrans).

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

		Existing Approach Lanes		Midday Peak Hour			
		2 or One	More	Existing MIDDAY	Existing Plus Project MIDDAY	Background MIDDAY	Background Plus Project MIDDAY
Major Street - Both Approaches	Industrial Pkwy W		X	1601	1636	1737	1772
Minor Street - Highest Approach	Project Driveway (west)	X		17	24	17	24
Maximum warrant threshold for minor street volume				123	117	103	100
Difference between warrant threshold & minor street volume				106	93	86	76
Warrant Met?				No	No	No	No

CenterPoint Warehouse LTA - Signal Warrant Analysis

Industrial Parkway West (major) / Project Driveway (east) (minor)



Source: Figure 4C-3 of the Manual on Uniform Traffic Control and Devices (MUTCD) 2014 Edition from California Department of Transportation (Caltrans).

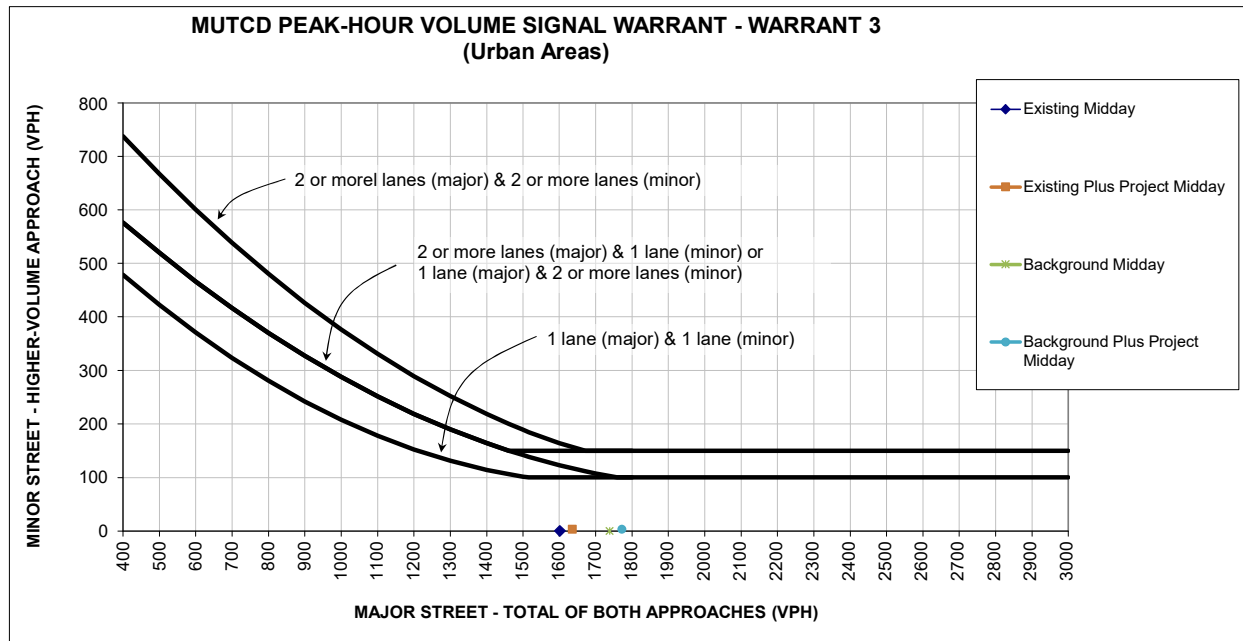
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

				AM Peak Hour			
		Existing Approach Lanes		Existing AM	Existing Plus Project AM	Background AM	Background Plus Project AM
		2 or One	More				
Major Street - Both Approaches	Industrial Pkwy W		X	1876	1940	2031	2095
Minor Street - Highest Approach	Project Driveway (east)	X		0	1	0	1
Maximum warrant threshold for minor street volume				100	100	100	100
Difference between warrant threshold & minor street volume				100	99	100	99
Warrant Met?				No	No	No	No

				PM Peak Hour			
		Existing Approach Lanes		Existing PM	Existing Plus Project PM	Background PM	Background Plus Project PM
		2 or One	More				
Major Street - Both Approaches	Industrial Pkwy W		X	1941	2185	2102	2185
Minor Street - Highest Approach	Project Driveway (east)	X		0	5	0	5
Maximum warrant threshold for minor street volume				100	100	100	100
Difference between warrant threshold & minor street volume				100	95	100	95
Warrant Met?				No	No	No	No

CenterPoint Warehouse LTA - Signal Warrant Analysis

Industrial Parkway West (major) / Project Driveway (east) (minor)



Source: Figure 4C-3 of the Manual on Uniform Traffic Control and Devices (MUTCD) 2014 Edition from California Department of Transportation (Caltrans).

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

				Midday Peak Hour			
		Existing Approach Lanes		Existing Midday	Existing Plus Project Midday	Background Midday	Background Plus Project Midday
		One	Two or More				
Major Street - Both Approaches	Industrial Pkwy W		X	1602	1636	1738	1772
Minor Street - Highest Approach	Project Driveway (east)	X		0	3	0	3
Maximum warrant threshold for minor street volume				123	117	102	100
Difference between warrant threshold & minor street volume				123	114	102	97
		Warrant Met?		No	No	No	No

Appendix E

ACTC Checklist

Appendix E

ACTC Checklist

Development Review Complete Streets Checklist

This checklist is designed to assist the applicant and jurisdiction staff identify and assess a range of Complete Streets-related needs in the vicinity of each development. These needs, if addressed, would better serve the multimodal transportation needs of those coming and going from the site and the surrounding area. The checklist is to be completed during the pre-application phase, but can be used as a reference throughout the development and design of the project. Following completion of the checklist, staff will identify and document project modifications for further evaluation and discussion.

Project Name	CenterPoint Warehouse	Project Description / Project Type: <u>Industrial</u>
Project Location	29469 Ruus Road	
Project Manager		
Anticipated construction date		

Pre-Application Phase

Project Description

1. What are the proposed land uses (check all that apply)?
- ☐ residential ☐ commercial /mixed use ☒ industrial
- ☐ civic/institutional
- ☐ other _____
2. What are the major trip generators near the project site, if any?
(existing and future)
- a) Schools ☐yes ☒no
- b) Major employers ☐yes ☒no
- c) Civic/community destinations ☐yes ☒no
- d) Medium to high-density residential ☐yes ☒no
- e) Senior centers/healthcare facilities ☐yes ☒no
- f) Daily needs (grocery, retail, etc.) ☒yes ☐no
- g) Other _____
3. Is the project site located on the path to/from nearby trip generators?
- ☒yes ☐no
- Explain: Located on Industrial Parkway SW, south of project

4. Based on the modal priority maps (available at <http://gis.fehrandpeers.com/AlamedaCTC/Typology/>), list the modal priorities on adjacent streets (check all that apply):

Adjacent Street 1 Name: Industrial Parkway West

Auto	☐ First	☒ Second	☐ Other
Bicycle	☐ First	☐ Second	☒ Other
Pedestrian	☐ First	☐ Second	☒ Other
Transit	☐ First	☐ Second	☒ Other
Trucks	☒ First	☐ Second	☐ Other

Adjacent Street 2 Name: Ruus Road

Auto	☒ First	☐ Second	☐ Other
Bicycle	☐ First	☒ Second	☐ Other
Pedestrian	☐ First	☐ Second	☒ Other
Transit	☐ First	☐ Second	☒ Other
Trucks	☐ First	☐ Second	☒ Other

Adjacent Street 3 Name: _____

Auto	☐ First	☐ Second	☐ Other
Bicycle	☐ First	☐ Second	☐ Other
Pedestrian	☐ First	☐ Second	☐ Other
Transit	☐ First	☐ Second	☐ Other

Trucks ☐ First ☐ Second ☐ Other

Work with Transportation and Engineering Staff to fill out questions 5-8.

5. Within the past five years, have there been any fatal or severe injury collisions within ¼ mile of the site? ☒ yes ☐ no

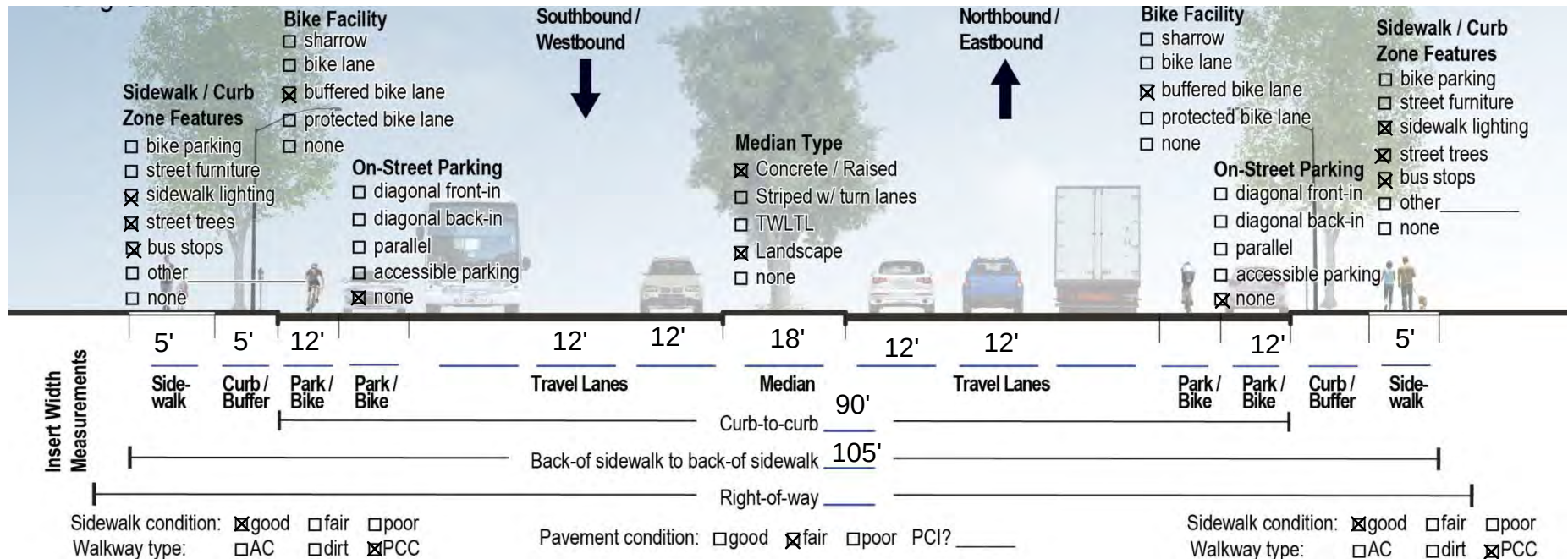
If yes, explain Sideswipe, Read End, and Broadside severe collisions

6. Within the past five years, have there been any collisions within ¼ mile of the site involving pedestrians or bicyclists? ☒ yes ☐ no

Existing Physical Conditions

8. ☒ What are the existing right-of-way elements adjacent to the project site? Use cross section graphic for each street adjacent to the site.

Adjacent Street 1: Street name Industrial Parkway West



If yes, explain Non-severe injury pedestrian/vehicle collision

7. ☒ Have you observed other opportunities to improve safety performance? (based on field observation) ☐ yes ☐ no If yes, note:

TWLTL = two-way left turn lane | AC = asphalt concrete | PCC = poured cement concrete | PCI = pavement condition index

Adjacent Street 2: Street name Ruus Road

Southbound / Westbound ↓ Northbound / Eastbound ↑																																			
Sidewalk / Curb Zone Features ☐ bike parking ☐ street furniture ☒ sidewalk lighting ☒ street trees ☐ bus stops ☐ other _____ ☐ none				Bike Facility ☐ sharrow ☒ bike lane ☐ buffered bike lane ☐ protected bike lane ☐ none				On-Street Parking ☐ diagonal front-in ☐ diagonal back-in ☒ parallel ☐ accessible parking ☐ none				Median Type ☐ Concrete / Raised ☐ Striped w/ turn lanes ☐ TWLTL ☐ Landscape ☒ none				Bike Facility ☐ sharrow ☒ bike lane ☐ buffered bike lane ☐ protected bike lane ☐ none				On-Street Parking ☐ diagonal front-in ☐ diagonal back-in ☒ parallel ☐ accessible parking ☐ none				Sidewalk / Curb Zone Features ☐ bike parking ☐ street furniture ☒ sidewalk lighting ☒ street trees ☐ bus stops ☐ other _____ ☐ none											
6'		7'		5'		12'				12'				5'		7'		6'																	
Side-walk		Curb / Buffer		Park / Bike		Park / Bike		Travel Lanes				Travel Lanes				Park / Bike		Park / Bike		Curb / Buffer		Side-walk													
Curb-to-curb 48'																																			
Back-of sidewalk to back-of sidewalk 60'																																			
Right-of-way _____																																			
Sidewalk condition: ☒ good ☐ fair ☐ poor Walkway type: ☐ AC ☐ dirt ☒ PCC												Pavement condition: ☐ good ☒ fair ☐ poor PCI? _____												Sidewalk condition: ☒ good ☐ fair ☐ poor Walkway type: ☐ AC ☐ dirt ☒ PCC											

Adjacent Street 3: Street name _____

Sidewalk / Curb Zone Features

- ☐ bike parking
- ☐ street furniture
- ☐ sidewalk lighting
- ☐ street trees
- ☐ bus stops
- ☐ other _____
- ☐ none

Bike Facility

- ☐ sharrow
- ☐ bike lane
- ☐ buffered bike lane
- ☐ protected bike lane
- ☐ none

On-Street Parking

- ☐ diagonal front-in
- ☐ diagonal back-in
- ☐ parallel
- ☐ accessible parking
- ☐ none

Southbound / Westbound

↓

Median Type

- ☐ Concrete / Raised
- ☐ Striped w/ turn lanes
- ☐ TWLTL
- ☐ Landscape
- ☐ none

Northbound / Eastbound

↑

Bike Facility

- ☐ sharrow
- ☐ bike lane
- ☐ buffered bike lane
- ☐ protected bike lane
- ☐ none

On-Street Parking

- ☐ diagonal front-in
- ☐ diagonal back-in
- ☐ parallel
- ☐ accessible parking
- ☐ none

Northbound / Eastbound

↑

Sidewalk / Curb Zone Features

- ☐ bike parking
- ☐ street furniture
- ☐ sidewalk lighting
- ☐ street trees
- ☐ bus stops
- ☐ other _____
- ☐ none

Insert Width Measurements

Side-walk	Curb / Buffer	Park / Bike	Park / Bike	Travel Lanes	Median	Travel Lanes	Park / Bike	Park / Bike	Curb / Buffer	Side-walk	
				Curb-to-curb _____							
Back-of sidewalk to back-of sidewalk _____											
Right-of-way _____											

Sidewalk condition: ☐ good ☐ fair ☐ poor

Walkway type: ☐ AC ☐ dirt ☐ PCC

Pavement condition: ☐ good ☐ fair ☐ poor PCI? _____

Sidewalk condition: ☐ good ☐ fair ☐ poor

Walkway type: ☐ AC ☐ dirt ☐ PCC

Plans, Policies, Guidelines, and Standards

9. What are **relevant ongoing or existing plans**?

Plan	Identified Needs (yes or no)				
	Ped	Bike	Transit	Vehicular	Other
<i>Bicycle Master Plan</i>	☐ yes ☒ no	☒ yes ☐ no	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no
<i>Mission Blvd Corridor Specific Plan</i>	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no
<i>Hayward Cannery Area Design Plan</i>	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no	☐ yes ☒ no

List any transportation improvement needs identified in the plan documents listed above:

Class IV Separated Bikeways along Industrial Parkway West, Huntwood Avenue, and Ruus Road

Transportation Evaluation

10. Indicate whether the following elements have been evaluated for existing conditions at the site and surrounding area and list the result for each mode:

Pedestrian

Internal site circulation and pedestrian routes

☒ yes ☐ no

Site access and street frontage

☒ yes ☐ no

Signage and wayfinding

☐ yes ☒ no

Intersections and street crossings

☒ yes ☐ no

Access to/from surrounding area

☒ yes ☐ no

Lighting

☐ yes ☒ no

ADA facilities

☒ yes ☐ no

Other _____

☐ yes ☐ no

List any pedestrian deficiencies identified:

Bicycle

Parking supply and ease of use

☒ yes ☐ no

Site access

☒ yes ☐ no

Signage and wayfinding

☐ yes ☒ no

Intersections

☒ yes ☐ no

Access to/from surrounding area

☒ yes ☐ no

Other _____

☐ yes ☐ no

List any bicycle deficiencies identified:

Auto

On-street parking

☒ yes ☐ no

Off-street parking

☒ yes ☐ no

Disabled parking

☒ yes ☐ no

Green infrastructure

☒ yes ☐ no

Driveway placement and ped/bike conflict points

☐ yes ☒ no

Other _____

☐ yes ☐ no*List any auto deficiencies identified:***Transit**

Bus stop placement

☒ yes ☐ no

Waiting area amenities and stop design parameters

☒ yes ☐ no

Other _____

☐ yes ☐ no*List any transit deficiencies identified:***Trucks and Heavy Vehicles**

Curbside loading areas

☐ yes ☒ no

On-site loading areas

☒ yes ☐ no

Turning radii

☒ yes ☐ no

Emergency vehicle access

☒ yes ☐ no

Other _____

☐ yes ☐ no*List any truck/heavy vehicle deficiencies identified:*

11. How does the proposed **site design** impact conditions for each mode? If negative or positive, note the impact. (Note: both negative and positive impacts could be found for one mode.)

Mode	Impacts	
Auto	☐ positive ☒ neutral ☐ negative	
Bicycle	☒ positive ☒ neutral ☐ negative	Bike lanes along Ruus Road and Industrial Parkway West Improve On-site bike facilities
Pedestrian	☒ positive ☒ neutral ☐ negative	Improve On-site Facilities
Transit	☐ positive ☒ neutral ☐ negative	Transit routes on Industrial Parkway West, Stratford Road, and Huntwood Avenue
Trucks	☐ positive ☒ neutral ☐ negative	
Other mode?	☐ positive ☐ neutral ☐ negative	

External Agency/Stakeholder Coordination

12. List agencies requiring coordination:

Agency	Has coordination occurred? Note any issues that are outstanding.
	☐ yes ☐ no
	☐ yes ☐ no
	☐ yes ☐ no

Maintenance and Construction Phase Considerations

13.  will access for all modes be maintained during construction (check one box per mode)?

Agency	Auto	Bicycle	Pedestrian	Transit	Trucks
Detour for duration of project	☐	☐	☐	☐	☐
Time-of-day closures only (e.g. nighttime)	☐	☐	☐	☐	☐
Short-term closures (e.g. 24 hour) with detour route	☐	☐	☐	☐	☐
Access maintained with reduced facilities*	☐	☐	☐	☐	☐
Full access maintained (work does not impact mode)	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

*"Access maintained with reduced facilities" could mean some travel lanes closed for vehicles; could mean bicycle lane is closed, with signage for bicycles to share travel lane; could mean that sidewalk is closed with pedestrian space provided on shoulder; could mean that some transit stops are closed; etc.)

14. Will any transportation facilities or street elements be privately maintained? ☐ yes ☒ no If yes, explain:

15. Will Complete Streets design be applied on privately maintained facilities? ☐ yes ☒ no

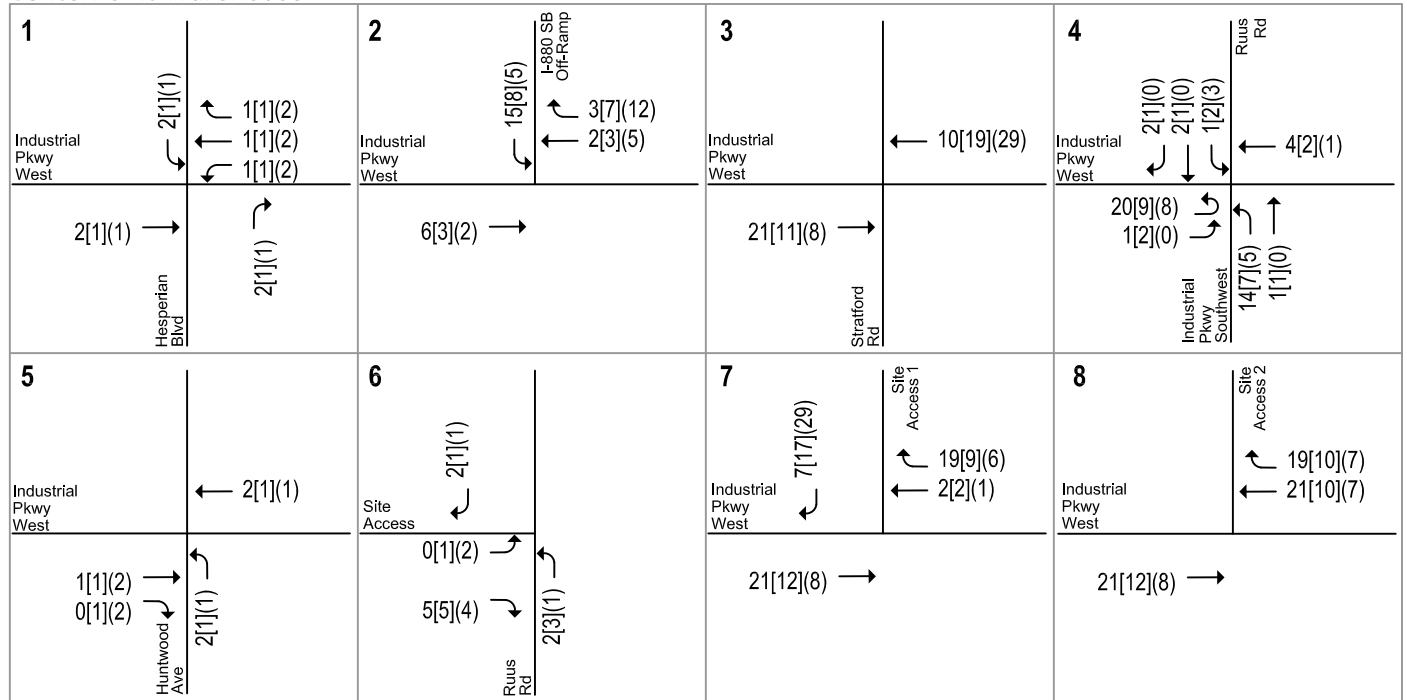
Appendix F

Additional Trip Assignment Figures

Appendix F

Additional Trip Assignment Figures

CenterPoint Warehouse

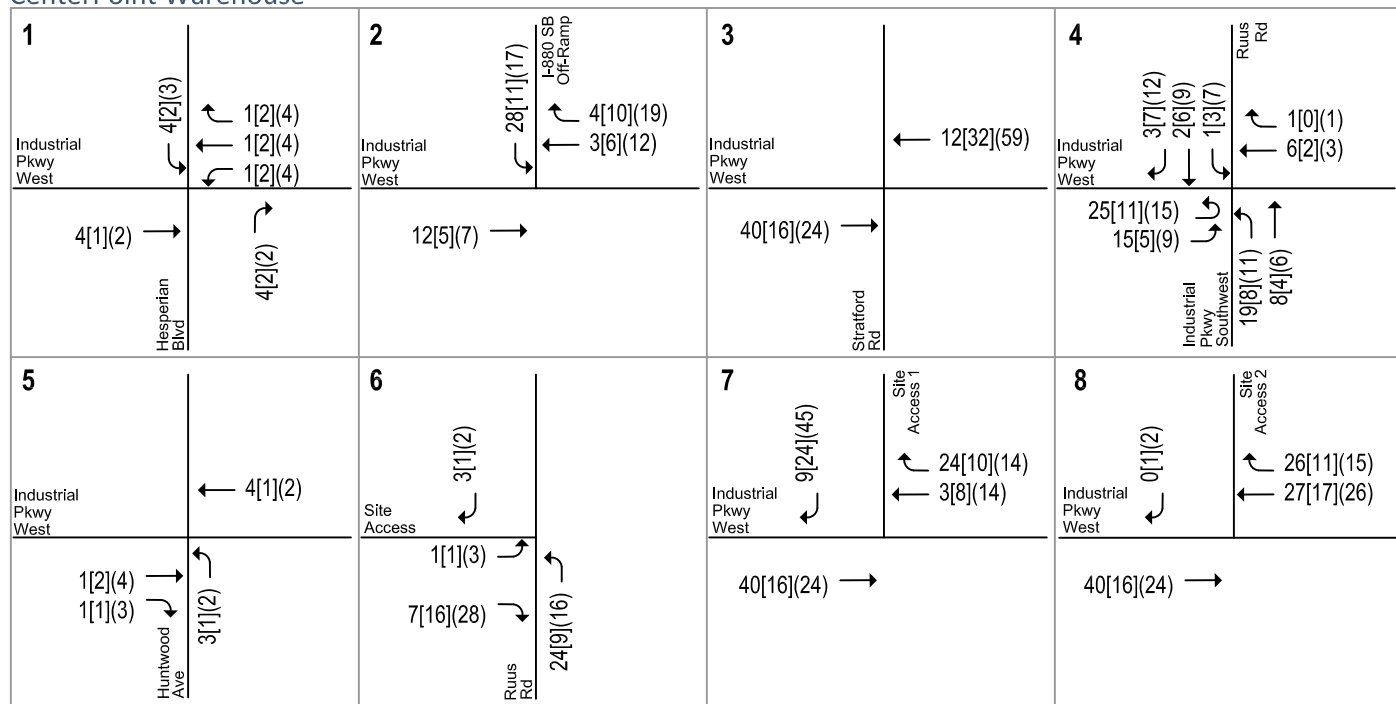


LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Trips

Appendix F Figure A
Existing Site Trip Assignment

CenterPoint Warehouse

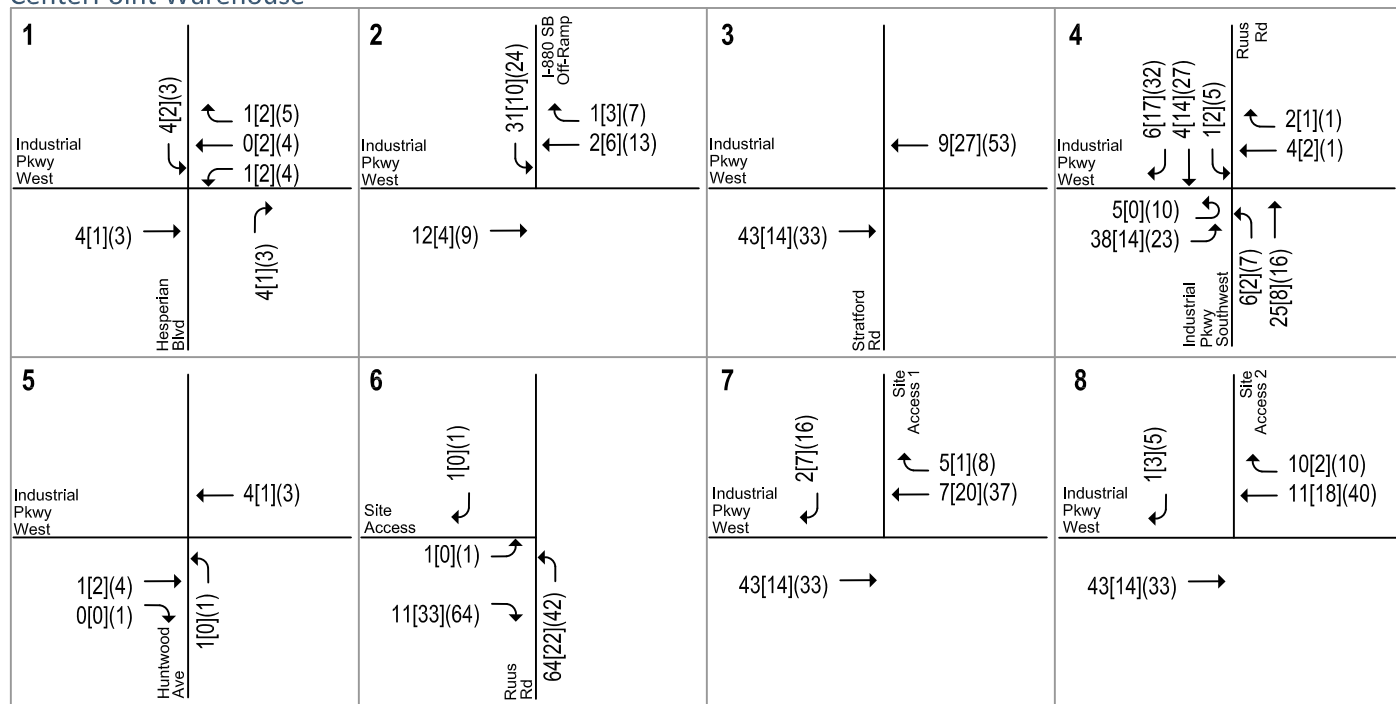


LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Trips

Appendix F Figure B
Gross Vehicle Trip Assignment (without PCE)

CenterPoint Warehouse

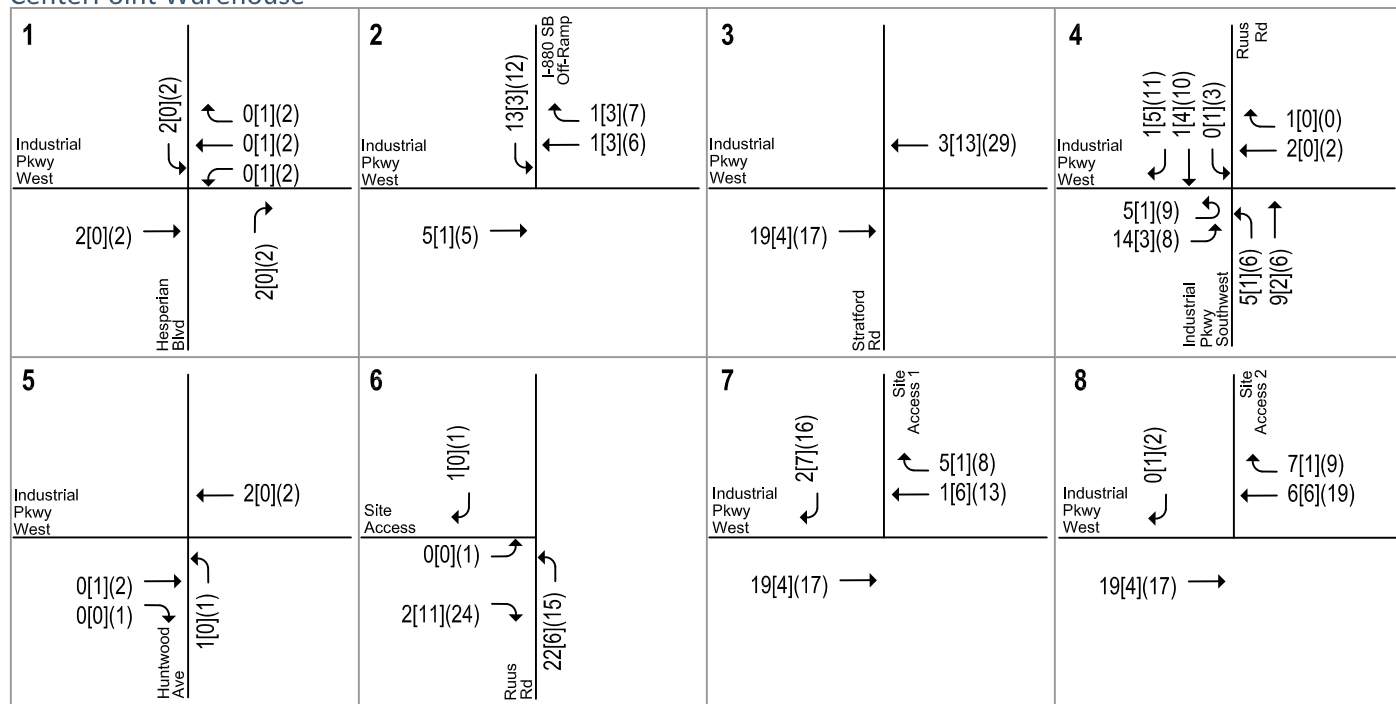


LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Trips

Appendix F Figure C
Net Vehicle Trip Assignment (with PCE)

CenterPoint Warehouse



LEGEND

XX[XX](XX) = AM[Midday](PM) Peak-Hour Trips

Appendix F Figure D
Net Vehicle Trip Assignment (without PCE)

Appendix G

Collision Data

Appendix G

Collision Data

CASE_ID	ACCIDENT_YEAR	PROC_DATE	JURIS	COLLISION_DATE	COLLISION_TIME	DAY_OF_WEEK	BEAT_NUMBER	PRIMARY_RD	SECONDARY_RD	DISTANCE	DIRECTION	INTERSECTION	COLLISION_SEVERITY	TYPE_OF_COLLISION
8297556	2017	2/22/2017	106	1/15/2017	1559	7	00F	INDUSTRIAL PKWY SW	RUUS RD	40	E	N	4	C
8366943	2017	5/19/2017	106	4/5/2017	2239	3	00H	RUUS RD	RUUS LN	0		Y	4	A
8405864	2017	7/24/2017	106	6/3/2017	205	6	00F	ADDISON WY	INDUSTRIAL PKWY	0		Y	3	C
8415287	2018	7/23/2018	106	6/15/2018	1102	5	00F	INDUSTRIAL BL	RUUS RD	155	W	N	2	C
8424683	2017	8/17/2017	106	7/5/2017	1527	3	00F	INDUSTRIAL PKWY SW	ADDISON WY	0		Y	4	D
8427953	2017	8/17/2017	106	7/28/2017	1331	5	00F	RUUS RD	INDUSTRIAL PKWY W	0		Y	4	D
8529946	2017	1/29/2018	106	12/27/2017	2001	3	00F	INDUSTRIAL PKWY SW	RUUS RD	0		Y	4	A
8573587	2018	5/18/2018	106	2/16/2018	1435	5	00H	INDUSTRIAL PKWY W	RUUS RD	12	W	N	3	E
8594720	2018	5/1/2018	106	2/13/2018	616	2	00F	INDUSTRIAL PKWY W	RUUS AV	0		Y	4	D
8631542	2018	6/11/2018	106	3/28/2018	1928	3	00F	INDUSTRIAL PKWY SW	ADDISON WY	0	S	N	3	B
8716911	2018	10/24/2018	106	9/5/2018	1107	3	00F	RUUS RD	INDUSTRIAL PKWY	0		Y	4	A
8737297	2018	11/16/2018	106	9/20/2018	1432	4	00F	ADDISON WY	INDUSTRIAL PKWY SW	20	W	N	3	G
8801868	2019	3/6/2019	106	1/17/2019	1312	4	00F	RUUS RD	INDUSTRIAL PKWY	0		Y	4	D
8834078	2019	4/10/2019	106	2/12/2019	1140	2	00H	RUUS RD	INDUSTRIAL PKWY	425	N	N	3	A
8882384	2019	7/8/2019	106	4/25/2019	2218	4	00F	INDUSTRIAL PKWY	RUUS RD	0		Y	4	F
8972188	2019	11/8/2019	106	9/13/2019	815	5	00F	INDUSTRIAL PKWY SW	ADDISON WY	0		Y	2	D
9090757	2020	5/22/2020	106	2/5/2020	824	3	00H	INDUSTRIAL PKWY W	RUUS RD	0		Y	4	D
9165632	2020	10/26/2020	106	8/12/2020	1743	3	00H	INDUSTRIAL PKWY W	RUUS RD	0		Y	4	B
9193980	2020	12/16/2020	106	10/13/2020	1215	2	00H	RUUS RD	RUUS LN	447	S	N	4	D
9226328	2021	3/22/2021	106	1/29/2021	2341	5	00H	CANTERBURY ST	CHUTNEY RD	270	W	N	3	B
9284822	2021	6/28/2021	106	4/18/2021	803	7	00F	INDUSTRIAL PKWY SW	RUSS RD	0		Y	2	B
9292184	2021	7/21/2021	106	6/15/2021	1222	2	00F	W INDUSTRIAL PKWY	RUUS RD	82	W	N	4	C
9401125	2021	2/14/2022	106	12/4/2021	1651	6	00H	RUUS RD	INDUSTRIAL PKWY	0		Y	4	D
9455092	2022	6/30/2022	106	4/17/2022	1302	7	00H	RUUS RD	INDUSTRIAL BL	0		Y	4	D
9536310	2022	1/4/2023	106	11/21/2022	1707	1	00H	W INDUSTRIAL PKWY W	RUUS RD	300	W	N	3	B