



lancaster
moble



RENEWS: 6/30/2022

The Riffles Food Carts Transportation Impact Study Sandy, Oregon

Date:
March 7, 2022

Prepared for:
Todd Hoffman
Riffles Food Carts

Prepared by:
Daniel Stumpf, PE

Table of Contents

Executive Summary	4
Project Description	5
Introduction	5
Location Description	5
Vicinity Streets	6
Study Intersections	6
Site Trips	8
Trip Generation	8
Direction Distribution of Trips	8
Morning Peak Hour Trip Generation	8
Average Daily Trip Generation	8
Pass-by Trip Generation	8
Analysis Results	9
Trip Distribution	10
Traffic Volumes	13
Existing Conditions	13
Background Conditions	13
Buildout Conditions	14
Safety Analysis	18
Crash History Review	18
Traffic Signal Warrants	19
Operational Analysis	20
Intersection Capacity Analysis	20
Performance Standards	20
City of Sandy	20
ODOT	20
Delay & Capacity Analysis	20
Conclusions	22

Appendices

Appendix A

Site Plan

Appendix B

Trip Generation Calculations

Appendix C

Traffic Counts

Appendix D

Crash History Data

Appendix E

Traffic Signal Warrants

Appendix F

Level of Service Descriptions

Capacity Reports



List of Figures

Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)	6
Figure 2: Vicinity Map	7
Figure 3: Trip Distribution & Assignment – Morning Peak Hour	11
Figure 4: Trip Distribution & Assignment – Evening Peak Hour	12
Figure 5: Year 2021 Existing Conditions	15
Figure 6: Year 2023 Background Conditions	16
Figure 7: Year 2023 Buildout Conditions	17

List of Tables

Table 1: Vicinity Roadway Descriptions	6
Table 2: Study Intersection Descriptions	6
Table 3: Trip Generation Summary	10
Table 4: Crash Type Summary	19
Table 5: Crash Severity and Rate Summary	19
Table 6: Capacity Analysis Summary	21

Executive Summary

1. The proposed Riffles Food Cart development will include the construction of a food cart facility, to be located within the Twin Cedars Center shopping center at 37133/37115 Highway 26 in Sandy, Oregon. Specifically, the project includes constructing 18 food cart pods, a 3,600 square foot building intended as a common dining space, and off-street parking. Access to the site will be available via existing shopping center driveways along US-26.
2. The trip generation calculations show that the proposed project is projected to generate 12 net new morning peak hour trips, 57 net new evening peak hour trips, and 566 net new average weekday trips.
3. No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the study intersections have a crash rate exceeding ODOT's 90th percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.
4. Due to insufficient main and side street traffic volumes, traffic signal warrants are not projected to be met at the full-movement shopping center access intersection at US-26 under year 2023 buildout conditions.
5. All study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably through the 2023 site buildout year. No operational mitigation is necessary or recommended at these intersections.



Project Description

Introduction

The proposed Riffles Food Cart development will include the construction of a food cart facility, to be located within the Twin Cedars Center shopping center at 37133/37115 Highway 26 in Sandy, Oregon. Specifically, the project includes constructing 18 food cart pods, a 3,600 square foot building intended as a common dining space, and off-street parking. Access to the site will be available via existing shopping center driveways along Highway 26 (US-26).

Based on correspondence with City of Sandy's transportation consultant and Oregon Department of Transportation (ODOT) staff, the report conducts safety and capacity/level of service analyses at the following intersections during the morning and evening peak hours:

1. Industrial Way at US-26; and
2. Shopping center access (full-movement access) at US-26.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses, and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Location Description

The project site is located north of US-26, east of Industrial Way, and west of Kate Schmitz Avenue within the Twin Cedars Center shopping center in Sandy, Oregon. The site consists of two properties (tax lots 1000 and 1200) which encompass an approximate total of 2.16 acres. In the immediate vicinity, the site is surrounded by a mix of uses including a fitness gym to the north, medical office/restaurant/coffee shop to the south, forested land to the east, and car service uses to the west.

Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow.



Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Vicinity Streets

The proposed development is expected to impact two roadways near the site. Table 1 provides a description of each vicinity roadway.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
US-26	ODOT	Arterial/ Statewide Hwy	40/45	Not Permitted	Partial Both Sides	Both Sides
Industrial Way	City of Sandy	Collector	25	Partially Permitted	Partial Both Sides	None

Table Notes: Functional classification based on City of Sandy TSP and ODOT OHP.

Study Intersections









Based on coordination with agency staff, two existing intersections were identified for analysis. A summarized description of these study intersections, under their existing lane configurations, is provided in Table 2.

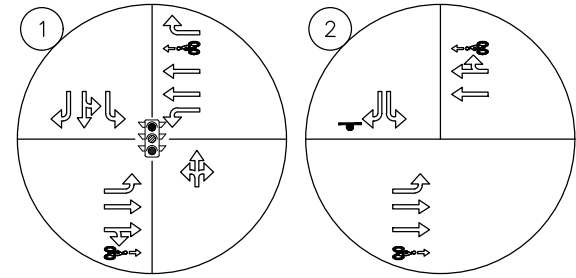
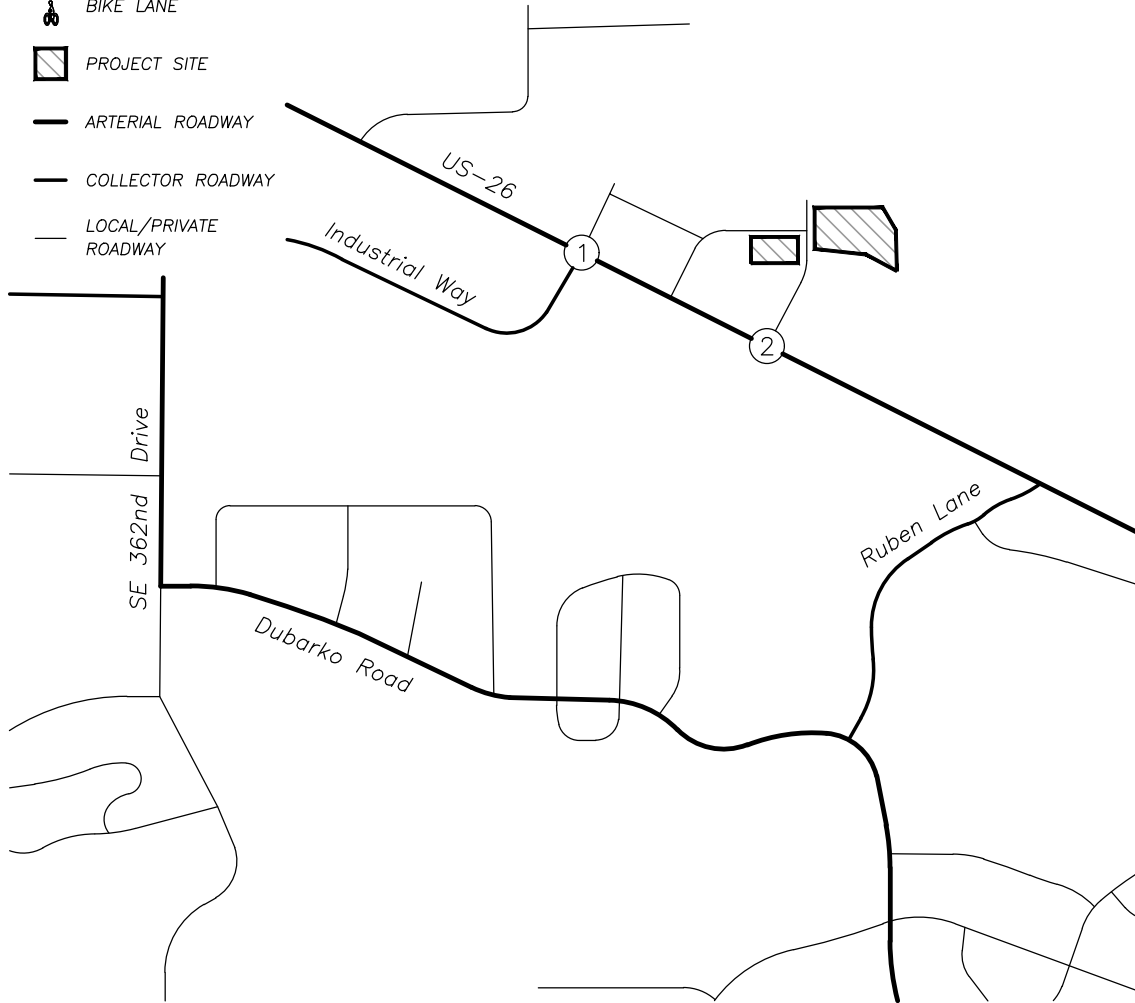
Table 2: Study Intersection Descriptions

Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Industrial Way at US-26	Four-Legged	Traffic Signal	FYA EB/WB Left-turns, Split NB/SB Phasing
2	SE 2nd Street at Havlik Drive	Three-Legged	Stop-Controlled	Stop-Controlled SB Approach

A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.

LEGEND

-  STUDY INTERSECTION
-  STOP SIGN
-  TRAFFIC SIGNAL
-  BIKE LANE
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  COLLECTOR ROADWAY
-  LOCAL/PRIVATE ROADWAY



Site Trips

Trip Generation

The Riffles Food Cart development will include the construction of 18 food cart pods. To estimate the number of trips that will be generated by the proposed use, trip rates from the *Trip Generation Manual*¹ were used. Specifically, data from land use code 926, *Food Cart Pod*, was used based on the number of food carts.

Due to the limited data available for land use code 926, trip generation data specific to the following are not available:

- Directional distribution of trips (i.e. entering and exiting trips).
- Morning peak hour trip generation.
- Average daily trip (ADT) generation.
- Pass-by trip generation.

Direction Distribution of Trips

Food cart facilities typically serve patrons seeking quick and convenient food service, but who are expecting a higher quality and price point for food than a typical fast-food restaurant. In the *Trip Generation Manual*, the closest land use code that matches this type of facility that has directional data is land use code 930, *Fast Casual Restaurant*. For the purposes of estimating trip generation, it is assumed that the directional split of trips to/from the site would approximately match the splits from land use code 930. The following directional splits were assumed:

- Morning peak hour: 50 percent entering, 50 percent exiting.
- Evening peak hour: 55 percent entering, 45 percent exiting.

Morning Peak Hour Trip Generation

Proprietors of food carts typically open for business during the late morning hours to capture the lunch peak and often do not open from 7:00 AM to 9:00 AM. Therefore, trip generation from the facility is expected to be low during these hours. For the purposes of this analysis, it is assumed that a conservative 20 percent of the food carts may be in operation, whereby the trip generation for the morning peak hour was assumed to be approximately 1.23 trips per cart.

Average Daily Trip Generation

To estimate the ADT of the proposed food cart facility, it is assumed the daily trip generation would be approximately 10 times the evening peak hour rate.

Pass-by Trip Generation

Generally, food service land uses are expected to attract pass-by trips (i.e. draw existing traffic volumes along adjacent roadways to the site). Although, pass-by data is not available for land use code 926 in the *Trip Generation Manual*, this is not indicative that no pass-by trips are occurring, instead the data in the manual may

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

be limited or incomplete. Below are examples of food service land uses that provide pass-by trip data and those that do not:

- Land uses with Pass-by Trip Data
 - 931 – Fine Dining: 44 percent (based on 4 studies).
 - 932 – High-Turnover (Sit-Down) Restaurant: 43 percent (based on 12 studies).
 - 934 – Fast-Food Restaurant with Drive-Through Window: AM = 50 percent, PM = 55 percent (based on 5 studies and 11 studies, respectively).
 - 935 – Fast-Food Restaurant without Drive-Through Window and No Indoor Seating: 31 percent (based on 2 studies).
- Land uses without Pass-by Trip Data
 - 930 – Fast Casual Restaurant
 - 933 – Fast-Food Restaurant without Drive-Through Window

It should also be noted that at times similar land uses in the ITE manual will only provide pass-by trip data for one specific land use type. An example of this would include codes 934 and 935 having pass-by trip data, but code 933 lacking data (all of which are fast-food restaurants). In cases when land uses analyzed under code 933 is studied, often pass-by trip data is assumed to match data from code 934, noting pass-by data from code 935 is based on a smaller sample size of studies.

Given the above, it is reasonable to assume food carts would also generate pass-by trips. Since food cart facilities typically serve patrons seeking quick and convenient food service (like a fast-food restaurant) but are expecting higher quality/prices for food without table service, it is assumed the pass-by trip generation of such a facility would be between that of land use codes 932 and 934. Therefore, it is assumed the proposed food cart facility will have a pass-by rate of approximately 46 percent and 49 percent during the morning and evening peak hours, respectively (the average of land use codes 932 and 934).

Analysis Results

Based on the above assumptions, the trip generation calculations show that the proposed project is projected to generate 12 net new morning peak hour trips, 57 net new evening peak hour trips, and 566 net new average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are in the technical appendix to this report.

Table 3: Trip Generation Summary

	ITE Code	Size/Rate	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Food Cart Pod	926	18 carts	11	11	22	61	50	111	1,108
<i>Pass-by Trips</i>	-	46% (49%)	5	5	10	27	27	54	542
Primary Trips (Net New Trips)			6	6	12	34	23	57	566

Table Notes: AM peak hour, PM peak hour, and daily trip rates denoted as AM (PM/ADT).

Trip Distribution

The directional distribution of site trips to/from the project site was estimated based on the locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections.

The following trip distribution is projected:

- Approximately 50 percent of site trips will travel to/from the east along US-26;
- Approximately 45 percent of site trips will travel to/from the west along US-26; and
- Approximately 5 percent of site trips will travel to/from the south along Industrial Way.

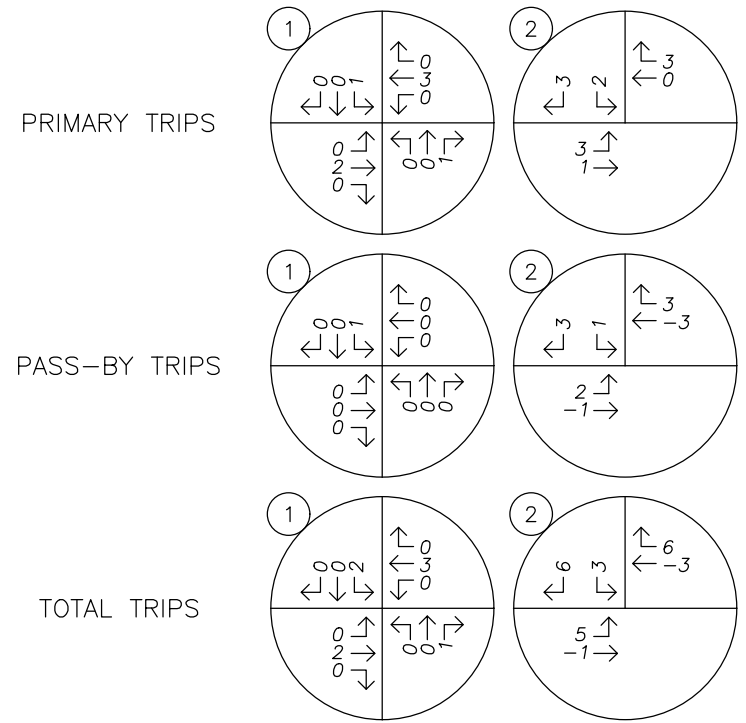
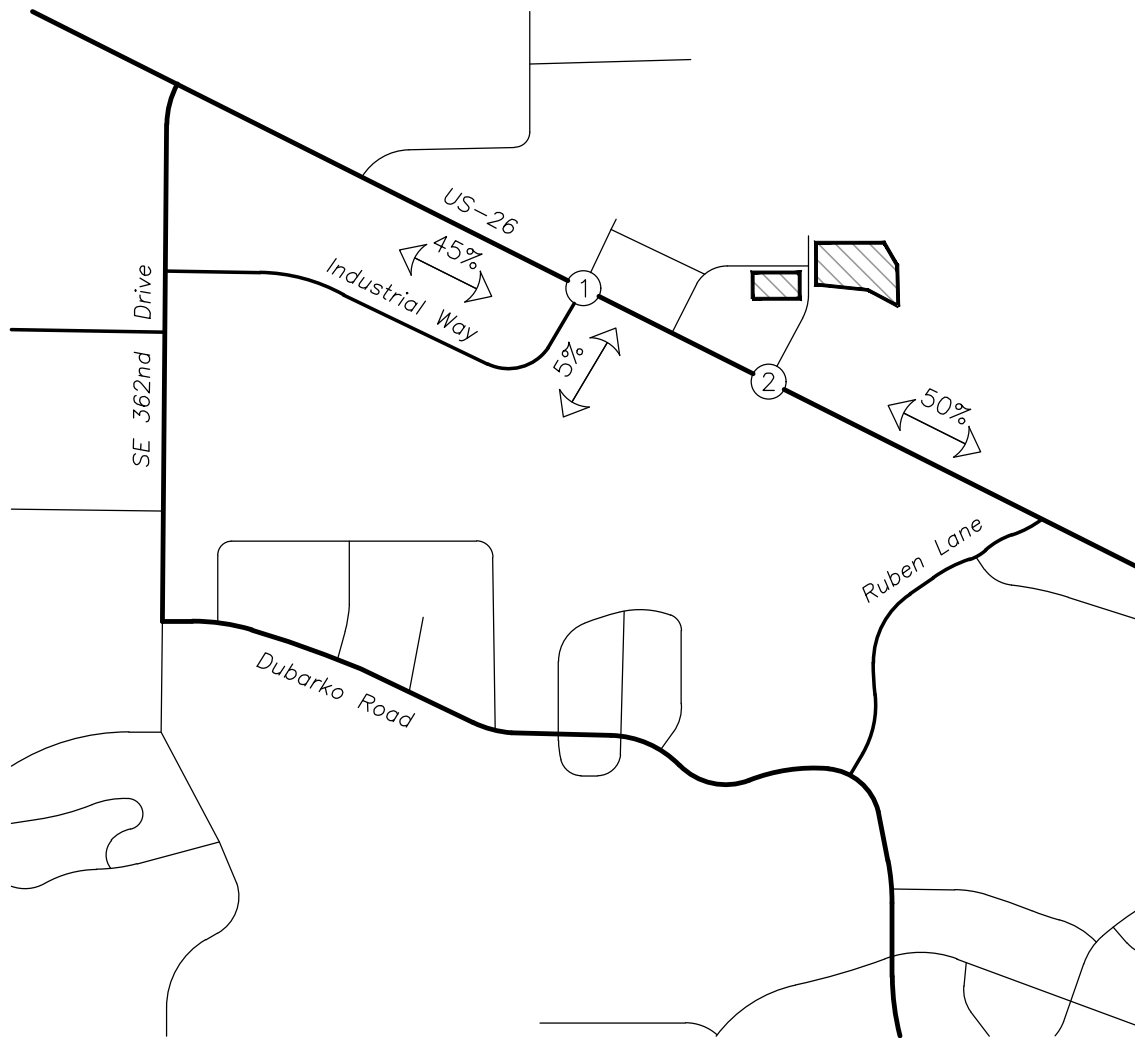
During the peak hours of adjacent street traffic along US-26, it is expected that during periods of high congestion locals familiar with the area may utilize nearby signalized intersections in lieu of stop-controlled intersections when conducting left-turns onto the highway. Therefore, for the purposes of this analysis it is assumed that approximately half of the egressing site trips traveling to the east along US-26 will utilize the signalized intersection of Industrial Way at US-26.

The trip distribution and assignment for the site trips generated during the morning and evening peak hours is shown in Figure 3 and Figure 4, respectively.

LEGEND

XX% PERCENT OF PRIMARY TRIPS

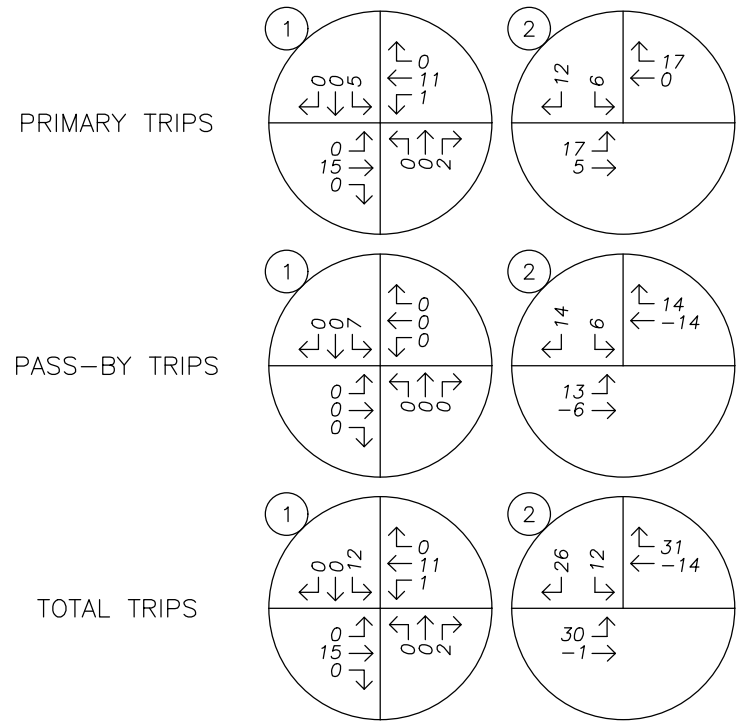
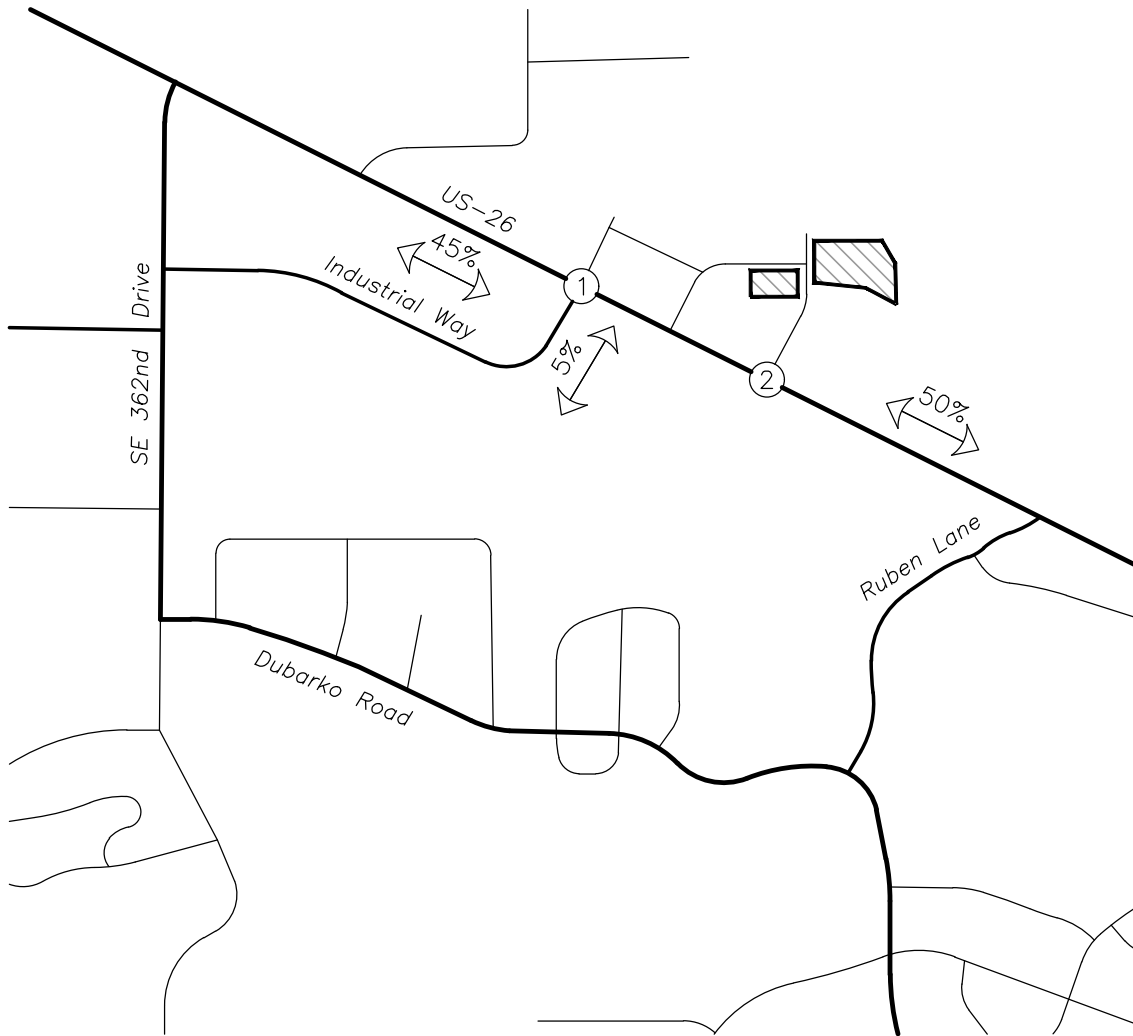
TRIP GENERATION				
	IN	OUT	PASS-BY	TOTAL
AM	6	6	10	22



LEGEND

XX% PERCENT OF PRIMARY TRIPS

TRIP GENERATION				
	IN	OUT	PASS-BY	TOTAL
PM	34	23	54	111



Traffic Volumes

Existing Conditions

Due to the ongoing COVID-19 viral pandemic, traffic volumes around Oregon have been depressed relative to normal conditions. A review of available traffic count data yielded annual average daily traffic (AADT) along US-26, just west of SE 362nd Avenue and west of Bluff Road per ODOT's 2019 Transportation Volume Tables. Given this available count data, the following methodology for data collection and volume adjustment is suggested:

- The historical AADT traffic counts at both locations along US-26 from 2019 were grown to reflect 2021 existing conditions by applying an average linear growth rate of 1.9476 percent per year over a two-year period in accordance with ODOT's *Future Volumes Table*.
- Since recent/historical traffic counts are not available at the study intersections, current year 2021 morning and evening peak hour counts were collected at both study intersections. These counts were collected on Tuesday, July 13, 2021, from 6:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM.
- The 2019 historical count data (grown to reflect 2021 conditions) and the recently collected 2021 evening peak hour counts at the shopping center access intersection along US-26, located approximately mid-way between the two ODOT count locations, were compared. Specifically, it is assumed that the evening peak hour counts represent approximately ten percent of annual average daily traffic (AADT). Based on the difference in traffic volumes, an adjustment factor of 1.1952 was calculated. This adjustment factor is intended to estimate normal traffic conditions without impacts from the COVID-19 virus (i.e. normal commuter patterns, businesses open, etc).
- The calculated adjustment factor was applied to the collected 2021 morning and evening peak hour intersection traffic counts.

Data was used from each intersection's respective morning and evening peak hours. Note the City of Sandy utilizes alternative mobility standards for intersections along US-26 which include analyzing the average annual weekday peak hour in lieu of the 30th highest hour. Therefore, the method of adjusting counts to address COVID-19 impacts by comparing volumes with the highway's AADT by default takes this alternative standard into consideration.

Figure 5 shows the existing traffic volumes at the study intersections during the morning and evening peak hours.

Background Conditions

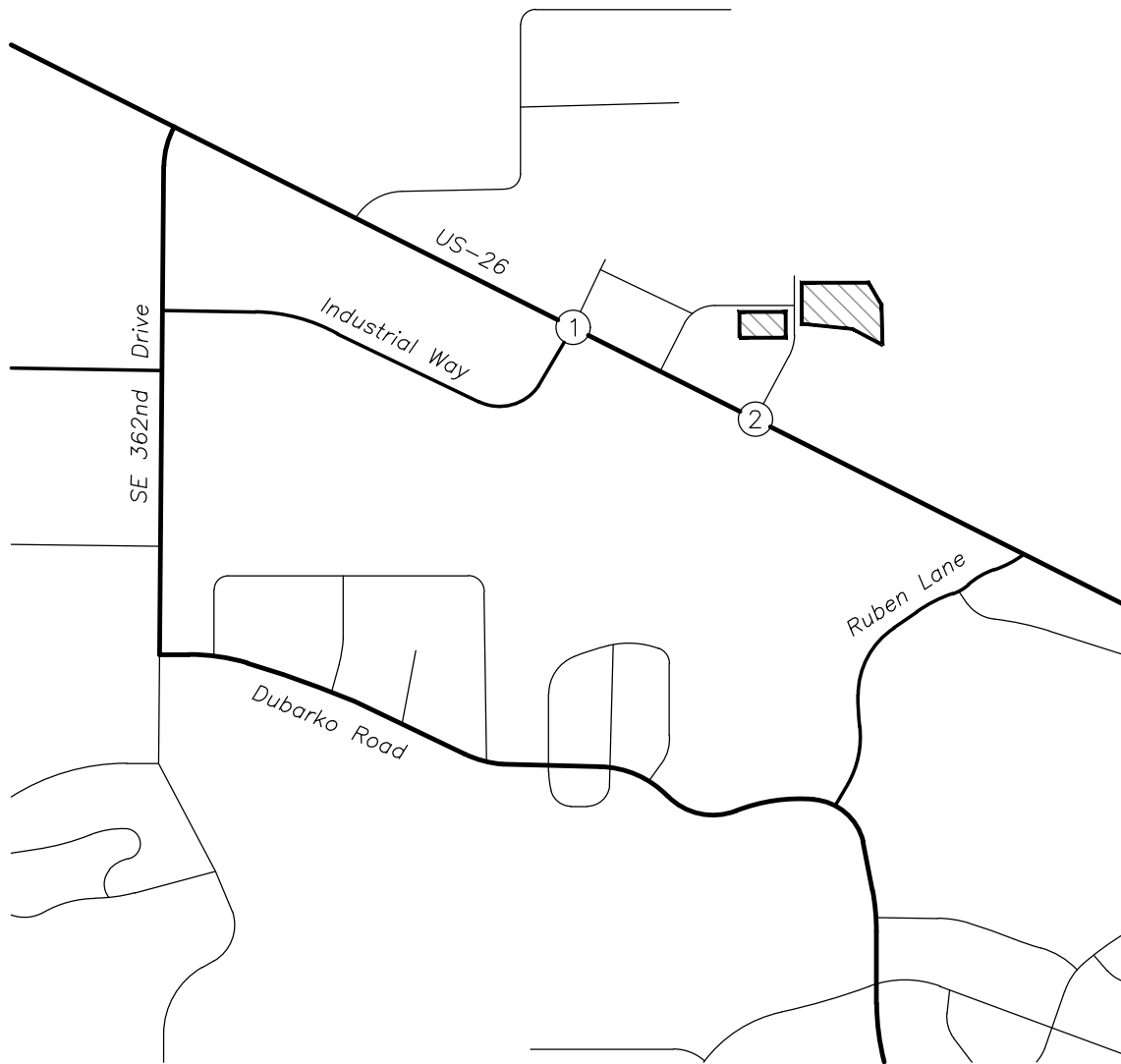
To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to approximate the future year 2023 traffic volumes at the study intersections, an average linear growth rate of 1.9476 percent per year over a two-year period in was applied to the measured through movement traffic volumes along US-26. For minor-street turning movements, a local compounded growth rate of two percent per year over a two-year period was applied.

Figure 6 shows the projected year 2023 background traffic volumes at the study intersections during the morning and evening peak hours.

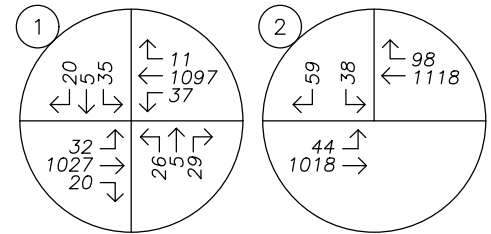
Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2023 background traffic volumes to obtain the expected 2023 site buildout volumes.

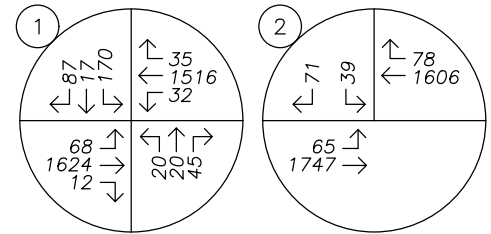
Figure 7 shows year 2023 buildout traffic volumes at the study intersections during the morning and evening peak hours.



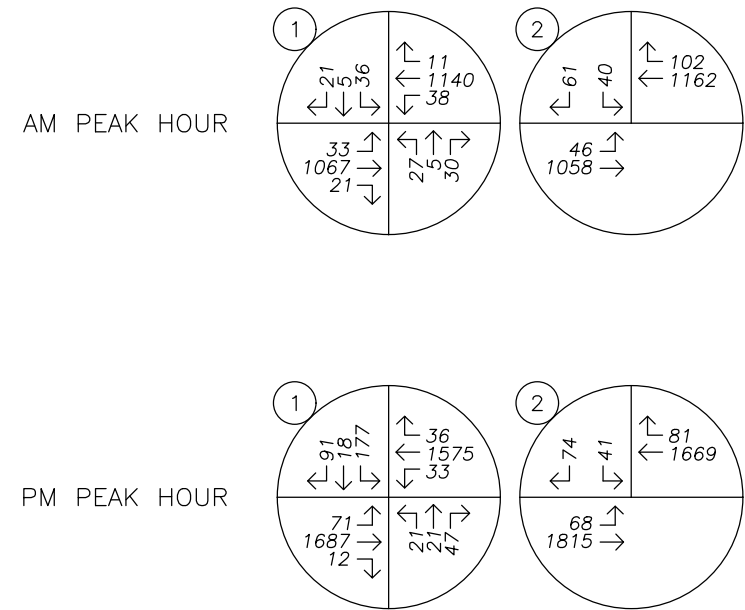
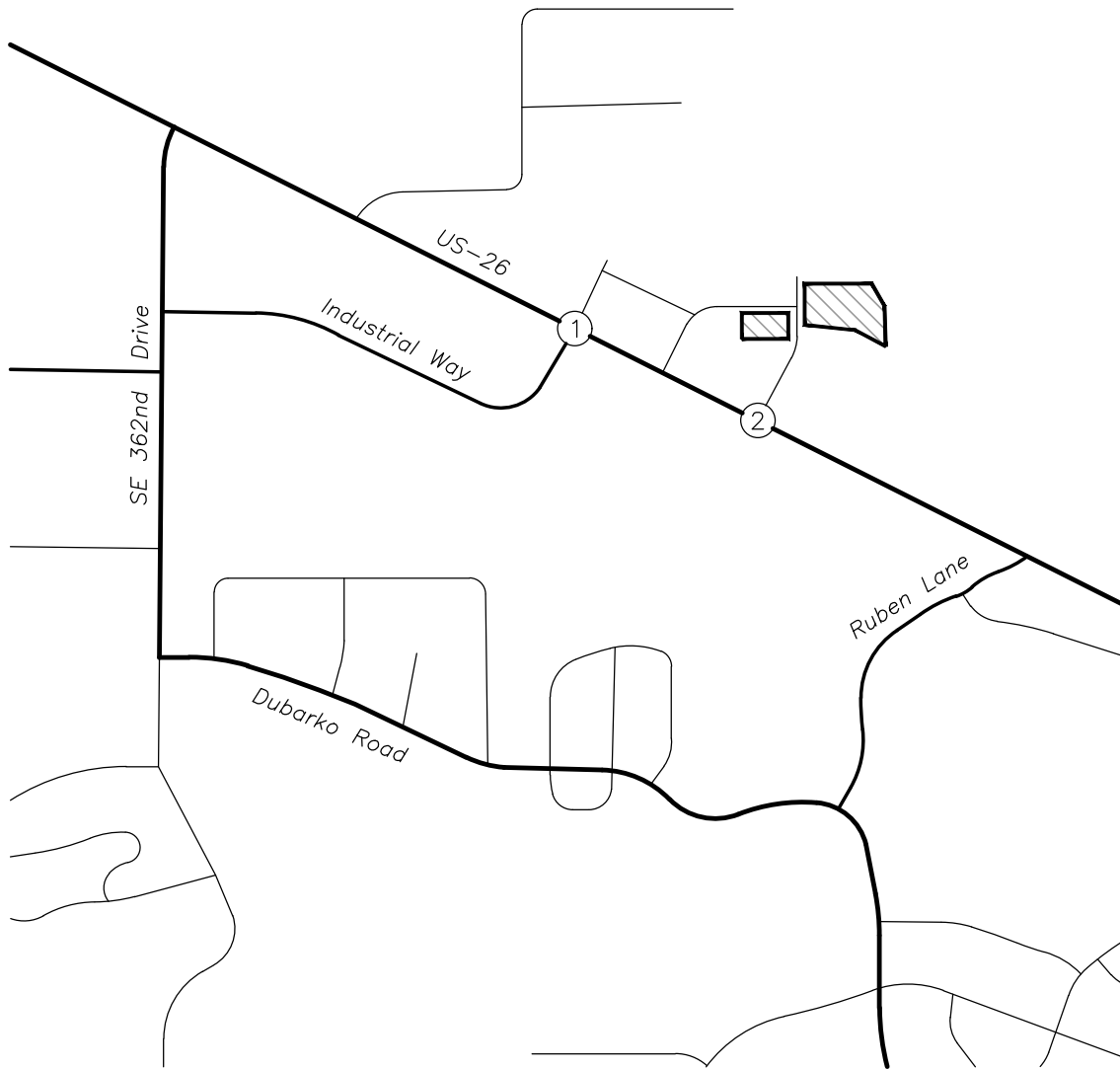
AM PEAK HOUR



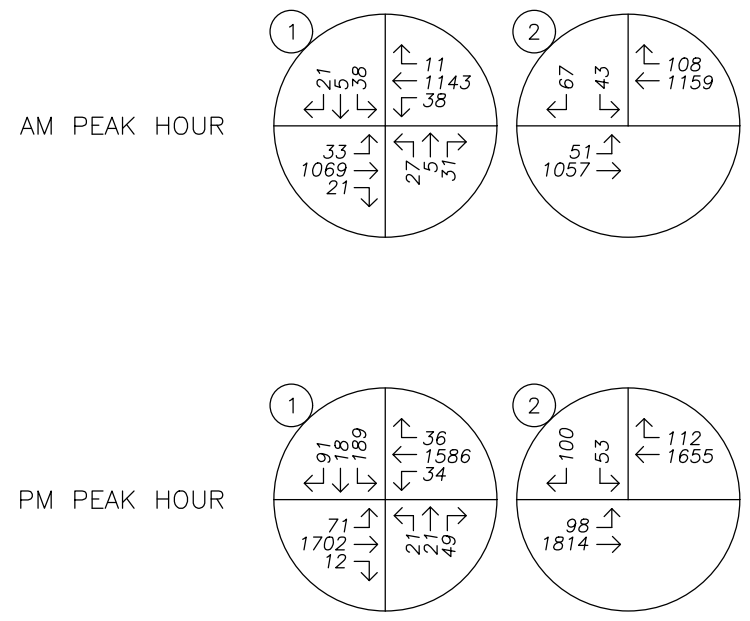
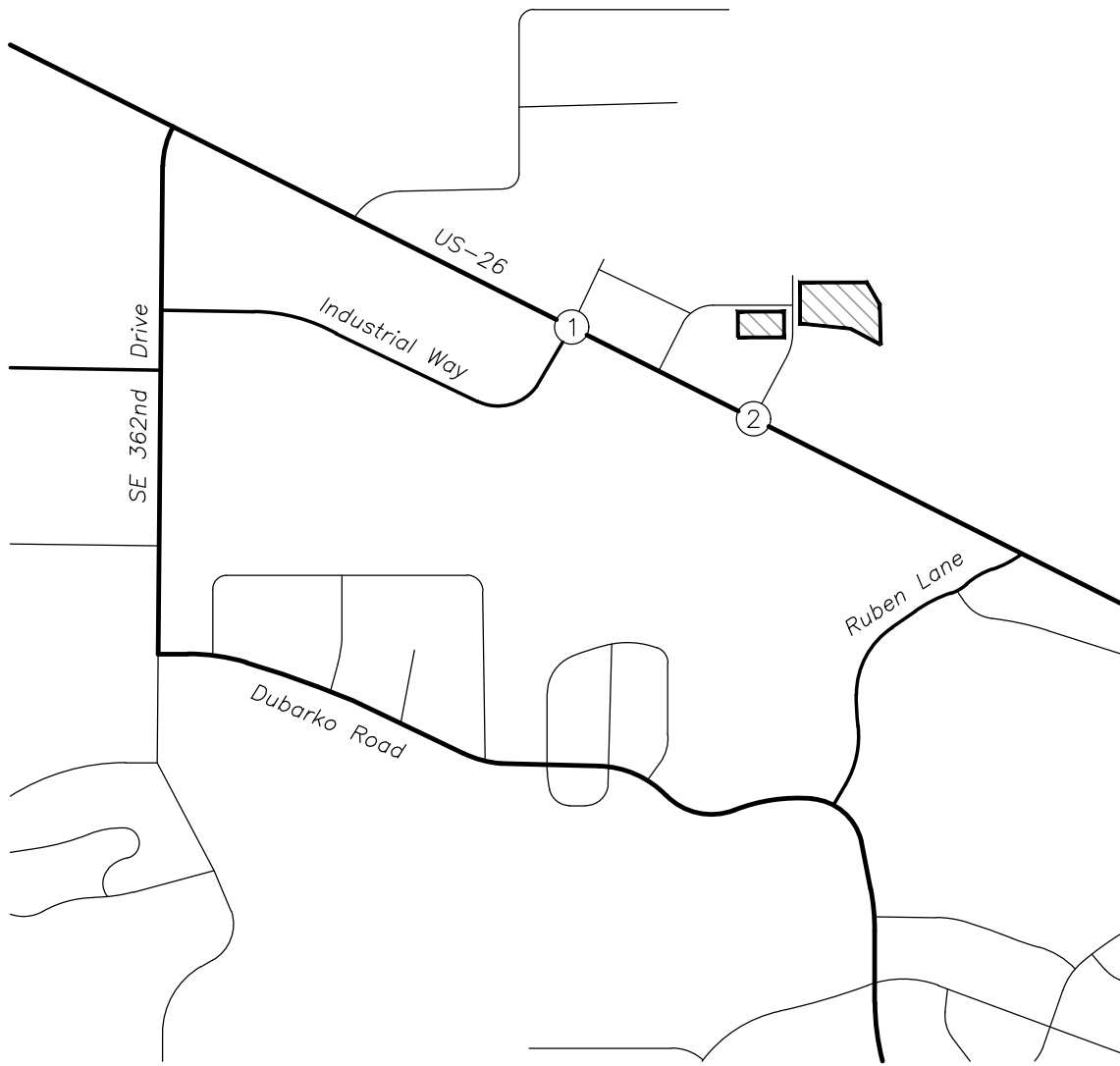
PM PEAK HOUR



no scale



no scale



Safety Analysis

Crash History Review

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review was performed of the most recent five years of available crash data at the study intersections (January 2015 through December 2019). The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for each intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated under the common assumption that traffic counted during the evening peak hour represents approximately ten percent of annual average daily traffic (AADT) at each intersection. Crash rates in excess of 1.00 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

With regard to crash severity, ODOT classifies crashes in the following categories:

- Property Damage Only (PDO);
- Possible Injury – Complaint of Pain (Injury C);
- Non-Incapacitating Injury (Injury B);
- Incapacitating Injury – Bleeding, Broken Bones (Injury A); and
- Fatality or Fatal Injury.

The study intersections along US-26 are ODOT facilities which adhere to the crash analysis methodologies in ODOT's APM. According to *Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control* of the APM, intersections which experience crash rates in excess of their respective 90th percentile crash rates should be "flagged for further analysis". For intersections in urban settings, the following average and 90th percentile rates are applicable to the study intersections:

- Signalized, Four-Legged Intersections:
 - Average rate of 0.477 CMEV.
 - 90th percentile rate of 0.860 CMEV.
- Unsignalized, Three-Legged Intersections:
 - Average rate of 0.131 CMEV.
 - 90th percentile rate of 0.293 CMEV.

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in the appendix to this report.

Table 4: Crash Type Summary

Number	Intersection	Crash Type						Total
		Rear End	Turn/ Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
1	Industrial Way at US-26	21	7	0	1	1	1	31
2	Shopping Center Access at US-26	0	2	0	0	0	0	2

Table 5: Crash Severity and Rate Summary

Number	Intersection	Crash Severity						Total Crashes	AADT	Crash Rate
		PDO	C	B	A	Fatal	Unknown			
1	Industrial Way at US-26	11	16	4	0	0	0	31	36,460	0.47
2	Shopping Center Access at US-26	2	0	0	0	0	0	2	36,060	0.03

Table Notes: **BOLDED** text indicates a crash rate in excess of 1.00 CMEV.

There was one reported crash at the intersection of Industrial Way at US-26 that involved a pedestrian. The crash occurred when a north/south crossing pedestrian illegally entered the intersection in the roadway (not crosswalk) and was struck by a westbound passenger car. The pedestrian sustained injuries consistent with Injury B classification while the driver of the vehicle was uninjured.

Based on the review of the available crash data, no significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the study intersections have a crash rate exceeding ODOT’s 90th percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.

Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the shopping center access at US-26 to determine whether the installation of a new traffic signal will be warranted at the intersection upon completion of the proposed development. Due to insufficient main and side street traffic volumes, traffic signal warrants are not projected to be met at the intersection under year 2023 buildout conditions.

Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*². Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Performance Standards

The operating standards adopted by the City of Sandy and ODOT are summarized below.

City of Sandy

According to the City of Sandy's Transportation System Plan (TSP), both signalized and unsignalized intersections are required to operate at LOS D or better³.

ODOT

Per the City's TSP and the City's June 2011 *Alternate Mobility Standards Report*, alternative mobility standards which include utilizing a v/c ratio of 0.85 are applicable to signalized intersections along the segment of US-26 between Orient Drive to Ten Eyck Road.

At unsignalized intersections and road approaches along US-26, the v/c ratios shall not exceed 0.90 per the Oregon Highway Plan's Table 6 for District/Local Interest Roads within the urban growth boundary.

Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 6 for the morning and evening peak hours. The TrafficWare Synchro software utilized for analysis does not report the overall v/c ratio of signalized intersections in the HCM 6th Edition capacity reports. For these intersections, the v/c ratio was calculated based on methods detailed in ODOT's *APM Section 13 Signalized Intersection Analysis*. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

² Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

³ City of Sandy, *Sandy Transportation System Plan*. December 2011.

Table 6: Capacity Analysis Summary

		AM Peak Hour			PM Peak Hour		
		LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. Industrial Way at US-26							
	2021 Existing Conditions	A	9	0.53	B	17	0.73
	2023 Background Conditions	A	9	0.55	B	18	0.76
	2023 Buildout Conditions	A	9	0.56	B	19	0.77
2. Shopping Center Access at US-26							
	2021 Existing Conditions	D	31	0.23	F	72	0.44
	2023 Background Conditions	D	34	0.26	F	89	0.52
	2023 Buildout Conditions	D	35	0.28	F	>120	0.77

Table Notes: **BOLDED** text indicates interseciton operation above jurisdictional standards.

Based on the results of the operational analysis, both study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably through the 2023 site buildout year. No operational mitigation is necessary or recommended at these intersections.



Conclusions

No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the study intersections have a crash rate exceeding ODOT's 90th percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.

Due to insufficient main and side street traffic volumes, traffic signal warrants are not projected to be met at the full-movement shopping center access intersection at US-26 under year 2023 buildout conditions.

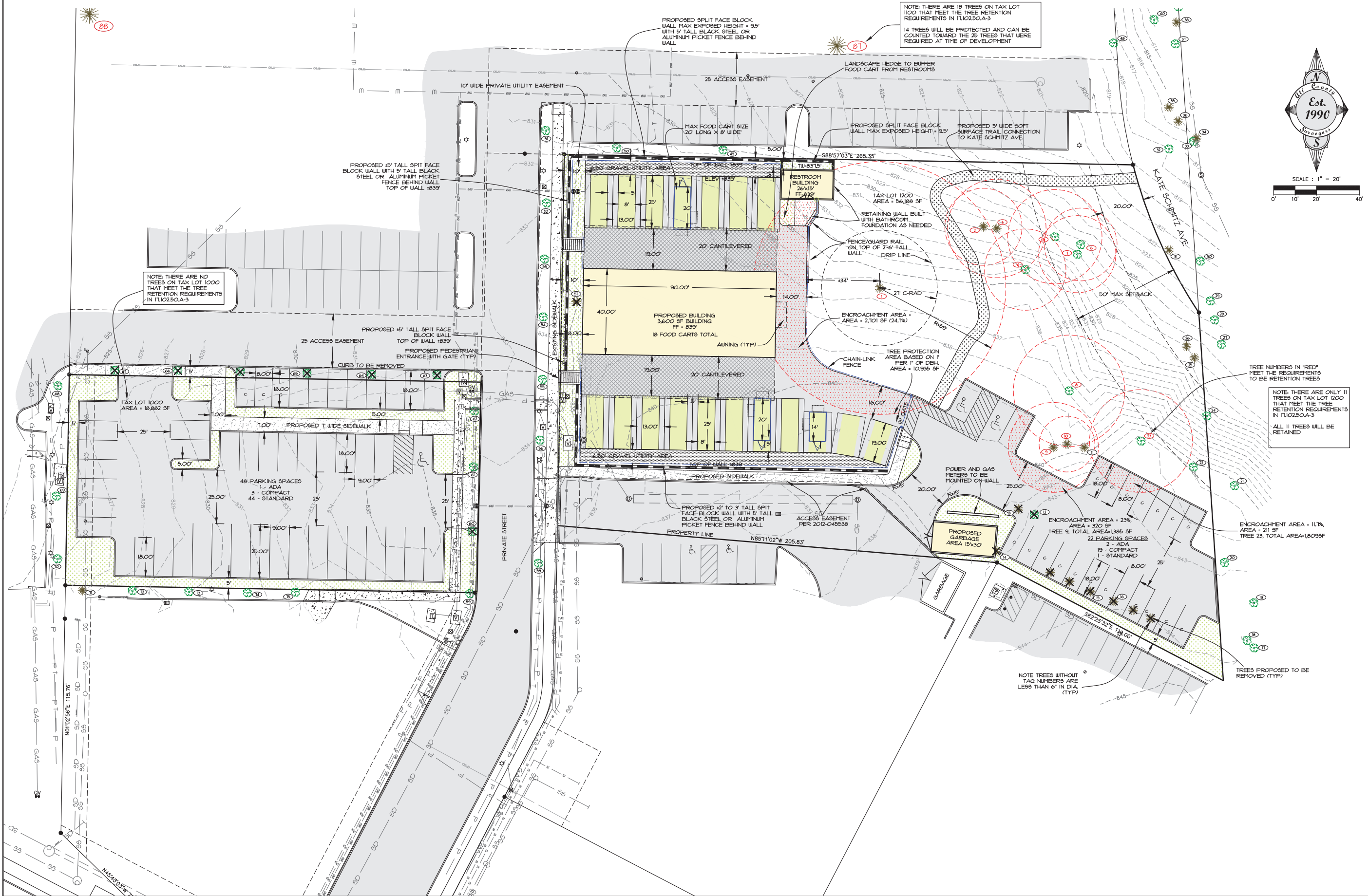
All study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably through the 2023 site buildout year. No operational mitigation is necessary or recommended at these intersections.

Appendix A

Site Plan



THE RIFFLE FOOD CARTS - OPTION-7



NOTE: THERE ARE NO TREES ON TAX LOT 1000 THAT MEET THE TREE RETENTION REQUIREMENTS IN 11UO250A-3

NOTE: THERE ARE 18 TREES ON TAX LOT 1100 THAT MEET THE TREE RETENTION REQUIREMENTS IN 11UO250A-3
 14 TREES WILL BE PROTECTED AND CAN BE COUNTED TOWARD THE 25 TREES THAT WERE REQUIRED AT TIME OF DEVELOPMENT



NOTE: THERE ARE ONLY 11 TREES ON TAX LOT 1200 THAT MEET THE TREE RETENTION REQUIREMENTS IN 11UO250A-3
 ALL 11 TREES WILL BE RETAINED

TREES PROPOSED TO BE REMOVED (TYP)

DATE	NO.	REVISION	BY



SCALE	VERT. N/A	HORIZ. 1"=20'
DATE	2-29-22	
FILE	21-092 - Planning.dwg	
SECTION	TWP. 14	RANGE 2S
	14	2S
	14	4E

PROJECT: **THE RIFFLE FOOD CARTS**
 PROPOSED SITE PLAN
 AND TREE PROTECTION PLAN

LOCATION: **SANDY, OREGON**

Surveys & Planners, Inc.
 Surveying, Planning and Civil Engineering
 P.O. Box 855 Sandy, OR 97055
 Phone: (503) 688-3151
 Fax: (503) 688-4730

CLIENT: **TODD HOFFMAN**
 PO BOX 1016
 SANDY, OR 97055
 PHONE: 503-863-1131

SHEET 1 OF 3
 REVISION: _____
 DESIGNED: RLM
 DRAWN: RLM
 CHECKED: DLH
 APPROVED: RLM
 RENEWAL DATE: 12/31/2025

Appendix B

Trip Generation Calculations





TRIP GENERATION CALCULATIONS

Land Use: Food Cart Pod
Land Use Code: 926
Setting/Location: General Urban/Suburban
Variable: Food Carts
Variable Value: 18

AM PEAK HOUR

Trip Rate: 1.23

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	11	11	22

Note: AM peak hour rate assumed to be 20 percent of the PM peak hour. Entering and Exiting split based on data from land use code 930.

PM PEAK HOUR

Trip Rate: 6.16

	Enter	Exit	Total
Directional Distribution	55%	45%	
Trip Ends	61	50	111

Note: Entering and Exiting split based on data from land use code 930.

WEEKDAY

Trip Rate: 61.60

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	554	554	1,108

Note: Weekday rate assumed to be ten times the PM peak hour.

Appendix C

Traffic Counts





ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

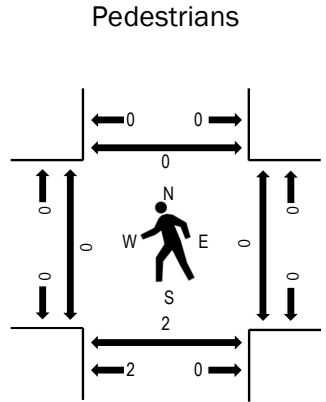
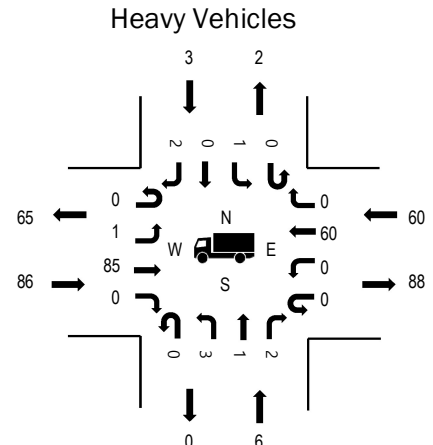
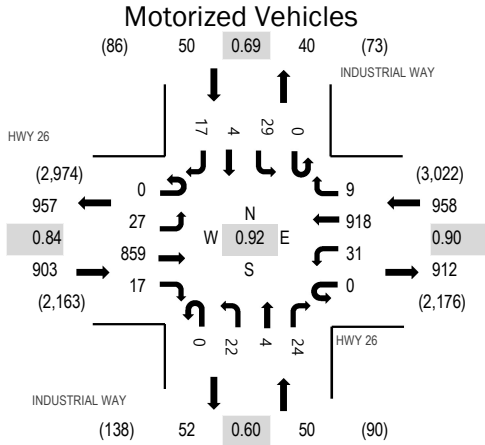
Location: 1 INDUSTRIAL WAY & HWY 26 AM

Date: Tuesday, July 13, 2021

Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:40 AM - 08:55 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	9.5%	0.84
WB	6.3%	0.90
NB	12.0%	0.60
SB	6.0%	0.69
All	7.9%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 26 Eastbound				HWY 26 Westbound				INDUSTRIAL WAY Northbound				INDUSTRIAL WAY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
6:00 AM	0	0	17	0	0	1	74	0	0	0	0	0	0	0	0	0	92	1,559
6:05 AM	0	1	32	1	0	0	82	0	0	0	0	3	0	1	0	0	120	1,594
6:10 AM	0	0	37	1	0	1	82	0	0	0	0	0	0	0	0	0	121	1,597
6:15 AM	0	2	27	0	0	1	94	1	0	0	0	1	0	0	0	0	126	1,628
6:20 AM	0	0	24	0	0	2	79	0	0	0	1	0	0	0	0	2	108	1,684
6:25 AM	0	1	36	0	0	0	74	0	0	0	0	0	0	0	0	1	112	1,736
6:30 AM	0	2	41	0	0	0	86	0	0	1	0	1	0	1	0	1	133	1,786
6:35 AM	0	0	53	0	0	1	101	0	0	1	0	2	0	0	0	1	159	1,819
6:40 AM	0	0	46	1	0	3	73	1	0	1	0	2	0	0	0	0	127	1,814
6:45 AM	0	0	54	1	0	2	78	0	0	0	0	0	0	2	0	2	139	1,858
6:50 AM	0	0	51	3	0	4	92	0	0	0	0	0	0	0	0	1	151	1,863
6:55 AM	0	1	79	1	0	4	80	2	0	1	0	2	0	0	1	0	171	1,893
7:00 AM	0	0	39	0	0	4	73	2	0	0	0	4	0	3	0	2	127	1,841
7:05 AM	0	1	41	2	0	5	70	0	0	0	0	2	0	1	0	1	123	1,880
7:10 AM	0	1	56	0	0	2	91	0	0	1	0	1	0	0	0	0	152	1,908
7:15 AM	0	1	69	1	0	2	108	0	0	1	0	0	0	0	0	0	182	1,888
7:20 AM	0	0	52	0	0	0	100	0	0	0	0	4	0	4	0	0	160	1,868
7:25 AM	0	2	65	2	0	3	85	2	0	1	0	2	0	0	0	0	162	1,865
7:30 AM	0	0	66	2	0	3	90	2	0	0	1	1	0	0	0	1	166	1,877
7:35 AM	0	1	62	1	0	7	82	0	0	0	0	1	0	0	0	0	154	1,882
7:40 AM	0	1	66	3	0	4	93	1	0	0	0	1	0	0	1	1	171	1,879
7:45 AM	0	0	70	3	0	4	62	1	0	0	0	0	0	2	0	2	144	1,892
7:50 AM	0	1	84	1	0	4	85	1	0	1	0	2	0	1	0	1	181	1,932
7:55 AM	0	2	51	2	0	2	57	1	0	1	0	0	0	2	0	1	119	1,915
8:00 AM	0	1	72	2	0	2	80	2	0	1	0	3	0	1	0	2	166	1,961
8:05 AM	0	4	56	1	0	2	69	0	0	7	1	7	0	2	0	2	151	
8:10 AM	0	1	64	1	0	2	60	0	0	1	1	0	0	1	0	1	132	
8:15 AM	0	2	66	2	0	1	83	0	0	1	0	1	0	4	0	2	162	

Location: 1 INDUSTRIAL WAY & HWY 26 AM

8:20 AM	0	2	68	1	0	3	76	0	0	2	0	2	0	2	1	0	157
8:25 AM	0	3	62	1	0	1	100	0	0	0	1	2	0	3	0	1	174
8:30 AM	0	3	64	0	0	3	90	2	0	4	0	0	0	5	0	0	171
8:35 AM	0	3	68	1	0	3	72	1	0	0	0	0	0	3	0	0	151
8:40 AM	0	3	84	2	0	5	83	0	0	3	1	1	0	0	1	1	184
8:45 AM	0	1	87	1	0	5	75	1	0	2	0	4	0	3	1	4	184
8:50 AM	0	1	86	4	0	2	62	2	0	0	0	1	0	3	1	2	164
8:55 AM	0	3	82	1	0	2	68	1	0	1	0	3	0	2	0	2	165
Count Total	0	44	2,077	42	0	90	2,909	23	0	31	6	53	0	46	6	34	5,361
Peak Hour	0	27	859	17	0	31	918	9	0	22	4	24	0	29	4	17	1,961

Location: 1 INDUSTRIAL WAY & HWY 26 AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	6	0	3	0	9	6:00 AM	0	0	0	0	0	6:00 AM	0	0	0	0	0
6:05 AM	9	0	2	0	11	6:05 AM	0	0	0	0	0	6:05 AM	0	1	0	0	1
6:10 AM	3	0	7	0	10	6:10 AM	0	0	0	0	0	6:10 AM	0	0	0	0	0
6:15 AM	2	0	0	0	2	6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	0	0
6:20 AM	4	0	5	0	9	6:20 AM	0	0	0	0	0	6:20 AM	0	0	0	0	0
6:25 AM	4	0	3	0	7	6:25 AM	0	0	0	0	0	6:25 AM	0	0	0	0	0
6:30 AM	5	1	1	0	7	6:30 AM	0	0	0	0	0	6:30 AM	0	0	0	0	0
6:35 AM	2	1	4	0	7	6:35 AM	0	0	0	0	0	6:35 AM	0	0	0	0	0
6:40 AM	4	1	8	0	13	6:40 AM	0	0	0	0	0	6:40 AM	0	0	0	0	0
6:45 AM	2	0	0	0	2	6:45 AM	0	0	1	0	1	6:45 AM	0	0	0	1	1
6:50 AM	6	0	5	1	12	6:50 AM	0	0	0	0	0	6:50 AM	0	0	0	0	0
6:55 AM	11	1	6	1	19	6:55 AM	0	0	0	0	0	6:55 AM	0	0	0	0	0
7:00 AM	6	1	3	2	12	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	7	0	2	0	9	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	5	2	2	0	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	10	1	6	0	17	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	6	1	3	0	10	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	12	1	10	0	23	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	5	2	9	0	16	7:30 AM	0	0	0	0	0	7:30 AM	0	2	0	0	2
7:35 AM	5	1	2	0	8	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	11	0	2	0	13	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	9	0	4	1	14	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	5	2	6	0	13	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	0	2	0	3	7:55 AM	0	0	0	0	0	7:55 AM	0	2	0	1	3
8:00 AM	7	1	6	0	14	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	9	4	7	1	21	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	6	0	4	0	10	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	8	0	5	0	13	8:15 AM	0	0	0	1	1	8:15 AM	0	0	0	0	0
8:20 AM	6	0	8	0	14	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	7	1	6	0	14	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	3	0	3	0	6	8:30 AM	0	0	1	0	1	8:30 AM	0	0	0	1	1
8:35 AM	5	0	5	0	10	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	13	0	5	0	18	8:40 AM	0	0	1	0	1	8:40 AM	0	2	0	1	3
8:45 AM	7	0	4	1	12	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	7	0	5	1	13	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	8	0	2	0	10	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	226	21	155	8	410	Count Total	0	0	3	1	4	Count Total	0	7	0	4	11
Peak Hour	86	6	60	3	155	Peak Hour	0	0	2	1	3	Peak Hour	0	2	0	2	4

Location: 2 SHOPPING ACCESS & HWY 26 AM



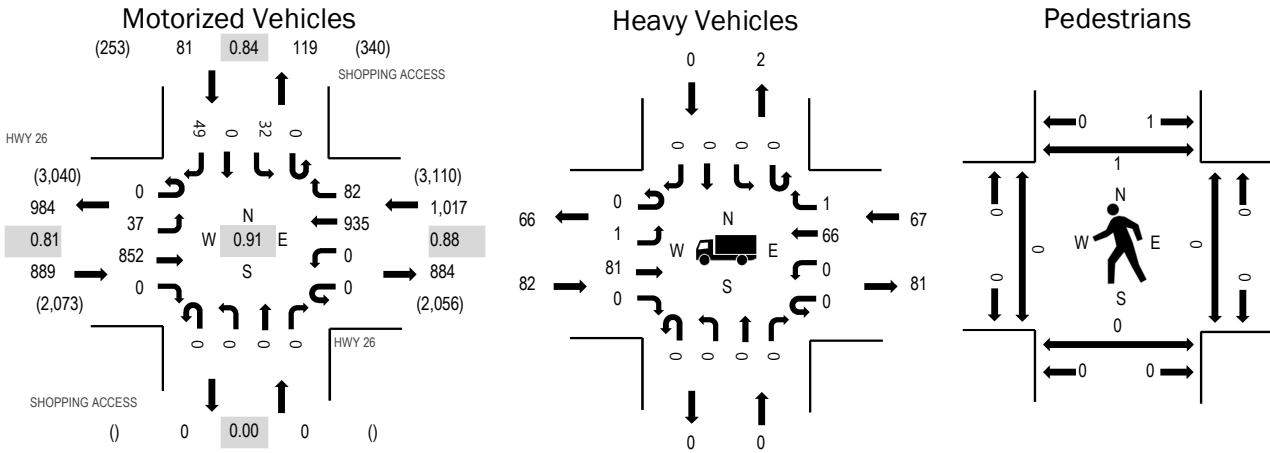
Location: 2 SHOPPING ACCESS & HWY 26 AM

Date: Tuesday, July 13, 2021

Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	9.2%	0.81
WB	6.6%	0.88
NB	0.0%	0.00
SB	0.0%	0.84
All	7.5%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 26 Eastbound				HWY 26 Westbound				SHOPPING ACCESS Northbound				SHOPPING ACCESS Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			
6:00 AM	0	2	22	0	0	0	69	6	0	0	0	0	0	0	0	0	4	103	1,558
6:05 AM	0	2	24	0	0	0	78	6	0	0	0	0	0	0	2	0	4	116	1,577
6:10 AM	0	3	29	0	0	0	73	7	0	0	0	0	0	3	0	0	7	122	1,592
6:15 AM	0	1	22	0	0	0	77	6	0	0	0	0	0	2	0	0	11	119	1,609
6:20 AM	0	3	22	0	0	0	78	7	0	0	0	0	0	0	0	0	6	116	1,669
6:25 AM	0	2	25	0	0	0	72	8	0	0	0	0	0	1	0	0	8	116	1,726
6:30 AM	0	4	30	0	0	0	75	8	0	0	0	0	0	3	0	0	7	127	1,770
6:35 AM	0	2	47	0	0	0	93	6	0	0	0	0	0	1	0	0	5	154	1,820
6:40 AM	0	3	37	0	0	0	66	8	0	0	0	0	0	1	0	0	3	118	1,821
6:45 AM	0	3	43	0	0	0	96	4	0	0	0	0	0	4	0	0	5	155	1,865
6:50 AM	0	2	53	0	0	0	66	4	0	0	0	0	0	4	0	0	3	132	1,893
6:55 AM	0	3	66	0	0	0	96	7	0	0	0	0	0	4	0	0	4	180	1,930
7:00 AM	0	1	45	0	0	0	63	4	0	0	0	0	0	5	0	0	4	122	1,891
7:05 AM	0	1	39	0	0	0	86	3	0	0	0	0	0	0	0	0	2	131	1,919
7:10 AM	0	3	44	0	0	0	74	8	0	0	0	0	0	2	0	0	8	139	1,936
7:15 AM	0	6	55	0	0	0	108	3	0	0	0	0	0	3	0	0	4	179	1,943
7:20 AM	0	1	58	0	0	0	103	3	0	0	0	0	0	4	0	0	4	173	1,924
7:25 AM	0	2	58	0	0	0	86	9	0	0	0	0	0	2	0	0	3	160	1,898
7:30 AM	0	2	69	0	0	0	91	7	0	0	0	0	0	0	0	0	8	177	1,933
7:35 AM	0	4	55	0	0	0	80	6	0	0	0	0	0	3	0	0	7	155	1,921
7:40 AM	0	0	67	0	0	0	84	6	0	0	0	0	0	4	0	0	1	162	1,948
7:45 AM	0	3	69	0	0	0	95	10	0	0	0	0	0	0	0	0	6	183	1,932
7:50 AM	0	7	84	0	0	0	61	11	0	0	0	0	0	4	0	0	2	169	1,957
7:55 AM	0	6	55	0	0	0	68	8	0	0	0	0	0	2	0	0	2	141	1,955
8:00 AM	0	3	62	0	0	0	75	2	0	0	0	0	0	4	0	0	4	150	1,987
8:05 AM	0	6	62	0	0	0	65	9	0	0	0	0	0	3	0	0	3	148	
8:10 AM	0	5	66	0	0	0	60	9	0	0	0	0	0	1	0	0	5	146	

Location: 2 SHOPPING ACCESS & HWY 26 AM

8:15 AM	0	4	54	0	0	0	84	8	0	0	0	0	0	3	0	7	160
8:20 AM	0	3	73	0	0	0	60	7	0	0	0	0	0	2	0	2	147
8:25 AM	0	4	66	0	0	0	111	8	0	0	0	0	0	3	0	3	195
8:30 AM	0	2	64	0	0	0	82	8	0	0	0	0	0	3	0	6	165
8:35 AM	0	1	76	0	0	0	87	9	0	0	0	0	0	3	0	6	182
8:40 AM	0	2	61	0	0	0	73	4	0	0	0	0	0	2	0	4	146
8:45 AM	0	2	102	0	0	0	97	5	0	0	0	0	0	2	0	0	208
8:50 AM	0	2	86	0	0	0	65	8	0	0	0	0	0	3	0	3	167
8:55 AM	0	3	80	0	0	0	76	5	0	0	0	0	0	3	0	6	173
Count Total	0	103	1,970	0	0	0	2,873	237	0	0	0	0	0	86	0	167	5,436
Peak Hour	0	37	852	0	0	0	935	82	0	0	0	0	0	32	0	49	1,987

Location: 2 SHOPPING ACCESS & HWY 26 AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	5	0	2	0	7	6:00 AM	0	0	0	0	0	6:00 AM	0	0	0	0	0
6:05 AM	7	0	2	0	9	6:05 AM	0	0	0	0	0	6:05 AM	0	0	0	0	0
6:10 AM	5	0	4	0	9	6:10 AM	0	0	0	0	0	6:10 AM	0	0	0	0	0
6:15 AM	2	0	0	0	2	6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	0	0
6:20 AM	3	0	1	0	4	6:20 AM	0	0	0	0	0	6:20 AM	0	0	0	0	0
6:25 AM	3	0	4	0	7	6:25 AM	0	0	0	0	0	6:25 AM	0	0	0	0	0
6:30 AM	7	0	1	1	9	6:30 AM	0	0	0	0	0	6:30 AM	0	0	0	0	0
6:35 AM	4	0	1	0	5	6:35 AM	0	0	0	0	0	6:35 AM	0	0	0	0	0
6:40 AM	5	0	3	0	8	6:40 AM	0	0	0	0	0	6:40 AM	0	0	0	0	0
6:45 AM	2	0	4	0	6	6:45 AM	0	0	0	0	0	6:45 AM	0	0	0	0	0
6:50 AM	4	0	2	0	6	6:50 AM	0	0	1	0	1	6:50 AM	0	0	0	0	0
6:55 AM	10	0	6	0	16	6:55 AM	0	0	1	0	1	6:55 AM	0	0	0	0	0
7:00 AM	8	0	4	0	12	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	9	0	2	0	11	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	5	0	2	0	7	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	9	0	4	0	13	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	8	0	2	0	10	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	12	0	5	0	17	7:25 AM	0	0	1	0	1	7:25 AM	0	0	0	0	0
7:30 AM	7	0	10	0	17	7:30 AM	0	0	1	1	2	7:30 AM	0	0	0	1	1
7:35 AM	7	0	2	0	9	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	11	0	3	0	14	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	11	0	4	0	15	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	7	0	1	0	8	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	3	0	4	0	7	7:55 AM	0	0	1	0	1	7:55 AM	0	0	0	0	0
8:00 AM	6	0	3	0	9	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	7	0	8	0	15	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	9	0	5	0	14	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	7	0	5	0	12	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	1	1
8:20 AM	9	0	5	0	14	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	4	0	8	0	12	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	4	0	4	0	8	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	1	1
8:35 AM	7	0	6	0	13	8:35 AM	0	0	1	0	1	8:35 AM	0	0	0	0	0
8:40 AM	5	0	4	0	9	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	12	0	12	0	24	8:45 AM	0	0	1	0	1	8:45 AM	0	0	0	0	0
8:50 AM	8	0	1	0	9	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	4	0	6	0	10	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	236	0	140	1	377	Count Total	0	0	7	1	8	Count Total	0	0	0	3	3
Peak Hour	82	0	67	0	149	Peak Hour	0	0	2	0	2	Peak Hour	0	0	0	2	2



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

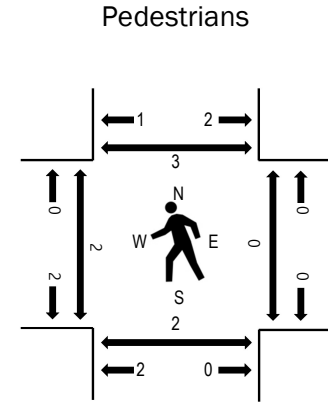
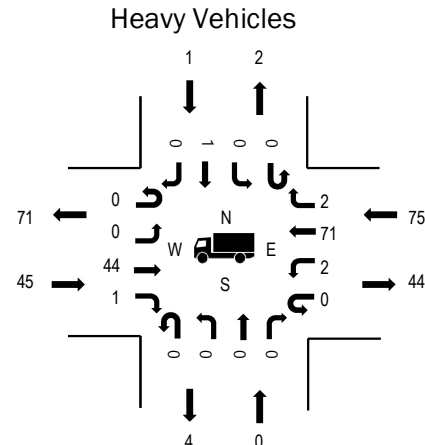
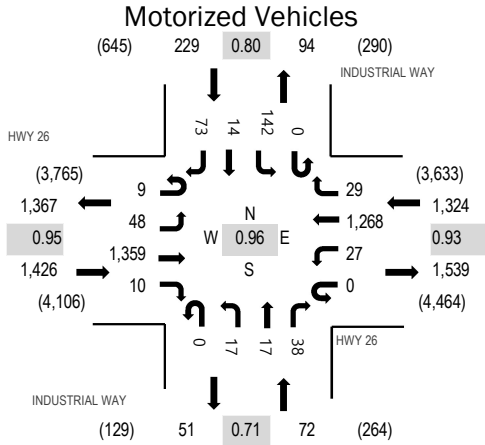
Location: 1 INDUSTRIAL WAY & HWY 26 PM

Date: Tuesday, July 13, 2021

Peak Hour: 03:20 PM - 04:20 PM

Peak 15-Minutes: 03:20 PM - 03:35 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.2%	0.95
WB	5.7%	0.93
NB	0.0%	0.71
SB	0.4%	0.80
All	4.0%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 26 Eastbound				HWY 26 Westbound				INDUSTRIAL WAY Northbound				INDUSTRIAL WAY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
3:00 PM	0	4	69	1	0	5	106	0	0	2	2	6	0	11	0	10	216	3,024
3:05 PM	0	6	127	0	0	4	111	2	0	1	0	7	0	8	0	3	269	3,046
3:10 PM	0	7	112	1	0	6	106	3	0	1	0	4	0	5	2	8	255	3,002
3:15 PM	0	8	89	1	0	8	80	3	0	0	0	1	0	10	3	9	212	3,020
3:20 PM	0	2	125	1	0	0	111	2	0	1	3	5	0	12	1	5	268	3,051
3:25 PM	0	6	115	0	0	2	120	1	0	0	0	1	0	17	1	9	272	3,015
3:30 PM	0	5	95	0	0	5	121	1	0	0	0	5	0	11	2	7	252	2,982
3:35 PM	0	2	94	1	0	3	81	1	0	2	1	5	0	17	1	8	216	2,945
3:40 PM	0	2	135	2	0	1	120	3	0	2	1	3	0	10	0	5	284	2,966
3:45 PM	0	8	107	1	0	2	103	3	0	0	3	6	0	9	3	4	249	2,941
3:50 PM	0	6	104	2	0	2	100	5	0	0	2	6	0	9	2	0	238	2,938
3:55 PM	9	0	140	0	0	2	124	2	0	3	0	2	0	7	0	4	293	2,945
4:00 PM	0	5	110	1	0	3	84	2	0	2	4	3	0	13	0	11	238	2,879
4:05 PM	0	5	106	2	0	1	74	4	0	3	1	1	0	16	2	10	225	2,875
4:10 PM	0	3	122	0	0	3	125	2	0	1	1	0	0	9	2	5	273	2,889
4:15 PM	0	4	106	0	0	3	105	3	0	3	1	1	0	12	0	5	243	2,857
4:20 PM	0	6	99	2	0	1	92	2	0	2	1	4	0	16	0	7	232	2,851
4:25 PM	0	5	107	0	0	0	101	1	0	4	1	7	0	10	1	2	239	2,856
4:30 PM	0	3	104	3	0	0	73	2	0	5	2	10	0	8	1	4	215	2,829
4:35 PM	0	1	98	1	0	0	102	2	0	2	5	6	0	11	2	7	237	2,831
4:40 PM	0	9	126	0	0	0	101	5	0	1	1	1	0	10	1	4	259	2,845
4:45 PM	0	4	118	1	0	1	100	3	0	2	1	4	0	7	0	5	246	2,841
4:50 PM	0	3	105	0	0	0	103	2	0	2	3	8	0	14	2	3	245	2,819
4:55 PM	0	5	99	1	0	1	97	1	0	4	1	4	0	10	0	4	227	2,807
5:00 PM	0	3	109	0	0	0	89	4	0	2	1	8	0	12	0	6	234	2,745
5:05 PM	0	4	88	0	0	0	119	4	0	3	0	2	0	15	0	4	239	
5:10 PM	0	1	110	0	0	1	94	4	0	3	3	6	0	14	1	4	241	
5:15 PM	0	1	127	2	0	0	80	3	0	2	1	3	0	7	1	10	237	

Location: 1 INDUSTRIAL WAY & HWY 26 PM

5:20 PM	0	7	101	1	0	3	91	2	0	4	2	5	0	13	0	8	237
5:25 PM	0	4	94	1	0	0	90	1	0	2	1	1	0	10	1	7	212
5:30 PM	0	2	102	0	0	0	77	2	0	2	2	5	0	17	1	7	217
5:35 PM	0	2	141	0	0	2	88	3	0	5	1	2	0	5	1	1	251
5:40 PM	0	4	111	0	0	4	100	2	0	3	2	4	0	18	1	6	255
5:45 PM	0	3	116	0	0	1	69	3	0	3	0	6	0	12	1	10	224
5:50 PM	0	8	123	0	0	2	79	4	0	0	0	3	0	7	2	5	233
5:55 PM	0	6	84	0	0	3	59	2	0	0	0	0	0	9	0	2	165
Count Total	9	154	3,918	25	0	69	3,475	89	0	72	47	145	0	401	35	209	8,648
Peak Hour	9	48	1,359	10	0	27	1,268	29	0	17	17	38	0	142	14	73	3,051

Location: 1 INDUSTRIAL WAY & HWY 26 PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
3:00 PM	1	0	5	0	6	3:00 PM	0	0	0	0	0	3:00 PM	0	2	0	0	2
3:05 PM	2	1	3	0	6	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	4	1	3	0	8	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	3	0	7	0	10	3:15 PM	0	0	0	0	0	3:15 PM	1	0	0	0	1
3:20 PM	2	0	6	0	8	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	3	0	6	0	9	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	6	0	9	0	15	3:30 PM	0	0	0	0	0	3:30 PM	1	1	0	0	2
3:35 PM	3	0	5	1	9	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	7	0	8	0	15	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	5	0	8	0	13	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	4	0	8	0	12	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	2	0	6	0	8	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	4	0	2	0	6	4:00 PM	0	0	0	0	0	4:00 PM	1	1	0	2	4
4:05 PM	1	0	8	0	9	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	4	0	6	0	10	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	4	0	3	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	4	0	4	0	8	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	5	0	6	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	6	0	7	0	13	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	1	5	0	7	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	1	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	4	0	6	1	11	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	3	0	5	0	8	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	2	0	3	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	2	0	5	0	7	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	3	0	7	1	11	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	5	0	1	0	6	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	5	0	3	0	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	4	1	3	0	8	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	1	1
5:25 PM	2	0	2	0	4	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	4	1	6	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	1	1
5:35 PM	2	0	6	0	8	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	4	0	2	0	6	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	3	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	2	0	0	0	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	3	0	0	0	3	5:55 PM	0	0	0	0	0	5:55 PM	0	2	0	0	2
Count Total	109	4	165	4	282	Count Total	0	0	0	0	0	Count Total	3	6	0	5	14
Peak Hour	45	0	75	1	121	Peak Hour	0	0	0	0	0	Peak Hour	2	2	0	3	7

Location: 2 SHOPPING ACCESS & HWY 26 PM

5:15 PM	0	1	142	0	0	0	92	4	0	0	0	0	0	3	0	2	244
5:20 PM	0	3	108	0	0	0	114	5	0	0	0	0	0	4	0	2	236
5:25 PM	0	3	98	0	0	0	83	3	0	0	0	0	0	2	0	7	196
5:30 PM	0	4	107	0	0	0	109	5	0	0	0	0	0	7	0	1	233
5:35 PM	1	4	137	0	0	0	96	2	0	0	0	0	0	4	0	2	246
5:40 PM	0	3	117	0	0	0	94	9	0	0	0	0	0	6	0	3	232
5:45 PM	0	4	124	0	0	0	85	3	0	0	0	0	0	5	0	6	227
5:50 PM	0	8	134	0	0	0	89	8	0	0	0	0	0	3	0	2	244
5:55 PM	0	8	99	0	0	0	79	6	0	0	0	0	0	11	0	5	208
Count Total	2	141	4,234	0	0	0	3,740	180	0	0	0	0	0	141	0	149	8,587
Peak Hour	1	53	1,462	0	0	0	1,344	65	0	0	0	0	0	33	0	59	3,017

Location: 2 SHOPPING ACCESS & HWY 26 PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
3:00 PM	2	0	6	0	8	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	3	3
3:05 PM	1	0	1	0	2	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	4	0	2	0	6	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	2	0	5	0	7	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	2	2
3:20 PM	2	0	9	0	11	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	4	0	7	0	11	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	3	0	9	0	12	3:30 PM	0	0	1	0	1	3:30 PM	0	0	0	0	0
3:35 PM	5	0	8	0	13	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	5	0	5	1	11	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	5	0	8	0	13	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	2	0	7	0	9	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	2	0	8	0	10	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	2	2
4:00 PM	2	0	4	0	6	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	2	0	7	1	10	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	2	2
4:10 PM	2	0	7	0	9	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	3	0	4	1	8	4:15 PM	0	0	2	0	2	4:15 PM	0	0	0	0	0
4:20 PM	3	0	4	0	7	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	1	1
4:25 PM	0	0	3	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	3	0	8	0	11	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	0	5	0	7	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	6	0	6	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	1	1
4:45 PM	2	0	3	0	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	2	0	9	1	12	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	2	0	6	0	8	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	0	7	0	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	3	0	2	0	5	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	2	0	0	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	4	0	4	0	8	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	1	1
5:25 PM	2	0	5	0	7	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	0	6	1	9	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	0	5	0	6	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	2	0	3	0	5	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	1	1
5:45 PM	1	0	2	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	1	1
5:50 PM	1	0	4	0	5	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	4	0	0	0	4	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	84	0	179	5	268	Count Total	0	0	3	0	3	Count Total	0	0	0	15	15
Peak Hour	37	0	83	3	123	Peak Hour	0	0	3	0	3	Peak Hour	0	0	0	5	5

Appendix D

Crash History Data



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

02370	N N N N	06/16/2017	CLACKAMAS	1 14		STRGHT	N	N	RAIN	S-STRGHT	01 NONE 9	STRGHT					116	27,29			
NONE		FR	SANDY	MN 0	MT HOOD HY	NW	(NONE)	UNKNOWN	N	WET	SS-O	N/A	NW-SE				000	00			
N		12P	SANDY UA	23.03	INDUSTRIAL WAY	04			N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N		45 24 10.73	-122 17 8.39		002600100S00		(04)													UNK	
											02 NONE 9	STOP									
											N/A	NW-SE								011	00
											PSNGR CAR			01 DRVR	NONE	00	Unk UNK	000	000	000	00
																					UNK

03703	N N N N N N	08/13/2016	CLACKAMAS	1 14		STRGHT	N	N	CLR	S-1STOP	01 NONE 0	STRGHT					013	27,29					
CITY		SA	SANDY	MN 0	MT HOOD HY	NW	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE	NW-SE					000	00				
N		11A	SANDY UA	23.04	INDUSTRIAL WAY	04			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	59	F	OR-Y	016,026	038	27,29		
N		45 24 10.53	-122 17 7.84		002600100S00		(04)														OR<25		
											02 NONE 0	STOP											
											PRVTE	NW-SE									011	013	00
											PSNGR CAR			01 DRVR	NONE	26	F	OR-Y	000	000	000	00	
																						OR<25	
											03 NONE 0	STOP											
											PRVTE	NW-SE									022	013	00
											PSNGR CAR			01 DRVR	INJC	26	F	OTH-Y	000	000	000	00	
																						N-RES	
											04 NONE 0	STOP											
											PRVTE	NW-SE									022	000	00
											PSNGR CAR			01 DRVR	NONE	22	M	OR-Y	000	000	000	00	
																						OR<25	

00009	N N N N N N	01/03/2019	CLACKAMAS	1 14		STRGHT	N	N	RAIN	S-STRGHT	01 NONE 0	STRGHT						17,29					
CITY		TH	SANDY	MN 0	MT HOOD HY	NW	(NONE)	NONE	N	WET	REAR	PRVTE	NW-SE					000	00				
N		7A	SANDY UA	23.04	INDUSTRIAL WAY	04			N	DLIT	INJ	PSNGR CAR		01 DRVR	INJB	47	M	OR-Y	026	028	17,29		
N		45 24 10.54	-122 17 7.87		002600100S00		(04)															OR<25	
											02 NONE 0	STRGHT											
											PRVTE	NW-SE									006	000	00
											PSNGR CAR			01 DRVR	INJC	69	M	OR-Y	000	000	000	00	
																						OR<25	

05126	N N N N	12/03/2015	CLACKAMAS	1 14		INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 0	STRGHT						29	
NONE		TH	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	REAR	PRVTE	SE-NW						000	000

026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

N	12P	SANDY UA	23.08	MT HOOD HY	06	0		N	DAY	INJ	PSNGR CAR	01	DRVR	NONE	56	F	OR-Y	026	000	29	
N	45 24 9.74	-122 17 5.64		002600100S00																	
											02	NONE	0	STOP							
											PRVTE	SE-NW						012	00		
											PSNGR CAR		01	DRVR	NONE	47	F	OR-Y	000	000	00
											02	NONE	0	STOP							
											PRVTE	SE-NW						012	00		
											PSNGR CAR		02	PSNG	INJC	48	M		000	000	00
<hr/>																					
03858	N N N N N	08/23/2016	CLACKAMAS	1 14	STRGHT			N	N	CLR	S-1STOP	01	NONE	0	STRGHT					07,29	
CITY	TU	SANDY	MN 0	INDUSTRIAL WAY	SE	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE	SE-NW							000	00	
N	12P	SANDY UA	23.08	MT HOOD HY	06			N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	19	M	OTH-Y	043,026	000	07,29
N	45 24 9.74	-122 17 5.64		002600100S00			(04)														
											02	NONE	0	STOP							
											PRVTE	SE-NW							011	00	
											PSNGR CAR		01	DRVR	INJC	19	M	OR-Y	000	000	00
<hr/>																					
00502	N N N N	01/29/2016	CLACKAMAS	1 14	INTER	3-LEG		N	N	RAIN	O-1STOP	01	NONE	9	BACK					10	
NONE	FR	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	WET	BACK	N/A	NW-SE								000	00
N	5P	SANDY UA	23.08	MT HOOD HY	06	0		N	DLIT	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00
N	45 24 9.74	-122 17 5.64		002600100S00																	
											02	NONE	9	STOP							
											N/A	SE-NW							011	00	
											PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00
<hr/>																					
05571	N N N N	11/30/2016	CLACKAMAS	1 14	INTER	3-LEG		N	N	CLR	S-1STOP	01	NONE	9	STRGHT					29	
NONE	WE	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	REAR	N/A	SE-NW								000	00
N	7A	SANDY UA	23.08	MT HOOD HY	06	0		N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00
N	45 24 9.74	-122 17 5.64		002600100S00																	
											02	NONE	9	STOP							
											N/A	SE-NW							011	00	
											PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00
<hr/>																					

026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

02736	N N N N	07/10/2017	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1TURN	01 NONE	9	STRGHT						29				
NONE		MO	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	TURN	N/A	SE-NW						000	00			
N		3P	SANDY UA	23.08	MT HOOD HY	06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00			
N		45 24 9.74	-122 17 5.64		002600100S00															UNK			
											02 NONE	9	TURN-L										
											N/A		SE-SW							000	00		
											PSNGR CAR			01 DRVR	NONE	00	Unk UNK	000	000	00			
																				UNK			
03996	N N N N	11/12/2019	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT							29			
NONE		TU	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	REAR	N/A	SE-NW							000	00		
N		6P	SANDY UA	23.08	MT HOOD HY	06	0		N	DUSK	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00			
N		45 24 9.75	-122 17 5.65		002600100S00																UNK		
											02 NONE	9	STOP										
											N/A		SE-NW								011	00	
											PSNGR CAR			01 DRVR	NONE	00	Unk UNK	000	000	00			
																					UNK		
01574	N N N N N N	05/14/2019	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT								27,02,29		
CITY		TU	SANDY	MN 0	MT HOOD HY	SE		TRF SIGNAL	N	DRY	REAR	N/A	SE-NW								000	00	
N		12P	SANDY UA	23.08	INDUSTRIAL WAY	06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00			
N		45 24 9.74	-122 17 5.65		002600100S00																	UNK	
											02 NONE	9	STOP										
											N/A		SE-NW									011	00
											PSNGR CAR			01 DRVR	NONE	00	Unk UNK	000	000	00			
																						UNK	
01113	N N N N	03/22/2017	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT									26	
NONE		WE	SANDY	MN 0	INDUSTRIAL WAY	NW		TRF SIGNAL	N	DRY	REAR	N/A	NW-SE								000	00	
N		5P	SANDY UA	23.08	MT HOOD HY	03	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00			
N		45 24 9.74	-122 17 5.64		002600100S00																	UNK	
											02 NONE	9	STOP										
											N/A		NW-SE									011	00
											PSNGR CAR			01 DRVR	NONE	00	Unk UNK	000	000	00			
																						UNK	
03440	N N N N N N	07/22/2016	CLACKAMAS	1 14	INTER	3-LEG	N	N	RAIN	PED	01 NONE	0	STRGHT									18,19	
CITY		FR	SANDY	MN 0	INDUSTRIAL WAY	NW		TRF SIGNAL	N	WET	PED	PRVTE	SE-NW								000	00	

026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

00142	N N N N	01/10/2017	CLACKAMAS	1 14	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01 NONE	9	STRGHT						02,08	
NONE		TU	SANDY	MN 0	INDUSTRIAL WAY	CN		TRF SIGNAL	N	WET	TURN	N/A	SE-NW						000	00
N		1P	SANDY UA	23.08	MT HOOD HY	02	0		Y	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
N		45 24 9.74	-122 17 5.64		002600100S00															UNK
												02 NONE	9	TURN-L						
												N/A	NW-NE						019	00
												PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
																				UNK

01882	N N N N N N	06/07/2019	CLACKAMAS	1 14	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01 NONE	0	STRGHT							04	
CITY		FR	SANDY	MN 0	INDUSTRIAL WAY	CN		TRF SIGNAL	N	WET	TURN	PRVTE	SE-NW							000	00
N		3P	SANDY UA	23.08	MT HOOD HY	02	0		Y	DAY	INJ	PSNGR CAR		01 DRVR	NONE	18	F OR-Y	020	000	04	
N		45 24 9.74	-122 17 5.64		002600100S00															OR>25	
												02 NONE	0	TURN-L							
												PRVTE	NE-SE							018	00
												PSNGR CAR		01 DRVR	INJC	51	F OR-Y	000	000	00	
																				OR<25	

03726	N N N N N N	09/11/2017	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01 NONE	0	STRGHT							013	04	
CITY		MO	SANDY	MN 0	INDUSTRIAL WAY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	NW-SE							000	00	
N		5P	SANDY UA	23.08	MT HOOD HY	03	0		N	DAY	INJ	PSNGR CAR		01 DRVR	INJB	61	F OR-Y	000	000	00		
N		45 24 9.74	-122 17 5.64		002600100S00															OR<25		
												02 NONE	0	TURN-L								
												PRVTE	SE-SW							000	013	00
												PSNGR CAR		01 DRVR	INJC	45	M OR-Y	020,004	000	000	04	
																				OR<25		
												03 NONE	0	STOP								
												PRVTE	SW-NE							022	00	
												PSNGR CAR		01 DRVR	NONE	57	M OR-Y	000	000	00		
																				OR<25		

04659	N N N N N N	12/20/2018	CLACKAMAS	1 14	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01 NONE	0	STRGHT								02,08
CITY		TH	SANDY	MN 0	INDUSTRIAL WAY	CN		TRF SIGNAL	N	WET	TURN	PRVTE	NW-SE							000	00
N		4P	SANDY UA	23.08	MT HOOD HY	03	0		N	DUSK	INJ	PSNGR CAR		01 DRVR	INJC	33	F OR-Y	000	000	00	
N		45 24 9.74	-122 17 5.67		002600100S00															OR<25	
												02 NONE	0	TURN-L							
												PRVTE	SE-SW							000	00

026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

														PSNGR CAR	01 DRVR	NONE	66 M	OR-Y	028,004	000	02,08			
																		OR>25						
04150	N N N N	11/20/2019	CLACKAMAS	1	14		INTER	3-LEG	N	N	CLR	ANGL-OTH	01 NONE	9	STRGHT				04					
NONE		WE	SANDY	MN	0	INDUSTRIAL WAY	CN		TRF SIGNAL	N	DRY	TURN	N/A		NW-SE				000	00				
N		2P	SANDY UA	23.08		MT HOOD HY	04	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK	000	000	00		
N		45 24 9.8	-122 17 5.63			002600100S00																UNK		
													02 NONE	9	TURN-L									
													N/A		SW-NW							000	00	
													PSNGR CAR		01 DRVR	NONE	00	Unk	UNK	000	000	00		
																							UNK	
02697	N N N N	08/08/2019	CLACKAMAS	1	14		STRGHT		N	N	CLR	S-STRGHT	01 NONE	0	STRGHT								29	
NONE		TH	SANDY	MN	0	MT HOOD HY	SE	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE		SE-NW							000	00	
N		3P	SANDY UA	23.09		INDUSTRIAL WAY	05			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	23	M	OTH-Y	026	000	29		
N		45 24 9.37	-122 17 4.55			002600100S00		(04)															N-RES	
													02 NONE	0	STOP									
													PRVTE		SE-NW								011	00
													PSNGR CAR		01 DRVR	INJC	58	M	OR-Y	000	000	00		
																							OR<25	
03147	N N N N	08/03/2017	CLACKAMAS	1	14		STRGHT		N	N	CLR	S-1STOP	01 NONE	0	STRGHT								29	
NO RPT		TH	SANDY	MN	0	MT HOOD HY	SE	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE		SE-NW							000	00	
N		12P	SANDY UA	23.09		INDUSTRIAL WAY	06			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	55	F	OR-Y	026	000	29		
N		45 24 9.37	-122 17 4.54			002600100S00		(04)															OR<25	
													02 NONE	0	STOP									
													PRVTE		SE-NW								011	00
													PSNGR CAR		01 DRVR	INJC	69	F	OR-Y	000	000	00		
																							OR<25	
01274	N N N N	03/18/2016	CLACKAMAS	1	14		STRGHT		N	N	CLR	S-1STOP	01 NONE	9	STRGHT								29	
NONE		FR	SANDY	MN	0	MT HOOD HY	SE	(NONE)	UNKNOWN	N	DRY	REAR	N/A		SE-NW							000	00	
N		3P	SANDY UA	23.10		INDUSTRIAL WAY	05			N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK	000	000	00		
N		45 24 9	-122 17 3.44			002600100S00		(04)															UNK	
													02 NONE	9	STOP									
													N/A		SE-NW								011	00
													PSNGR CAR		01 DRVR	NONE	00	Unk	UNK	000	000	00		

Appendix E

Traffic Signal Warrants



Traffic Signal Warrant Analysis



Project: The Riffles Food Carts
 Date: 3/7/2022
 Scenario: 2023 Buildout Conditions

Major Street:	US-26	Minor Street:	Shopping Center Access
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	3,679	PM Peak Hour Volumes:	69

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>100% Warrants</u>	<u>70% Warrants</u>	<u>100% Warrants</u>	<u>70% Warrants</u>
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	36,790	10,600	
Minor Street*	690	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	36,790	15,900	
Minor Street*	690	1,350	No
<i>Combination Warrant</i>			
Major Street	36,790	12,720	
Minor Street*	690	2,120	No

Note: Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity.

Appendix F

Level of Service Descriptions

Capacity Reports





LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



*LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

*LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th Signalized Intersection Summary

1: Industrial Way & US-26

08/05/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↕		↖	↗	↖
Traffic Volume (veh/h)	32	1027	20	37	1097	11	26	5	29	35	5	20
Future Volume (veh/h)	32	1027	20	37	1097	11	26	5	29	35	5	20
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	1614	1614	1614	1668	1668	1668	1586	1586	1586	1668	1668	1668
Adj Flow Rate, veh/h	35	1116	21	40	1192	0	28	5	5	42	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	6	6	6	12	12	12	6	6	6
Cap, veh/h	369	2155	41	398	2228	994	44	8	8	132	0	59
Arrive On Green	0.04	0.70	0.69	0.04	0.70	0.00	0.03	0.04	0.03	0.04	0.00	0.00
Sat Flow, veh/h	1537	3078	58	1589	3169	1414	1102	197	197	3177	0	1414
Grp Volume(v), veh/h	35	556	581	40	1192	0	38	0	0	42	0	0
Grp Sat Flow(s),veh/h/ln	1537	1533	1603	1589	1585	1414	1496	0	0	1589	0	1414
Q Serve(g_s), s	0.5	15.3	15.4	0.6	16.1	0.0	2.3	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	15.3	15.4	0.6	16.1	0.0	2.3	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.74		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	369	1073	1122	398	2228	994	59	0	0	132	0	59
V/C Ratio(X)	0.09	0.52	0.52	0.10	0.54	0.00	0.64	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	404	1073	1122	431	2228	994	307	0	0	653	0	291
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	6.3	6.3	4.5	6.4	0.0	42.8	0.0	0.0	41.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.8	1.7	0.1	0.3	0.0	11.0	0.0	0.0	1.4	0.0	0.0
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	0.1	4.0	4.1	0.1	3.8	0.0	1.0	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	8.1	8.1	4.6	6.6	0.0	53.8	0.0	0.0	43.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1172			1232			38				42
Approach Delay, s/veh		8.0			6.6			53.8				43.2
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	67.0		7.6	7.4	67.3		7.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	17.4		4.3	2.5	18.1		3.2				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	6.4		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	44	1018	1118	98	38	59
Future Vol, veh/h	44	1018	1118	98	38	59
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	9	9	7	7	0	0
Mvmt Flow	48	1119	1229	108	42	65

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1338	0	-	0	1940 670
Stage 1	-	-	-	-	1284 -
Stage 2	-	-	-	-	656 -
Critical Hdwy	4.28	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.29	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	476	-	-	-	59 404
Stage 1	-	-	-	-	228 -
Stage 2	-	-	-	-	483 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	476	-	-	-	53 404
Mov Cap-2 Maneuver	-	-	-	-	182 -
Stage 1	-	-	-	-	205 -
Stage 2	-	-	-	-	483 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	476	-	-	-	182	404
HCM Lane V/C Ratio	0.102	-	-	-	0.229	0.16
HCM Control Delay (s)	13.4	-	-	-	30.6	15.6
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.9	0.6

HCM 6th Signalized Intersection Summary

1: Industrial Way & US-26

08/05/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘	↗		↕		↗	↗↘	↗
Traffic Volume (veh/h)	68	1624	12	32	1516	35	20	20	45	170	17	87
Future Volume (veh/h)	68	1624	12	32	1516	35	20	20	45	170	17	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		0.99	1.00		0.99
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	1709	1709	1709	1668	1668	1668	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	71	1692	11	33	1579	0	21	21	14	190	0	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	6	6	6	0	0	0	0	0	0
Cap, veh/h	252	2319	15	219	2191	977	31	32	21	274	0	121
Arrive On Green	0.04	0.70	0.70	0.03	0.69	0.00	0.05	0.05	0.05	0.08	0.00	0.08
Sat Flow, veh/h	1628	3307	21	1589	3169	1414	615	615	410	3333	0	1472
Grp Volume(v), veh/h	71	830	873	33	1579	0	56	0	0	190	0	10
Grp Sat Flow(s),veh/h/ln	1628	1624	1705	1589	1585	1414	1639	0	0	1667	0	1472
Q Serve(g_s), s	1.5	37.5	37.6	0.7	36.8	0.0	4.0	0.0	0.0	6.7	0.0	0.8
Cycle Q Clear(g_c), s	1.5	37.5	37.6	0.7	36.8	0.0	4.0	0.0	0.0	6.7	0.0	0.8
Prop In Lane	1.00		0.01	1.00		1.00	0.37		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	252	1138	1196	219	2191	977	84	0	0	274	0	121
V/C Ratio(X)	0.28	0.73	0.73	0.15	0.72	0.00	0.67	0.00	0.00	0.69	0.00	0.08
Avail Cap(c_a), veh/h	258	1138	1196	242	2191	977	253	0	0	514	0	227
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	11.0	11.0	11.0	11.4	0.0	56.1	0.0	0.0	53.6	0.0	50.9
Incr Delay (d2), s/veh	0.6	4.1	3.9	0.3	1.2	0.0	8.7	0.0	0.0	3.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	12.2	12.8	0.3	11.0	0.0	1.9	0.0	0.0	2.9	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	15.1	14.9	11.3	12.6	0.0	64.8	0.0	0.0	56.7	0.0	51.2
LnGrp LOS	B	B	B	B	B	A	E	A	A	E	A	D
Approach Vol, veh/h		1774			1612			56			200	
Approach Delay, s/veh		14.9			12.6			64.8			56.4	
Approach LOS		B			B			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	88.1		10.1	9.0	86.9		13.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	60.9		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	2.7	39.6		6.0	3.5	38.8		8.7				
Green Ext Time (p_c), s	0.0	12.2		0.1	0.0	12.1		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	65	1747	1606	78	39	71
Future Vol, veh/h	65	1747	1606	78	39	71
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	6	6	3	3
Mvmt Flow	68	1820	1673	81	41	74

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1759	0	-	0	2765 882
Stage 1	-	-	-	-	1719 -
Stage 2	-	-	-	-	1046 -
Critical Hdwy	4.14	-	-	-	6.86 6.96
Critical Hdwy Stg 1	-	-	-	-	5.86 -
Critical Hdwy Stg 2	-	-	-	-	5.86 -
Follow-up Hdwy	2.22	-	-	-	3.53 3.33
Pot Cap-1 Maneuver	351	-	-	-	~ 15 287
Stage 1	-	-	-	-	129 -
Stage 2	-	-	-	-	297 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	349	-	-	-	~ 12 286
Mov Cap-2 Maneuver	-	-	-	-	92 -
Stage 1	-	-	-	-	103 -
Stage 2	-	-	-	-	296 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	39.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	349	-	-	-	92	286
HCM Lane V/C Ratio	0.194	-	-	-	0.442	0.259
HCM Control Delay (s)	17.8	-	-	-	72	21.9
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.7	-	-	-	1.8	1

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary

1: Industrial Way & US-26

08/05/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘	↗		↕		↗	↗↘	↗
Traffic Volume (veh/h)	33	1067	21	38	1140	11	27	5	30	36	5	21
Future Volume (veh/h)	33	1067	21	38	1140	11	27	5	30	36	5	21
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	1614	1614	1614	1668	1668	1668	1586	1586	1586	1668	1668	1668
Adj Flow Rate, veh/h	36	1160	22	41	1239	0	29	5	6	43	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	6	6	6	12	12	12	6	6	6
Cap, veh/h	353	2149	41	382	2221	991	44	8	9	134	0	60
Arrive On Green	0.04	0.70	0.69	0.04	0.70	0.00	0.04	0.04	0.04	0.04	0.00	0.00
Sat Flow, veh/h	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414
Grp Volume(v), veh/h	36	578	604	41	1239	0	40	0	0	43	0	0
Grp Sat Flow(s),veh/h/ln	1537	1533	1603	1589	1585	1414	1492	0	0	1589	0	1414
Q Serve(g_s), s	0.6	16.4	16.4	0.6	17.3	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	16.4	16.4	0.6	17.3	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.72		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	353	1070	1119	382	2221	991	61	0	0	134	0	60
V/C Ratio(X)	0.10	0.54	0.54	0.11	0.56	0.00	0.66	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	388	1070	1119	414	2221	991	307	0	0	653	0	291
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.0	6.6	6.6	4.8	6.6	0.0	42.8	0.0	0.0	41.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.0	1.9	0.1	0.3	0.0	11.5	0.0	0.0	1.4	0.0	0.0
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	0.1	4.3	4.4	0.1	4.1	0.0	1.1	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	8.5	8.5	4.9	6.9	0.0	54.3	0.0	0.0	43.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1218			1280			40				43
Approach Delay, s/veh		8.4			6.9			54.3				43.2
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	66.8		7.7	7.5	67.1		7.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	18.4		4.4	2.6	19.3		3.2				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	6.2		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	46	1058	1162	102	40	61
Future Vol, veh/h	46	1058	1162	102	40	61
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	9	9	7	7	0	0
Mvmt Flow	51	1163	1277	112	44	67

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1390	0	0 2018 696
Stage 1	-	-	- 1334 -
Stage 2	-	-	- 684 -
Critical Hdwy	4.28	-	- 6.8 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.8 -
Follow-up Hdwy	2.29	-	- 3.5 3.3
Pot Cap-1 Maneuver	454	-	- 52 389
Stage 1	-	-	- 214 -
Stage 2	-	-	- 468 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	454	-	- 46 389
Mov Cap-2 Maneuver	-	-	- 169 -
Stage 1	-	-	- 190 -
Stage 2	-	-	- 468 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	23.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	454	-	-	-	169	389
HCM Lane V/C Ratio	0.111	-	-	-	0.26	0.172
HCM Control Delay (s)	13.9	-	-	-	33.6	16.2
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1	0.6

HCM 6th Signalized Intersection Summary

1: Industrial Way & US-26

08/05/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↕		↖	↗	↖
Traffic Volume (veh/h)	71	1687	12	33	1575	36	21	21	47	177	18	91
Future Volume (veh/h)	71	1687	12	33	1575	36	21	21	47	177	18	91
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		0.99	1.00		0.99
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	1709	1709	1709	1668	1668	1668	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	74	1757	11	34	1641	1	22	22	16	198	0	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	6	6	6	0	0	0	0	0	0
Cap, veh/h	234	2300	14	203	2172	967	33	33	24	283	0	125
Arrive On Green	0.04	0.70	0.69	0.03	0.69	0.69	0.05	0.05	0.05	0.08	0.00	0.08
Sat Flow, veh/h	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473
Grp Volume(v), veh/h	74	862	906	34	1641	1	60	0	0	198	0	14
Grp Sat Flow(s),veh/h/ln	1628	1624	1705	1589	1585	1411	1635	0	0	1667	0	1473
Q Serve(g_s), s	1.6	41.4	41.5	0.7	40.6	0.0	4.3	0.0	0.0	6.9	0.0	1.1
Cycle Q Clear(g_c), s	1.6	41.4	41.5	0.7	40.6	0.0	4.3	0.0	0.0	6.9	0.0	1.1
Prop In Lane	1.00		0.01	1.00		1.00	0.37		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	234	1129	1185	203	2172	967	89	0	0	283	0	125
V/C Ratio(X)	0.32	0.76	0.76	0.17	0.76	0.00	0.68	0.00	0.00	0.70	0.00	0.11
Avail Cap(c_a), veh/h	240	1129	1185	225	2172	967	252	0	0	514	0	227
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	11.9	11.9	12.7	12.3	5.9	55.9	0.0	0.0	53.4	0.0	50.7
Incr Delay (d2), s/veh	0.8	4.9	4.7	0.4	1.6	0.0	8.6	0.0	0.0	3.1	0.0	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	0.8	13.7	14.3	0.3	12.3	0.0	2.0	0.0	0.0	3.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	16.8	16.6	13.1	13.9	5.9	64.4	0.0	0.0	56.6	0.0	51.1
LnGrp LOS	B	B	B	B	B	A	E	A	A	E	A	D
Approach Vol, veh/h		1842			1676			60			212	
Approach Delay, s/veh		16.6			13.9			64.4			56.2	
Approach LOS		B			B			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	87.4		10.5	9.1	86.2		14.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	60.9		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	2.7	43.5		6.3	3.6	42.6		8.9				
Green Ext Time (p_c), s	0.0	11.2		0.2	0.0	11.2		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 TWSC
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	68	1815	1669	81	41	74
Future Vol, veh/h	68	1815	1669	81	41	74
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	6	6	3	3
Mvmt Flow	71	1891	1739	84	43	77

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1828	0	-	0	2874 917
Stage 1	-	-	-	-	1786 -
Stage 2	-	-	-	-	1088 -
Critical Hdwy	4.14	-	-	-	6.86 6.96
Critical Hdwy Stg 1	-	-	-	-	5.86 -
Critical Hdwy Stg 2	-	-	-	-	5.86 -
Follow-up Hdwy	2.22	-	-	-	3.53 3.33
Pot Cap-1 Maneuver	330	-	-	-	~ 13 272
Stage 1	-	-	-	-	118 -
Stage 2	-	-	-	-	282 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	328	-	-	-	~ 10 271
Mov Cap-2 Maneuver	-	-	-	-	82 -
Stage 1	-	-	-	-	92 -
Stage 2	-	-	-	-	281 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	46.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	328	-	-	-	82	271
HCM Lane V/C Ratio	0.216	-	-	-	0.521	0.284
HCM Control Delay (s)	19	-	-	-	89.1	23.5
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2	1.1

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary

1: Industrial Way & US-26

03/07/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘	↗		↕		↗	↗↘	↗
Traffic Volume (veh/h)	33	1069	21	38	1143	11	27	5	31	38	5	21
Future Volume (veh/h)	33	1069	21	38	1143	11	27	5	31	38	5	21
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	1614	1614	1614	1668	1668	1668	1586	1586	1586	1668	1668	1668
Adj Flow Rate, veh/h	36	1162	22	41	1242	0	29	5	6	45	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	6	6	6	12	12	12	6	6	6
Cap, veh/h	339	2129	40	368	2201	982	38	7	8	119	0	53
Arrive On Green	0.03	0.69	0.69	0.04	0.69	0.00	0.04	0.04	0.04	0.04	0.00	0.00
Sat Flow, veh/h	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414
Grp Volume(v), veh/h	36	579	605	41	1242	0	40	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1537	1533	1603	1589	1585	1414	1492	0	0	1589	0	1414
Q Serve(g_s), s	0.6	16.8	16.8	0.7	17.7	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	16.8	16.8	0.7	17.7	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.72		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	339	1060	1109	368	2201	982	52	0	0	119	0	53
V/C Ratio(X)	0.11	0.55	0.55	0.11	0.56	0.00	0.76	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	374	1060	1109	400	2201	982	298	0	0	635	0	283
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	6.9	6.9	5.2	6.9	0.0	43.0	0.0	0.0	42.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.0	1.9	0.1	0.3	0.0	20.1	0.0	0.0	2.0	0.0	0.0
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	0.1	4.4	4.6	0.1	4.3	0.0	1.2	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	8.9	8.8	5.3	7.2	0.0	63.2	0.0	0.0	44.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	D	A	A
Approach Vol, veh/h		1220			1283			40				45
Approach Delay, s/veh		8.7			7.2			63.2				44.2
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	66.8		7.7	7.5	67.0		7.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		18.0				
Max Q Clear Time (g_c+I1), s	2.7	18.8		4.4	2.6	19.7		3.2				
Green Ext Time (p_c), s	0.0	5.7		0.1	0.0	6.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
2: US-26 & Shopping Center Access

03/07/2022

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	51	1057	1159	108	43	67
Future Vol, veh/h	51	1057	1159	108	43	67
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	9	9	7	7	0	0
Mvmt Flow	56	1162	1274	119	47	74

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1394	0	-	0	2028 698
Stage 1	-	-	-	-	1335 -
Stage 2	-	-	-	-	693 -
Critical Hdwy	4.28	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.29	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	452	-	-	-	51 388
Stage 1	-	-	-	-	214 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	452	-	-	-	~ 45 388
Mov Cap-2 Maneuver	-	-	-	-	167 -
Stage 1	-	-	-	-	187 -
Stage 2	-	-	-	-	463 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	452	-	-	-	167	388
HCM Lane V/C Ratio	0.124	-	-	-	0.283	0.19
HCM Control Delay (s)	14.1	-	-	-	34.9	16.4
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.1	0.7

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary

1: Industrial Way & US-26

03/07/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↕		↖	↗	↖
Traffic Volume (veh/h)	71	1702	12	34	1586	36	21	21	49	189	18	91
Future Volume (veh/h)	71	1702	12	34	1586	36	21	21	49	189	18	91
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		0.99	1.00		0.99
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	1709	1709	1709	1668	1668	1668	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	74	1773	11	35	1652	1	22	22	16	211	0	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	6	6	6	0	0	0	0	0	0
Cap, veh/h	229	2285	14	198	2160	961	33	33	24	295	0	131
Arrive On Green	0.04	0.69	0.69	0.03	0.68	0.68	0.05	0.05	0.05	0.09	0.00	0.09
Sat Flow, veh/h	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473
Grp Volume(v), veh/h	74	869	915	35	1652	1	60	0	0	211	0	14
Grp Sat Flow(s),veh/h/ln	1628	1624	1705	1589	1585	1411	1635	0	0	1667	0	1473
Q Serve(g_s), s	1.6	42.8	42.9	0.8	41.6	0.0	4.3	0.0	0.0	7.4	0.0	1.0
Cycle Q Clear(g_c), s	1.6	42.8	42.9	0.8	41.6	0.0	4.3	0.0	0.0	7.4	0.0	1.0
Prop In Lane	1.00		0.01	1.00		1.00	0.37		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	229	1122	1178	198	2160	961	89	0	0	295	0	131
V/C Ratio(X)	0.32	0.78	0.78	0.18	0.76	0.00	0.68	0.00	0.00	0.71	0.00	0.11
Avail Cap(c_a), veh/h	235	1122	1178	220	2160	961	252	0	0	514	0	227
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	12.3	12.4	13.4	12.7	6.1	55.9	0.0	0.0	53.2	0.0	50.3
Incr Delay (d2), s/veh	0.8	5.3	5.1	0.4	1.7	0.0	8.6	0.0	0.0	3.2	0.0	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	0.8	14.3	15.0	0.3	12.7	0.0	2.0	0.0	0.0	3.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	17.6	17.4	13.9	14.4	6.1	64.4	0.0	0.0	56.4	0.0	50.7
LnGrp LOS	B	B	B	B	B	A	E	A	A	E	A	D
Approach Vol, veh/h		1858			1688			60			225	
Approach Delay, s/veh		17.4			14.4			64.4			56.1	
Approach LOS		B			B			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	86.9		10.5	9.1	85.8		14.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	60.9		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	44.9		6.3	3.6	43.6		9.4				
Green Ext Time (p_c), s	0.0	10.6		0.2	0.0	10.9		0.5				

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC
2: US-26 & Shopping Center Access

03/07/2022

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	98	1814	1655	112	53	100
Future Vol, veh/h	98	1814	1655	112	53	100
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	6	6	3	3
Mvmt Flow	102	1890	1724	117	55	104

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1846	0	0 2937 926
Stage 1	-	-	- 1788 -
Stage 2	-	-	- 1149 -
Critical Hdwy	4.14	-	- 6.86 6.96
Critical Hdwy Stg 1	-	-	- 5.86 -
Critical Hdwy Stg 2	-	-	- 5.86 -
Follow-up Hdwy	2.22	-	- 3.53 3.33
Pot Cap-1 Maneuver	325	-	- ~ 12 269
Stage 1	-	-	- 118 -
Stage 2	-	-	- 262 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	323	-	- ~ 8 268
Mov Cap-2 Maneuver	-	-	- 72 -
Stage 1	-	-	- 80 -
Stage 2	-	-	- 261 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	67.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	323	-	-	-	72	268
HCM Lane V/C Ratio	0.316	-	-	-	0.767	0.389
HCM Control Delay (s)	21.2	-	-	-	144	26.7
HCM Lane LOS	C	-	-	-	F	D
HCM 95th %tile Q(veh)	1.3	-	-	-	3.6	1.8

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Signalized Intersection V/C Calculation Summary

MORNING PEAK HOUR

1. Industrial Way at US-26

Year 2021 Existing	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.44	Critical Intersection V/C:	0.53
Adjusted Flow Rate:	35	1116	21	40	1192	0	28	5	5	42	0	0	Cycle Length (seconds):	90		
Saturated Flow:	1537	3078	58	1589	3169	1414	1102	197	197	3177	0	1414	Lost Time per phase (seconds):	4		
Flow Ratio:	0.02	0.36	0.36	0.03	0.38	0.00	0.03	0.03	0.03	0.01		0.00	Number of Phases	4		
	0.40						0.04									

Year 2023 Background	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.45	Critical Intersection V/C:	0.55
Adjusted Flow Rate:	36	1160	22	41	1239	0	29	5	6	43	0	0	Cycle Length (seconds):	90		
Saturated Flow:	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414	Lost Time per phase (seconds):	4		
Flow Ratio:	0.02	0.38	0.38	0.03	0.39	0.00	0.03	0.03	0.03	0.01		0.00	Number of Phases	4		
	0.41						0.04									

Year 2023 Buildout	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.46	Critical Intersection V/C:	0.56
Adjusted Flow Rate:	36	1162	22	41	1242	0	29	5	6	45	0	0	Cycle Length (seconds):	90		
Saturated Flow:	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414	Lost Time per phase (seconds):	4		
Flow Ratio:	0.02	0.38	0.38	0.03	0.39	0.00	0.03	0.03	0.03	0.01		0.00	Number of Phases	4		
	0.42						0.04									

EVENING PEAK HOUR

1. Industrial Way at US-26

Year 2021 Existing	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.64	Critical Intersection V/C:	0.73
Adjusted Flow Rate:	71	1692	11	33	1579	0	21	21	14	190	0	10	Cycle Length (seconds):	120		
Saturated Flow:	1628	3307	21	1589	3169	1414	615	615	410	3333	0	1472	Lost Time per phase (seconds):	4		
Flow Ratio:	0.04	0.51	0.52	0.02	0.50	0.00	0.03	0.03	0.03	0.06		0.01	Number of Phases	4		
	0.54						0.09									

Year 2023 Background	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.66	Critical Intersection V/C:	0.76
Adjusted Flow Rate:	74	1757	11	34	1641	1	22	22	16	198	0	14	Cycle Length (seconds):	120		
Saturated Flow:	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473	Lost Time per phase (seconds):	4		
Flow Ratio:	0.05	0.53	0.52	0.02	0.52	0.00	0.04	0.04	0.04	0.06		0.01	Number of Phases	4		
	0.56						0.10									

Year 2023 Buildout	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.67	Critical Intersection V/C:	0.77
Adjusted Flow Rate:	74	1773	11	35	1652	1	22	22	16	211	0	14	Cycle Length (seconds):	120		
Saturated Flow:	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473	Lost Time per phase (seconds):	4		
Flow Ratio:	0.05	0.54	0.52	0.02	0.52	0.00	0.04	0.04	0.04	0.06		0.01	Number of Phases	4		
	0.57						0.10									

Notes:
 Since EB and WB left-turn phases are protected, critical ring is either EBL+WBT or WBL+EBT - HCM6 does not show reductions for permitted left turns
 Since NB and SB left-turn phases are Split, critical ring is max of NB lane groups + max of SB lane groups