



DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

Dupont, WA



10/26/2022

Prepared for: Ben Varin
Avenue 55
601 Union Street, Suite 2930
Seattle, WA 98101

October 2022

DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

TABLE OF CONTENTS

1.	Introduction	3
2.	Project Description	3
3.	Existing Conditions	5
4.	Future Traffic Conditions	10
5.	Summary	21

Appendix

LIST OF TABLES

1.	Transportation Improvement Projects.....	5
2.	Existing Weekday Peak Hour Level of Service.....	9
3.	Project Trip Generation	10
4.	Forecast 2024 Weekday Peak Hour Level of Service	20

LIST OF FIGURES

1.	Vicinity Map & Roadway System	3
2.	Site Plan	4
3.	Existing AM Peak Hour Volumes.....	7
4.	Existing PM Peak Hour Volumes.....	8
5.	PM Peak Hour Trip Distribution & Assignment	12
6.	PM Peak Hour Trip Distribution & Assignment	13
7.	AM Peak Hour Pipeline Volumes.....	14
8.	PM Peak Hour Pipeline Volumes.....	15
9.	Forecast 2024 AM Peak Hour Background Volumes	16
10.	Forecast 2024 AM Peak Hour Background Volumes	17
11.	Forecast 2024 AM Peak Hour Volumes with Project.....	18
12.	Forecast 2024 PM Peak Hour Volumes with Project.....	19

DUPONT INDUSTRIAL TRAFFIC IMPACT ANALYSIS

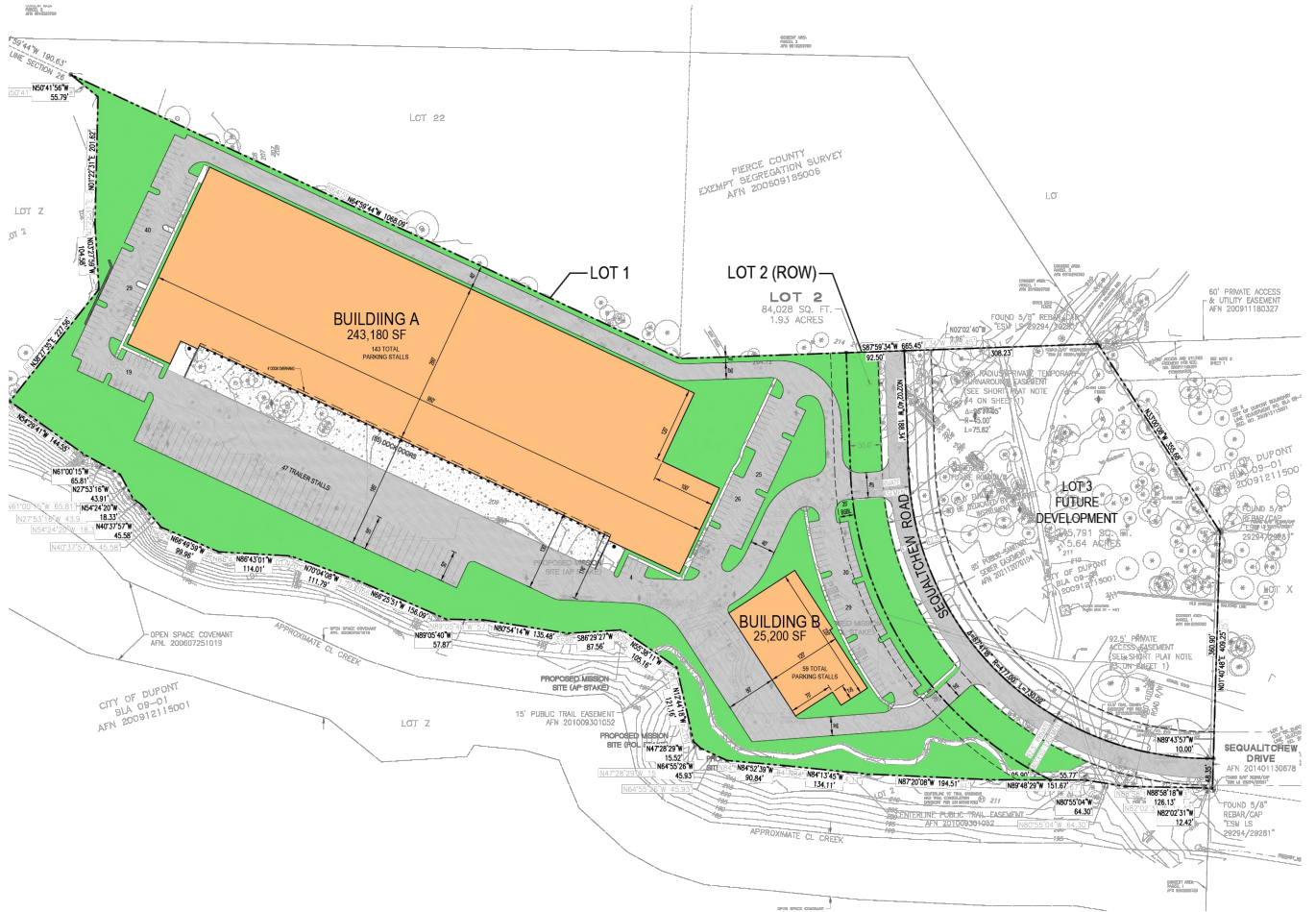
1. INTRODUCTION

The main goals of this study focus on the analysis of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent street system, baseline vehicular volumes, and entering sight distance data. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined.

2. PROJECT DESCRIPTION

The Dupont Industrial project proposes for the construction of approximately 268,380 square feet of warehousing located in the city of Dupont. The subject site, with an address of 1700 Center Drive, comprises undeveloped, 17.72-acre tax parcel #: 0119266005. Access is to occur via a northwesterly extension of Sequelitchew Drive. Two new driveways are proposed to extend westerly from said roadway extension into the subject site. Figure 1 below shows the aerial vicinity of the project. A conceptual site plan illustrating the proposed building layout and access locations is presented in Figure 2.





HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
CONCEPTUAL SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Existing Roadway Characteristics

The primary roadways serving the subject site are listed and described below.

Center Drive is a north-south, multilane major arterial that is situated east of the subject site. Travel lanes are approximately 12-feet in width with turn lanes typically available at major intersections. The typical cross section of the roadway is two lanes of travel in either direction with a center raised median or two-way left turn lane. Shoulders are paved with the available width allowing bike travel. Detached sidewalks are also provided in most areas. The posted speed limit is 35 mph.

Sequalitchew Drive is a three lane, east-west local roadway, which currently terminates at approximately the southeastern corner of the subject property. The roadway is proposed to be extended northwesterly, providing future access to the site. Travel lanes are approximately 11-feet wide, and 4.5-foot wide bike lanes are provided along either side of the roadway. Shoulders are comprised of curb and gutter, with sidewalk additionally provided along the north side of the road.

3.2 Roadway Improvements

A review of the City of Dupont's Six Year Transportation Improvement Program (2021-2026) indicates that improvement projects are planned in the vicinity. Descriptions and summaries of each project are provided in Table 1 below.

Table 1: Transportation Improvement Projects

Name	Location	Improvement	Cost
Center Dr Overlay Phases 4A, 4B, 5 & 6 (Map ID#'s 1-4)	I-5 to Powerline Rd	Design and construct asphalt overlay for pavement preservation	\$2,689,298
Center Drive Traffic Signal Coordination (Map ID# 8)	Center Dr: I-5 to Dup-Steil. Rd	Improve signal timing/coordination to improve through traffic during peak periods	\$150,000
Traffic Signal Modernization (Map ID# 9)	Center Dr: I-5 to Dup-Steil. Rd	Replace traffic signal loop detectors with camera detectors at	\$210,000
Sequalitchew Creek Pedestrian Crossing onto Center Drive (Map ID# 12)	Center Dr: culvert to City Hall	Conduct a study for the Sequalitchew Creek Pedestrian Crossing	\$10,000
Powerline Road Improvements (Map ID# 15)	Center Dr to Wharf Rd	Design and construct new arterial roadway along Powerline Road	\$2,308,800

3.3 Public Transit

A review of the Pierce Transit and Sound Transit regional bus schedules indicates that the nearest transit service provided in the vicinity of the subject site is located at Dupont Station, approximately 1.5-miles south of the development. Routes 592 (Dupont to Seattle) and 590/594 (Lakewood/Tacoma to Seattle) provide service at the Dupont Station. Refer to Pierce Transit and Sound Transit schedules and maps for further information.

3.4 Existing Peak Hour Volumes and Patterns

Field data for this study was collected in October of 2022. Traffic counts were taken at the intersections outlined below, which are anticipated to receive the bulk of the anticipated vehicular demands.

- | | |
|--------------------------------|------------------------------|
| 1. Center Dr & Sequalitchew Dr | 4. Center Dr & McNeil St |
| 2. Center Dr & Palisade Blvd | 5. Center Dr & Wilmington Dr |
| 3. Center Dr & Bob's Hollow Ln | |

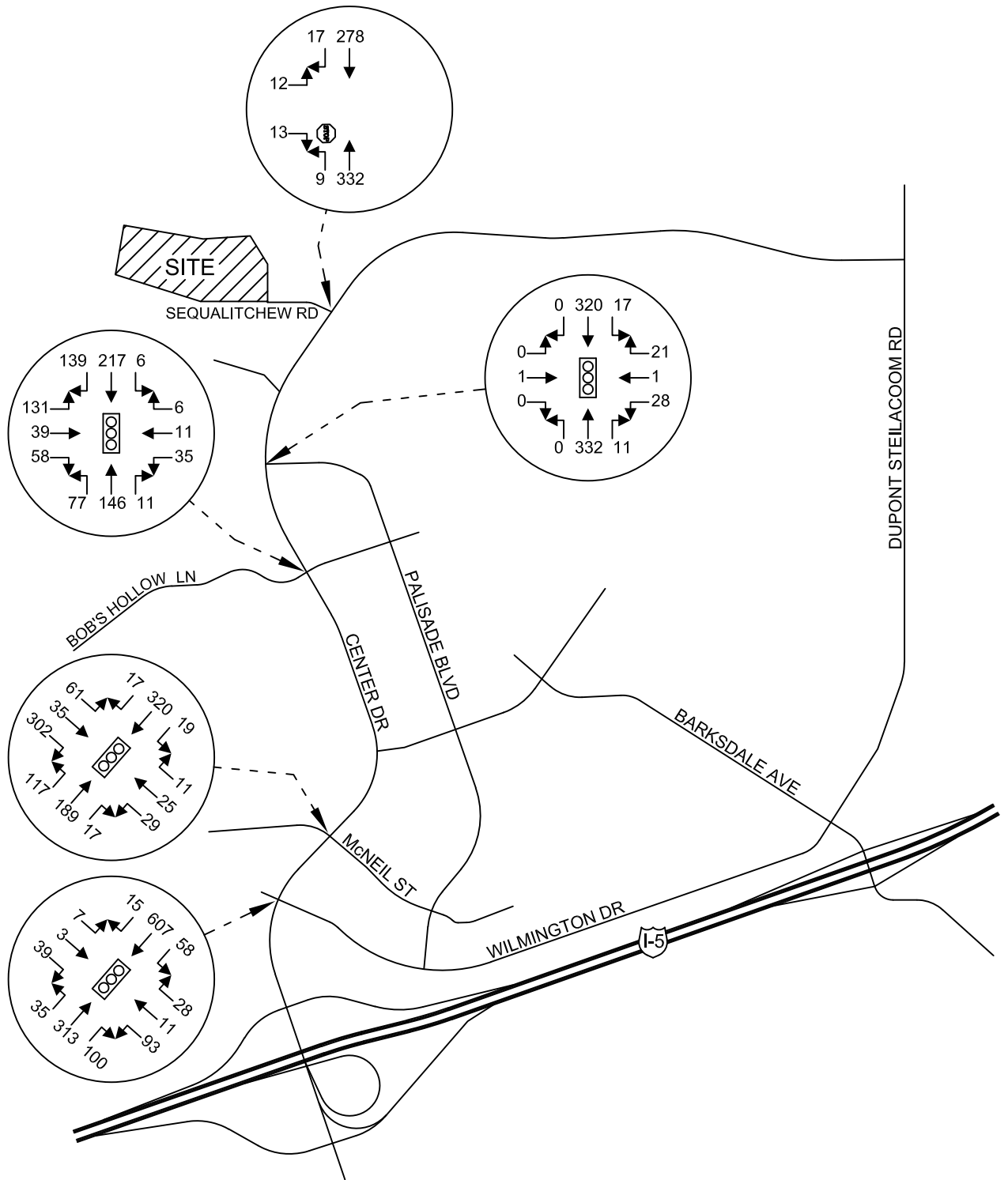
Study intersections herein are consistent with those analyzed within the original *Dupont Industrial TIA (3/6/2018)*. Data was obtained during the morning and evening peak periods between the hours of 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM, which generally translates to highest overall roadway volumes in a given 24-hour period. The peak hour of each timeframe was then derived from each field count and used for analysis.

Intersection volumes for the AM and PM peak hours are presented in Figures 3 and 4. The full two-hour counts have been attached to the appendix for reference.

3.5 Non-Motorist Activity

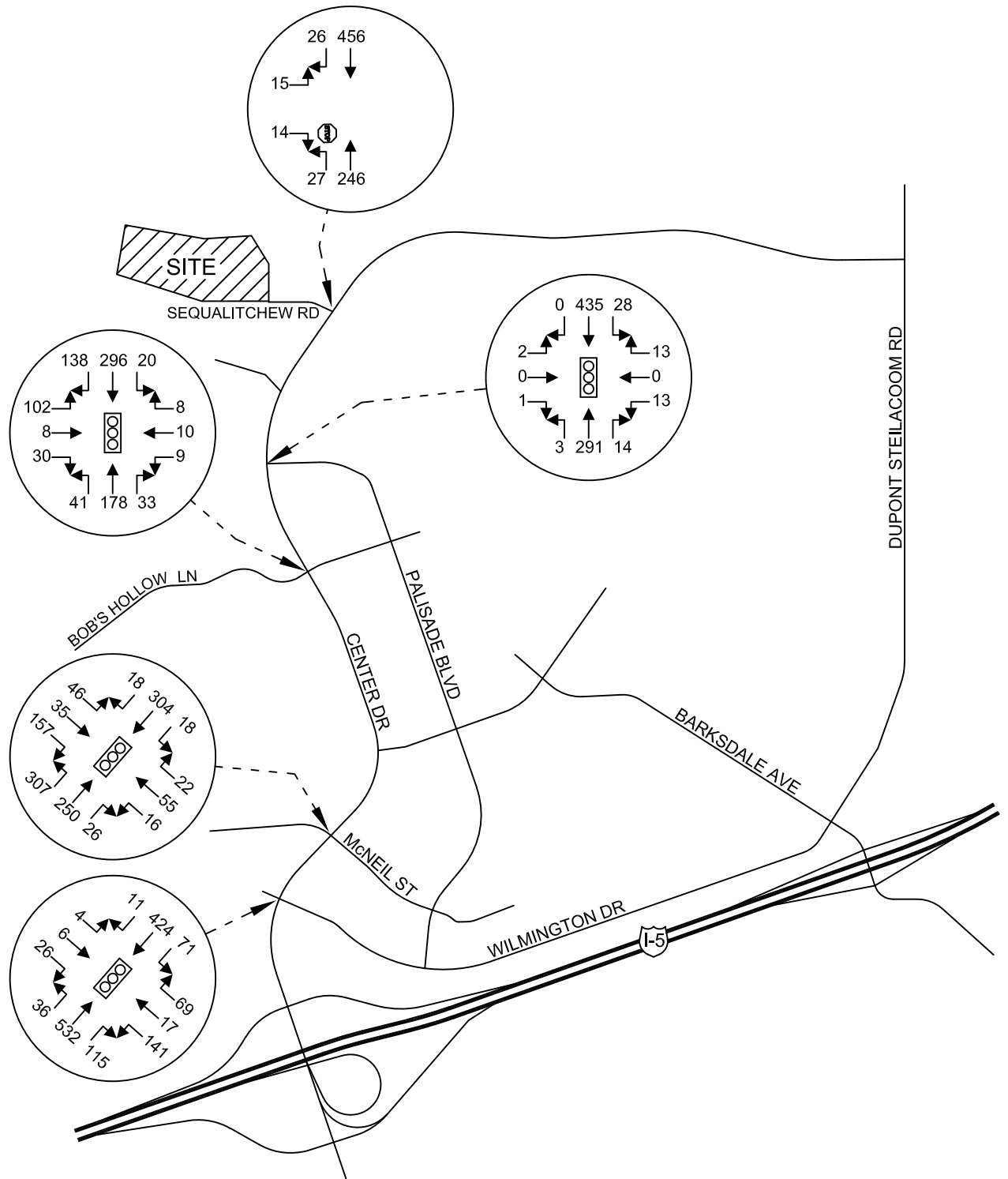
Pedestrian and bicycle activity were observed at the intersections of study during the respective peak hours of analysis. Pedestrian and bicyclist volumes noted during the AM peak hour are illustrated in Figures A and B in the appendix, respectively. PM peak hour non-motorist volumes are illustrated in Figures C and D. The heaviest pedestrian volumes were observed at the Center Drive & Bob's Hollow Lane intersection given the close proximity to Pioneer Middle School. Extensive non-motorist infrastructure at and in the vicinity of said intersection is provided in the form of bike lanes, sidewalk and pedestrian actuated crossings. No significant increase with respect to non-motorist transport would be expected from the development given the industrial nature of the proposed project.

Moreover, detached sidewalk and wide paved shoulders/dedicated bike lanes are provided along either side of Center Drive. These paths provide connectivity to the Sequalitchew Creek Trail, the trailhead of which is located just south of the subject site within the Dupont City Police Department parking lot. The recreational trail jogs approximately 1.5-miles westerly to the Puget Sound beach front.



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
EXISTING AM PEAK HOUR VOLUMES
FIGURE 3



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
EXISTING PM PEAK HOUR VOLUMES
FIGURE 4

3.6 Level of Service

Baseline intersection delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range¹ for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the *Synchro 11* analysis program for stop-controlled and signalized intersections. Delays presented represent overall weighted average delays for signalized control. For side-street, stop-controlled intersections, LOS is determined by the approach with the highest delay. Table 2 below portrays existing LOS delays for the key intersections of study.

Table 2: Existing Weekday Peak Hour Level of Service

Delays given in seconds per vehicle

Intersection	Control	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
		LOS	Delay	LOS	Delay
Center Dr & Sequalitchew Dr	Stop	B	10.1	B	12.4
Center Dr & Palisade Blvd	Signal	A	5.9	A	5.6
Center Dr & Bob's Hollow Ln	Signal	B	12.0	A	9.7
Center Dr & McNeil St	Signal	B	13.1	B	17.3
Center Dr & Wilmington Dr	Signal	B	10.5	B	12.1

The City of Dupont² has adopted a concurrency standard of LOS D. All study intersections are shown to operate satisfactorily with LOS B or better conditions during the critical AM and PM peak hours of study, meeting City LOS Standards.

¹ *Signalized Intersections - Level of Service*

<u>Level of Service</u>	<u>Control Delay per Vehicle (sec)</u>
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Highway Capacity Manual, 6th Edition

Stop Controlled Intersections – Level of Service

<u>Level of Service</u>	<u>Control Delay per Vehicle (sec)</u>
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

² City of Bonney Lake Design Standards Section 200 – Permits, 207: Traffic Impact Analysis Guidelines

3.7 Site Access & Driveway Design

As shown in the conceptual site plan (see Figure 2), access to the subject site is proposed via a northwesterly extension of Sequelitchew Drive. Two driveways extending west from this roadway extension are proposed to serve the development. Any new access and/or roadway shall be designed in accordance with city standards, providing sufficient sight lines in accordance with *American Association of State Highway and Transportation Officials* (AASHTO) specifications.

4. FUTURE TRAFFIC CONDITIONS

4.1 Trip Generation

Trip generation is used to determine the magnitude of project impacts on the surrounding street system. This is usually denoted by the quantity or specific number of new trips that enter and exit a project during a designated time period, such as a specific peak hour (AM or PM) or an entire day. Data presented in this report was taken from the Institute of Transportation Engineer's publication *Trip Generation*, 11th Edition. The designated land use for this project is defined as Warehousing (LUC 150). Table 3 below summarizes the estimated project trip generation using ITE equations. Included are the average weekday daily traffic (AWDT) and the AM and PM peak hours. Refer to the appendix for trip generation output.

Table 3: Project Trip Generation

Land Use	Sq. Ft.	Trip Type	AWDT	AM Peak-Hour			PM Peak-Hour		
				In	Out	Total	In	Out	Total
LUC 150- Warehousing	268,380	Pass. Vehicle	310	41	10	51	12	39	51
		Truck	152	2	3	5	4	4	8
		Total	462	43	13	56	16	43	59

Project trips associated with the proposed development are estimated to total 462 average weekday daily trips with 56 trips (43 inbound / 13 outbound) occurring during the AM peak hour and 59 trips (16 inbound / 43 outbound) in the PM peak hour. Moreover, ITE data indicates that approximately 5 AM peak hour trips (2 inbound / 3 outbound) and 8 PM peak hour trips (4 inbound / 4 outbound) are to be in the form of heavy vehicles.

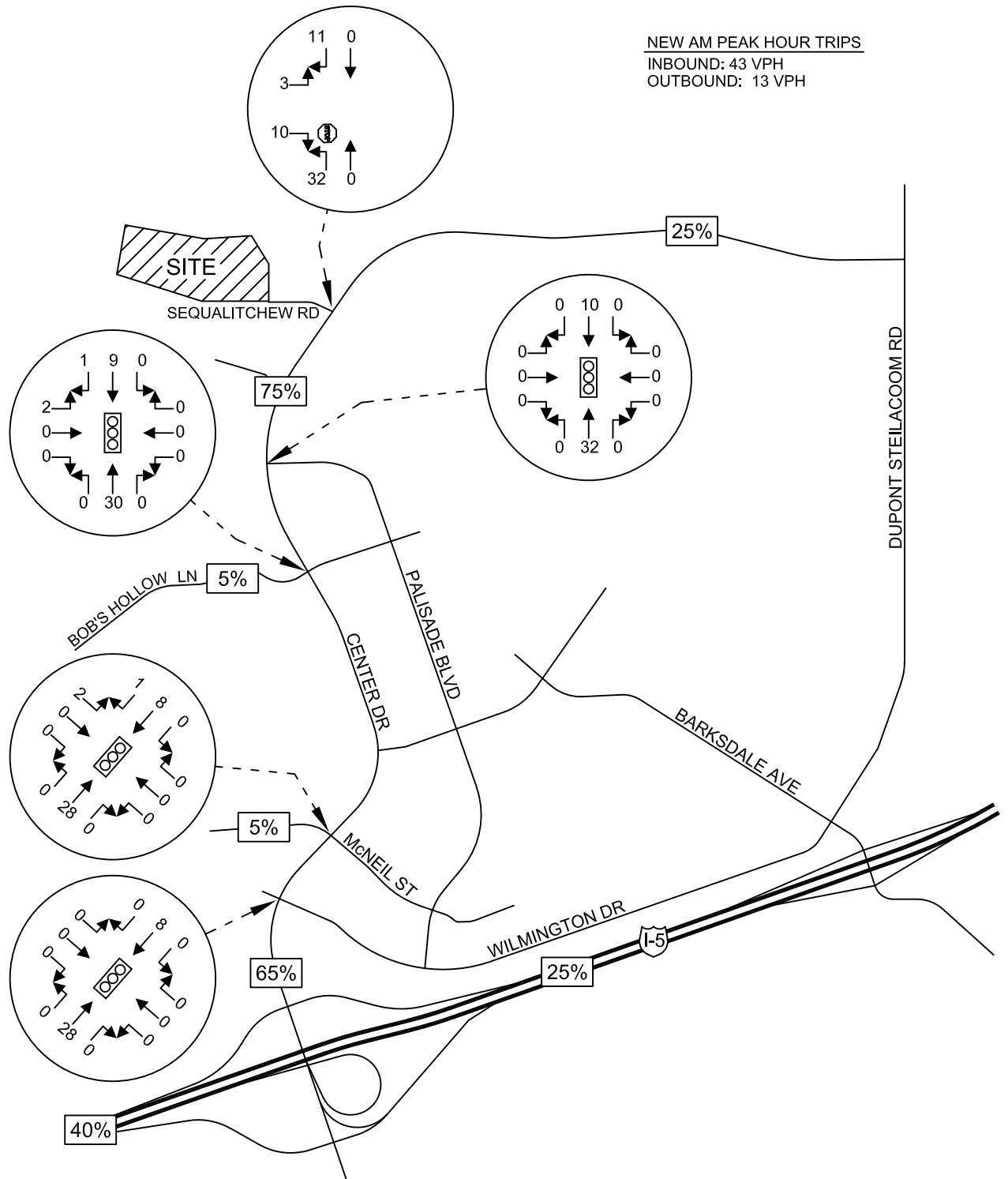
4.2 Trip Distribution and Assignment

Trip distribution describes the process by which project generated trips are dispersed on the street network surrounding the site. The trips generated by the project are expected to follow the general trip pattern as shown in Figure 5 (AM peak hour) and Figure 6 (PM peak hour) on the following pages. Distribution percentages are based primarily on existing travel patterns and the location of the Interstate 5 interchange on Center Drive. Heavy trucks are restricted on Center Drive between Palisade Blvd and McNeil Street and were therefore modeled traveling east to use DuPont-Steilacoom Road to access I-5. Overall, trip distribution and assignment assumptions emulate those utilized within the original *Dupont Industrial TIA (3/6/2018)*.

4.3 Future Peak Hour Volumes

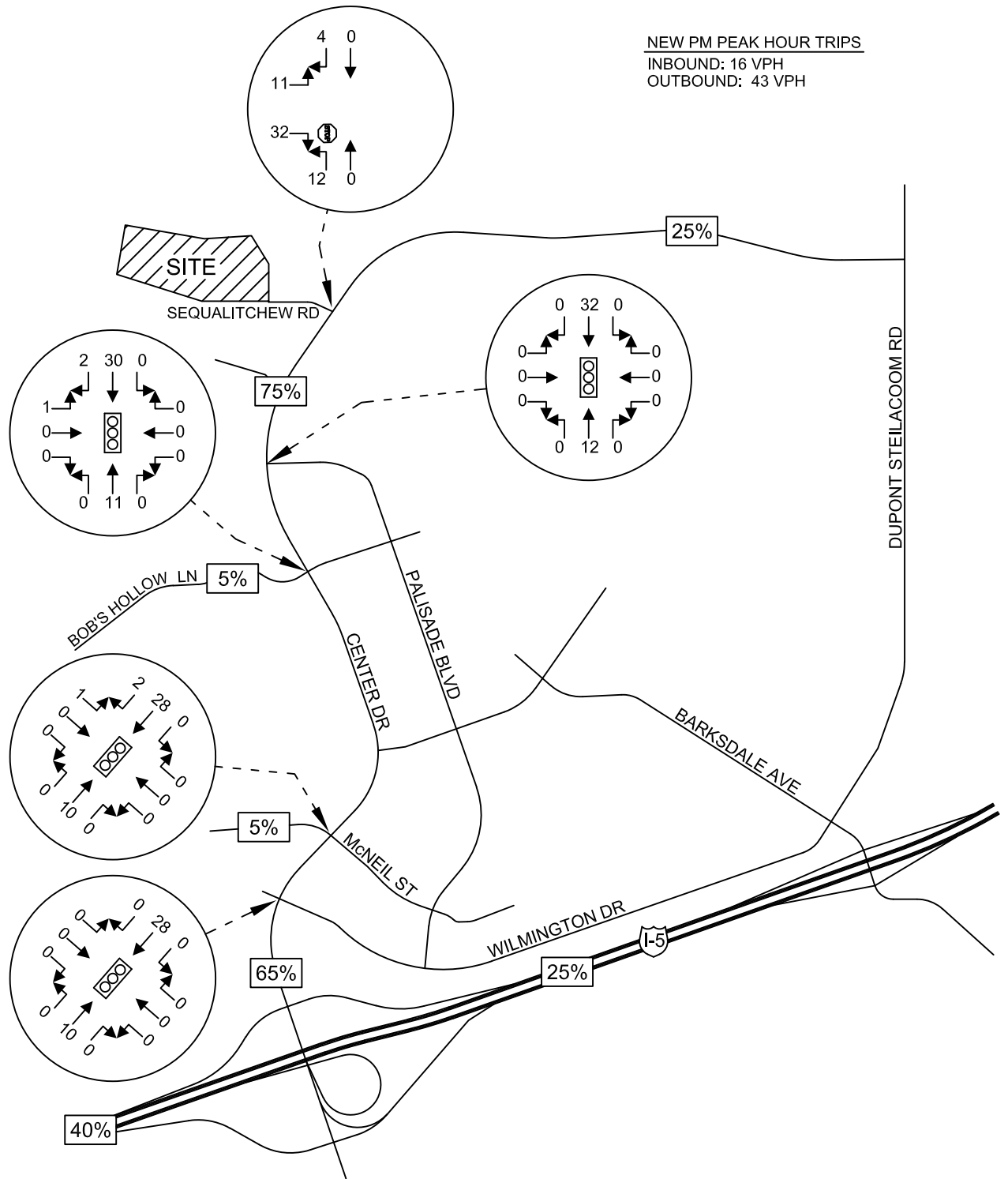
The estimated build-out year of 2024 was used as the horizon study year in order to assess future impacts. To derive forecast 2024 peak hour volumes, a 2.0 percent compound annual background growth rate was applied to the existing volumes. It should be noted that existing counts conducted at the study intersections were compared with historic 2018 peak hour volumes gathered for the previous iteration of this report. Existing 2022 volumes were shown to be comparable with historic volumes, indicating little to no growth at the study intersections (see appendix for percent differential spreadsheet). As such, pipeline volumes provided by the City of DuPont in 2018 were included in future estimations. A list of pipeline volumes can also be found in the appendix.

AM and PM peak hour pipeline volumes are provided in Figures 7 and 8. Figures 9 and 10 show forecast 2024 AM and PM peak hour background volumes, which include a growth rate and pipeline volumes. Figures 11 and 12 show forecast 2024 AM and PM peak hour volumes with project-generated traffic included.



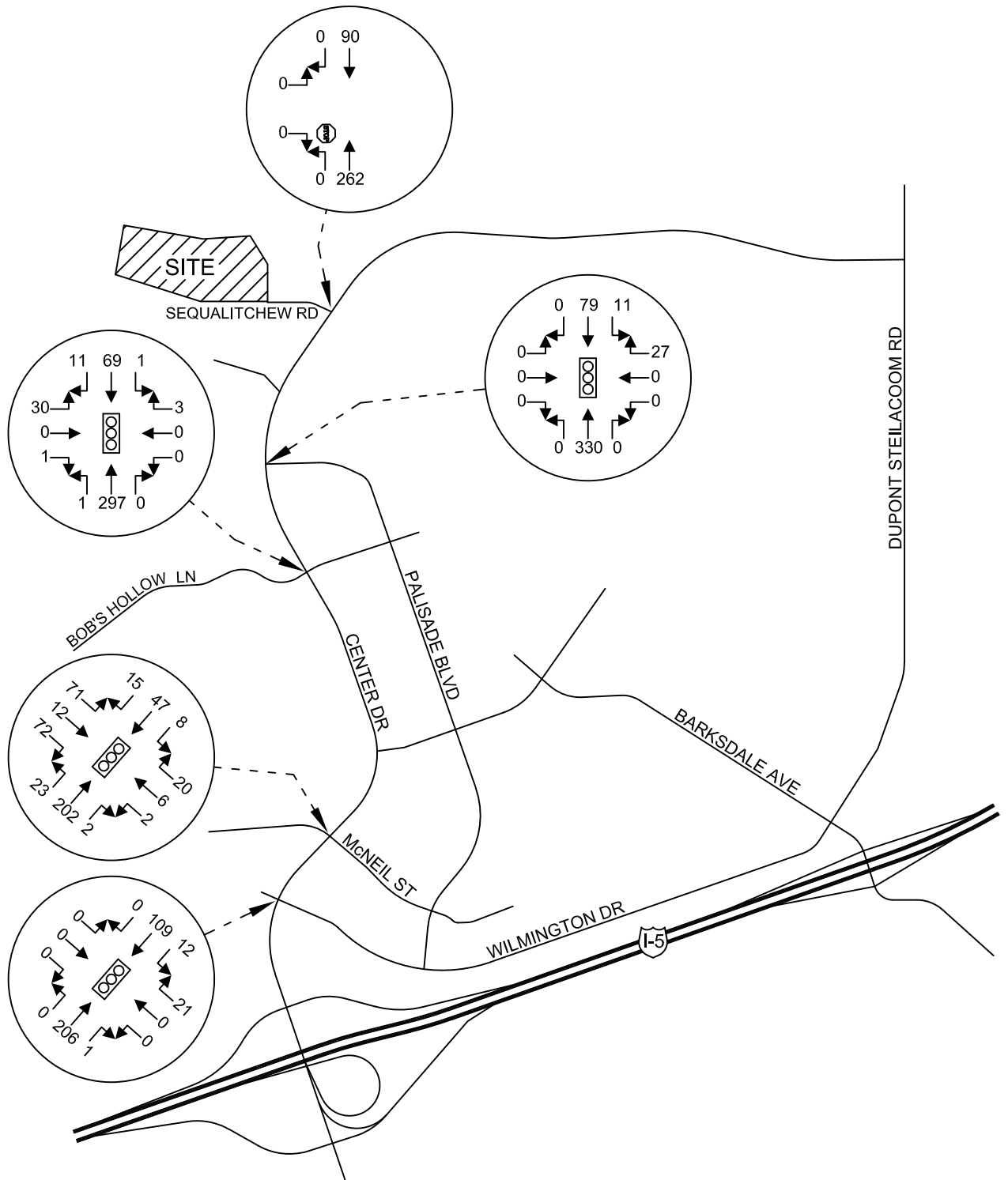
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
AM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 5



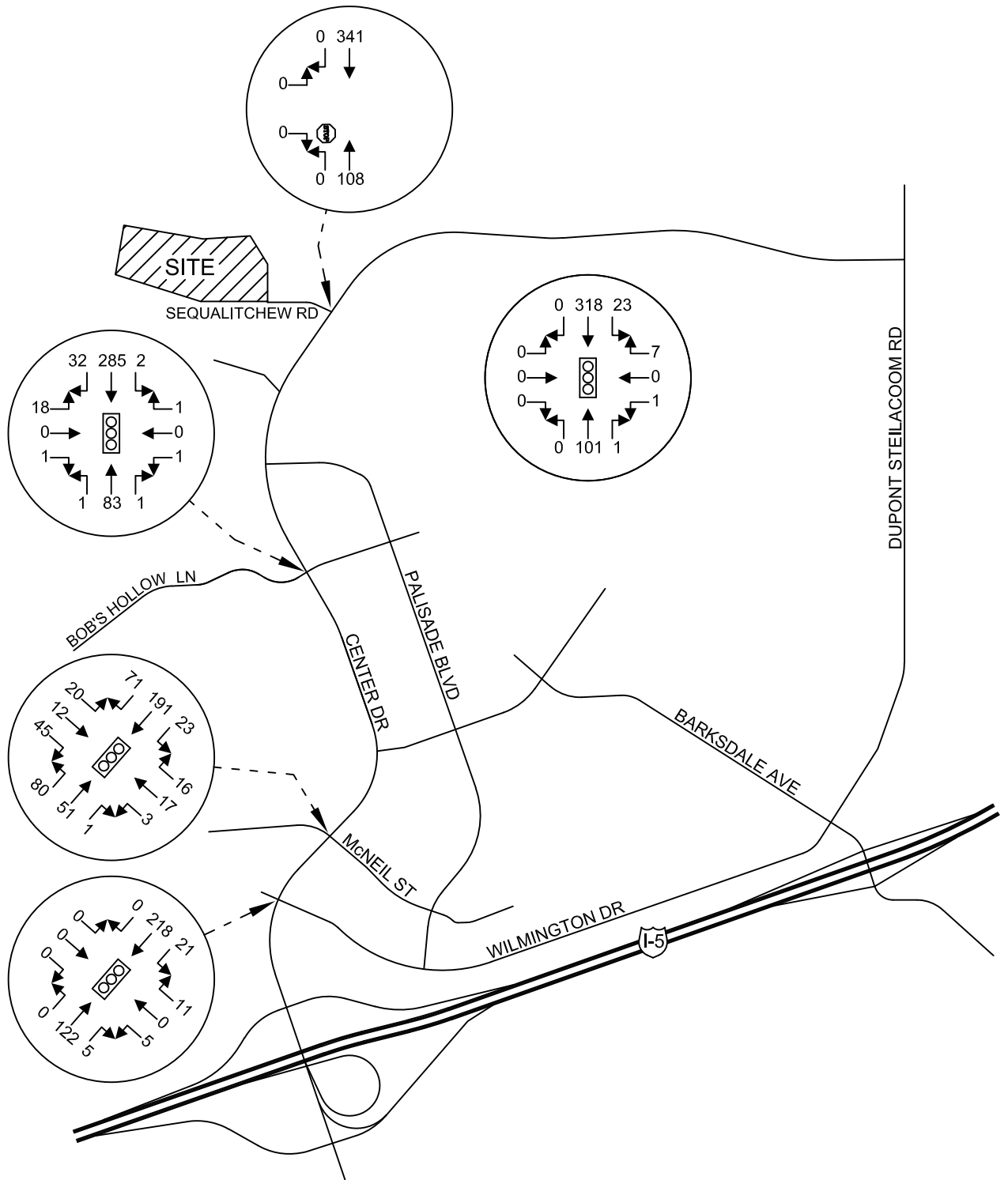
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 6



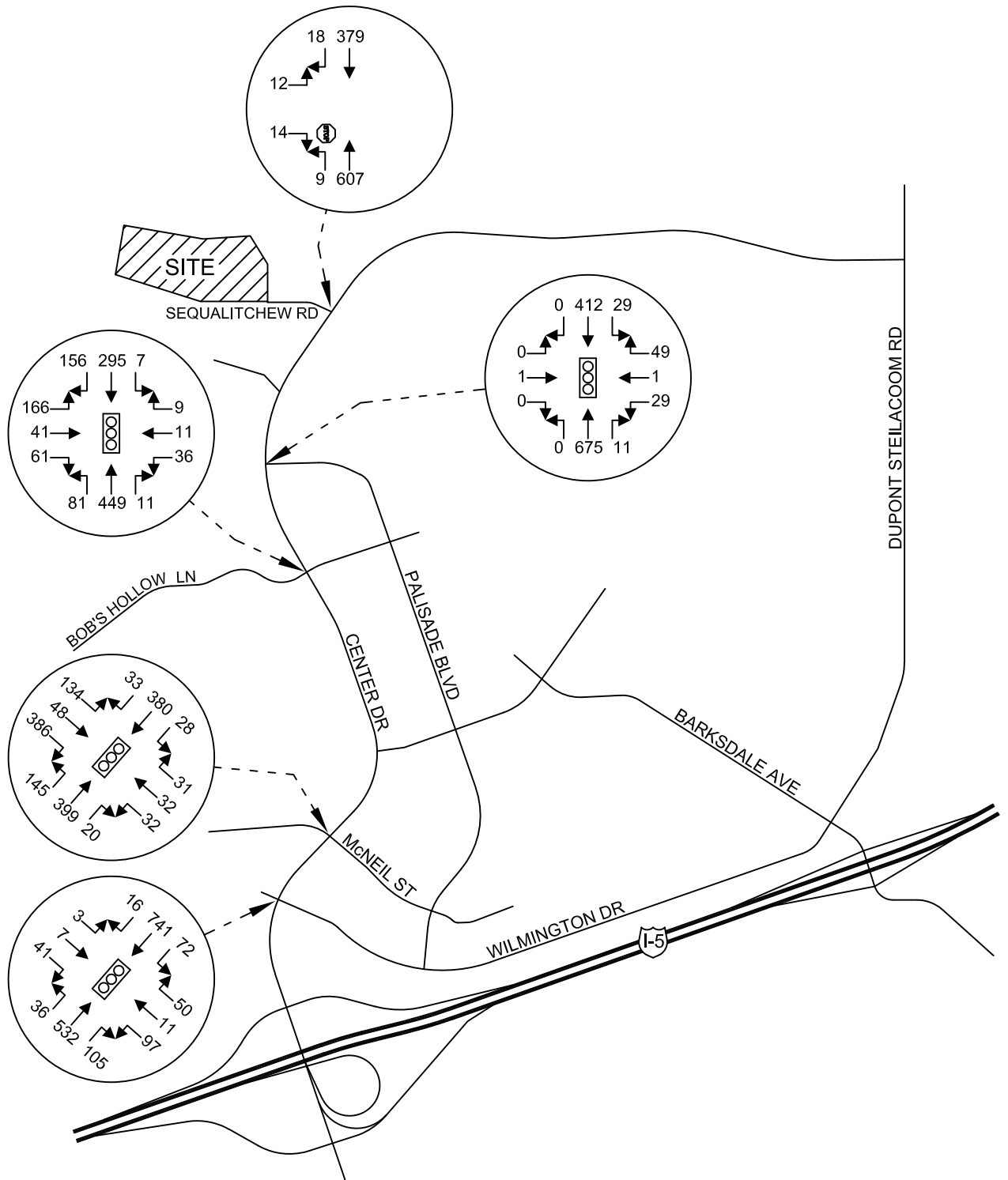
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
AM PEAK HOUR PIPELINE VOLUMES
FIGURE 7



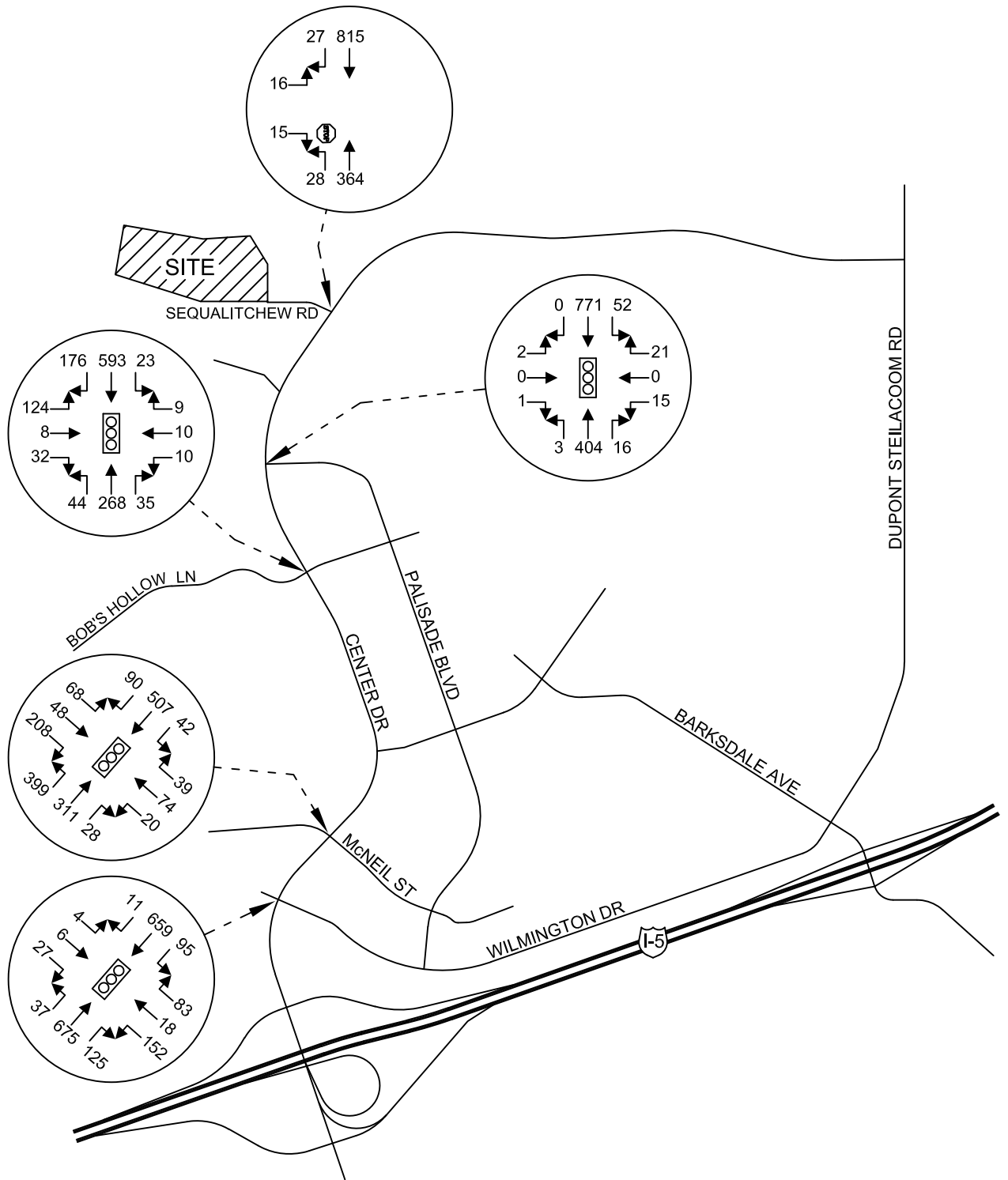
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
PM PEAK HOUR PIPELINE VOLUMES
FIGURE 8



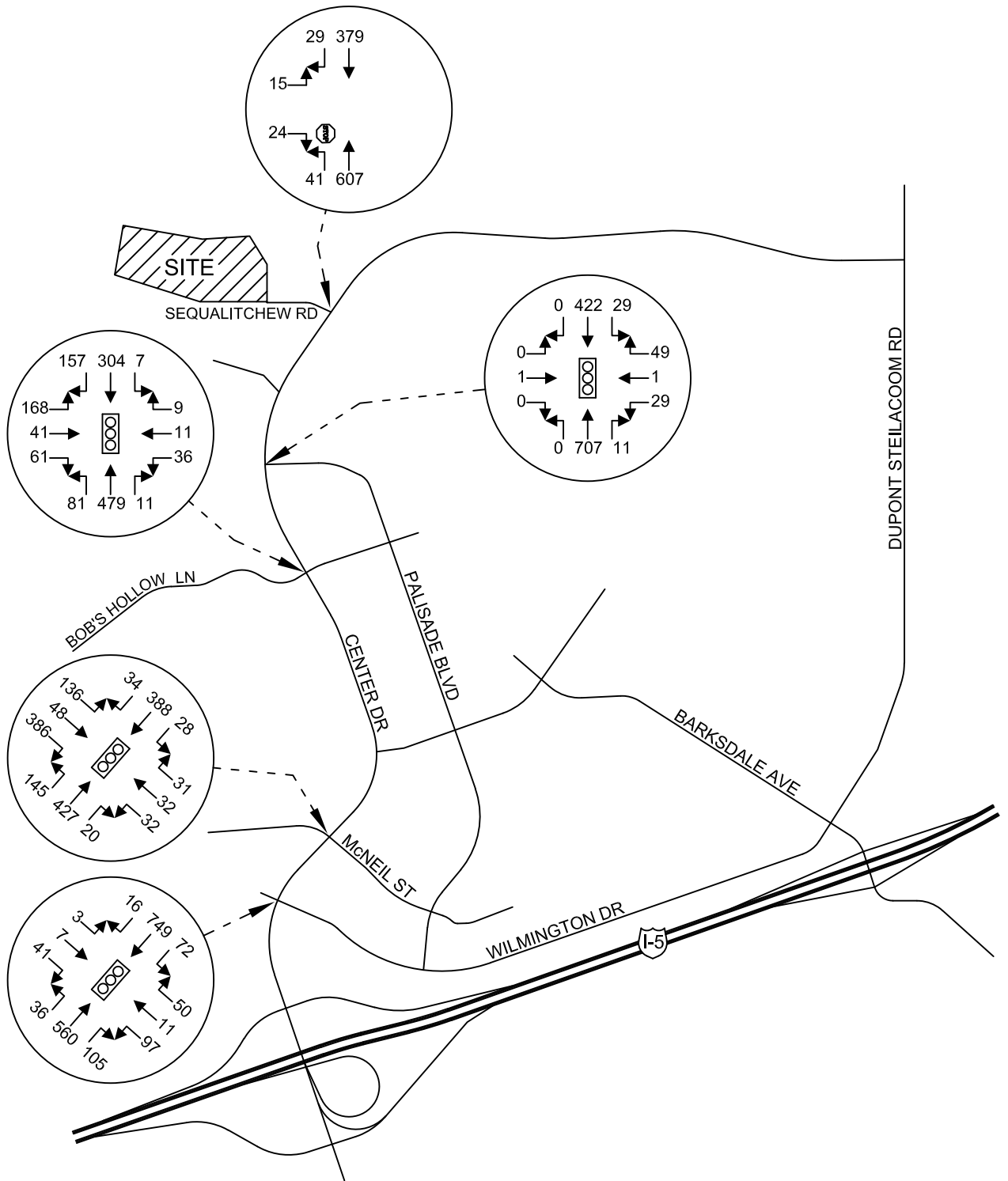
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
FORECAST 2024 AM PEAK HOUR BACKGROUND VOLUMES
FIGURE 9



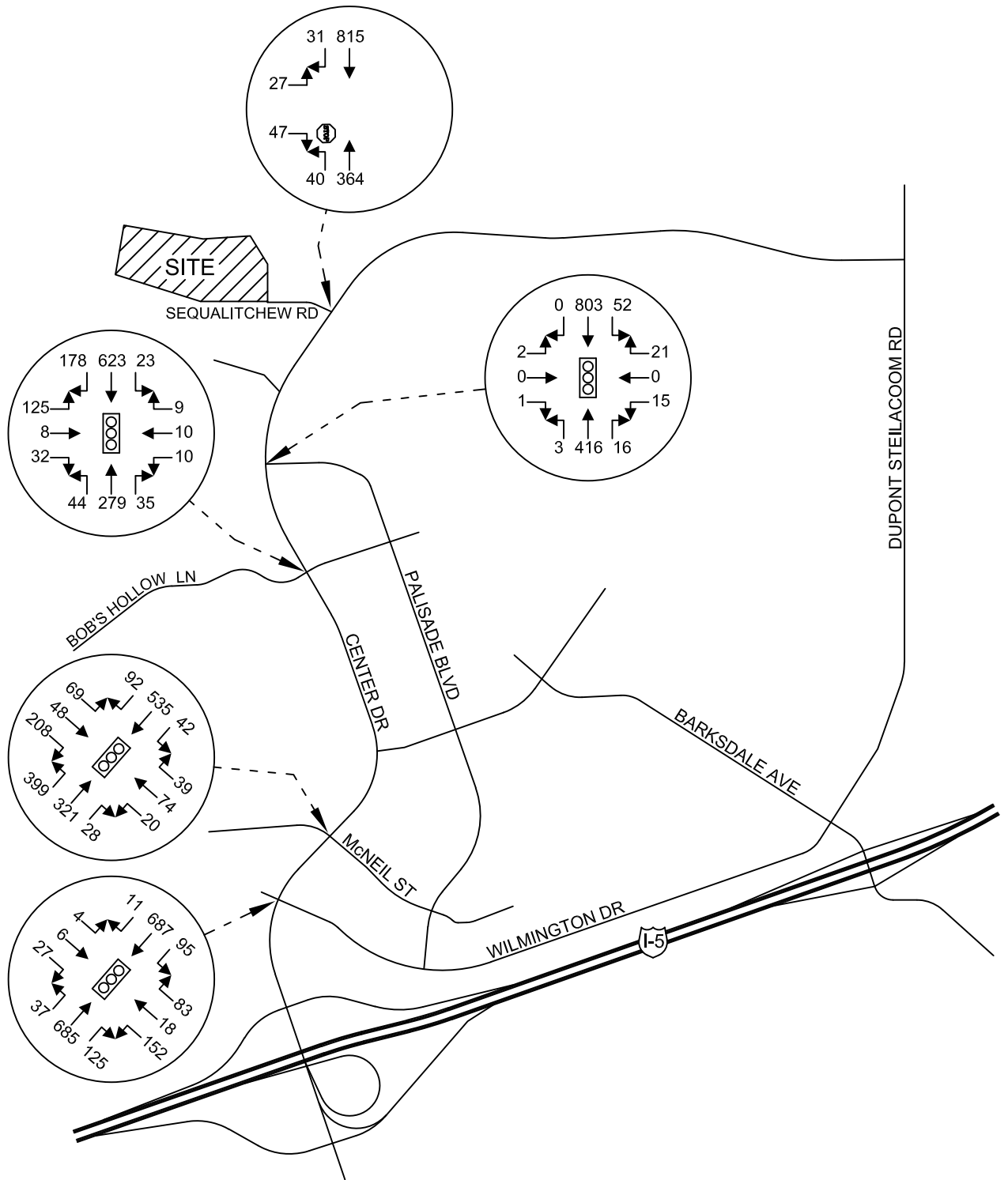
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
FORECAST 2024 PM PEAK HOUR BACKGROUND VOLUMES
FIGURE 10



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
FORECAST 2024 AM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 11



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
FORECAST 2024 PM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 12

4.4 Future Level of Service

Level of service analyses were made of the future 2024 AM and PM peak hour volumes without and with project related trips added to the key roadways and intersections. This analysis once again involved the use the *Synchro 11* analysis program. Delays for the key intersection movements under future conditions are shown in Table 4 below.

Table 4: Forecast 2024 Weekday Peak Hour Level of Service

Delays given in seconds per vehicle

Intersection	Control	Peak Hour	<u>Background</u>		<u>With Project</u>	
			LOS	Delay	LOS	Delay
Center Dr & Sequalitchew Dr	Stop	AM	B	11.4	B	11.9
		PM	C	17.5	C	18.1
Center Dr & Palisade Blvd	Signal	AM	A	7.2	A	7.2
		PM	A	8.2	A	8.2
Center Dr & Bob's Hollow Ln	Signal	AM	B	13.5	B	13.7
		PM	B	13.6	B	13.7
Center Dr & McNeil St	Signal	AM	B	16.3	B	16.4
		PM	C	22.5	C	22.9
Center Dr & Wilmington Dr	Signal	AM	B	11.0	B	11.1
		PM	B	13.1	B	13.1

Forecast 2024 AM and PM peak hour delays are shown to operate with up to LOS C conditions both with or without the Dupont Industrial project. As such, no operational deficiencies are identified as a result of the development proposal.

It should also be noted that the City's Transportation Improvement Program proposes traffic signal modernization and coordination improvements for intersections along Center Drive. As such, these projects would likely improve level of service upon installation at the study intersections herein this report.

5. SUMMARY

Dupont Industrial is a proposed warehousing development comprising approximately 268,380 square feet in the city of Dupont. The subject site is located on undeveloped 17.72-acre tax parcel #: 0119266005. Dupont Industrial comprises a site address of 17000 Center Street, and is located west of Center Drive. A northwesterly extension of Sequalitchew Drive is proposed to serve the site, with new driveways extending west into the development from said extension. Refer to the site plan on Figure 2 for the proposed building and access layout.

Existing level of service (LOS) is summarized in Table 2 and indicates that the study intersections operate with acceptable LOS B or better delays during the AM and PM peak hours. Based on ITE data the project would be anticipated to generate 56 new AM peak hour trips (43 in / 13 out) and 59 new PM peak hour trips (16 in / 43 out). Approximately 5 AM peak hour and 8 PM peak hour trips are anticipated to be in the form of heavy vehicle. For forecast analyses, a two-year horizon was examined to assess impacts under future conditions. Table 4 summarizes forecast 2024 weekday peak hour LOS delays without and with the project. Forecast 2024 AM and PM peak hour conditions are shown to continue to meet city of Dupont standards with up to LOS C delays. Overall, no operational deficiencies are identified as a result of the development proposal.

No mitigation is identified at this time.

DUPONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS

APPENDIX

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017a
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

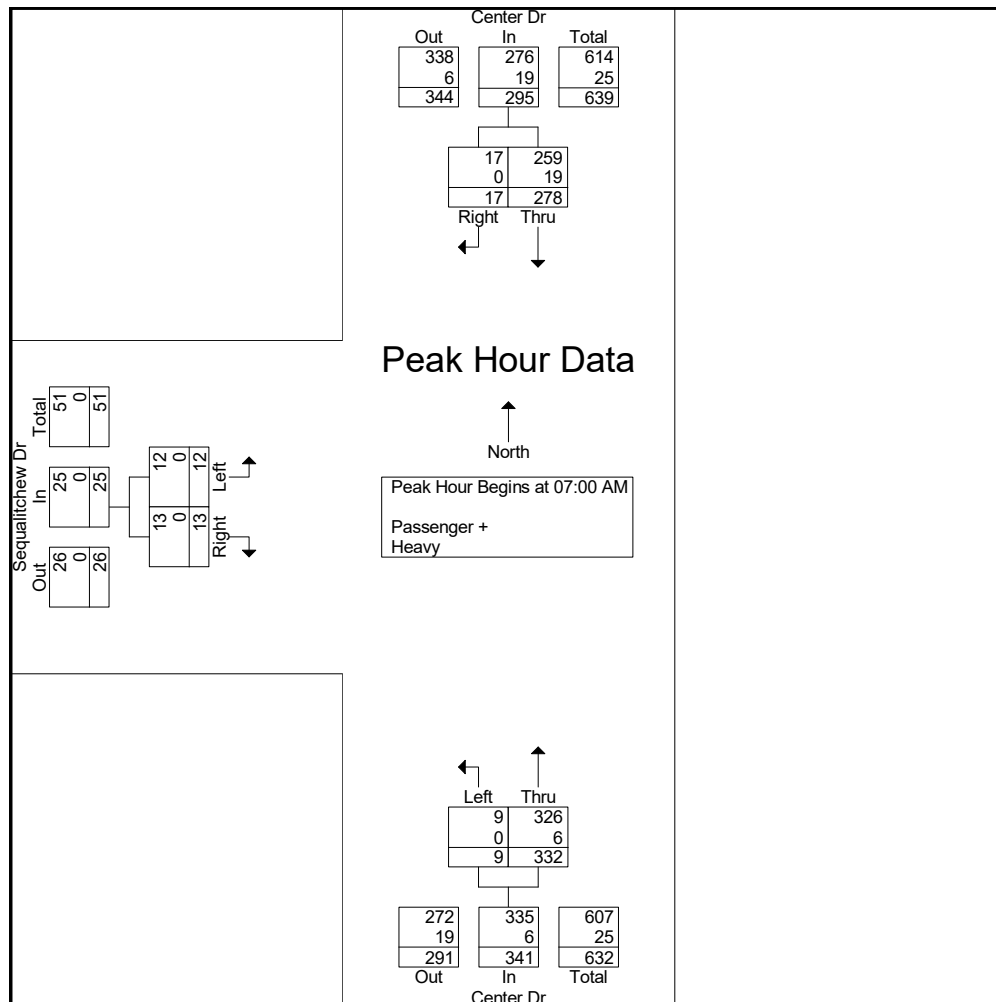
Start Time	Center Dr Southbound			Center Dr Northbound			Sequalitchew Dr Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
07:00 AM	1	37	38	114	0	114	3	6	9	161
07:15 AM	6	70	76	83	2	85	2	3	5	166
07:30 AM	3	73	76	66	2	68	4	1	5	149
07:45 AM	7	98	105	69	5	74	4	2	6	185
Total	17	278	295	332	9	341	13	12	25	661
08:00 AM	10	67	77	71	0	71	5	3	8	156
08:15 AM	4	31	35	57	1	58	9	5	14	107
08:30 AM	3	44	47	53	6	59	5	7	12	118
08:45 AM	2	32	34	70	2	72	12	5	17	123
Total	19	174	193	251	9	260	31	20	51	504
Grand Total	36	452	488	583	18	601	44	32	76	1165
Apprch %	7.4	92.6		97	3		57.9	42.1		
Total %	3.1	38.8	41.9	50	1.5	51.6	3.8	2.7	6.5	
Passenger +	35	412	447	566	17	583	43	31	74	1104
% Passenger +	97.2	91.2	91.6	97.1	94.4	97	97.7	96.9	97.4	94.8
Heavy	1	40	41	17	1	18	1	1	2	61
% Heavy	2.8	8.8	8.4	2.9	5.6	3	2.3	3.1	2.6	5.2

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017a
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 2

	Center Dr Southbound			Center Dr Northbound			Sequalitchew Dr Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	37	38	114	0	114	3	6	9	161
07:15 AM	6	70	76	83	2	85	2	3	5	166
07:30 AM	3	73	76	66	2	68	4	1	5	149
07:45 AM	7	98	105	69	5	74	4	2	6	185
Total Volume	17	278	295	332	9	341	13	12	25	661
% App. Total	5.8	94.2		97.4	2.6		52	48		
PHF	.607	.709	.702	.728	.450	.748	.813	.500	.694	.893
Passenger +	17	259	276	326	9	335	13	12	25	636
% Passenger +	100	93.2	93.6	98.2	100	98.2	100	100	100	96.2
Heavy	0	19	19	6	0	6	0	0	0	25
% Heavy	0	6.8	6.4	1.8	0	1.8	0	0	0	3.8



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017b
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

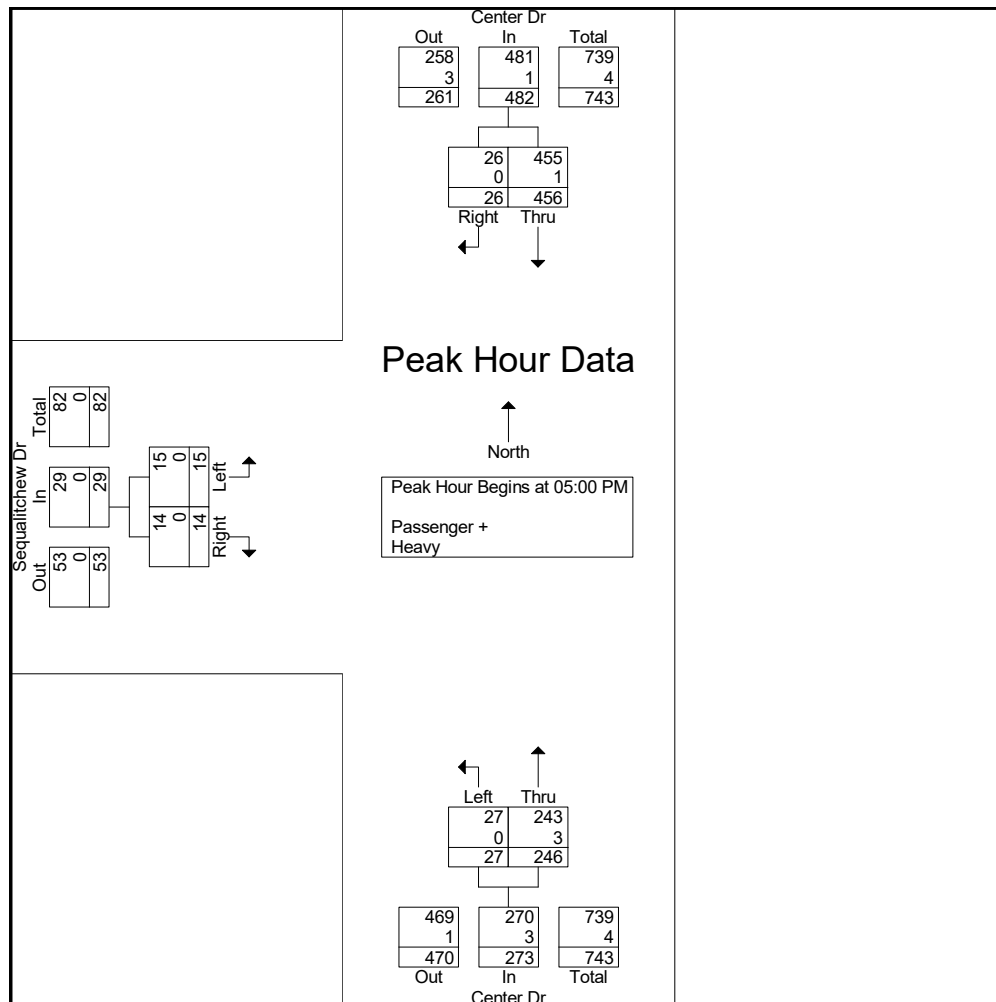
Start Time	Center Dr Southbound			Center Dr Northbound			Sequalitchew Dr Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
04:00 PM	6	91	97	35	6	41	3	2	5	143
04:15 PM	8	80	88	50	8	58	3	3	6	152
04:30 PM	7	99	106	46	2	48	1	2	3	157
04:45 PM	11	96	107	49	2	51	4	3	7	165
Total	32	366	398	180	18	198	11	10	21	617
05:00 PM	10	92	102	64	7	71	3	3	6	179
05:15 PM	7	109	116	46	10	56	5	6	11	183
05:30 PM	4	159	163	76	4	80	3	2	5	248
05:45 PM	5	96	101	60	6	66	3	4	7	174
Total	26	456	482	246	27	273	14	15	29	784
Grand Total	58	822	880	426	45	471	25	25	50	1401
Apprch %	6.6	93.4		90.4	9.6		50	50		
Total %	4.1	58.7	62.8	30.4	3.2	33.6	1.8	1.8	3.6	
Passenger +	58	818	876	418	45	463	25	25	50	1389
% Passenger +	100	99.5	99.5	98.1	100	98.3	100	100	100	99.1
Heavy	0	4	4	8	0	8	0	0	0	12
% Heavy	0	0.5	0.5	1.9	0	1.7	0	0	0	0.9

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017b
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 2

	Center Dr Southbound			Center Dr Northbound			Sequalitchew Dr Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	10	92	102	64	7	71	3	3	6	179
05:15 PM	7	109	116	46	10	56	5	6	11	183
05:30 PM	4	159	163	76	4	80	3	2	5	248
05:45 PM	5	96	101	60	6	66	3	4	7	174
Total Volume	26	456	482	246	27	273	14	15	29	784
% App. Total	5.4	94.6		90.1	9.9		48.3	51.7		
PHF	.650	.717	.739	.809	.675	.853	.700	.625	.659	.790
Passenger +	26	455	481	243	27	270	14	15	29	780
% Passenger +	100	99.8	99.8	98.8	100	98.9	100	100	100	99.5
Heavy	0	1	1	3	0	3	0	0	0	4
% Heavy	0	0.2	0.2	1.2	0	1.1	0	0	0	0.5



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017c
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

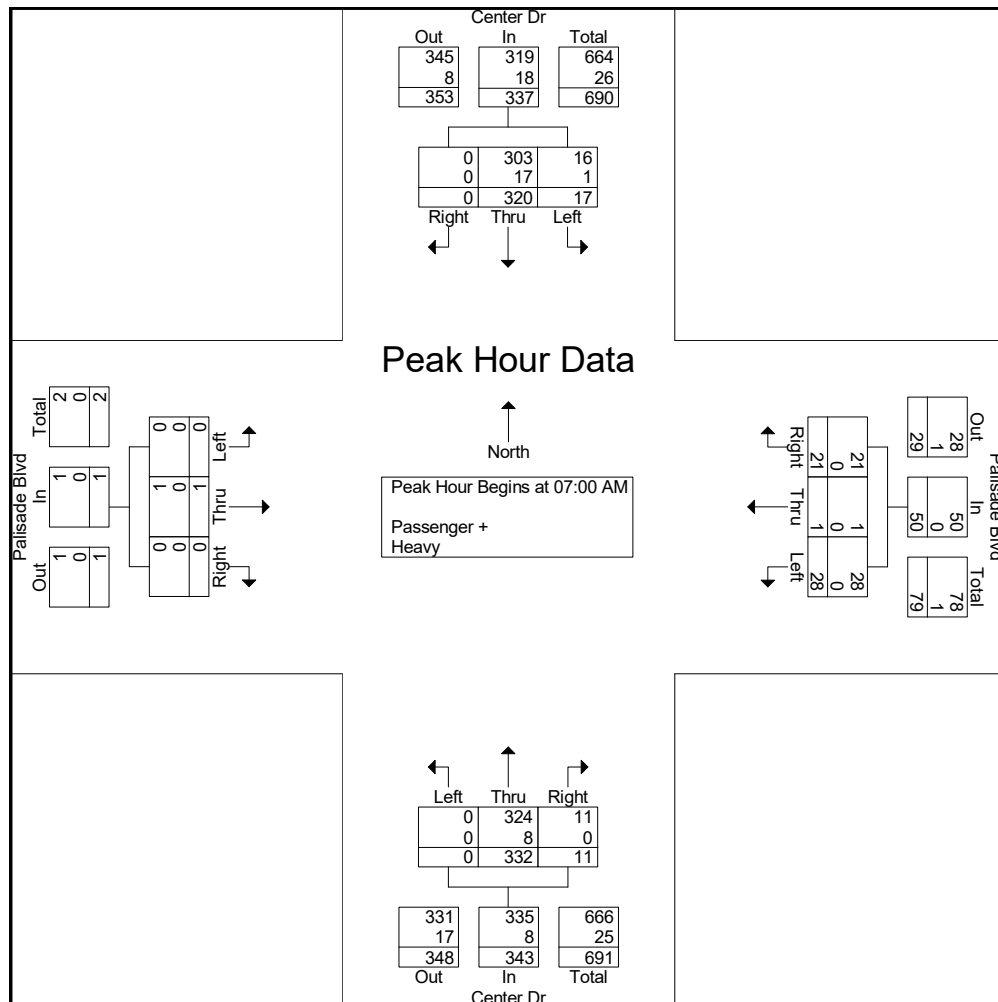
	Center Dr Southbound				Palisade Blvd Westbound				Center Dr Northbound				Palisade Blvd Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	0	44	2	46	4	0	8	12	4	114	0	118	0	0	0	0	176
07:15 AM	0	71	3	74	4	0	7	11	3	77	0	80	0	0	0	0	165
07:30 AM	0	116	5	121	9	0	6	15	1	67	0	68	0	0	0	0	204
07:45 AM	0	89	7	96	4	1	7	12	3	74	0	77	0	1	0	1	186
Total	0	320	17	337	21	1	28	50	11	332	0	343	0	1	0	1	731
08:00 AM	0	76	4	80	7	0	6	13	4	68	0	72	0	0	0	0	165
08:15 AM	0	36	6	42	5	0	7	12	3	63	0	66	0	0	0	0	120
08:30 AM	0	51	4	55	3	0	7	10	2	55	0	57	0	0	0	0	122
08:45 AM	0	41	5	46	6	0	4	10	1	62	0	63	0	0	0	0	119
Total	0	204	19	223	21	0	24	45	10	248	0	258	0	0	0	0	526
Grand Total	0	524	36	560	42	1	52	95	21	580	0	601	0	1	0	1	1257
Apprch %	0	93.6	6.4		44.2	1.1	54.7		3.5	96.5	0		0	100	0		
Total %	0	41.7	2.9	44.6	3.3	0.1	4.1	7.6	1.7	46.1	0	47.8	0	0.1	0	0.1	
Passenger +	0	485	34	519	42	1	52	95	20	558	0	578	0	1	0	1	1193
% Passenger +	0	92.6	94.4	92.7	100	100	100	100	95.2	96.2	0	96.2	0	100	0	100	94.9
Heavy	0	39	2	41	0	0	0	0	1	22	0	23	0	0	0	0	64
% Heavy	0	7.4	5.6	7.3	0	0	0	0	4.8	3.8	0	3.8	0	0	0	0	5.1

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017c
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 2

	Center Dr Southbound				Palisade Blvd Westbound				Center Dr Northbound				Palisade Blvd Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	44	2	46	4	0	8	12	4	114	0	118	0	0	0	0	176
07:15 AM	0	71	3	74	4	0	7	11	3	77	0	80	0	0	0	0	165
07:30 AM	0	116	5	121	9	0	6	15	1	67	0	68	0	0	0	0	204
07:45 AM	0	89	7	96	4	1	7	12	3	74	0	77	0	1	0	1	186
Total Volume	0	320	17	337	21	1	28	50	11	332	0	343	0	1	0	1	731
% App. Total	0	95	5		42	2	56		3.2	96.8	0		0	100	0		
PHF	.000	.690	.607	.696	.583	.250	.875	.833	.688	.728	.000	.727	.000	.250	.000	.250	.896
Passenger +	0	303	16	319	21	1	28	50	11	324	0	335	0	1	0	1	705
% Passenger +	0	94.7	94.1	94.7	100	100	100	100	100	97.6	0	97.7	0	100	0	100	96.4
Heavy	0	17	1	18	0	0	0	0	0	8	0	8	0	0	0	0	26
% Heavy	0	5.3	5.9	5.3	0	0	0	0	0	2.4	0	2.3	0	0	0	0	3.6



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017d
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

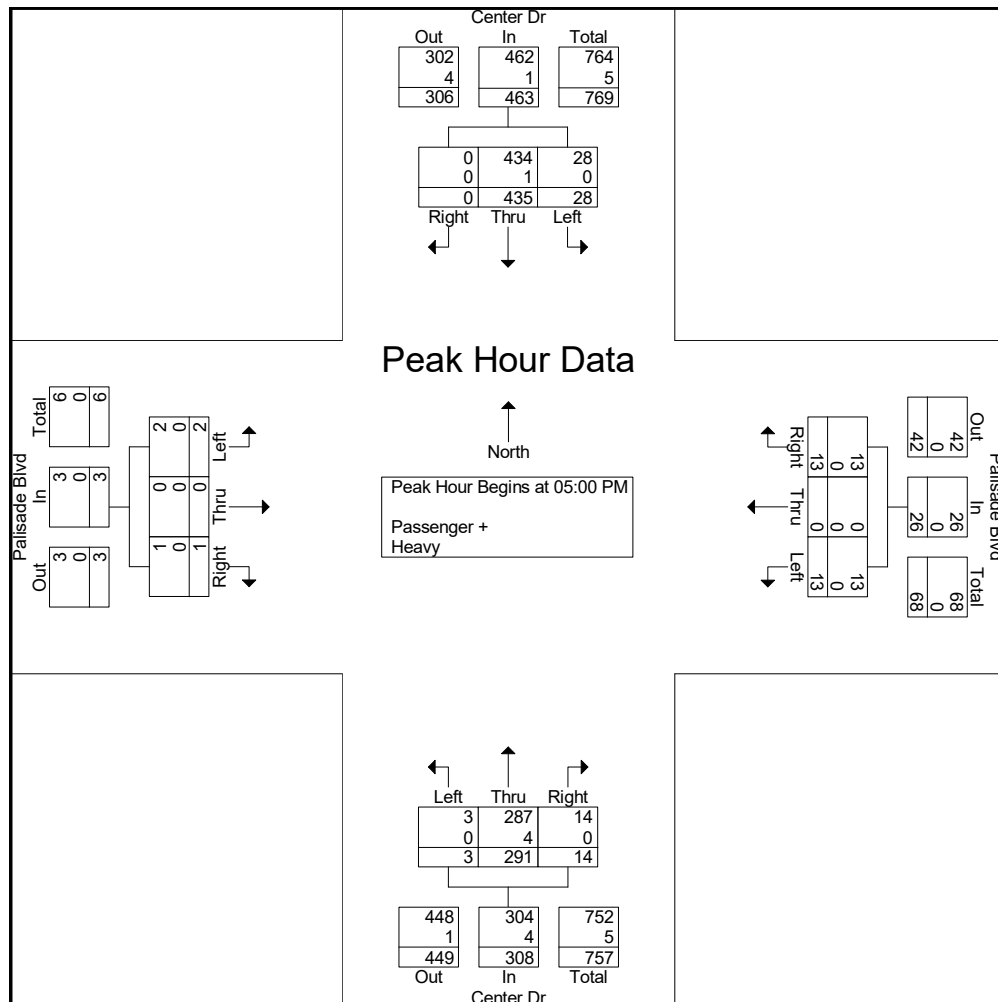
	Center Dr Southbound				Palisade Blvd Westbound				Center Dr Northbound				Palisade Blvd Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	77	13	90	1	0	1	2	4	39	0	43	0	0	0	0	135
04:15 PM	0	73	12	85	3	0	6	9	2	54	0	56	0	0	0	0	150
04:30 PM	0	103	7	110	4	0	9	13	3	48	0	51	0	0	0	0	174
04:45 PM	0	96	8	104	5	0	5	10	4	48	1	53	1	0	0	1	168
Total	0	349	40	389	13	0	21	34	13	189	1	203	1	0	0	1	627
05:00 PM	0	92	9	101	5	0	5	10	0	70	0	70	0	0	1	1	182
05:15 PM	0	102	6	108	2	0	3	5	7	74	0	81	0	0	0	0	194
05:30 PM	0	145	8	153	5	0	3	8	5	72	1	78	0	0	0	0	239
05:45 PM	0	96	5	101	1	0	2	3	2	75	2	79	1	0	1	2	185
Total	0	435	28	463	13	0	13	26	14	291	3	308	1	0	2	3	800
Grand Total	0	784	68	852	26	0	34	60	27	480	4	511	2	0	2	4	1427
Apprch %	0	92	8		43.3	0	56.7		5.3	93.9	0.8		50	0	50		
Total %	0	54.9	4.8	59.7	1.8	0	2.4	4.2	1.9	33.6	0.3	35.8	0.1	0	0.1	0.3	
Passenger +	0	779	68	847	26	0	34	60	27	472	4	503	2	0	2	4	1414
% Passenger +	0	99.4	100	99.4	100	0	100	100	100	98.3	100	98.4	100	0	100	100	99.1
Heavy	0	5	0	5	0	0	0	0	0	8	0	8	0	0	0	0	13
% Heavy	0	0.6	0	0.6	0	0	0	0	0	1.7	0	1.6	0	0	0	0	0.9

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017d
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 2

	Center Dr Southbound				Palisade Blvd Westbound				Center Dr Northbound				Palisade Blvd Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	92	9	101	5	0	5	10	0	70	0	70	0	0	1	1	182
05:15 PM	0	102	6	108	2	0	3	5	7	74	0	81	0	0	0	0	194
05:30 PM	0	145	8	153	5	0	3	8	5	72	1	78	0	0	0	0	239
05:45 PM	0	96	5	101	1	0	2	3	2	75	2	79	1	0	1	2	185
Total Volume	0	435	28	463	13	0	13	26	14	291	3	308	1	0	2	3	800
% App. Total	0	94	6		50	0	50		4.5	94.5	1		33.3	0	66.7		
PHF	.000	.750	.778	.757	.650	.000	.650	.650	.500	.970	.375	.951	.250	.000	.500	.375	.837
Passenger +	0	434	28	462	13	0	13	26	14	287	3	304	1	0	2	3	795
% Passenger +	0	99.8	100	99.8	100	0	100	100	100	98.6	100	98.7	100	0	100	100	99.4
Heavy	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
% Heavy	0	0.2	0	0.2	0	0	0	0	0	1.4	0	1.3	0	0	0	0	0.6



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017e
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

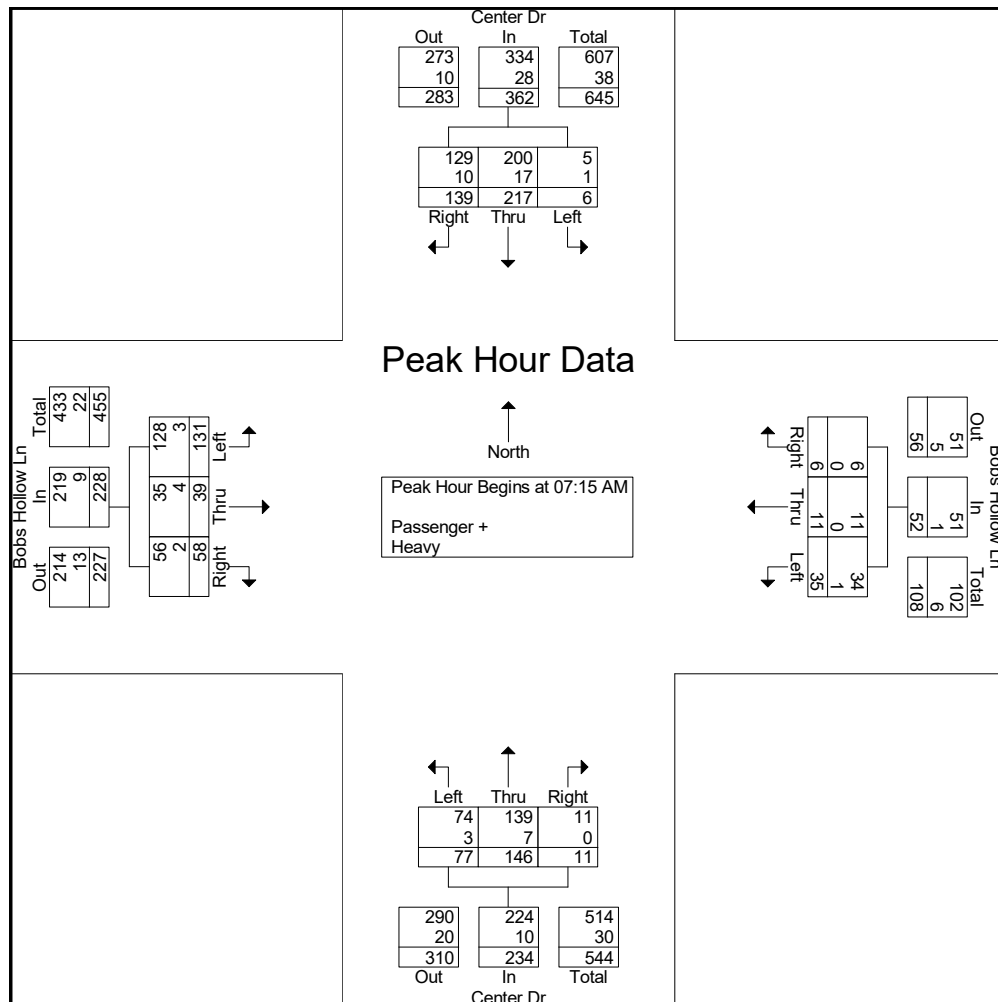
	Center Dr Southbound				Bobs Hollow Ln Westbound				Center Dr Northbound				Bobs Hollow Ln Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	10	38	2	50	2	0	6	8	4	61	4	69	12	4	53	69	196
07:15 AM	19	49	1	69	1	0	8	9	2	55	8	65	4	1	28	33	176
07:30 AM	47	74	0	121	1	0	9	10	2	34	26	62	10	4	31	45	238
07:45 AM	49	42	2	93	1	6	11	18	3	34	27	64	15	10	39	64	239
Total	125	203	5	333	5	6	34	45	11	184	65	260	41	19	151	211	849
08:00 AM	24	52	3	79	3	5	7	15	4	23	16	43	29	24	33	86	223
08:15 AM	5	32	1	38	1	2	4	7	1	35	11	47	14	3	28	45	137
08:30 AM	14	40	5	59	6	0	7	13	3	28	3	34	9	4	25	38	144
08:45 AM	8	35	0	43	0	6	3	9	2	37	2	41	10	20	30	60	153
Total	51	159	9	219	10	13	21	44	10	123	32	165	62	51	116	229	657
Grand Total	176	362	14	552	15	19	55	89	21	307	97	425	103	70	267	440	1506
Apprch %	31.9	65.6	2.5		16.9	21.3	61.8		4.9	72.2	22.8		23.4	15.9	60.7		
Total %	11.7	24	0.9	36.7	1	1.3	3.7	5.9	1.4	20.4	6.4	28.2	6.8	4.6	17.7	29.2	
Passenger +	164	336	13	513	14	19	54	87	21	296	94	411	100	65	260	425	1436
% Passenger +	93.2	92.8	92.9	92.9	93.3	100	98.2	97.8	100	96.4	96.9	96.7	97.1	92.9	97.4	96.6	95.4
Heavy	12	26	1	39	1	0	1	2	0	11	3	14	3	5	7	15	70
% Heavy	6.8	7.2	7.1	7.1	6.7	0	1.8	2.2	0	3.6	3.1	3.3	2.9	7.1	2.6	3.4	4.6

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017e
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 2

	Center Dr Southbound				Bobs Hollow Ln Westbound				Center Dr Northbound				Bobs Hollow Ln Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	19	49	1	69	1	0	8	9	2	55	8	65	4	1	28	33	176
07:30 AM	47	74	0	121	1	0	9	10	2	34	26	62	10	4	31	45	238
07:45 AM	49	42	2	93	1	6	11	18	3	34	27	64	15	10	39	64	239
08:00 AM	24	52	3	79	3	5	7	15	4	23	16	43	29	24	33	86	223
Total Volume	139	217	6	362	6	11	35	52	11	146	77	234	58	39	131	228	876
% App. Total	38.4	59.9	1.7		11.5	21.2	67.3		4.7	62.4	32.9		25.4	17.1	57.5		
PHF	.709	.733	.500	.748	.500	.458	.795	.722	.688	.664	.713	.900	.500	.406	.840	.663	.916
Passenger +	129	200	5	334	6	11	34	51	11	139	74	224	56	35	128	219	828
% Passenger +	92.8	92.2	83.3	92.3	100	100	97.1	98.1	100	95.2	96.1	95.7	96.6	89.7	97.7	96.1	94.5
Heavy	10	17	1	28	0	0	1	1	0	7	3	10	2	4	3	9	48
% Heavy	7.2	7.8	16.7	7.7	0	0	2.9	1.9	0	4.8	3.9	4.3	3.4	10.3	2.3	3.9	5.5



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017f
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

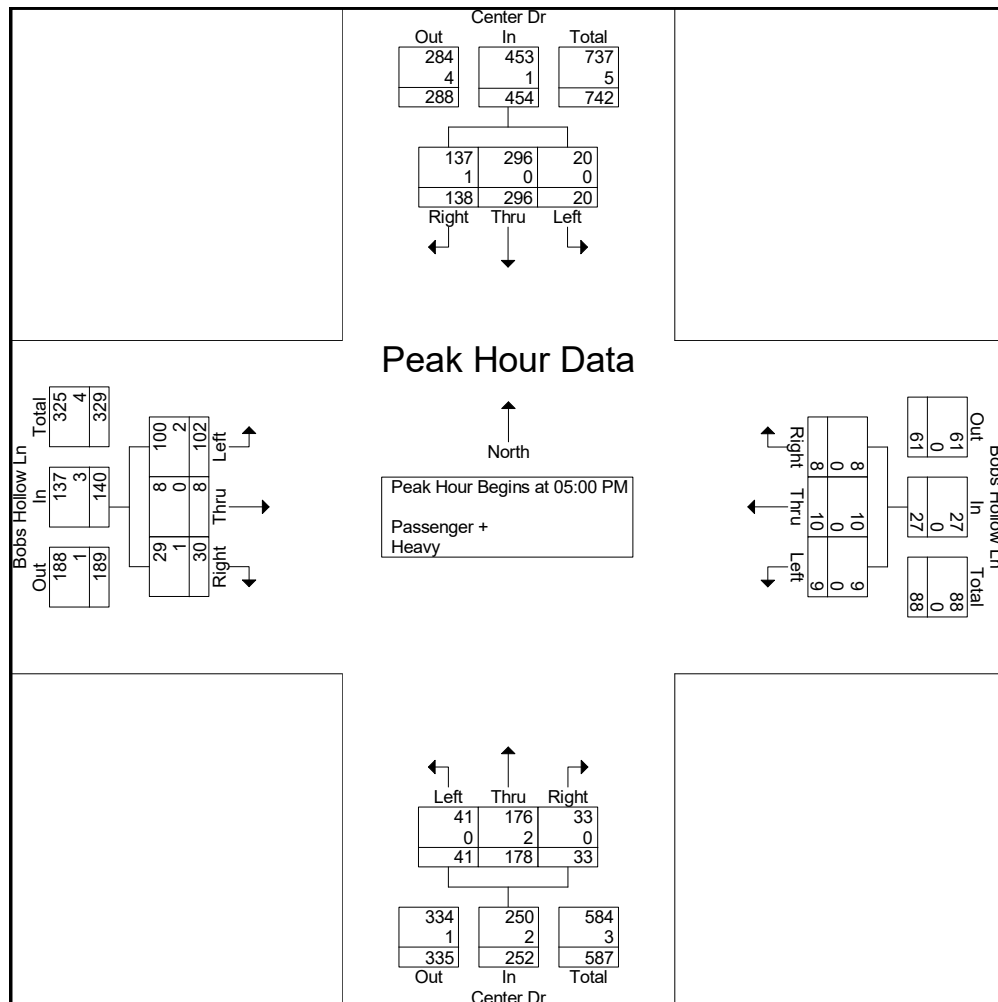
	Center Dr Southbound				Bobs Hollow Ln Westbound				Center Dr Northbound				Bobs Hollow Ln Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	33	50	1	84	2	4	4	10	6	31	9	46	6	3	8	17	157
04:15 PM	38	44	3	85	4	2	9	15	10	36	8	54	4	4	13	21	175
04:30 PM	45	56	2	103	2	2	3	7	8	34	9	51	12	1	14	27	188
04:45 PM	38	60	2	100	0	7	4	11	5	40	10	55	13	5	13	31	197
Total	154	210	8	372	8	15	20	43	29	141	36	206	35	13	48	96	717
05:00 PM	26	60	8	94	4	4	1	9	7	32	13	52	10	1	28	39	194
05:15 PM	32	66	6	104	3	3	4	10	6	45	8	59	8	5	26	39	212
05:30 PM	46	111	3	160	0	3	3	6	12	49	9	70	3	1	28	32	268
05:45 PM	34	59	3	96	1	0	1	2	8	52	11	71	9	1	20	30	199
Total	138	296	20	454	8	10	9	27	33	178	41	252	30	8	102	140	873
Grand Total	292	506	28	826	16	25	29	70	62	319	77	458	65	21	150	236	1590
Apprch %	35.4	61.3	3.4		22.9	35.7	41.4		13.5	69.7	16.8		27.5	8.9	63.6		
Total %	18.4	31.8	1.8	51.9	1	1.6	1.8	4.4	3.9	20.1	4.8	28.8	4.1	1.3	9.4	14.8	
Passenger +	289	504	28	821	16	25	29	70	62	315	77	454	63	21	146	230	1575
% Passenger +	99	99.6	100	99.4	100	100	100	100	100	98.7	100	99.1	96.9	100	97.3	97.5	99.1
Heavy	3	2	0	5	0	0	0	0	0	4	0	4	2	0	4	6	15
% Heavy	1	0.4	0	0.6	0	0	0	0	0	1.3	0	0.9	3.1	0	2.7	2.5	0.9

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017f
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 2

	Center Dr Southbound				Bobs Hollow Ln Westbound				Center Dr Northbound				Bobs Hollow Ln Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	26	60	8	94	4	4	1	9	7	32	13	52	10	1	28	39	194
05:15 PM	32	66	6	104	3	3	4	10	6	45	8	59	8	5	26	39	212
05:30 PM	46	111	3	160	0	3	3	6	12	49	9	70	3	1	28	32	268
05:45 PM	34	59	3	96	1	0	1	2	8	52	11	71	9	1	20	30	199
Total Volume	138	296	20	454	8	10	9	27	33	178	41	252	30	8	102	140	873
% App. Total	30.4	65.2	4.4		29.6	37	33.3		13.1	70.6	16.3		21.4	5.7	72.9		
PHF	.750	.667	.625	.709	.500	.625	.563	.675	.688	.856	.788	.887	.750	.400	.911	.897	.814
Passenger +	137	296	20	453	8	10	9	27	33	176	41	250	29	8	100	137	867
% Passenger +	99.3	100	100	99.8	100	100	100	100	100	98.9	100	99.2	96.7	100	98.0	97.9	99.3
Heavy	1	0	0	1	0	0	0	0	0	2	0	2	1	0	2	3	6
% Heavy	0.7	0	0	0.2	0	0	0	0	0	1.1	0	0.8	3.3	0	2.0	2.1	0.7



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017g
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

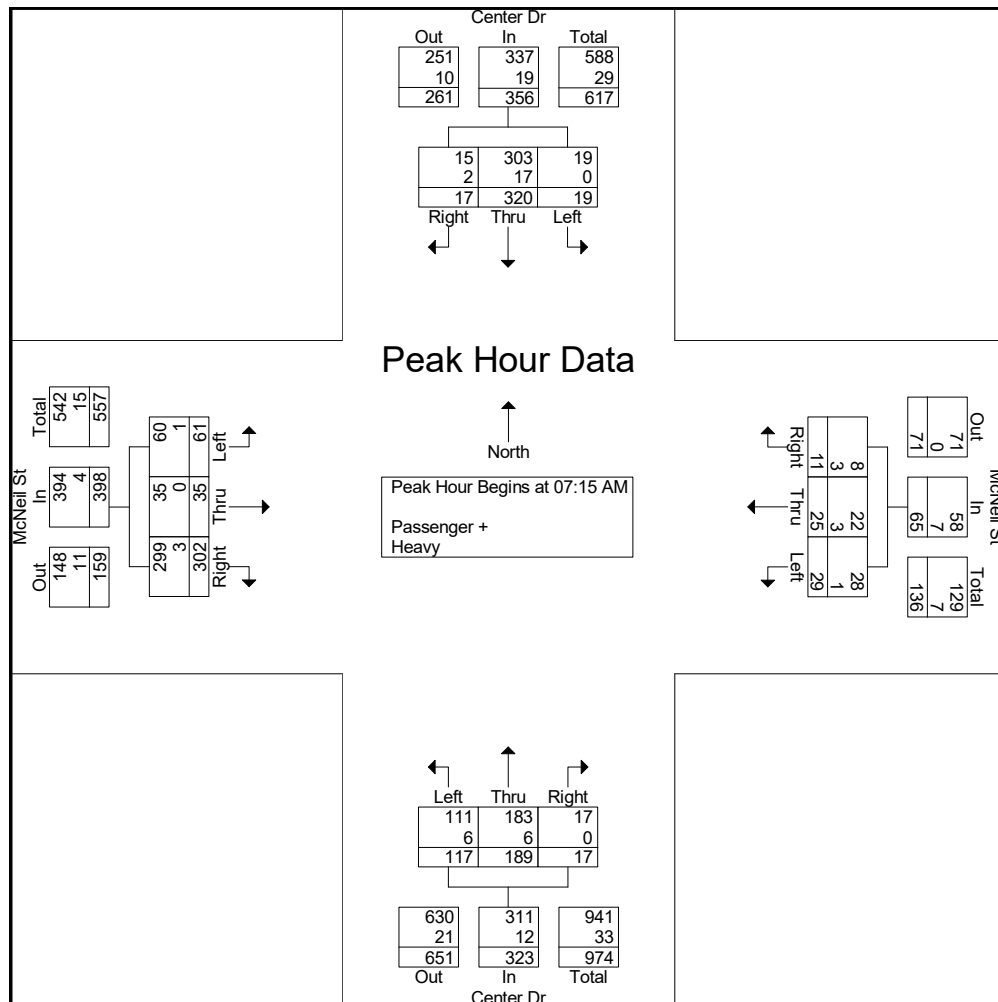
	Center Dr Southbound				McNeil St Westbound				Center Dr Northbound				McNeil St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	4	63	1	68	1	3	7	11	3	53	18	74	65	8	10	83	236
07:15 AM	5	72	5	82	0	3	7	10	3	48	26	77	77	8	18	103	272
07:30 AM	1	92	4	97	3	9	8	20	4	50	33	87	96	9	15	120	324
07:45 AM	8	64	3	75	5	8	6	19	3	51	36	90	60	9	14	83	267
Total	18	291	13	322	9	23	28	60	13	202	113	328	298	34	57	389	1099
08:00 AM	3	92	7	102	3	5	8	16	7	40	22	69	69	9	14	92	279
08:15 AM	9	55	1	65	3	9	6	18	1	37	29	67	60	6	11	77	227
08:30 AM	3	54	3	60	3	4	9	16	0	30	32	62	67	10	13	90	228
08:45 AM	5	45	4	54	3	7	8	18	7	22	29	58	68	19	33	120	250
Total	20	246	15	281	12	25	31	68	15	129	112	256	264	44	71	379	984
Grand Total	38	537	28	603	21	48	59	128	28	331	225	584	562	78	128	768	2083
Apprch %	6.3	89.1	4.6		16.4	37.5	46.1		4.8	56.7	38.5		73.2	10.2	16.7		
Total %	1.8	25.8	1.3	28.9	1	2.3	2.8	6.1	1.3	15.9	10.8	28	27	3.7	6.1	36.9	
Passenger +	36	511	28	575	18	43	58	119	27	320	216	563	556	78	125	759	2016
% Passenger +	94.7	95.2	100	95.4	85.7	89.6	98.3	93	96.4	96.7	96	96.4	98.9	100	97.7	98.8	96.8
Heavy	2	26	0	28	3	5	1	9	1	11	9	21	6	0	3	9	67
% Heavy	5.3	4.8	0	4.6	14.3	10.4	1.7	7	3.6	3.3	4	3.6	1.1	0	2.3	1.2	3.2

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017g
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 2

	Center Dr Southbound				McNeil St Westbound				Center Dr Northbound				McNeil St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	5	72	5	82	0	3	7	10	3	48	26	77	77	8	18	103	272
07:30 AM	1	92	4	97	3	9	8	20	4	50	33	87	96	9	15	120	324
07:45 AM	8	64	3	75	5	8	6	19	3	51	36	90	60	9	14	83	267
08:00 AM	3	92	7	102	3	5	8	16	7	40	22	69	69	9	14	92	279
Total Volume	17	320	19	356	11	25	29	65	17	189	117	323	302	35	61	398	1142
% App. Total	4.8	89.9	5.3		16.9	38.5	44.6		5.3	58.5	36.2		75.9	8.8	15.3		
PHF	.531	.870	.679	.873	.550	.694	.906	.813	.607	.926	.813	.897	.786	.972	.847	.829	.881
Passenger +	15	303	19	337	8	22	28	58	17	183	111	311	299	35	60	394	1100
% Passenger +	88.2	94.7	100	94.7	72.7	88.0	96.6	89.2	100	96.8	94.9	96.3	99.0	100	98.4	99.0	96.3
Heavy	2	17	0	19	3	3	1	7	0	6	6	12	3	0	1	4	42
% Heavy	11.8	5.3	0	5.3	27.3	12.0	3.4	10.8	0	3.2	5.1	3.7	1.0	0	1.6	1.0	3.7



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017h
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

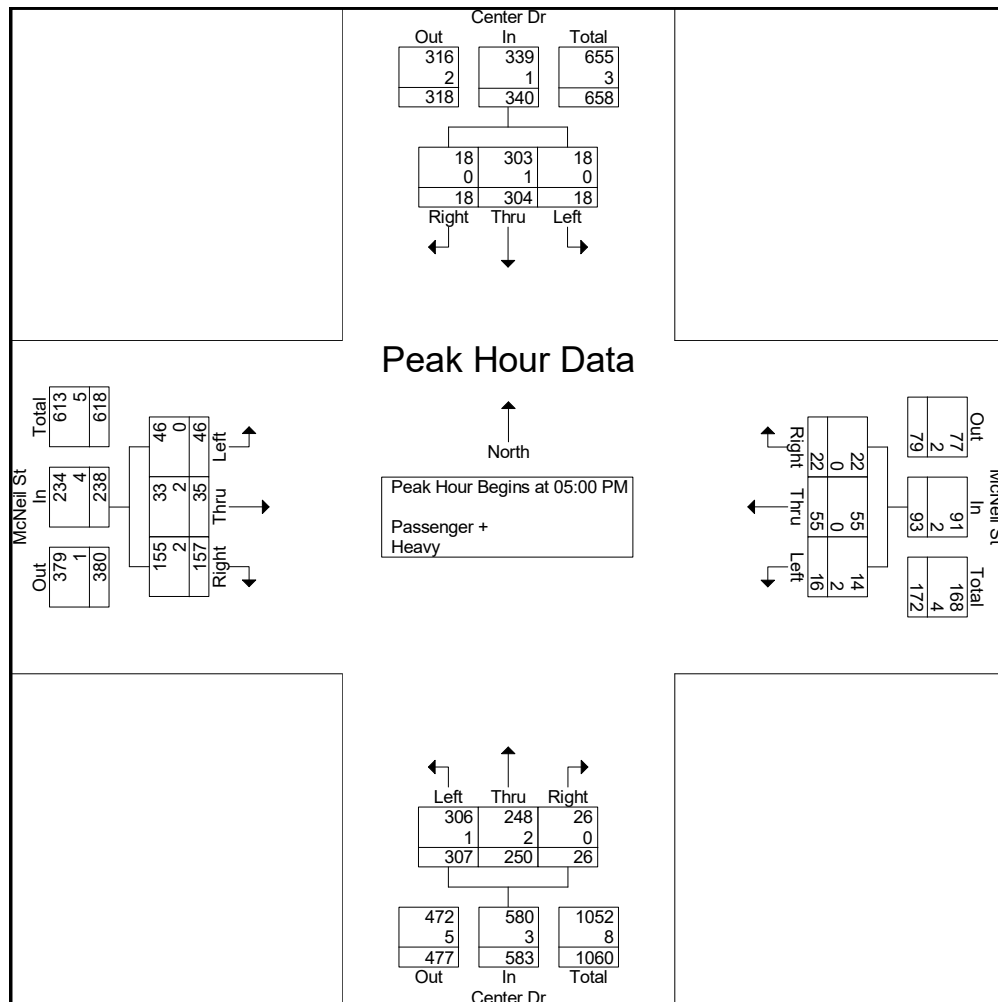
	Center Dr Southbound				McNeil St Westbound				Center Dr Northbound				McNeil St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	6	59	3	68	4	16	5	25	8	41	78	127	40	5	7	52	272
04:15 PM	5	63	8	76	9	21	5	35	9	48	66	123	37	7	10	54	288
04:30 PM	4	72	8	84	3	15	15	33	9	53	65	127	46	10	5	61	305
04:45 PM	10	63	4	77	5	9	10	24	5	60	61	126	36	12	8	56	283
Total	25	257	23	305	21	61	35	117	31	202	270	503	159	34	30	223	1148
05:00 PM	6	74	2	82	7	13	7	27	6	44	77	127	51	7	9	67	303
05:15 PM	3	72	8	83	4	11	1	16	5	63	78	146	29	9	11	49	294
05:30 PM	5	85	7	97	8	23	5	36	8	73	80	161	43	13	12	68	362
05:45 PM	4	73	1	78	3	8	3	14	7	70	72	149	34	6	14	54	295
Total	18	304	18	340	22	55	16	93	26	250	307	583	157	35	46	238	1254
Grand Total	43	561	41	645	43	116	51	210	57	452	577	1086	316	69	76	461	2402
Apprch %	6.7	87	6.4		20.5	55.2	24.3		5.2	41.6	53.1		68.5	15	16.5		
Total %	1.8	23.4	1.7	26.9	1.8	4.8	2.1	8.7	2.4	18.8	24	45.2	13.2	2.9	3.2	19.2	
Passenger +	43	557	40	640	43	115	44	202	56	448	574	1078	311	67	76	454	2374
% Passenger +	100	99.3	97.6	99.2	100	99.1	86.3	96.2	98.2	99.1	99.5	99.3	98.4	97.1	100	98.5	98.8
Heavy	0	4	1	5	0	1	7	8	1	4	3	8	5	2	0	7	28
% Heavy	0	0.7	2.4	0.8	0	0.9	13.7	3.8	1.8	0.9	0.5	0.7	1.6	2.9	0	1.5	1.2

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017h
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 2

	Center Dr Southbound				McNeil St Westbound				Center Dr Northbound				McNeil St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	6	74	2	82	7	13	7	27	6	44	77	127	51	7	9	67	303
05:15 PM	3	72	8	83	4	11	1	16	5	63	78	146	29	9	11	49	294
05:30 PM	5	85	7	97	8	23	5	36	8	73	80	161	43	13	12	68	362
05:45 PM	4	73	1	78	3	8	3	14	7	70	72	149	34	6	14	54	295
Total Volume	18	304	18	340	22	55	16	93	26	250	307	583	157	35	46	238	1254
% App. Total	5.3	89.4	5.3		23.7	59.1	17.2		4.5	42.9	52.7		66	14.7	19.3		
PHF	.750	.894	.563	.876	.688	.598	.571	.646	.813	.856	.959	.905	.770	.673	.821	.875	.866
Passenger +	18	303	18	339	22	55	14	91	26	248	306	580	155	33	46	234	1244
% Passenger +	100	99.7	100	99.7	100	100	87.5	97.8	100	99.2	99.7	99.5	98.7	94.3	100	98.3	99.2
Heavy	0	1	0	1	0	0	2	2	0	2	1	3	2	2	0	4	10
% Heavy	0	0.3	0	0.3	0	0	12.5	2.2	0	0.8	0.3	0.5	1.3	5.7	0	1.7	0.8



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017i
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

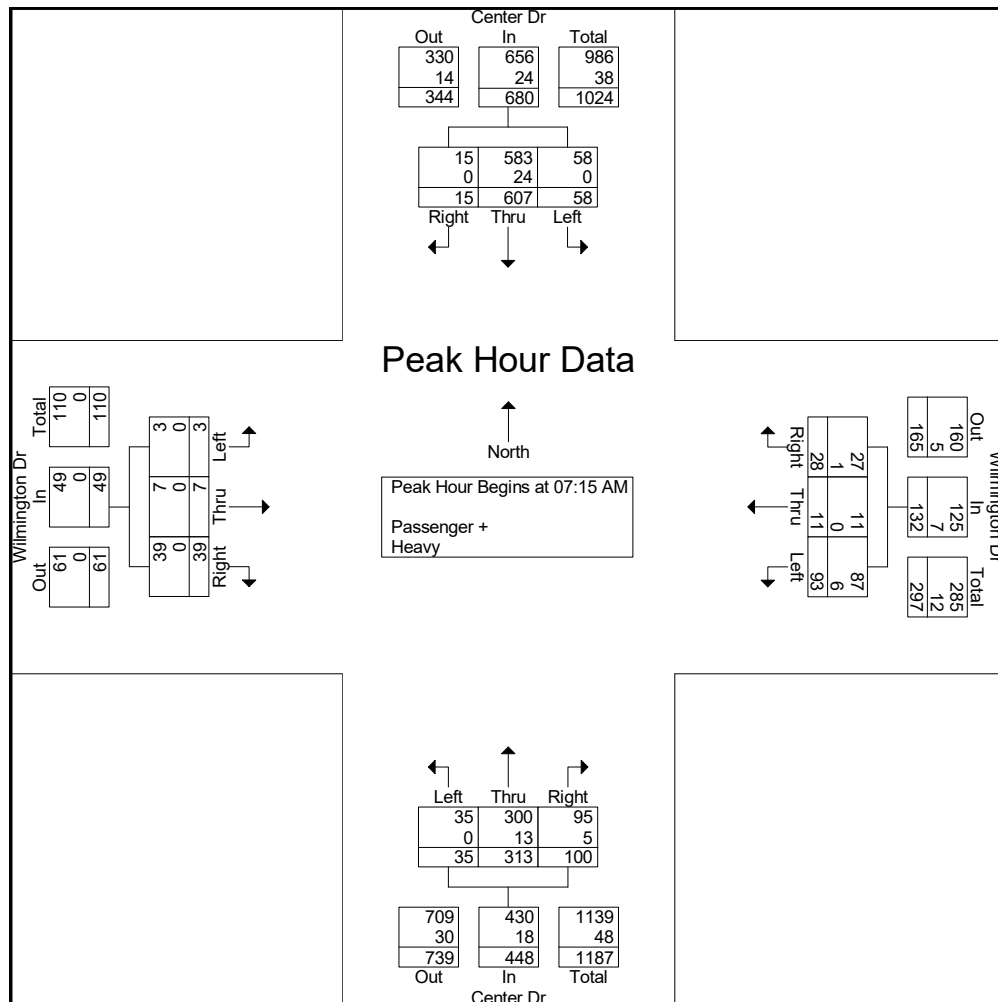
	Center Dr Southbound				Wilmington Dr Westbound				Center Dr Northbound				Wilmington Dr Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	5	121	17	143	5	0	19	24	15	72	12	99	8	1	1	10	276
07:15 AM	3	146	8	157	6	5	26	37	27	89	8	124	8	1	3	12	330
07:30 AM	1	178	22	201	6	3	21	30	29	83	8	120	10	2	0	12	363
07:45 AM	7	128	13	148	9	1	15	25	17	77	12	106	14	2	0	16	295
Total	16	573	60	649	26	9	81	116	88	321	40	449	40	6	4	50	1264
08:00 AM	4	155	15	174	7	2	31	40	27	64	7	98	7	2	0	9	321
08:15 AM	1	118	12	131	6	2	19	27	23	63	13	99	5	4	2	11	268
08:30 AM	2	115	17	134	6	2	20	28	27	54	6	87	10	1	2	13	262
08:45 AM	2	118	8	128	6	8	14	28	32	53	14	99	11	3	0	14	269
Total	9	506	52	567	25	14	84	123	109	234	40	383	33	10	4	47	1120
Grand Total	25	1079	112	1216	51	23	165	239	197	555	80	832	73	16	8	97	2384
Apprch %	2.1	88.7	9.2		21.3	9.6	69		23.7	66.7	9.6		75.3	16.5	8.2		
Total %	1	45.3	4.7	51	2.1	1	6.9	10	8.3	23.3	3.4	34.9	3.1	0.7	0.3	4.1	
Passenger +	25	1042	111	1178	50	22	157	229	188	534	79	801	73	16	8	97	2305
% Passenger +	100	96.6	99.1	96.9	98	95.7	95.2	95.8	95.4	96.2	98.8	96.3	100	100	100	100	96.7
Heavy	0	37	1	38	1	1	8	10	9	21	1	31	0	0	0	0	79
% Heavy	0	3.4	0.9	3.1	2	4.3	4.8	4.2	4.6	3.8	1.2	3.7	0	0	0	0	3.3

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017i
 Site Code : 00005017
 Start Date : 10/13/2022
 Page No : 2

	Center Dr Southbound				Wilmington Dr Westbound				Center Dr Northbound				Wilmington Dr Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	146	8	157	6	5	26	37	27	89	8	124	8	1	3	12	330
07:30 AM	1	178	22	201	6	3	21	30	29	83	8	120	10	2	0	12	363
07:45 AM	7	128	13	148	9	1	15	25	17	77	12	106	14	2	0	16	295
08:00 AM	4	155	15	174	7	2	31	40	27	64	7	98	7	2	0	9	321
Total Volume	15	607	58	680	28	11	93	132	100	313	35	448	39	7	3	49	1309
% App. Total	2.2	89.3	8.5		21.2	8.3	70.5		22.3	69.9	7.8		79.6	14.3	6.1		
PHF	.536	.853	.659	.846	.778	.550	.750	.825	.862	.879	.729	.903	.696	.875	.250	.766	.902
Passenger +	15	583	58	656	27	11	87	125	95	300	35	430	39	7	3	49	1260
% Passenger +	100	96.0	100	96.5	96.4	100	93.5	94.7	95.0	95.8	100	96.0	100	100	100	100	96.3
Heavy	0	24	0	24	1	0	6	7	5	13	0	18	0	0	0	0	49
% Heavy	0	4.0	0	3.5	3.6	0	6.5	5.3	5.0	4.2	0	4.0	0	0	0	0	3.7



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017j
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 1

Groups Printed- Passenger + - Heavy

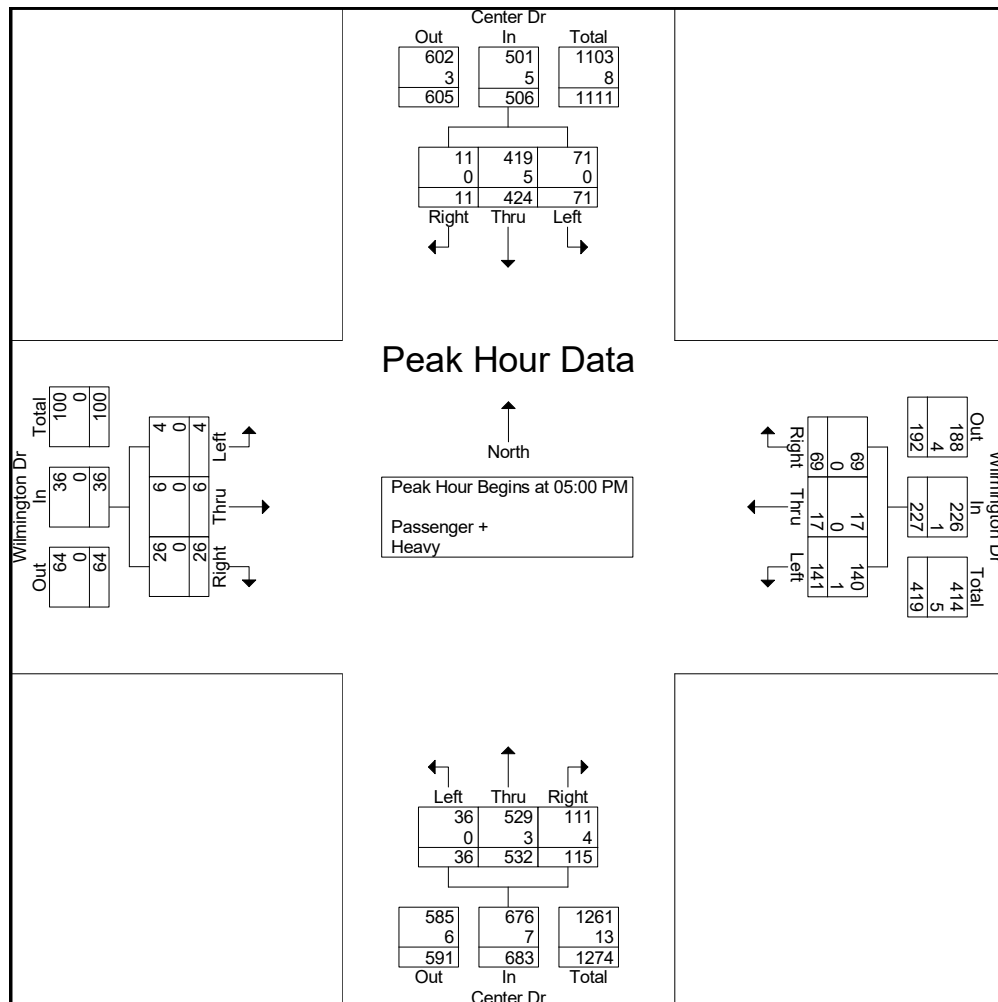
	Center Dr Southbound				Wilmington Dr Westbound				Center Dr Northbound				Wilmington Dr Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	1	97	10	108	16	1	30	47	32	126	9	167	6	2	0	8	330
04:15 PM	0	102	14	116	17	7	38	62	29	110	12	151	16	3	0	19	348
04:30 PM	1	113	23	137	17	11	34	62	25	110	7	142	10	1	0	11	352
04:45 PM	2	100	22	124	18	5	24	47	32	114	12	158	9	0	2	11	340
Total	4	412	69	485	68	24	126	218	118	460	40	618	41	6	2	49	1370
05:00 PM	2	112	18	132	14	3	39	56	29	117	9	155	5	0	1	6	349
05:15 PM	0	101	16	117	18	6	31	55	30	135	10	175	5	3	0	8	355
05:30 PM	2	122	19	143	20	5	42	67	22	149	6	177	7	2	0	9	396
05:45 PM	7	89	18	114	17	3	29	49	34	131	11	176	9	1	3	13	352
Total	11	424	71	506	69	17	141	227	115	532	36	683	26	6	4	36	1452
Grand Total	15	836	140	991	137	41	267	445	233	992	76	1301	67	12	6	85	2822
Apprch %	1.5	84.4	14.1		30.8	9.2	60		17.9	76.2	5.8		78.8	14.1	7.1		
Total %	0.5	29.6	5	35.1	4.9	1.5	9.5	15.8	8.3	35.2	2.7	46.1	2.4	0.4	0.2	3	
Passenger +	15	821	138	974	136	41	261	438	223	985	75	1283	67	12	6	85	2780
% Passenger +	100	98.2	98.6	98.3	99.3	100	97.8	98.4	95.7	99.3	98.7	98.6	100	100	100	100	98.5
Heavy	0	15	2	17	1	0	6	7	10	7	1	18	0	0	0	0	42
% Heavy	0	1.8	1.4	1.7	0.7	0	2.2	1.6	4.3	0.7	1.3	1.4	0	0	0	0	1.5

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5017j
 Site Code : 00005017
 Start Date : 10/12/2022
 Page No : 2

	Center Dr Southbound				Wilmington Dr Westbound				Center Dr Northbound				Wilmington Dr Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	112	18	132	14	3	39	56	29	117	9	155	5	0	1	6	349
05:15 PM	0	101	16	117	18	6	31	55	30	135	10	175	5	3	0	8	355
05:30 PM	2	122	19	143	20	5	42	67	22	149	6	177	7	2	0	9	396
05:45 PM	7	89	18	114	17	3	29	49	34	131	11	176	9	1	3	13	352
Total Volume	11	424	71	506	69	17	141	227	115	532	36	683	26	6	4	36	1452
% App. Total	2.2	83.8	14		30.4	7.5	62.1		16.8	77.9	5.3		72.2	16.7	11.1		
PHF	.393	.869	.934	.885	.863	.708	.839	.847	.846	.893	.818	.965	.722	.500	.333	.692	.917
Passenger +	11	419	71	501	69	17	140	226	111	529	36	676	26	6	4	36	1439
% Passenger +	100	98.8	100	99.0	100	100	99.3	99.6	96.5	99.4	100	99.0	100	100	100	100	99.1
Heavy	0	5	0	5	0	0	1	1	4	3	0	7	0	0	0	0	13
% Heavy	0	1.2	0	1.0	0	0	0.7	0.4	3.5	0.6	0	1.0	0	0	0	0	0.9



AM Peak Hour Volume Differential

1. Sequelitchew Rd & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	22	287	0	0	0	0	0	334	10	21	0	8	682	
Baseline 2022	17	278	0	0	0	0	0	332	9	13	0	12	661	
% Volume Difference													3.13	%

2. Palisade Blvd & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	1	301	23	26	0	23	11	330	2	1	0	2	720	
Baseline 2022	0	320	17	21	1	28	11	332	0	0	1	0	731	
% Volume Difference													1.52	%

3. Bob's Hollow Ln & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	179	159	5	8	15	29	13	148	60	117	17	168	918	
Baseline 2022	139	217	6	6	11	35	11	146	77	58	39	131	876	
% Volume Difference													4.68	%

4. McNeil St & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	14	317	16	9	21	34	85	203	107	359	47	45	1257	
Baseline 2022	17	320	19	11	25	29	17	189	117	302	35	61	1142	
% Volume Difference													9.59	%

5. Wilmington Dr & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	19	636	49	27	16	98	156	359	68	46	18	3	1495	
Baseline 2022	15	607	58	28	11	93	100	313	35	39	3	7	1309	
% Volume Difference													13.27	%

PM Peak Hour Volume Differential

1. Sequelitchew Rd & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	38	418	0	0	0	0	0	259	23	7	0	15	760	
Baseline 2022	26	456	0	0	0	0	0	246	27	14	0	15	784	
% Volume Difference													3.11	%

2. Palisade Blvd & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	7	434	28	23	0	29	29	244	1	17	0	7	819	
Baseline 2022	0	435	28	13	0	13	14	291	3	1	0	2	800	
% Volume Difference													2.35	%

3. Bob's Hollow Ln & Center Dr

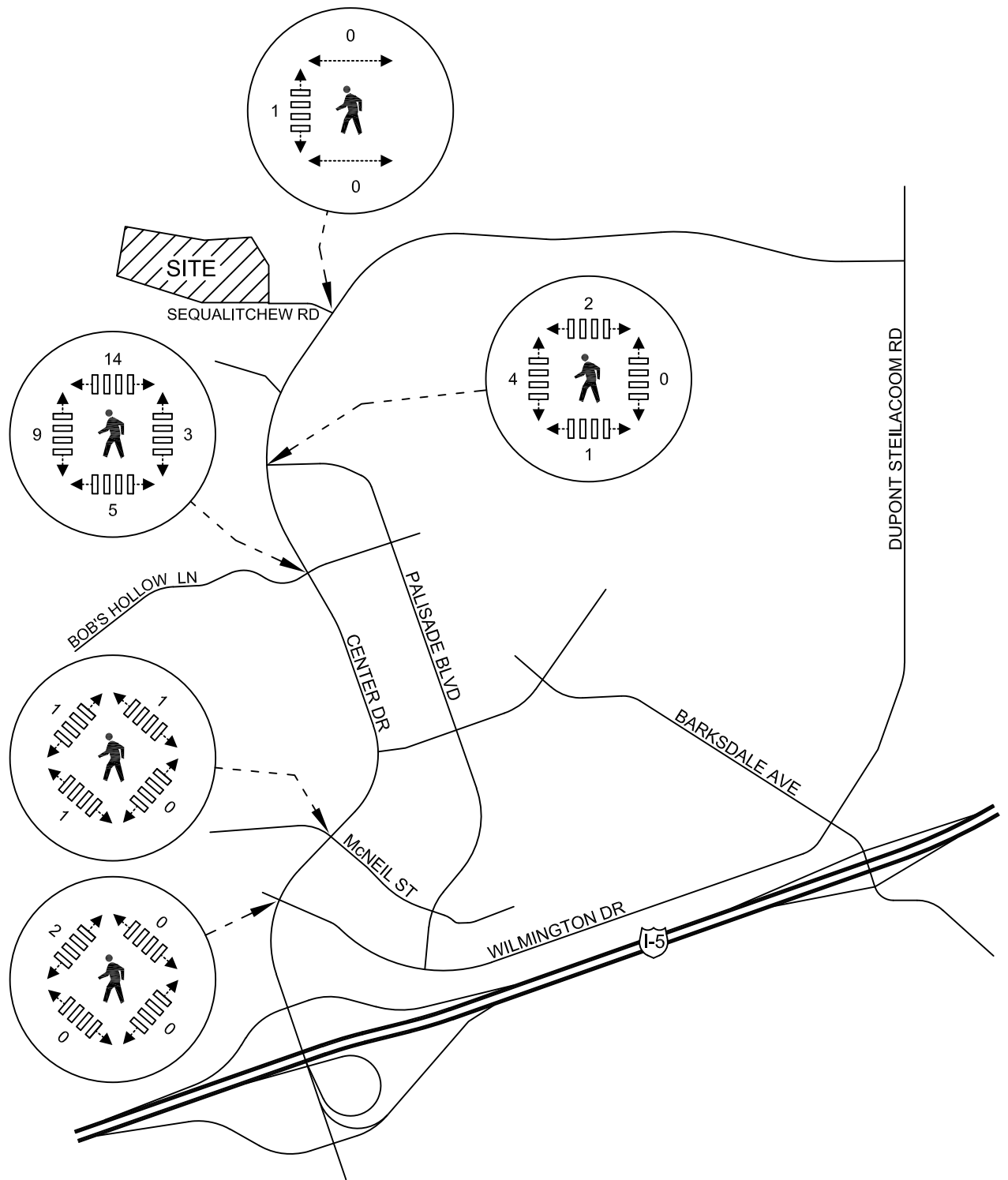
	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	149	294	12	7	20	14	42	192	43	24	13	80	890	
Baseline 2022	138	296	20	8	10	9	33	178	41	30	8	102	873	
% Volume Difference													1.93	%

4. McNeil St & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	30	299	25	26	63	69	26	256	382	141	33	40	1390	
Baseline 2022	18	304	18	22	55	16	26	250	307	157	35	46	1254	
% Volume Difference													10.29	%

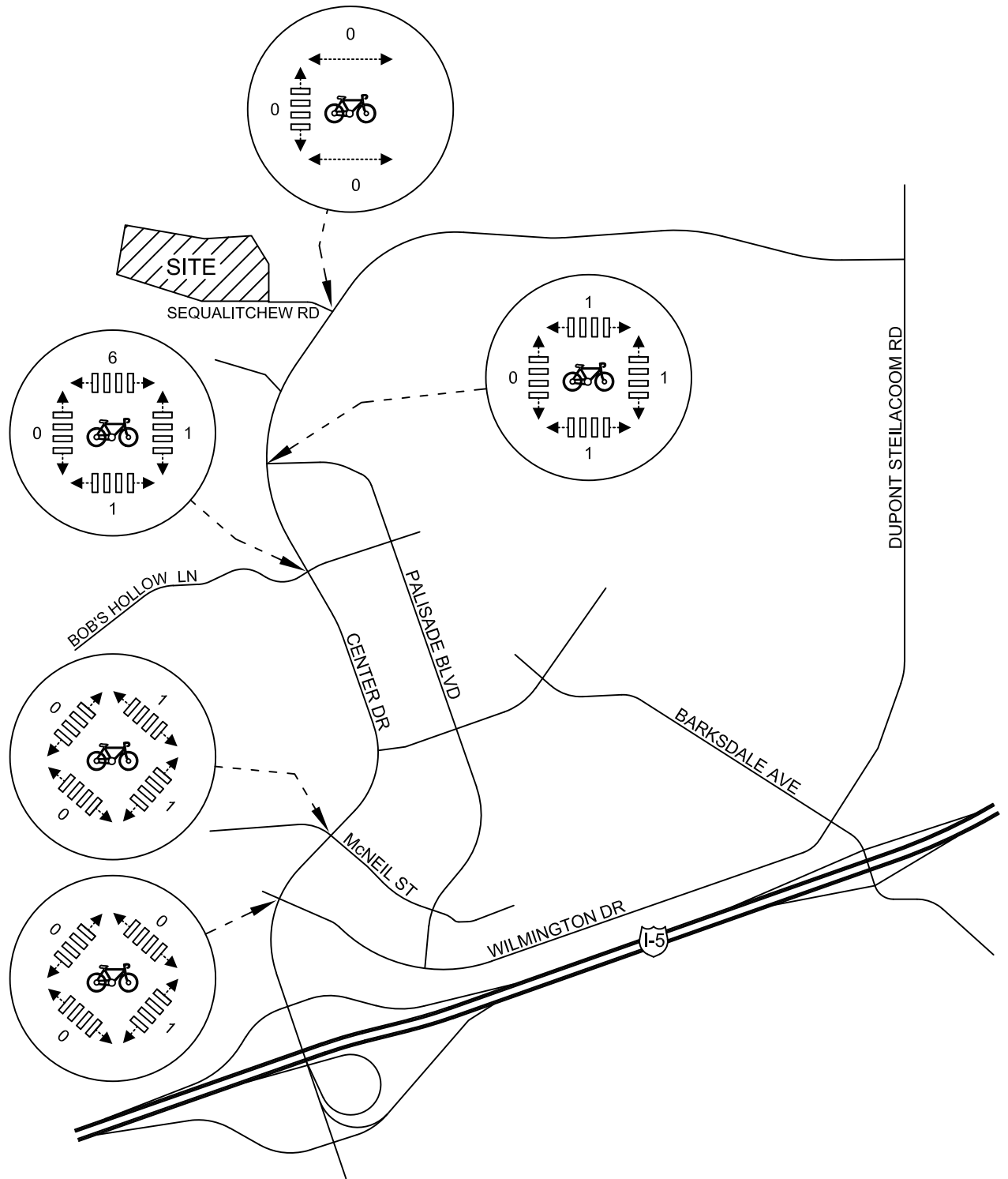
5. Wilmington Dr & Center Dr

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL	
2018 Count	9	443	61	85	18	245	141	579	44	30	14	3	1672	
Baseline 2022	11	424	71	69	17	141	115	532	36	26	6	4	1452	
% Volume Difference													14.08	%



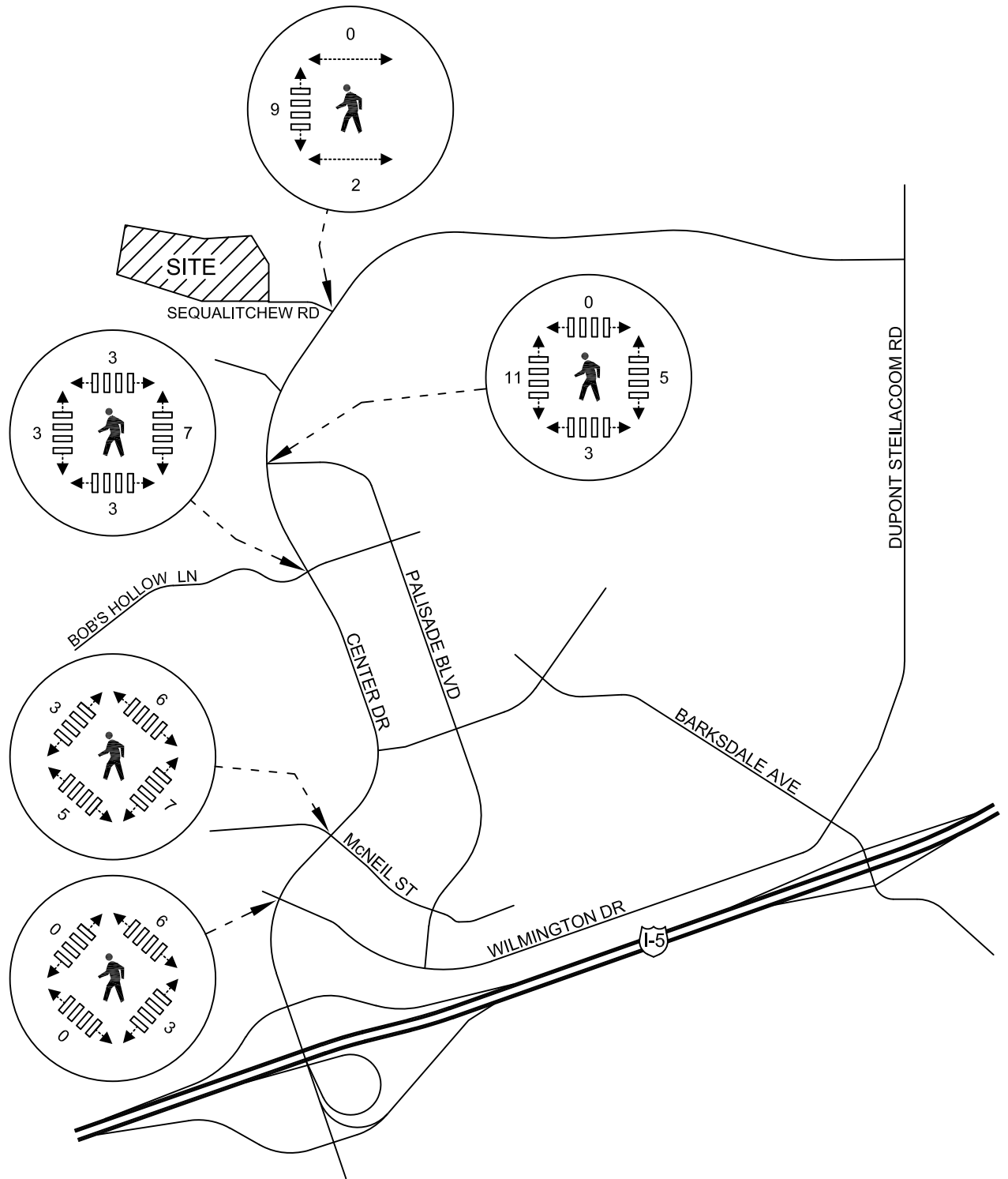
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
EXISTING AM PEAK HOUR PEDESTRIAN VOLUMES
FIGURE A



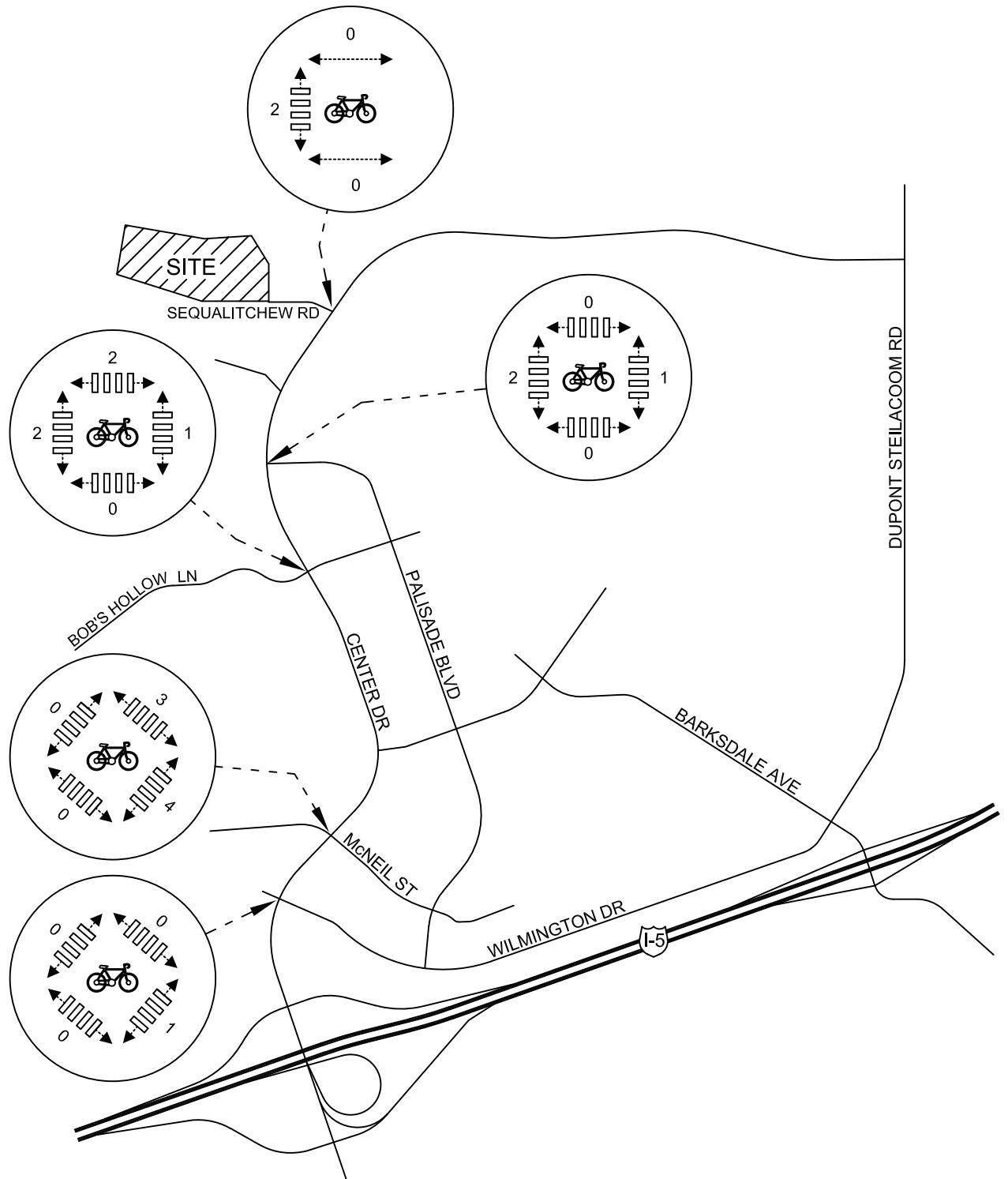
HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
EXISTING AM PEAK HOUR BICYCLIST VOLUMES
FIGURE B



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
EXISTING PM PEAK HOUR PEDESTRIAN VOLUMES
FIGURE C



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DUPONT INDUSTRIAL
EXISTING PM PEAK HOUR BICYCLIST VOLUMES
FIGURE D

Warehousing

(150)

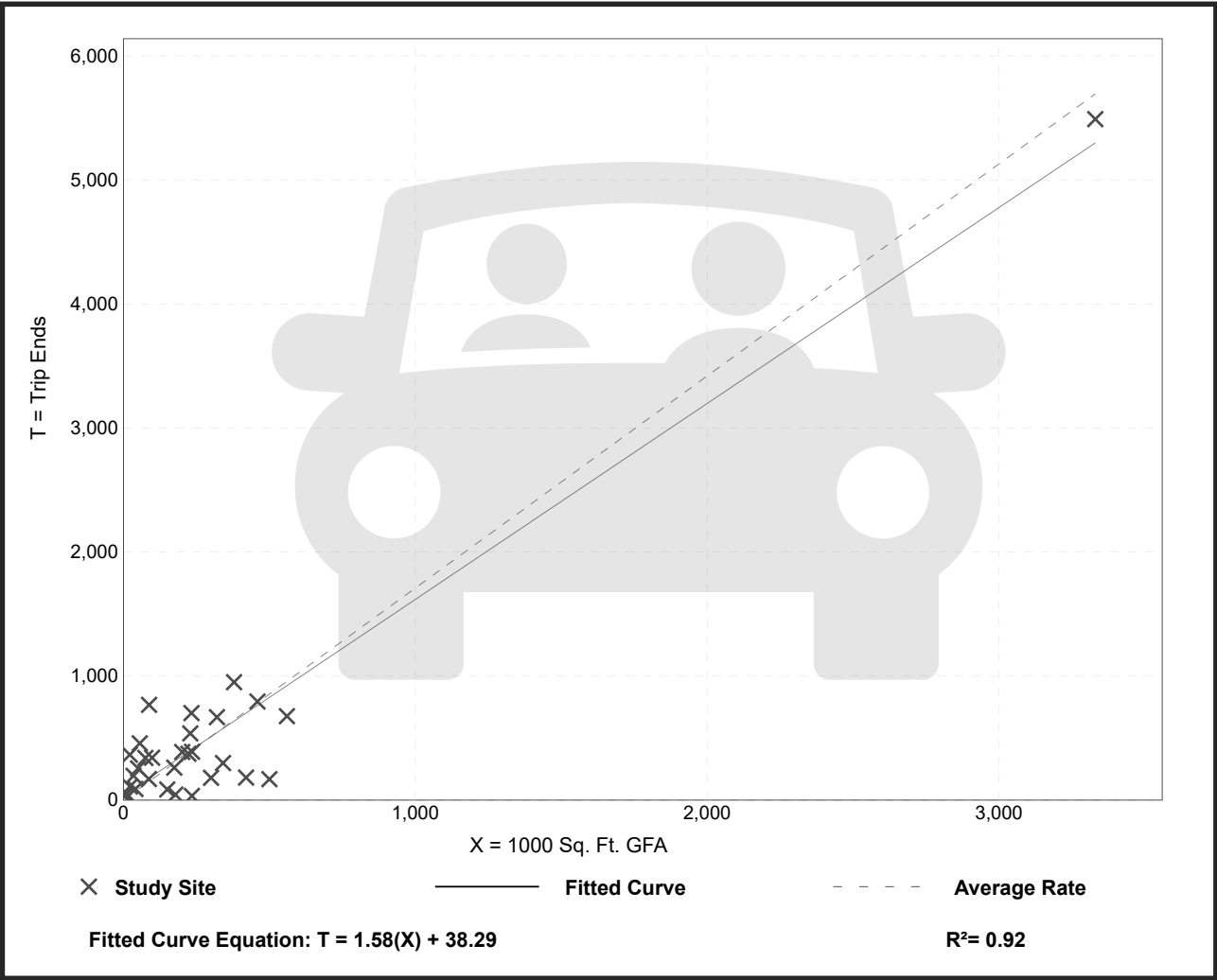
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 31
Avg. 1000 Sq. Ft. GFA: 292
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	0.15 - 16.93	1.48

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

Warehousing

(150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 36

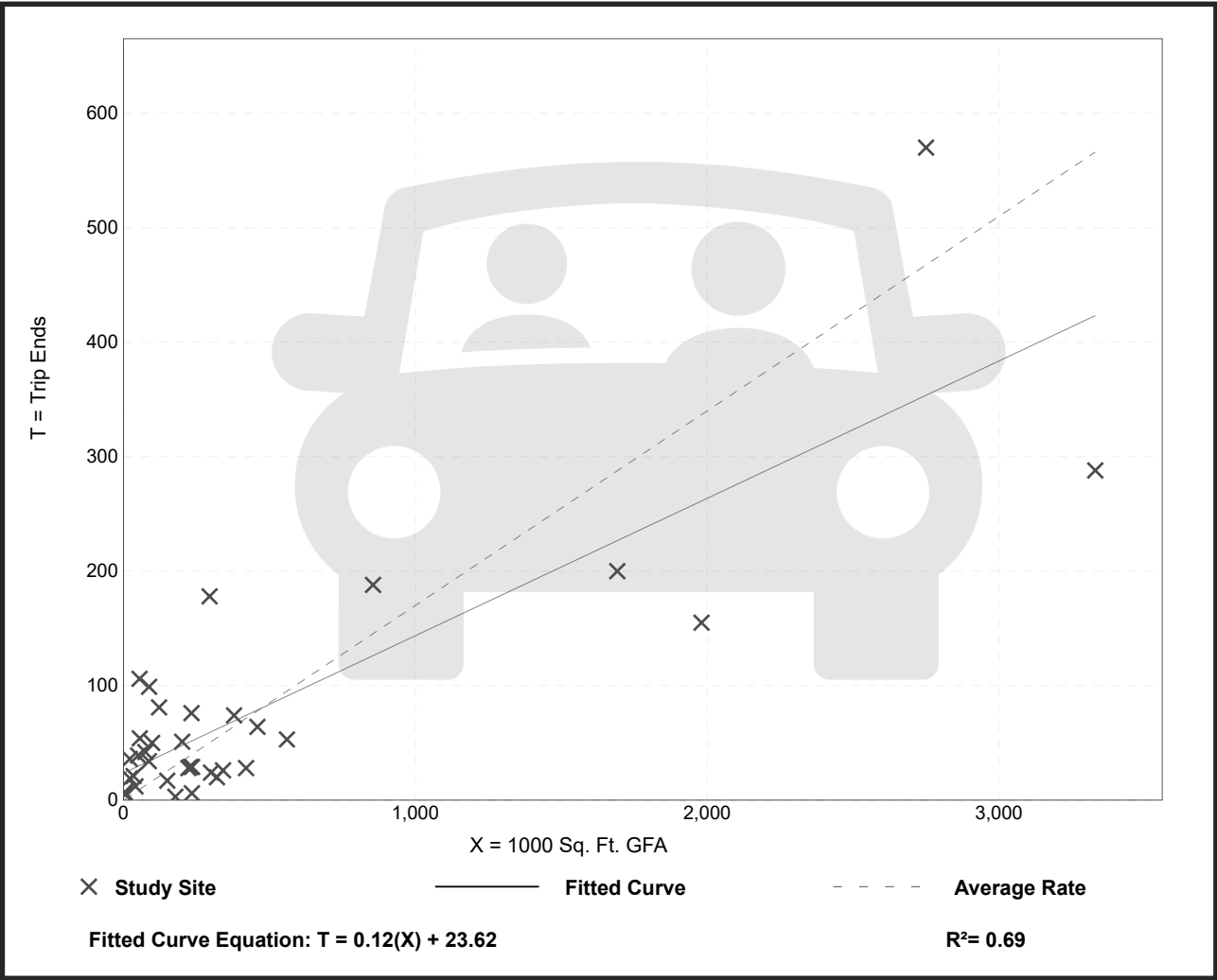
Avg. 1000 Sq. Ft. GFA: 448

Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.19

Data Plot and Equation



Trip Gen Manual, 11th Edition

● Institute of Transportation Engineers

Warehousing

(150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

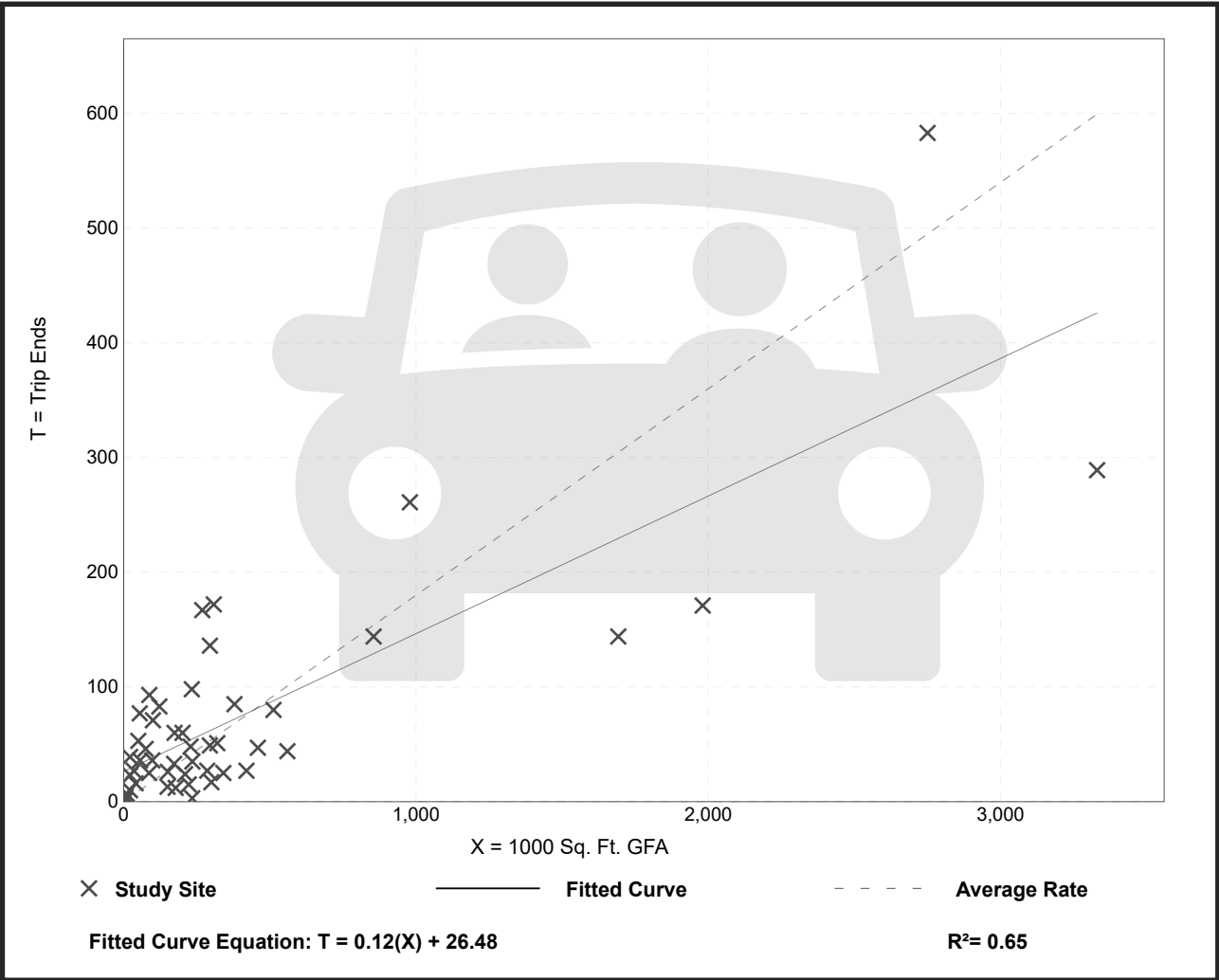
Avg. 1000 Sq. Ft. GFA: 400

Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.01 - 1.80	0.18

Data Plot and Equation



Trip Gen Manual, 11th Edition

● Institute of Transportation Engineers

Warehousing

(150)

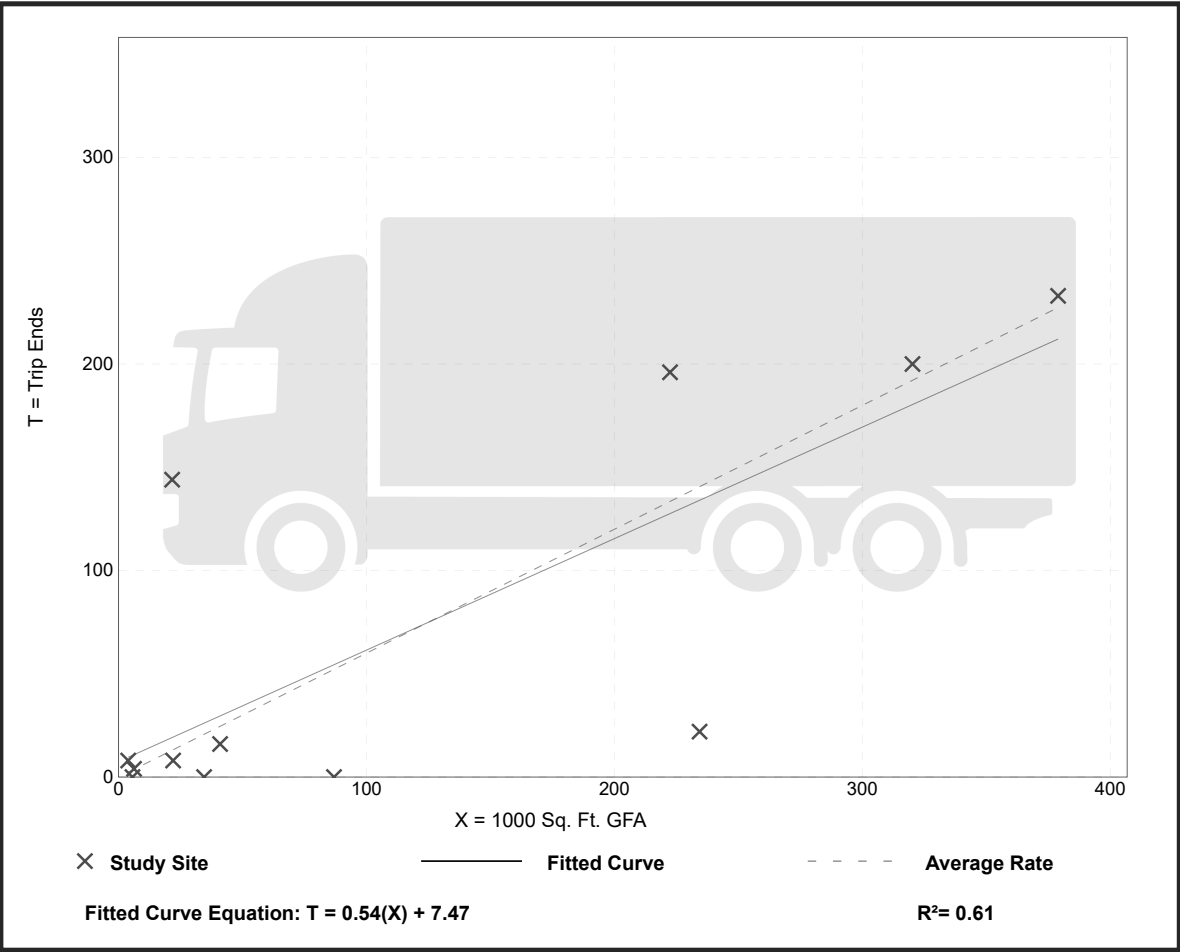
Truck Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 12
Avg. 1000 Sq. Ft. GFA: 115
Directional Distribution: 50% entering, 50% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.60	0.00 - 6.66	0.86

Data Plot and Equation



Trip Gen Manual, 11th Edition Institute of Transportation Engineers

Warehousing

(150)

Truck Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 21

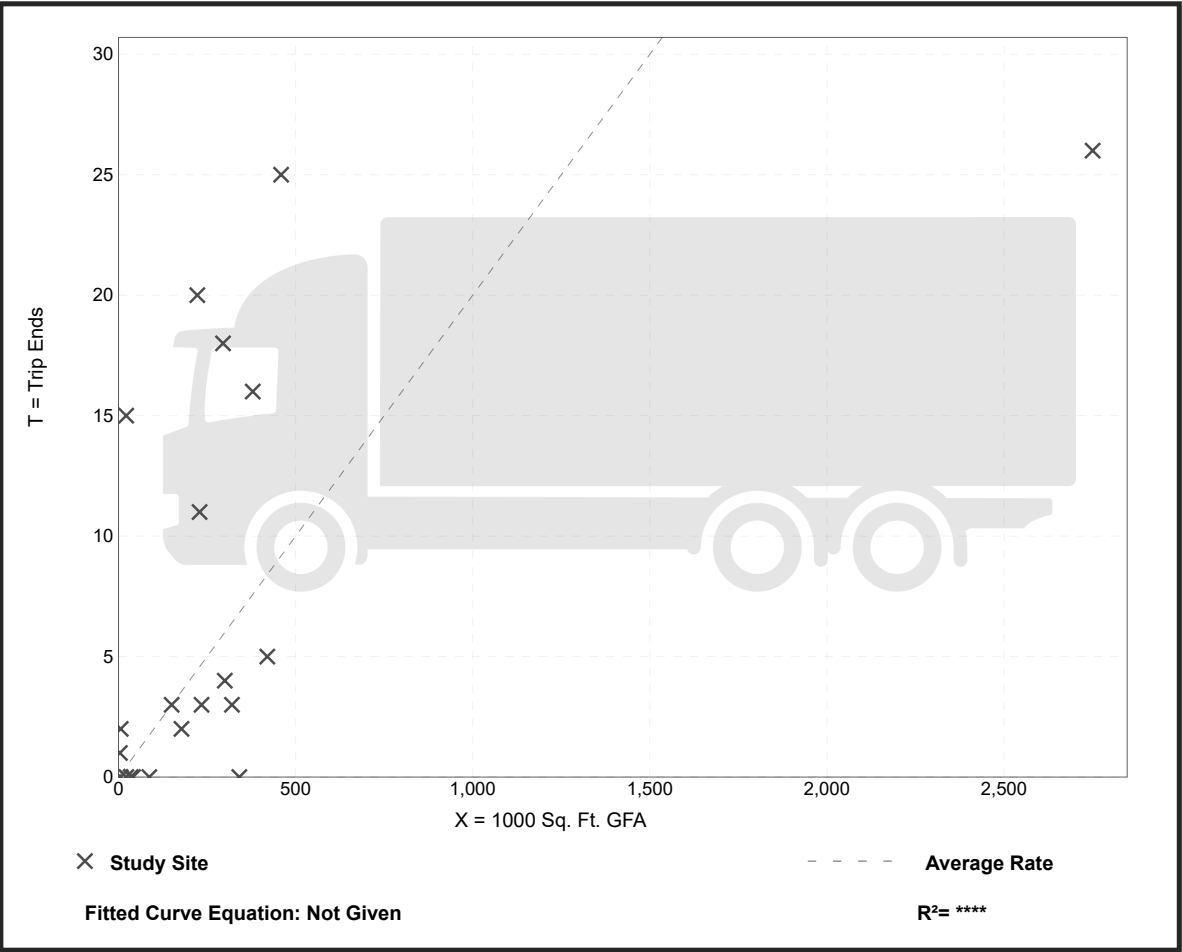
Avg. 1000 Sq. Ft. GFA: 309

Directional Distribution: 52% entering, 48% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.02	0.00 - 0.69	0.05

Data Plot and Equation



Trip Gen Manual, 11th Edition

Institute of Transportation Engineers

Warehousing

(150)

Truck Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 23

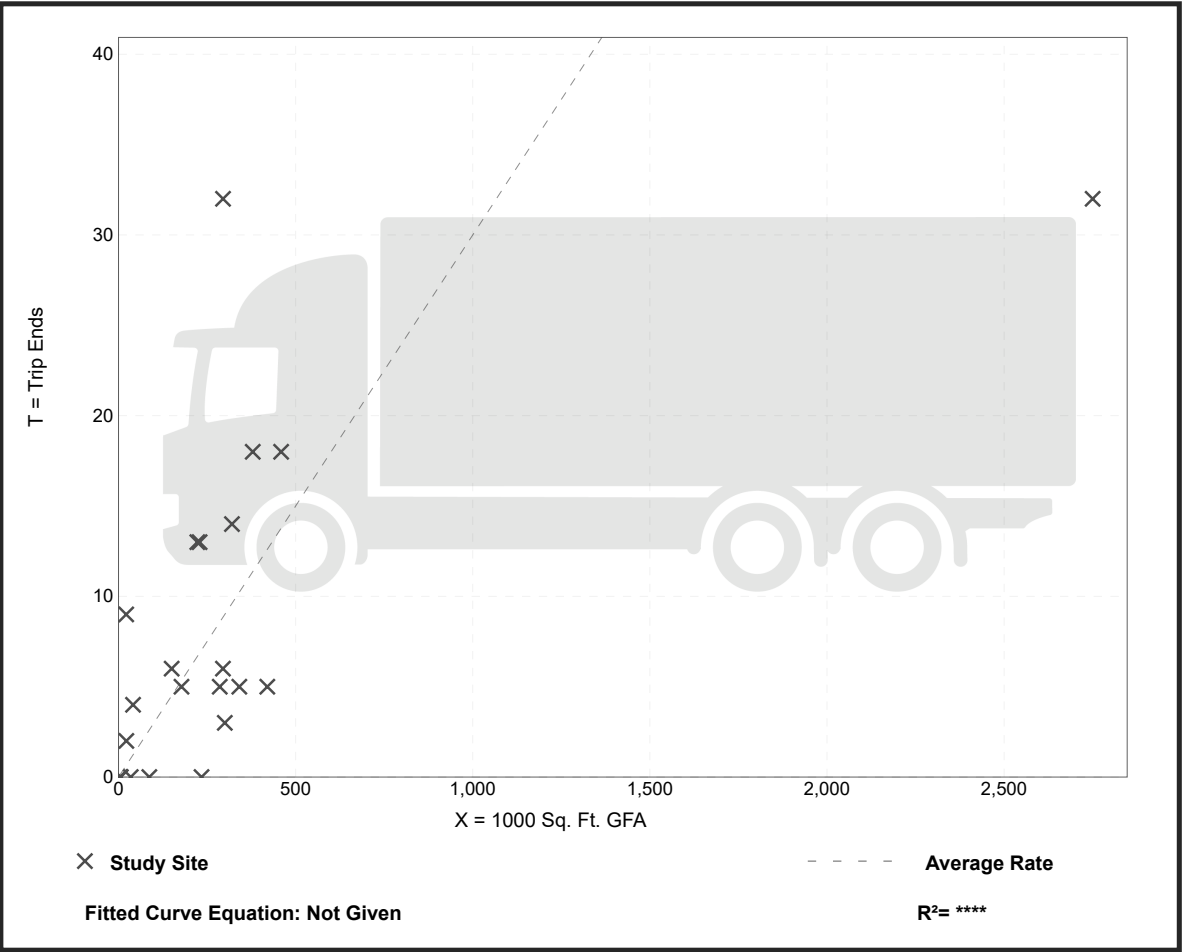
Avg. 1000 Sq. Ft. GFA: 308

Directional Distribution: 52% entering, 48% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.03	0.00 - 0.42	0.03

Data Plot and Equation



Trip Gen Manual, 11th Edition

● Institute of Transportation Engineers

PIPELINE TRIPS AT CRITICAL INTERSECTIONS – DUPONT INDUSTRIAL (AM PEAK HOUR)

1. Center Drive/Wilmington Drive

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	1	0	4	0	2	16	0
Williamson Pl. (3)	0	0	0	0	0	0	0	12	0	0	3	0
International Place	0	0	0	0	0	0	0	5	0	0	1	0
Patriot's Lndng. (1)	0	0	0	0	0	1	0	17	0	4	50	0
Civic Ctr. Phase 2	0	0	0	0	0	5	0	28	0	3	4	0
Civic Ctr. Phase 3	0	0	0	0	0	1	0	27	0	0	4	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	13	0	101	0	3	24	0
DuPont Storage (1)	0	0	0	0	0	0	0	2	1	0	2	0
Total	0	0	0	0	0	21	0	206	1	12	109	0

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

2. Center Drive/McNeil Street

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	2	18	0	1	0	5	0	0	0	0	0
Williamson Pl. (3)	17	0	0	0	0	3	0	12	0	0	3	2
International Place	8	0	0	0	0	1	0	5	0	0	1	3
Patriot's Lndng. (1)	2	8	54	0	3	0	18	0	0	0	0	1
Civic Ctr. Phase 2	3	0	0	0	0	4	0	33	0	3	7	0
Civic Ctr. Phase 3	3	0	0	0	0	2	0	28	0	0	4	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	38	0	0	0	0	8	0	114	0	2	27	9
DuPont Storage (1)	0	2	0	2	2	2	0	0	2	3	0	0
Total	71	12	72	2	6	20	23	202	2	8	47	15

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

3. Center Drive/Bob's Hollow Lane

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	7	0	0	0	0	0	0	0	0	0	0	2
Williamson Pl. (3)	0	0	0	0	0	0	0	35	0	0	5	0
International Place	0	0	0	0	0	0	0	15	0	0	4	0
Patriot's Lndng. (1)	5	0	0	0	0	0	0	2	0	0	1	2
Civic Ctr. Phase 2	12	0	0	0	0	0	0	40	0	0	10	6
Civic Ctr. Phase 3	6	0	0	0	0	0	0	33	0	0	4	1
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	3	0	161	0	1	38	0
DuPont Storage (1)	0	0	1	0	0	0	1	1	0	0	2	0
Total	30	0	1	0	0	3	1	297	0	1	69	11

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

4. Center Drive/Palisade Blvd.

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	7	0	0	2	0
Williamson Pl. (3)	0	0	0	0	0	3	0	35	0	0	5	0
International Place	0	0	0	0	0	2	0	15	0	0	4	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	7	0	0	3	0
Civic Ctr. Phase 2	0	0	0	0	0	10	0	52	0	7	16	0
Civic Ctr. Phase 3	0	0	0	0	0	4	0	39	0	1	5	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	8	0	164	0	2	39	0
DuPont Storage (1)	0	0	0	0	0	0	0	1	0	1	0	0
Total	0	0	0	0	0	27	0	330	0	11	79	0

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

5. Center Drive/Sequalitchew

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	7	0	0	2	0
Williamson Pl. (3)	0	0	0	0	0	0	0	38	0	0	5	0
International Place	0	0	0	0	0	0	0	17	0	0	4	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	7	0	0	3	0
Civic Ctr. Phase 2	0	0	0	0	0	0	0	8	0	0	18	0
Civic Ctr. Phase 3	0	0	0	0	0	0	0	2	0	0	11	0
NW Logistics (1)	0	0	0	0	0	0	0	10	0	0	5	0
DuPont Corp. Ctr.	0	0	0	0	0	0	0	172	0	0	41	0
DuPont Storage (1)	0	0	0	0	0	0	0	1	0	0	1	0
Total	0	0	0	0	0	0	0	262	0	0	90	0

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

PIPELINE TRIPS AT CRITICAL INTERSECTIONS – DUPONT INDUSTRIAL (PM PEAK HOUR)

1. Center Drive/Wilmington Drive

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	1	0	18	0	1	8	0
Williamson Pl. (3)	0	0	0	0	0	0	0	3	0	0	12	0
International Place	0	0	0	0	0	0	0	2	0	0	6	0
Patriot's Lndng. (1)	0	0	0	0	0	4	0	57	0	3	33	0
Civic Ctr. Phase 2	0	0	0	0	0	1	0	5	0	2	25	0
Civic Ctr. Phase 3	0	0	0	0	0	0	0	4	0	1	25	0
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	3	0	27	0	12	96	0
DuPont Storage	0	0	0	5	0	2	0	1	5	2	1	0
Total	0	0	0	5	0	11	0	122	5	21	218	0

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

2. Center Drive/McNeil Street

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	1	9	0	1	0	19	0	0	0	0	0
Williamson Pl. (3)	3	0	0	0	0	3	0	3	0	3	12	17
International Place	3	0	0	0	0	1	0	2	0	2	6	9
Patriot's Lndng. (1)	2	5	36	0	9	0	61	0	0	0	0	3
Civic Ctr. Phase 2	1	0	0	0	0	2	0	6	0	3	27	3
Civic Ctr. Phase 3	1	0	0	0	0	1	0	4	0	2	26	3
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	10	0	0	0	0	2	0	30	0	7	108	36
DuPont Storage	0	6	0	3	7	7	0	1	1	6	0	0
Total	20	12	45	3	17	16	80	51	1	23	191	71

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

3. Center Drive/Bob's Hollow Lane

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	8	0	0	0	0	0	0	0	0	0	0	10
Williamson Pl. (3)	0	0	0	0	0	0	0	9	0	0	32	0
International Place	0	0	0	0	0	0	0	6	0	0	18	0
Patriot's Lndng. (1)	6	0	0	0	0	0	0	2	0	0	3	10
Civic Ctr. Phase 2	3	0	0	0	0	0	0	9	0	0	33	7
Civic Ctr. Phase 3	1	0	0	0	0	0	0	6	0	0	31	5
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	1	0	43	0	2	154	0
DuPont Storage (1)	0	0	1	1	0	0	1	3	1	0	2	0
Total	18	0	1	1	0	1	1	83	1	2	285	32

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

4. Center Drive/Palisade Blvd.

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	8	0	0	10	0
Williamson Pl. (3)	0	0	0	0	0	0	0	9	0	3	32	0
International Place	0	0	0	0	0	0	0	6	0	2	18	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	8	0	0	13	0
Civic Ctr. Phase 2	0	0	0	0	0	4	0	12	0	7	40	0
Civic Ctr. Phase 3	0	0	0	0	0	1	0	7	0	4	36	0
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	2	0	44	0	7	156	0
DuPont Storage (1)	0	0	0	1	0	0	0	2	1	0	1	0
Total	0	0	0	1	0	7	0	101	1	23	318	0

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

5. Center Drive/Sequalitchew

Development	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Village IV (2)	0	0	0	0	0	0	0	8	0	0	10	0
Williamson Pl. (3)	0	0	0	0	0	0	0	9	0	0	35	0
International Place	0	0	0	0	0	0	0	6	0	0	20	0
Patriot's Lndng. (1)	0	0	0	0	0	0	0	8	0	0	13	0
Civic Ctr. Phase 2	0	0	0	0	0	0	0	16	0	0	47	0
Civic Ctr. Phase 3	0	0	0	0	0	0	0	8	0	0	40	0
NW Logistics (1)	0	0	0	0	0	0	0	5	0	0	12	0
DuPont Corp. Ctr.	0	0	0	0	0	0	0	46	0	0	163	0
DuPont Storage (1)	0	0	0	0	0	0	0	2	0	0	1	0
Total	0	0	0	0	0	0	0	108	0	0	341	0

(1) – estimated trips; assignment not available or not provided in TIA

(2) – assignment revised to reflect modified trip generation for partial build-out

(3) – modified from original TIA to reflect scaled-back SEPA proposal

Intersection						
Int Delay, s/veh	0.5					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	9	332	278	17	12	13
Future Vol, veh/h	9	332	278	17	12	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	2	7	1	1	1
Mvmt Flow	10	373	312	19	13	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	331	0	0 529 166
Stage 1	-	-	- 322 -
Stage 2	-	-	- 207 -
Critical Hdwy	4.12	-	- 6.82 6.92
Critical Hdwy Stg 1	-	-	- 5.82 -
Critical Hdwy Stg 2	-	-	- 5.82 -
Follow-up Hdwy	2.21	-	- 3.51 3.31
Pot Cap-1 Maneuver	1232	-	- 482 852
Stage 1	-	-	- 710 -
Stage 2	-	-	- 810 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1232	-	- 478 852
Mov Cap-2 Maneuver	-	-	- 559 -
Stage 1	-	-	- 704 -
Stage 2	-	-	- 810 -

Approach	NB	SB	SE
HCM Control Delay, s	0.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SELn2	SBT	SBR
Capacity (veh/h)	1232	-	559	852	-	-
HCM Lane V/C Ratio	0.008	-	0.024	0.017	-	-
HCM Control Delay (s)	7.9	-	11.6	9.3	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Existing AM Peak Hour

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	28	1	21	0	332	11	17	320	0
Future Volume (vph)	0	1	0	28	1	21	0	332	11	17	320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00	0.98		1.00		1.00		
Frt						0.850		0.995				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1881	0	0	1795	1599	1881	3519	0	1703	3438	0
Flt Permitted					0.916					0.950		
Satd. Flow (perm)	0	1881	0	0	1716	1566	1881	3519	0	1697	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						73		5				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		299			493			577			506	
Travel Time (s)		8.2			13.4			11.2			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	1%	6%	5%	1%
Adj. Flow (vph)	0	1	0	31	1	23	0	369	12	19	356	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	32	23	0	381	0	19	356	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	34.5	34.5		28.5	28.5	28.5	9.5	40.5		9.5	44.5	
Total Split (s)	34.5	34.5		34.5	34.5	34.5	9.5	45.5		10.0	46.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	10.6%	50.6%		11.1%	51.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0	30.0	5.0	41.0		5.5	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Lanes, Volumes, Timings

Synchro 11 Report

Page 1

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Existing AM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		17.0	17.0	17.0		29.0			33.0	
Pedestrian Calls (#/hr)	5	5		0	0	0		5			5	
Act Effect Green (s)		9.3			9.6	9.6		31.6		6.8	32.5	
Actuated g/C Ratio		0.23			0.24	0.24		0.80		0.17	0.82	
v/c Ratio		0.00			0.08	0.05		0.14		0.07	0.13	
Control Delay		15.0			14.5	0.2		6.1		24.8	4.3	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		15.0			14.5	0.2		6.1		24.8	4.3	
LOS		B			B	A		A		C	A	
Approach Delay		15.0			8.5			6.1			5.3	
Approach LOS		B			A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 39.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.14

Intersection Signal Delay: 5.9

Intersection LOS: A

Intersection Capacity Utilization 37.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Center Dr & Palisade Blvd

 Ø1	 Ø2	 Ø4
10 s	45.5 s	34.5 s
 Ø5	 Ø6	 Ø8
9.5 s	46 s	34.5 s

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Existing AM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	39	58	35	11	6	77	146	11	6	217	139
Future Volume (vph)	131	39	58	35	11	6	77	146	11	6	217	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	1.00		0.99	0.99	
Frt		0.966			0.983			0.989			0.941	
Flt Protected		0.972			0.968		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1762	0	1736	3402	0	1543	3117	0
Flt Permitted		0.790			0.783		0.426			0.644		
Satd. Flow (perm)	0	1386	0	0	1421	0	775	3402	0	1039	3117	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			7			10			151	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		344			542			617			532	
Travel Time (s)		9.4			14.8			12.0			10.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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
Heavy Vehicles (%)	2%	10%	3%	3%	1%	1%	4%	5%	1%	17%	8%	7%
Adj. Flow (vph)	142	42	63	38	12	7	84	159	12	7	236	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	247	0	0	57	0	84	171	0	7	387	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.5	23.5		9.5	31.5		9.5	32.5	
Total Split (s)	38.0	38.0		38.0	38.0		13.0	41.0		11.0	39.0	
Total Split (%)	42.2%	42.2%		42.2%	42.2%		14.4%	45.6%		12.2%	43.3%	
Maximum Green (s)	33.5	33.5		33.5	33.5		8.5	36.5		6.5	34.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 3

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Existing AM Peak Hour

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	9.0	9.0		12.0	12.0			20.0			21.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		13.6			13.6		19.9	18.9		16.6	13.6	
Actuated g/C Ratio		0.31			0.31		0.45	0.43		0.38	0.31	
v/c Ratio		0.56			0.13		0.16	0.12		0.02	0.36	
Control Delay		19.2			13.6		7.6	8.6		7.2	9.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.2			13.6		7.6	8.6		7.2	9.7	
LOS		B			B		A	A		A	A	
Approach Delay		19.2			13.6			8.3			9.6	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 43.9

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 12.0

Intersection LOS: B

Intersection Capacity Utilization 42.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Center Dr & Bob's Hollow Ln

 Ø1	 Ø2	 Ø4
11 s	41 s	38 s
 Ø5	 Ø6	 Ø8
13 s	39 s	38 s

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Existing AM Peak Hour

10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	61	35	302	29	25	11	117	189	17	19	320	17
Future Volume (vph)	61	35	302	29	25	11	117	189	17	19	320	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		325	200		200	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			95			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.98		1.00	0.98	0.99	1.00		0.99	1.00	
Frt			0.850			0.850		0.988			0.993	
Flt Protected		0.969			0.974		0.950			0.950		
Satd. Flow (prot)	0	1812	1599	0	1727	1272	1719	3459	0	1787	3397	0
Flt Permitted		0.771			0.792		0.950			0.950		
Satd. Flow (perm)	0	1436	1569	0	1401	1245	1709	3459	0	1776	3397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238			73		13			6	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		502			454			455			433	
Travel Time (s)		13.7			12.4			8.9			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	1%	1%	3%	12%	27%	5%	3%	1%	1%	5%	12%
Adj. Flow (vph)	69	40	343	33	28	13	133	215	19	22	364	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	343	0	61	13	133	234	0	22	383	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		6	7		2	3	7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	6	6	7	2	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	31.5	31.5	9.5	25.5	25.5	9.5	9.5	42.5		9.5	26.5	
Total Split (s)	36.6	36.6	20.0	36.6	36.6	10.4	20.0	43.0		10.4	33.4	
Total Split (%)	40.7%	40.7%	22.2%	40.7%	40.7%	11.6%	22.2%	47.8%		11.6%	37.1%	
Maximum Green (s)	32.1	32.1	15.5	32.1	32.1	5.9	15.5	38.5		5.9	28.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report

Page 1

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Existing AM Peak Hour
10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	20.0	20.0		14.0	14.0			19.0			15.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		11.2	18.7		11.0	15.5	10.0	25.9		6.7	12.0	
Actuated g/C Ratio		0.25	0.42		0.25	0.35	0.22	0.58		0.15	0.27	
v/c Ratio		0.30	0.43		0.18	0.03	0.35	0.12		0.08	0.42	
Control Delay		18.5	4.0		16.9	0.1	22.2	9.1		26.1	17.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		18.5	4.0		16.9	0.1	22.2	9.1		26.1	17.1	
LOS		B	A		B	A	C	A		C	B	
Approach Delay		7.5			14.0			13.8			17.6	
Approach LOS		A			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 44.8

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 12.8

Intersection LOS: B

Intersection Capacity Utilization 47.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Center Dr & McNeil St

 Ø2	 Ø3	 Ø4
36.6 s	10.4 s	43 s
 Ø6	 Ø7	 Ø8
36.6 s	20 s	33.4 s

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Existing AM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	7	39	93	11	28	35	313	100	58	607	15
Future Volume (vph)	3	7	39	93	11	28	35	313	100	58	607	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	105		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			100			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00	0.99		1.00	1.00	
Frt		0.874			0.892			0.964			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1613	0	1687	1617	0	1787	3314	0	1787	3457	0
Flt Permitted	0.729			0.724			0.385			0.457		
Satd. Flow (perm)	1363	1613	0	1277	1617	0	722	3314	0	856	3457	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			31			58			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		190			493			682			320	
Travel Time (s)		5.2			13.4			13.3			6.2	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	7%	1%	4%	1%	4%	5%	1%	4%	1%
Adj. Flow (vph)	3	8	43	103	12	31	39	348	111	64	674	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	51	0	103	43	0	39	459	0	64	691	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.5	26.5		25.5	25.5		9.5	22.5		9.5	31.5	
Total Split (s)	33.0	33.0		33.0	33.0		13.0	42.0		15.0	44.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		14.4%	46.7%		16.7%	48.9%	
Maximum Green (s)	28.5	28.5		28.5	28.5		8.5	37.5		10.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 7

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Existing AM Peak Hour

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	11.0	11.0		14.0	14.0						20.0	
Pedestrian Calls (#/hr)	5	5		5	5						5	
Act Effect Green (s)	10.4	10.4		10.5	10.5		23.6	21.6		24.7	24.0	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.55	0.50		0.57	0.56	
v/c Ratio	0.01	0.12		0.33	0.10		0.07	0.27		0.10	0.36	
Control Delay	15.7	8.1		19.2	9.4		5.9	10.1		5.9	10.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.7	8.1		19.2	9.4		5.9	10.1		5.9	10.3	
LOS	B	A		B	A		A	B		A	B	
Approach Delay		8.5			16.3			9.7			10.0	
Approach LOS		A			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 43.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 10.5

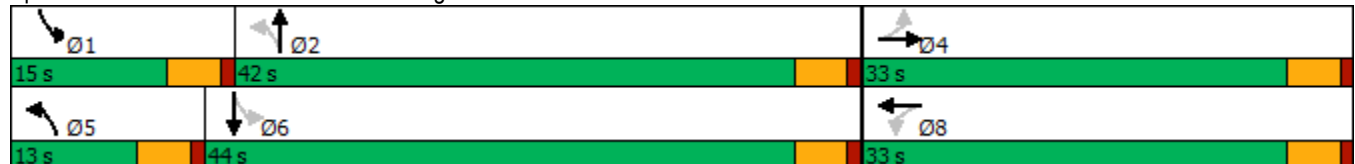
Intersection LOS: B

Intersection Capacity Utilization 46.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Center Dr & Wilmington Dr



Intersection						
Int Delay, s/veh	0.8					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	27	246	456	26	15	14
Future Vol, veh/h	27	246	456	26	15	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	34	311	577	33	19	18

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	610	0	-	0	818
Stage 1	-	-	-	-	594
Stage 2	-	-	-	-	224
Critical Hdwy	4.12	-	-	-	6.82
Critical Hdwy Stg 1	-	-	-	-	5.82
Critical Hdwy Stg 2	-	-	-	-	5.82
Follow-up Hdwy	2.21	-	-	-	3.51
Pot Cap-1 Maneuver	972	-	-	-	316
Stage 1	-	-	-	-	517
Stage 2	-	-	-	-	795
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	972	-	-	-	305
Mov Cap-2 Maneuver	-	-	-	-	405
Stage 1	-	-	-	-	499
Stage 2	-	-	-	-	795

Approach	NB	SB	SE
HCM Control Delay, s	0.9	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SELn2	SBT	SBR
Capacity (veh/h)	972	-	405	694	-	-
HCM Lane V/C Ratio	0.035	-	0.047	0.026	-	-
HCM Control Delay (s)	8.8	-	14.3	10.3	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Existing PM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	13	0	13	3	291	14	28	435	0
Future Volume (vph)	2	0	1	13	0	13	3	291	14	28	435	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00	0.98	1.00	1.00		1.00		
Frt		0.955				0.850		0.993				
Flt Protected		0.968			0.950		0.950			0.950		
Satd. Flow (prot)	0	1728	0	0	1787	1599	1787	3544	0	1787	3574	0
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	1778	0	0	1873	1566	1782	3544	0	1780	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				73		7				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		299			493			577			506	
Travel Time (s)		8.2			13.4			11.2			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	0	1	15	0	15	4	346	17	33	518	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	15	15	4	363	0	33	518	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	34.5	34.5		28.5	28.5	28.5	9.5	40.5		9.5	44.5	
Total Split (s)	34.5	34.5		34.5	34.5	34.5	9.5	44.5		11.0	46.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	10.6%	49.4%		12.2%	51.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0	30.0	5.0	40.0		6.5	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Lanes, Volumes, Timings

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Existing PM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		17.0	17.0	17.0		29.0			33.0	
Pedestrian Calls (#/hr)	5	5		0	0	0		5			5	
Act Effect Green (s)		9.1			9.4	9.4	6.3	34.7		7.5	34.8	
Actuated g/C Ratio		0.23			0.24	0.24	0.16	0.89		0.19	0.89	
v/c Ratio		0.01			0.03	0.03	0.01	0.12		0.10	0.16	
Control Delay		0.0			14.2	0.2	25.3	4.9		23.0	4.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.0			14.2	0.2	25.3	4.9		23.0	4.8	
LOS		A			B	A	C	A		C	A	
Approach Delay					7.2			5.2			5.9	
Approach LOS					A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 39.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.16

Intersection Signal Delay: 5.6

Intersection LOS: A

Intersection Capacity Utilization 38.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Center Dr & Palisade Blvd



Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Existing PM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	8	30	9	10	8	41	178	33	20	296	138
Future Volume (vph)	102	8	30	9	10	8	41	178	33	20	296	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	0.99		0.99	0.99	
Frt		0.971			0.959			0.976			0.952	
Flt Protected		0.965			0.984		0.950			0.950		
Satd. Flow (prot)	0	1734	0	0	1763	0	1787	3471	0	1787	3368	0
Flt Permitted		0.764			0.874		0.420			0.591		
Satd. Flow (perm)	0	1366	0	0	1563	0	787	3471	0	1105	3368	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			10			30			108	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		344			542			617			532	
Travel Time (s)		9.4			14.8			12.0			10.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	1%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	126	10	37	11	12	10	51	220	41	25	365	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	33	0	51	261	0	25	535	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.5	23.5		9.5	31.5		9.5	32.5	
Total Split (s)	34.0	34.0		34.0	34.0		12.0	44.0		12.0	44.0	
Total Split (%)	37.8%	37.8%		37.8%	37.8%		13.3%	48.9%		13.3%	48.9%	
Maximum Green (s)	29.5	29.5		29.5	29.5		7.5	39.5		7.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 3

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Existing PM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	9.0	9.0		12.0	12.0			20.0			21.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		11.3			10.9		21.6	22.1		20.4	19.9	
Actuated g/C Ratio		0.28			0.27		0.54	0.55		0.51	0.50	
v/c Ratio		0.44			0.08		0.08	0.14		0.04	0.31	
Control Delay		17.5			12.6		6.1	7.1		6.0	8.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.5			12.6		6.1	7.1		6.0	8.8	
LOS		B			B		A	A		A	A	
Approach Delay		17.5			12.6			6.9			8.6	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 40.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 9.7

Intersection LOS: A

Intersection Capacity Utilization 44.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Center Dr & Bob's Hollow Ln

 Ø1	 Ø2	 Ø4
12 s	44 s	34 s
 Ø5	 Ø6	 Ø8
12 s	44 s	34 s

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Existing PM Peak Hour

10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	46	35	157	16	55	22	307	250	26	18	304	18
Future Volume (vph)	46	35	157	16	55	22	307	250	26	18	304	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		325	200		200	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			95			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.98		1.00	0.98	0.99	1.00		0.99	1.00	
Frt			0.850			0.850		0.986			0.991	
Flt Protected		0.972			0.989		0.950			0.950		
Satd. Flow (prot)	0	1790	1599	0	1813	1599	1787	3513	0	1787	3535	0
Flt Permitted		0.778			0.914		0.950			0.950		
Satd. Flow (perm)	0	1428	1569	0	1674	1565	1776	3513	0	1777	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			73		17			6	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		502			454			455			433	
Travel Time (s)		13.7			12.4			8.9			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	1%	6%	1%	13%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	53	40	180	18	63	25	353	287	30	21	349	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	180	0	81	25	353	317	0	21	370	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		6	7		2	3	7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	6	6	7	2	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	31.5	31.5	9.5	25.5	25.5	9.5	9.5	42.5		9.5	26.5	
Total Split (s)	31.5	31.5	32.0	31.5	31.5	9.8	32.0	48.7		9.8	26.5	
Total Split (%)	35.0%	35.0%	35.6%	35.0%	35.0%	10.9%	35.6%	54.1%		10.9%	29.4%	
Maximum Green (s)	27.0	27.0	27.5	27.0	27.0	5.3	27.5	44.2		5.3	22.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report

Page 1

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Existing PM Peak Hour
10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	20.0	20.0		14.0	14.0			19.0			15.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		11.3	25.3		11.2	15.1	16.5	33.4		6.3	12.6	
Actuated g/C Ratio		0.22	0.49		0.21	0.29	0.32	0.64		0.12	0.24	
v/c Ratio		0.30	0.21		0.23	0.05	0.62	0.14		0.10	0.43	
Control Delay		23.3	2.1		21.8	0.2	23.8	7.4		32.1	21.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.3	2.1		21.8	0.2	23.8	7.4		32.1	21.1	
LOS		C	A		C	A	C	A		C	C	
Approach Delay		9.3			16.7			16.1			21.7	
Approach LOS		A			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 52.1

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 16.4

Intersection LOS: B

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Center Dr & McNeil St

 Ø2	 Ø3	 Ø4
31.5 s	9.8 s	48.7 s
 Ø6	 Ø7	 Ø8
31.5 s	32 s	26.5 s

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Existing PM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	6	26	141	17	69	36	532	115	71	424	11
Future Volume (vph)	4	6	26	141	17	69	36	532	115	71	424	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	105		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			100			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00	0.99		1.00	1.00	
Frt		0.880			0.879			0.973			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1625	0	1787	1625	0	1787	3441	0	1787	3557	0
Flt Permitted	0.697			0.734			0.481			0.307		
Satd. Flow (perm)	1304	1625	0	1371	1625	0	901	3441	0	576	3557	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			75			36			4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		190			493			682			320	
Travel Time (s)		5.2			13.4			13.3			6.2	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	4%	1%	1%	1%
Adj. Flow (vph)	4	7	28	153	18	75	39	578	125	77	461	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	35	0	153	93	0	39	703	0	77	473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.5	26.5		25.5	25.5		9.5	22.5		9.5	31.5	
Total Split (s)	33.0	33.0		33.0	33.0		12.0	43.0		14.0	45.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		13.3%	47.8%		15.6%	50.0%	
Maximum Green (s)	28.5	28.5		28.5	28.5		7.5	38.5		9.5	40.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 7

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Existing PM Peak Hour
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	11.0	11.0		14.0	14.0						20.0	
Pedestrian Calls (#/hr)	5	5		5	5						5	
Act Effect Green (s)	12.0	12.0		12.0	12.0		23.6	20.2		25.1	22.6	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.49	0.42		0.52	0.47	
v/c Ratio	0.01	0.08		0.45	0.20		0.07	0.48		0.16	0.28	
Control Delay	16.0	9.0		21.3	7.7		6.2	12.9		6.6	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.0	9.0		21.3	7.7		6.2	12.9		6.6	10.2	
LOS	B	A		C	A		A	B		A	B	
Approach Delay		9.7			16.1			12.6			9.7	
Approach LOS		A			B			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 47.9

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 48.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Center Dr & Wilmington Dr



Intersection						
Int Delay, s/veh	0.3					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	9	607	379	18	12	14
Future Vol, veh/h	9	607	379	18	12	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	2	7	1	1	1
Mvmt Flow	10	682	426	20	13	16
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	446	0	-	0	797	223
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	361	-
Critical Hdwy	4.12	-	-	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.21	-	-	-	3.51	3.31
Pot Cap-1 Maneuver	1118	-	-	-	326	784
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1118	-	-	-	323	784
Mov Cap-2 Maneuver	-	-	-	-	442	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	679	-
Approach	NB	SB		SE		
HCM Control Delay, s	0.1	0		11.4		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	SELn1	SELn2	SBT	SBR
Capacity (veh/h)	1118	-	442	784	-	-
HCM Lane V/C Ratio	0.009	-	0.031	0.02	-	-
HCM Control Delay (s)	8.2	-	13.4	9.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 AM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	29	1	49	0	675	11	29	412	0
Future Volume (vph)	0	1	0	29	1	49	0	675	11	29	412	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00	0.98		1.00		1.00		
Frt						0.850		0.998				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1881	0	0	1795	1599	1881	3531	0	1703	3438	0
Flt Permitted					0.733					0.950		
Satd. Flow (perm)	0	1881	0	0	1373	1566	1881	3531	0	1699	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						73		2				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		299			493			577			506	
Travel Time (s)		8.2			13.4			11.2			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	1%	6%	5%	1%
Adj. Flow (vph)	0	1	0	32	1	54	0	750	12	32	458	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	33	54	0	762	0	32	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	34.5	34.5		28.5	28.5	28.5	9.5	40.5		9.5	44.5	
Total Split (s)	34.5	34.5		34.5	34.5	34.5	9.5	44.9		10.6	46.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	10.6%	49.9%		11.8%	51.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0	30.0	5.0	40.4		6.1	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Lanes, Volumes, Timings

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 AM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		17.0	17.0	17.0		29.0			33.0	
Pedestrian Calls (#/hr)	5	5		0	0	0		5			5	
Act Effect Green (s)		9.6			9.7	9.7		32.4		6.9	33.5	
Actuated g/C Ratio		0.22			0.22	0.22		0.73		0.15	0.75	
v/c Ratio		0.00			0.11	0.14		0.30		0.12	0.18	
Control Delay		16.0			16.9	4.3		7.5		26.2	5.0	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		16.0			16.9	4.3		7.5		26.2	5.0	
LOS		B			B	A		A		C	A	
Approach Delay		16.0			9.1			7.5			6.4	
Approach LOS		B			A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 44.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 45.9%

ICU Level of Service A

Analysis Period (min) 15

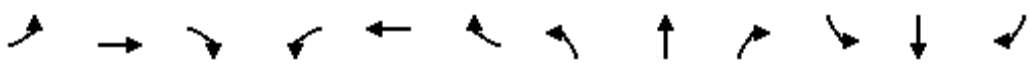
Splits and Phases: 2: Center Dr & Palisade Blvd

 Ø1	 Ø2	 Ø4
10.6 s	44.9 s	34.5 s
 Ø5	 Ø6	 Ø8
9.5 s	46 s	34.5 s

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 AM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (vph)	166	41	61	36	11	9	81	449	11	7	295	156
Future Volume (vph)	166	41	61	36	11	9	81	449	11	7	295	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	1.00		1.00	0.99	
Frt		0.969			0.978			0.996			0.948	
Flt Protected		0.970			0.969		0.950			0.950		
Satd. Flow (prot)	0	1717	0	0	1754	0	1736	3425	0	1543	3143	0
Flt Permitted		0.776			0.777		0.375			0.469		
Satd. Flow (perm)	0	1368	0	0	1403	0	683	3425	0	759	3143	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			10			3			123	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		344			542			617			532	
Travel Time (s)		9.4			14.8			12.0			10.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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
Heavy Vehicles (%)	2%	10%	3%	3%	1%	1%	4%	5%	1%	17%	8%	7%
Adj. Flow (vph)	180	45	66	39	12	10	88	488	12	8	321	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	291	0	0	61	0	88	500	0	8	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.5	23.5		9.5	31.5		9.5	32.5	
Total Split (s)	40.0	40.0		40.0	40.0		12.0	40.0		10.0	38.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		13.3%	44.4%		11.1%	42.2%	
Maximum Green (s)	35.5	35.5		35.5	35.5		7.5	35.5		5.5	33.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report

Page 3

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 AM Peak Hour Without Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	9.0	9.0		12.0	12.0			20.0			21.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effct Green (s)		16.1			16.1		20.7	19.8		17.8	15.1	
Actuated g/C Ratio		0.34			0.34		0.44	0.42		0.37	0.32	
v/c Ratio		0.61			0.13		0.19	0.35		0.02	0.45	
Control Delay		20.5			12.8		9.0	11.2		8.4	12.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		20.5			12.8		9.0	11.2		8.4	12.7	
LOS		C			B		A	B		A	B	
Approach Delay		20.5			12.8			10.8			12.6	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 47.5

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.5

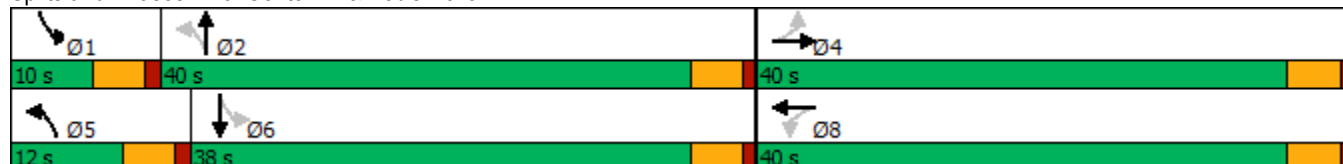
Intersection LOS: B

Intersection Capacity Utilization 48.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Center Dr & Bob's Hollow Ln



Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 AM Peak Hour Without Project

10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	134	48	386	32	32	31	145	399	20	28	380	33
Future Volume (vph)	134	48	386	32	32	31	145	399	20	28	380	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		325	200		200	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			95			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.98		1.00	0.98	0.99	1.00		1.00	1.00	
Frt			0.850			0.850		0.993			0.988	
Flt Protected		0.965			0.976		0.950			0.950		
Satd. Flow (prot)	0	1802	1599	0	1725	1272	1719	3478	0	1787	3369	0
Flt Permitted		0.737			0.802		0.950			0.950		
Satd. Flow (perm)	0	1371	1569	0	1415	1245	1710	3478	0	1779	3369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151			73		7			10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		502			454			455			433	
Travel Time (s)		13.7			12.4			8.9			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	1%	1%	3%	12%	27%	5%	3%	1%	1%	5%	12%
Adj. Flow (vph)	152	55	439	36	36	35	165	453	23	32	432	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	439	0	72	35	165	476	0	32	470	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		6	7		2	3	7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	6	6	7	2	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	31.5	31.5	9.5	25.5	25.5	9.5	9.5	42.5		9.5	26.5	
Total Split (s)	36.0	36.0	23.0	36.0	36.0	11.0	23.0	43.0		11.0	31.0	
Total Split (%)	40.0%	40.0%	25.6%	40.0%	40.0%	12.2%	25.6%	47.8%		12.2%	34.4%	
Maximum Green (s)	31.5	31.5	18.5	31.5	31.5	6.5	18.5	38.5		6.5	26.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 AM Peak Hour Without Project
10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	20.0	20.0		14.0	14.0			19.0			15.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		14.7	26.2		14.7	21.3	11.5	24.3		6.5	13.9	
Actuated g/C Ratio		0.27	0.48		0.27	0.39	0.21	0.45		0.12	0.25	
v/c Ratio		0.56	0.52		0.19	0.07	0.46	0.31		0.15	0.55	
Control Delay		25.1	7.0		18.3	1.0	26.1	12.4		30.2	21.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		25.1	7.0		18.3	1.0	26.1	12.4		30.2	21.3	
LOS		C	A		B	A	C	B		C	C	
Approach Delay		12.8			12.7			16.0			21.9	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 54.6

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 16.3

Intersection LOS: B

Intersection Capacity Utilization 54.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Center Dr & McNeil St

 Ø2	 Ø3	 Ø4
36 s	11 s	43 s
 Ø6	 Ø7	 Ø8
36 s	23 s	31 s

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 AM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	7	41	97	11	50	36	532	105	72	741	16
Future Volume (vph)	3	7	41	97	11	50	36	532	105	72	741	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	105		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			100			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00	1.00		1.00	1.00	
Frt		0.872			0.876			0.975			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1608	0	1687	1579	0	1787	3363	0	1787	3461	0
Flt Permitted	0.713			0.722			0.309			0.323		
Satd. Flow (perm)	1333	1608	0	1273	1579	0	580	3363	0	606	3461	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			56			34			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		190			493			682			320	
Travel Time (s)		5.2			13.4			13.3			6.2	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	7%	1%	4%	1%	4%	5%	1%	4%	1%
Adj. Flow (vph)	3	8	46	108	12	56	40	591	117	80	823	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	54	0	108	68	0	40	708	0	80	841	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.5	26.5		25.5	25.5		9.5	22.5		9.5	31.5	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	46.0		13.0	48.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		12.2%	51.1%		14.4%	53.3%	
Maximum Green (s)	26.5	26.5		26.5	26.5		6.5	41.5		8.5	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 7

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 AM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	11.0	11.0		14.0	14.0						20.0	
Pedestrian Calls (#/hr)	5	5		5	5						5	
Act Effect Green (s)	10.8	10.8		11.0	11.0		25.8	24.1		27.4	26.6	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.56	0.53		0.60	0.58	
v/c Ratio	0.01	0.13		0.36	0.16		0.08	0.40		0.15	0.42	
Control Delay	17.0	8.4		21.0	8.3		5.9	11.5		6.0	10.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.0	8.4		21.0	8.3		5.9	11.5		6.0	10.4	
LOS	B	A		C	A		A	B		A	B	
Approach Delay		8.8			16.1			11.2			10.0	
Approach LOS		A			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 45.9

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 11.0

Intersection LOS: B

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Center Dr & Wilmington Dr



Intersection						
Int Delay, s/veh	0.7					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	28	364	815	27	16	15
Future Vol, veh/h	28	364	815	27	16	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	35	461	1032	34	20	19

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1066	0	-	0	1350
Stage 1	-	-	-	-	1049
Stage 2	-	-	-	-	301
Critical Hdwy	4.12	-	-	-	6.82
Critical Hdwy Stg 1	-	-	-	-	5.82
Critical Hdwy Stg 2	-	-	-	-	5.82
Follow-up Hdwy	2.21	-	-	-	3.51
Pot Cap-1 Maneuver	655	-	-	-	143
Stage 1	-	-	-	-	300
Stage 2	-	-	-	-	727
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	655	-	-	-	135
Mov Cap-2 Maneuver	-	-	-	-	232
Stage 1	-	-	-	-	284
Stage 2	-	-	-	-	727

Approach	NB	SB	SE
HCM Control Delay, s	0.8	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SELn2	SBT	SBR
Capacity (veh/h)	655	-	232	494	-	-
HCM Lane V/C Ratio	0.054	-	0.087	0.038	-	-
HCM Control Delay (s)	10.8	-	22	12.6	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.1	-	-

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 PM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	15	0	21	3	404	16	52	771	0
Future Volume (vph)	2	0	1	15	0	21	3	404	16	52	771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00	0.98	1.00	1.00		1.00		
Frt		0.955				0.850		0.994				
Flt Protected		0.968			0.950		0.950			0.950		
Satd. Flow (prot)	0	1728	0	0	1787	1599	1787	3549	0	1787	3574	0
Flt Permitted		0.789			0.909		0.950			0.950		
Satd. Flow (perm)	0	1403	0	0	1702	1566	1784	3549	0	1782	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				73		5				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		299			493			577			506	
Travel Time (s)		8.2			13.4			11.2			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	0	1	18	0	25	4	481	19	62	918	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	18	25	4	500	0	62	918	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	34.5	34.5		28.5	28.5	28.5	9.5	40.5		9.5	44.5	
Total Split (s)	34.5	34.5		34.5	34.5	34.5	9.5	42.3		13.2	46.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	10.6%	47.0%		14.7%	51.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0	30.0	5.0	37.8		8.7	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Lanes, Volumes, Timings

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 PM Peak Hour Without Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		17.0	17.0	17.0		29.0			33.0	
Pedestrian Calls (#/hr)	5	5		0	0	0		5			5	
Act Effect Green (s)		9.2			9.3	9.3	5.9	28.8		7.9	35.9	
Actuated g/C Ratio		0.21			0.21	0.21	0.13	0.65		0.18	0.81	
v/c Ratio		0.01			0.05	0.06	0.02	0.22		0.19	0.32	
Control Delay		0.0			16.9	0.3	28.0	9.3		24.5	6.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.0			16.9	0.3	28.0	9.3		24.5	6.4	
LOS		A			B	A	C	A		C	A	
Approach Delay					7.3			9.4			7.6	
Approach LOS					A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 44.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 8.2

Intersection LOS: A

Intersection Capacity Utilization 45.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Center Dr & Palisade Blvd

 Ø1	 Ø2	 Ø4
13.2 s	42.3 s	34.5 s
 Ø5	 Ø6	 Ø8
9.5 s	46 s	34.5 s

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 PM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (vph)	124	8	32	10	10	9	44	268	35	23	593	176
Future Volume (vph)	124	8	32	10	10	9	44	268	35	23	593	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	1.00		1.00	0.99	
Frt		0.973			0.958			0.983			0.966	
Flt Protected		0.964			0.983		0.950			0.950		
Satd. Flow (prot)	0	1736	0	0	1759	0	1787	3501	0	1787	3428	0
Flt Permitted		0.756			0.886		0.210			0.530		
Satd. Flow (perm)	0	1355	0	0	1583	0	394	3501	0	992	3428	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			11			22			58	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		344			542			617			532	
Travel Time (s)		9.4			14.8			12.0			10.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	1%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	153	10	40	12	12	11	54	331	43	28	732	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	35	0	54	374	0	28	949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.5	23.5		9.5	31.5		9.5	32.5	
Total Split (s)	32.0	32.0		32.0	32.0		11.0	48.0		10.0	47.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	53.3%		11.1%	52.2%	
Maximum Green (s)	27.5	27.5		27.5	27.5		6.5	43.5		5.5	42.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report

Page 3

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 PM Peak Hour Without Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	9.0	9.0		12.0	12.0			20.0			21.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		14.2			14.2		31.7	29.6		29.9	27.0	
Actuated g/C Ratio		0.25			0.25		0.56	0.52		0.53	0.48	
v/c Ratio		0.58			0.09		0.14	0.20		0.05	0.57	
Control Delay		26.1			15.4		6.8	8.8		6.3	13.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		26.1			15.4		6.8	8.8		6.3	13.3	
LOS		C			B		A	A		A	B	
Approach Delay		26.1			15.4			8.5			13.1	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 56.5

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 13.6

Intersection LOS: B

Intersection Capacity Utilization 53.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Center Dr & Bob's Hollow Ln



Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 PM Peak Hour Without Project

10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	68	48	208	20	74	39	399	311	28	42	507	90
Future Volume (vph)	68	48	208	20	74	39	399	311	28	42	507	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		325	200		200	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			95			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.98		1.00	0.98	1.00	1.00		0.99	0.99	
Frt			0.850			0.850		0.988			0.977	
Flt Protected		0.972			0.989		0.950			0.950		
Satd. Flow (prot)	0	1792	1599	0	1815	1599	1787	3522	0	1787	3472	0
Flt Permitted		0.759			0.910		0.950			0.950		
Satd. Flow (perm)	0	1395	1569	0	1668	1565	1780	3522	0	1778	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			42			73		14			21	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		502			454			455			433	
Travel Time (s)		13.7			12.4			8.9			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	1%	6%	1%	13%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	78	55	239	23	85	45	459	357	32	48	583	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	133	239	0	108	45	459	389	0	48	686	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		6	7		2	3	7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	6	6	7	2	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	31.5	31.5	9.5	25.5	25.5	9.5	9.5	42.5		9.5	26.5	
Total Split (s)	31.5	31.5	32.0	31.5	31.5	11.1	32.0	47.4		11.1	26.5	
Total Split (%)	35.0%	35.0%	35.6%	35.0%	35.0%	12.3%	35.6%	52.7%		12.3%	29.4%	
Maximum Green (s)	27.0	27.0	27.5	27.0	27.0	6.6	27.5	42.9		6.6	22.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report

Page 5

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 PM Peak Hour Without Project

10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	20.0	20.0		14.0	14.0			19.0			15.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		13.5	34.2		13.3	17.8	23.3	41.0		6.8	19.1	
Actuated g/C Ratio		0.20	0.51		0.20	0.27	0.35	0.62		0.10	0.29	
v/c Ratio		0.47	0.29		0.33	0.09	0.74	0.18		0.26	0.68	
Control Delay		32.2	6.6		28.2	2.1	30.9	9.4		38.7	27.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		32.2	6.6		28.2	2.1	30.9	9.4		38.7	27.2	
LOS		C	A		C	A	C	A		D	C	
Approach Delay		15.7			20.5			21.1			27.9	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 66.6

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 22.5

Intersection LOS: C

Intersection Capacity Utilization 65.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Center Dr & McNeil St

 Ø2	 Ø3	 Ø4
31.5 s	11.1 s	47.4 s
 Ø6	 Ø7	 Ø8
31.5 s	32 s	26.5 s

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 PM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	6	27	152	18	83	37	675	125	95	659	11
Future Volume (vph)	4	6	27	152	18	83	37	675	125	95	659	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	105		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			100			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00	1.00		1.00	1.00	
Frt		0.879			0.877			0.977			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1623	0	1787	1620	0	1787	3460	0	1787	3565	0
Flt Permitted	0.686			0.734			0.375			0.217		
Satd. Flow (perm)	1283	1623	0	1371	1620	0	703	3460	0	407	3565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			90			31			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		190			493			682			320	
Travel Time (s)		5.2			13.4			13.3			6.2	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	4%	1%	1%	1%
Adj. Flow (vph)	4	7	29	165	20	90	40	734	136	103	716	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	36	0	165	110	0	40	870	0	103	728	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.5	26.5		25.5	25.5		9.5	22.5		9.5	31.5	
Total Split (s)	30.0	30.0		30.0	30.0		11.0	46.0		14.0	49.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		12.2%	51.1%		15.6%	54.4%	
Maximum Green (s)	25.5	25.5		25.5	25.5		6.5	41.5		9.5	44.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 7

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 PM Peak Hour Without Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	11.0	11.0		14.0	14.0						20.0	
Pedestrian Calls (#/hr)	5	5		5	5						5	
Act Effect Green (s)	12.6	12.6		12.6	12.6		28.9	24.1		32.4	29.6	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.52	0.44		0.59	0.54	
v/c Ratio	0.01	0.09		0.53	0.25		0.08	0.57		0.25	0.38	
Control Delay	19.0	10.3		27.1	8.7		6.0	14.6		6.9	10.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.0	10.3		27.1	8.7		6.0	14.6		6.9	10.0	
LOS	B	B		C	A		A	B		A	B	
Approach Delay		11.1			19.7			14.3			9.7	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 55.3

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 13.1

Intersection LOS: B

Intersection Capacity Utilization 54.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Center Dr & Wilmington Dr

 Ø1	 Ø2	 Ø4
14 s	46 s	30 s
 Ø5	 Ø6	 Ø8
11 s	49 s	30 s

Intersection						
Int Delay, s/veh	0.7					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	41	607	379	29	15	24
Future Vol, veh/h	41	607	379	29	15	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	2	7	7	20	1
Mvmt Flow	46	682	426	33	17	27
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	459	0	-	0	876	230
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	433	-
Critical Hdwy	4.12	-	-	-	7.2	6.92
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	2.21	-	-	-	3.7	3.31
Pot Cap-1 Maneuver	1105	-	-	-	256	775
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1105	-	-	-	245	775
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	572	-
Approach	NB	SB		SE		
HCM Control Delay, s	0.5	0		11.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	SELn1	SELn2	SBT	SBR
Capacity (veh/h)	1105	-	365	775	-	-
HCM Lane V/C Ratio	0.042	-	0.046	0.035	-	-
HCM Control Delay (s)	8.4	-	15.3	9.8	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 AM Peak Hour With Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	29	1	49	0	707	11	29	422	0
Future Volume (vph)	0	1	0	29	1	49	0	707	11	29	422	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00	0.98		1.00		1.00		
Frt						0.850		0.998				
Flt Protected					0.954					0.950		
Satd. Flow (prot)	0	1881	0	0	1795	1599	1881	3531	0	1703	3438	0
Flt Permitted					0.733					0.950		
Satd. Flow (perm)	0	1881	0	0	1373	1566	1881	3531	0	1699	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						73		2				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		299			493			577			506	
Travel Time (s)		8.2			13.4			11.2			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	1%	6%	5%	1%
Adj. Flow (vph)	0	1	0	32	1	54	0	786	12	32	469	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	33	54	0	798	0	32	469	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	34.5	34.5		28.5	28.5	28.5	9.5	40.5		9.5	44.5	
Total Split (s)	34.5	34.5		34.5	34.5	34.5	9.5	44.9		10.6	46.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	10.6%	49.9%		11.8%	51.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0	30.0	5.0	40.4		6.1	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Lanes, Volumes, Timings

Synchro 11 Report

Page 1

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 AM Peak Hour With Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		17.0	17.0	17.0		29.0			33.0	
Pedestrian Calls (#/hr)	5	5		0	0	0		5			5	
Act Effect Green (s)		9.6			9.7	9.7		32.8		6.8	34.0	
Actuated g/C Ratio		0.21			0.22	0.22		0.73		0.15	0.75	
v/c Ratio		0.00			0.11	0.14		0.31		0.12	0.18	
Control Delay		16.0			17.1	4.4		7.5		26.5	5.0	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		16.0			17.1	4.4		7.5		26.5	5.0	
LOS		B			B	A		A		C	A	
Approach Delay		16.0			9.2			7.5			6.4	
Approach LOS		B			A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 45.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 46.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Center Dr & Palisade Blvd

 Ø1	 Ø2	 Ø4
10.6 s	44.9 s	34.5 s
 Ø5	 Ø6	 Ø8
9.5 s	46 s	34.5 s

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 AM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	41	61	36	11	9	81	479	11	7	304	157
Future Volume (vph)	168	41	61	36	11	9	81	479	11	7	304	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	1.00		1.00	0.99	
Frt		0.970			0.978			0.997			0.949	
Flt Protected		0.970			0.969		0.950			0.950		
Satd. Flow (prot)	0	1719	0	0	1754	0	1736	3428	0	1543	3147	0
Flt Permitted		0.774			0.776		0.368			0.454		
Satd. Flow (perm)	0	1366	0	0	1401	0	670	3428	0	735	3147	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			10			3			117	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		344			542			617			532	
Travel Time (s)		9.4			14.8			12.0			10.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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
Heavy Vehicles (%)	2%	10%	3%	3%	1%	1%	4%	5%	1%	17%	8%	7%
Adj. Flow (vph)	183	45	66	39	12	10	88	521	12	8	330	171
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	294	0	0	61	0	88	533	0	8	501	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.5	23.5		9.5	31.5		9.5	32.5	
Total Split (s)	40.0	40.0		40.0	40.0		12.0	40.0		10.0	38.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		13.3%	44.4%		11.1%	42.2%	
Maximum Green (s)	35.5	35.5		35.5	35.5		7.5	35.5		5.5	33.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 3

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 AM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	9.0	9.0		12.0	12.0			20.0			21.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		16.4			16.4		20.9	20.0		18.0	15.3	
Actuated g/C Ratio		0.34			0.34		0.44	0.42		0.38	0.32	
v/c Ratio		0.61			0.13		0.19	0.37		0.02	0.46	
Control Delay		20.7			12.8		9.2	11.4		8.6	13.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		20.7			12.8		9.2	11.4		8.6	13.1	
LOS		C			B		A	B		A	B	
Approach Delay		20.7			12.8			11.1			13.0	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 47.9

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 48.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Center Dr & Bob's Hollow Ln

 Ø1	 Ø2	 Ø4
10 s	40 s	40 s
 Ø5	 Ø6	 Ø8
12 s	38 s	40 s

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 AM Peak Hour With Project
10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	136	48	386	32	32	31	145	427	20	28	388	34
Future Volume (vph)	136	48	386	32	32	31	145	427	20	28	388	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		325	200		200	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			95			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.98		1.00	0.98	0.99	1.00		1.00	1.00	
Frt			0.850			0.850		0.993			0.988	
Flt Protected		0.964			0.976		0.950			0.950		
Satd. Flow (prot)	0	1800	1599	0	1725	1272	1719	3478	0	1787	3369	0
Flt Permitted		0.736			0.802		0.950			0.950		
Satd. Flow (perm)	0	1369	1569	0	1415	1245	1710	3478	0	1779	3369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			73		7			10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		502			454			455			433	
Travel Time (s)		13.7			12.4			8.9			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	1%	1%	3%	12%	27%	5%	3%	1%	1%	5%	12%
Adj. Flow (vph)	155	55	439	36	36	35	165	485	23	32	441	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	210	439	0	72	35	165	508	0	32	480	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		6	7		2	3	7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	6	6	7	2	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	31.5	31.5	9.5	25.5	25.5	9.5	9.5	42.5		9.5	26.5	
Total Split (s)	36.0	36.0	23.0	36.0	36.0	11.0	23.0	43.0		11.0	31.0	
Total Split (%)	40.0%	40.0%	25.6%	40.0%	40.0%	12.2%	25.6%	47.8%		12.2%	34.4%	
Maximum Green (s)	31.5	31.5	18.5	31.5	31.5	6.5	18.5	38.5		6.5	26.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 5

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 AM Peak Hour With Project
10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	20.0	20.0		14.0	14.0			19.0			15.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		14.9	26.4		14.9	21.4	11.5	24.5		6.5	14.0	
Actuated g/C Ratio		0.27	0.48		0.27	0.39	0.21	0.45		0.12	0.26	
v/c Ratio		0.57	0.53		0.19	0.07	0.46	0.33		0.15	0.55	
Control Delay		25.3	7.2		18.4	1.0	26.3	12.6		30.4	21.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		25.3	7.2		18.4	1.0	26.3	12.6		30.4	21.5	
LOS		C	A		B	A	C	B		C	C	
Approach Delay		13.1			12.7			16.0			22.1	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 54.9

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 16.4

Intersection LOS: B

Intersection Capacity Utilization 54.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Center Dr & McNeil St

 Ø2	 Ø3	 Ø4
36 s	11 s	43 s
 Ø6	 Ø7	 Ø8
36 s	23 s	31 s

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 AM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	7	41	97	11	50	36	560	105	72	749	16
Future Volume (vph)	3	7	41	97	11	50	36	560	105	72	749	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	105		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			100			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00	1.00		1.00	1.00	
Frt		0.872			0.876			0.976			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1608	0	1687	1579	0	1787	3367	0	1787	3461	0
Flt Permitted	0.713			0.722			0.305			0.309		
Satd. Flow (perm)	1333	1608	0	1273	1579	0	573	3367	0	580	3461	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			56			32			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		190			493			682			320	
Travel Time (s)		5.2			13.4			13.3			6.2	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	7%	1%	4%	1%	4%	5%	1%	4%	1%
Adj. Flow (vph)	3	8	46	108	12	56	40	622	117	80	832	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	54	0	108	68	0	40	739	0	80	850	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.5	26.5		25.5	25.5		9.5	22.5		9.5	31.5	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	46.0		13.0	48.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		12.2%	51.1%		14.4%	53.3%	
Maximum Green (s)	26.5	26.5		26.5	26.5		6.5	41.5		8.5	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 7

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 AM Peak Hour With Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	11.0	11.0		14.0	14.0						20.0	
Pedestrian Calls (#/hr)	5	5		5	5						5	
Act Effect Green (s)	10.8	10.8		11.0	11.0		26.2	24.5		27.7	27.0	
Actuated g/C Ratio	0.23	0.23		0.24	0.24		0.57	0.53		0.60	0.58	
v/c Ratio	0.01	0.13		0.36	0.16		0.08	0.41		0.15	0.42	
Control Delay	17.0	8.4		21.2	8.4		5.9	11.6		6.0	10.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.0	8.4		21.2	8.4		5.9	11.6		6.0	10.4	
LOS	B	A		C	A		A	B		A	B	
Approach Delay		8.9			16.2			11.4			10.0	
Approach LOS		A			B			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 46.3

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 11.1

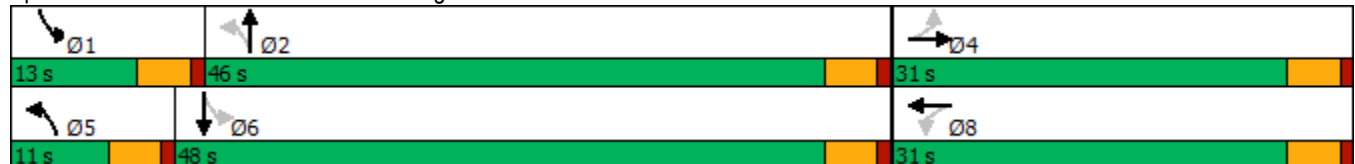
Intersection LOS: B

Intersection Capacity Utilization 49.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Center Dr & Wilmington Dr



Intersection						
Int Delay, s/veh	1.3					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	40	364	815	31	27	47
Future Vol, veh/h	40	364	815	31	27	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	210	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	13	15	1
Mvmt Flow	51	461	1032	39	34	59
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1071	0	-	0	1385	536
Stage 1	-	-	-	-	1052	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	4.12	-	-	-	7.1	6.92
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.21	-	-	-	3.65	3.31
Pot Cap-1 Maneuver	652	-	-	-	120	492
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	652	-	-	-	111	492
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	661	-
Approach	NB	SB		SE		
HCM Control Delay, s	1.1	0		18.1		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	SELn1	SELn2	SBT	SBR
Capacity (veh/h)	652	-	202	492	-	-
HCM Lane V/C Ratio	0.078	-	0.169	0.121	-	-
HCM Control Delay (s)	11	-	26.4	13.3	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	0.4	-	-

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 PM Peak Hour With Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	15	0	21	3	416	16	52	803	0
Future Volume (vph)	2	0	1	15	0	21	3	416	16	52	803	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00	0.98	1.00	1.00		1.00		
Frt		0.955				0.850		0.994				
Flt Protected		0.968			0.950		0.950			0.950		
Satd. Flow (prot)	0	1728	0	0	1787	1599	1787	3549	0	1787	3574	0
Flt Permitted		0.789			0.889		0.950			0.950		
Satd. Flow (perm)	0	1403	0	0	1665	1566	1784	3549	0	1782	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				73		5				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		299			493			577			506	
Travel Time (s)		8.2			13.4			11.2			9.9	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	0	1	18	0	25	4	495	19	62	956	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	18	25	4	514	0	62	956	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	34.5	34.5		28.5	28.5	28.5	9.5	40.5		9.5	44.5	
Total Split (s)	34.5	34.5		34.5	34.5	34.5	9.5	42.3		13.2	46.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	10.6%	47.0%		14.7%	51.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0	30.0	5.0	37.8		8.7	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	

Lanes, Volumes, Timings

Synchro 11 Report

Page 1

Lanes, Volumes, Timings
2: Center Dr & Palisade Blvd

Forecast 2024 PM Peak Hour With Project

10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		17.0	17.0	17.0		29.0			33.0	
Pedestrian Calls (#/hr)	5	5		0	0	0		5			5	
Act Effect Green (s)		9.2			9.3	9.3	5.9	29.5		7.9	36.5	
Actuated g/C Ratio		0.20			0.21	0.21	0.13	0.66		0.18	0.81	
v/c Ratio		0.01			0.05	0.07	0.02	0.22		0.20	0.33	
Control Delay		0.0			17.1	0.3	28.3	9.3		24.7	6.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		0.0			17.1	0.3	28.3	9.3		24.7	6.5	
LOS		A			B	A	C	A		C	A	
Approach Delay					7.4			9.4			7.6	
Approach LOS					A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 44.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 8.2

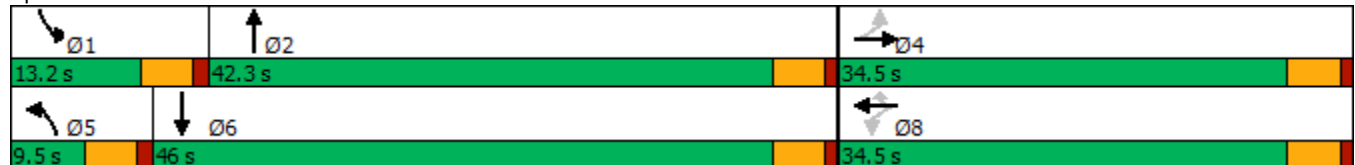
Intersection LOS: A

Intersection Capacity Utilization 46.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Center Dr & Palisade Blvd



Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 PM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	8	32	10	10	9	44	279	35	23	623	178
Future Volume (vph)	125	8	32	10	10	9	44	279	35	23	623	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		1.00	1.00		1.00	0.99	
Frt		0.974			0.958			0.983			0.967	
Flt Protected		0.964			0.983		0.950			0.950		
Satd. Flow (prot)	0	1738	0	0	1759	0	1787	3501	0	1787	3432	0
Flt Permitted		0.756			0.887		0.198			0.523		
Satd. Flow (perm)	0	1356	0	0	1584	0	372	3501	0	979	3432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			11			21			57	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		344			542			617			532	
Travel Time (s)		9.4			14.8			12.0			10.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	1%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	154	10	40	12	12	11	54	344	43	28	769	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	204	0	0	35	0	54	387	0	28	989	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.5	23.5		9.5	31.5		9.5	32.5	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	49.0		10.0	48.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		12.2%	54.4%		11.1%	53.3%	
Maximum Green (s)	26.5	26.5		26.5	26.5		6.5	44.5		5.5	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 3

Lanes, Volumes, Timings
3: Center Dr & Bob's Hollow Ln

Forecast 2024 PM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	9.0	9.0		12.0	12.0			20.0			21.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		14.4			14.4		33.0	31.0		31.3	28.4	
Actuated g/C Ratio		0.25			0.25		0.57	0.53		0.54	0.49	
v/c Ratio		0.59			0.09		0.15	0.21		0.05	0.58	
Control Delay		27.2			16.1		6.8	8.7		6.2	13.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		27.2			16.1		6.8	8.7		6.2	13.4	
LOS		C			B		A	A		A	B	
Approach Delay		27.2			16.1			8.5			13.2	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 58.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Center Dr & Bob's Hollow Ln

 Ø1	 Ø2	 Ø4
10 s	49 s	31 s
 Ø5	 Ø6	 Ø8
11 s	48 s	31 s

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 PM Peak Hour With Project

10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	69	48	208	20	74	39	399	321	28	42	535	92
Future Volume (vph)	69	48	208	20	74	39	399	321	28	42	535	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		325	200		200	250		0	150		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			95			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.98		1.00	0.98	1.00	1.00		1.00	0.99	
Frt			0.850			0.850		0.988			0.978	
Flt Protected		0.971			0.989		0.950			0.950		
Satd. Flow (prot)	0	1790	1599	0	1815	1599	1787	3522	0	1787	3476	0
Flt Permitted		0.758			0.910		0.950			0.950		
Satd. Flow (perm)	0	1393	1569	0	1668	1565	1780	3522	0	1778	3476	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			35			73		14			21	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		502			454			455			433	
Travel Time (s)		13.7			12.4			8.9			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	1%	6%	1%	13%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	79	55	239	23	85	45	459	369	32	48	615	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	134	239	0	108	45	459	401	0	48	721	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		6	7		2	3	7	4		3	8	
Permitted Phases	6		6	2		2						
Detector Phase	6	6	7	2	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	31.5	31.5	9.5	25.5	25.5	9.5	9.5	42.5		9.5	26.5	
Total Split (s)	31.5	31.5	32.0	31.5	31.5	11.1	32.0	47.4		11.1	26.5	
Total Split (%)	35.0%	35.0%	35.6%	35.0%	35.0%	12.3%	35.6%	52.7%		12.3%	29.4%	
Maximum Green (s)	27.0	27.0	27.5	27.0	27.0	6.6	27.5	42.9		6.6	22.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report

Page 5

Lanes, Volumes, Timings
4: Center Dr & McNeil St

Forecast 2024 PM Peak Hour With Project
10/25/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	20.0	20.0		14.0	14.0			19.0			15.0	
Pedestrian Calls (#/hr)	5	5		5	5			5			5	
Act Effect Green (s)		13.6	34.4		13.3	17.9	23.4	41.9		6.8	20.0	
Actuated g/C Ratio		0.20	0.51		0.20	0.26	0.35	0.62		0.10	0.30	
v/c Ratio		0.48	0.29		0.33	0.10	0.74	0.18		0.27	0.69	
Control Delay		32.7	7.0		28.5	2.1	31.7	9.4		39.1	27.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		32.7	7.0		28.5	2.1	31.7	9.4		39.1	27.6	
LOS		C	A		C	A	C	A		D	C	
Approach Delay		16.2			20.7			21.3			28.3	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 67.6

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 22.9

Intersection LOS: C

Intersection Capacity Utilization 65.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Center Dr & McNeil St

 Ø2	 Ø3	 Ø4
31.5 s	11.1 s	47.4 s
 Ø6	 Ø7	 Ø8
31.5 s	32 s	26.5 s

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 PM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	6	27	152	18	83	37	685	125	95	687	11
Future Volume (vph)	4	6	27	152	18	83	37	685	125	95	687	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	105		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			100			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98		0.99	0.98		1.00	1.00		1.00	1.00	
Frt		0.879			0.877			0.977			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1623	0	1787	1620	0	1787	3460	0	1787	3565	0
Flt Permitted	0.686			0.734			0.364			0.214		
Satd. Flow (perm)	1283	1623	0	1371	1620	0	683	3460	0	402	3565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			90			31			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		190			493			682			320	
Travel Time (s)		5.2			13.4			13.3			6.2	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	4%	1%	1%	1%
Adj. Flow (vph)	4	7	29	165	20	90	40	745	136	103	747	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	36	0	165	110	0	40	881	0	103	759	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.5	26.5		25.5	25.5		9.5	22.5		9.5	31.5	
Total Split (s)	30.0	30.0		30.0	30.0		11.0	46.0		14.0	49.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		12.2%	51.1%		15.6%	54.4%	
Maximum Green (s)	25.5	25.5		25.5	25.5		6.5	41.5		9.5	44.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings

Synchro 11 Report
Page 7

Lanes, Volumes, Timings
5: Center Dr & Wilmington Dr

Forecast 2024 PM Peak Hour With Project
10/25/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0						7.0	
Flash Dont Walk (s)	11.0	11.0		14.0	14.0						20.0	
Pedestrian Calls (#/hr)	5	5		5	5						5	
Act Effect Green (s)	12.7	12.7		12.7	12.7		29.3	24.6		32.8	30.1	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.53	0.44		0.59	0.54	
v/c Ratio	0.01	0.09		0.53	0.25		0.08	0.57		0.25	0.39	
Control Delay	19.2	10.4		27.4	8.8		6.0	14.6		6.9	10.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.2	10.4		27.4	8.8		6.0	14.6		6.9	10.1	
LOS	B	B		C	A		A	B		A	B	
Approach Delay		11.3			20.0			14.3			9.7	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 55.8

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 13.1

Intersection LOS: B

Intersection Capacity Utilization 55.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Center Dr & Wilmington Dr

 Ø1	 Ø2	 Ø4
14 s	46 s	30 s
 Ø5	 Ø6	 Ø8
11 s	49 s	30 s