

TRAFFIC IMPACT STUDY

For

Hope Presbyterian Church Proposed Site Improvements

Property Located at:

140 Denow Road
Block 5401 – Lot 18
Township of Lawrence, Mercer County, NJ

Prepared by:



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INTRODUCTION

It is proposed to improve the site of an existing church on a parcel of land located along the westbound side of Denow Road in Lawrence Township, Mercer County, New Jersey (see Figure 1 in Appendix A). The site is designated as Block 5401 – Lot 18 on the Township of Lawrence Tax Maps. The existing use consists of a 1-story church building. It is proposed to improve the existing site with a 4,752 SF building expansion, totaling to a 11,338 SF building area, and increase on-site parking supply (“The Project”). The site is located within the EGI – Education, Government, & Institutions District. Access to the site is currently provided via a full movement driveway along Denow Road and no changes are proposed to the existing access.

Dynamic Traffic LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.
- Existing traffic data was collected via turning movement counts (TMC) during the Sunday morning and afternoon peak periods at the intersections of:
 - Federal City Road and Denow Road
 - Denow Road and Church Driveway/The Learning Center Daycare Driveway
- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections.
- The proposed point of ingress and egress was inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.
- The site plan as designed was reviewed for sufficiency in accommodating large wheel base vehicles such as delivery trucks, refuse trucks, and emergency vehicles.
- The parking layout and supply was assessed based on accepted design standards, local requirements, and existing demand experienced at the site.

EXISTING CONDITIONS

A review of the existing roadway conditions near the proposed site was conducted to provide the basis for assessing the traffic impact of the development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

Existing Roadway Conditions

The following are descriptions of the roadways in the study area:

Federal City Road is an Urban Minor Arterial roadway under Township of Lawrence jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 35 MPH and the roadway provides one travel lane in each direction. On-street parking is not permitted. Curb is provided along both sides of the roadway. Sidewalk is provided along the southbound side of the roadway. Federal City Road provides a straight horizontal alignment with a slight bend to the north of Denow Road. Federal City Road provides a relatively flat vertical alignment. The land uses along Federal City Road in the vicinity of The Project include residential and educational.

Denow Road is an Urban Major Collector roadway under Township of Lawrence jurisdiction with a general east/west orientation. In the vicinity of the site the posted speed limit is 35 MPH. Within the vicinity of the site, the roadway provides one vehicular travel lane and one bicycle lane in each direction. Curb and sidewalk are provided along the westbound side of the roadway. Denow Road provides a curved horizontal alignment and an uphill grade from west to east along the site frontage. The land uses along Denow Road in the vicinity of The Project include residential, educational, and the Hope Presbyterian Church.

Existing Traffic Volumes

Turning movement counts (TMC) were conducted on Sunday, March 29, 2026 from 8:30 AM to 1:00 PM and from 4:00 PM to 7:00 PM at the following intersections:

- Federal City Road and Denow Road
- Denow Road and Church Driveway/The Learning Center Daycare Driveway

These count periods were selected to coincide with the church's typical Sunday mass schedule of 10:30 AM and 5:00 PM. It is noted that the day of the counts was also the church holiday of Palm Sunday. It is our understanding that church attendance on this day would be at or above average levels. Therefore, the analysis herein are considered appropriate and conservative compared to a typical Sunday. Figure 2, located in Appendix A, shows the existing peak street hour (PSH) traffic volumes at the study intersections. All traffic counts are contained in Appendix B.

Existing Capacity Analysis

The methodology utilized in the capacity analyses is described in the *Highway Capacity Manual*, published by the Transportation Research Board. In general, the term Level of Service (LOS) is used to provide a “qualitative” evaluation of capacity based upon certain “quantitative” calculations related to empirical values, such as traffic volume and intersection control.

At signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal “green time”, turning percentages, truck volumes, etc. However, delays cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the Level of Service “F” range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle lengths; a particular traffic movement experiences a long red time; or progressive movement for a particular lane group is poor. Table 1 describes the level of service ranges for signalized intersections.

An unsignalized (STOP sign controlled) driveway or side street along a through route is seldom critical from an overall capacity standpoint, however, it may be of great significance to the capacity of the minor cross-route, and it may influence the quality of traffic flow on both. When analyzing an unsignalized intersection, it is assumed that both the major street through and right turn movements are unimpeded and have the right-of-way over all side street traffic and left turns from the major street. All other turning movements in the intersection cross, merge with, or are otherwise impeded by major street movements. Traffic delays at unsignalized intersections are determined by sequentially processing these impeded movements. Table 2 describes the level of service ranges for unsignalized (stop controlled) intersections.

Table 1
Level of Service Criteria
for Signalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0.0 to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	greater than 80.0

Table 2
Level of Service Criteria
for Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
a	0.0 to 10.0
b	10.1 to 15.0
c	15.1 to 25.0
d	25.1 to 35.0
e	35.1 to 50.0
f	greater than 50.0

Analyses within the *Highway Capacity Manual* assume a random arrival for all the movements, which may not be the case if an adjacent traffic signal is present that platoons vehicles.

All capacity analyses were performed utilizing Synchro 12 software. It should be noted that the existing percentage of trucks and peak hour factors were used in the existing analysis. Table 3 summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

**Table 3
Existing Levels of Service**

Intersection	Direction/ Movement		Sunday AM PSH	Sunday PM PSH
Federal City Road and Denow Road	EB	L	C (29)	C (30)
		TR	B (14)	B (19)
	WB	L	D (41)	C (34)
		TR	B (18)	C (23)
	NB	L	A (3)	A (2)
		TR	A (6)	A (5)
	SB	L	A (3)	A (2)
		TR	A (9)	A (7)
Overall		B (12)	A (9)	
Denow Road and Church Driveway/ The Learning Center Daycare Driveway	EB	L	a (7)	a (7)
	WB	L	a (7)	a (7)
	NB	LTR	a (10)	a (10)
	SB	LTR	a (9)	a (9)
	Overall		a (2)	a (1)

a (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

A (#) - Signalized Intersection Level of Service (seconds of delay per vehicle)

The following are discussions pertaining to each of the existing intersections analyzed.

Federal City Road and Denow Road

Denow Road intersects Federal City Road to form a four-leg intersection controlled by a traffic signal. The signal timing directive was obtained from the Township of Lawrence which indicates that a three-phase 90-second background cycle is utilized (the traffic signal timing directive is included in Appendix B). Each of the four approaches to the intersection provides one left turn lane and one shared through/right turn lane. Right turn on red is allowed for all approaches.

A review of the existing analysis reveals that the intersection operates at levels of service “B” or better and all movements operate at levels of service “D” or better during the analyzed peak periods. See Table 3 for the individual movement levels of service and delays.

Denow Road and Church Driveway/The Learning Center Daycare Driveway

The Hope Presbyterian Church driveway and the Learning Center Daycare driveway intersect Denow Road to form an unsignalized four-leg intersection. The Hope Presbyterian Church driveway and the Learning Center Daycare driveway operate under stop control. Each of the four approaches to the intersection provides one shared lane for all turning movements.

A review of the existing analysis reveals that the intersection operates at level of service “A” and all movements operate at level of service “A” during the analyzed peak periods. See Table 3 for the individual movement levels of service and delays.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the future No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of the site development traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses is outlined below.

Regardless of whether the subject site is developed or not, traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A growth rate for roadways within the study area was obtained from the NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 1.5% per year.

Through consultation with the Lawrence Township Engineering, Planning, and Zoning staff, there were no other developments in the immediate vicinity of the site that have been approved but not yet constructed that are identified as significant traffic generators. It was assumed that the background growth rate was adequate to account for the traffic associated with developments not listed.

Future 2028 No Build traffic volumes were developed by applying the background growth rate of 1.5% for two (2) years to the study area roadways existing traffic volumes. Figure 3, in Appendix A, shows the 2028 No Build traffic volumes.

Traffic Generation

Trip generation projections for The Project were prepared utilizing the rates set forth within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation Manual, 12th Edition*. This publication sets forth trip generation rates based on empirical traffic count data conducted at numerous research sites. The ITE Land Use Code (LUC) which most closely resembles the proposed use is LUC 560 – Church.

Table 4
Trip Generation

Land Use	Sunday Peak		
	In	Out	Total
200 Seat Church (<i>Existing</i>)	57	60	117
360 Seat Church (<i>Proposed</i>)	99	103	202
Difference	+42	+43	+85

The observed Sunday morning peak hour occurred following the 10:30 AM mass and the Sunday afternoon peak hour occurred prior to the 5:00 afternoon mass. As such, the peak site generated exiting trips were surcharged onto the Sunday morning peak hour traffic volumes and the peak site generated entering trips were surcharged onto the Sunday afternoon peak hour traffic volumes.

Once the magnitude of traffic to be generated by the site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Figures 4 and 6, located in Appendix A, illustrate the Traffic Trip Distribution and the Site Generated Volumes, respectively. The Site Generated Volumes assigned to the study area network were added to the No Build traffic volumes to generate the Build traffic volumes, which are shown in Figure 6.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in the table below.

Table 5
Future Levels of Service

Intersection	Direction/ Movement		Sunday AM PSH		Sunday PM PSH	
			No Build	Build	No Build	Build
Federal City Road and Denow Road	EB	L	C (28)	C (28)	C (30)	C (30)
		TR	B (14)	B (13)	B (19)	B (20)
	WB	L	D (41)	D (43)	C (34)	C (34)
		TR	B (18)	B (16)	C (23)	C (23)
	NB	L	A (3)	A (3)	A (2)	A (2)
		TR	A (6)	A (6)	A (5)	A (5)
	SB	L	A (3)	A (3)	A (2)	A (2)
		TR	A (9)	A (9)	A (7)	A (7)
	Overall		B (12)	B (13)	A (9)	A (10)
Denow Road and Church Driveway/ The Learning Center Daycare Driveway	EB	L	a (7)	a (7)	a (7)	a (7)
	WB	L	a (7)	a (7)	a (7)	a (7)
	NB	LTR	a (10)	b (10)	a (10)	b (10)
	SB	LTR	a (9)	a (9)	a (9)	a (9)
	Overall		a (2)	a (3)	a (1)	a (1)

a (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

A (#) - Signalized Intersection Level of Service (seconds of delay per vehicle)

Federal City Road and Denow Road

With the addition of site generated traffic, the intersection is projected to operate at No Build levels of service "B" or better and all movements are anticipated to operate at No Build levels of service "D" or better during the analyzed peak hours. See Table 5 for the individual movement levels of service and delays.

Denow Road and Church Driveway/The Learning Center Daycare Driveway

With the addition of site generated traffic, the intersection is projected to operate at overall intersection No Build level of service "A" during the analyzed peak hours. Additionally, each movement is anticipated to operate at levels of service "B" or better. See Table 5 for the individual movement levels of service and delays.

SITE PLAN

Site Access and Circulation

The site plan was reviewed with respect to the site access and on-site circulation design. As noted previously, access to The Project is continued to be provided via a full movement driveway along Denow Road.

The parking lot will be serviced by parking aisles with 22' wide one-way aisles and 25' wide two-way aisles, which satisfy the Ordinance's minimum requirements of 22' and 24', respectively. These aisles will allow for one-way and two-way circulation and 90-degree and parallel parking. Review of the site plan design indicates that the site can sufficiently accommodate a large wheel base vehicle, such as a single unit truck (SU), along with the automobile traffic anticipated.

Parking

The existing church parking lot provides 40 parking spaces. The proposed site improvements include significantly expanding the church parking lot by over double to provide 108 spaces.

The Lawrence Township Ordinance sets forth a parking requirement of 1 parking space per 3 seats for house of worship uses. This equates to 120 spaces for the 360-seat church. In accordance with the New Jersey Electric Vehicle Supply/Service Equipment (EVSE) parking requirements, at least four (4) electric vehicle "make-ready" spaces are required for a parking lot containing 101-150 parking spaces, which is satisfied as designed with 12 proposed "make-ready" electric vehicle spaces. Additionally, each EV make-ready space shall count as at least two parking spaces for the purpose of complying with parking requirements, up to a maximum reduction of 10% of the requirement. As such, the parking requirement is 108 spaces. The site as proposed provides 108 parking spaces, inclusive of twelve (12) "make-ready" electric vehicle spaces and five (5) ADA-accessible spaces. As such, the Ordinance requirement is met as proposed.

As noted previously, the on-site parking lot is proposed to increase from 40 to 108 spaces. This represents a substantial improvement over existing conditions and corrects an existing parking deficiency to provide a compliant parking supply.

It is proposed to provide 90-degree parking stalls with minimum dimensions of 9'x18' and parallel parking stalls with minimum dimensions of 9'x23', which satisfy the Ordinance minimum requirements of 9'x18' and 9'x23', respectively.

FINDINGS & CONCLUSIONS

Findings

Based upon the detailed analyses as documented herein, the following findings are noted:

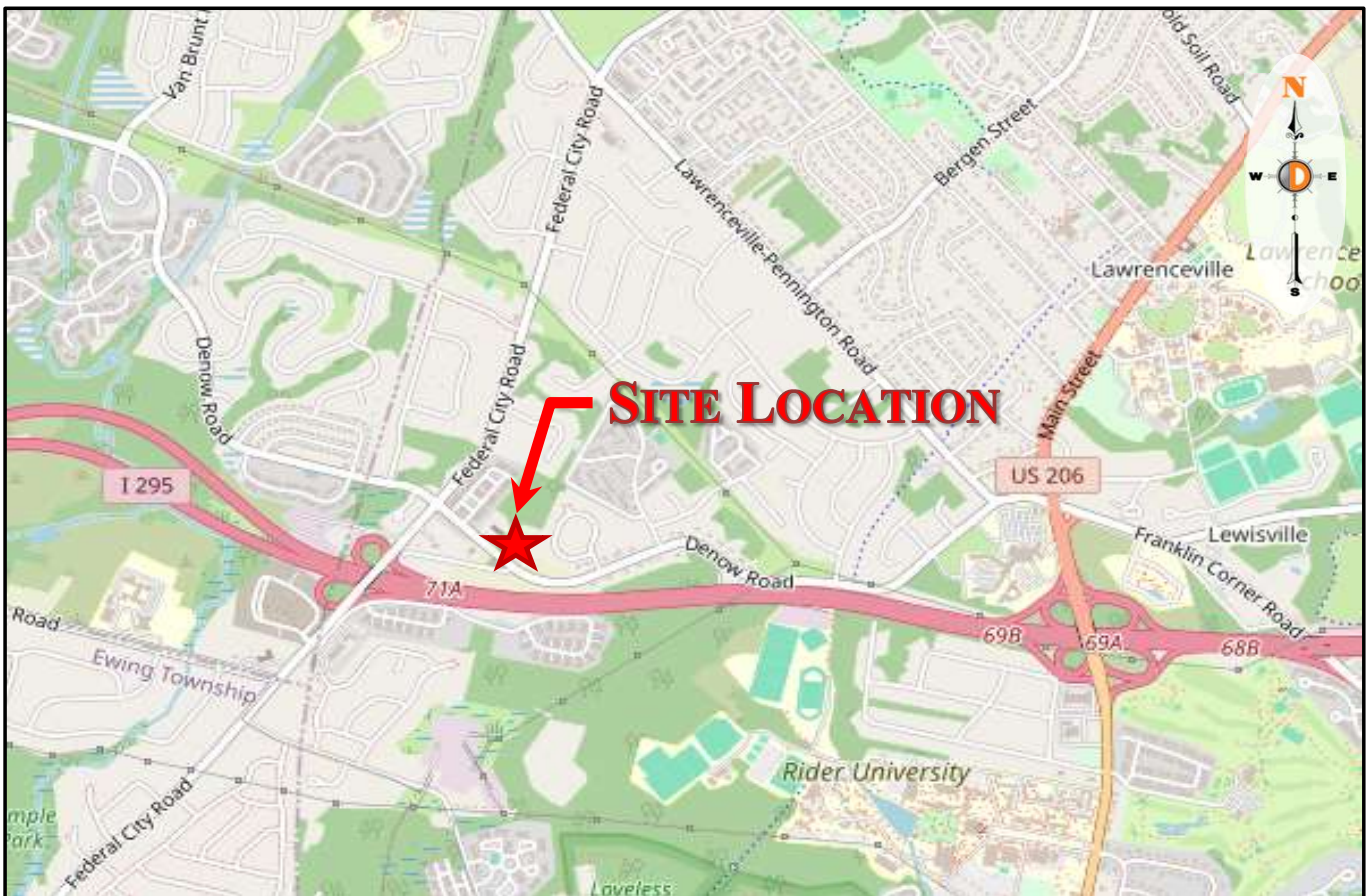
- The proposed site modifications are not anticipated to increase the number of visitors that visit The Hope Presbyterian Church. The main purpose of the project is to upgrade the existing amenities of the site to better accommodate its existing operations.
- Access to the site will continue to be provided via one (1) existing full movement driveway along Denow Road.
- With the addition of site generated traffic, the intersection of Federal City Road and Denow Road is anticipated to continue to operate at good levels of service “B” or better during the peak hours studied.
- As designed, the intersection of Denow Road and Church Driveway/The Learning Center Daycare Driveway is anticipated to continue to operate at good level of service “A” during the peak hours studied.
- As proposed, The Project’s site driveway and internal circulation have been designed to provide for safe and efficient movement of the anticipated vehicle mix.
- The proposed parking supply and design is a significant improvement over existing conditions and is sufficient to support the projected demand.

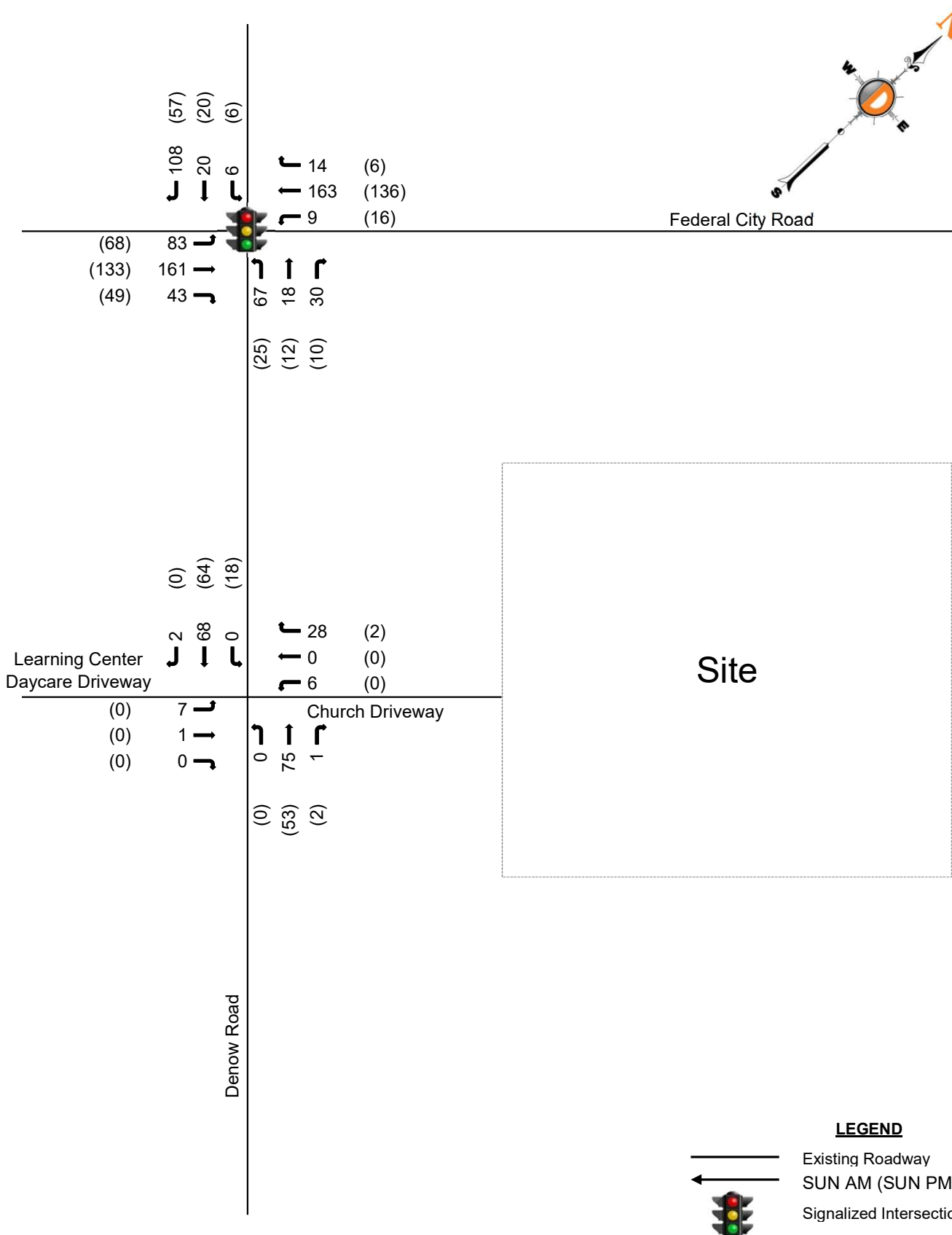
Conclusions

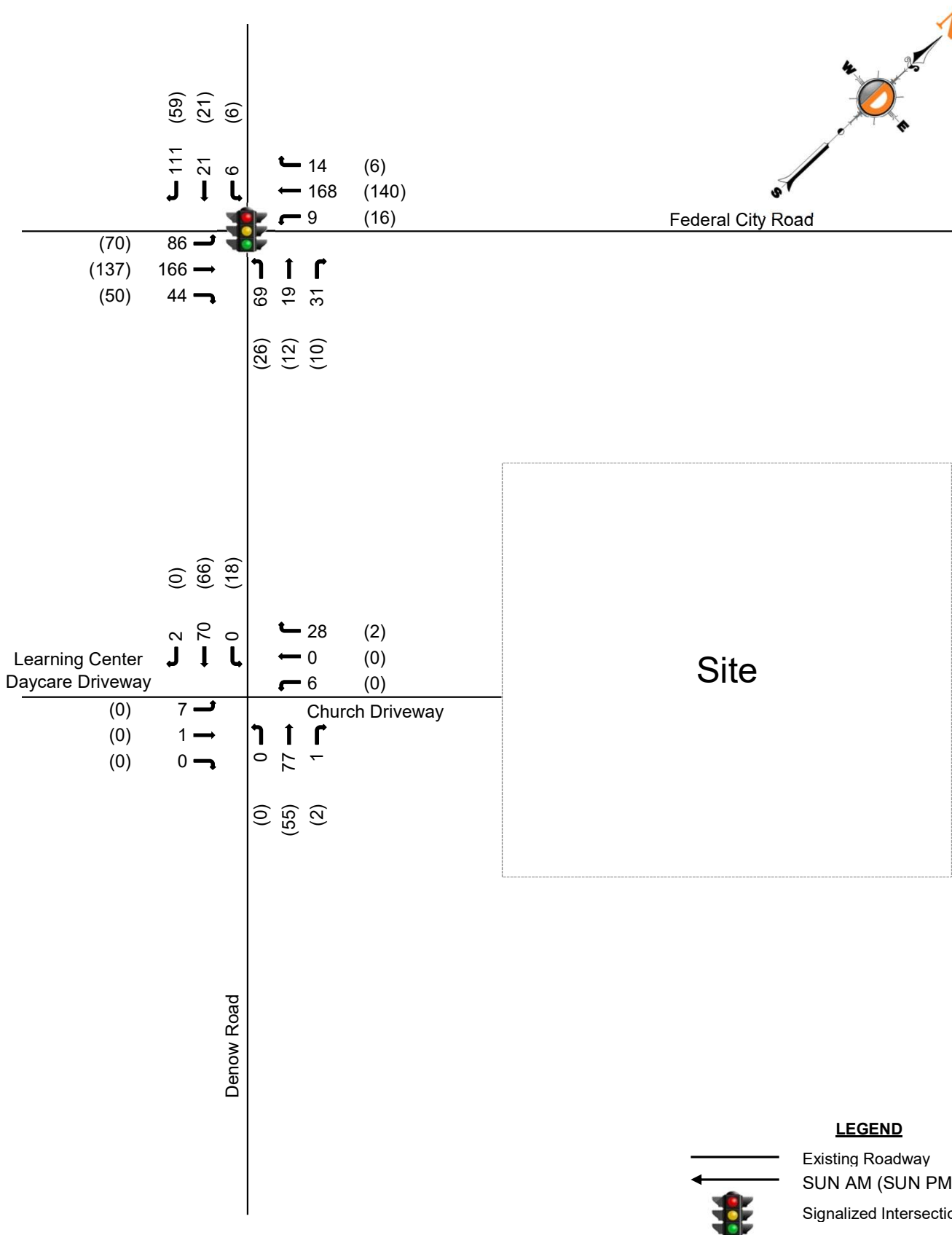
Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic, LLC that the adjacent street system of the Township of Lawrence is not projected to experience any significant degradation in operating conditions with the construction of The Project. The site driveway is located to provide safe and efficient access to the adjacent roadway system. The site plan as proposed provides for good circulation throughout the site and provides significantly improve parking supply compared to the existing conditions.

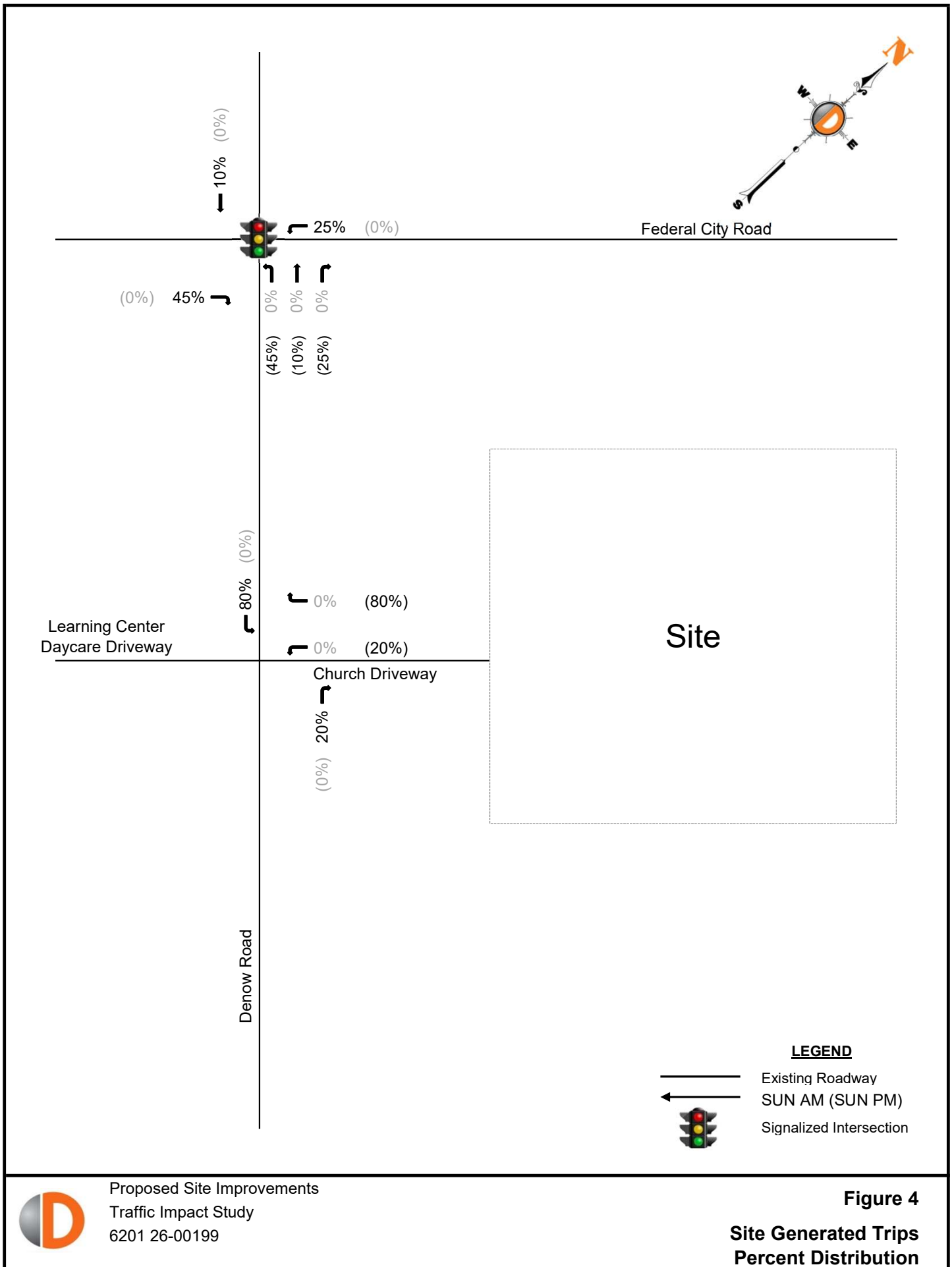
Appendix A

Traffic Volume Figures









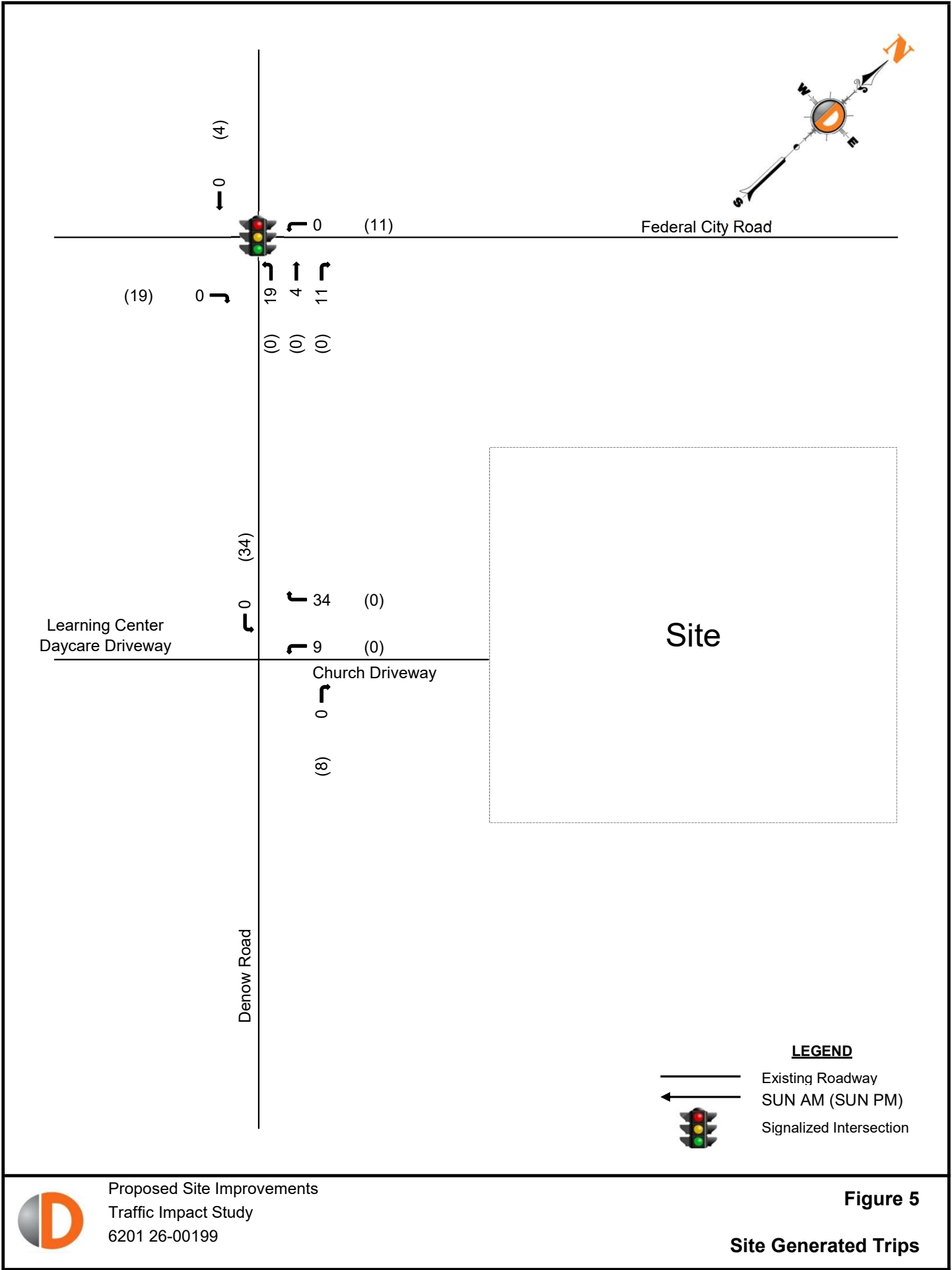
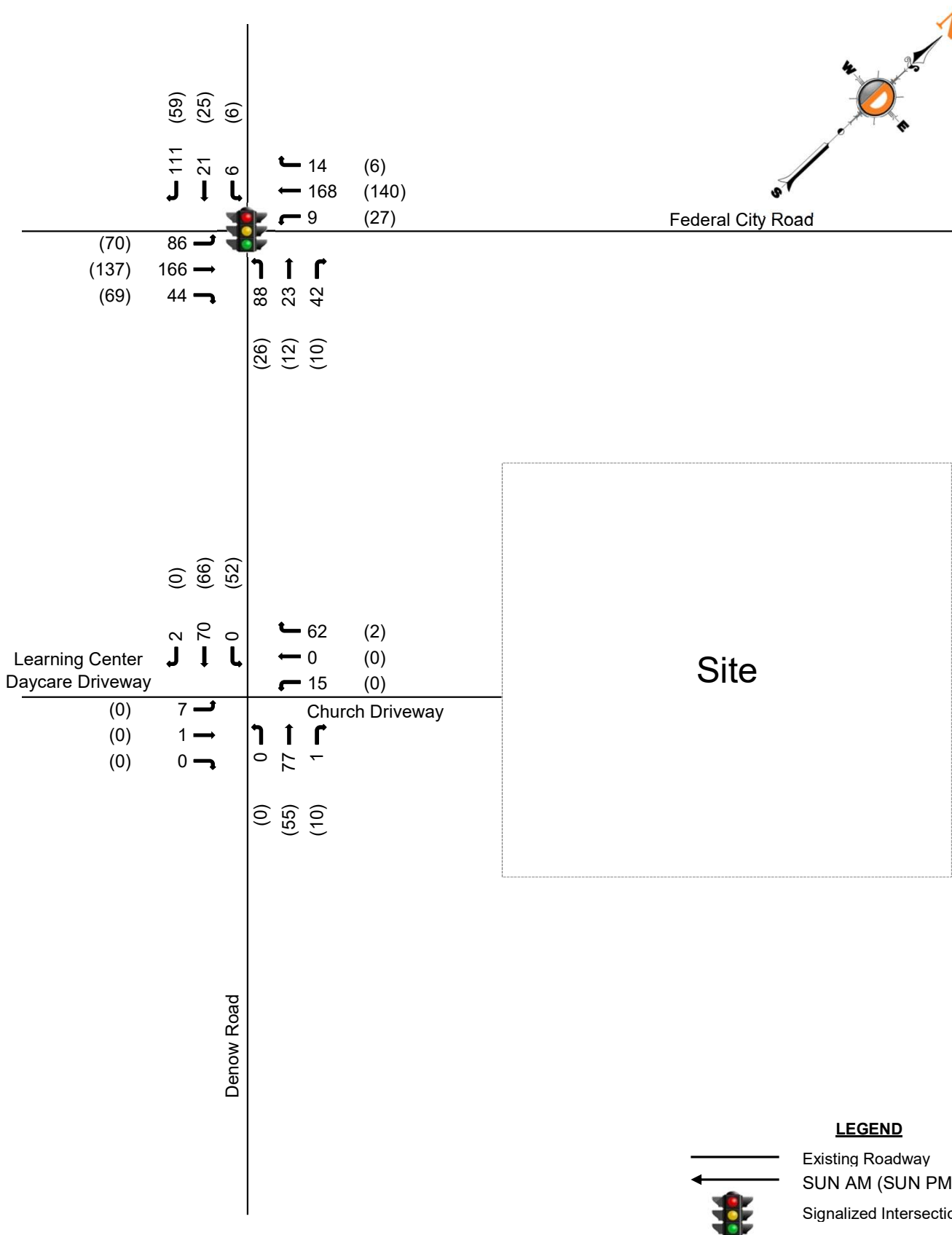


Figure 5

Site Generated Trips



Appendix B

Project Information

Project ID: 26-340050-001
Location: Federal City Rd & Denow Rd
City: Lawrence Township

Day: Sunday
Date: 03/29/2026

Groups Printed - Cars, PU, Vans - Heavy Trucks																									
Start Time	Federal City Rd Northbound						Federal City Rd Southbound						Denow Rd Eastbound						Denow Rd Westbound						Int. Total
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	
8:30 AM	5	15	2	0	0	22	1	21	1	0	0	23	2	3	9	0	0	14	3	2	1	0	0	6	65
8:45 AM	5	24	7	0	0	36	2	19	0	0	0	21	2	2	19	0	0	23	3	2	4	0	0	9	89
Total	10	39	9	0	0	58	3	40	1	0	0	44	4	5	28	0	0	37	6	4	5	0	0	15	154
9:00 AM	4	21	9	0	0	34	1	30	2	0	0	33	2	1	14	0	1	17	2	3	1	0	0	6	90
9:15 AM	8	23	13	0	0	44	4	36	0	0	0	40	0	2	23	0	0	25	6	3	2	0	0	11	120
9:30 AM	7	22	9	0	0	38	3	24	0	0	0	27	0	2	27	0	1	29	7	3	4	0	0	14	108
9:45 AM	4	22	8	0	0	34	3	34	2	0	0	39	1	3	21	0	1	25	3	2	2	0	0	7	105
Total	23	88	39	0	0	150	11	124	4	0	0	139	3	8	85	0	3	96	18	11	9	0	0	38	423
BREAK																									
10:00 AM	9	26	12	0	0	47	5	33	4	0	0	42	1	4	15	0	0	20	8	3	2	0	0	13	122
10:15 AM	15	15	22	0	0	52	13	25	0	0	0	38	1	5	20	0	0	26	9	3	2	0	0	14	130
10:30 AM	8	24	16	0	0	48	4	26	0	0	1	30	1	7	29	0	0	37	9	4	1	0	0	14	129
10:45 AM	17	33	5	0	0	55	4	26	2	0	0	32	0	1	25	0	0	26	7	2	3	0	0	12	125
Total	49	98	55	0	0	202	26	110	6	0	1	142	3	17	89	0	0	109	33	12	8	0	0	53	506
11:00 AM	22	31	12	0	0	65	1	30	3	0	0	34	2	4	19	0	0	25	8	3	2	0	0	13	137
11:15 AM	14	23	10	0	0	47	1	30	1	0	0	32	3	4	22	0	0	29	8	2	1	0	0	11	119
11:30 AM	17	27	12	0	0	56	1	29	2	0	0	32	2	2	21	0	0	25	8	8	0	0	0	16	129
11:45 AM	22	38	4	0	0	64	1	31	8	0	0	40	1	7	32	0	0	40	7	4	4	0	0	15	159
Total	75	119	38	0	0	232	4	120	14	0	0	138	8	17	94	0	0	119	31	17	7	0	0	55	544
12:00 PM	20	44	10	0	1	74	2	37	6	0	0	45	1	8	32	0	0	41	17	5	5	0	1	27	187
12:15 PM	27	31	8	0	0	66	4	38	1	0	0	43	0	5	25	0	0	30	18	3	11	0	0	32	171
12:30 PM	17	52	14	0	0	83	1	49	2	0	0	52	5	4	24	0	0	33	11	6	7	0	0	24	192
12:45 PM	19	34	11	0	0	64	2	39	5	0	2	46	0	3	27	0	0	30	21	4	7	0	0	32	172
Total	83	161	43	0	1	287	9	163	14	0	2	186	6	20	108	0	0	134	67	18	30	0	1	115	722
BREAK																									
4:00 PM	14	36	15	0	0	65	4	51	3	0	1	58	1	5	8	0	0	14	5	1	6	0	0	12	149
4:15 PM	18	37	11	0	0	66	2	35	1	0	0	38	4	5	22	0	0	31	9	2	1	0	0	12	147
4:30 PM	18	28	6	0	0	52	2	26	0	0	0	28	1	4	15	0	0	20	5	3	2	0	0	10	110
4:45 PM	18	32	17	0	0	67	8	24	2	0	0	34	0	6	12	0	0	18	6	6	1	0	0	13	132
Total	68	133	49	0	0	250	16	136	6	0	1	158	6	20	57	0	0	83	25	12	10	0	0	47	538
5:00 PM	22	39	11	0	0	72	6	27	3	0	0	36	2	5	16	0	0	23	6	2	3	0	0	11	142
5:15 PM	17	36	9	0	0	62	2	23	1	0	0	26	1	3	12	0	1	16	6	2	2	0	0	10	114
5:30 PM	19	30	14	0	0	63	3	32	4	0	0	39	2	3	13	0	0	18	16	6	2	0	0	24	144
5:45 PM	14	22	8	0	0	44	2	27	2	0	0	31	2	3	8	0	0	13	10	5	4	0	0	19	107
Total	72	127	42	0	0	241	13	109	10	0	0	132	7	14	49	0	1	70	38	15	11	0	0	64	507
6:00 PM	23	21	8	1	0	53	1	30	1	0	0	32	0	1	10	0	0	11	7	1	0	0	0	8	104
6:15 PM	11	30	10	0	0	51	1	39	1	0	0	41	4	4	12	0	0	20	9	7	4	0	0	20	132
6:30 PM	15	24	3	0	0	42	4	29	6	0	0	39	4	10	26	0	0	40	12	8	4	0	0	24	145
6:45 PM	13	23	5	0	0	41	1	23	4	0	0	28	3	2	12	0	0	17	10	2	2	0	0	14	100
Total	62	98	26	1	0	187	7	121	12	0	0	140	11	17	60	0	0	88	38	18	10	0	0	66	481
Grand Total	442	863	301	1	1	1607	89	923	67	0	4	1079	48	118	570	0	4	736	256	107	90	0	1	453	3875
Apprch %	27.5	53.7	18.7	0.1	0.1		8.2	85.6	6.2	0.0	0.4		6.5	16.0	77.4	0.0	0.5		56.5	23.6	19.9	0.0	0.2		
Total %	11.4	22.3	7.8	0.0	0.0	41.5	2.3	23.8	1.7	0.0	0.1	27.8	1.2	3.0	14.7	0.0	0.1	19.0	6.6	2.8	2.3	0.0	0.0	11.7	
Cars, PU, Vans	440	860	300	1		1601	89	921	67	0		1077	48	118	568	0		734	256	106	90	0		452	3864
% Cars, PU, Vans	99.5	99.7	99.7	100.0		99.6	100.0	99.8	100.0	0.0		99.8	100.0	100.0	99.6	0.0		99.7	100.0	99.1	100.0	0.0		99.8	99.7
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
%Buses	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Duals	2	3	1	0		6	0	1	0	0		1	0	0	2	0		2	0	1	0	0		1	10
%Duals	0.5	0.3	0.3	0.0		0.4	0.0	0.1	0.0	0.0		0.1	0.0	0.0	0.4	0.0		0.3	0.0	0.9	0.0	0.0		0.2	0.3
TTST	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	1
%TTST	0.0	0.0	0.0	0.0		0.0	0.0	0.1	0.0	0.0		0.1	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0

Day: Sunday
Date: 03/29/2026

[illegible]

732-681-0760

File Name : Denow Rd & Church-Learning Center Dway - AM
Site Code : 00000000
Start Date : 3/29/2026
Page No : 1

	Denow Road Eastbound					Denow Road Westbound					Learning Center Driveway Northbound					Hope Church Driveway Southbound					
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
08:30 AM	0	4	0	1	5	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	11
08:45 AM	1	9	0	0	10	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	19
Total	1	13	0	1	15	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	30
09:00 AM	4	7	3	0	14	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	20
09:15 AM	4	9	5	1	19	1	9	0	10	20	0	0	0	0	0	0	0	1	2	3	42
09:30 AM	4	7	2	0	13	1	11	0	14	26	0	0	0	0	0	0	0	1	4	5	44
09:45 AM	2	12	0	0	14	0	6	1	1	8	0	0	0	0	0	0	0	0	2	2	24
Total	14	35	10	1	60	2	32	1	25	60	0	0	0	0	0	0	0	2	8	10	130
10:00 AM	10	9	1	0	20	0	10	2	1	13	0	0	0	0	0	1	1	0	2	4	37
10:15 AM	12	16	8	2	38	0	14	1	22	37	0	0	0	0	0	0	1	1	18	20	95
10:30 AM	5	13	2	2	22	1	13	0	17	31	0	0	0	0	0	1	0	1	13	15	68
10:45 AM	0	13	0	0	13	0	11	1	2	14	0	0	0	0	0	0	0	0	7	7	34
Total	27	51	11	4	93	1	48	4	42	95	0	0	0	0	0	2	2	2	40	46	234
11:00 AM	0	16	0	0	16	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	28
11:15 AM	0	13	0	0	13	0	12	0	2	14	0	0	0	0	0	0	0	0	1	1	28
11:30 AM	0	13	0	0	13	0	18	0	0	18	0	0	0	0	0	0	0	0	0	0	31
11:45 AM	0	15	0	0	15	0	15	0	0	15	0	0	0	0	0	0	0	0	3	3	33
Total	0	57	0	0	57	0	57	0	2	59	0	0	0	0	0	0	0	0	4	4	120
12:00 PM	0	21	0	0	21	0	20	0	12	32	1	0	0	0	1	0	0	7	8	15	69
12:15 PM	0	13	1	0	14	0	17	1	22	40	1	1	0	0	2	2	0	10	11	23	79
12:30 PM	0	20	0	1	21	0	18	0	12	30	2	0	0	0	2	3	0	5	2	10	63
12:45 PM	0	14	1	0	15	0	20	0	12	32	3	0	0	0	3	1	0	6	9	16	66
Total	0	68	2	1	71	0	75	1	58	134	7	1	0	0	8	6	0	28	30	64	277
Grand Total	42	224	23	7	296	3	227	6	127	363	7	1	0	0	8	8	2	32	82	124	791
Apprch %	14.2	75.7	7.8	2.4		0.8	62.5	1.7	35		87.5	12.5	0	0		6.5	1.6	25.8	66.1		
Total %	5.3	28.3	2.9	0.9	37.4	0.4	28.7	0.8	16.1	45.9	0.9	0.1	0	0	1	1	0.3	4	10.4	15.7	
Cars	42	222	23	2	289																

732-681-0760

File Name : Denow Rd & Church-Learning Center Dway - AM
Site Code : 00000000
Start Date : 3/29/2026
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[illegible]

732-681-0760

File Name : Denow Rd & Church-Learning Center Dway - PM
Site Code : 00000000
Start Date : 3/29/2026
Page No : 1

[illegible]

732-681-0760

File Name : Denow Rd & Church-Learning Center Dway - PM
Site Code : 00000000
Start Date : 3/29/2026
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[illegible]

TIMING SCHEDULE

FEDERAL CITY ROAD AND DENOW ROAD Lawrence Township, Mercer County, NJ

PHASE		INDICATIONS				90 SECOND BACKGROUND CYCLE (seconds)
		11,12,13	1,3,6,8 *	2,4,5,7 9,10		
		14,15,16				
		17,18				
A	DENOW ROAD	R.O.W. CHANGE CLEARANCE	G Y R	R R R	R R R	5 - 20 4 2
B	FEDERAL CITY ROAD	LEFT-TURN CHANGE	R	R G R Y	R R	7 - 12 3
C	FEDERAL CITY ROAD	R.O.W CHANGE CLEARANCE	R R R	G Y R	G Y R	61 - 41 5 3
	EMERGENCY FLASH		R	Y	Y	

*Fiber-optic for Federal City Road Left-turn.

NOTES:

1. Vehicle interval is to be two (2) seconds.
2. Memory circuit is to be OFF.
3. Manual control is to be disconnected.
4. Actuation of pedestrian button shall provide a minimum of 15 seconds to Phase "A".
5. Denon Road eastbound approach shall have a 10 second loop delay to prevent false calls when right on red is executed.
6. Phase "B" shall only follow Phase "A".

October 30, 1995
Revised June 14, 1996
THP File No. 4092.150



Appendix C

Capacity Analysis

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	20	108	67	18	30	83	161	43	9	163	14
Future Volume (vph)	6	20	108	67	18	30	83	161	43	9	163	14
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	12	12	11	11	12	13	13	12	12	13	12
Grade (%)		2%			-3%			1%			-1%	
Storage Length (ft)	125		0	250		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	70			75			50			65		
Lane Util. 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
Frt		0.873			0.906			0.968			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1834	1685	0	1818	1733	0	1905	1941	0	1862	2001	0
Flt Permitted	0.724			0.670			0.600			0.622		
Satd. Flow (perm)	1398	1685	0	1282	1733	0	1203	1941	0	1219	2001	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		115			32			20			6	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		817			562			739			789	
Travel Time (s)		15.9			10.9			14.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	136	0	71	51	0	88	217	0	10	188	0
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		7.0	41.0		7.0	41.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		10.0	49.0		10.0	49.0	
Total Split (s)	26.0	26.0		26.0	26.0		15.0	49.0		15.0	49.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		16.7%	54.4%		16.7%	54.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		12.0	41.0		12.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	8.0		3.0	8.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	8.7	8.7		8.7	8.7		56.5	50.1		54.7	44.0	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.76	0.67		0.73	0.59	
v/c Ratio	0.04	0.46		0.48	0.22		0.09	0.17		0.01	0.16	
Control Delay (s/veh)	28.5	14.0		41.0	17.9		2.9	5.8		2.9	8.5	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	28.5	14.0		41.0	17.9		2.9	5.8		2.9	8.5	
LOS	C	B		D	B		A	A		A	A	
Approach Delay (s/veh)		14.6			31.3			5.0			8.2	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)	3	9		31	8		7	25		1	37	
Queue Length 95th (ft)	13	55		69	37		21	83		5	76	
Internal Link Dist (ft)		737			482			659			709	
Turn Bay Length (ft)	125			250			120			100		
Base Capacity (vph)	374	535		343	487		1030	1307		1033	1180	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.25		0.21	0.10		0.09	0.17		0.01	0.16	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 74.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 11.8

Intersection LOS: B

Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Federal City Road & Denow Road

 Ø1	 Ø2	 Ø4
15 s	49 s	26 s
 Ø5	 Ø6	 Ø8
15 s	49 s	26 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	20	57	25	12	10	68	133	49	16	136	6
Future Volume (vph)	6	20	57	25	12	10	68	133	49	16	136	6
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	12	12	11	11	12	13	13	12	12	13	12
Grade (%)		2%			-3%			1%			-1%	
Storage Length (ft)	125		0	250		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	70			75			50			65		
Lane Util. 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
Frt		0.889			0.931			0.960			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1834	1716	0	1818	1781	0	1905	1925	0	1862	1992	0
Flt Permitted	0.755			0.755			0.617			0.631		
Satd. Flow (perm)	1458	1716	0	1445	1781	0	1237	1925	0	1237	1992	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63			11			27			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		817			562			739			789	
Travel Time (s)		15.9			10.9			14.4			15.4	
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 (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	85	0	28	24	0	76	202	0	18	158	0
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		7.0	41.0		7.0	41.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		10.0	49.0		10.0	49.0	
Total Split (s)	26.0	26.0		26.0	26.0		15.0	49.0		15.0	49.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		16.7%	54.4%		16.7%	54.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		12.0	41.0		12.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	8.0		3.0	8.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	6.4	6.4		6.4	6.4		56.9	52.3		55.1	46.4	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.81	0.74		0.78	0.66	
v/c Ratio	0.05	0.40		0.21	0.14		0.07	0.14		0.02	0.12	
Control Delay (s/veh)	30.2	18.6		34.0	23.1		2.1	4.5		2.1	7.2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	30.2	18.6		34.0	23.1		2.1	4.5		2.1	7.2	
LOS	C	B		C	C		A	A		A	A	
Approach Delay (s/veh)		19.5			28.9			3.9			6.7	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)	3	9		12	5		5	19		1	28	
Queue Length 95th (ft)	14	48		35	26		14	67		5	59	
Internal Link Dist (ft)		737			482			659			709	
Turn Bay Length (ft)	125			250			120			100		
Base Capacity (vph)	414	533		411	514		1122	1436		1115	1312	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.16		0.07	0.05		0.07	0.14		0.02	0.12	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 70.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.40

Intersection Signal Delay (s/veh): 9.3

Intersection LOS: A

Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Federal City Road & Denow Road

	Ø1		Ø2		Ø4
15 s		49 s		26 s	
	Ø5		Ø6		Ø8
15 s		49 s		26 s	

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	21	111	69	19	31	86	166	44	9	168	14
Future Volume (vph)	6	21	111	69	19	31	86	166	44	9	168	14
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	12	12	11	11	12	13	13	12	12	13	12
Grade (%)	2%			-3%			1%			-1%		
Storage Length (ft)	125		0	250		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	70			75			50			65		
Lane Util. 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
Frt		0.874			0.907			0.969			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1834	1687	0	1818	1735	0	1905	1943	0	1862	2001	0
Flt Permitted	0.722			0.668			0.597			0.619		
Satd. Flow (perm)	1394	1687	0	1278	1735	0	1197	1943	0	1213	2001	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		118			33			20			6	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		817			562			739			789	
Travel Time (s)		15.9			10.9			14.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	140	0	73	53	0	91	224	0	10	194	0
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		7.0	41.0		7.0	41.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		10.0	49.0		10.0	49.0	
Total Split (s)	26.0	26.0		26.0	26.0		15.0	49.0		15.0	49.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		16.7%	54.4%		16.7%	54.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		12.0	41.0		12.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	8.0		3.0	8.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	8.8	8.8		8.8	8.8		56.5	50.1		54.7	44.0	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.75	0.67		0.73	0.59	
v/c Ratio	0.04	0.46		0.49	0.23		0.09	0.17		0.01	0.16	
Control Delay (s/veh)	28.3	13.9		41.3	17.8		3.0	5.9		2.9	8.6	

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	28.3	13.9		41.3	17.8		3.0	5.9		2.9	8.6	
LOS	C	B		D	B		A	A		A	A	
Approach Delay (s/veh)		14.5			31.4			5.0			8.3	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)	3	9		32	8		8	26		1	39	
Queue Length 95th (ft)	13	56		70	38		22	87		5	79	
Internal Link Dist (ft)		737			482			659			709	
Turn Bay Length (ft)	125			250			120			100		
Base Capacity (vph)	372	537		341	487		1025	1307		1028	1178	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.26		0.21	0.11		0.09	0.17		0.01	0.16	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 74.9

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.49

Intersection Signal Delay (s/veh): 11.8

Intersection LOS: B

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Federal City Road & Denow Road

 Ø1	 Ø2	 Ø4
15 s	49 s	26 s
 Ø5	 Ø6	 Ø8
15 s	49 s	26 s

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	21	59	26	12	10	70	137	50	16	140	6
Future Volume (vph)	6	21	59	26	12	10	70	137	50	16	140	6
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	12	12	11	11	12	13	13	12	12	13	12
Grade (%)		2%			-3%			1%			-1%	
Storage Length (ft)	125		0	250		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	70			75			50			65		
Lane Util. 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
Frt		0.889			0.931			0.960			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1834	1716	0	1818	1781	0	1905	1925	0	1862	1994	0
Flt Permitted	0.755			0.755			0.614			0.628		
Satd. Flow (perm)	1458	1716	0	1445	1781	0	1231	1925	0	1231	1994	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			11			27			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		817			562			739			789	
Travel Time (s)		15.9			10.9			14.4			15.4	
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 (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	89	0	29	24	0	78	208	0	18	163	0
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		7.0	41.0		7.0	41.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		10.0	49.0		10.0	49.0	
Total Split (s)	26.0	26.0		26.0	26.0		15.0	49.0		15.0	49.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		16.7%	54.4%		16.7%	54.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		12.0	41.0		12.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	8.0		3.0	8.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	6.4	6.4		6.4	6.4		56.7	52.1		54.9	46.2	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.81	0.74		0.78	0.66	
v/c Ratio	0.05	0.41		0.22	0.14		0.07	0.15		0.02	0.12	
Control Delay (s/veh)	30.2	18.7		34.0	23.0		2.2	4.6		2.1	7.3	

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	30.2	18.7		34.0	23.0		2.2	4.6		2.1	7.3	
LOS	C	B		C	C		A	A		A	A	
Approach Delay (s/veh)		19.5			29.1			3.9			6.8	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)	3	10		12	5		5	20		1	29	
Queue Length 95th (ft)	14	49		36	26		15	69		5	60	
Internal Link Dist (ft)		737			482			659			709	
Turn Bay Length (ft)	125			250			120			100		
Base Capacity (vph)	415	536		411	515		1117	1433		1110	1311	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.17		0.07	0.05		0.07	0.15		0.02	0.12	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 70.3

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay (s/veh): 9.3

Intersection LOS: A

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Federal City Road & Denow Road

 Ø1	 Ø2	 Ø4
15 s	49 s	26 s
 Ø5	 Ø6	 Ø8
15 s	49 s	26 s

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	21	111	88	23	42	86	166	44	9	168	14
Future Volume (vph)	6	21	111	88	23	42	86	166	44	9	168	14
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	12	12	11	11	12	13	13	12	12	13	12
Grade (%)		2%			-3%			1%			-1%	
Storage Length (ft)	125		0	250		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	70			75			50			65		
Lane Util. 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
Frt		0.874			0.902			0.969			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1834	1687	0	1818	1726	0	1905	1943	0	1862	2001	0
Flt Permitted	0.712			0.668			0.597			0.619		
Satd. Flow (perm)	1375	1687	0	1278	1726	0	1197	1943	0	1213	2001	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		118			45			20			6	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		817			562			739			789	
Travel Time (s)		15.9			10.9			14.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	140	0	94	69	0	91	224	0	10	194	0
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		7.0	41.0		7.0	41.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		10.0	49.0		10.0	49.0	
Total Split (s)	26.0	26.0		26.0	26.0		15.0	49.0		15.0	49.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		16.7%	54.4%		16.7%	54.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		12.0	41.0		12.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	8.0		3.0	8.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	10.1	10.1		10.1	10.1		56.5	50.2		54.7	44.1	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.74	0.66		0.72	0.58	
v/c Ratio	0.03	0.43		0.56	0.26		0.10	0.17		0.01	0.17	
Control Delay (s/veh)	27.7	12.7		43.0	16.4		3.4	6.4		3.3	9.2	

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	27.7	12.7		43.0	16.4		3.4	6.4		3.3	9.2	
LOS	C	B		D	B		A	A		A	A	
Approach Delay (s/veh)		13.4			31.7			5.5			8.9	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)	3	9		42	10		9	29		1	40	
Queue Length 95th (ft)	13	55		87	43		25	92		5	84	
Internal Link Dist (ft)		737			482			659			709	
Turn Bay Length (ft)	125			250			120			100		
Base Capacity (vph)	361	530		335	486		1008	1286		1011	1159	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.26		0.28	0.14		0.09	0.17		0.01	0.17	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 76.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.56

Intersection Signal Delay (s/veh): 12.9

Intersection LOS: B

Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 10: Federal City Road & Denow Road

 Ø1	 Ø2	 Ø4
15 s	49 s	26 s
 Ø5	 Ø6	 Ø8
15 s	49 s	26 s

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	25	59	26	12	10	70	137	69	27	140	6
Future Volume (vph)	6	25	59	26	12	10	70	137	69	27	140	6
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	12	12	11	11	12	13	13	12	12	13	12
Grade (%)		2%			-3%			1%			-1%	
Storage Length (ft)	125		0	250		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	70			75			50			65		
Lane Util. 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
Frt		0.895			0.931			0.950			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1834	1728	0	1818	1781	0	1905	1905	0	1862	1994	0
Flt Permitted	0.742			0.741			0.616			0.616		
Satd. Flow (perm)	1432	1728	0	1418	1781	0	1235	1905	0	1207	1994	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			11			37			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		817			562			739			789	
Travel Time (s)		15.9			10.9			14.4			15.4	
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 (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	94	0	29	24	0	78	229	0	30	163	0
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		7.0	41.0		7.0	41.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		10.0	49.0		10.0	49.0	
Total Split (s)	26.0	26.0		26.0	26.0		15.0	49.0		15.0	49.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		16.7%	54.4%		16.7%	54.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		12.0	41.0		12.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	3.0		0.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	8.0		3.0	8.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	6.5	6.5		6.5	6.5		56.1	50.2		54.9	46.2	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.80	0.71		0.78	0.66	
v/c Ratio	0.05	0.43		0.22	0.14		0.07	0.17		0.03	0.12	
Control Delay (s/veh)	30.0	19.6		34.0	23.0		2.2	5.4		2.1	7.3	

10: Federal City Road & Denow Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	30.0	19.6		34.0	23.0		2.2	5.4		2.1	7.3	
LOS	C	B		C	C		A	A		A	A	
Approach Delay (s/veh)		20.3			29.0			4.6			6.5	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	3	12		12	5		5	21		2	30	
Queue Length 95th (ft)	14	52		36	26		15	74		8	61	
Internal Link Dist (ft)		737			482			659			709	
Turn Bay Length (ft)	125			250			120			100		
Base Capacity (vph)	407	539		403	515		1119	1368		1093	1308	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.17		0.07	0.05		0.07	0.17		0.03	0.12	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 70.4

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.43

Intersection Signal Delay (s/veh): 9.6

Intersection LOS: A

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Federal City Road & Denow Road

 Ø1	 Ø2	 Ø4
15 s	49 s	26 s
 Ø5	 Ø6	 Ø8
15 s	49 s	26 s

20: The Learning Center Driveway/Church Driveway & Denow Road

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	68	2	1	75	1	7	1	0	6	0	28
Future Vol, veh/h	1	68	2	1	75	1	7	1	0	6	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	2	-	-	3	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	77	2	1	85	1	8	1	0	7	0	32
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	86	0	0	80	0	0	168	169	78	168	170	86
Stage 1	-	-	-	-	-	-	81	81	-	88	88	-
Stage 2	-	-	-	-	-	-	88	89	-	80	82	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.1	6.5	6.5	5.9	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1523	-	-	1531	-	-	778	707	981	823	748	986
Stage 1	-	-	-	-	-	-	920	821	-	938	838	-
Stage 2	-	-	-	-	-	-	912	813	-	946	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1523	-	-	1531	-	-	752	706	981	820	746	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	752	706	-	820	746	-
Stage 1	-	-	-	-	-	-	920	820	-	937	837	-
Stage 2	-	-	-	-	-	-	882	813	-	944	842	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.1			0.1			9.89			8.94		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	746	25	-	-	23	-	-	952				
HCM Lane V/C Ratio	0.012	0.001	-	-	0.001	-	-	0.041				
HCM Ctrl Dly (s/v)	9.9	7.4	0	-	7.4	0	-	8.9				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1				

20: The Learning Center Driveway/Church Driveway & Denow Road

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	64	0	1	53	2	1	0	0	1	0	2
Future Vol, veh/h	18	64	0	1	53	2	1	0	0	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	2	-	-	3	-	-	-3	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	23	80	0	1	66	3	1	0	0	1	0	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	69	0	0	80	0	0	194	196	80	195	195	68
Stage 1	-	-	-	-	-	-	125	125	-	70	70	-
Stage 2	-	-	-	-	-	-	69	71	-	125	125	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.1	6.5	6.5	5.9	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1545	-	-	1531	-	-	746	680	979	794	727	1007
Stage 1	-	-	-	-	-	-	866	780	-	956	850	-
Stage 2	-	-	-	-	-	-	936	830	-	902	813	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1545	-	-	1531	-	-	732	669	979	781	716	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	732	669	-	781	716	-
Stage 1	-	-	-	-	-	-	852	768	-	955	850	-
Stage 2	-	-	-	-	-	-	933	829	-	889	801	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	1.62			0.13			9.93			8.93		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	732	395	-	-	32	-	-	919				
HCM Lane V/C Ratio	0.002	0.015	-	-	0.001	-	-	0.004				
HCM Ctrl Dly (s/v)	9.9	7.4	0	-	7.4	0	-	8.9				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

20: The Learning Center Driveway/Church Driveway & Denow Road

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	70	2	1	77	1	7	1	0	6	0	28
Future Vol, veh/h	1	70	2	1	77	1	7	1	0	6	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	2	-	-	3	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	80	2	1	88	1	8	1	0	7	0	32
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	89	0	0	82	0	0	173	174	81	173	174	88
Stage 1	-	-	-	-	-	-	83	83	-	90	90	-
Stage 2	-	-	-	-	-	-	90	91	-	82	84	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.1	6.5	6.5	5.9	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1520	-	-	1528	-	-	772	702	978	818	744	983
Stage 1	-	-	-	-	-	-	917	819	-	936	836	-
Stage 2	-	-	-	-	-	-	909	811	-	944	841	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1520	-	-	1528	-	-	746	701	978	815	743	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	746	701	-	815	743	-
Stage 1	-	-	-	-	-	-	917	818	-	935	836	-
Stage 2	-	-	-	-	-	-	879	811	-	942	840	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.1			0.09			9.92			8.96		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	740	25	-	-	23	-	-	949				
HCM Lane V/C Ratio	0.012	0.001	-	-	0.001	-	-	0.041				
HCM Ctrl Dly (s/v)	9.9	7.4	0	-	7.4	0	-	9				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1				

20: The Learning Center Driveway/Church Driveway & Denow Road

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	66	0	1	55	2	1	0	0	1	0	2
Future Vol, veh/h	18	66	0	1	55	2	1	0	0	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	2	-	-	3	-	-	-3	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	23	83	0	1	69	3	1	0	0	1	0	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	71	0	0	83	0	0	199	201	83	200	200	70
Stage 1	-	-	-	-	-	-	128	128	-	73	73	-
Stage 2	-	-	-	-	-	-	71	74	-	128	128	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.1	6.5	6.5	5.9	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1542	-	-	1527	-	-	739	675	976	789	723	1004
Stage 1	-	-	-	-	-	-	863	778	-	954	849	-
Stage 2	-	-	-	-	-	-	932	827	-	900	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1542	-	-	1527	-	-	726	664	976	776	712	1004
Mov Cap-2 Maneuver	-	-	-	-	-	-	726	664	-	776	712	-
Stage 1	-	-	-	-	-	-	849	766	-	953	848	-
Stage 2	-	-	-	-	-	-	929	827	-	886	799	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	1.58			0.13			9.97			8.95		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	726	386	-	-	31	-	-	915				
HCM Lane V/C Ratio	0.002	0.015	-	-	0.001	-	-	0.004				
HCM Ctrl Dly (s/v)	10	7.4	0	-	7.4	0	-	9				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0				

20: The Learning Center Driveway/Church Driveway & Denow Road

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	70	2	1	77	1	7	1	0	15	0	62
Future Vol, veh/h	1	70	2	1	77	1	7	1	0	15	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	2	-	-	3	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	80	2	1	88	1	8	1	0	17	0	70
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	89	0	0	82	0	0	173	174	81	173	174	88
Stage 1	-	-	-	-	-	-	83	83	-	90	90	-
Stage 2	-	-	-	-	-	-	90	91	-	82	84	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.1	6.5	6.5	5.9	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1520	-	-	1528	-	-	772	702	978	818	744	983
Stage 1	-	-	-	-	-	-	917	819	-	936	836	-
Stage 2	-	-	-	-	-	-	909	811	-	944	841	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1520	-	-	1528	-	-	716	701	978	815	743	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	716	701	-	815	743	-
Stage 1	-	-	-	-	-	-	917	818	-	935	836	-
Stage 2	-	-	-	-	-	-	843	811	-	942	840	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.1			0.09			10.11			9.2		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	714	25	-	-	23	-	-	945				
HCM Lane V/C Ratio	0.013	0.001	-	-	0.001	-	-	0.093				
HCM Ctrl Dly (s/v)	10.1	7.4	0	-	7.4	0	-	9.2				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3				

20: The Learning Center Driveway/Church Driveway & Denow Road

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	52	66	0	1	55	10	1	0	0	0	0	2
Future Vol, veh/h	52	66	0	1	55	10	1	0	0	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	2	-	-	3	-	-	-3	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	65	83	0	1	69	13	1	0	0	0	0	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	81	0	0	83	0	0	284	296	83	290	290	75
Stage 1	-	-	-	-	-	-	213	213	-	78	78	-
Stage 2	-	-	-	-	-	-	71	84	-	213	213	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.7	7.1	6.5	6.5	5.9	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	6.1	-	5.5	4.9	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1529	-	-	1527	-	-	641	589	976	699	655	998
Stage 1	-	-	-	-	-	-	767	705	-	949	845	-
Stage 2	-	-	-	-	-	-	932	818	-	823	757	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1529	-	-	1527	-	-	611	562	976	668	625	998
Mov Cap-2 Maneuver	-	-	-	-	-	-	611	562	-	668	625	-
Stage 1	-	-	-	-	-	-	732	673	-	948	845	-
Stage 2	-	-	-	-	-	-	929	817	-	786	723	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	3.29			0.11			10.91			8.62		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	611	793	-	-	26	-	-	998				
HCM Lane V/C Ratio	0.002	0.043	-	-	0.001	-	-	0.003				
HCM Ctrl Dly (s/v)	10.9	7.5	0	-	7.4	0	-	8.6				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0				