Liberty Classical Academy

Traffic Impact Analysis

Weddington, North Carolina

August 2023

8/4/23

Prepared for:

Cambridge Properties

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

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1 INTRODUCTION

This report presents the proposed Liberty Classical Academy traffic impact analysis (TIA) findings. The proposed school will be located south of NC-84 (Weddington Road) and east of NC-16 (Providence Road S), in Weddington, NC (see **Figure 1-1**). The proposed development will consist of a 600-student high school, a 500-student middle school, and a 400-student elementary school.

Analyses were completed for the following scenarios:

- 2023 Existing traffic volumes;
- 2026 Background traffic volumes;
- 2028 Background traffic volumes;
- 2031 Background traffic volumes;
- 2026 Build traffic volumes (High School);
- 2028 Build traffic volumes (Middle School);
- 2031 Build traffic volumes (Elementary School);
- 2040 Horizon Year Background traffic volumes*; and
- 2040 Horizon Year Build traffic volumes* (High School).

* Providence Road S / Rae Road intersection

The TIA's purpose is as follows:

1. Verify that the existing geometry provided within the study area is sufficient to accommodate the projected traffic volumes; and

2. Determine what, if any, improvements are necessary at the proposed site driveway connections to NC-16 (Providence Road S) and NC-84 (Weddington Road).

The following steps were taken to determine the potential traffic impacts associated with this project:

1. Data Collection – AM (7:00 – 9:00) and school PM (2:00 – 4:00) peak hour turning movement counts were collected in January 2023 at the following intersections:

    - NC-16 (Providence Road S) / NC-84 (Weddington Road);
    - NC-84 (Weddington Road) / Wheatberry Hill Drive;
    - NC-16 (Providence Road S) / Lenny Stadler Way; and
    - NC-16 (Providence Road S) / SR-1316 (Rea Road).

2. Trip Generation/Future Traffic – Traffic generated by the proposed development was estimated using the NCDOT's MSTA School Calculator for urban charter schools (as required by MSTA). Projected Background traffic volumes were calculated using a 2.5% ambient growth rate. Per the scoping document (see **Appendix A**), there are currently no approved developments within the study area.

3. Trip Distribution and Projections – The site-generated trip distribution was based on existing area traffic as well as Engineering judgement.

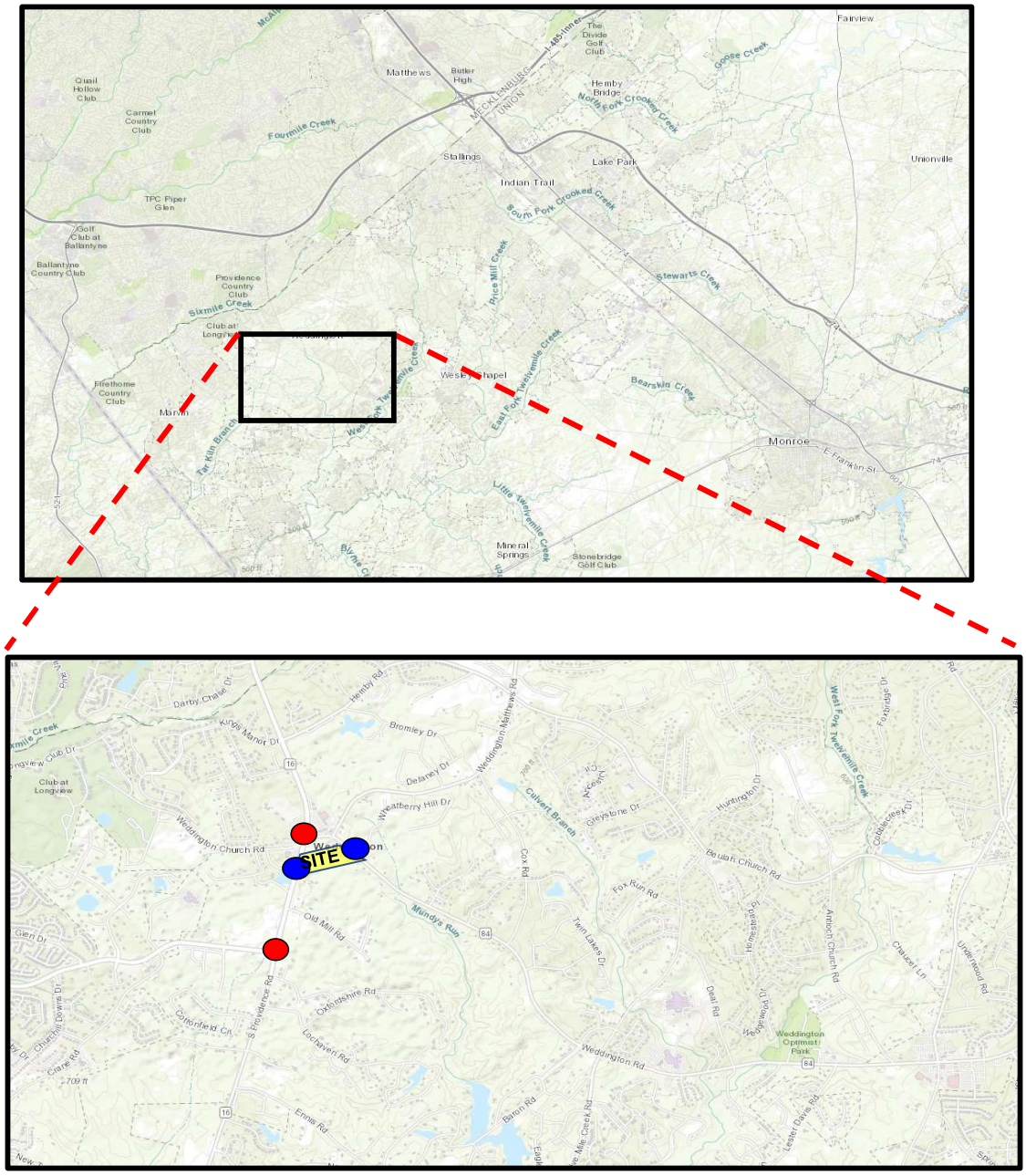
4. Traffic Capacity Analysis – Level of service analyses were performed using SYNCHRO Version 11.1 for the following intersections:

    - NC-16 (Providence Road S) / NC-84 (Weddington Road);
    - NC-84 (Weddington Road) / Wheatberry Hill Drive / Site Access 2;

- NC-16 (Providence Road S) / Lenny Stadler Way / Site Access 1; and
- NC-16 (Providence Road S) / SR-1316 (Rea Road).

5. Queuing Analysis – The SYNCHRO 95th percentile queue lengths from the capacity analyses were analyzed at the intersections listed above.

6. Review of Proposed Improvements – Roadway improvements proposed to accommodate projected site-generated traffic were evaluated.



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Liberty Classical Academy
Traffic Impact Analysis
Site Location Map

Figure 1-1

2 EXISTING INFORMATION

The proposed school will be located south of NC-84 (Weddington Road) and east of NC-16 (Providence Road S), in Weddington, NC (see **Figure 1-1**).

2.1 STUDY LIMITS

Site access will be provided via one full-movement connection off Providence Road S opposite Lenny Stadler Way (Site Driveway 1) and one full movement connection off Weddington Road opposite Wheatberry Hill Drive (Site Driveway 2).

The Site Driveways are shown graphically in **Figure 2-1** and in the preliminary school site layout (see **Figure 2-2**). All figures are located at the end of their respective chapter(s).

The study limits include the following four (4) intersections:

- NC-16 (Providence Road S) / NC-84 (Weddington Road);
- NC-84 (Weddington Road) / Wheatberry Hill Drive / Site Access 2;
- NC-16 (Providence Road S) / Lenny Stadler Way / Site Access 1; and
- NC-16 (Providence Road S) / SR-1316 (Rea Road).

2.2 EXISTING ROADWAYS

NC-16 (Providence Road S) is a four-lane facility that travels approximately north-south in the project study area providing a connection between Waxhaw and Charlotte. Within the study area, NC-16 primarily serves institutional and commercial uses. The facility is classified by NCDOT as a minor arterial and has a varying speed limited (changing from 35-mph to 45-mph south of Lenny Stadler Way). Per published NCDOT Average Annual Daily Traffic (AADT) maps, Providence Road S had a 2021 AADT of 29,000 vehicles per day (VPD) north of Lenny Stadler Way.

NC-84 (Weddington Road) is a two-lane facility that travels approximately east-west in the project study area providing a connection between Weddington and Monroe. Within the study area, NC-16 primarily serves residential uses. The facility is classified by NCDOT as a minor arterial and has a posted 35-mph speed limit. Per published NCDOT AADT maps, Weddington Road had a 2021 AADT of 20,000 VPD east of Lenny Stadler Way.

SR-1316 (Rae Road) is a four-lane facility that travels approximately east-west in the project study area. Rae Road, also known as Marvin School Road, primarily serves residential uses. The facility is classified by NCDOT as a minor arterial and has a posted 35-mph speed limit. Per published NCDOT AADT maps, Rae Road had a 2018 AADT of 16,500 VPD west of Providence Road S.

Lenny Stadler Way is a two-lane facility that travels approximately east-west in the project study area. Within the study area, Lenny Stadler Way primarily serves residential uses. The facility is classified by NCDOT as a local road and has a 35-mph speed limit. There is no available AADT data available for this facility.

Wheatberry Hill Drive is a two-lane facility that travels approximately north-south in the project study area. Within the study area, Wheatberry Hill Drive primarily serves residential uses. The facility is classified by NCDOT as a local road and has a posted 25-mph speed limit. There is no available AADT data available for this facility.

Note: All roadways classified per the NCDOT Functional Class Map.

2.3 EXISTING INTERSECTIONS

Using available aerial imagery, Timmons Group compiled the existing study area intersection geometry. The existing intersection geometry is shown in **Figure 2-2**.

Providence Road S / Church Parking Lot / Weddington Road is a six-phase signalized intersection with split side street phasing. The northbound approach consists of an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane. The southbound approach consists of two exclusive left-turn lanes, a through lane, and a shared through / right-turn lane. The eastbound approach consists of a single shared left / through / right-turn lane. The westbound approach consists of an exclusive left-turn lane, a shared through / left-turn lane, and an exclusive right-turn lane.

Providence Road S / Lenny Stadler Way is a three-phased signalized T-intersection with protected / permitted northbound left-turn phasing. The northbound approach consists of an exclusive left-turn lane and two through lanes. The southbound approach consists of a through lane and a shared through / right-turn lane. The eastbound approach consists exclusive left and right-turn lanes.

Providence Road S / Rae Road is a three-phased signalized T-intersection with protected only northbound left-turn phasing. The northbound approach consists of two exclusive left-turn lanes and two through lanes. The southbound approach consists of an exclusive left-turn (U-turn) lane, a through lane, and an exclusive right-turn lane. The eastbound approach consists of exclusive left and right-turn lanes.

Weddington Road / Wheatberry Hill Drive is an unsignalized T-intersection with the southbound approach encountering the stopped condition. The southbound approach consists of a shared left / right-turn lane. The eastbound approach consists of an exclusive left-turn lane and a through lane. The westbound approach consists of a through lane and an exclusive right-turn lane.

2.4 TRAFFIC VOLUMES

Timmons Group calculated peak hour volumes for the study area intersections using the AM (7:00 – 9:00) and School PM (2:00 – 4:00) peak period turning movement counts undertaken in January 2023. Traffic count data is summarized in **Figure 2-3**. The complete traffic count data can be found in **Appendix B**.

2.5 CAPACITY ANALYSIS

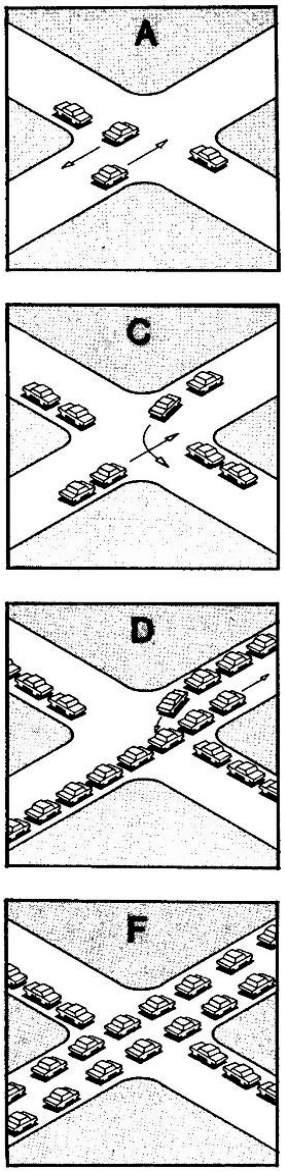
Using field observations, aerial photography, and traffic count data, traffic operations were analyzed during 2023 (existing), 2026 (without and with high school site trips), 2028 (without and with middle school site trips), 2031 (without and with elementary school site trips), and 2040 Horizon Year (without and with high school site trips for the Providence Road S / Rae Road intersection).

Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. At signalized intersections, an overall intersection LOS E is generally considered unacceptable. At unsignalized intersections, a LOS E is generally considered acceptable only if the side street encounters delay. Nevertheless, side streets typically function at a LOS F during peak traffic periods, because the traffic volumes often do not warrant a traffic signal to assist side street traffic. **Table 2-1** shows in detail how each of these levels of service are interpreted.

Table 2-1: Level of Service Definitions

Level of Service	Roadway Segments or Controlled Access Highways	Intersections
A	Free flow, low traffic density.	No vehicle waits longer than one signal indication.
B	Delay is not unreasonable, stable traffic flow.	On a rare occasion motorists wait through more than one signal indication.
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.	Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups.	Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups.
E	Actual capacity of the roadway invloves delay to all motorists due to congestion.	Very long queues may create lengthly delays, especially for left-turning vehicles.
F	Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage ares during part or all of an hour.

SOURCE: *"A Policy on Design of Design of Urban Highways and Arterial Streets"* - AASHTO, 1973 based upon material published in *"Highway Capacity Manual"*, National Academy of Sciences, 1965.



For signalized and unsignalized intersections, level of service is defined in terms of **delay**, a measure of driver discomfort, frustration, fuel consumption and lost travel time. **Table 2-2** summarizes the delay associated with each LOS category:

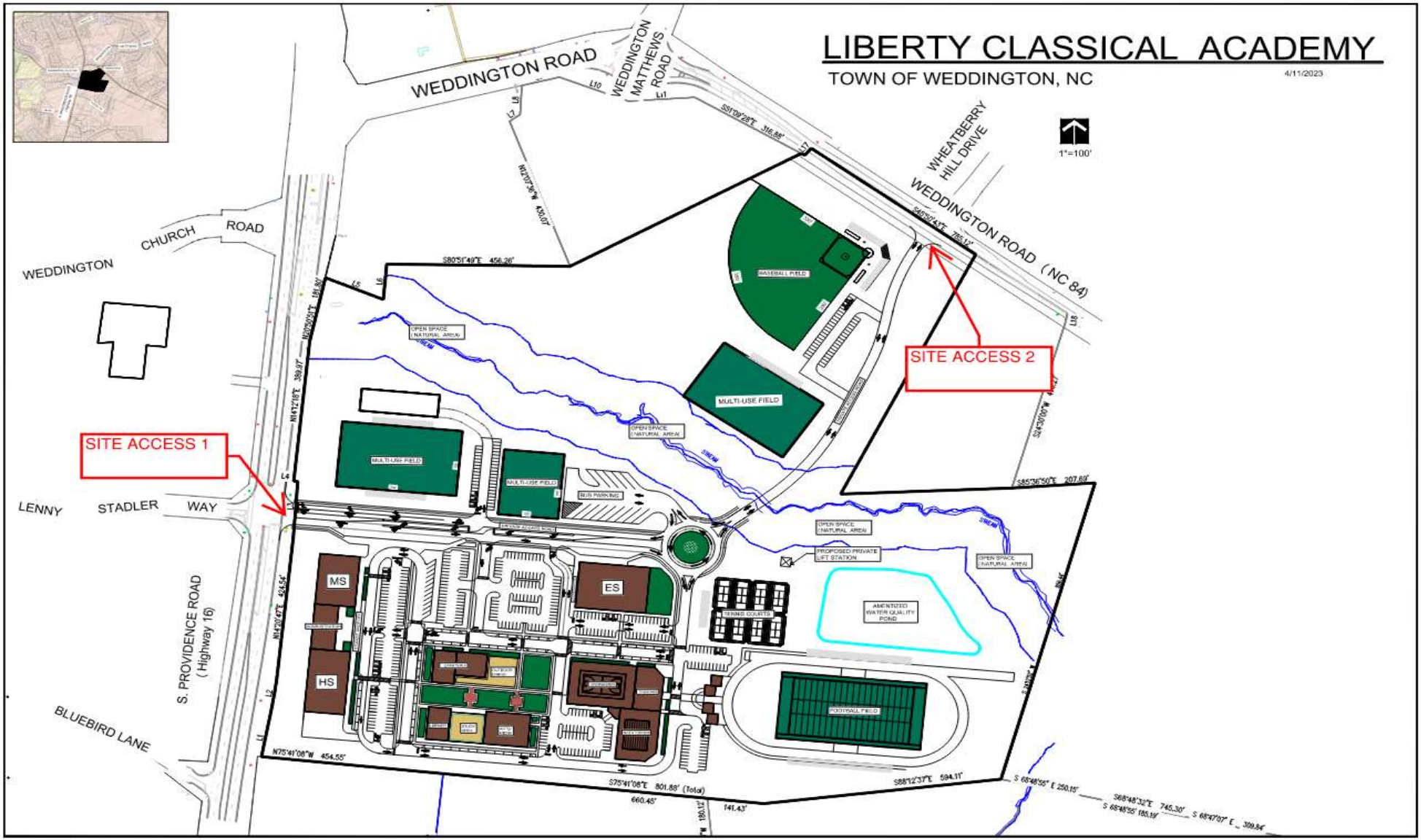
Table 2-2: Signalized and Unsignalized Intersection Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec/veh)	Level of Service	Average Control Delay (sec/veh)
A	≤ 10	A	0 to 10
B	> 10 to ≤ 20	B	> 10 to ≤ 15
C	> 20 to ≤ 35	C	> 15 to ≤ 25
D	> 35 to ≤ 55	D	> 25 to ≤ 35
E	> 55 to ≤ 80	E	> 35 to ≤ 50
F	> 80	F	> 50

Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"

Capacity analyses were performed to assess operational conditions. Study area intersections were analyzed using SYNCHRO Version 11.1 based on Highway Capacity Manual (HCM) methodologies with the following assumptions:

- Existing grades;
- 12-foot lane widths;
- No parking activity, bus stops, or pedestrians;
- Optimized traffic signal coordinated timings for all conditions;
- Peak hour factor (PHF) of 0.90 for all Existing and Background conditions;
- Weighted PHF (0.9 for Background, 0.5 for school trips) for all Build conditions (see **Appendix E**);
- 2% heavy vehicle percentage; and
- A minimum of 4 vehicles per analyzed intersection movement.



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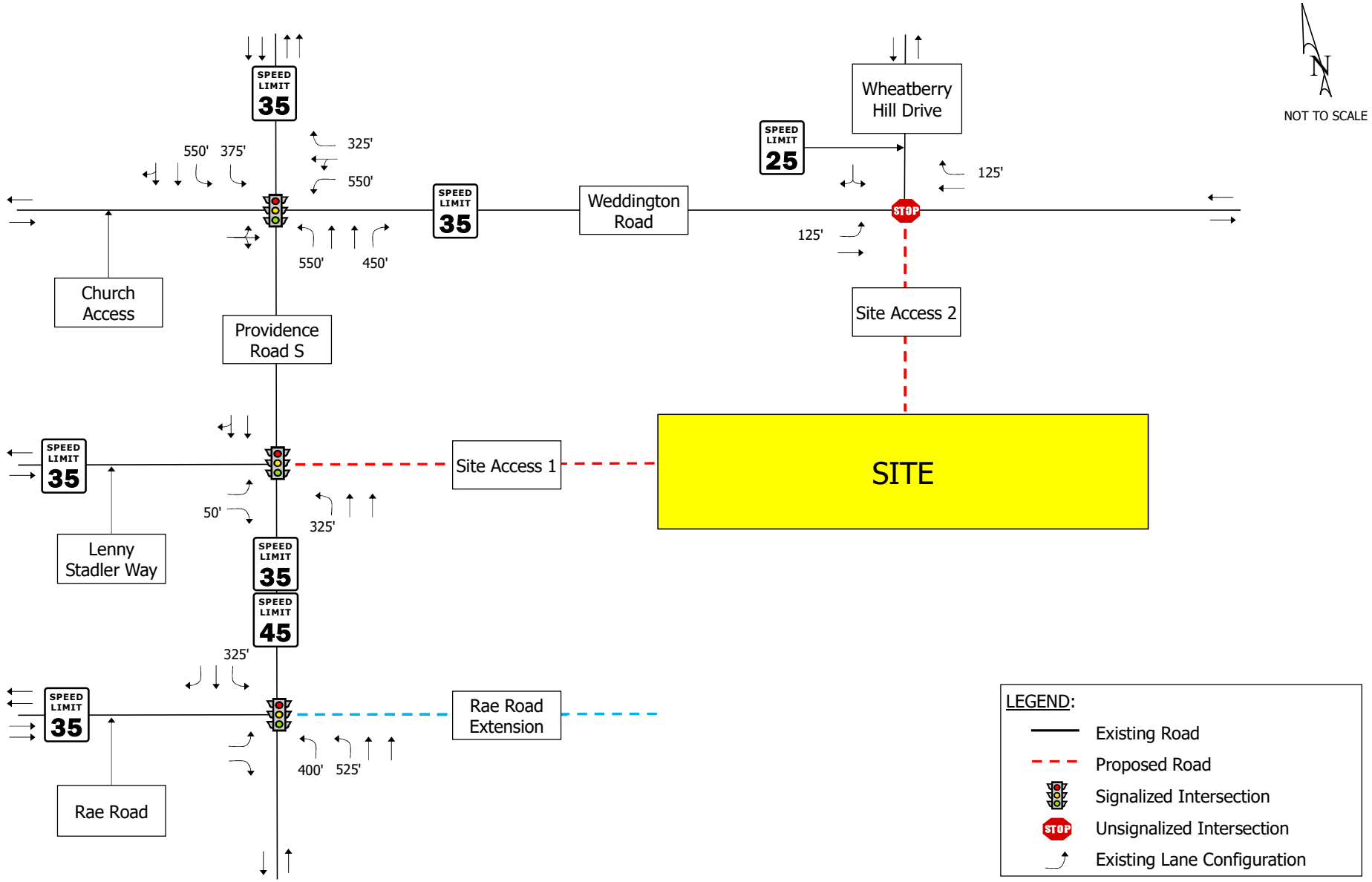
Liberty Classical Academy
Traffic Impact Analysis
Sketch Plan

Figure 2-1



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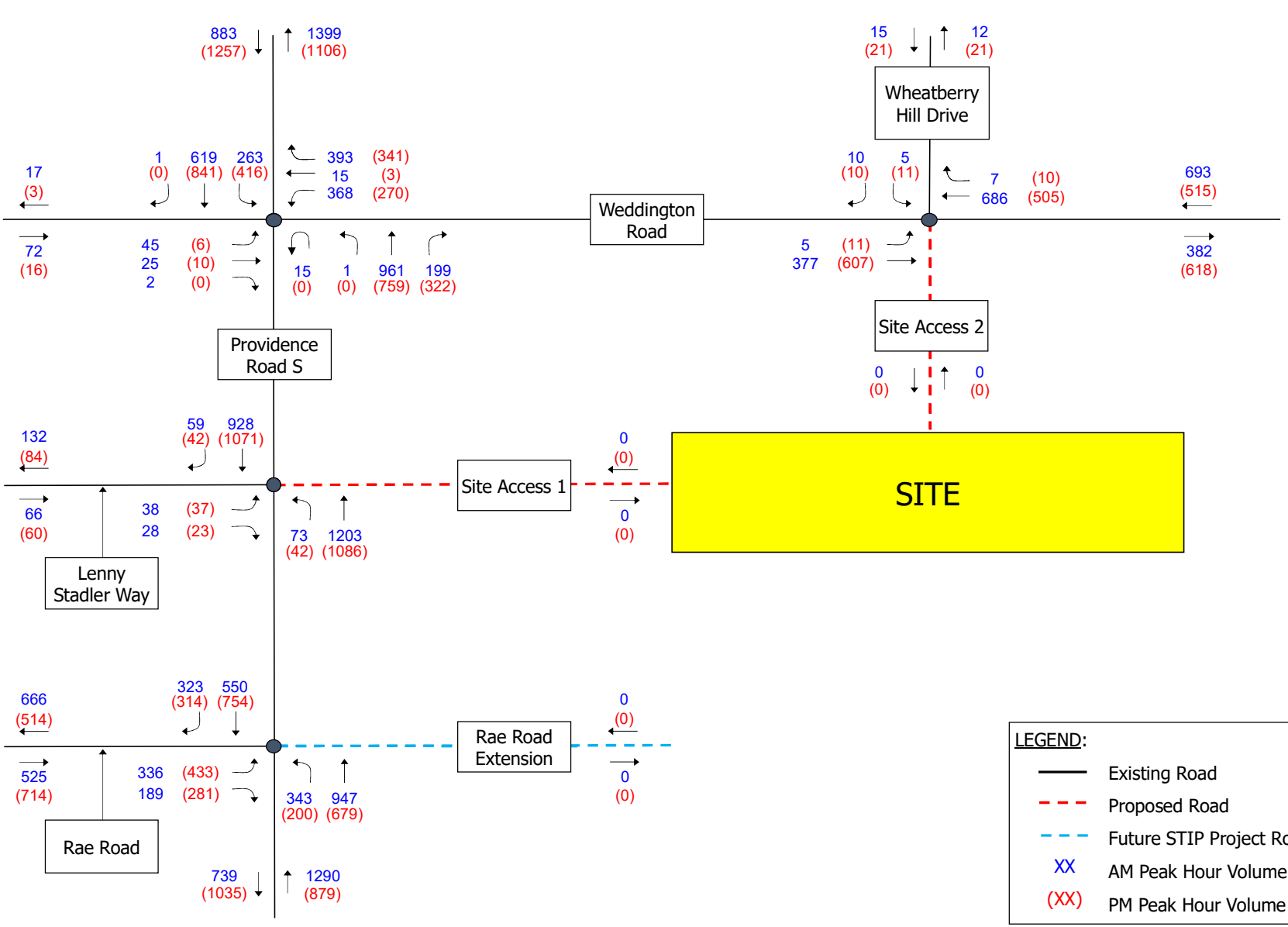
Traffic Impact Analysis
2023 Existing Lane Configuration

Figure 2-2



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Liberty Classical Academy
Traffic Impact Analysis
2023 Existing Traffic Volumes

Figure 2-3

3 EXISTING AND BACKGROUND CONDITIONS AND ANALYSIS

3.1 2023 EXISTING ANALYSIS

Table 3-1 summarizes the 2023 Existing intersection LOS, delay, and 95th percentile queue lengths based on the geometry shown on **Figure 2-2** and the 2023 Existing traffic volumes shown on **Figure 2-3**. The corresponding SYNCHRO output is included in **Appendix D**.

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is currently operating at an overall LOS C during both 2023 Existing peak hours. The eastbound approach is currently operating unacceptably during both peak hours. The westbound approach is currently operating unacceptably during the AM peak hour. All other approaches are currently operating at a LOS D or better.

The signalized intersection of Providence Road S / Lenny Stadler Way is currently operating at an overall LOS A during both 2023 Existing peak hours. The eastbound approach is currently operating unacceptably during the AM peak hour. All other approaches are currently operating a LOS D or better.

The signalized intersection of Providence Road S / Rae Road is currently operating an overall LOS C during both 2023 Existing peak hours. All approaches are currently operating a LOS D or better.

All Weddington Road / Wheatberry Hill Drive unsignalized intersection approaches are currently operating a LOS C or better during both 2023 Build peak hours.

Table 3-1: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2023 Existing Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***94.0***	***F***	#153	147	***56.8***	***E***	44	45
	EB Approach		***94.0***	***F***	--	--	***56.8***	***E***	--	--
	WB Left	550	***82.4***	***F***	#318	251	***64.3***	***E***	191	159
	WB Left/Thru		***81.6***	***F***	#317	310	***63.5***	***E***	189	205
	WB Right	325	33.0	C	314	353	26.7	C	215	300
	WB Approach		***57.2***	***E***	--	--	43.3	D	--	--
	NB Left	550	54.2	D	m36	52	41.5	D	m7	23
	NB Thru		30.5	C	508	402	18.5	B	303	291
	NB Right	450	7.4	A	78	128	6.7	A	149	187
	NB Approach		26.9	C	--	--	15.1	B	--	--
	SB Dual Lefts	450	28.8	C	84	205	34.1	C	109	238
	SB Thru/Right		11.9	B	171	166	9.2	A	218	156
	SB Approach		16.9	B	--	--	17.4	B	--	--
	Overall		33.6	C	--	--	22.2	C	--	--
2: Providence Road S & Lenny Stadler Way	EB Left		***69.4***	***E***	75	95	***60.3***	***E***	67	95
	EB Right	50	50.2	D	54	72	42.5	D	43	75
	EB Approach		***61.2***	***E***	--	--	53.4	D	--	--
	NB Left	325	2.5	A	m14	76	2.0	A	m6	66
	NB Thru		1.6	A	89	121	1.3	A	m58	123
	NB Approach		1.6	A	--	--	1.3	A	--	--
	SB Thru/Right		2.3	A	64	92	3.3	A	80	121
	SB Approach		2.3	A	--	--	3.3	A	--	--
	Overall		3.6	A	--	--	3.6	A	--	--
3: Providence Road S & Rae Road	EB Left		***66.8***	***E***	414	410	***70.8***	***E***	#565	647
	EB Right		25.5	C	164	210	29.3	C	260	365
	EB Approach		51.9	D	--	--	54.5	D	--	--
	NB Dual Lefts	450	***65.7***	***E***	222	275	***78.8***	***E***	#158	226
	NB Thru		11.1	B	284	243	11.0	B	172	181
	NB Approach		25.6	C	--	--	26.4	C	--	--
	SB Thru		22.1	C	287	501	33.1	C	#812	724
	SB Right		2.6	A	40	203	1.9	A	50	207
	SB Approach		14.9	B	--	--	23.9	C	--	--
	Overall		27.3	C	--	--	32.9	C	--	--
4: Weddington Road & Wheatberry Hill Drive	EB Left	125	9.3	A	0	18	8.6	A	0	27
	EB Thru		0.0	A	0	0	0.0	A	0	0
	EB Approach		0.1	A	--	--	0.2	A	--	--
	WB Thru		0.0	A	0	0	0.0	A	0	0
	WB Right	125	0.0	A	0	0	0.0	A	0	0
	WB Approach		0.0	A	--	--	0.0	A	--	--
	SB Left/Right		17.4	C	0.2	36	19.7	C	0.3	42
	SB Approach		17.4	C	--	--	19.7	C	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

3.2 BACKGROUND TRAFFIC VOLUMES

Figures 3-1, **3-2**, and **3-3** show the 2026, 2028, and 2031 ambient traffic volumes (respectively) calculated using a 2.5% growth rate.

Per the scoping document (see **Appendix A**), there are no approved study area developments. There are two public improvement projects within the study area (U-5769B and U-3467), with construction years of 2028 and 2029 respectively. Due to uncertainty regarding the project completion years, the subject analyses were conducted without considering these improvements. A horizon year analysis including both public improvement projects is found in **Section 6** below.

3.3 2026 BACKGROUND ANALYSIS

Table 3-2 summarizes the 2026 Background intersection LOS, delay, and 95th percentile queue lengths based on the geometry shown in **Figure 2-2** and includes the 2026 Background traffic volumes shown in **Figure 3-1**. The corresponding SYNCHRO output is included in **Appendix D**.

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS D and C during the 2026 Background AM and PM peak hours, respectively. The eastbound approach is projected to operate unacceptably during both peak hours. The westbound approach is projected to operate unacceptably during the AM peak hour. All other approaches are projected to operate at a LOS D or better.

The signalized intersection of Providence Road S / Lenny Stadler Way is projected to operate at an overall LOS A during both 2026 Background peak hours. The eastbound approach is projected to operate unacceptably during the AM peak hour. All other approaches are projected to operate at a LOS D or better.

The signalized intersection of Providence Road S / Rae Road is projected to operate at an overall LOS C and D during the 2026 Background AM and PM peak hours, respectively. The eastbound approach is projected to operate unacceptably during the PM peak hour. All other approaches are projected to operate at a LOS D or better.

All Weddington Road / Wheatberry Hill Drive unsignalized intersection approaches are projected to operate at a LOS C or better during both 2026 Background peak hours.

Table 3-2: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2026 Background Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***113.0***	***F***	#175	159	***57.1***	***E***	45	62
	EB Approach		***113.0***	***F***	--	--	***57.1***	***E***	--	--
	WB Left	550	***86.7***	***F***	#355	363	***67.3***	***E***	207	189
	WB Left/Thru		***85.6***	***F***	#353	397	***65.9***	***E***	203	215
	WB Right	325	35.3	D	353	379	27.1	C	241	299
	WB Approach		***60.4***	***E***	--	--	44.7	D	--	--
	NB Left	550	53.8	D	m35	62	40.2	D	m6	25
	NB Thru		32.0	C	546	467	19.7	B	320	322
	NB Right	450	7.7	A	89	220	7.3	A	164	204
	NB Approach		28.2	C	--	--	16.1	B	--	--
	SB Dual Lefts	450	29.0	C	92	201	35.5	D	126	240
	SB Thru/Right		12.0	B	181	182	9.8	A	241	181
	SB Approach		17.0	B	--	--	18.3	B	--	--
	Overall		35.5	D	--	--	23.2	C	--	--
2: Providence Road S & Lenny Stadler Way	EB Left		***70.1***	***E***	81	98	***60.6***	***E***	71	89
	EB Right	50	50.1	D	57	75	42.4	D	45	79
	EB Approach		***61.7***	***E***	--	--	53.5	D	--	--
	NB Left	325	3.0	A	m16	85	2.4	A	m7	61
	NB Thru		1.7	A	101	128	1.4	A	m63	140
	NB Approach		1.8	A	--	--	1.4	A	--	--
	SB Thru/Right		2.3	A	63	101	3.5	A	91	133
	SB Approach		2.3	A	--	--	3.5	A	--	--
	Overall		3.7	A	--	--	3.8	A	--	--
3: Providence Road S & Rae Road	EB Left		***68.1***	***E***	452	465	***75.7***	***E***	#621	844
	EB Right		24.8	C	178	192	28.9	C	279	424
	EB Approach		52.5	D	--	--	***57.3***	***E***	--	--
	NB Dual Lefts	450	***68.0***	***E***	239	274	***85.1***	***F***	#169	236
	NB Thru		12.3	B	314	262	11.9	B	192	192
	NB Approach		27.1	C	--	--	28.5	C	--	--
	SB Thru		25.0	C	313	561	46.7	D	#939	1454
	SB Right		2.7	A	46	197	2.3	A	70	1147
	SB Approach		16.8	B	--	--	33.6	C	--	--
	Overall		28.7	C	--	--	38.3	D	--	--
4: Weddington Road & Wheatberry Hill Drive	EB Left	125	9.5	A	0	18	8.8	A	0	27
	EB Thru		0.0	A	0	0	0.0	A	0	0
	EB Approach		0.1	A	--	--	0.2	A	--	--
	WB Thru		0.0	A	0	0	0.0	A	0	0
	WB Right	125	0.0	A	0	0	0.0	A	0	0
	WB Approach		0.0	A	--	--	0.0	A	--	--
	SB Left/Right		18.7	C	0.2	36	21.9	C	0.4	46
	SB Approach		18.7	C	--	--	21.9	C	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

3.4 2028 BACKGROUND ANALYSIS

Table 3-3 summarizes the 2028 Background intersection LOS, delay, and 95th percentile queue lengths based on the geometry shown in **Figure 2-2** and the 2028 Background traffic volumes shown in **Figure 3-2**. The corresponding SYNCHRO output is included in **Appendix D**.

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS D during both 2028 Background peak hours. The east and westbound approaches are projected to operate unacceptably during both peak hours. All other approaches are projected to operate at a LOS D or better.

The signalized intersection of Providence Road S / Lenny Stadler Way is projected to operate at an overall LOS A during both 2028 Background peak hours. The eastbound approach is projected to operate unacceptably during both peak hours. All other approaches are projected to operate at a LOS A.

The signalized intersection of Providence Road S / Rae Road is projected to operate at an overall LOS C and D during the 2028 AM and PM Background peak hours. All approaches are projected to operate at a LOS D or better.

All Weddington Road / Wheatberry Hill Drive unsignalized intersection approaches are projected to operate at a LOS C or better during both 2028 Background peak hours.

Table 3-3: Intersection Level of Service, Delay and 95th Percentile Queue Summary 2028 Background Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***121.6***	***F***	#190	160	***57.5***	***E***	47	54
	EB Approach		***121.6***	***F***	--	--	***57.5***	***E***	--	--
	WB Left	550	***96.5***	***F***	#392	402	***68.6***	***E***	216	178
	WB Left/Thru		***96.3***	***F***	#392	548	***67.3***	***E***	211	202
	WB Right	325	38.4	D	#404	421	27.7	C	263	332
	WB Approach		***67.0***	***E***	--	--	45.6	D	--	--
	NB Left	550	53.0	D	m35	58	40.5	D	m6	34
	NB Thru		33.9	C	540	473	20.6	C	332	343
	NB Right	450	10.2	B	111	203	7.7	A	177	261
	NB Approach		30.1	C	--	--	16.9	B	--	--
	SB Dual Lefts	450	29.4	C	101	224	37.3	D	140	249
	SB Thru/Right		12.4	B	187	196	10.3	B	265	227
	SB Approach		17.5	B	--	--	19.2	B	--	--
	Overall		38.4	D	--	--	24.1	C	--	--
2: Providence Road S & Lenny Stadler Way	EB Left		***70.3***	***E***	82	102	***61.0***	***E***	74	93
	EB Right	50	38.7	D	53	69	39.8	D	44	63
	EB Approach		***56.8***	***E***	--	--	52.9	D	--	--
	NB Left	325	51.6	D	m123	139	***61.3***	***E***	m67	105
	NB Thru		1.7	A	104	128	1.4	A	m67	156
	NB Approach		4.6	A	--	--	3.7	A	--	--
	SB Thru/Right		5.6	A	m97	176	4.7	A	96	236
	SB Approach		5.6	A	--	--	4.7	A	--	--
	Overall		6.5	A	--	--	5.5	A	--	--
3: Providence Road S & Rae Road	EB Left		***69.5***	***E***	#508	512	***87.9***	***F***	#667	1132
	EB Right		24.4	C	186	192	29.6	C	295	778
	EB Approach		53.2	D	--	--	***65.0***	***E***	--	--
	NB Dual Lefts	450	***69.8***	***E***	#262	321	***92.2***	***F***	#181	266
	NB Thru		13.1	B	338	263	12.1	B	203	192
	NB Approach		28.2	C	--	--	30.3	C	--	--
	SB Thru		25.0	C	291	583	***57.1***	***E***	#1016	1763
	SB Right		2.1	A	26	255	2.7	A	88	1367
	SB Approach		16.5	B	--	--	41.0	D	--	--
	Overall		29.3	C	--	--	43.9	D	--	--
4: Weddington Road & Wheatberry Hill Drive	EB Left	125	9.7	A	0	27	8.9	A	0	33
	EB Thru		0.0	A	0	0	0.0	A	0	0
	EB Approach		0.1	A	--	--	0.2	A	--	--
	WB Thru		0.0	A	0	0	0.0	A	0	0
	WB Right	125	0.0	A	0	0	0.0	A	0	0
	WB Approach		0.0	A	--	--	0.0	A	--	--
	SB Left/Right		20.4	C	0.2	43	23.4	C	0.4	42
	SB Approach		20.4	C	--	--	23.4	C	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

3.5 2031 BACKGROUND ANALYSIS

Table 3-4 summarizes the 2031 Background intersection LOS, delay, and 95th percentile queue lengths based on the geometry shown in **Figure 2-2** and the 2031 Background traffic volumes shown in **Figure 3-3**. The corresponding SYNCHRO output is included in **Appendix D**.

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS D and C during the 2031 Background AM and PM peak hours, respectively. The eastbound approach is projected to operate unacceptably during both peak hours. The westbound approach is projected to operate unacceptably during the AM peak hour. All other approaches are projected to operate at a LOS D or better.

The signalized intersection of Providence Road S / Lenny Stadler Way is projected to operate at an overall LOS A during both 2031 Background peak hours. The eastbound approach is projected to operate unacceptably during the AM peak hour. All other approaches are projected to operate at a LOS D or better.

The signalized intersection of Providence Road S / Rae Road is projected to operate at an overall LOS C and E during the 2031 Background AM and PM peak hours, respectively. The eastbound approach is projected to operate unacceptably during both peak hours. All other approaches are projected to operate at a LOS D or better.

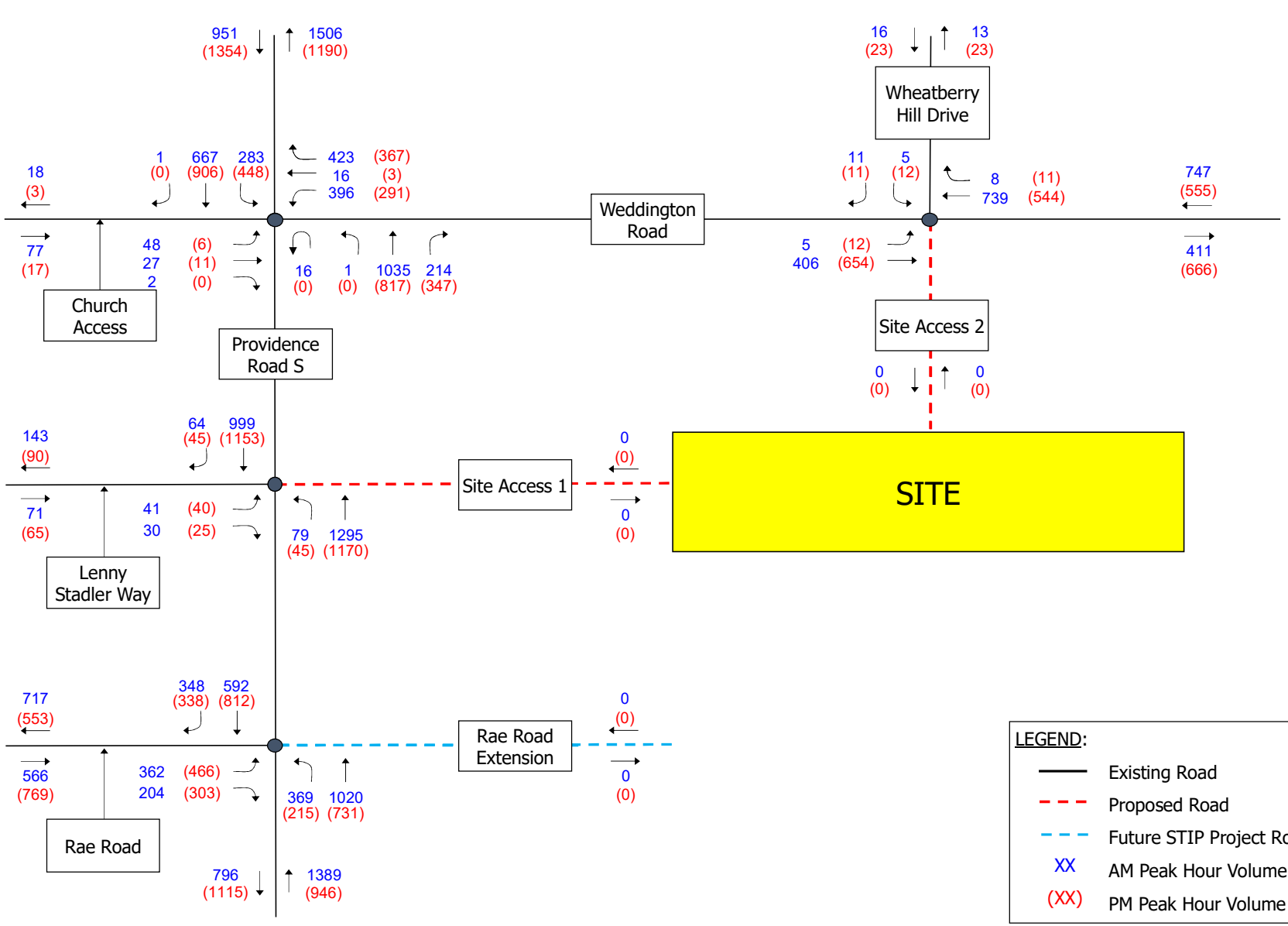
All approaches at the unsignalized intersection of Weddington Road / Wheatberry Hill Drive are projected to operate at a LOS D or better during both 2031 Background peak hours.

Table 3-4: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2031 Background Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***132.1***	***F***	#202	186	***57.9***	***E***	48	56
	EB Approach		***132.1***	***F***	--	--	***57.9***	***E***	--	--
	WB Left	550	***99.4***	***F***	#421	630	***74.3***	***E***	#260	204
	WB Left/Thru		***97.7***	***F***	#418	758	***72.1***	***E***	#252	264
	WB Right	325	40.0	D	#439	425	28.8	C	296	342
	WB Approach		***68.9***	***E***	--	--	48.6	D	--	--
	NB Left	550	53.1	D	m33	232	41.2	D	m5	20
	NB Thru		44.9	D	#724	779	21.9	C	371	356
	NB Right	450	7.4	A	87	477	10.0	A	236	182
	NB Approach		38.7	D	--	--	18.4	B	--	--
	SB Dual Lefts	450	29.5	C	105	214	39.4	D	159	279
	SB Thru/Right		13.5	B	212	191	10.8	B	297	219
	SB Approach		18.2	B	--	--	20.3	C	--	--
	Overall		42.8	D	--	--	25.7	C	--	--
2: Providence Road S & Lenny Stadler Way	EB Left		***70.8***	***E***	87	122	***61.3***	***E***	78	100
	EB Right	50	43.3	D	56	77	38.0	D	45	77
	EB Approach		***59.1***	***E***	--	--	52.4	D	--	--
	NB Left	325	***69.4***	***E***	m132	199	51.6	D	m70	110
	NB Thru		1.9	A	125	242	1.5	A	m72	110
	NB Approach		5.8	A	--	--	3.4	A	--	--
	SB Thru/Right		4.2	A	m94	176	5.8	A	211	264
	SB Approach		4.2	A	--	--	5.8	A	--	--
	Overall		6.6	A	--	--	5.8	A	--	--
3: Providence Road S & Rae Road	EB Left		***72.9***	***E***	#571	588	***118.7***	***F***	#749	1356
	EB Right		23.9	C	201	224	32.0	C	329	1351
	EB Approach		***55.2***	***E***	--	--	***84.7***	***F***	--	--
	NB Dual Lefts	450	***73.7***	***E***	#296	365	***125.3***	***F***	#206	436
	NB Thru		14.4	B	377	291	12.1	B	220	407
	NB Approach		30.2	C	--	--	37.9	D	--	--
	SB Thru		32.1	C	#815	672	***72.7***	***E***	#1109	2381
	SB Right		2.3	A	32	259	2.7	A	93	2016
	SB Approach		21.0	C	--	--	52.0	D	--	--
	Overall		32.1	C	--	--	***56.1***	***E***	--	--
4: Weddington Road & Wheatberry Hill Drive	EB Left	125	10.0	B	0	24	9.1	A	0	33
	EB Thru		0.0	A	0	0	0.0	A	0	0
	EB Approach		0.1	A	--	--	0.2	A	--	--
	WB Thru		0.0	A	0	89	0.0	A	0	0
	WB Right	125	0.0	A	0	0	0.0	A	0	0
	WB Approach		0.0	A	--	--	0.0	A	--	--
	SB Left/Right		22.3	C	0.3	36	26.9	D	0.5	42
	SB Approach		22.3	C	--	--	26.9	D	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.



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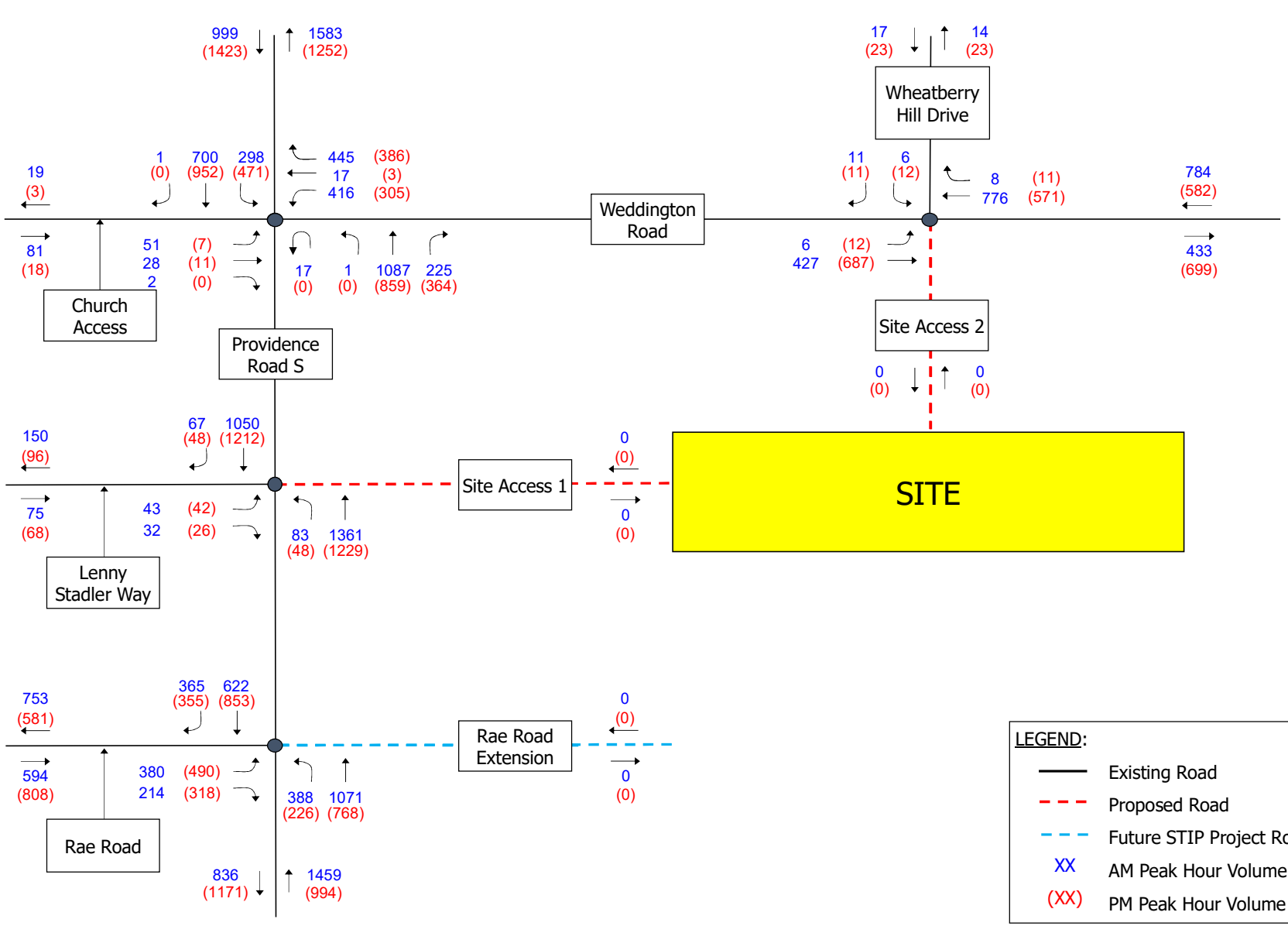
Traffic Impact Analysis
2026 Background Traffic Volumes

Figure 3-1



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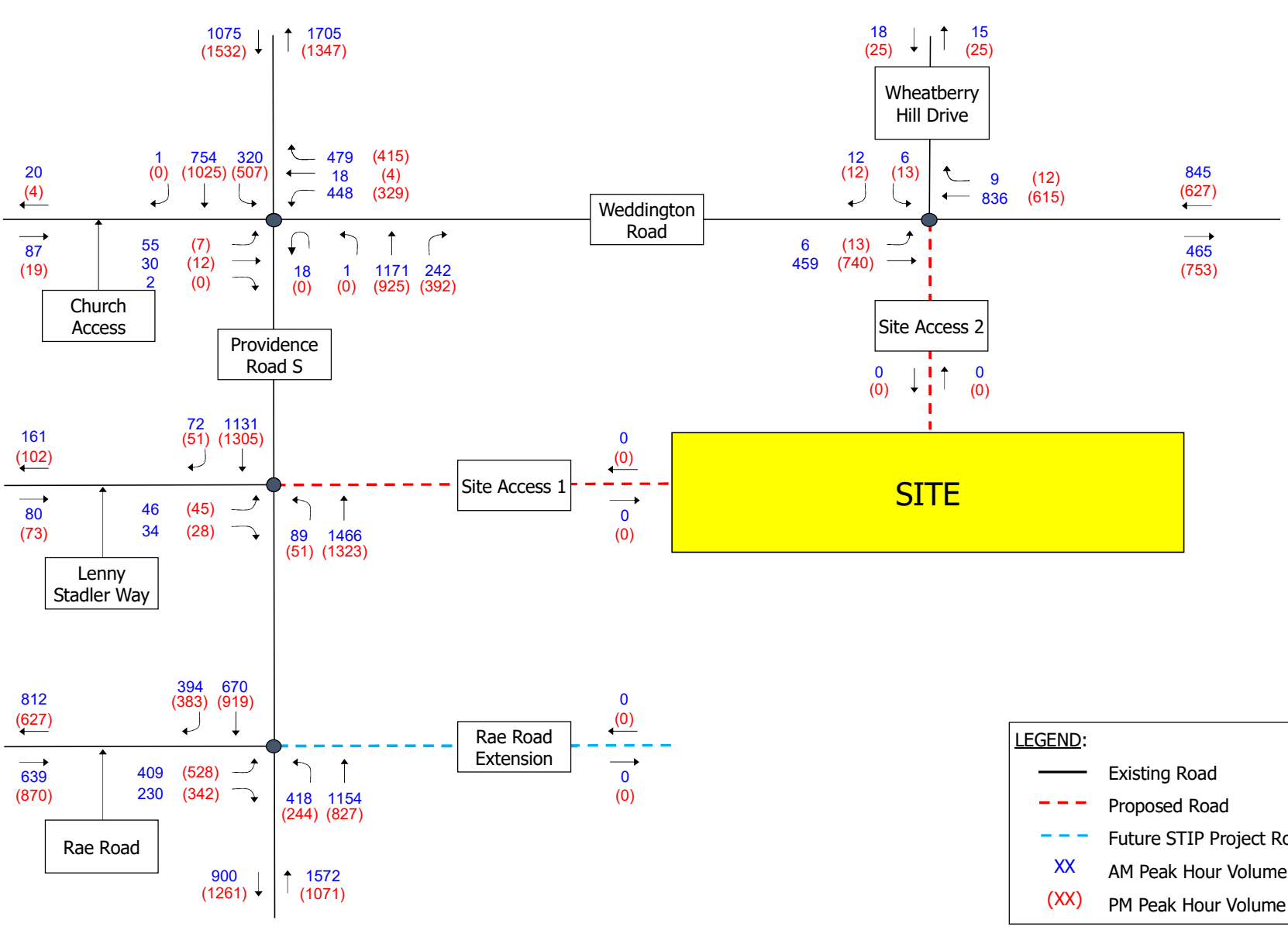
Traffic Impact Analysis
2028 Background Traffic Volumes

Figure 3-2



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Traffic Impact Analysis
2031 Background Traffic Volumes

Figure 3-3

4 SITE TRIP GENERATION AND DISTRIBUTION

Liberty Classical Academy Development site trip were estimated based on the proposed land use and distributed onto the surrounding roadway network.

4.1 TRIP GENERATION

The proposed development site trip generation was determined using the NCDOT's Municipal and School Transportation Assistance's (MSTA) school calculator (see **Appendix F)**. The student populations (600 high school students, 500 middle school students, and 400 elementary school students) were used to estimate the traffic generated during the AM and (school) PM peak hours. It should be noted that the MSTA school calculator provides only the school peaking characteristics. While the AM peak hour trips occur concurrently with the adjacent roadway facilities' AM peak hour, the PM peak hour trips do not. Each school's PM peak hour will occur between 2:00 p.m. – 4:00 p.m., whereas the PM peak hour of the project study area roadway facilities occurs between 4:00 p.m. – 6:00 p.m. For this reason, PM traffic was analyzed during the school PM peak period (2:00 p.m. – 4:00 p.m.). It should be noted that the schools will operate on a staggered bell schedule (45 minutes) and will not overlap.

Per **Table 4-1**, high school AM trips totaled 714 vehicles with 467 vehicles entering and 247 vehicles exiting. The high school PM trips totaled 638 vehicles with 192 vehicles entering and 446 vehicles exiting.

Table 4-1: High School Trip Generation Summary

School	Number of Students	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
High	600 Students	467	247	714	192	446	638

SOURCE: NCDOT's MSTA School Traffic Calculator Version 102816

Per **Table 4-2**, middle school AM trips totaled 629 vehicles with 349 vehicles entering and 280 vehicles exiting. The middle school PM trips totaled 638 with 192 vehicles entering and 446 vehicles exiting.

Table 4-2: Middle School Trip Generation Summary

School	Number of Students	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Middle	500 Students	349	280	629	196	265	461

SOURCE: NCDOT's MSTA School Traffic Calculator Version 102816

Per **Table 4-3**, elementary school AM trips totaled 504 vehicles with 280 vehicles entering and 224 vehicles exiting. The elementary school PM trips totaled 370 with 157 vehicles entering and 213 vehicles exiting.

Table 4-3: Elementary School Trip Generation Summary

School	Number of Students	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Elementary	400 Students	280	224	504	157	213	370

SOURCE: NCDOT's MSTA School Traffic Calculator Version 102816

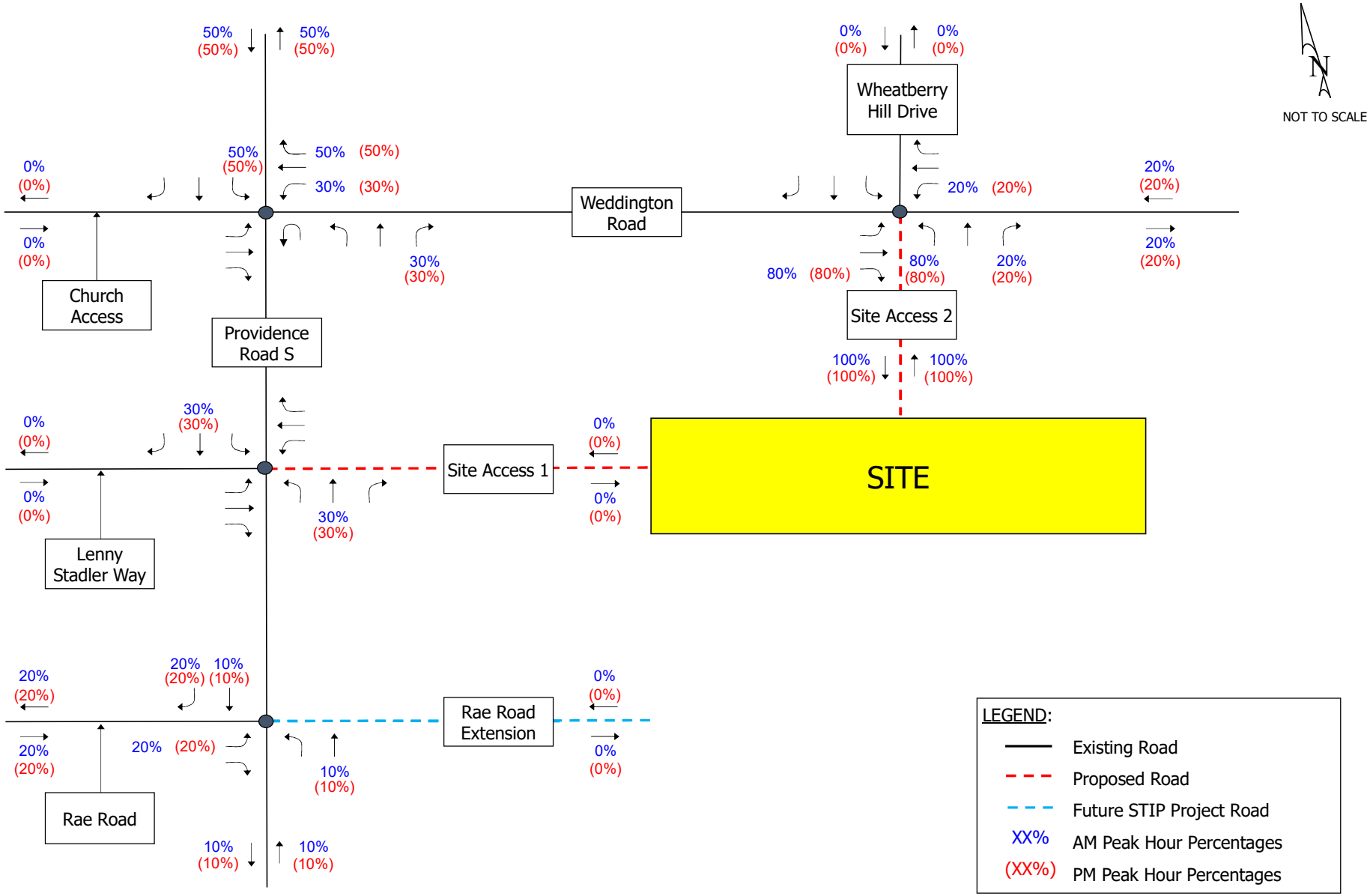
As outlined in the scoping document (see **Appendix A**), proposed high, middle, and elementary school bell schedules will be separated by forty-five (45) minutes. As such, no school trips were included as background for another school during the Build analyses.

4.2 TRIP DISTRIBUTION

All parents and (high school) student drivers will enter and exit the site to/from Weddington Road via Site Access 2. All buses and faculty / staff will enter and exit the subject site to/from Providence Road S via Site Access 1. Proposed high school, middle school, and elementary school on-site traffic operations are shown in **Figures 7-3**, **7-4**, and **7-5**, respectively. For the high school, there is approximately 2,800 feet of on-site queue storage (combination of double and single stack queuing south of the on-site roundabout). With a projected 2,751-feet MSTA queue length for high demand days, adequate on-site storage will be available for queued vehicles. For the middle school, there is approximately 2,800 feet of on-site queue storage (combination of double and single stack queuing south of the on-site roundabout). With a projected 2,769-feet MSTA queue length for high demand days, adequate on-site storage is projected to be available for queued vehicles. For the elementary school, there is approximately 2,478 feet of on-site queue storage (combination of double and single stack queuing south of the short-term parking access). With a projected 2,221 feet MSTA queue length for high demand days, adequate on-site storage is projected to be available for queued vehicles.

The site generated traffic directional traffic patterns, or trip distribution, was determined based on existing traffic patterns and Engineering judgement. The percentages were routed, via shortest path, to and from the proposed development. The following was determined for approaching / departing trips during the analyzed AM and PM peak periods: (1) 50% to/from Providence Road S north of the proposed development, (2) 20% to/from Weddington Road west of the proposed development, (3) 20% to/from Rae Road east of the proposed development, and (4) 10% to/from Providence Road S south of the proposed development (trip distribution percentages were approved by NCDOT and provided in **Appendix A**). The trip distribution percentages were applied to the generated trips to predict routes and project traffic volumes for the school build-out scenarios. **Figure 4-1a** shows the trip distribution percentages for parents and student drivers. **Figure 4-1b** shows the trip distribution percentages for the buses and faculty / staff. **Figures 4-2a**, **4-3a**, and **4-4a** show the high school, middle school, and elementary school parent trip distribution volumes, respectively. **Figures 4-2b**, **4-3b**, and **4-4b** show the high school, middle school, and elementary school faculty / staff trip distribution volumes, respectively. **Figures 4-2c**, **4-3c**, and **4-4c** show the high school, middle school, and elementary school bus trip distribution volumes, respectively. **Figure 4-2d** shows the high school student driver trip distribution volumes. **Figures 4-2e**, **4-3d**, and **4-4d** show the combined high school, middle school, and elementary school trip distribution volumes, respectively. Build traffic volumes were determined by applying the total site trip distribution volumes to the Background traffic volumes (see **Figures 3-1**, **3-2**, and **3-3** for the high school, middle school, and elementary school, respectively). The 2026 high school, 2028 middle school, and 2031 elementary school Build traffic volumes are shown in **Figures 5-1**, **5-2**, and **5-3**, respectively.

School traffic management plans (TMPs) and TMP figures for each school are in **Appendix G**. The document thoroughly describes and depicts each school's onsite traffic flow.



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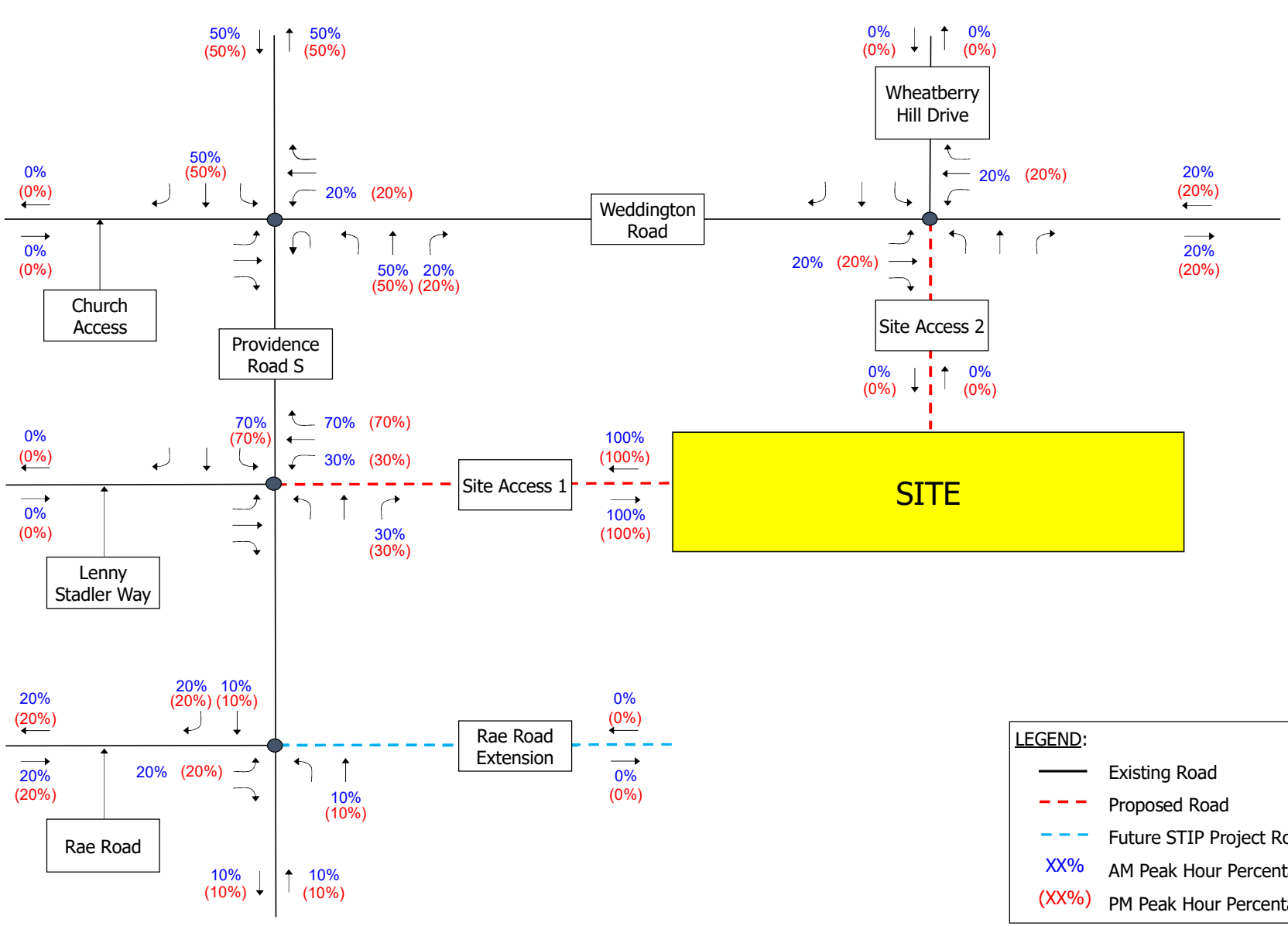
Traffic Impact Analysis

Trip Distribution Percentages - Parents / Student Drivers

Figure 4-1a



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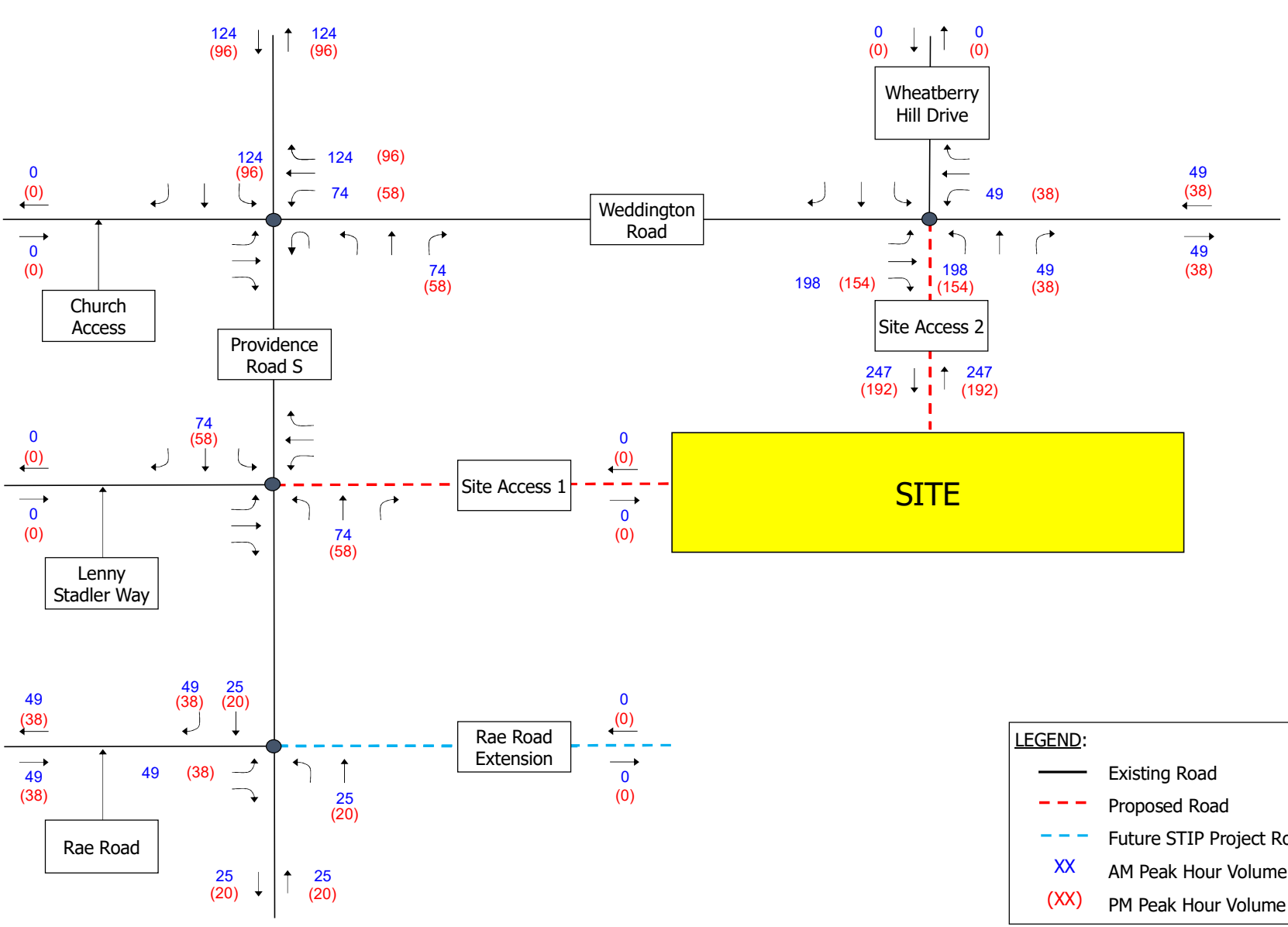
Trip Distribution Percentages -
Buses / Staff

Figure 4-1b



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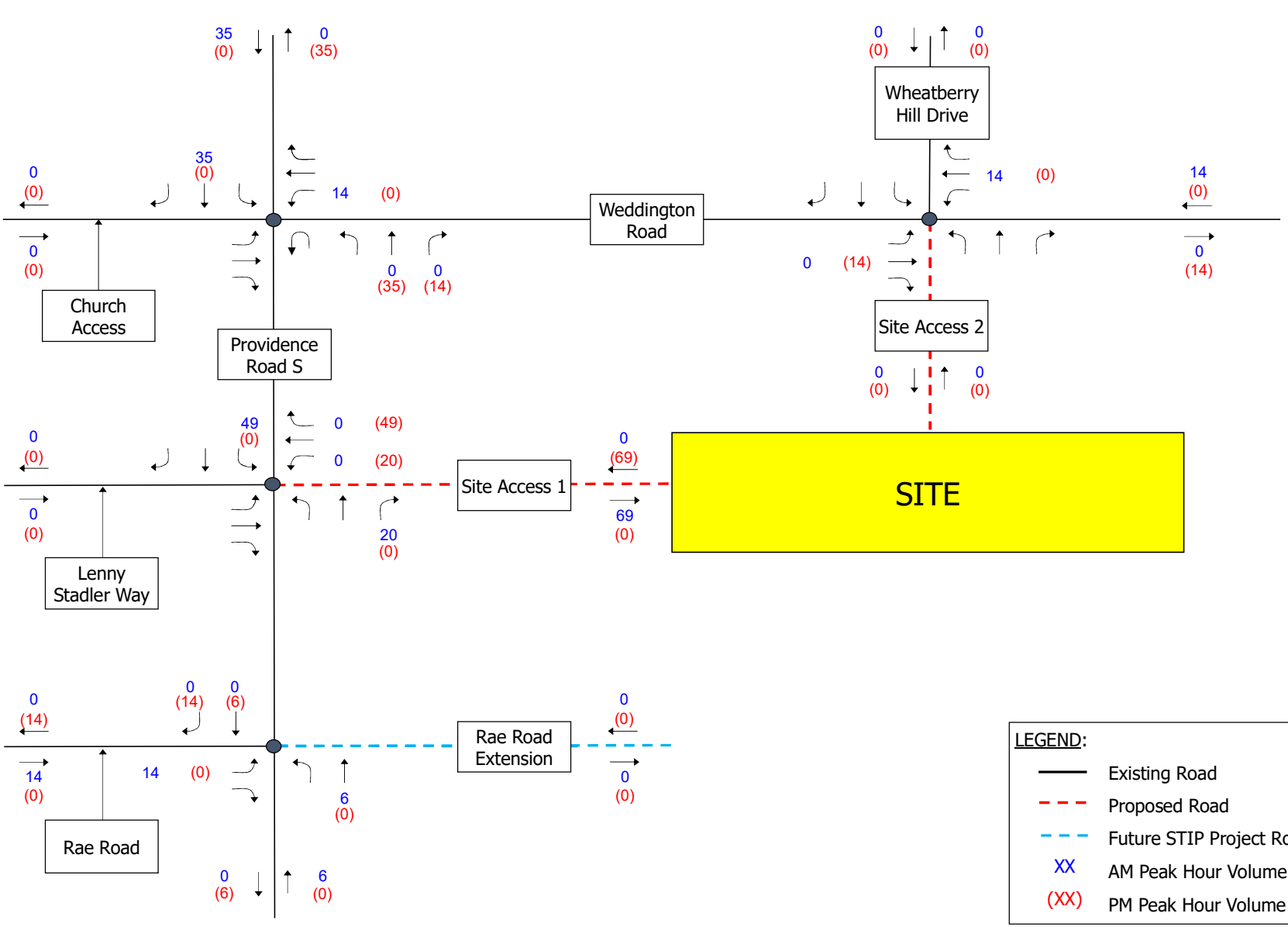
Traffic Impact Analysis

High School Trip Distribution Volumes - Parents

Figure 4-2a



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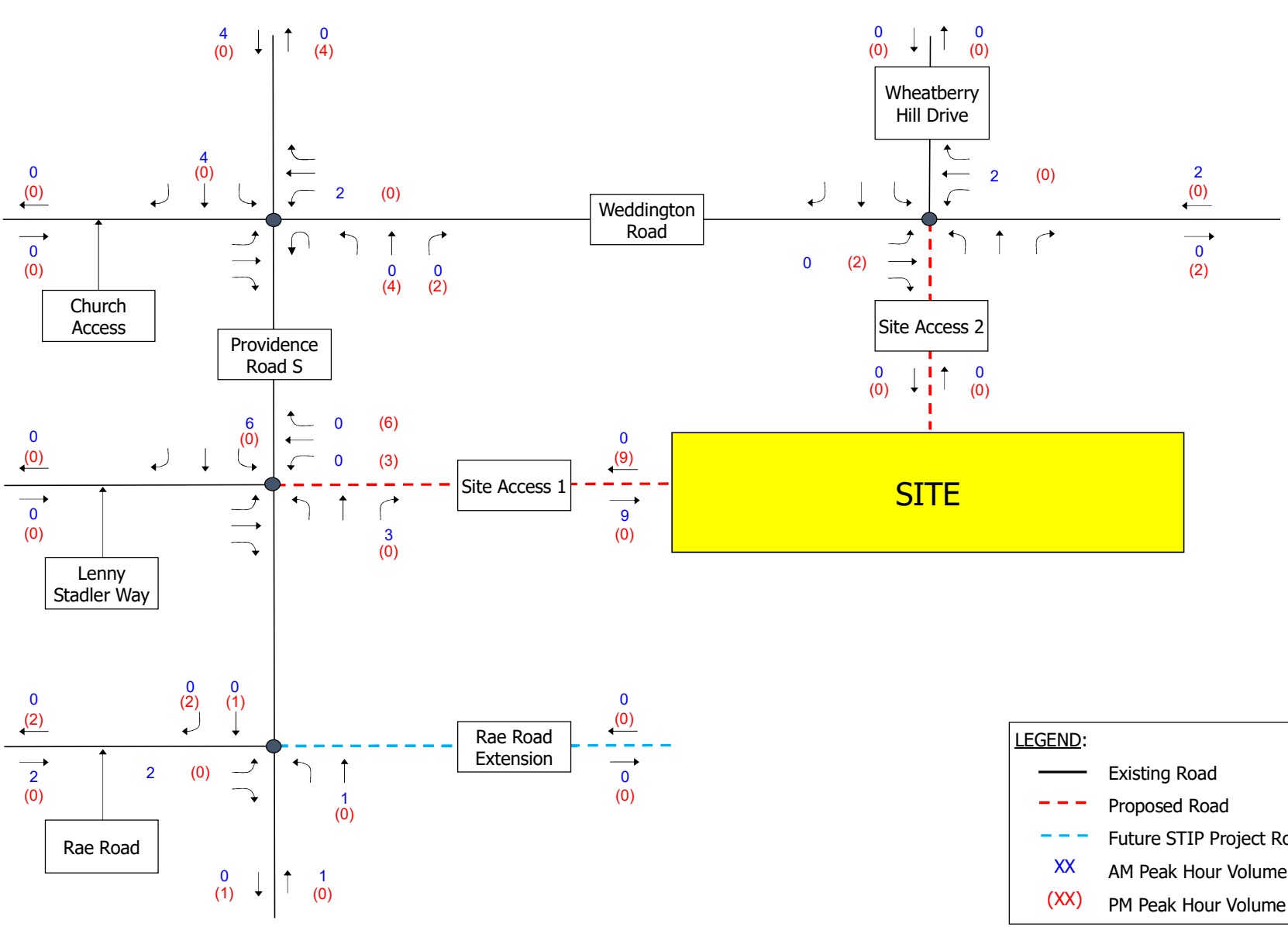
Traffic Impact Analysis
High School Trip Distribution Volumes - Staff

Figure 4-2b



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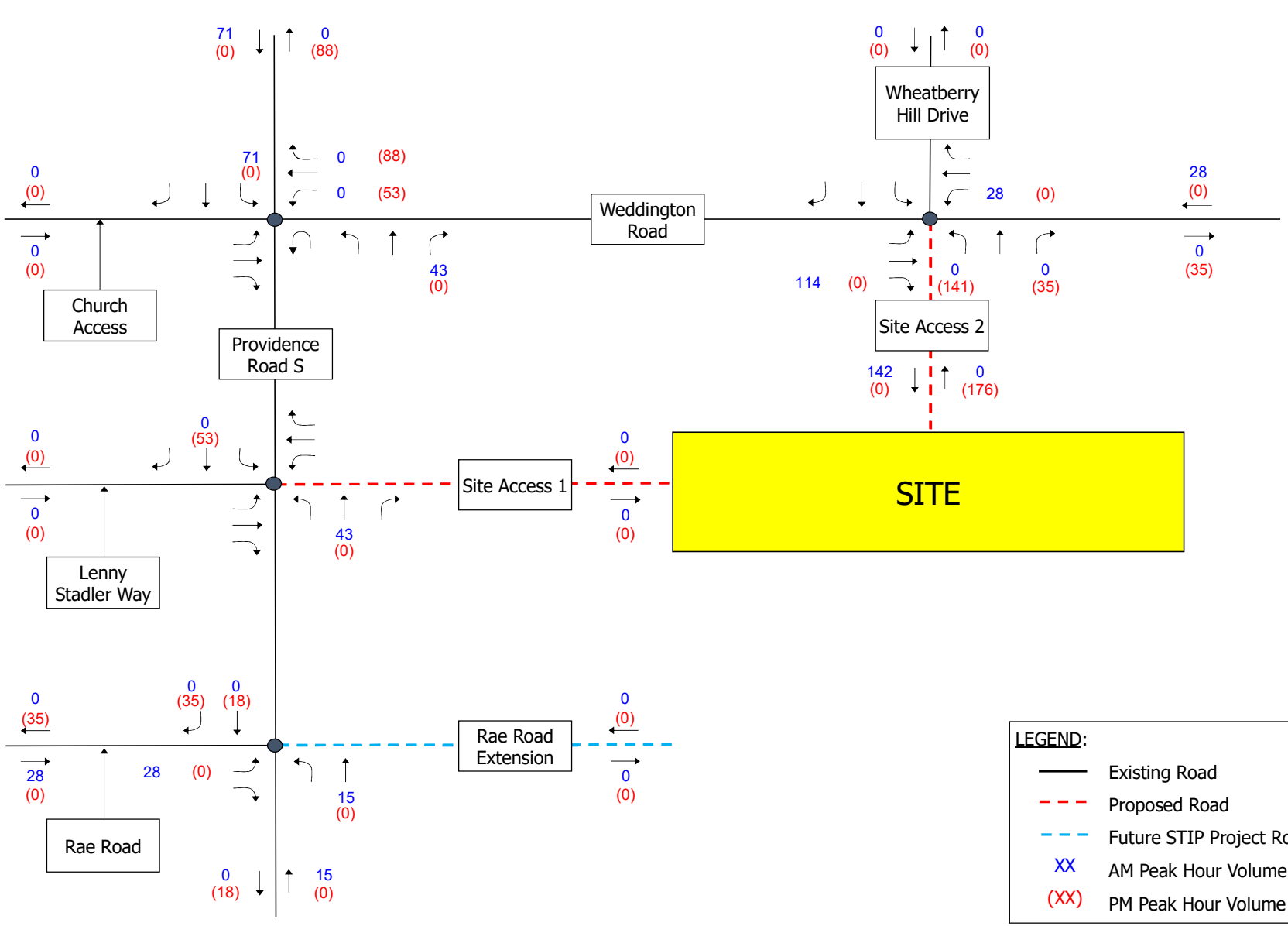
Traffic Impact Analysis
High School Trip Distribution Volumes - Buses

Figure 4-2c



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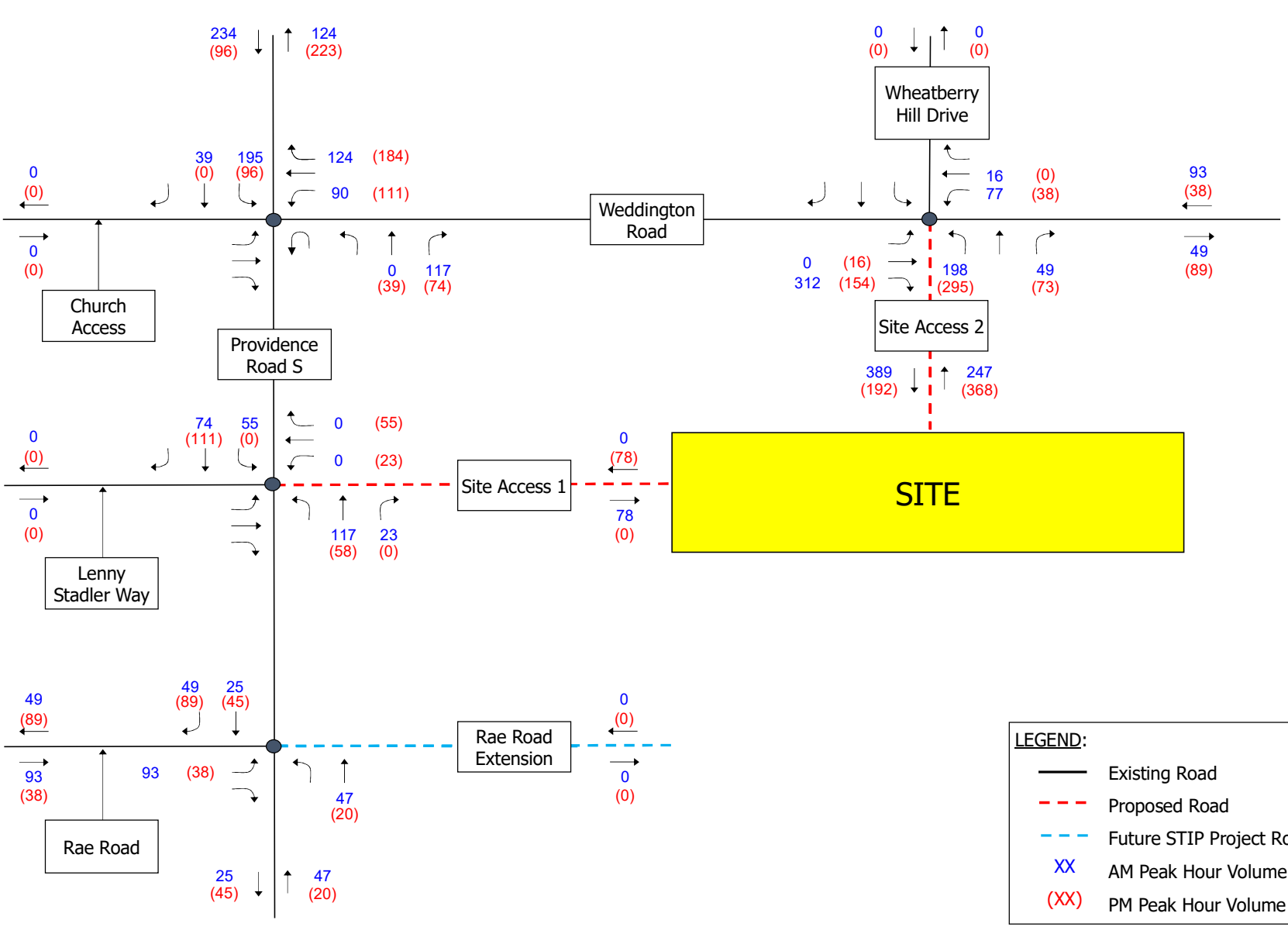
Traffic Impact Analysis
Trip Distribution Volumes - Student Drivers

Figure 4-2d



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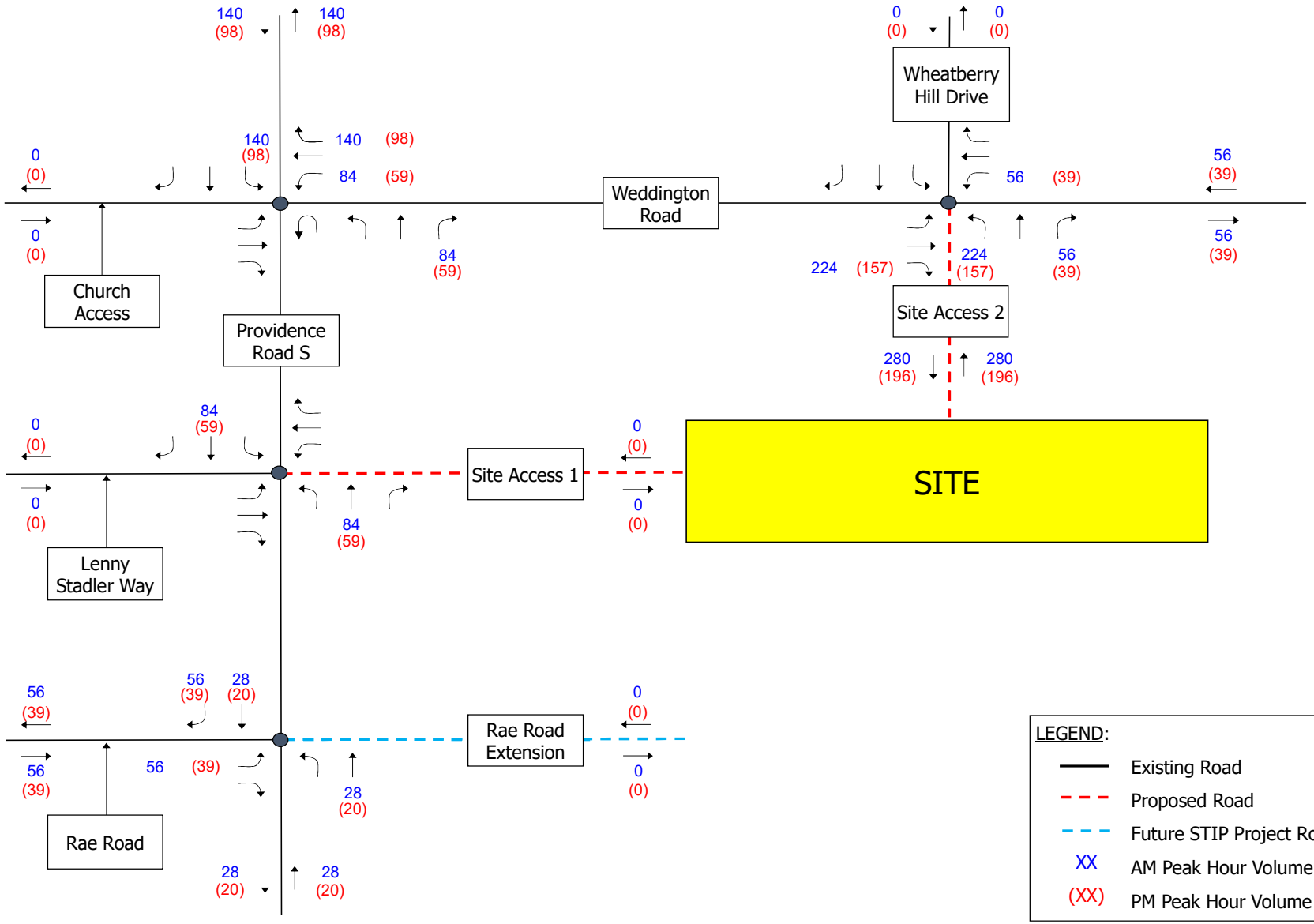
Liberty Classical Academy
Traffic Impact Analysis
High School Combined Trip Distribution Volumes

Figure 4-2e



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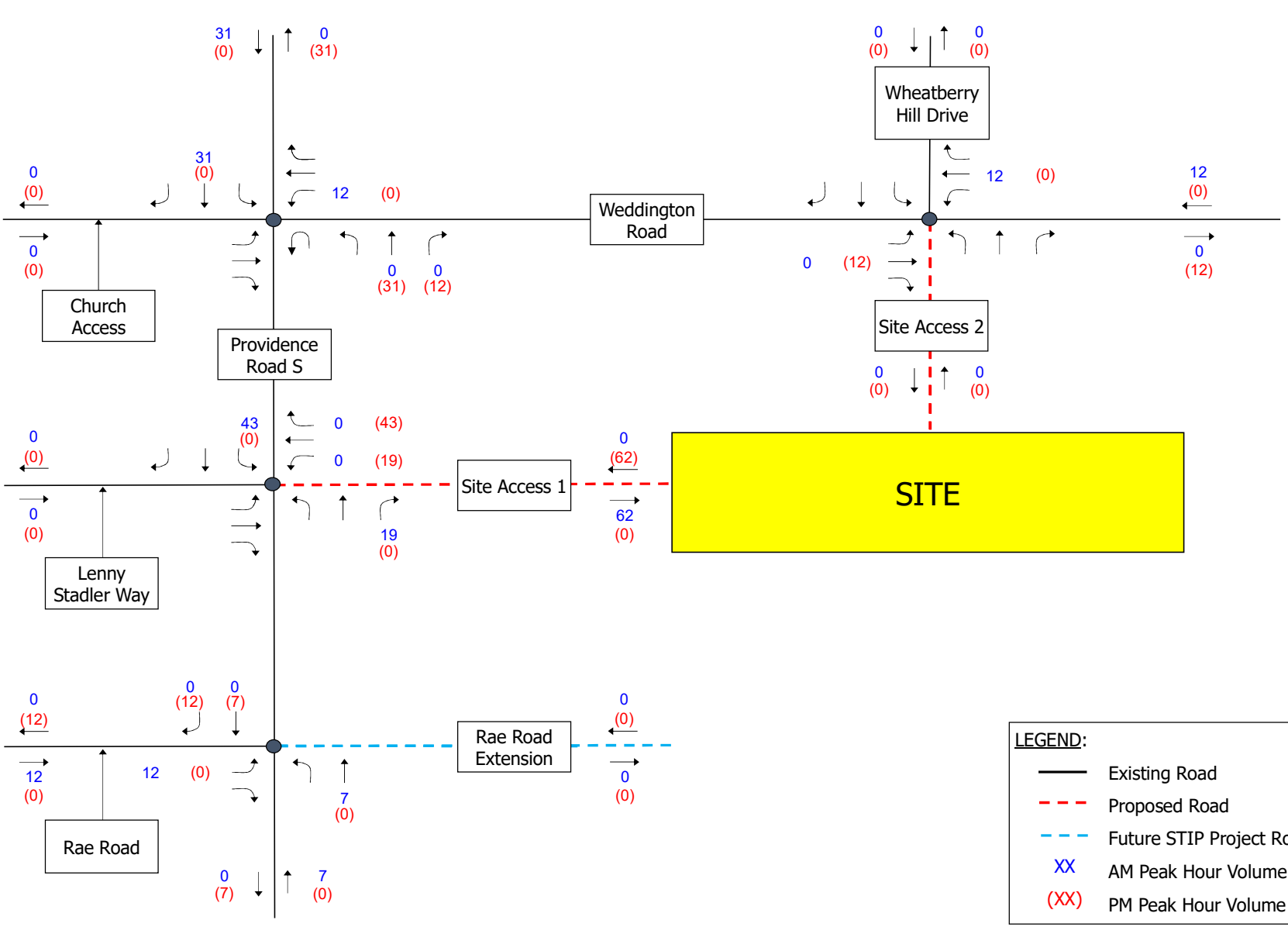
Traffic Impact Analysis
Middle School Trip Distribution Volumes - Parents

Figure 4-3a



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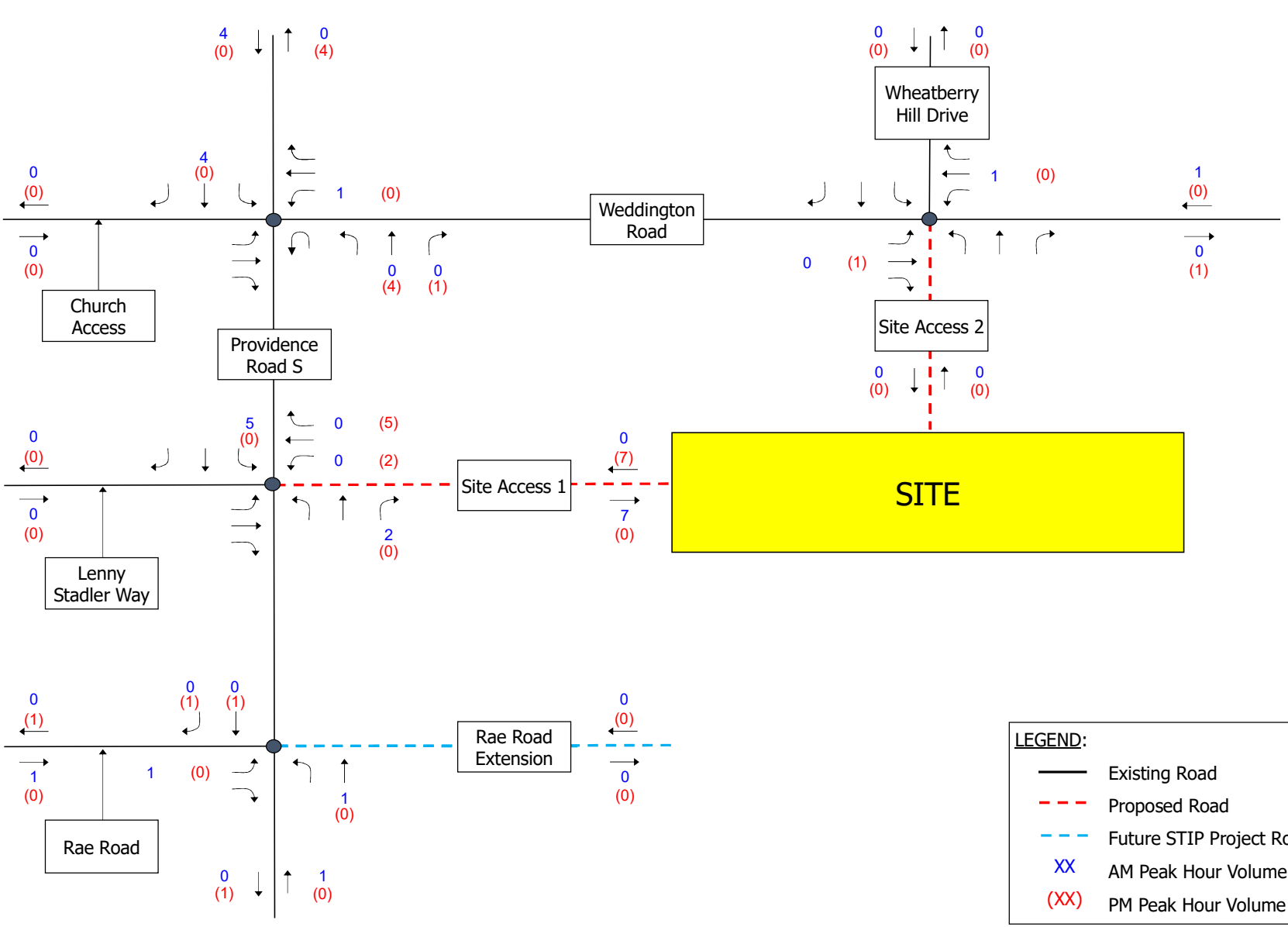
Traffic Impact Analysis
Middle School Trip Distribution Volumes - Staff

Figure 4-3b



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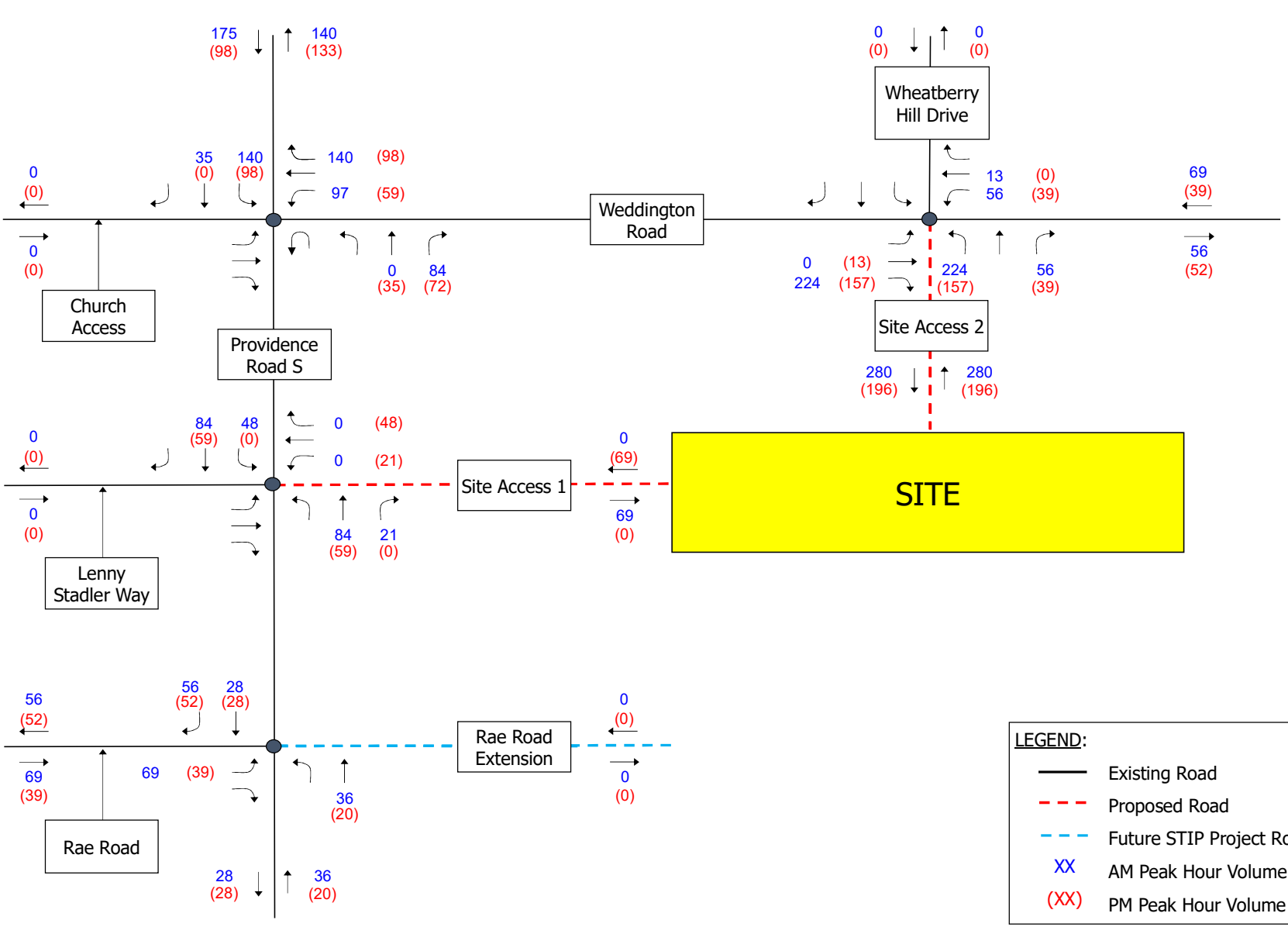
Traffic Impact Analysis
Middle School Trip Distribution Volumes - Buses

Figure 4-3c



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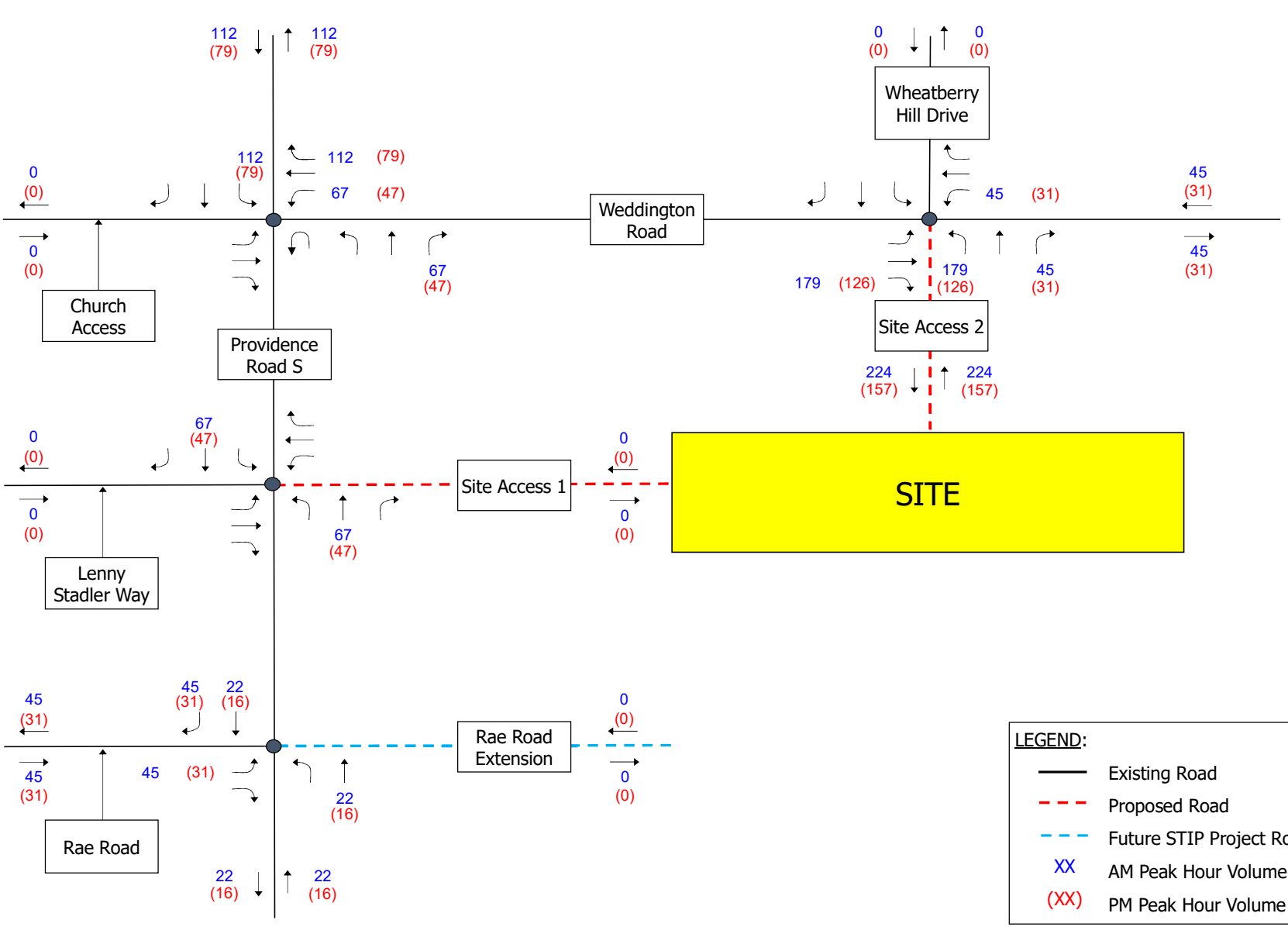
Liberty Classical Academy
Traffic Impact Analysis
Middle School Combined Trip Distribution Volumes

Figure 4-3d



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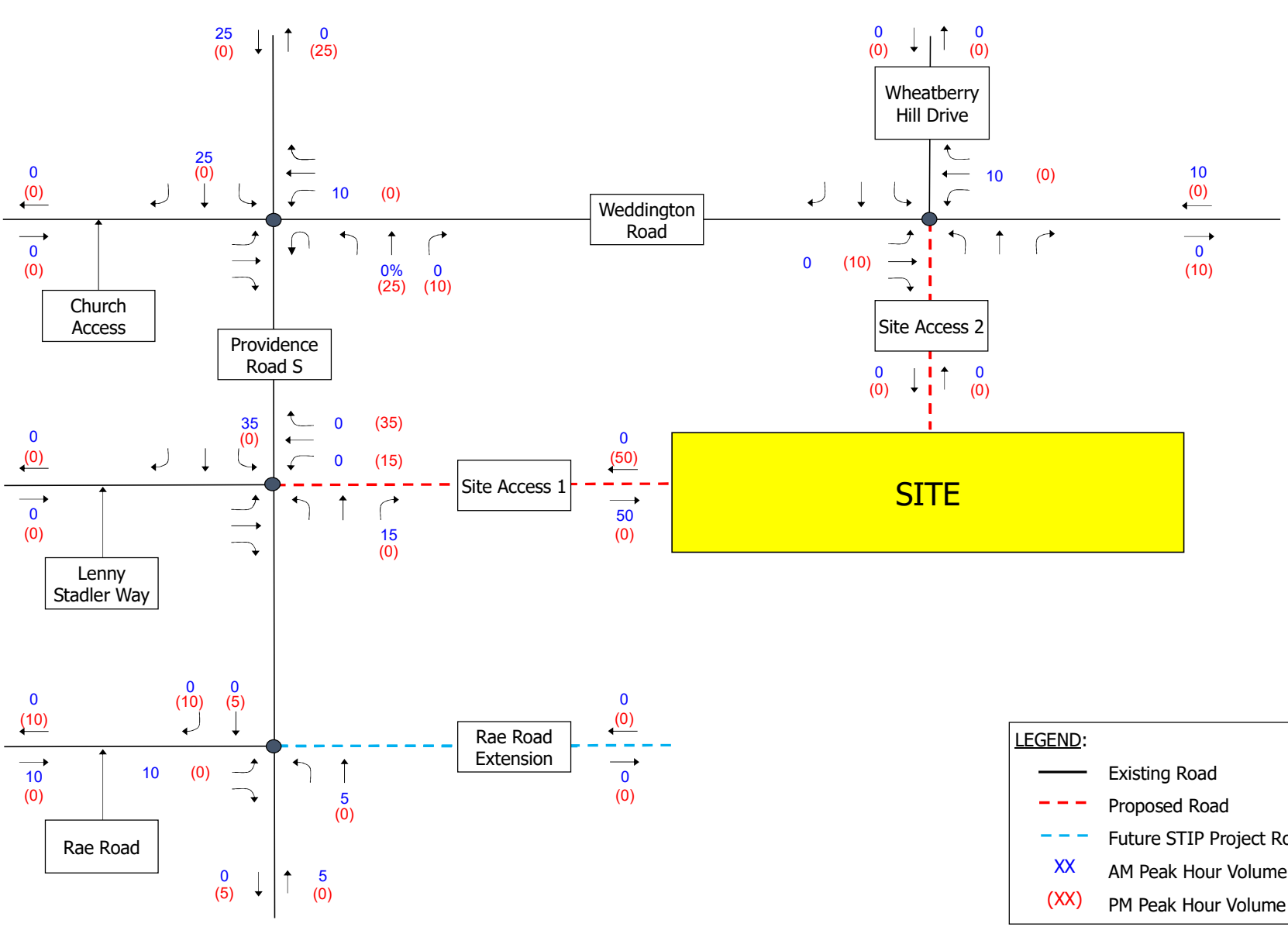
Traffic Impact Analysis

Elementary School Trip Distribution Volumes - Parents

Figure 4-4a



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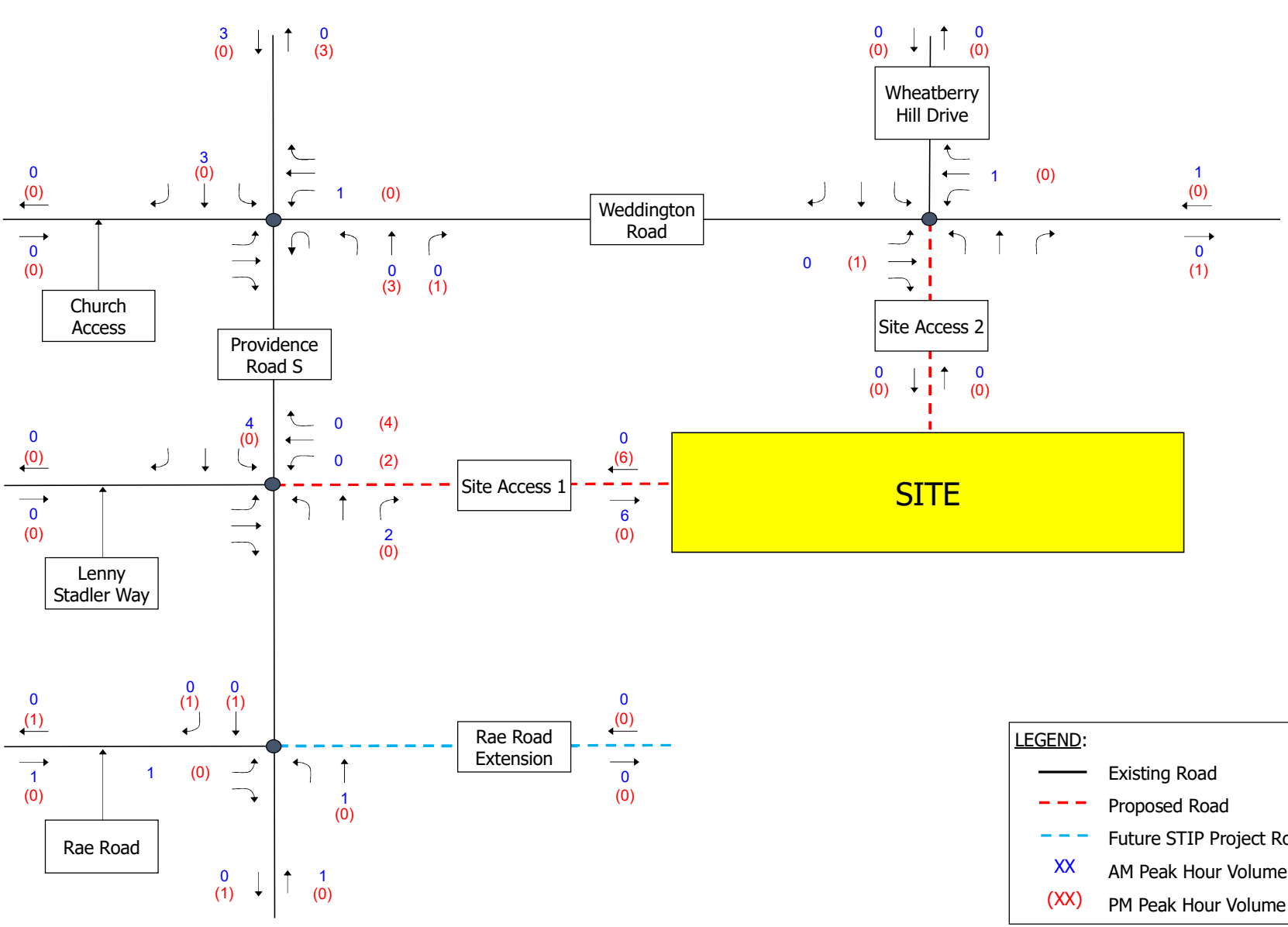
Traffic Impact Analysis
Elementary School Trip Distribution Volumes - Staff

Figure 4-4b



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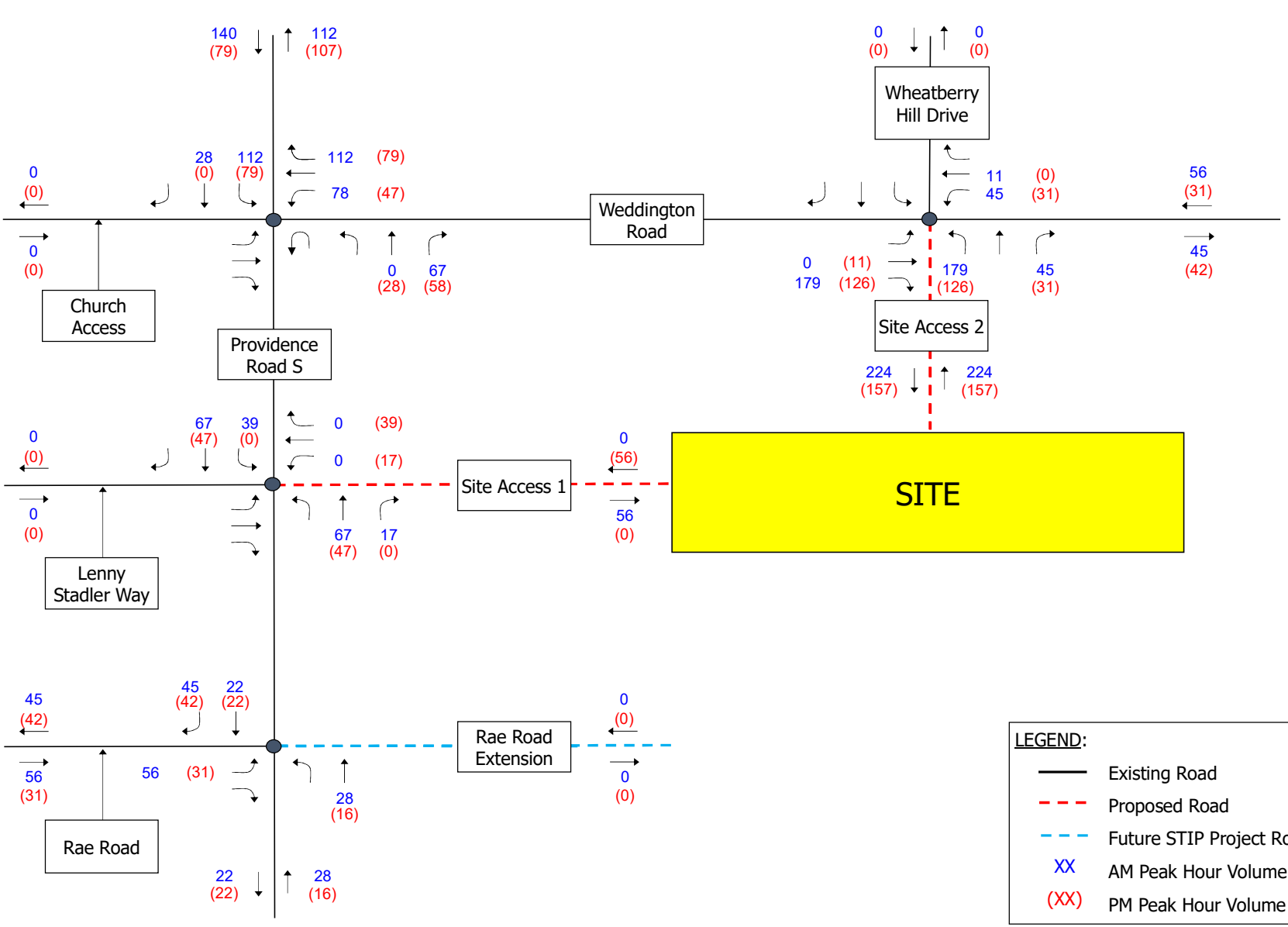
Traffic Impact Analysis
Elementary School Trip Distribution Volumes - Buses

Figure 4-4c



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Liberty Classical Academy
Traffic Impact Analysis
Elementary School Combined Trip Distribution Volumes

Figure 4-4d

5 BUILD CONDITION AND ANALYSIS

To complete the Build analyses (including school site traffic), the estimated school site trips were added to their respective Background traffic volumes. As mentioned earlier, each school was analyzed separately with no overlap (due to the proposed bell spacing). The projected total volumes, along with the existing intersection geometry, were used to complete the capacity analyses.

5.1 BUILD TRAFFIC VOLUMES

The 2026 Background traffic volumes (**Figure 3-1**) were added to the projected high school site trips (**Figure 4-2e**) to generate the 2026 Build (High School) traffic volumes (**Figure 5-1**). The 2028 Background traffic volumes (**Figure 3-2**) were added to the projected middle school site trips (**Figure 4-3d**) to generate the 2028 Build (Middle School) traffic volumes (**Figure 5-2**). The 2031 Background traffic volumes (**Figure 3-3**) were added to the projected elementary school site trips (**Figure 4-4d**) to generate the 2031 Build (Elementary School) traffic volumes (**Figure 5-3**).

To summarize, the Build traffic volumes shown on **Figures 5-1**, **5-2**, and **5-3** contain the following:

- Existing 2023 turning movement traffic count volumes grown exponentially at a 2.5% ambient growth rate; and

- Site trips generated by the subject development (high school, middle school, and elementary school, respectively).

5.2 2026 BUILD ANALYSIS (HIGH SCHOOL)

Table 5-1 summarizes the intersection LOS, delay, 95th percentile queue lengths, and SimTraffic Max Queue Length based on the 2026 High School Build traffic volumes (**Figure 5-1**).

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS D and C during both 2026 Build peak hours. The east and westbound approaches are projected to operate unacceptably during both peak hours. All remaining approaches are projected to operate at a LOS D or better. Because the overall intersection is projected to operate acceptably, no improvements are recommended at this intersection due to the proposed development's construction.

The signalized intersection of Providence Road S / Lenny Stadler Way / Site Access 1 is projected to operate at an overall LOS A during both 2026 Build peak hours. The eastbound approach is projected to operate unacceptably during the AM peak hour. The westbound approach is projected to operate unacceptably during both peak hours. All other approaches are projected to operate at a LOS D or better. To accommodate the construction of Site Access 1 a 100-foot southbound left-turn lane (with appropriate taper) is recommended (see **Figure 7-1**). Following this improvement, the intersection is projected to operate at an overall LOS A during both peak hours (see **Table 5-2**). No additional improvements are recommended at this intersection due to the proposed development's construction.

The signalized intersection of Providence Road S / Rae Road is projected to operate at an overall LOS D during both 2026 Build peak hours. The eastbound approach is projected to operate unacceptably during both peak hours. All remaining approaches are projected to operate at a LOS D or better. Because the overall intersection is projected to operate acceptably and queue lengths can successfully be stored in available turn-lanes, no improvements are recommended at this intersection due to the proposed development's construction. Additionally (as described in **Section 3** above), two STIP projects (U-5769B and U-3467) are planned at this intersection to add additional capacity to each intersection approach.

The north and southbound Site Access 2 / Wheatberry Hill Drive / Weddington Road unsignalized intersection approaches are projected to operate unacceptably during both 2026 Build peak hours. All remaining approaches are projected to operate at a LOS A during both peak hours. To mitigate capacity concerns, it is recommended that the intersection be signalized*. Additionally, construction of a 100-foot westbound left-turn lane (with appropriate taper) and a 150-foot eastbound channelized right-turn lane (with appropriate taper) is recommended (see **Figure 7-1**). Following these improvements, the intersection is projected to operate at an overall LOS C and D during the AM and PM peak hours, respectively (see **Table 5-2**). No additional improvements are recommended at this intersection due to the proposed development's construction.

* Current plans call for the high school and middle school to initially open at partial student capacity. To be conservative, the TIA analyses assumed full high school and middle school student capacities. At full capacity, the subject intersection is projected to meet FHWA signal volume warrants. It is recommended that the intersection be monitored, and the proposed signal be installed when these volume warrants are met. Until such time, the intersection should be controlled by a police officer (hired by the school) during school unloading / loading operation times.

Table 5-1: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2026 Build (High School) Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***147.6***	***F***	#189	137	***57.6***	***E***	45	60
	EB Approach		***147.6***	***F***	--	--	***57.6***	***E***	--	--
	WB Left	550	***107.1***	***F***	#422	185	***91.7***	***F***	#303	176
	WB Left/Thru		***109.7***	***F***	#492	214	***94.8***	***F***	#387	259
	WB Right	325	48.8	D	#481	293	41.9	D	361	347
	WB Approach		***77.0***	***E***	--	--	***63.3***	***E***	--	--
	NB Left	550	54.1	D	m28	128	46.5	D	m6	28
	NB Thru		51.7	D	#658	615	34.4	C	#495	371
	NB Right	450	12.7	B	171	456	17.4	B	272	303
	NB Approach		41.1	D	--	--	28.6	C	--	--
	SB Dual Lefts	450	43.7	D	168	335	31.4	C	164	282
	SB Thru/Right		13.3	B	198	200	10.9	B	250	207
	SB Approach		26.8	C	--	--	18.9	B	--	--
	Overall		48.9	D	--	--	34.8	C	--	--
2: Providence Road S & Lenny Stadler Way/Site Access 1	EB Left/Thru		***68.4***	***E***	47	122	48.4	D	40	92
	EB Right	50	47.9	D	55	79	34.9	C	40	68
	EB Approach		***60.6***	***E***	--	--	43.7	D	--	--
	WB Left/Thru		***59.1***	***E***	20	64	51.6	D	41	32
	WB Right	425	***56.8***	***E***	13	38	***59.1***	***E***	72	63
	WB Approach		***58.3***	***E***	--	--	***56.6***	***E***	--	--
	NB Left	325	5.0	A	m20	79	5.0	A	m10	58
	NB Thru/Right		2.1	A	140	399	2.7	A	m96	157
	NB Approach		2.3	A	--	--	2.8	A	--	--
	SB Left/Thru/Right		13.0	B	m459	282	6.5	A	m188	193
	SB Approach		13.0	B	--	--	6.5	A	--	--
	Overall		8.9	A	--	--	8.3	A	--	--
3: Providence Road S & Rae Road	EB Left		***69.6***	***E***	#573	654	***102.6***	***F***	#685	1236
	EB Right		20.4	C	167	178	29.4	C	281	1108
	EB Approach		***55.3***	***E***	--	--	***75.7***	***E***	--	--
	NB Dual Lefts	450	***80.0***	***F***	#277	333	***102.3***	***F***	#178	279
	NB Thru		18.4	B	389	340	12.2	B	200	210
	NB Approach		34.0	C	--	--	32.1	C	--	--
	SB Thru		46.1	D	#771	413	***59.8***	***E***	#1005	673
	SB Right		2.2	A	42	138	1.6	A	35	285
	SB Approach		28.6	C	--	--	39.4	D	--	--
	Overall		36.9	D	--	--	46.7	D	--	--
4: Site Access 2/Wheatberry Hill Drive & Weddington Road	EB Left	125	9.6	A	0	5	8.8	A	0	21
	EB Thru/Right		0.0	A	0	478	0.0	A	0	627
	EB Approach		0.0	A	--	--	0.1	A	--	--
	WB Left/Thru		0.0	A	0	1228	0.0	A	0	906
	WB Right	125	0.0	A	0	112	0.0	A	0	133
	WB Approach		1.9	A	--	--	1.2	A	--	--
	NB Left/Thru/Right		***7885.2***	***F***	62.3	1051	***4821.1***	***F***	88	1051
	NB Approach		***7885.2***	***F***	--	--	***4821.1***	***F***	--	--
	SB Left/Thru/Right		***212.2***	***F***	2.4	307	***142.9***	***F***	2.5	246
	SB Approach		***212.2***	***F***	--	--	***142.9***	***F***	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

Table 5-2: Intersection Level of Service, Delay and 95th Percentile Queue Summary 2026 Build + Improvements (High School) Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
2: Providence Road S & Lenny Stadler Way/Site Access 1	EB Left/Thru		***68.4***	***E***	47	124	48.4	D	40	106
	EB Right	50	47.9	D	55	102	34.9	C	40	65
	EB Approach		***60.6***	***E***	--	--	43.7	D	--	--
	WB Left/Thru		***59.1***	***E***	20	53	51.6	D	41	101
	WB Right	425	***56.8***	***E***	13	42	***59.1***	***E***	72	184
	WB Approach		***58.3***	***E***	--	--	***56.6***	***E***	--	--
	NB Left	325	3.9	A	m19	156	4.9	A	m10	63
	NB Thru/Right		2.1	A	140	388	2.7	A	m96	182
	NB Approach		2.2	A	--	--	2.8	A	--	--
	SB Left	100	11.1	B	9	138	4.2	A	m1	31
	SB Thru/Right		2.5	A	m66	167	5.7	A	m158	236
	SB Approach		3.2	A	--	--	5.7	A	--	--
	Overall		4.6	A	--	--	7.9	A	--	--
4: Site Access 2/Wheatberry Hill Drive & Weddington Road	EB Left	125	7.6	A	m2	50	13.8	B	m8	164
	EB Thru		9.9	A	m285	379	33.2	C	#729	937
	EB Right	150	1.4	A	0	248	0.2	A	0	250
	EB Approach		5.0	A	--	--	23.5	C	--	--
	WB Left	100	18.5	B	60	199	***135.8***	***F***	#59	199
	WB Thru		28.9	C	782	604	31.7	C	507	519
	WB Right	125	13.8	B	12	71	17.9	B	16	97
	WB Approach		27.2	C	--	--	42.9	D	--	--
	NB Left/Thru		***65.0***	***E***	199	474	***68.7***	***E***	244	755
	NB Right	100	30.7	C	52	200	20.4	C	57	200
	NB Approach		***58.3***	***E***	--	--	***59.2***	***E***	--	--
	SB Left/Thru/Right		27.7	C	19	71	18.4	B	18	48
	SB Approach		27.7	C	--	--	18.4	B	--	--
	Overall		24.0	C	--	--	39.2	D	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

5.3 2028 BUILD ANALYSIS (MIDDLE SCHOOL)

Table 5-3 summarizes the intersection LOS, delay, 95th percentile queue lengths, and SimTraffic Max Queue Length based on the 2028 Middle School Build traffic volumes (shown on **Figure 5-2**).

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS E and C during the 2028 Build AM and PM peak hours, respectively. The east and westbound approaches are projected to operate unacceptably during both peak hours. The northbound approach is projected to operate unacceptably during the AM peak hour. All remaining approaches are projected to operate at a LOS D or better. Currently this intersection includes turn-lanes in all approaches with lengthy storage. Each intersection quadrant includes viable businesses or developments constructed in close proximity to the roadway. Any recommended geometric improvements would significantly impact existing area development. Because of this, no improvements are recommended at this intersection due to the proposed development's construction.

The signalized intersection of Providence Road S / Lenny Stadler Way / Site Access 1 is projected to operate at an overall LOS B during both 2028 Build peak hours. The east and westbound approaches are projected to operate unacceptably during the AM peak hour, and the westbound approach is projected to operate unacceptably during the PM peak hour. All other approaches are projected to operate at a LOS D or better for both AM and PM peak hours. Following the improvement discussed in **Section 5.1** (shown

in **Figure 7-1**), the intersection is projected to operate at an overall LOS A and B during the AM and PM peak hours, respectively (see **Table 5-4**). No additional improvements are recommended at this intersection due to the proposed development's construction.

The signalized intersection of Providence Road S / Rae Road is projected to operate at an overall LOS D during both the 2028 Build AM and PM peak hours. The eastbound approach is projected to operate unacceptably during both peak hours. All other approaches are projected to operate at a LOS D or better. As described in **Section 3** above), two STIP projects (U-5769B and U-3467) are planned at this intersection to add additional capacity to each intersection approach. Additionally, queue lengths can successfully be stored in available turn-lanes. Because of these factors, no improvements are recommended at this intersection due to the proposed development's construction.

The north and southbound Site Access 2 / Wheatberry Hill Drive / Weddington Road unsignalized intersection approaches are projected to operate unacceptably during both 2028 Build peak hours. All remaining approaches are projected to operate at a LOS A during both peak hours. Following the improvements discussed in **Section 5.1** (shown in **Figure 7-1**), this intersection is projected to operate at an overall LOS C and B during the AM and PM peak hours, respectively. (see **Table 5-4**). No additional improvements are recommended at this intersection due to the proposed development's construction.

Table 5-3: Intersection Level of Service, Delay and 95th Percentile Queue Summary 2028 Build (Middle School) Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***164.3***	***F***	#202	158	***57.8***	***E***	46	58
	EB Approach		***164.3***	***F***	--	--	***57.8***	***E***	--	--
	WB Left	550	***119.7***	***F***	#449	278	***74.0***	***E***	#270	294
	WB Left/Thru		***123.7***	***F***	#534	354	***75.8***	***E***	#317	426
	WB Right	325	***62.1***	***E***	#482	390	35.8	D	453	413
	WB Approach		***90.1***	***F***	--	--	52.5	D	--	--
	NB Left	550	52.9	D	m29	417	51.8	D	m6	30
	NB Thru		***71.9***	***E***	#732	997	25.4	C	367	327
	NB Right	450	11.9	B	152	550	9.1	A	137	294
	NB Approach		***57.1***	***E***	--	--	19.9	B	--	--
	SB Dual Lefts	450	34.9	C	144	308	45.6	D	287	442
	SB Thru/Right		14.1	B	210	206	10.9	B	265	359
	SB Approach		22.5	C	--	--	24.5	C	--	--
	Overall		***58.5***	***E***	--	--	29.7	C	--	--
2: Providence Road S & Lenny Stadler Way/Site Access 1	EB Left/Thru		***68.6***	***E***	49	107	51.0	D	42	106
	EB Right	50	43.1	D	55	78	34.6	C	41	60
	EB Approach		***58.6***	***E***	--	--	45.3	D	--	--
	WB Left/Thru		***58.9***	***E***	20	43	53.0	D	40	64
	WB Right	425	***56.5***	***E***	13	37	***59.5***	***E***	66	121
	WB Approach		***58.1***	***E***	--	--	***57.3***	***E***	--	--
	NB Left	325	***72.1***	***E***	m123	268	54.4	D	m56	87
	NB Thru/Right		2.2	A	150	791	8.2	A	m375	208
	NB Approach		5.8	A	--	--	9.8	A	--	--
	SB Left/Thru/Right		18.2	B	m#716	421	9.3	A	311	209
	SB Approach		18.2	B	--	--	9.3	A	--	--
	Overall		13.1	B	--	--	12.6	B	--	--
3: Providence Road S & Rae Road	EB Left		***74.7***	***E***	#600	765	***103.5***	***F***	#712	1228
	EB Right		21.7	C	180	302	28.3	C	288	981
	EB Approach		***58.4***	***E***	--	--	***75.9***	***E***	--	--
	NB Dual Lefts	450	***79.6***	***E***	#286	314	***107.1***	***F***	#188	280
	NB Thru		17.1	B	387	301	13.4	B	220	220
	NB Approach		33.2	C	--	--	34.1	C	--	--
	SB Thru		45.1	D	m#679	612	***74.4***	***E***	#1108	1150
	SB Right		2.0	A	m40	208	1.8	A	42	865
	SB Approach		27.8	C	--	--	50.6	D	--	--
	Overall		36.7	D	--	--	52.1	D	--	--
4: Site Access 2/Wheatberry Hill Drive & Weddington Road	EB Left	125	9.8	A	0	25	8.9	A	0	29
	EB Thru/Right		0.0	A	0	900	0.0	A	0	367
	EB Approach		0.1	A	--	--	0.1	A	--	--
	WB Left/Thru		0.0	A	0	1214	0.0	A	0	1111
	WB Right	125	0.0	A	0	22	0.0	A	0	135
	WB Approach		1.2	A	--	--	1.2	A	--	--
	NB Left/Thru/Right		***5533.2***	***F***	68.6	1051	***2847.8***	***F***	46.1	1048
	NB Approach		***5533.2***	***F***	--	--	***2847.8***	***F***	--	--
	SB Left/Thru/Right		***121.7***	***F***	1.9	254	***120.4***	***F***	2.2	313
	SB Approach		***121.7***	***F***	--	--	***120.4***	***F***	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

Table 5-4: Intersection Level of Service, Delay and 95th Percentile Queue Summary 2028 Build + Improvements (Middle School) Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
2: Providence Road S & Lenny Stadler Way/Site Access 1	EB Left/Thru		***68.6***	***E***	49	112	51.0	D	42	91
	EB Right	50	43.1	D	55	81	34.6	C	41	62
	EB Approach		***58.6***	***E***	--	--	45.3	D	--	--
	WB Left/Thru		***58.9***	***E***	20	58	53.0	D	40	88
	WB Right	425	***56.5***	***E***	13	39	***59.5***	***E***	66	153
	WB Approach		***58.1***	***E***	--	--	***57.3***	***E***	--	--
	NB Left	325	***72.1***	***E***	m123	311	54.4	D	m56	98
	NB Thru/Right		2.2	A	150	788	8.2	A	m375	198
	NB Approach		5.8	A	--	--	9.8	A	--	--
	SB Left	100	10.3	B	m9	123	4.8	A	m3	30
	SB Thru/Right		3.8	A	m76	184	8.5	A	309	200
	SB Approach		4.3	A	--	--	8.5	A	--	--
	Overall		7.0	A	--	--	12.2	B	--	--
4: Site Access 2/Wheatberry Hill Drive & Weddington Road	EB Left	125	10.5	B	m4	37	4.8	A	m3	52
	EB Thru		12.4	B	m315	338	9.7	A	255	407
	EB Right	150	0.3	A	0	249	0.2	A	0	250
	EB Approach		6.6	A	--	--	7.0	A	--	--
	WB Left	100	19.3	B	47	199	16.7	B	32	159
	WB Thru		36.5	D	#943	837	16.4	B	434	354
	WB Right	125	14.9	B	13	28	11.0	B	13	77
	WB Approach		34.4	C	--	--	16.3	B	--	--
	NB Left/Thru		***67.1***	***E***	222	490	***58.1***	***E***	146	427
	NB Right	100	28.8	C	57	200	30.3	C	41	200
	NB Approach		***59.6***	***E***	--	--	52.7	D	--	--
	SB Left/Thru/Right		26.0	C	20	70	28.1	C	22	65
	SB Approach		26.0	C	--	--	28.1	C	--	--
	Overall		29.7	C	--	--	18.3	B	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

5.4 2031 BUILD ANALYSIS (ELEMENTARY SCHOOL)

Table 5-5 summarizes the intersection LOS, delay, 95th percentile queue lengths, and SimTraffic Max Queue Length based on the 2031 Elementary School Build traffic volumes (shown on **Figure 5-3**).

The signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS E and C during the 2031 Build AM and PM peak hours, respectively. The east and westbound approaches are both projected to operate unacceptably during both peak hours. All remaining approaches are projected to operate at a LOS D or better. As previously stated, each intersection quadrant includes viable businesses or developments constructed in close proximity to the roadway. Any recommended geometric improvements would significantly impact existing area development. Because of this, no improvements are recommended at this intersection due to the proposed development's construction.

The signalized intersection of Providence Road S / Lenny Stadler Way / Site Access 1 is projected to operate at an overall LOS B and A during the AM and PM 2031 Build peak hours, respectively. The eastbound approach is projected to operate unacceptably during the AM peak hour. The westbound approach is projected to operate unacceptably during both peak hours. All remaining approaches are projected to operate at a LOS D or better. Following the improvement discussed in **Section 5.1** (shown

in **Figure 7-1**), the intersection is projected to operate at an overall LOS A during both the AM and PM peak hours. (see **Table 5-6**). No additional improvements are recommended at this intersection due to the proposed development's construction.

The signalized intersection of Providence Road S / Rae Road is projected to operate at an overall LOS D and E during the 2031 Build AM and PM peak hours, respectively. The eastbound approach is projected to operate unacceptably during both peak hours, and the southbound approach is projected to operate unacceptably during the PM peak hour. All remaining approaches are projected to operate at a LOS D or better. As described in **Section 3** above), two STIP projects (U-5769B and U-3467) are planned at this intersection to add additional capacity to each intersection approach. Additionally, queue lengths can successfully be stored in available turn-lanes. Because of these factors, no improvements are recommended at this intersection due to the proposed development's construction.

The north and southbound Site Access 2 / Wheatberry Hill Drive / Weddington Road unsignalized intersection approaches are projected to operate unacceptably during both 2031 Build peak hours. All remaining approaches are projected to operate at a LOS A during both peak hours. Following the improvements discussed in **Section 5.1** (shown in **Figure 7-1**), this intersection is projected to operate at an overall LOS C and B during the AM and PM peak hours, respectively. Except for the northbound approach during both peak hours, all approaches are projected to operate at a LOS D or better (see **Table 5-6**). No additional improvements are recommended at this intersection due to the proposed development's construction.

Table 5-5: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2031 Build (Elementary School) Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
1: Providence Road S & Church Parking Lot/Weddington Road	EB Left/Thru/Right		***229.0***	***F***	#226	174	***58.1***	***E***	48	47
	EB Approach		***229.0***	***F***	--	--	***58.1***	***E***	--	--
	WB Left	550	***147.1***	***F***	#496	506	***85.9***	***F***	#300	240
	WB Left/Thru		***139.2***	***F***	#540	611	***88.1***	***F***	#335	302
	WB Right	325	***78.2***	***E***	#555	418	36.2	D	#365	375
	WB Approach		***108.9***	***F***	--	--	***58.1***	***E***	--	--
	NB Left	550	53.3	D	m30	474	46.2	D	m5	24
	NB Thru		***59.8***	***E***	#763	963	28.3	C	#449	394
	NB Right	450	14.1	B	175	549	13.1	B	283	290
	NB Approach		49.5	D	--	--	23.3	C	--	--
	SB Dual Lefts	450	36.8	D	145	288	46.6	D	203	342
	SB Thru/Right		13.0	B	214	217	11.2	B	303	214
	SB Approach		22.0	C	--	--	24.5	C	--	--
	Overall		***62.5***	***E***	--	--	32.0	C	--	--
2: Providence Road S & Lenny Stadler Way/Site Access 1	EB Left/Thru		***69.2***	***E***	51	164	53.6	D	45	103
	EB Right	50	43.5	D	58	108	34.5	C	43	65
	EB Approach		***59.1***	***E***	--	--	47.0	D	--	--
	WB Left/Thru		***58.6***	***E***	20	47	53.0	D	35	86
	WB Right	425	***56.2***	***E***	13	41	***57.6***	***E***	56	126
	WB Approach		***57.8***	***E***	--	--	***56.0***	***E***	--	--
	NB Left	325	***65.6***	***E***	m130	275	50.4	D	m69	101
	NB Thru/Right		2.2	A	m128	1003	2.2	A	m97	210
	NB Approach		5.5	A	--	--	3.9	A	--	--
	SB Left/Thru/Right		18.2	B	m702	717	8.6	A	454	310
	SB Approach		18.2	B	--	--	8.6	A	--	--
	Overall		12.9	B	--	--	9.1	A	--	--
3: Providence Road S & Rae Road	EB Left		***79.0***	***E***	#644	1112	***138.7***	***F***	#791	1354
	EB Right		22.1	C	196	663	31.0	C	323	1355
	EB Approach		***60.9***	***E***	--	--	***98.4***	***F***	--	--
	NB Dual Lefts	450	***87.3***	***F***	#317	422	***125.3***	***F***	#206	330
	NB Thru		17.8	B	421	433	12.8	B	230	228
	NB Approach		35.8	D	--	--	37.9	D	--	--
	SB Thru		52.1	D	m#802	876	***94.2***	***F***	#1171	2090
	SB Right		2.3	A	m52	334	1.9	A	50	1865
	SB Approach		32.4	C	--	--	***64.6***	***E***	--	--
	Overall		39.9	D	--	--	***65.1***	***E***	--	--
4: Site Access 2/Wheatberry Hill Drive & Weddington Road	EB Left	125	10.1	B	0	28	9.1	A	0	26
	EB Thru/Right		0.0	A	0	585	0.0	A	0	80
	EB Approach		0.1	A	--	--	0.1	A	--	--
	WB Left/Thru		0.0	A	0	1166	0.0	A	0	1029
	WB Right	125	0.0	A	0	156	0.0	A	0	157
	WB Approach		0.9	A	--	--	0.9	A	--	--
	NB Left/Thru/Right		***4081.2***	***F***	54.3	1048	***2382.4***	***F***	36.8	1047
	NB Approach		***4081.2***	***F***	--	--	***2382.4***	***F***	--	--
	SB Left/Thru/Right		***99.3***	***F***	1.7	231	***123.3***	***F***	2.4	278
	SB Approach		***99.3***	***F***	--	--	***123.3***	***F***	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

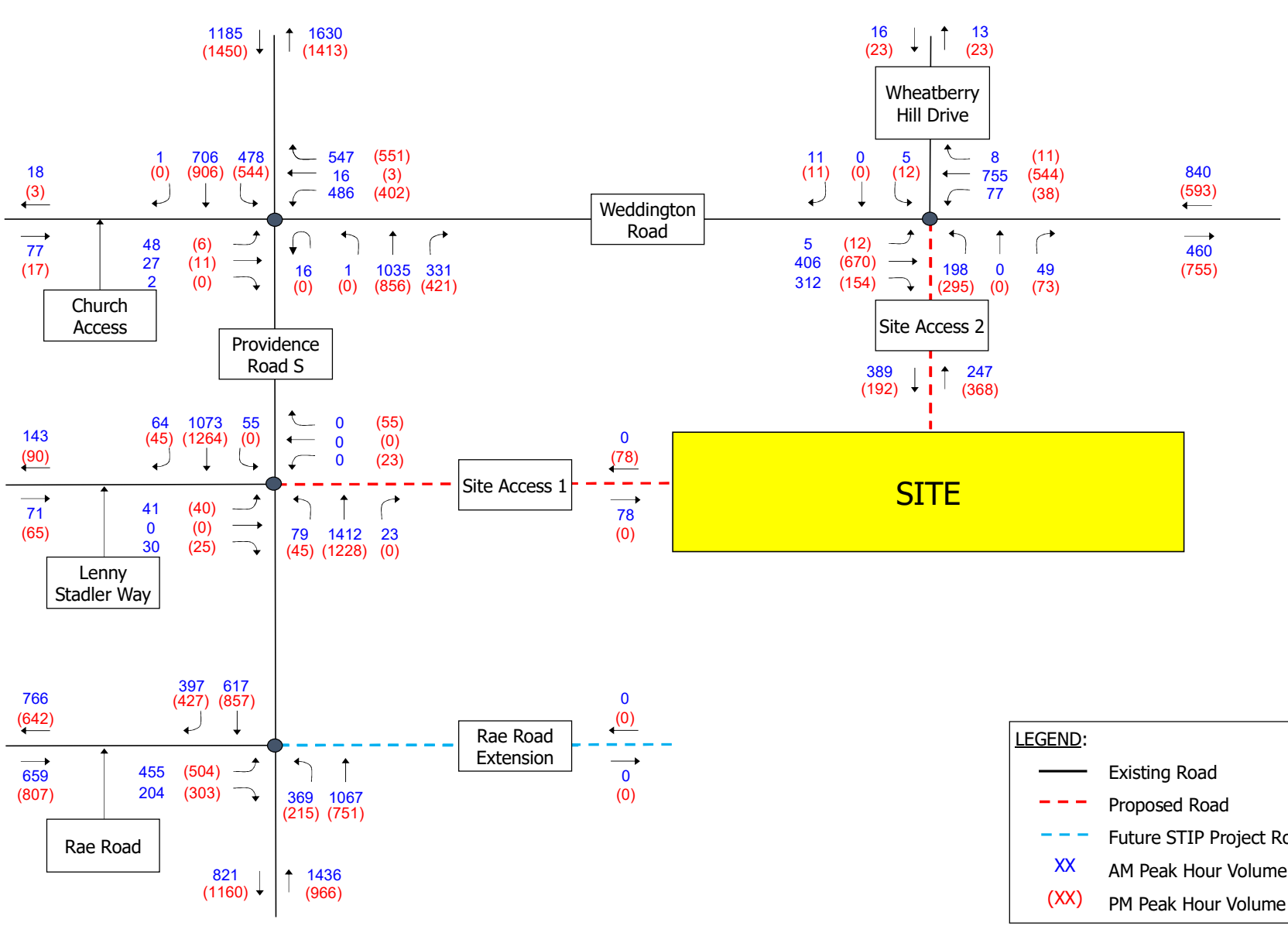
* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

Table 5-6: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2031 Build + Improvements (Elementary School) Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
2: Providence Road S & Lenny Stadler Way/Site Access 1	EB Left/Thru		***69.2***	***E***	51	125	53.6	D	45	104
	EB Right	50	43.5	D	58	87	34.5	C	43	70
	EB Approach		***59.1***	***E***	--	--	47.0	D	--	--
	WB Left/Thru		***58.6***	***E***	20	59	53.0	D	35	81
	WB Right	425	***56.2***	***E***	13	43	***57.6***	***E***	56	133
	WB Approach		***57.8***	***E***	--	--	***56.0***	***E***	--	--
	NB Left	325	***65.6***	***E***	m130	296	50.4	D	m69	106
	NB Thru/Right		2.2	A	m128	672	2.2	A	m97	190
	NB Approach		5.5	A	--	--	3.9	A	--	--
	SB Left	100	14.1	B	m8	132	5.8	A	m2	46
	SB Thru/Right		4.2	A	m79	190	7.7	A	240	311
	SB Approach		4.7	A	--	--	7.7	A	--	--
	Overall		7.0	A	--	--	8.7	A	--	--
4: Site Access 2/Wheatberry Hill Drive & Weddington Road	EB Left	125	6.2	A	m2	21	4.2	A	m2	35
	EB Thru		8.3	A	m299	276	11.2	B	m519	479
	EB Right	150	0.3	A	0	235	0.1	A	0	249
	EB Approach		5.0	A	--	--	8.6	A	--	--
	WB Left	100	13.6	B	33	186	11.7	B	22	120
	WB Thru		28.8	C	875	920	13.2	B	413	268
	WB Right	125	11.3	B	12	25	8.2	A	12	29
	WB Approach		27.3	C	--	--	13.0	B	--	--
	NB Left/Thru		***70.4***	***E***	193	349	***61.8***	***E***	130	288
	NB Right	100	34.2	C	53	200	34.5	C	38	183
	NB Approach		***63.3***	***E***	--	--	***56.5***	***E***	--	--
	SB Left/Thru/Right		31.5	C	22	74	33.0	C	25	68
	SB Approach		31.5	C	--	--	33.0	C	--	--
	Overall		26.1	C	--	--	17.4	B	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.



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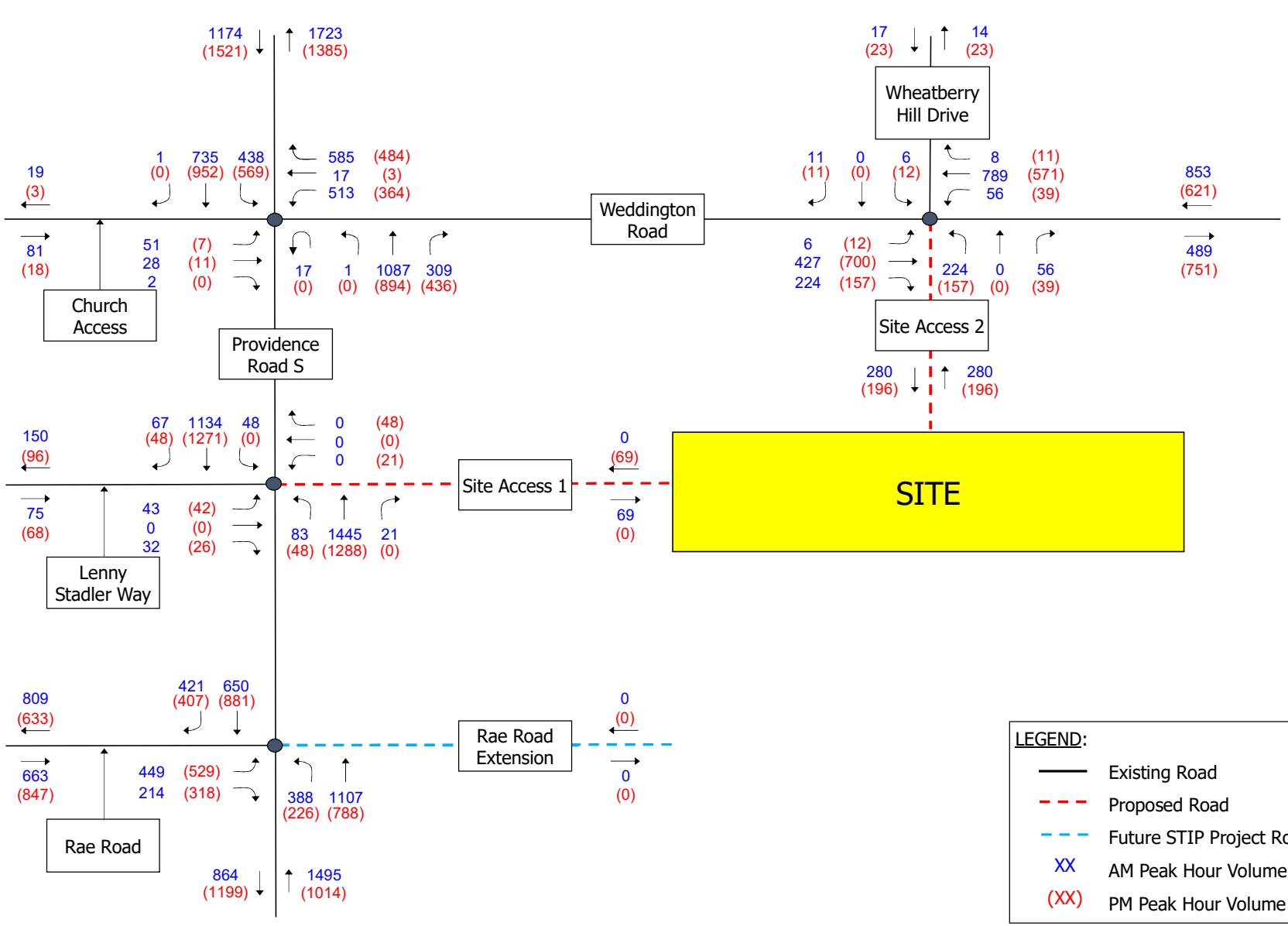
Liberty Classical Academy
Traffic Impact Analysis
2026 Build Traffic Volumes - High School

Figure 5-1



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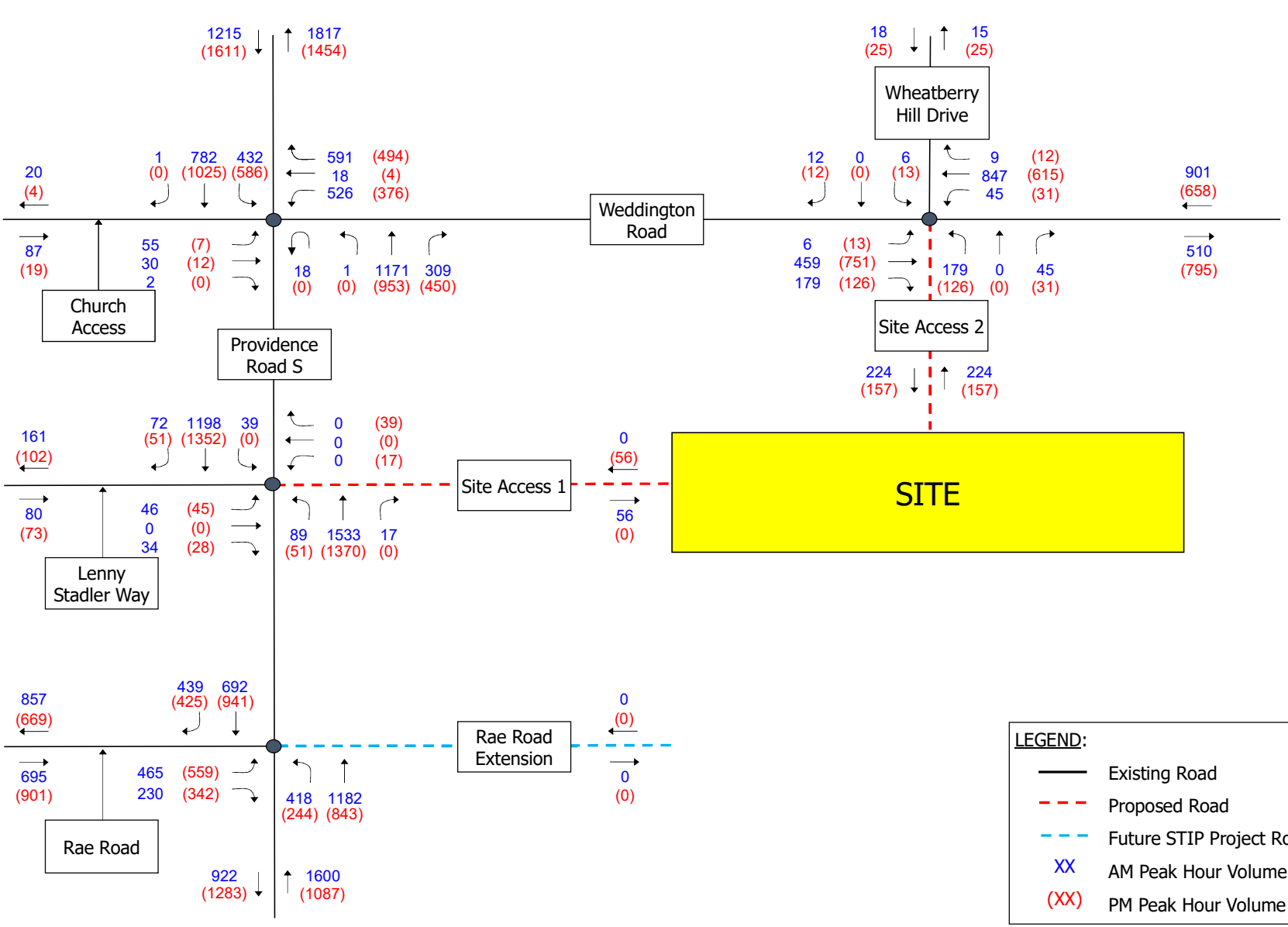
Liberty Classical Academy
Traffic Impact Analysis
2028 Build Traffic Volumes - Middle School

Figure 5-2



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Liberty Classical Academy
Traffic Impact Analysis
2031 Build Traffic Volumes - Elementary School

Figure 5-3

6 Horizon Year Analysis

To complete the Horizon Year analyses (including site traffic), the projected high school site trips were added to the 2040 Horizon Year Background traffic volumes. The projected total volumes, along with the future intersection geometry, were used to complete the capacity analyses.

6.1 2040 HORIZON YEAR TRAFFIC VOLUMES

The 2040 Horizon Year Background traffic volumes (**Figure 6-1**) were generated using the RK&K FS-1810D Feasibility Study (sealed 09/09/2018) and the NCDOT Traffic Engineering Suite intersection utility breakout (see **Appendix H**). These volumes were then added to site trips to generate the 2040 Horizon Year Build traffic volumes (**Figure 6-2**). High school site trips (**Figure 4-2e**) were used to represent a worst-case traffic volume scenario.

The U-3467 intersection geometry was taken from the June 2017 Design Public Meeting Map (see **Appendix H** and **Figure 7-2**).

To summarize, the Build traffic volumes shown **Figure 6-2** contain the following:

- FS-1810D forecasted volumes; and
- Site trips generated (High School).

6.2 2040 HORIZON YEAR ANALYSIS

Table 6-1 summarizes the intersection LOS, delay, 95th percentile queue lengths, and SimTraffic Max Queue Length based on the 2040 Horizon Year Background traffic volumes (**Figure 6-1**). Using these volumes, the signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS E and F during the 2040 Horizon Year Background AM and PM peak hours, respectively. All approaches (except the northbound approach during the PM peak hour) are projected to operate unacceptably.

Table 6-2 summarizes the intersection LOS, delay, 95th percentile queue lengths, and SimTraffic Max Queue Length based on the 2040 Horizon Year Build traffic volumes (shown on **Figure 6-2**). Using these volumes, the signalized intersection of Providence Road S / Church Parking Lot / Weddington Road is projected to operate at an overall LOS F during both 2040 Horizon Year Build peak hours. All approaches (except the northbound approach during the PM peak hour) are projected to operate unacceptably. The addition of site trips represents a 18% increase in overall delay. Because delay is not increased by more than 25% (per the NCDOT's Driveway Manual) no improvements are recommended at this intersection due to the proposed site's construction.

Table 6-1: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2040 Horizon Year Background Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
3: Providence Road S & Rae Road	EB Dual Lefts	450	***193.1***	***F***	#306	550	***153.2***	***F***	#437	484
	EB Thru		***62.1***	***E***	#208	1204	***103.4***	***F***	#384	1227
	EB Right	400	50.1	D	#535	488	***147.7***	***F***	#996	500
	EB Approach		***99.4***	***F***	--	--	***136.6***	***F***	--	--
	WB Left	250	***114.9***	***F***	#278	350	***170.7***	***F***	#297	350
	WB Thru		***146.8***	***F***	#408	1309	***176.8***	***F***	#283	1252
	WB Right	250	36.0	D	82	350	42.4	D	89	350
	WB Approach		***131.0***	***F***	--	--	***159.5***	***F***	--	--
	NB Dual Lefts	350	***147.7***	***F***	#507	450	49.6	D	242	414
	NB Thru		28.4	C	602	1160	30.1	C	620	510
	NB Right	250	7.9	A	73	182	9.2	A	80	348
	NB Approach		***65.0***	***E***	--	--	32.8	C	--	--
	SB Left	450	***68.6***	***E***	103	550	***68.6***	***E***	103	550
	SB Thru		***76.8***	***E***	#827	1331	***100.8***	***F***	#856	1333
	SB Right	500	28.9	C	548	600	15.8	B	241	600
	SB Approach		***62.6***	***E***	--	--	***82.5***	***F***	--	--
	Overall		***78.6***	***E***	--	--	***89.5***	***F***	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

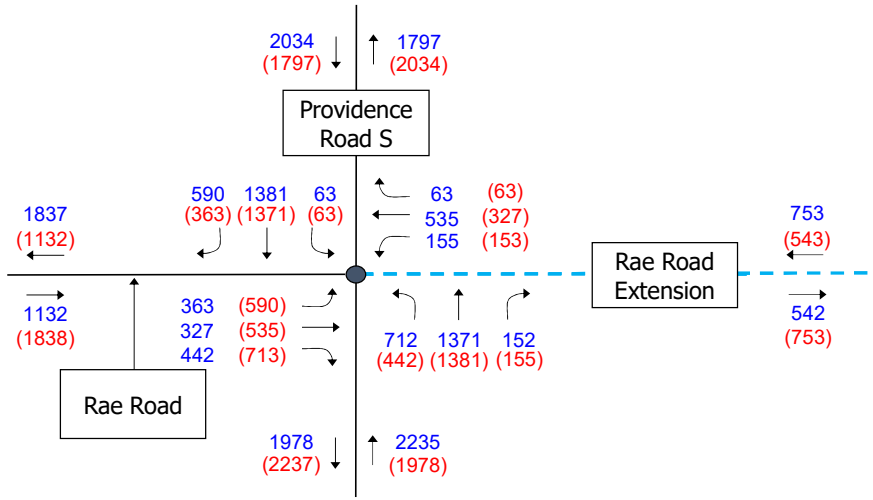
* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

Table 6-2: Intersection Level of Service, Delay and 95th Percentile Queue Summary
2040 Horizon Year Build Traffic Volumes

Intersection	Movement and Approach	Turn Lane Storage (ft)	AM PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	*95th Percentile Queue Length	Sim Traffic Max Queue Length (ft)
3: Providence Road S & Rae Road	EB Dual Lefts	450	***160.0***	***F***	#333	550	***167.4***	***F***	#460	481
	EB Thru		***57.2***	***E***	197	1213	***103.4***	***F***	#384	1226
	EB Right	400	48.9	D	#535	420	***169.6***	***F***	#1017	500
	EB Approach		***94.8***	***F***	--	--	***150.1***	***F***	--	--
	WB Left	250	***78.5***	***E***	#242	350	***136.9***	***F***	#285	350
	WB Thru		***176.3***	***F***	#421	1469	***176.8***	***F***	#283	1101
	WB Right	250	36.8	D	83	350	42.4	D	89	324
	WB Approach		***144.5***	***F***	--	--	***149.9***	***F***	--	--
	NB Dual Lefts	350	***169.2***	***F***	#519	450	53.7	D	247	366
	NB Thru		37.8	D	686	1161	33.0	C	647	502
	NB Right	250	8.4	A	75	279	9.2	A	80	324
	NB Approach		***76.6***	***E***	--	--	35.7	D	--	--
	SB Left	450	***68.6***	***E***	103	550	***68.6***	***E***	103	550
	SB Thru		***117.3***	***F***	#887	1330	***109.9***	***F***	#884	1329
	SB Right	500	31.9	C	601	600	17.8	B	301	600
	SB Approach		***89.6***	***F***	--	--	***85.6***	***F***	--	--
	Overall		***92.4***	***F***	--	--	***94.4***	***F***	--	--

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.



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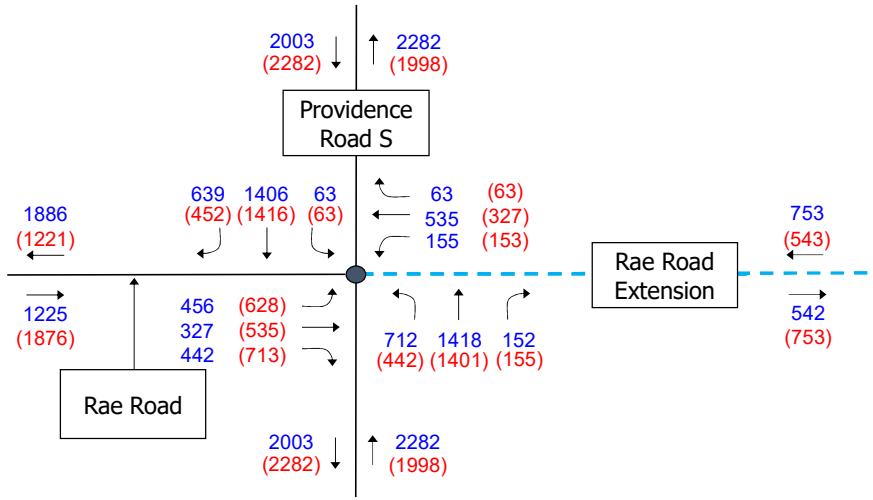
Liberty Classical Academy
Traffic Impact Analysis
2040 Horizon Year Background Traffic Volumes

Figure 6-1



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Liberty Classical Academy
Traffic Impact Analysis
2040 Horizon Year Build Traffic Volumes - High School

Figure 6-2

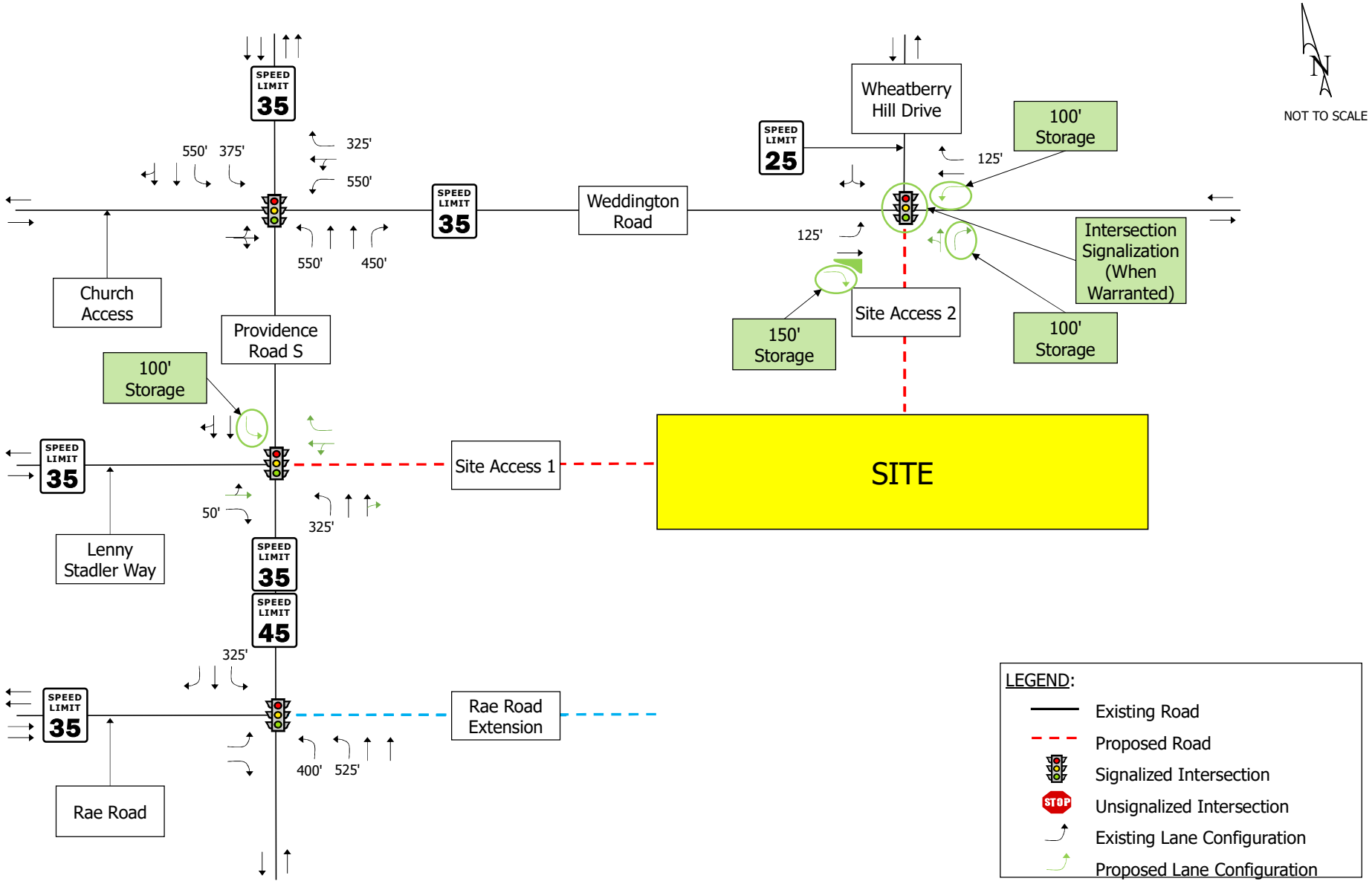
7 CONCLUSIONS AND RECOMMENDATIONS

Capacity analyses were performed for 2023 Existing, Background (2026, 2028, and 2031), 2026 High School Build (2026 Background + high school site trips), 2028 Middle School Build (2028 Background + middle school site trips), and 2031 Elementary School Build (2031 Background + elementary school site trips) traffic volumes. In closing, the following improvements (see **Figure 7-1**) are recommended in conjunction with the construction of the proposed development:

- Providence Road S / Lenny Stadler Way / Site Access 1
    - Dual egress lanes (shared through / left-turn lane and an exclusive right-turn lane)
    - 100-foot southbound left-turn lane (with appropriate taper)

- Site Access 2 / Wheatberry Hill Drive / Weddington Road
    - Intersection Signalization
    - 150-foot channelized eastbound right-turn lane (with appropriate taper)
    - 100-foot westbound left-turn lane (with appropriate taper)

Figure 7-1 shows the proposed lane configuration. **Figure 7-2** shows the 2040 Horizon year lane configuration. **Figures 7-3**, **7-4**, and **7-5** show the on-site operations plan for the for the high school, middle school, and elementary school, respectively.



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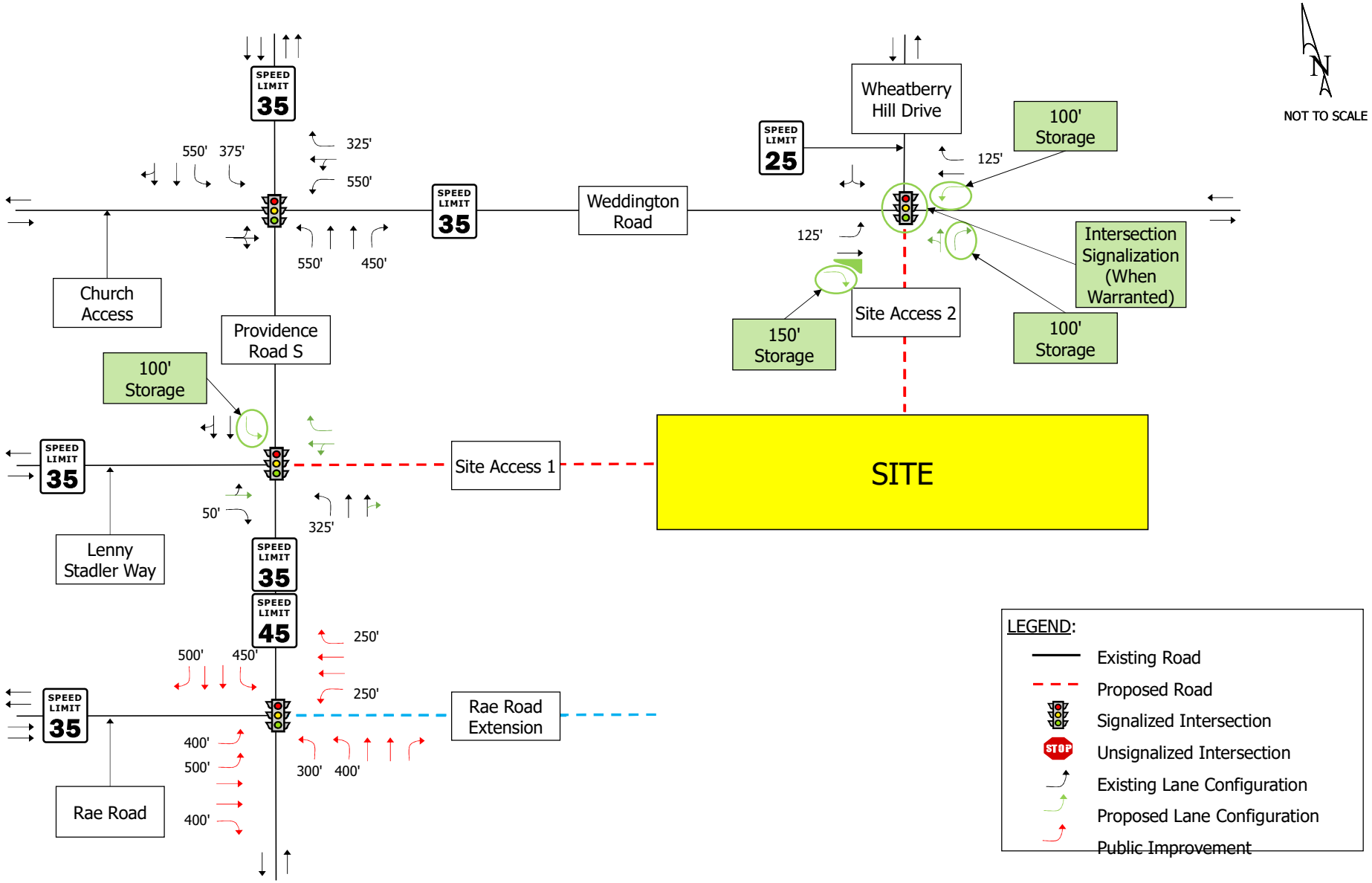
Liberty Classical Academy
Traffic Impact Analysis
2026 Proposed Lane Configuration

Figure 7-1



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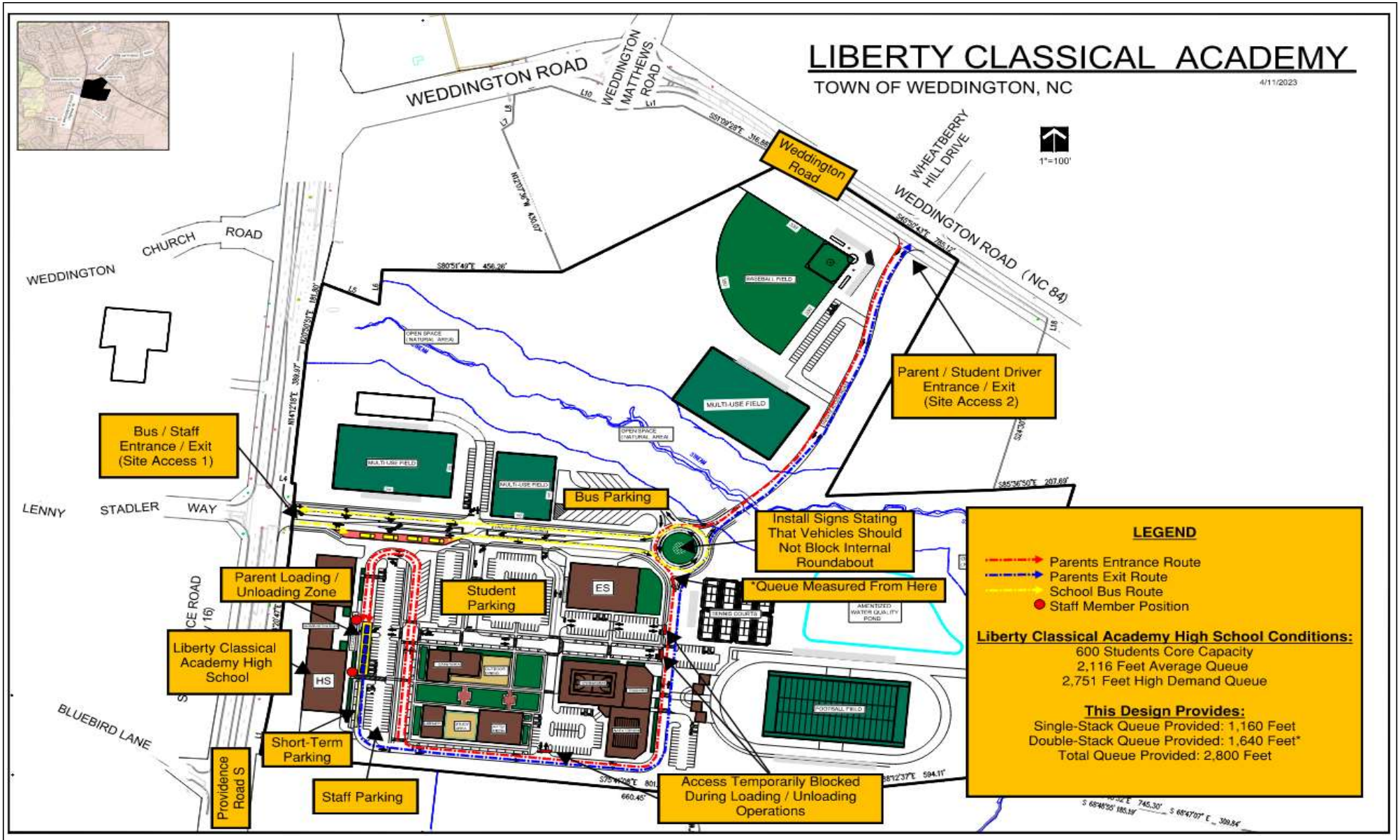
Liberty Classical Academy
Traffic Impact Analysis
2040 Horizon Year Lane Configuration

Figure 7-2



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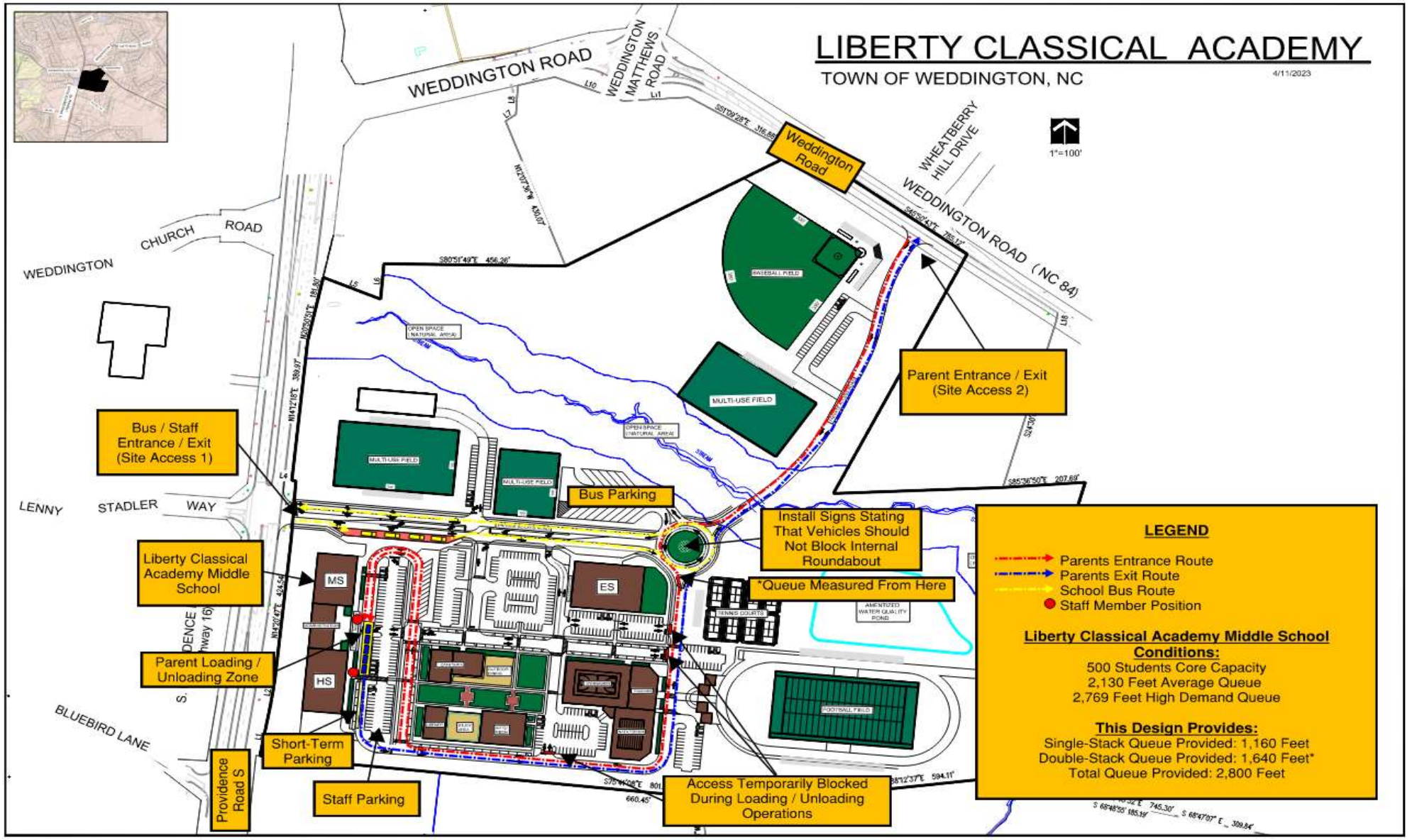
Liberty Classical Academy
Traffic Impact Analysis
Proposed Traffic Operations Plan-High School

Figure 7-3



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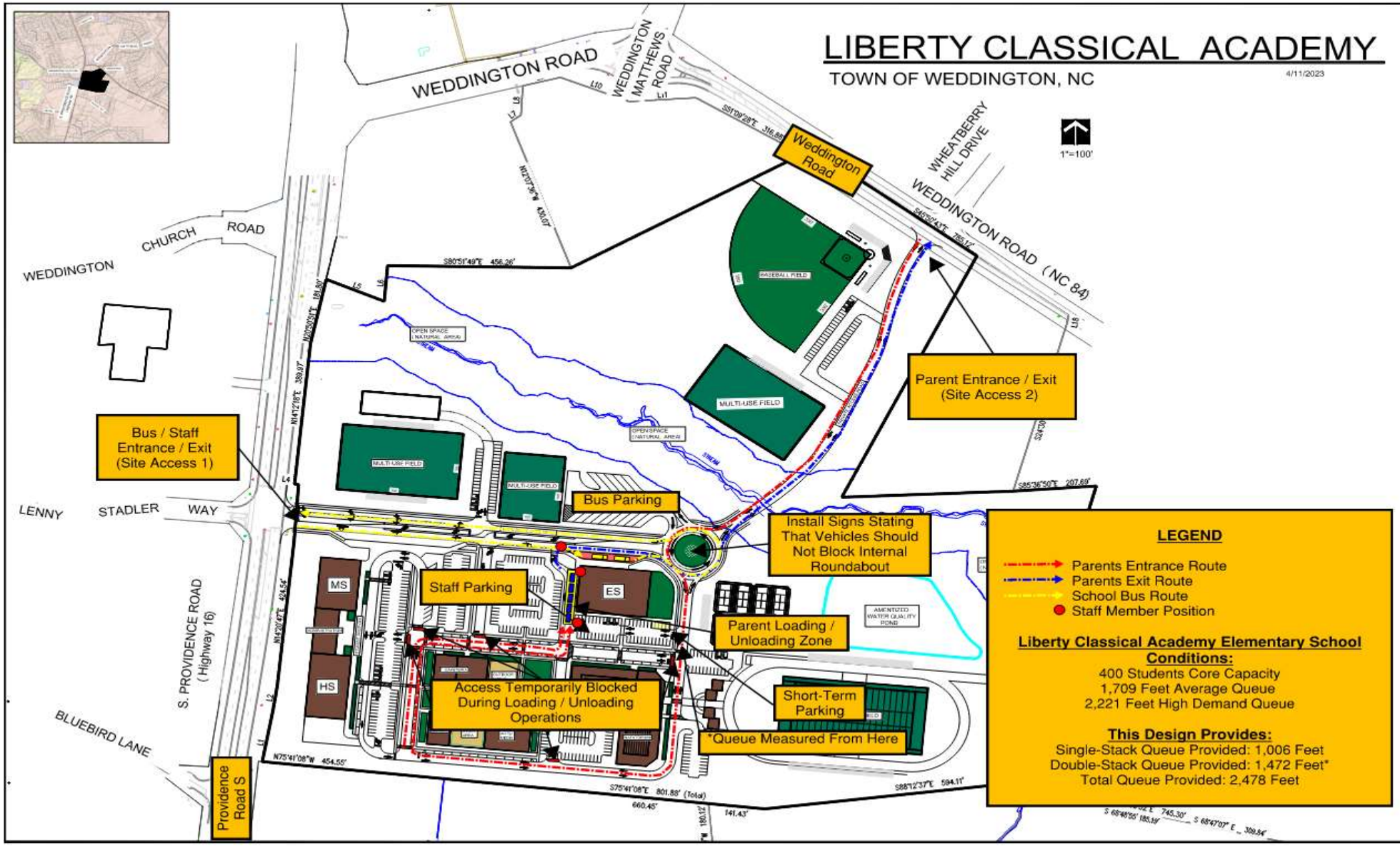
Liberty Classical Academy
Traffic Impact Analysis
Proposed Traffic Operations Plan-Middle School

Figure 7-4



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Liberty Classical Academy
Traffic Impact Analysis
Proposed Traffic Operations Plan-Elementary School

Figure 7-5

Appendix A – Scoping Information

NCDOT Traffic Impact Analysis Need Screening / Scoping Request

TIA Need Screening → TIA Scoping → TIA Submittal

A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

Project Name: Weddington Classical Academy Previous Name: If Applicable Weddington Classical Acad

Location: NC-16 and NC-84 County: Union Municipality: Weddington

Project Description: The construction of a private K-12 School (600 HS, 500 MS, 400 ES)

Project Contact:	Applicant	TIA Consultant
Company Name	Cambridge Properties	Timmons Group
Contact Person	George Maloomian	Jeff Hochanadel
Phone Number	704-564-2137	919-866-4511
Email	glm@cambridgeprop.com	Jeff.Hochanadel@timmons.com
Mailing Address	831 E. Morehead Street, Suite 245 Charlotte, NC 28202	5410 Trinity Rd, Suite 102 Raleigh, NC 27607

Site Plan Prepared By: Cambridge Properties Site Plan Date: 11/14/2022

See site plan/vicinity map requirements on page 2.

Parcel Size: 61.72 Acre(s) Anticipated Build-Out Year: 26-28-31

Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
	See Attached											
Total												

Refer to the current *NCDOT Congestion Management Capacity Analysis Guidelines* for acceptable trip calculation methods and data sources.

**Explain local or other data sources, if used: MSTA Urban Charter School Calculator

☐ The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.

☒ The estimated site trips meet the municipal TIA trip threshold of 100 peak hour trips

☒ This project is located in a known STIP and/ or local CIP project # U-3467, U 5769A

☐ This project includes a rezoning request.

☐ The proposed site access is located within 1,000 feet of an interchange.

☐ The Applicant requests for a new or modified control-of-access break.

☐ The Applicant requests for a new or modified median break.

Applicant's Signature	Print Name	Date

Site Plan/Vicinity Map Requirement for TIA Need Screening: While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

Project Name: _____ **Project Reference Number:** _____

☐ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.

☒ **A TIA is Required by NCDOT,** per the *Policy on Street and Driveway Access to North Carolina Highways*.

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

☐ **A TIA is NOT required**. This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

Additional Comments:

The TIA need decision is made by the NCDOT Division ____ District____ on _____.

_____ _____

NCDOT District Representative's Signature | Print Name

Email concurrence may be used in lieu of the signature.

NCDOT TIA Scoping Checklist

TIA Need Screening → TIA Scoping → TIA Submittal

Project Name: Weddington Classical Academy **TIA Scoping Date:** 3/20/23

☒ **TIA Need Screening Forms are Attached.** Project Reference #: _____ Decision Date: _____

☒ **Site Plan and Access**

☒ Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.
Refer to NCDOT's *Policy on Street and Driveway Access to North Carolina Highways* pages 14 and 15 for site plan requirements.

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A			Signal			
Access B						
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						

Existing Access	Existing Intersection of		Access Modification	Proposed Interconnectivity (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1	S Providence Way	Lenny Stadler Way	N/A	Connector 1		
Access 2	Weddington Rd	Wheatberry Hill Dr	N/A	Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

☐ Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

☐

Proposed K-12 School Site

☒ NCDOT MSTA School Traffic Calculator for Urban Charter School shall be used.

☒ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

☒ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

☒ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).

☒ Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current *NCDOT Congestion Management Capacity Analysis Guidelines*, and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
	See Attached											
Unadjusted Site Trips												
Internal Capture Trips (Attach Calculation Sheets)												
Internal Capture % of Unadjusted Site Trips				%		%			%			
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
				%		%			%			
				%		%			%			
				%		%			%			
				%		%			%			
				%		%			%			
Pass-By Trips (Attach Calculation Sheets)												
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips												
Diverted Trips, if Applicable and Justifiable												Please Select

**Explain local or other data sources, if used:

☐ Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

ITE LUC	Existing Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
					Please Select							Please Select
Total Existing Site Trips												

☒ **Trip Distribution**

☒ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).

☐ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

If required by the District Engineer, the following additional diagrams shall also be submitted:

☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)

☐ Inter-Development Trips (if 'internal" trips cross public streets)

☐ Pass-By Trips

☐ Diverted Trips

☐ Each Analysis Period

☐ **Mode Split**

☐ Provide Data Source and Justification

Mode / Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ **Analysis Peak Periods:**

☒ Weekday AM Peak 7:00 a.m. - 9:00 a.m.

☐ Weekday PM Peak _____

☐ Weekday Midday Peak _____

☒ Weekday PM School Peak 2:00 p.m. - 4:00 p.m.

☐ Weekend _____ Peak _____

☐ Other _____

☒ Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under "Site Plan and Access" on page 1, as well as the following external and, if applicable, internal intersections.

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	Providence Rd S	Weddington Rd	Signal	Use Existing Counts	1/12/23	None	None
#2	Providence Rd S	Lenny Stadler	Signal	Use Existing Counts	1/12/23	None	None
#3	Providence Rd S	Marvin School Rd	Signal	Use Existing Counts	1/12/23	None	None
#4							
#5	Weddington Rd	Wheatberry Hill	2-Way Stop	Use Existing Counts	1/12/23	None	None
#6							
#7							
#8							
#9							
#10							
#11							
#12							

Internal Intersection	Intersection of		Access Type		Intersection Spacing		
	Road A	Road B	Traffic Control	Permitted Movements	Distance (ft)	Direction	Nearest Intersection
#101						Please Select	
#102							
#103							
#104							
#105							

The following data will be collected:

☒ New traffic turning movement counts in ☐ 15-min intervals ☒ 5-min intervals (near schools)
Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.

☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:

intersections numbered: _____

and access points numbered: _____

☒ Traffic Forecast Data for TIP: U-3467, U 5769A

☒ Roadway/Intersection Configuration & Traffic Control

☒ Traffic Signal Phasing & Timing Data

☐ Crash Data: _____ Period: _____

☐ Other:

☒ Future Year Conditions

☒ Project Build-Out Year: 2026 / 2028 / 2031

☒ Future Analysis Year(s): 2045

☐ Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

Funded STIP / Local CIP Project	Project Description	Year Complete
U-3467	Rea Road Extension	TBD
U-5769A	NC 16 Widening	TBD

Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements

☒ Annual Growth Factor: 2 %

Justification/Data Source: 2.5% per area AADT Maps

☐ Local Comprehensive Transportation Plan Compliance

☐ Identify Applicable Local Transportation Planning Documents

☐ Identify Applicable Roadways inside the Study Area

Road Name	Classification	Speed Limit	Proposed Cross-Section	Proposed Right-of-Way	Compliance Requirements	Affect Study Intersection #

☒ Study Method

The traffic analysis shall follow the current *NCDOT Congestion Management Capacity Analysis Guidelines*, *Policy on Street and Driveway Access to North Carolina Highways*, and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:

☒ 5. TIP Design Year Analysis 2045

☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

- ☐ Signal Warrant Analysis for accesses/intersections _____
- ☐ Multi-Modal Level of Service Analysis
- ☒ School Loading Zone Traffic Simulation
- ☒ Phasing Analysis (scope separately as needed)
- ☐ Safety/Crash Analysis
- ☐ Control-of-Access Modification Justification
- ☐ Median Break / Modification Justification
- ☒ Other 2026 high / 2028 middle / 2031 elementary

☒ Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS). To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

☒ Div. Traffic Engr ☒ Regional Traffic Engr ☒ Congestion Management ☒ Other MSTA

Submittals	NCDOT		Local Government	
	Electronic	Hardcopy	Electronic	Hardcopy
Trip Generation & Distribution	Required	0	Required	0
Draft TIA Report	Required	0	Required	0
Final Sealed TIA Report	Required	0	Required	0

☐ **Additional Comments (**municipal TIA requirements, approved variations from NCDOT guidelines)

Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire____ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

APPLICANT

Signature	Print Name	Date

TIA CONSULTANT

Signature	Print Name	Date
	Jeff Hochanadel, PE, PTOE	3/20/23

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

Signature	Print Name	Date

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

Reviewed and approved by the NCDOT Division ____District____ on _____.

Signature	Print Name

Email concurrence may be used in lieu of the signature.

NCDOT TIA Submittal Checklist

TIA Need Screening → TIA Scoping → TIA Submittal

Submittal: Please Select Document Date: _____

Project Name: _____ Previous Name: If Applicable _____

NCDOT Division: _____ District: _____ County: _____ Municipality: _____

TIA Consultant: _____ Submitted By: _____

Phone Number: _____ Email: _____

TIA Scoping Checklist Approval Date: _____ Unadjusted Daily Site Trips: _____

☒ The approved TIA Scoping Checklist is included in this submittal.

☒ LOS D or better is expected at all study intersections after proposed mitigations.

☒ The study report is sealed by a NC Professional Engineer with expertise in traffic engineering.

☒ This study has identified all known deficiencies with and without the proposed development.

☒ This study has identified mitigation measures to adequately accommodate the site trips.

Explain here if any of the boxes above are unchecked:

The undersigned affirms that, except for the deviations noted below, the TIA submittal conforms to the current *NCDOT Congestion Management Capacity Analysis Guidelines*, *Policy on Street and Driveway Access to North Carolina Highways*, and the TIA Scoping Checklist approved by the NCDOT District Office. The undersigned also acknowledges that the TIA will be rejected if the deviations and justifications are not properly documented and approved by NCDOT.

Deviations and Justifications (e.g., changes in site plan, development schedule, site trip and off-site trip estimates, study area, data collection, analysis period and method. Attached separate sheets if needed.)

NCDOT TIA Submittal Checklist

TIA Consultant's Signature (Professional Engineer of TIA Record)	Print Name	Date

Sheet 2: Sketch Plan

LIBERTY CLASSICAL ACADEMY

TOWN OF WEDDINGTON, NC

3/14/2023

VICINITY MAP

WEDDINGTON ROAD

WEDDINGTON MATTHEWS ROAD

WHEATBERRY HILL DRIVE

WEDDINGTON ROAD (NC 84)

EXISTING TRAFFIC SIGNAL

POSSIBLE FUTURE CONNECTION TO WEDDINGTON MATTHEWS ROAD

CEMETERY

CHURCH ROAD

WEDDINGTON

WEDDINGTON CHRISTIAN ACADEMY

S80°51'49"E 456.26'

20' PERIMETER BUFFER

POTENTIAL ADDITIONAL PARKING

50' FRONTAGE BUFFER

20' RESERVED

S45°50'43"E 785.12'

BASEBALL FIELD

PROPOSED MONUMENT SIGN

PROPOSED FULL ACCESS B ALIGNED WITH WHEATBERRY HILL

OPEN SPACE (NATURAL)

100' BUFFER

MULTI-USE FIELD

PRIVATE ACCESS ROAD

40' PERIMETER BUFFER

STREAM

PROPOSED MONUMENT SIGN

EXISTING TRAFFIC SIGNAL

LENNY STADLER WAY

PROPOSED FULL ACCESS A ALIGNED WITH LENNY STADLER WAY

S. PROVIDENCE ROAD (Highway 16)

BLUEBIRD LANE

MS

HS

ES

ES-45 SPACES

RECESS AREA

CAFETERIA

OUTDOOR DINING

STUDENT PATHWAY

GYMNASIUM

TRAINING

LIBRARY

STUDY AREA

ARTS

NATATORIUM

TENNIS

BUS PARKING 14 SPACES

PROPOSED LIFT STATION

AMENITIZED WATER QUALITY POND

OPEN SPACE (NATURAL)

S85°36'50"E 207.69'

S24°30'00"W 476.27'

S 24°12'52" W

N75°41'08"W 454.55'

S75°41'08"E 801.88' (Total)

S88°12'37"E 594.11'

141.43'

S 68°48'55" E 250.15'

S68°48'32"E 745.30'

S 68°48'55' 185.19'

S 68°47'07" E 309.84'

HS/MS QUEUE
1 WAY DRIVE
TOTAL: 1,640 LF
(SINGLE: 820 LF)

ES QUEUE
1 WAY DRIVE
TOTAL: 624 LF
(SINGLE: 312 LF)

HS/MS/ES
2 WAY DRIVE
TOTAL: 1,160 LF

1"=100'

ZONING CODE SUMMARY

PROJECT NAME:	LIBERTY CLASSICAL ACADEMY
OWNER/APPLICANT:	LIBERTY CLASSICAL ACADEMY, INC 2520 WHITEHALL PARK DRIVE SUITE 100, CHARLOTTE NC 28273.
JURISDICTION:	TOWN OF WEDDINGTON, UNION COUNTY, NC
EXISTING ZONING:	R-40, R-CD
EXISTING USE:	VACANT, RESIDENTIAL
PROPOSED ZONING:	E-D (EDUCATIONAL DISTRICT)
PROPOSED USE:	K-12 SCHOOL
SITE ACREAGE:	61.13 ACRES
IN R.O.W.:	0.40 ACRES
NET SITE ACREAGE:	60.73 ACRES

SETBACKS:

S. PROVIDENCE ROAD: 50' FRONTAGE BUFFER:
WEDDINGTON ROAD: 50' FRONTAGE BUFFER:
PERIMETER ABUTTING 06150040, 06150075, 06150074: 20'
PERIMETER ABUTTING 06150073D, 06150073B, 06150080, 061500072, 06150077, 06150077F: 40'

BUILDING AREA:	1 LEVEL
ELEMENTARY SCHOOL:	22,000 SF
MIDDLE SCHOOL:	23,500 SF
HIGH SCHOOL:	26,500 SF
CAFETERIA:	5,000 SF
LIBRARY/ARTS/MEDIA:	30,000 SF
GYMANSIUM/TRAINING:	28,000 SF
NATATORIUM:	14,000 SF
APPROXIMATE TOTAL:	149,000 SF

SITE SUMMARY

LIBERTY CLASSICAL CAMPUS:	43.64 ACRES
OPEN SPACE/WATER QUALITY:	13.39 ACRES
ACCESS ROAD AREA:	3.7 ACRES
TOTAL SITE AREA:	60.73 ACRES

LIBERTY CLASSICAL ACADEMY

HIGH SCHOOL:	600 STUDENTS
MIDDLE SCHOOL:	500 STUDENTS
FUTURE ELEMENTARY SCHOOL:	400 STUDENTS
TOTAL STUDENTS:	1,500 STUDENTS
TOTAL PARKING:	±412 SPACES

OPEN SPACE: 22%

LEGEND

- OPEN SPACE
- ACCESS ROAD AREA
- WATER QUALITY POND

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Liberty Classical Academy - Elementary School

Type: **Urban Charter**

Version: 04012021

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input / Calculations

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers	PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
										30%
K - 10	400	6	50		157	77	1709	504	370	2221
11th										
12th										
Sum >>	400	6	50		157	77	1709	504	370	2221
										513

Grade K-10

Direction	AM Trips Generated Parents	Buses	Staff	Trips	PM Trips Generated Parents	Buses	Staff	Trips
IN	224	6	50	280	157			157
OUT	224			224	157	6	50	213
		AM K-10 Trips		**504**		PM K-10 Trips		**370**

ADT
874

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 11th Trips					PM 11th Trips		

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 12th Trips					PM 12th Trips		

All AM TRIPS		
	In	280
	Out	224
	Total	504

All PM TRIPS		
	In	157
	Out	213
	Total	370

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

Calculated 3/2/2023 By:_____

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Liberty Classical Academy - Middle School

Type: **Urban Charter**

Version: 04012021

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input

Calculations

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers	PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
										30%
K - 10	500	7	62		196	96	2130	628	461	2769
11th										
12th										
Sum >>	500	7	62		196	96	2130	628	461	2769
										639

Grade K-10

Direction	AM Trips Generated Parents	Buses	Staff	Trips	PM Trips Generated Parents	Buses	Staff	Trips
IN	280	7	62	349	196			196
OUT	280			280	196	7	62	265
		AM K-10 Trips		**628**		PM K-10 Trips		**461**

ADT
1089

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 11th Trips					PM 11th Trips		

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 12th Trips					PM 12th Trips		

All AM TRIPS		
	In	349
	Out	280
	Total	628

All PM TRIPS		
	In	196
	Out	265
	Total	461

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

Calculated 3/2/2023 By:_____

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Liberty Classical Academy - High School

Type: **Urban Charter**

Version: 04012021

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input / Calculations

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers	PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
										30%
K - 10	300	4	37		118	58	1287	377	277	1673
11th	150	3	17	48	53	25	555	175	174	721
12th	150	2	15	128	21	12	274	163	187	357
Sum >>	600	9	69	176	192	95	2116	714	638	2751
										636

Grade K-10

Direction	AM Trips Generated Parents	Buses	Staff	Trips	PM Trips Generated Parents	Buses	Staff	Trips
IN	168	4	37	209	118			118
OUT	168			168	118	4	37	159
		AM K-10 Trips		377		PM K-10 Trips		277

Grade 11

Direction	AM Trips Generated Parents	Buses	Staff	Student Dvr	Trips	PM Trips Generated Parents	Buses	Staff	Student Dvr	Trips
IN	58	3	17	39	117	53				53
OUT	58				58	53	3	17	48	121
			AM 11th Trips		175			PM 11th Trips		174

Grade 12

Direction	AM Trips Generated Parents	Buses	Staff	Student Dvr	Trips	PM Trips Generated Parents	Buses	Staff	Student Dvr	Trips
IN	21	2	15	103	141	21				21
OUT	21				21	21	2	15	128	166
			AM 12th Trips		163			PM 12th Trips		187

All AM TRIPS			All PM TRIPS		
	In	467		In	192
	Out	247		Out	446
	Total	714		Total	638

ADT
654
349
350
1352

NOTES

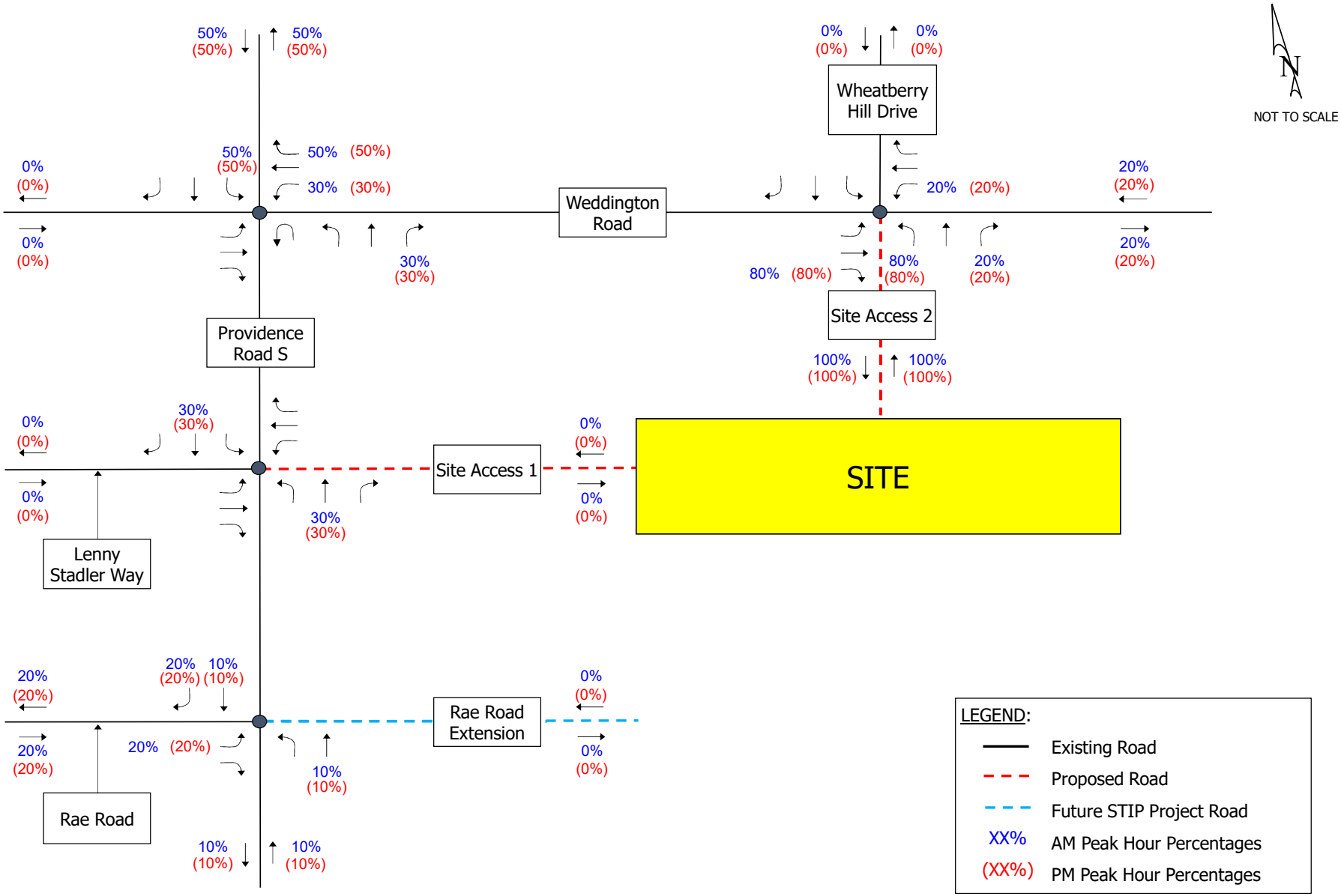
- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

Calculated 3/2/2023 By:_____

Weddington Classical Day School Trip Generation

Type	Variable	ADT	AM Peak Hour			School PM Peak Hour			High Demand Queue Length
			In	Out	Total	In	Out	Total	
Elementary School	400 Students	874	280	224	504	157	213	370	2221-feet
Middle School	500 Students	1089	349	280	628	196	265	461	2769-feet
High School	600 Students	1352	467	247	714	192	446	638	2751-feet

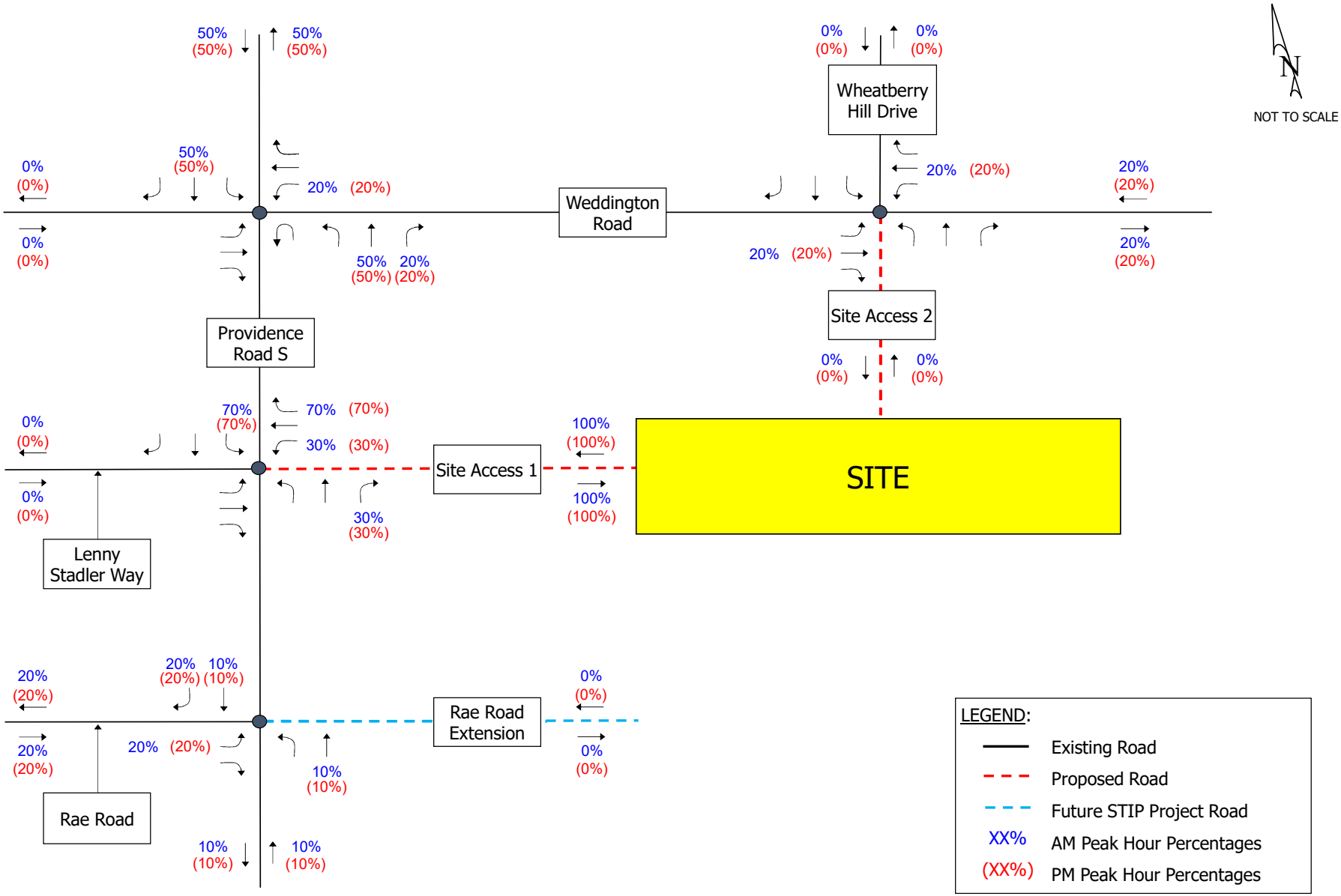
** Bell times to be spaced by 45-minutes; therefore, schools queuing will not occur concurrently



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Trip Distribution Percentages-Parents/Staff/Student Drivers

Figure 4-1a



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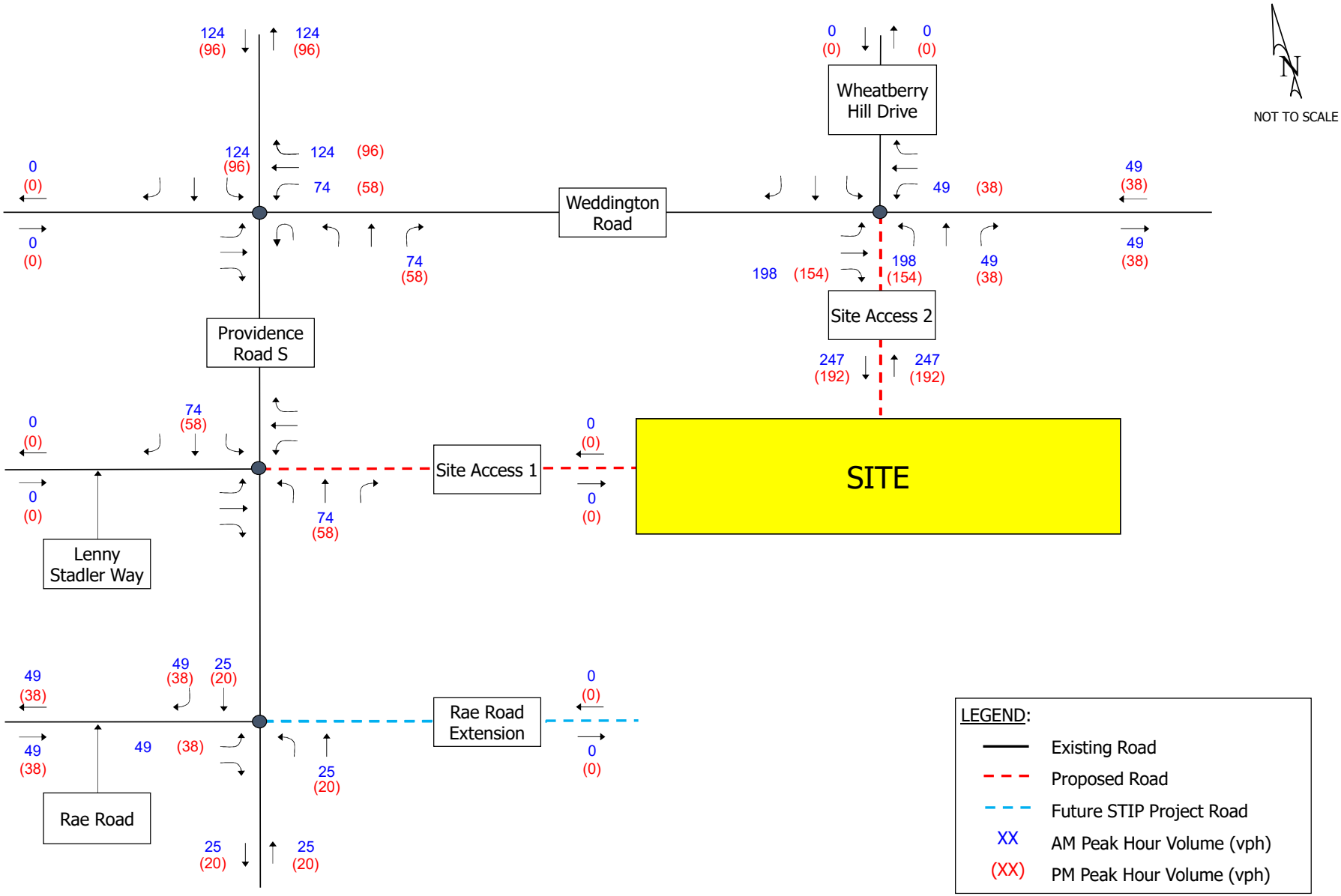
Weddington Classical Day School
Traffic Impact Analysis
Trip Distribution Percentages-Buses

Figure 4-1b



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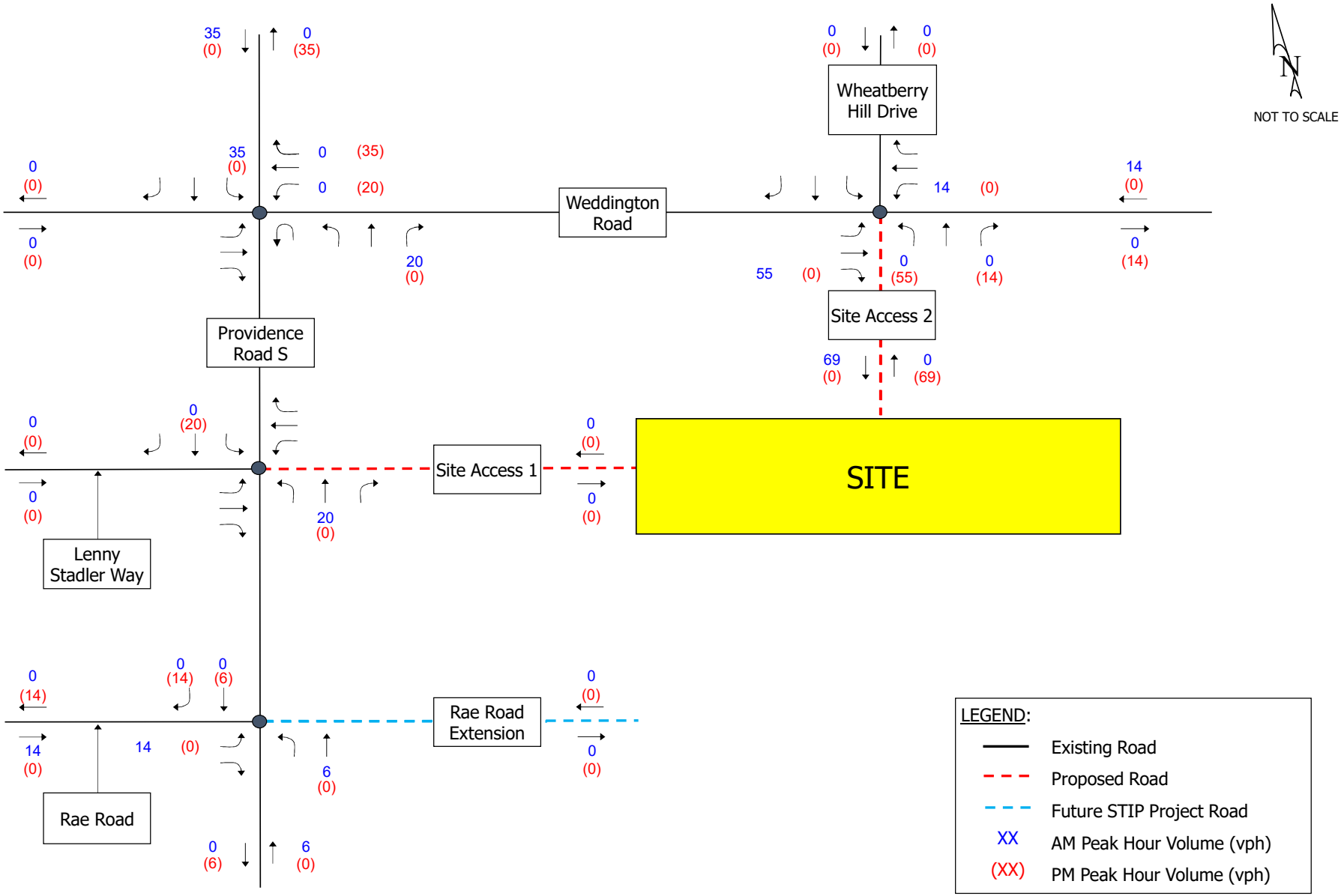
Weddington Classical Day School
Traffic Impact Analysis
High School Trip Distribution Volumes-Parents

Figure 4-2a



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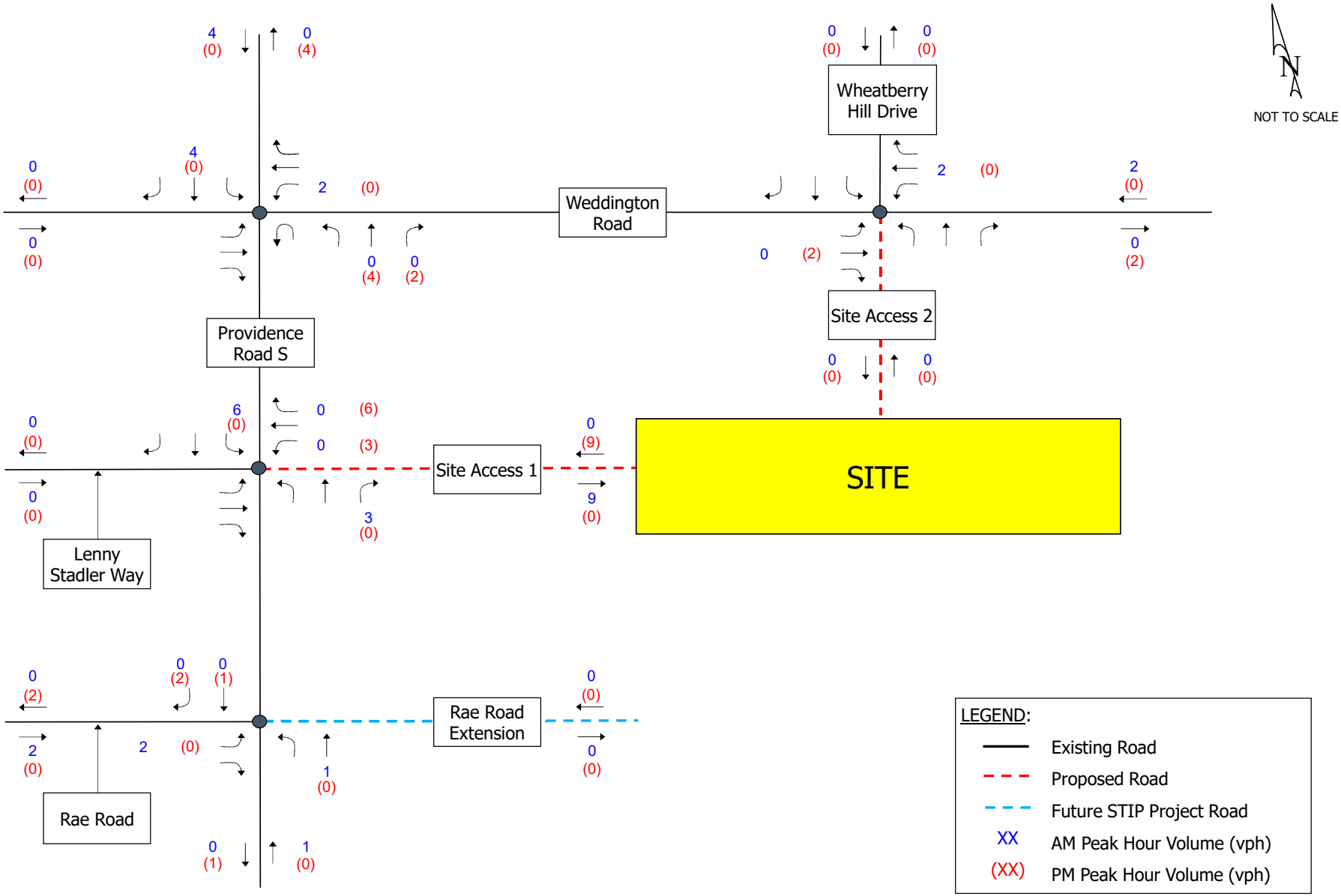
Weddington Classical Day School
Traffic Impact Analysis
High School Trip Distribution Volumes-Staff

Figure 4-2b



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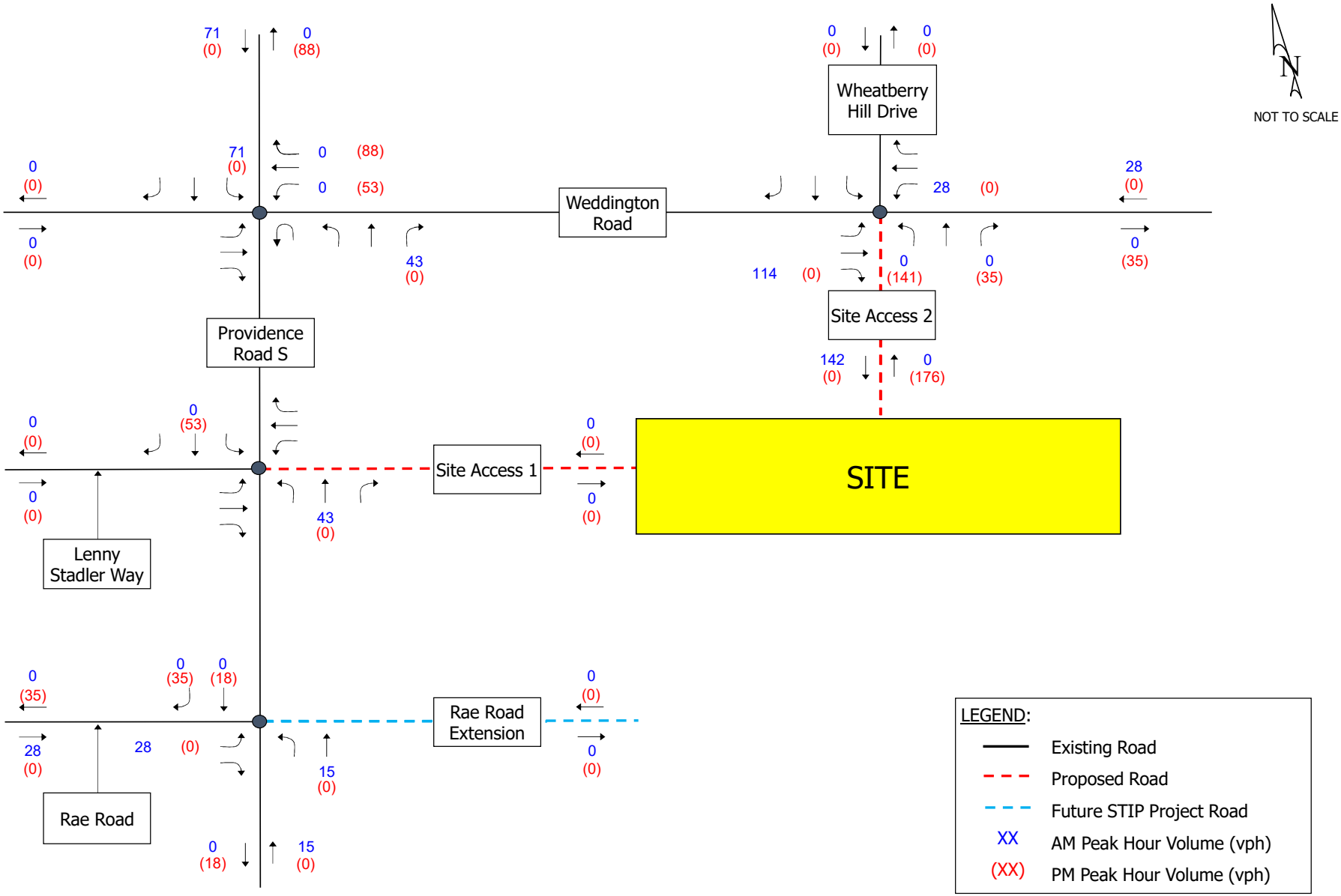
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
High School Trip Distribution Volumes-Buses

Figure 4-2c



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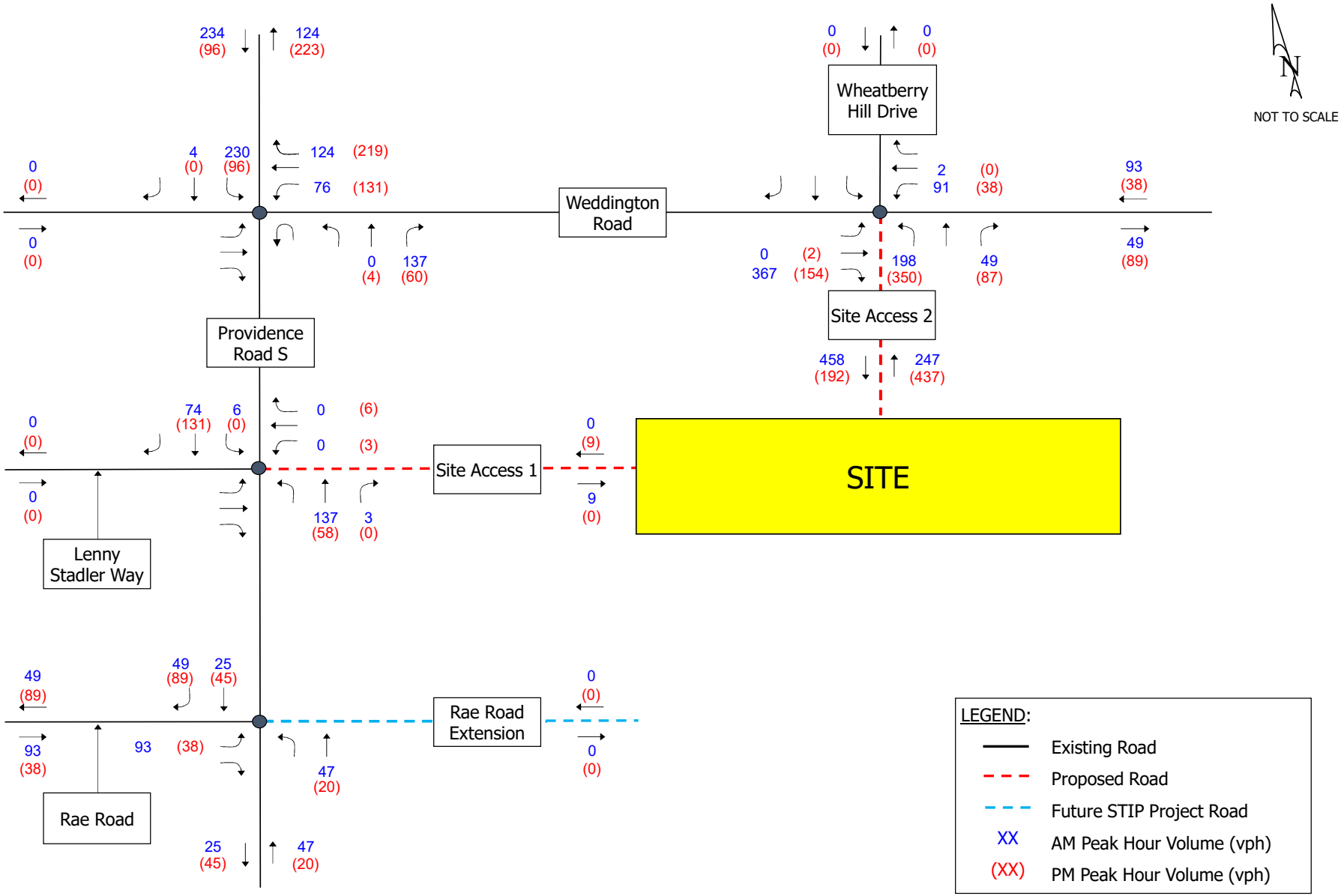
Weddington Classical Day School
Traffic Impact Analysis
Trip Distribution Volumes-Student Drivers

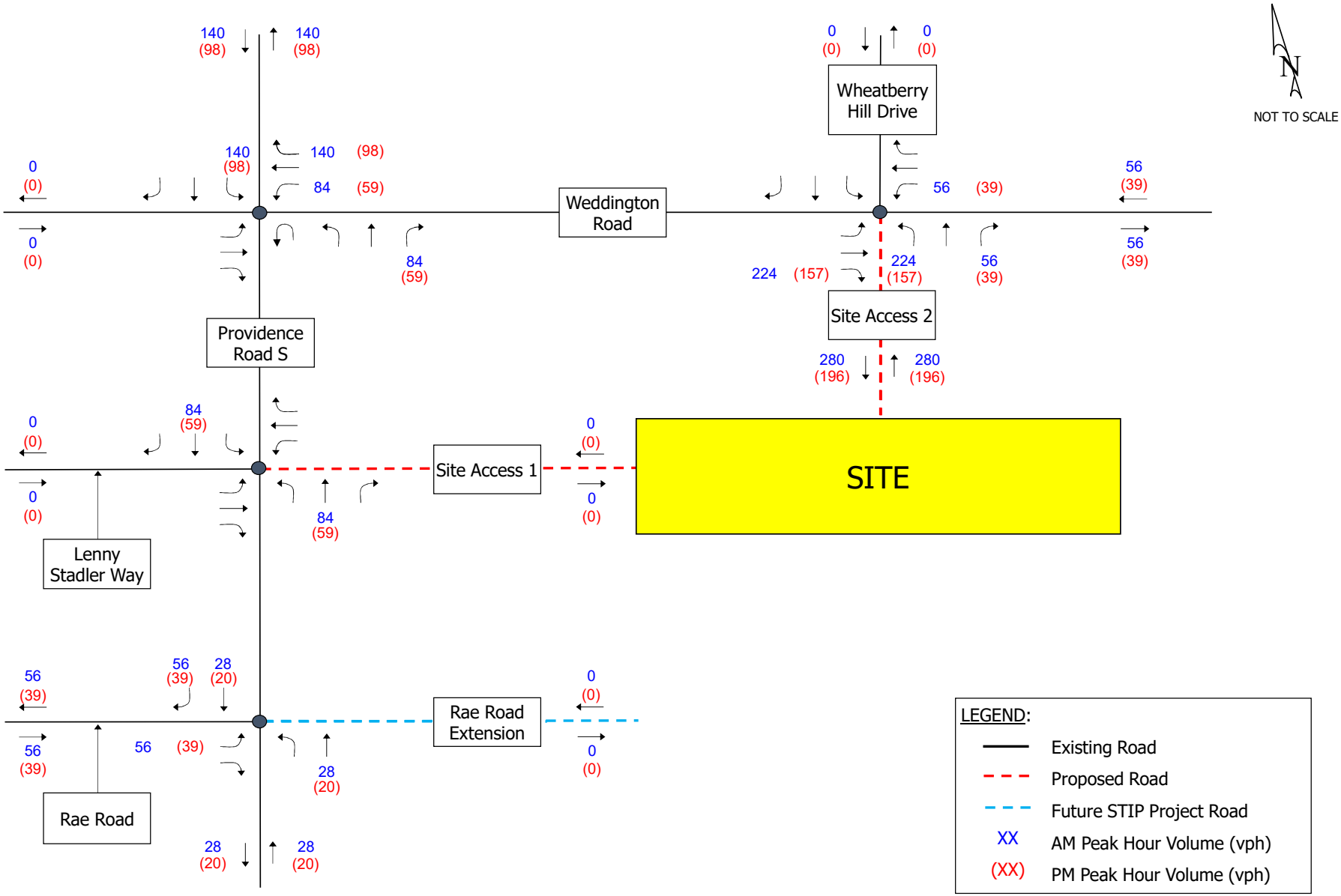
Figure 4-2d



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
High School Combined Trip Distribution Volumes

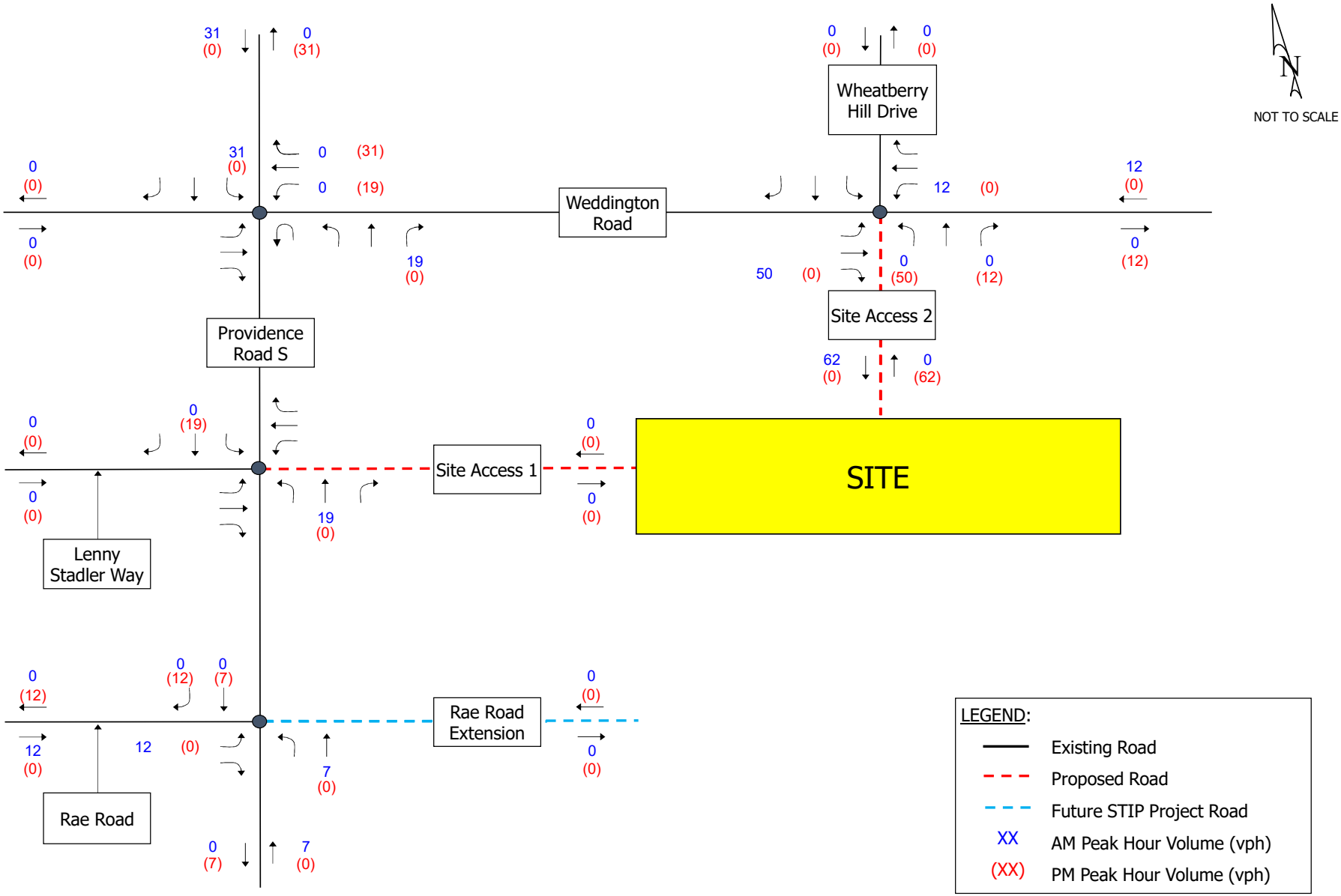
Figure 4-2e



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Middle School Trip Distribution Volumes-Parents

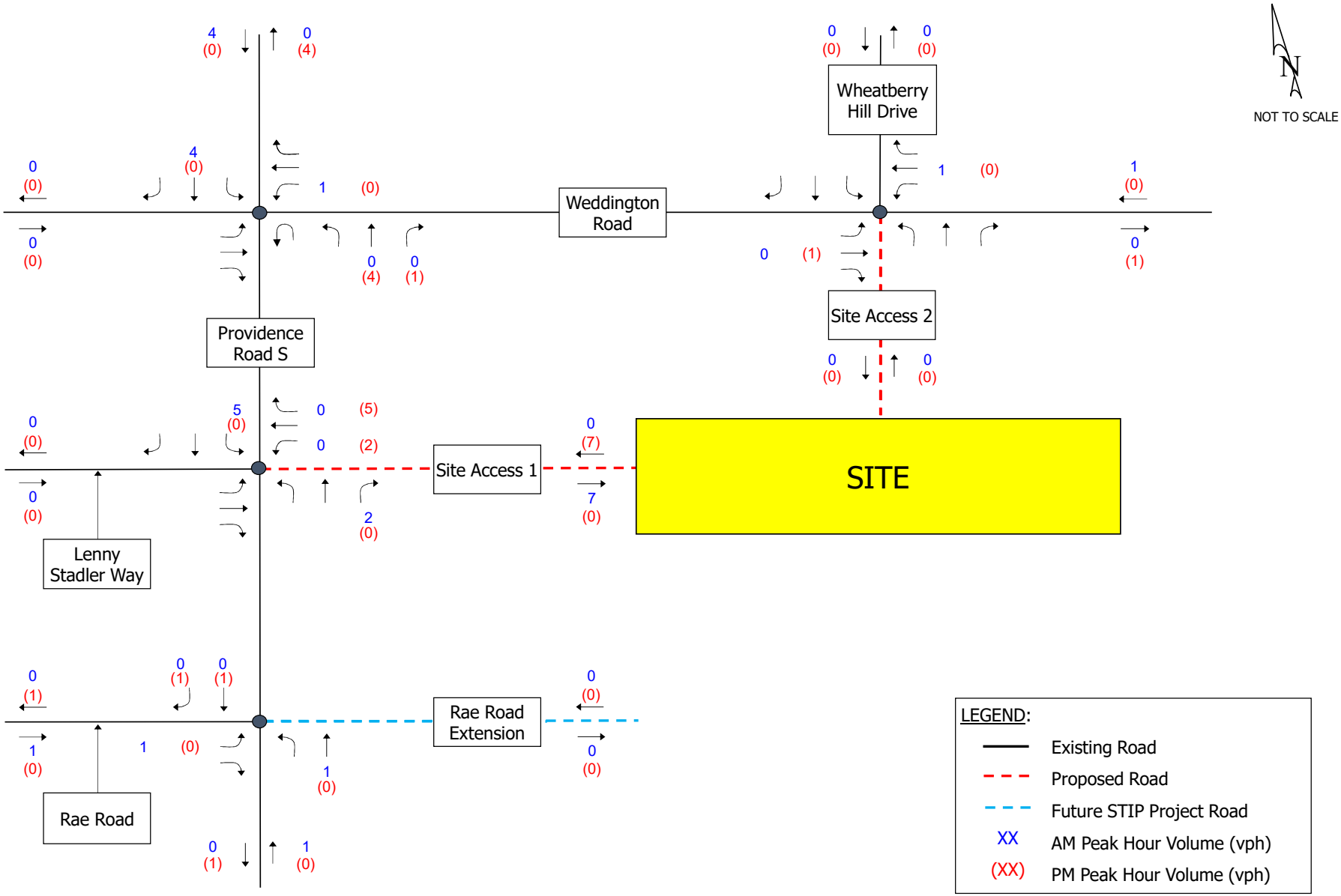
Figure 4-3a



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Middle School Trip Distribution Volumes-Staff

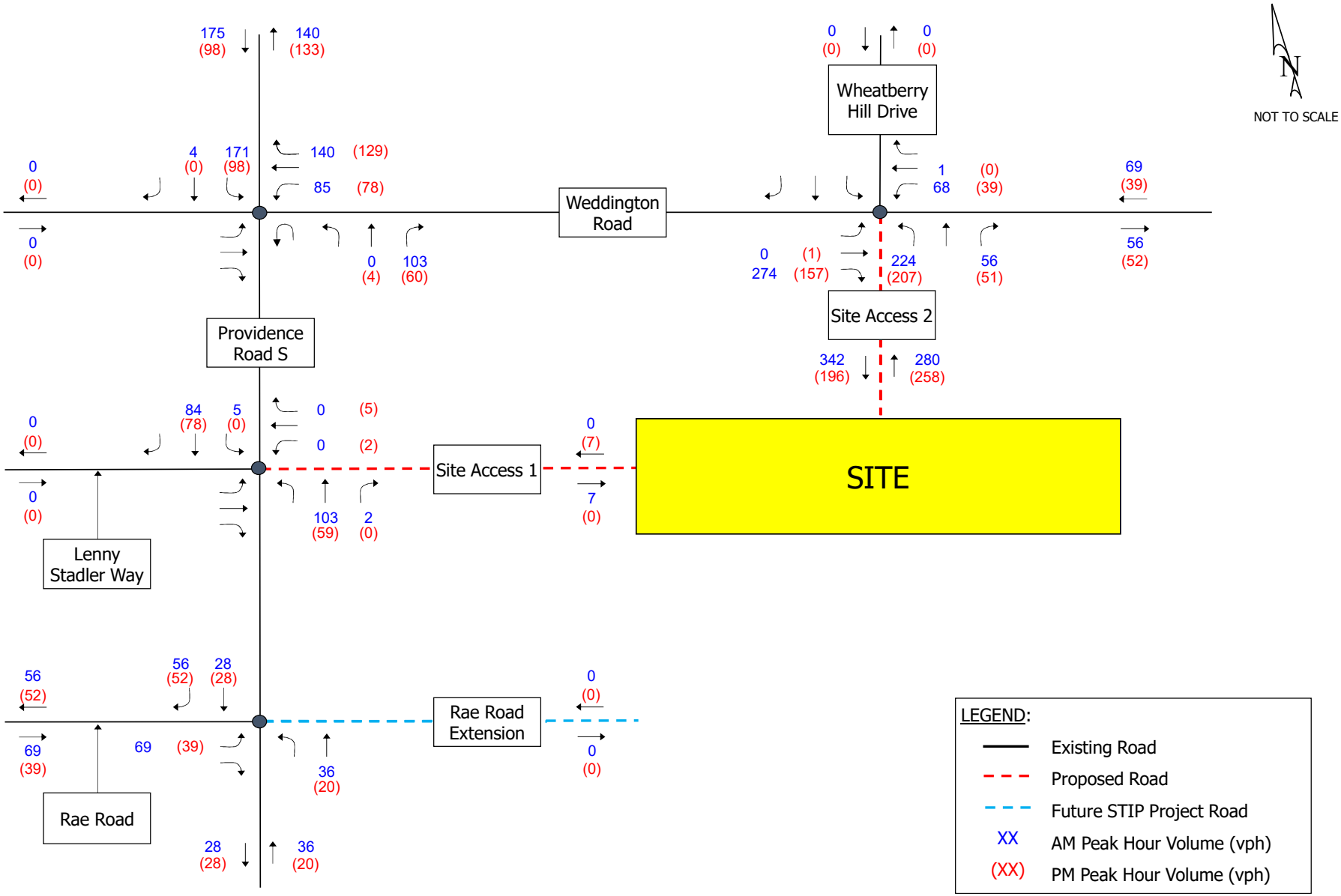
Figure 4-3b



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Middle School Trip Distribution Volumes-Buses

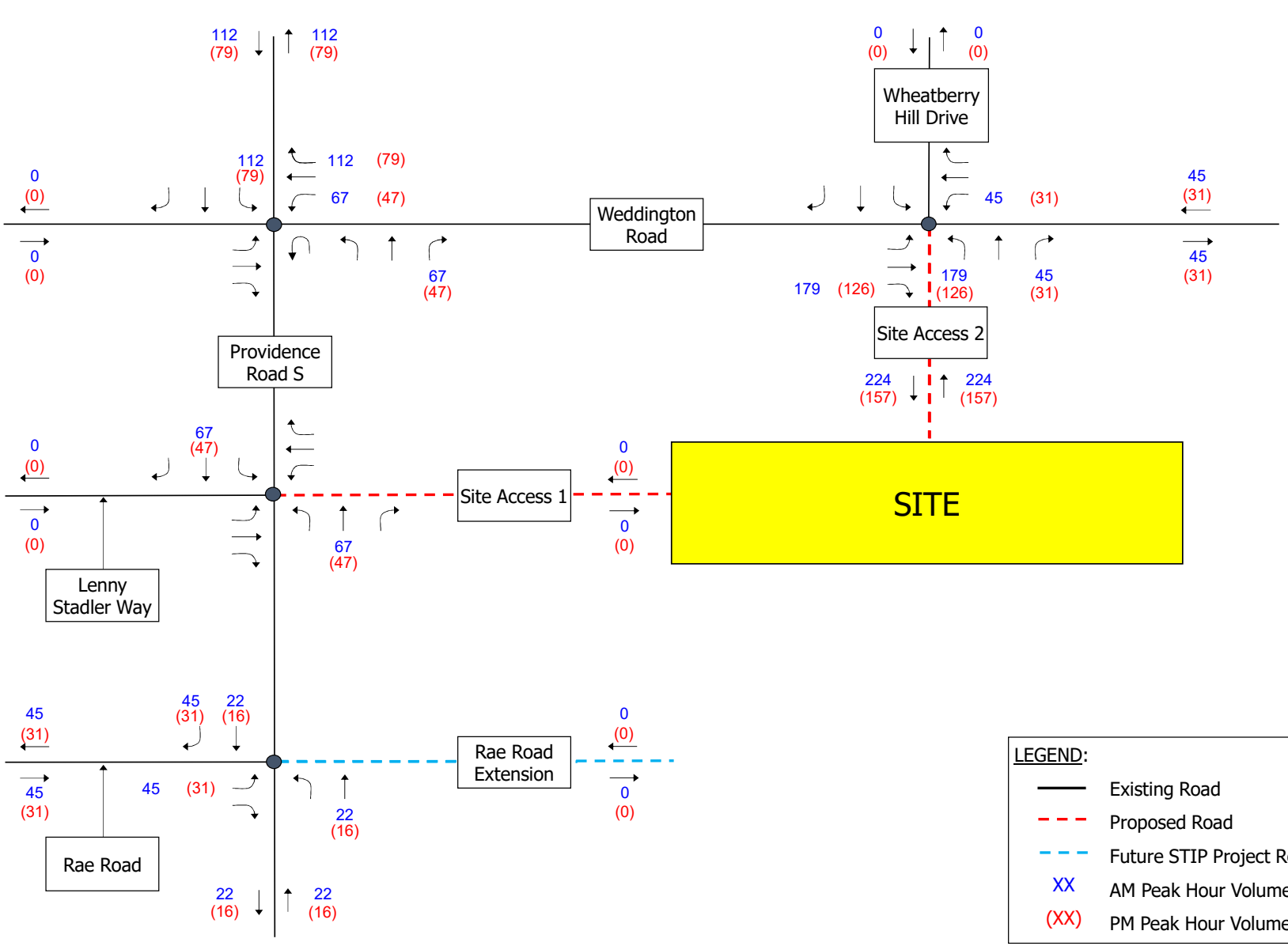
Figure 4-3c



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Middle School Combined Trip Distribution Volumes

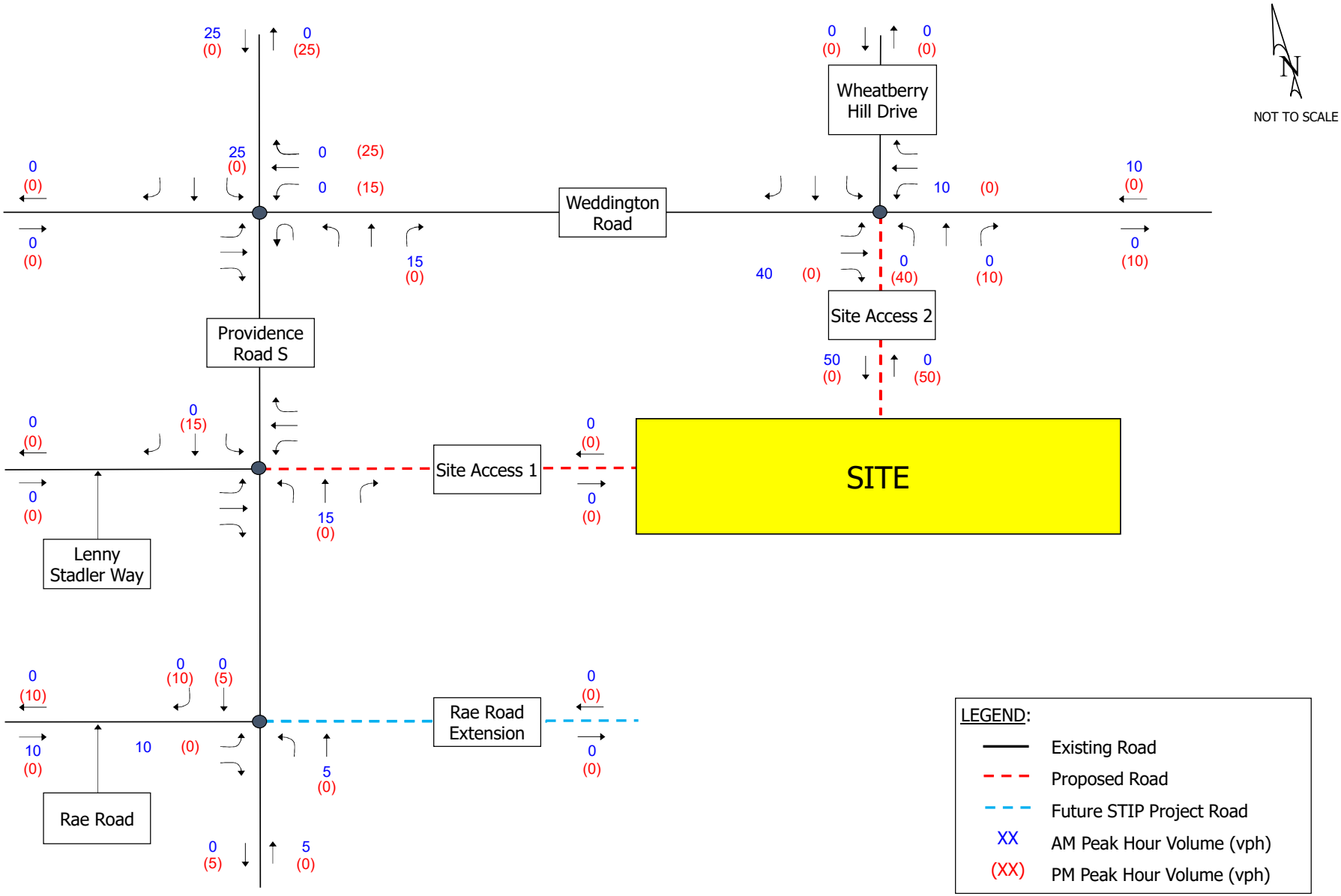
Figure 4-3d



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Elementary School Trip Distribution Volumes-Parents

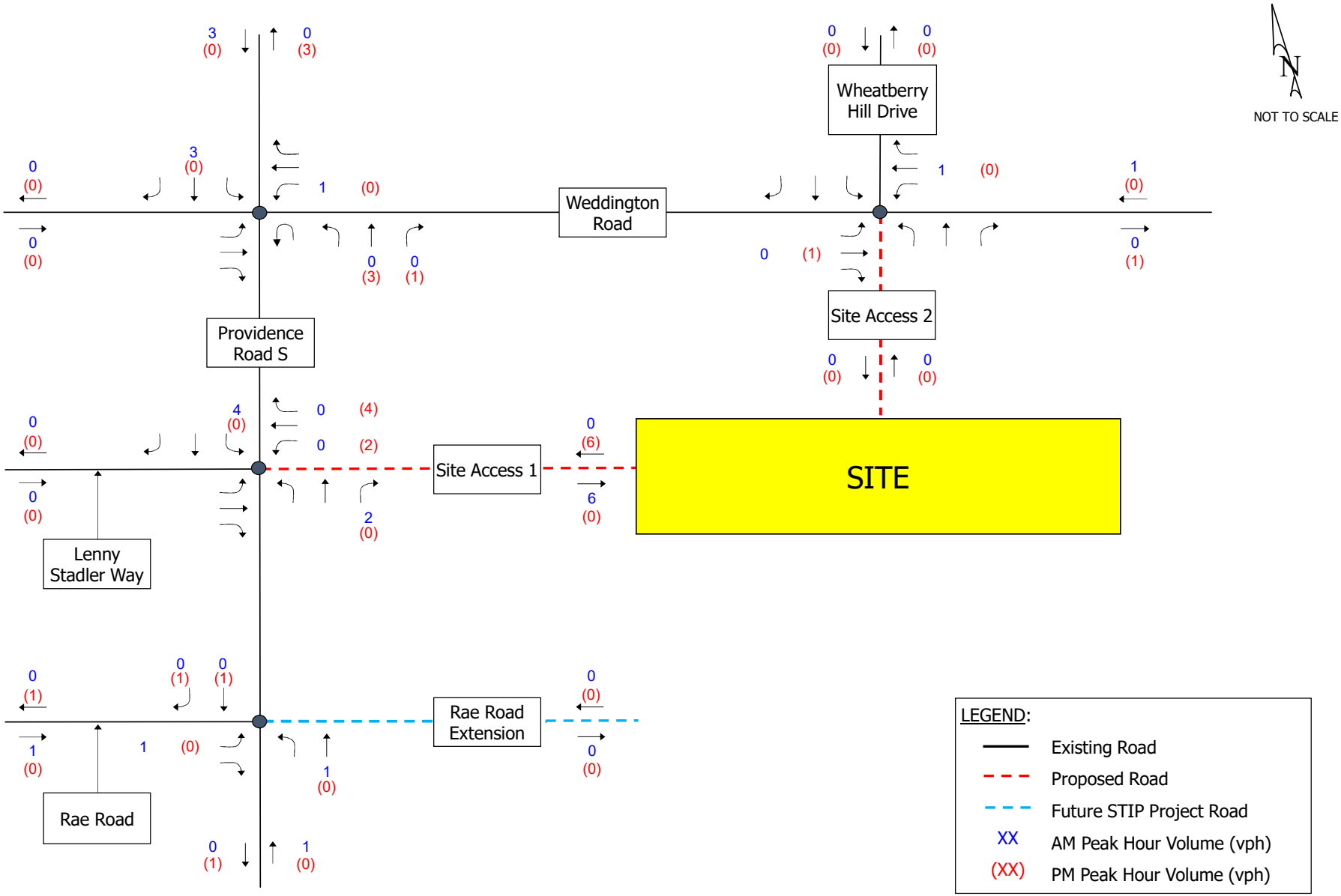
Figure 4-4a



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Elementary School Trip Distribution Volumes-Staff

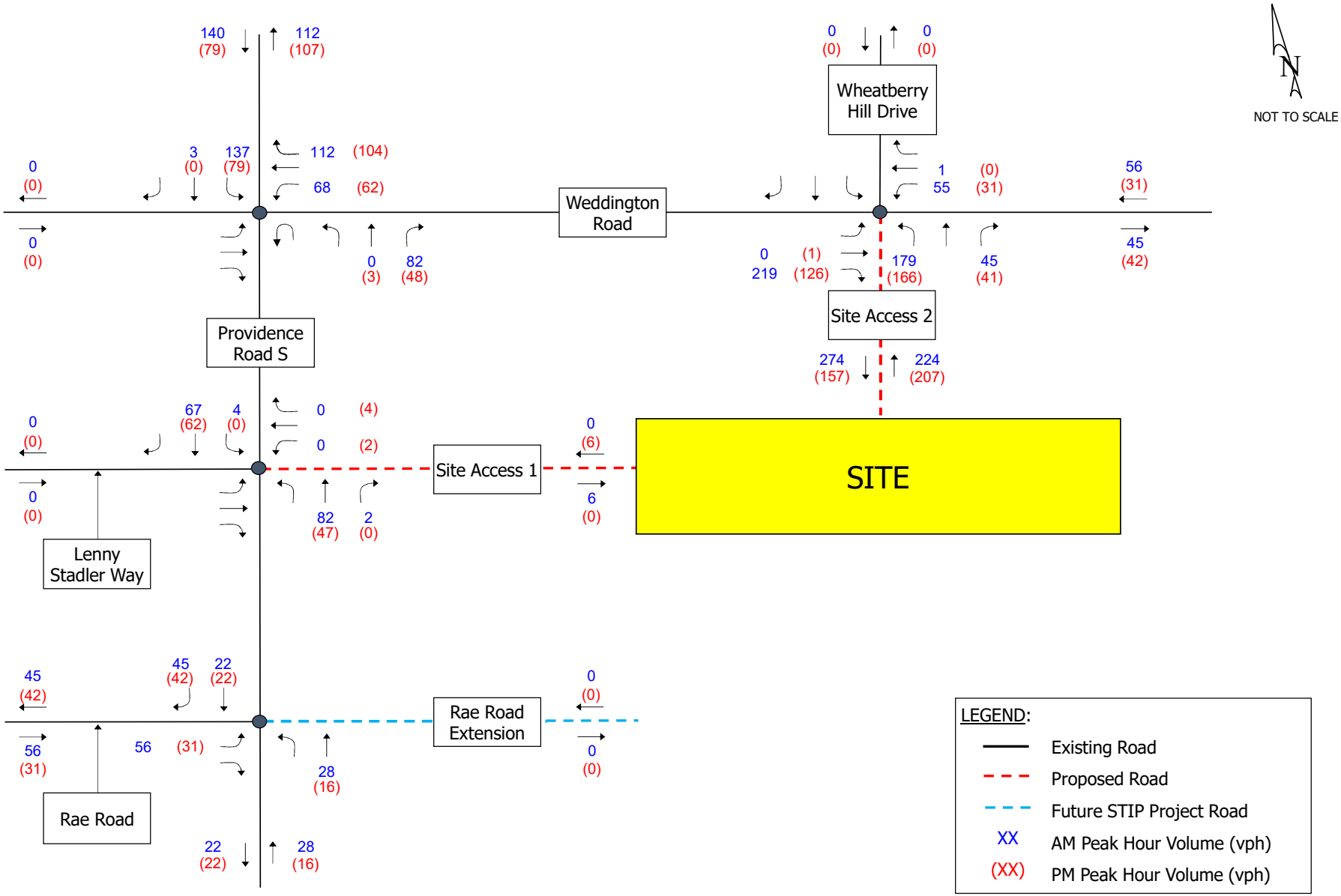
Figure 4-4b



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Elementary School Trip Distribution Volumes-Buses

Figure 4-4c



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Weddington Classical Day School
Traffic Impact Analysis
Elementary School Combined Trip Distribution Volumes

Figure 4-4d

From:	Jeff Hochanadel
To:	Helms, Amelia C; Olson, David W; Germiller, Tammy A
Cc:	Hunter Mullins; Reese, Michael P; Gardner, Zachary L; Groundwater, Elise K; Haire, Jonathan W; Sanderson, Angela; Weltner, Robert C; Robert Tefft; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester; George Maloomian; Dan Thorn
Subject:	RE: [External] RE: Weddington Classical Academy - D3: Weddington - Scope Resubmittal
Date:	Wednesday, April 19, 2023 11:48:00 AM
Attachments:	image001.png

Thank you to everyone that met with this morning to discuss the subject project. I appreciate the input / conversation. Listed below are my meeting minutes / response to comments:

- The project name is officially Liberty Classical Academy. Moving forward, the TIA / analyses will use this name.
- Timmons Group reviewed the Draft High School, Middle School, and Elementary School TMPs with the group.
    - Plans included parent, teacher, (high school) student, and bus vehicular paths
        - Parents to enter / exit Weddington Road (NC-84)
        - High School Students to enter / exit Weddington Road (NC-84)
        - Teachers / Staff to enter / exit NC-16
        - Buses to enter / exit NC-16
    - Plans showed temporary parking lot access / internal road closures to occur during unloading / loading
    - Plans denoted high demand day vehicular stacking and showed how vehicles will be adequately stacked
        - Although not included in calculations, an additional ~950-feet of parent stacking exists between Weddington Road (NC-84) and the internal roundabout
            - This can be used on extreme queuing days
- Signs to be installed denoting that vehicles should not block the internal roundabout
- DRAFT improvement recommendations were discussed at each site access connection:
    - NC-84 / Site Access
        - Eastbound right-turn lane
        - Westbound left-turn lane
        - Monitor for signalization
    - NC-16 / Site Access
        - Southbound left-turn lane
- Timmons Group reviewed MSTA's provided comment list. Discussion / responses provided in red:

    - The angled bus parking will be difficult to exit. Are buses backing out or turning around? Neither is ideal.

Buses will pull into the bus parking lot, perform a three-point maneuver, then ultimately back into the bus parking spaces. Please note that the bus parking space dimensions are currently larger than needed. Ample room exists for the three-point maneuver to occur. A bus turning template will be included with the TIA submittal. It is imperative that the "hammer head" turn-around remain clear and that no bus parking be allowed in that location.

    - There is a future drive noted to be connected in future to Weddington Road. Is the

school planning on buying that additional lot? What do they plan to do with it, and when? Connecting to the existing multi-lane tight radius roundabout will present problems.

The future drive connection in question has been removed. Liberty Classical Academy does not control the adjacent land parcel; thus, no roundabout connection can be made. Should the adjacent parcel be developed (by others), a fourth roundabout leg should be analyzed. Preliminary analyses noted future capacity concerns.

- Parallel parking of students/staff all around the queueing lines will be problematic. Many people have difficulties backing into those spots especially new drivers. This will be a complicated maneuver and will be time consuming thus creating delay and conflict points.

The development team will discuss the proposed parallel parking spaces. At the very least, this parking will be limited to Staff parking during school operations. No student parking will be allowed in the provided parallel parking spaces.

- Where are student driver's coming in? Are they coming in the same entrances and times as the parents?

High school students will enter the site off Weddington Road (NC-84), turn onto the proposed Private Access Road at the internal roundabout, then turn left into the northernmost parking lots.

- Bus pull-off on entrance road will add a level of confusion for all drivers. Especially for the ES where there are only two spots and the parent exit is directly there. This is a safety concern.

A staff member will be stationed between the Elementary School drop-off/pick-up exit and bus drop-off/pick-up to monitor vehicular flow. Alternative Elementary School drop-off / pick-up locations were discussed, but ultimately the current layout provides no pedestrian / vehicle interaction and allows students to exit / enter from the vehicle's right-side.

- HS Student parking lot in the middle has students crossing over what I assume will be the student driver path in and out. I am concerned about vehicle and pedestrian conflicts.

Timmons Group reviewed the high school student pedestrian path from the parking lot to the high school building. Pedestrian paths (and any associated temporary road blocks) will be denoted in the TMP.

- The path thru the parking lot near the Arts building can be used as a cut-thru by parents. It should be blocked off during loading/unloading operations.

This path will be temporarily blocked during drop-off / pick-up.

- Despite agreeing to a 45 minute stagger by the school, if it is not adhered to, a shared queue will result in confusion and stacking length reductions. The calculated queue length must be maintained on the campus and **the school has to enforce the 45 minute stagger.**

The 45-minute stagger will be clearly discussed / included in the TIA. Late arriving high school / middle school students should be dropped off in the bus unloading / loading zone (should

they arrive during elementary school AM peak). Other potential options to be discussed internally prior to TIA submittal.

- Loading zones should be denoted.

The unloading / loading zones will be clearly identified.

- There should be crosswalks and signing for where pedestrians are expected to be crossing over the parent queue, especially from parking lots.

Identified proposed pedestrian flows should avoid interaction with parent queues. Pedestrian paths will be identified in the TMP.

- Will there be students walking across the access road from the schools to the multi-use path? As this will be heavily traveled in the AM and PM, this could be a dangerous maneuver if not adequately addressed.

The site plan will note a pedestrian crossing from the high school parking lot to the multi-use fields.

From: Helms, Amelia C <achelms@ncdot.gov>
Sent: Monday, April 17, 2023 7:57 AM
To: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>; Olson, David W <dwolson@ncdot.gov>; Germiller, Tammy A <tgermiller@ncdot.gov>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Subject: RE: [External] RE: Weddington Classical Academy - D3: Weddington - Scope Resubmittal

Jeff,

I apologize for the delay. Please see the comments below and attached. If you have questions, just let me know.

MSTA

- All my comments were addressed except for the site plan, for which an old version had been inadvertently submitted. These are basically some of the same comments sent previously on 2/27/23.
- Revised site plan comments:
  - The angled bus parking will be difficult to exit. Are buses backing out or turning around? Neither is ideal.
  - There is a future drive noted to be connected in future to Weddington Road. Is the school planning on buying that additional lot? What do they plan to do with it, and when? Connecting to the existing multi-lane tight radius roundabout will present problems.
  - Parallel parking of students/staff all around the queueing lines will be problematic. Many

people have difficulties backing into those spots especially new drivers. This will be a complicated maneuver and will be time consuming thus creating delay and conflict points.

- Where are student driver's coming in? Are they coming in the same entrances and times as the parents?
- Bus pull-off on entrance road will add a level of confusion for all drivers. Especially for the ES where there are only two spots and the parent exit is directly there. This is a safety concern.
- HS Student parking lot in the middle has students crossing over what I assume will be the student driver path in and out. I am concerned about vehicle and pedestrian conflicts.
- The path thru the parking lot near the Arts building can be used as a cut-thru by parents. It should be blocked off during loading/unloading operations.
- Despite agreeing to a 45 minute stagger by the school, if it is not adhered to, a shared queue will result in confusion and stacking length reductions. The calculated queue length must be maintained on the campus and **the school has to enforce the 45 minute stagger.**
- Loading zones should be denoted.
- There should be crosswalks and signing for where pedestrians are expected to be crossing over the parent queue, especially from parking lots.
- Will there be students walking across the access road from the schools to the multi-use path? As this will be heavily traveled in the AM and PM, this could be a dangerous maneuver if not adequately addressed.

CMS (David Olson)

- See attached.

Thank you,

Amelia Helms, P.E.
Division 10 - District 3
North Carolina Department of Transportation

704 218 5100 office
704 292 1800 fax
achelms@ncdot.gov

130 South Sutherland Avenue
Monroe, NC 28112

From: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>
Sent: Friday, April 14, 2023 4:11 PM
To: Helms, Amelia C <achelms@ncdot.gov>; Olson, David W <dwolson@ncdot.gov>; Germiller, Tammy A <tgermiller@ncdot.gov>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Subject: [External] RE: Weddington Classical Academy - D3: Weddington - Scope Resubmittal

All,

I wanted to follow up and check on the status of the (updated) TIA Scoping Checklist for the subject project.

Please let me know if you need any additional information from Timmons Group.

Thank You!
Jeff

From: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>
Sent: Monday, March 20, 2023 1:00 PM
To: Helms, Amelia C <achelms@ncdot.gov>; Olson, David W <dwolson@ncdot.gov>; Germiller, Tammy A <tgermiller@ncdot.gov>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Subject: RE: Weddington Classical Academy - D3: Weddington - Scope Resubmittal

All,

Please see the attached (updated) TIA Scoping Checklist. I have included my response to comments in red below. Do not hesitate to contact me with any questions or should any additional information

be needed.

Thank You!
Jeff

MSTA

- **When is the commercial development being studied**? Is that in this TIA for the horizon year? Development needs to be included but the school broken out. **Need to see improvements needed just for the school, then just for the commercial development**. How it is written in the TIA is a bit confusing if you intended the commercial development to be here. Even if the school is not seeking reimbursement (as per Jeff H. email on 2/20/23), we need to look at NCDOT required improvements that can be reimbursable under the school statute.

The commercial development is no longer planned for the subject development. All commercial square-footage has been removed.

- Page 2 of 2. Check box that TIA is required by NCDOT??

The TIA Scoping Checklist was updated accordingly.

- Page 1 of 7. Check box for internal school circulation analysis

The TIA Scoping Checklist was updated accordingly.

- Page 4 of 7. Study intersections. Remove intersection #4 from analysis. Weddington at Weddington Matthews is a roundabout. Under school reimbursement funding this would be unchangeable, and a 2 lane roundabout is never really a good option.

Intersection #4 has been removed from the TIA Scoping Checklist / analyses.

- Page 6 of 7. Check box for School Loading zone Traffic Simulation.

The TIA Scoping Checklist was updated accordingly.

- Page 6 of 7. Submittals. Check boxes for Div Traffic Eng, and Regional Traffic Engr.

The TIA Scoping Checklist was updated accordingly.

- Staggering must be a minimum of 45 minutes between schools, and there needs to be a Transportation Management Plan (TMP).

Understood. Bells will be staggered by 45 minutes. A Transportation Management Plan will be provided with the TIA submittal.

- Site plan

An older version of the site plan was inadvertently attached to the 3/03/23 TIA Scoping Checklist submittal. An updated site plan is attached to the TIA Scoping Checklist.

    - Where are student drivers coming in?

Student drivers will approach the school from Weddington Road.

    - What are the entering/existing parent paths for each school? They appear as they may be short.

Parents will approach / depart the school from Weddington Road. Adequate stacking has been provided from the on-campus roundabout to the designated pick-up/drop-off zones. The MSTA School Calculator projected queue lengths are attached to the TIA Scoping Checklist.

    - Short term visitor parking should be accessible after each loading zone for students requiring additional time to load.

Short term parking has been identified after each loading zone. Please see the attached site plan.

Buses? Where do they load/unload/park? Buses should not be mixed in with parent/student traffic.

Buses will approach / depart the school from NC-16. Bus pick-up / drop-off zones have been identified on the attached site plan.

- A singular ingress/egress will be problematic for many reasons. Typically, an ingress with a separate egress is preferred by MSTA. Also note this access will be shared with a lot of commercial enterprise.

Understood. To accommodate projected on-site queues and help with on-site circulation, all parent / student traffic will enter / exit from Weddington Road. As previously mentioned, the commercial development is no longer planned. All commercial square-footage has been removed. All onsite traffic will be school related.

- Why was the access to Weddington considered only as Potential? Wasn' t there an access at one point? Why are we studying if there will not be a driveway here? There will be a lot of traffic forced onto the one access now at Providence road. This is not ideal and by doing so it does not necessarily force NCDOT to install traffic signal.

The "potential" label has been removed.

CM:

- See Attached

Trip Generation

- The commercial development is no longer planned for the subject development. All commercial square-footage has been removed.
- Understood.

Trip Distribution and Growth

- The proposed trip distribution figure is attached to the TIA Scoping Checklist.
- A 2.5% ambient growth factor will be used for all analyses. Due to limitations with the TIA Scoping Checklist, Timmons Group is unable to show this percentage in the Annual Growth Factor blank. 2.5% is noted in the "Justification / Data Source" line below.

Study Intersections

- The proposed trip distribution figure is attached to the TIA Scoping Checklist.

Site Plan and Proposed Driveways

- Understood. The proposed access connection to NC-16 will be opposite Lenny Stadler Way. This intersection is currently a signalized full movement intersection. Does the NCDOT desire the signal to be removed / modified?
- Understood. Turn-lanes will likely be needed at all site access points to facilitate projected traffic.
- The commercial development is no longer planned for the subject development. All commercial square-footage has been removed.
- Understood.

From: Helms, Amelia C <achelms@ncdot.gov>
Sent: Friday, March 17, 2023 4:49 PM
To: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>; Olson, David W <dwolson@ncdot.gov>;

Germiller, Tammy A <tgermiller@ncdot.gov>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Cliff Lawson <cliff.lawson@timmons.com>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Subject: Weddington Classical Academy - D3: Weddington - Scope Resubmittal

Jeff,

Good afternoon! Please see NCDOT's comments below, as well as attached, for the scope resubmitted on 3/3/23. If you have any questions, please let me know.

MSTA

- **When is the commercial development being studied**? Is that in this TIA for the horizon year? Development needs to be included but the school broken out. **Need to see improvements needed just for the school, then just for the commercial development**. How it is written in the TIA is a bit confusing if you intended the commercial development to be here. Even if the school is not seeking reimbursement (as per Jeff H. email on 2/20/23), we need to look at NCDOT required improvements that can be reimbursable under the school statute.
- Page 2 of 2. Check box that TIA is required by NCDOT??
- Page 1 of 7. Check box for internal school circulation analysis
- Page 4 of 7. Study intersections. Remove intersection #4 from analysis. Weddington at Weddington Matthews is a roundabout. Under school reimbursement funding this would be unchangeable, and a 2 lane roundabout is never really a good option.
- Page 6 of 7. Check box for School Loading zone Traffic Simulation.
- Page 6 of 7. Submittals. Check boxes for Div Traffic Eng, and Regional Traffic Engr.
- Staggering must be a minimum of 45 minutes between schools, and there needs to be a Transportation Management Plan (TMP).
- Site plan
    - Where are student drivers coming in?
    - What are the entering/existing parent paths for each school? They appear as they may be short.
    - Short term visitor parking should be accessible after each loading zone for students requiring additional time to load.
    - Buses? Where do they load/unload/park? Buses should not be mixed in with parent/student traffic.
    - A singular ingress/egress will be problematic for many reasons. Typically, an ingress with a separate egress is preferred by MSTA. Also note this access will be shared with a lot of commercial enterprise.
    - Why was the access to Weddington considered only as Potential? Wasn' t there an access at one point? Why are we studying if there will not be a driveway here? There will be a lot of traffic forced onto the one access now at Providence road. This is not

ideal and by doing so it does not necessarily force NCDOT to install traffic signal.

CM:

- See Attached

Thank you,

Amelia Helms, P.E.
Division 10 - District 3
North Carolina Department of Transportation

704 218 5100 office
704 292 1800 fax
achelms@ncdot.gov

130 South Sutherland Avenue
Monroe, NC 28112

From: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>
Sent: Friday, March 3, 2023 10:32 AM
To: Olson, David W <dwolson@ncdot.gov>; Germiller, Tammy A <tgermiller@ncdot.gov>; Helms, Amelia C <achelms@ncdot.gov>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Cliff Lawson <cliff.lawson@timmons.com>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Subject: RE: [External] FW: Weddington TIA Scoping Meeting Minutes (12/02/22)

All,

Attached is the updated TIA Scoping Checklist for the subject project. We are obviously open to meeting and discussing the attached as needed. Please let me know.

Thank You!
Jeff

Jeff Hochanadel, PE, PTOE
Principal | North Carolina Transportation Group Leader
TIMMONS GROUP | www.timmons.com
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Office: 919.866.4511 | Fax: 919.859.5663
Cell: 919.426.8405
jeff.hochanadel@timmons.com
Your Vision Achieved Through Ours
To send me files greater than 20MB click here

From: Olson, David W <dwolson@ncdot.gov>
Sent: Monday, February 27, 2023 3:14 PM
To: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>; Germiller, Tammy A <tgermiller@ncdot.gov>; Helms, Amelia C <achelms@ncdot.gov>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Cliff Lawson <cliff.lawson@timmons.com>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Subject: RE: [External] FW: Weddington TIA Scoping Meeting Minutes (12/02/22)

Jeff,

I have no objection to submitting the revised scope without a meeting, so long as such is OK with MSTA (Tammy Germiller) and the new district engineer (Amelia Helms).

David W. Olson, P.E.

Congestion Management Project Design Engineer, Western Region

Traffic Management Unit
North Carolina Department of Transportation

(470) 241-4227 cell
(919) 814-5058 office
dwolson@ncdot.gov

1561 Mail Service Center
750 North Greenfield Parkway
Garner, NC 27529-6949

From: Jeff Hochanadel <Jeff.Hochanadel@timmons.com>
Sent: Monday, February 27, 2023 1:35 PM
To: Germiller, Tammy A <tgermiller@ncdot.gov>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; Robert Tefft <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; Reese, Michael P <mikereese@ncdot.gov>; Gardner, Zachary L <zlgardner@ncdot.gov>; Olson, David W <dwolson@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Cliff Lawson <cliff.lawson@timmons.com>
Subject: [External] FW: Weddington TIA Scoping Meeting Minutes (12/02/22)

All,

I wanted to follow up again and check on the email below.

Please let me know if a new TIA scoping meeting will be required or if we can submit the Checklist in lieu of this meeting.

Thank You!
Jeff

From: Jeff Hochanadel
Sent: Monday, February 20, 2023 12:57 PM
To: 'Germiller, Tammy A' <tgermiller@ncdot.gov>; 'Haire, Jonathan W' <jwhaire@ncdot.gov>; 'Sanderson, Angela' <amsanderson@ncdot.gov>; 'Weltner, Robert C' <rcweltner@ncdot.gov>; 'Robert Tefft' <rtefft@townofweddington.com>; 'leah.wagner@volkert.com' <leah.wagner@volkert.com>; 'nkb@cambridgeprop.com' <nkb@cambridgeprop.com>; 'Jay Priester'

<jjp@cambridgeprop.com>; 'George Maloomian' <glm@cambridgeprop.com>; 'Dan Thorn' <cdt@cambridgeprop.com>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; 'mikereese@ncdot.gov' <mikereese@ncdot.gov>; 'Gardner, Zachary L' <zlgardner@ncdot.gov>; 'Olson, David W' <dwolson@ncdot.gov>; 'Groundwater, Elise K' <ekgroundwater@ncdot.gov>; Cliff Lawson <Cliff.Lawson@timmons.com>
Subject: RE: Weddington TIA Scoping Meeting Minutes (12/02/22)

All,

Since our 12/02/22 scoping meeting (see attached meeting minutes), there have been several changes to the proposed Weddington Classical Academy Development. Because of this, the subject TIA needs to be rescoped. I will be happy to rescope this project via email. I will also be happy to set up another meeting to discuss the subject project (as needed).

I have listed a brief summary of changes below:

- Removed proposed commercial square footage
- Reduced student population to 1,500 students
    - 600 high school students
    - 500 middle school students
    - 400 elementary school students
- Updated site layout (to more closely meet MSTA standards)
- Better defined parent / teacher / student / bus approach and departure
- No longer seeking NCDOT reimbursement

I will be happy to submit an updated NCDOT TIA Scoping Checklist prior to, or in lieu of, a scoping meeting.

Thank You!
Jeff

Jeff Hochanadel, PE, PTOE
Principal | North Carolina Transportation Group Leader
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jeff.hochanadel@timmons.com
Your Vision Achieved Through Ours
To send me files greater than 20MB click here

From: Jeff Hochanadel
Sent: Tuesday, December 6, 2022 10:02 AM
To: Germiller, Tammy A <tgermiller@ncdot.gov>; Haire, Jonathan W <jwhaire@ncdot.gov>; Sanderson, Angela <amsanderson@ncdot.gov>; Weltner, Robert C <rcweltner@ncdot.gov>; 'Robert Tefft' <rtefft@townofweddington.com>; leah.wagner@volkert.com; nkb@cambridgeprop.com; Jay Priester <jjp@cambridgeprop.com>; George Maloomian <glm@cambridgeprop.com>; Dan Thorn <cdt@cambridgeprop.com>
Cc: Hunter Mullins <Hunter.Mullins@timmons.com>; mikereese@ncdot.gov; Gardner, Zachary L <zlgardner@ncdot.gov>; Olson, David W <dwolson@ncdot.gov>; Groundwater, Elise K <ekgroundwater@ncdot.gov>; Cliff Lawson <Cliff.Lawson@timmons.com>
Subject: Weddington TIA Scoping Meeting Minutes (12/02/22)

All,

Attached are the Weddington Classical Academy TIA Scoping Meeting Minutes. Please review the attached document and let me know if you have any questions or comments.

We are currently finalizing the NCDOT's TIA Scoping Checklist for the subject project. Once this document is complete, I will submit it for review / comment.

If I have inadvertently excluded anyone from this email distribution list, please do not hesitate to forward this email to them.

Thank You!
Jeff

Jeff Hochanadel, PE, PTOE

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Appendix B – Traffic Counts

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023
Page No : 1

Groups Printed- Cars + - Trucks

	Wheatberry Hill Drive Southbound			NC 84 Westbound			NC 84 Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
07:00 AM	0	0	0	1	76	77	30	0	30	107
07:05 AM	3	1	4	1	52	53	27	0	27	84
07:10 AM	2	2	4	0	67	67	25	0	25	96
07:15 AM	0	0	0	0	63	63	34	0	34	97
07:20 AM	3	0	3	3	64	67	29	0	29	99
07:25 AM	0	1	1	0	57	57	24	0	24	82
07:30 AM	1	0	1	1	47	48	41	1	42	91
07:35 AM	0	1	1	2	52	54	47	0	47	102
07:40 AM	1	0	1	0	44	44	29	0	29	74
07:45 AM	0	1	1	1	41	42	35	0	35	78
07:50 AM	1	0	1	0	37	37	43	1	44	82
07:55 AM	0	0	0	0	50	50	30	0	30	80
Total	11	6	17	9	650	659	394	2	396	1072
08:00 AM	0	0	0	2	40	42	39	0	39	81
08:05 AM	1	0	1	0	40	40	31	1	32	73
08:10 AM	1	0	1	0	54	54	32	0	32	87
08:15 AM	0	0	0	1	55	56	29	0	29	85
08:20 AM	1	1	2	0	70	70	19	1	20	92
08:25 AM	0	0	0	1	62	63	33	1	34	97
08:30 AM	1	1	2	0	58	58	21	0	21	81
08:35 AM	1	1	2	0	50	50	34	0	34	86
08:40 AM	1	1	2	1	70	71	33	0	33	106
08:45 AM	3	0	3	1	63	64	36	0	36	103
08:50 AM	0	0	0	1	59	60	42	1	43	103
08:55 AM	1	1	2	0	65	65	28	1	29	96
Total	10	5	15	7	686	693	377	5	382	1090
Grand Total	21	11	32	16	1336	1352	771	7	778	2162
Apprch %	65.6	34.4		1.2	98.8		99.1	0.9		
Total %	1	0.5	1.5	0.7	61.8	62.5	35.7	0.3	36	
Cars +	21	11	32	15	1297	1312	744	7	751	2095
% Cars +	100	100	100	93.8	97.1	97	96.5	100	96.5	96.9
Trucks	0	0	0	1	39	40	27	0	27	67
% Trucks	0	0	0	6.2	2.9	3	3.5	0	3.5	3.1

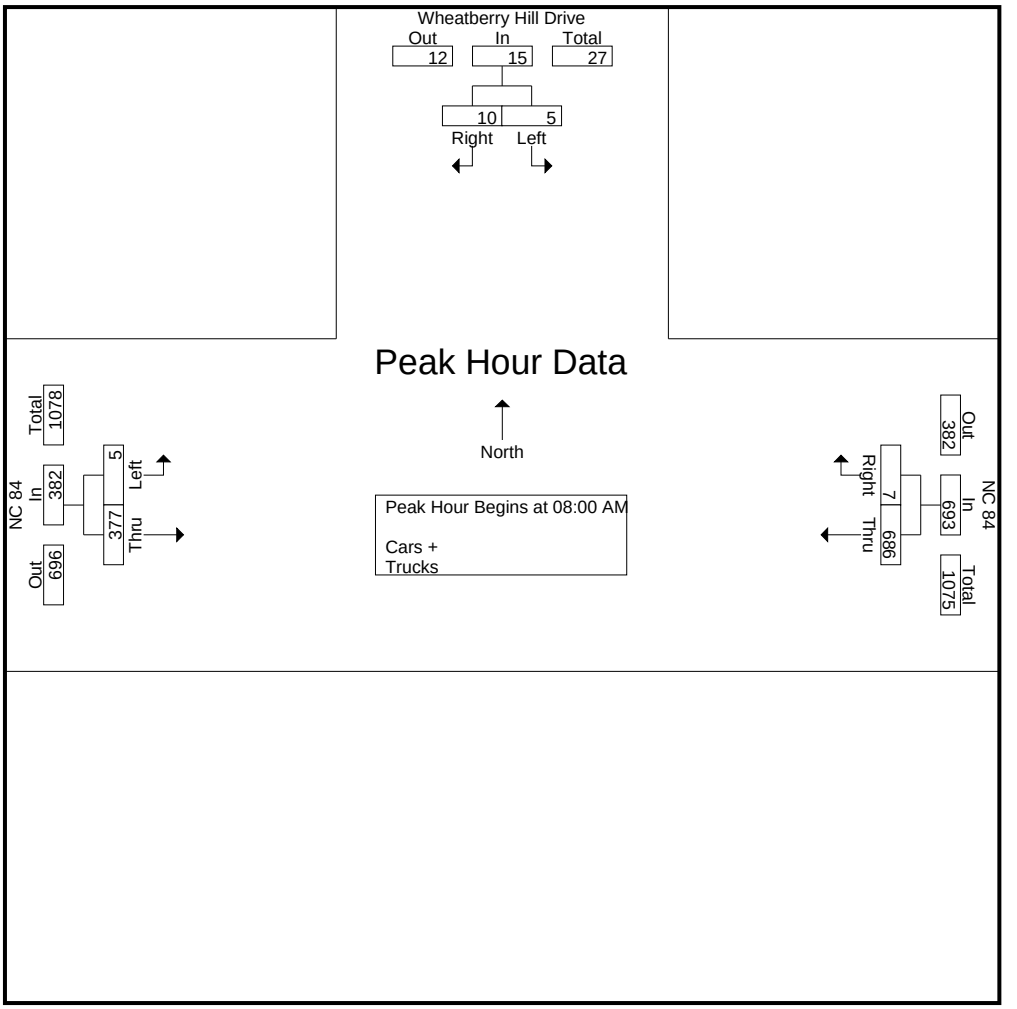
TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023

	Wheatberry Hill Drive Southbound			NC 84 Westbound			NC 84 Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:55 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	**2**	40	42	39	0	39	81
08:05 AM	1	0	1	0	40	40	31	**1**	32	73
08:10 AM	1	0	1	0	54	54	32	0	32	87
08:15 AM	0	0	0	1	55	56	29	0	29	85
08:20 AM	1	**1**	2	0	**70**	70	19	1	20	92
08:25 AM	0	0	0	1	62	63	33	1	34	97
08:30 AM	1	1	2	0	58	58	21	0	21	81
08:35 AM	1	1	2	0	50	50	34	0	34	86
08:40 AM	1	1	2	1	70	**71**	33	0	33	**106**
08:45 AM	**3**	0	**3**	1	63	64	36	0	36	103
08:50 AM	0	0	0	1	59	60	**42**	1	**43**	103
08:55 AM	1	1	2	0	65	65	28	1	29	96
Total Volume	10	5	15	7	686	693	377	5	382	1090
% App. Total	66.7	33.3		1	99		98.7	1.3		
PHF	.278	.417	.417	.292	.817	.813	.748	.417	.740	.857

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023
Page No : 3



TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023
Page No : 1

Groups Printed- Cars + - Trucks

	Wheatberry Hill Drive Southbound			NC 84 Westbound			NC 84 Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
02:00 PM	0	1	1	1	35	36	34	2	36	73
02:05 PM	0	0	0	0	36	36	35	0	35	71
02:10 PM	0	0	0	1	46	47	42	1	43	90
02:15 PM	1	0	1	1	38	39	54	0	54	94
02:20 PM	2	1	3	0	35	35	33	0	33	71
02:25 PM	0	0	0	0	34	34	49	2	51	85
02:30 PM	0	1	1	0	40	40	41	0	41	82
02:35 PM	0	0	0	0	34	34	48	0	48	82
02:40 PM	1	0	1	0	40	40	39	1	40	81
02:45 PM	1	0	1	2	34	36	45	1	46	83
02:50 PM	0	0	0	0	34	34	34	1	35	69
02:55 PM	0	0	0	0	32	32	52	0	52	84
Total	5	3	8	5	438	443	506	8	514	965
03:00 PM	0	1	1	1	31	32	34	1	35	68
03:05 PM	1	1	2	0	32	32	62	3	65	99
03:10 PM	1	1	2	1	50	51	49	1	50	103
03:15 PM	2	0	2	1	51	52	41	0	41	95
03:20 PM	0	2	2	0	37	37	54	0	54	93
03:25 PM	1	2	3	2	56	58	56	0	56	117
03:30 PM	1	0	1	1	55	56	40	1	41	98
03:35 PM	1	0	1	2	33	35	57	1	58	94
03:40 PM	0	1	1	2	35	37	64	1	65	103
03:45 PM	1	1	2	0	42	42	48	0	48	92
03:50 PM	1	0	1	0	40	40	48	1	49	90
03:55 PM	1	2	3	0	43	43	54	2	56	102
Total	10	11	21	10	505	515	607	11	618	1154
04:00 PM	1	0	1	1	33	34	51	1	52	87
04:05 PM	1	0	1	0	46	46	56	1	57	104
04:10 PM	0	0	0	1	40	41	46	0	46	87
04:15 PM	1	1	2	2	51	53	65	0	65	120
04:20 PM	0	0	0	0	48	48	77	2	79	127
04:25 PM	0	0	0	0	50	50	65	1	66	116
04:30 PM	2	1	3	1	53	54	59	2	61	118
04:35 PM	2	0	2	0	54	54	67	2	69	125
04:40 PM	0	1	1	1	38	39	78	0	78	118
04:45 PM	1	1	2	0	41	41	66	1	67	110

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023

Groups Printed- Cars + - Trucks

	Wheatberry Hill Drive Southbound			NC 84 Westbound			NC 84 Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
04:50 PM	2	0	2	1	58	59	49	3	52	113
04:55 PM	1	0	1	2	44	46	60	1	61	108
Total	11	4	15	9	556	565	739	14	753	1333
05:00 PM	2	1	3	0	36	36	65	0	65	104
05:05 PM	2	0	2	1	39	40	49	0	49	91
05:10 PM	2	0	2	0	48	48	47	0	47	97
05:15 PM	0	0	0	0	38	38	59	0	59	97
05:20 PM	1	0	1	0	36	36	44	2	46	83
05:25 PM	1	0	1	1	40	41	49	2	51	93
05:30 PM	3	0	3	0	41	41	52	2	54	98
05:35 PM	0	0	0	0	53	53	63	0	63	116
05:40 PM	0	0	0	0	44	44	62	3	65	109
05:45 PM	0	0	0	2	67	69	59	0	59	128
05:50 PM	2	0	2	0	42	42	48	3	51	95
05:55 PM	0	0	0	0	48	48	64	0	64	112
Total	13	1	14	4	532	536	661	12	673	1223
Grand Total	39	19	58	28	2031	2059	2513	45	2558	4675
Apprch %	67.2	32.8		1.4	98.6		98.2	1.8		
Total %	0.8	0.4	1.2	0.6	43.4	44	53.8	1	54.7	
Cars +	39	16	55	26	1983	2009	2458	45	2503	4567
% Cars +	100	84.2	94.8	92.9	97.6	97.6	97.8	100	97.8	97.7
Trucks	0	3	3	2	48	50	55	0	55	108
% Trucks	0	15.8	5.2	7.1	2.4	2.4	2.2	0	2.2	2.3

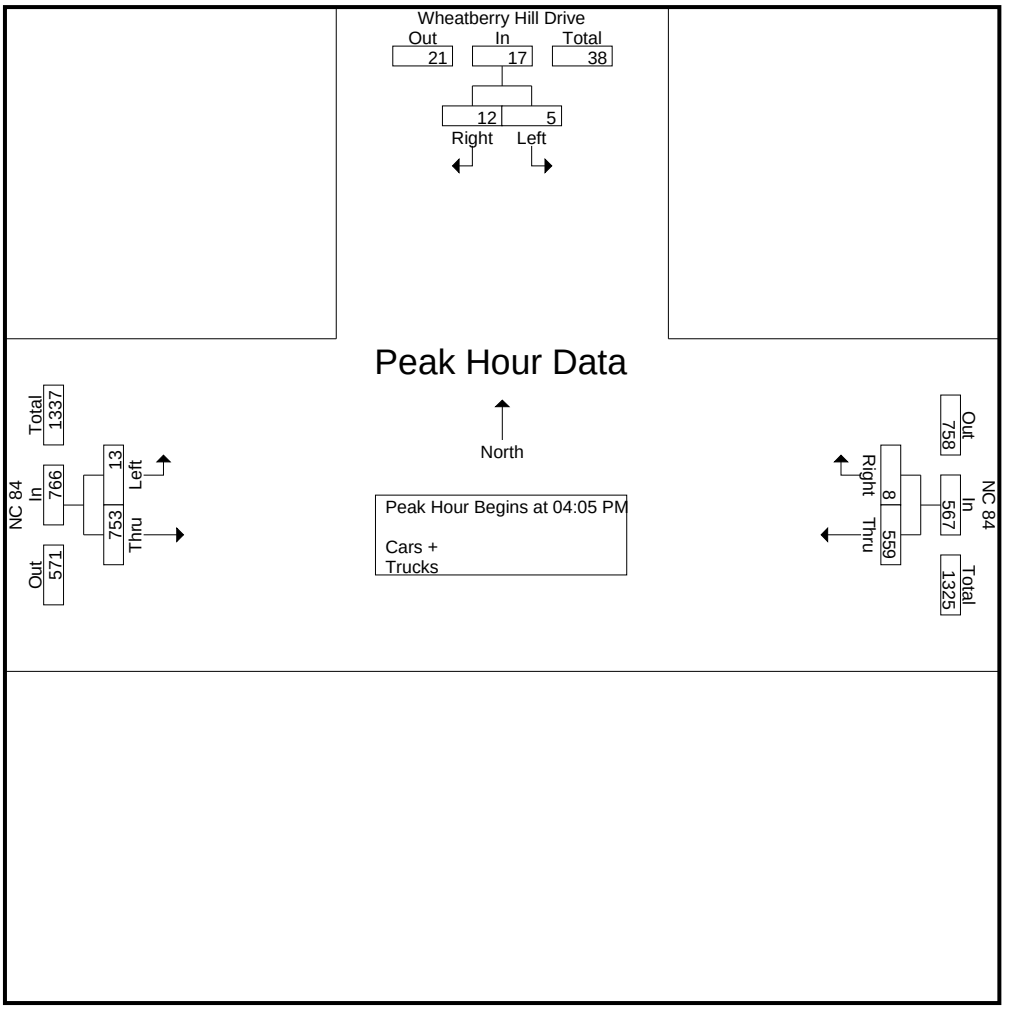
TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023

	Wheatberry Hill Drive Southbound			NC 84 Westbound			NC 84 Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:55 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:05 PM										
04:05 PM	1	0	1	0	46	46	56	1	57	104
04:10 PM	0	0	0	1	40	41	46	0	46	87
04:15 PM	1	**1**	2	**2**	51	53	65	0	65	120
04:20 PM	0	0	0	0	48	48	77	2	**79**	**127**
04:25 PM	0	0	0	0	50	50	65	1	66	116
04:30 PM	**2**	1	**3**	1	53	54	59	2	61	118
04:35 PM	2	0	2	0	54	54	67	2	69	125
04:40 PM	0	1	1	1	38	39	**78**	0	78	118
04:45 PM	1	1	2	0	41	41	66	1	67	110
04:50 PM	2	0	2	1	**58**	**59**	49	**3**	52	113
04:55 PM	1	0	1	2	44	46	60	1	61	108
05:00 PM	2	1	3	0	36	36	65	0	65	104
Total Volume	12	5	17	8	559	567	753	13	766	1350
% App. Total	70.6	29.4		1.4	98.6		98.3	1.7		
PHF	.500	.417	.472	.333	.803	.801	.804	.361	.808	.886

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 84 and Wheatberry Hill)
Site Code :
Start Date : 1/12/2023
Page No : 4



File Name : Weddington(NC 16 and Lenny Stadler)1157
Site Code :
Start Date : 1/12/2023
Page No : 1

Groups Printed- Cars + - Trucks

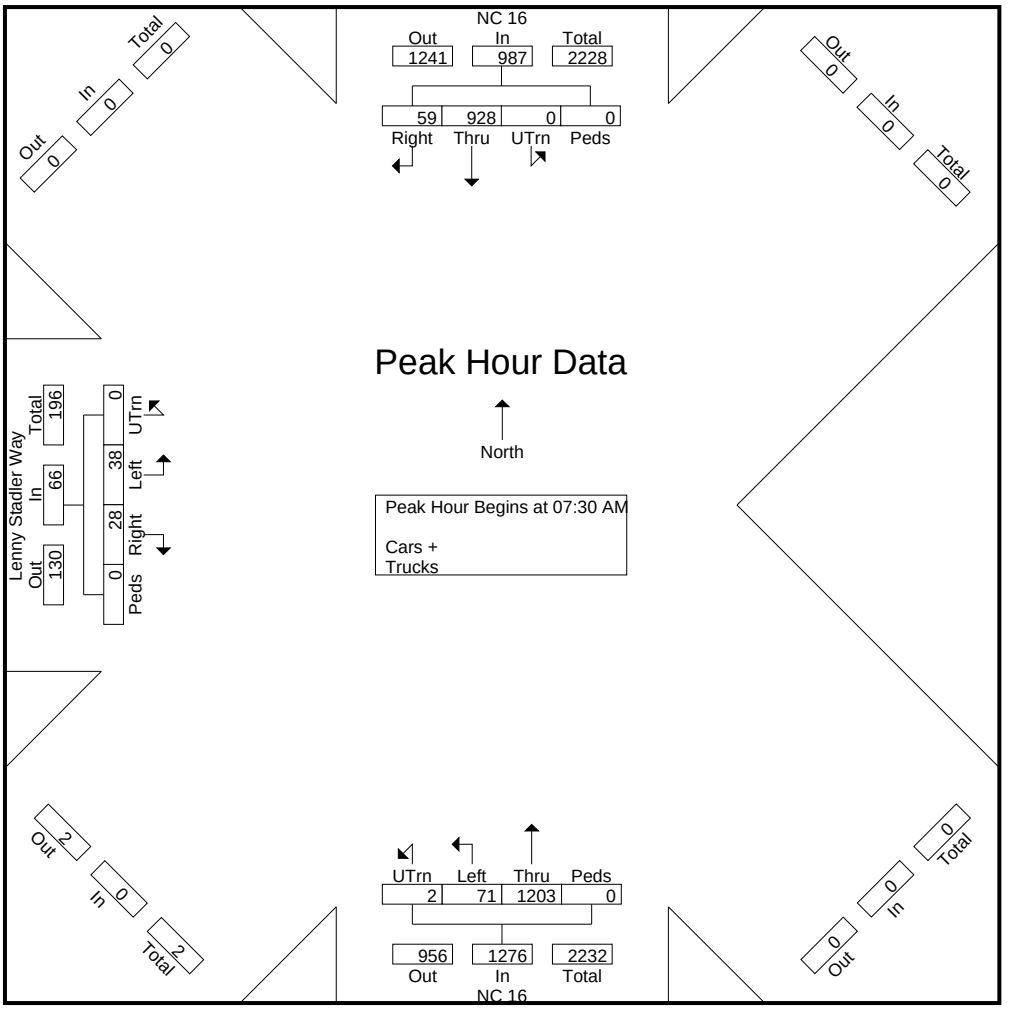
	NC 16 Southbound					NC 16 Northbound					Lenny Stadler Way Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
07:00 AM	0	35	0	0	35	91	0	0	0	91	1	2	0	0	3	129
07:05 AM	2	29	0	0	31	116	0	0	0	116	3	4	0	0	7	154
07:10 AM	3	53	0	0	56	96	1	1	0	98	1	3	0	0	4	158
07:15 AM	1	56	0	0	57	115	7	0	0	122	7	1	0	0	8	187
07:20 AM	1	66	0	0	67	103	3	0	0	106	6	5	0	0	11	184
07:25 AM	3	53	0	0	56	130	5	0	0	135	1	3	0	0	4	195
07:30 AM	2	56	0	0	58	107	4	0	0	111	2	4	0	0	6	175
07:35 AM	3	84	0	0	87	122	1	0	0	123	4	5	0	0	9	219
07:40 AM	1	80	0	0	81	111	6	0	0	117	2	3	0	0	5	203
07:45 AM	3	69	0	0	72	94	1	0	0	95	5	2	0	0	7	174
07:50 AM	1	73	0	0	74	122	5	0	0	127	2	3	0	0	5	206
07:55 AM	8	82	0	0	90	84	13	2	0	99	1	1	0	0	2	191
Total	28	736	0	0	764	1291	46	3	0	1340	35	36	0	0	71	2175
08:00 AM	8	61	0	0	69	75	10	0	0	85	1	6	0	0	7	161
08:05 AM	11	86	0	0	97	84	12	0	0	96	4	2	0	0	6	199
08:10 AM	7	81	0	0	88	99	4	0	0	103	2	5	0	0	7	198
08:15 AM	1	81	0	0	82	102	7	0	0	109	2	3	0	0	5	196
08:20 AM	9	87	0	0	96	102	4	0	0	106	2	3	0	0	5	207
08:25 AM	5	88	0	0	93	101	4	0	0	105	1	1	0	0	2	200
08:30 AM	3	50	0	0	53	96	4	0	0	100	0	5	0	0	5	158
08:35 AM	13	97	0	0	110	92	6	0	0	98	0	1	0	0	1	209
08:40 AM	11	66	0	0	77	96	11	1	0	108	2	3	0	0	5	190
08:45 AM	14	57	0	0	71	104	14	0	0	118	2	4	0	0	6	195
08:50 AM	17	81	0	0	98	76	14	0	0	90	13	9	0	0	22	210
08:55 AM	16	72	0	0	88	63	23	0	0	86	23	6	0	0	29	203
Total	115	907	0	0	1022	1090	113	1	0	1204	52	48	0	0	100	2326
Grand Total	143	1643	0	0	1786	2381	159	4	0	2544	87	84	0	0	171	4501
Apprch %	8	92	0	0		93.6	6.2	0.2	0		50.9	49.1	0	0		
Total %	3.2	36.5	0	0	39.7	52.9	3.5	0.1	0	56.5	1.9	1.9	0	0	3.8	
Cars +	138	1600	0	0	1738	2362	157	4	0	2523	83	82	0	0	165	4426
% Cars +	96.5	97.4	0	0	97.3	99.2	98.7	100	0	99.2	95.4	97.6	0	0	96.5	98.3
Trucks	5	43	0	0	48	19	2	0	0	21	4	2	0	0	6	75
% Trucks	3.5	2.6	0	0	2.7	0.8	1.3	0	0	0.8	4.6	2.4	0	0	3.5	1.7

File Name : Weddington(NC 16 and Lenny Stadler)1157
Site Code :
Start Date : 1/12/2023

	NC 16 Southbound					NC 16 Northbound					Lenny Stadler Way Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:55 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:30 AM																
07:30 AM	2	56	0	0	58	107	4	0	0	111	2	4	0	0	6	175
07:35 AM	3	84	0	0	87	**122**	1	0	0	123	4	5	0	0	**9**	**219**
07:40 AM	1	80	0	0	81	111	6	0	0	117	2	3	0	0	5	203
07:45 AM	3	69	0	0	72	94	1	0	0	95	**5**	2	0	0	7	174
07:50 AM	1	73	0	0	74	122	5	0	0	**127**	2	3	0	0	5	206
07:55 AM	8	82	0	0	90	84	**13**	**2**	0	99	1	1	0	0	2	191
08:00 AM	8	61	0	0	69	75	10	0	0	85	1	**6**	0	0	7	161
08:05 AM	**11**	86	0	0	**97**	84	12	0	0	96	4	2	0	0	6	199
08:10 AM	7	81	0	0	88	99	4	0	0	103	2	5	0	0	7	198
08:15 AM	1	81	0	0	82	102	7	0	0	109	2	3	0	0	5	196
08:20 AM	9	87	0	0	96	102	4	0	0	106	2	3	0	0	5	207
08:25 AM	5	**88**	0	0	93	101	4	0	0	105	1	1	0	0	2	200
Total Volume	59	928	0	0	987	1203	71	2	0	1276	28	38	0	0	66	2329
% App. Total	6	94	0	0		94.3	5.6	0.2	0		42.4	57.6	0	0		
PHF	.447	.879	.000	.000	.848	.822	.455	.083	.000	.837	.467	.528	.000	.000	.611	.886

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Lenny Stadler)1157
Site Code :
Start Date : 1/12/2023
Page No : 3



File Name : Weddington(NC 16 and Lenny Stadler)
Site Code :
Start Date : 1/12/2023

Groups Printed- Cars + - Trucks

	NC 16 Southbound				NC 16 Northbound				Lenny Stadler Way Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
02:00 PM	3	75	0	78	72	5	1	78	1	4	0	5	161
02:05 PM	0	79	0	79	58	3	1	62	1	2	0	3	144
02:10 PM	3	57	0	60	84	7	0	91	1	4	0	5	156
02:15 PM	3	80	0	83	70	5	0	75	4	3	0	7	165
02:20 PM	3	66	0	69	81	4	0	85	1	2	0	3	157
02:25 PM	4	65	0	69	88	5	0	93	3	2	0	5	167
02:30 PM	3	81	0	84	70	7	0	77	1	7	0	8	169
02:35 PM	5	82	0	87	74	4	0	78	3	2	0	5	170
02:40 PM	6	80	0	86	85	9	0	94	2	4	0	6	186
02:45 PM	1	98	0	99	92	2	0	94	3	3	0	6	199
02:50 PM	3	81	0	84	66	4	0	70	5	3	0	8	162
02:55 PM	3	76	0	79	83	3	0	86	4	2	0	6	171
Total	37	920	0	957	923	58	2	983	29	38	0	67	2007
03:00 PM	1	46	0	47	84	6	0	90	3	2	0	5	142
03:05 PM	4	111	0	115	110	2	0	112	2	6	0	8	235
03:10 PM	4	101	0	105	84	3	0	87	1	3	0	4	196
03:15 PM	2	71	0	73	79	3	0	82	6	3	0	9	164
03:20 PM	6	80	0	86	85	5	0	90	1	0	0	1	177
03:25 PM	3	84	0	87	100	3	0	103	1	3	0	4	194
03:30 PM	2	122	0	124	97	2	0	99	2	3	0	5	228
03:35 PM	3	83	0	86	86	5	0	91	1	5	0	6	183
03:40 PM	4	100	0	104	108	4	0	112	0	5	0	5	221
03:45 PM	4	88	0	92	79	3	0	82	2	3	0	5	179
03:50 PM	4	99	0	103	96	1	1	98	2	2	0	4	205
03:55 PM	5	86	0	91	78	4	0	82	2	2	0	4	177
Total	42	1071	0	1113	1086	41	1	1128	23	37	0	60	2301
04:00 PM	1	105	0	106	80	1	0	81	1	1	0	2	189
04:05 PM	3	102	0	105	78	2	0	80	1	2	0	3	188
04:10 PM	5	77	0	82	83	0	0	83	2	4	0	6	171
04:15 PM	3	100	0	103	96	4	0	100	2	6	0	8	211
04:20 PM	3	95	0	98	115	2	0	117	1	4	0	5	220
04:25 PM	3	101	0	104	100	0	0	100	1	2	0	3	207
04:30 PM	0	101	0	101	79	4	1	84	1	3	0	4	189
04:35 PM	1	89	0	90	97	2	0	99	1	3	0	4	193
04:40 PM	5	86	0	91	85	0	0	85	2	5	0	7	183
04:45 PM	4	132	0	136	114	1	0	115	1	1	0	2	253

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Lenny Stadler)
Site Code :
Start Date : 1/12/2023

Groups Printed- Cars + - Trucks

	NC 16 Southbound				NC 16 Northbound				Lenny Stadler Way Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
04:50 PM	2	111	0	113	79	2	0	81	4	4	0	8	202
04:55 PM	4	99	0	103	97	1	0	98	2	2	0	4	205
Total	34	1198	0	1232	1103	19	1	1123	19	37	0	56	2411
05:00 PM	1	103	0	104	100	1	0	101	0	3	0	3	208
05:05 PM	3	101	0	104	87	0	0	87	1	2	0	3	194
05:10 PM	3	97	0	100	103	1	0	104	1	6	0	7	211
05:15 PM	5	112	0	117	128	2	0	130	1	3	0	4	251
05:20 PM	1	101	0	102	105	0	0	105	1	3	0	4	211
05:25 PM	3	86	0	89	117	1	0	118	0	4	0	4	211
05:30 PM	2	93	0	95	104	2	0	106	0	6	0	6	207
05:35 PM	2	100	0	102	119	1	0	120	1	3	0	4	226
05:40 PM	4	84	0	88	113	1	0	114	2	3	0	5	207
05:45 PM	1	83	0	84	105	2	0	107	1	5	0	6	197
05:50 PM	0	99	0	99	120	5	1	126	0	5	0	5	230
05:55 PM	2	94	0	96	93	4	0	97	1	0	0	1	194
Total	27	1153	0	1180	1294	20	1	1315	9	43	0	52	2547
Grand Total	140	4342	0	4482	4406	138	5	4549	80	155	0	235	9266
Apprch %	3.1	96.9	0		96.9	3	0.1		34	66	0		
Total %	1.5	46.9	0	48.4	47.6	1.5	0.1	49.1	0.9	1.7	0	2.5	
Cars +	133	4292	0	4425	4307	120	5	4432	57	144	0	201	9058
% Cars +	95	98.8	0	98.7	97.8	87	100	97.4	71.2	92.9	0	85.5	97.8
Trucks	7	50	0	57	99	18	0	117	23	11	0	34	208
% Trucks	5	1.2	0	1.3	2.2	13	0	2.6	28.8	7.1	0	14.5	2.2

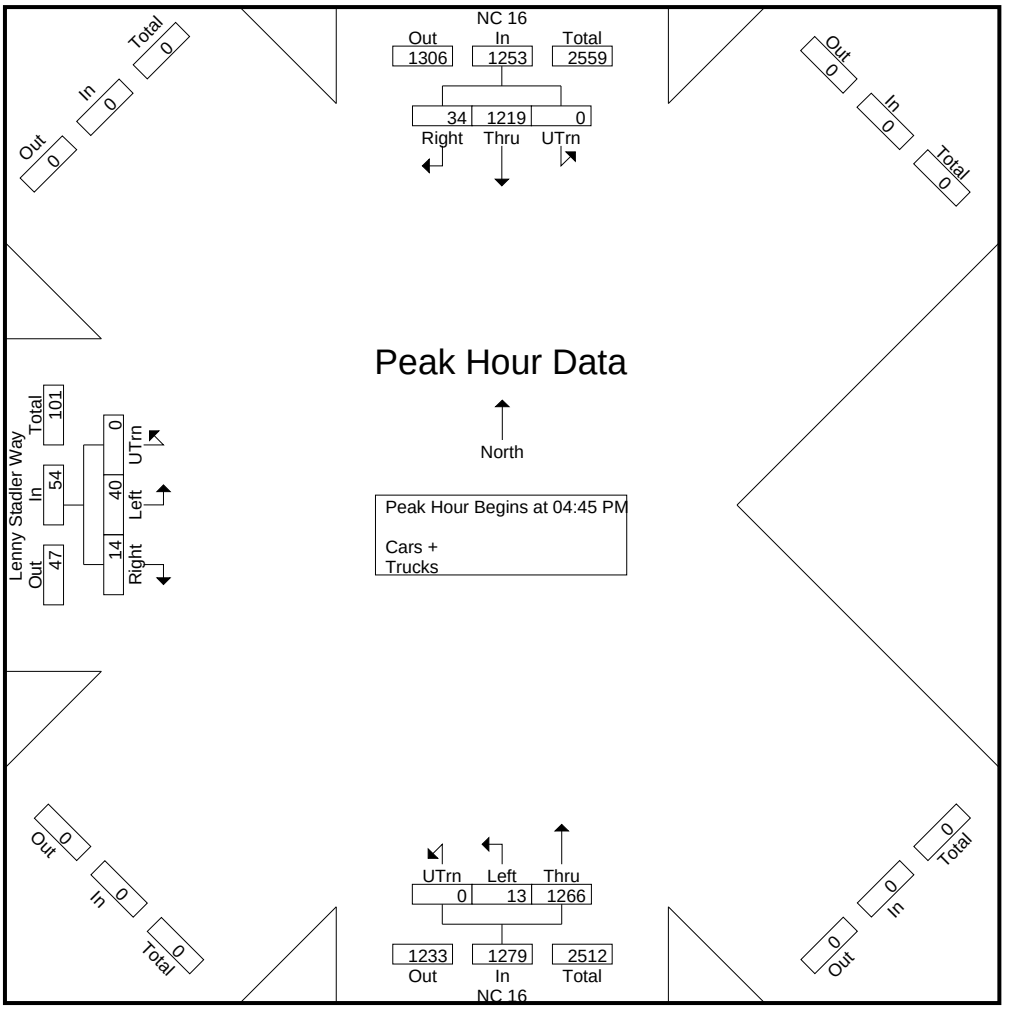
TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Lenny Stadler)
Site Code :
Start Date : 1/12/2023

	NC 16 Southbound				NC 16 Northbound				Lenny Stadler Way Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:55 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	4	**132**	0	**136**	114	1	0	115	1	1	0	2	**253**
04:50 PM	2	111	0	113	79	**2**	0	81	**4**	4	0	**8**	202
04:55 PM	4	99	0	103	97	1	0	98	2	2	0	4	205
05:00 PM	1	103	0	104	100	1	0	101	0	3	0	3	208
05:05 PM	3	101	0	104	87	0	0	87	1	2	0	3	194
05:10 PM	3	97	0	100	103	1	0	104	1	**6**	0	7	211
05:15 PM	**5**	112	0	117	**128**	2	0	**130**	1	3	0	4	251
05:20 PM	1	101	0	102	105	0	0	105	1	3	0	4	211
05:25 PM	3	86	0	89	117	1	0	118	0	4	0	4	211
05:30 PM	2	93	0	95	104	2	0	106	0	6	0	6	207
05:35 PM	2	100	0	102	119	1	0	120	1	3	0	4	226
05:40 PM	4	84	0	88	113	1	0	114	2	3	0	5	207
Total Volume	34	1219	0	1253	1266	13	0	1279	14	40	0	54	2586
% App. Total	2.7	97.3	0		99	1	0		25.9	74.1	0		
PHF	.567	.770	.000	.768	.824	.542	.000	.820	.292	.556	.000	.563	.852

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Lenny Stadler)
Site Code :
Start Date : 1/12/2023
Page No : 4



TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Marvin School)
Site Code :
Start Date : 1/12/2023
Page No : 1

Groups Printed- Cars + - Trucks

	NC 16 Southbound				NC 16 Northbound				Marvin School Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
07:00 AM	15	21	0	36	88	22	0	110	5	23	0	28	174
07:05 AM	12	18	0	30	88	27	0	115	12	31	0	43	188
07:10 AM	20	31	0	51	75	34	0	109	19	32	0	51	211
07:15 AM	27	37	0	64	77	37	0	114	13	23	0	36	214
07:20 AM	23	47	0	70	87	25	0	112	27	29	0	56	238
07:25 AM	15	39	0	54	82	23	0	105	22	37	0	59	218
07:30 AM	31	37	0	68	85	21	0	106	18	38	0	56	230
07:35 AM	28	59	0	87	84	34	0	118	9	27	0	36	241
07:40 AM	27	54	0	81	83	34	0	117	8	22	0	30	228
07:45 AM	30	46	0	76	78	43	0	121	11	26	0	37	234
07:50 AM	24	49	0	73	79	29	0	108	15	23	0	38	219
07:55 AM	31	50	0	81	72	33	0	105	18	30	0	48	234
Total	283	488	0	771	978	362	0	1340	177	341	0	518	2629
08:00 AM	28	53	0	81	68	19	0	87	13	22	0	35	203
08:05 AM	39	48	0	87	77	11	0	88	16	27	0	43	218
08:10 AM	33	44	0	77	62	21	0	83	12	29	0	41	201
08:15 AM	32	51	0	83	76	23	0	99	6	33	0	39	221
08:20 AM	35	58	0	93	85	18	0	103	11	34	0	45	241
08:25 AM	41	51	0	92	79	14	0	93	7	11	0	18	203
08:30 AM	21	26	0	47	62	21	0	83	10	26	0	36	166
08:35 AM	35	46	0	81	70	22	0	92	9	32	0	41	214
08:40 AM	31	34	0	65	90	21	0	111	9	34	0	43	219
08:45 AM	27	36	0	63	64	16	0	80	11	33	0	44	187
08:50 AM	36	46	0	82	64	18	0	82	13	40	0	53	217
08:55 AM	35	55	0	90	55	18	1	74	8	27	0	35	199
Total	393	548	0	941	852	222	1	1075	125	348	0	473	2489
Grand Total	676	1036	0	1712	1830	584	1	2415	302	689	0	991	5118
Apprch %	39.5	60.5	0		75.8	24.2	0		30.5	69.5	0		
Total %	13.2	20.2	0	33.5	35.8	11.4	0	47.2	5.9	13.5	0	19.4	
Cars +	659	981	0	1640	1798	580	1	2379	292	678	0	970	4989
% Cars +	97.5	94.7	0	95.8	98.3	99.3	100	98.5	96.7	98.4	0	97.9	97.5
Trucks	17	55	0	72	32	4	0	36	10	11	0	21	129
% Trucks	2.5	5.3	0	4.2	1.7	0.7	0	1.5	3.3	1.6	0	2.1	2.5

File Name : Weddington(NC 16 and Marvin School)
Site Code :
Start Date : 1/12/2023

	NC 16 Southbound				NC 16 Northbound				Marvin School Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:55 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:10 AM													
07:10 AM	20	31	0	51	75	34	0	109	19	32	0	51	211
07:15 AM	27	37	0	64	77	37	0	114	13	23	0	36	214
07:20 AM	23	47	0	70	**87**	25	0	112	**27**	29	0	56	238
07:25 AM	15	39	0	54	82	23	0	105	22	37	0	**59**	218
07:30 AM	31	37	0	68	85	21	0	106	18	**38**	0	56	230
07:35 AM	28	**59**	0	**87**	84	34	0	118	9	27	0	36	**241**
07:40 AM	27	54	0	81	83	34	0	117	8	22	0	30	228
07:45 AM	30	46	0	76	78	**43**	0	**121**	11	26	0	37	234
07:50 AM	24	49	0	73	79	29	0	108	15	23	0	38	219
07:55 AM	31	50	0	81	72	33	0	105	18	30	0	48	234
08:00 AM	28	53	0	81	68	19	0	87	13	22	0	35	203
08:05 AM	**39**	48	0	87	77	11	0	88	16	27	0	43	218
Total Volume	323	550	0	873	947	343	0	1290	189	336	0	525	2688
% App. Total	37	63	0		73.4	26.6	0		36	64	0		
PHF	.690	.777	.000	.836	.907	.665	.000	.888	.583	.737	.000	.742	.929

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Marvin School)
Site Code :
Start Date : 1/12/2023
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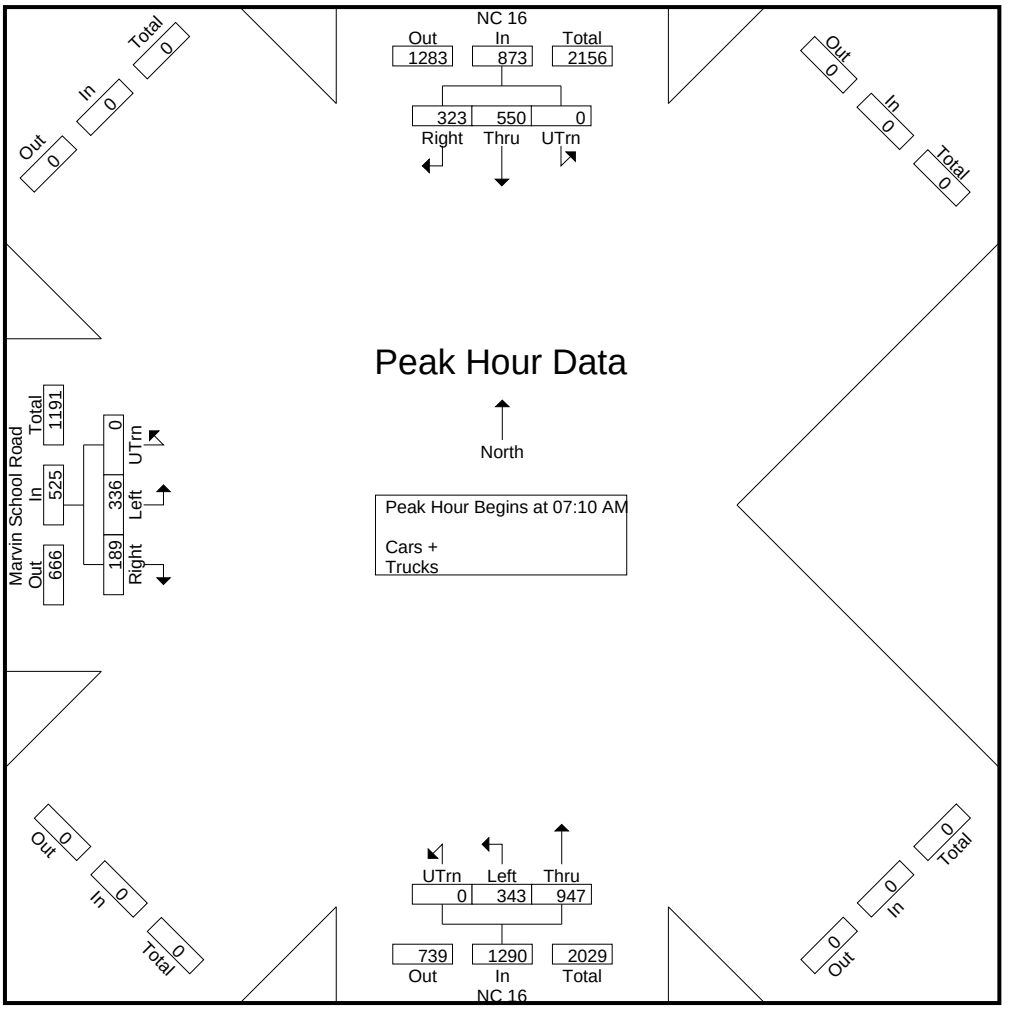

File Name : Weddington(NC 16 and Marvin School)1189.2
Site Code :
Start Date : 1/16/2023
Page No : 1

Groups Printed- Cars + - Trucks

	NC 16 Southbound					NC 16 Northbound					Marvin School Road Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
02:00 PM	32	68	0	0	100	44	10	0	0	54	23	22	0	0	45	199
02:05 PM	19	42	0	0	61	40	12	0	0	52	25	36	0	0	61	174
02:10 PM	14	64	0	0	78	59	21	1	0	81	28	32	0	0	60	219
02:15 PM	18	47	0	0	65	33	10	0	0	43	24	42	0	0	66	174
02:20 PM	19	63	0	0	82	62	9	0	0	71	13	23	0	0	36	189
02:25 PM	17	43	0	0	60	54	4	0	0	58	31	40	0	0	71	189
02:30 PM	18	70	0	0	88	51	14	0	0	65	15	23	0	0	38	191
02:35 PM	12	57	0	0	69	48	11	0	0	59	19	41	0	0	60	188
02:40 PM	34	73	1	0	108	65	15	0	0	80	17	23	0	0	40	228
02:45 PM	27	57	0	0	84	62	18	0	0	80	28	32	0	0	60	224
02:50 PM	28	69	0	0	97	52	25	0	0	77	18	22	0	0	40	214
02:55 PM	22	50	0	0	72	61	21	0	0	82	26	25	0	0	51	205
Total	260	703	1	0	964	631	170	1	0	802	267	361	0	0	628	2394
03:00 PM	18	41	0	0	59	63	11	0	0	74	29	27	0	0	56	189
03:05 PM	25	72	0	0	97	68	18	0	0	86	16	44	0	0	60	243
03:10 PM	23	62	0	0	85	56	27	0	0	83	17	27	0	0	44	212
03:15 PM	28	62	0	0	90	43	22	0	0	65	23	39	0	0	62	217
03:20 PM	16	65	0	0	81	56	21	0	0	77	23	31	0	0	54	212
03:25 PM	25	64	0	0	89	66	8	0	0	74	25	36	0	0	61	224
03:30 PM	37	62	1	0	100	61	16	0	0	77	18	38	0	0	56	233
03:35 PM	29	61	0	0	90	65	12	0	0	77	32	33	0	0	65	232
03:40 PM	29	65	0	0	94	50	15	0	0	65	22	49	0	0	71	230
03:45 PM	22	67	0	0	89	48	15	0	0	63	29	33	0	0	62	214
03:50 PM	40	64	0	0	104	52	22	0	0	74	22	45	0	0	67	245
03:55 PM	22	68	0	0	90	51	13	0	0	64	25	31	0	0	56	210
Total	314	753	1	0	1068	679	200	0	0	879	281	433	0	0	714	2661
04:00 PM	28	69	0	0	97	47	14	0	0	61	26	34	0	0	60	218
04:05 PM	34	68	0	0	102	37	10	0	0	47	25	40	0	0	65	214
04:10 PM	26	61	0	0	87	52	8	0	0	60	24	33	0	0	57	204
04:15 PM	24	66	0	0	90	53	17	0	0	70	22	44	0	0	66	226
04:20 PM	32	64	0	0	96	62	9	0	0	71	24	54	0	0	78	245
04:25 PM	25	73	0	0	98	61	15	0	0	76	21	39	0	0	60	234
04:30 PM	47	66	0	0	113	44	15	0	0	59	25	40	0	0	65	237
04:35 PM	22	60	0	0	82	53	11	0	0	64	32	46	0	0	78	224
04:40 PM	38	59	1	0	98	40	11	0	0	51	24	45	0	0	69	218
04:45 PM	46	65	1	0	112	63	15	0	0	78	24	49	0	0	73	263

File Name : Weddington(NC 16 and Marvin School)1189.2
Site Code :
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Page No : 2

Groups Printed- Cars + - Trucks

	NC 16 Southbound					NC 16 Northbound					Marvin School Road Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
04:50 PM	46	53	0	0	99	41	9	0	0	50	23	40	0	0	63	212
04:55 PM	48	59	1	0	108	56	19	0	1	76	15	39	0	0	54	238
Total	416	763	3	0	1182	609	153	0	1	763	285	503	0	0	788	2733
05:00 PM	37	62	0	0	99	52	15	0	0	67	25	48	0	0	73	239
05:05 PM	44	58	0	0	102	47	12	0	0	59	30	39	0	0	69	230
05:10 PM	35	66	0	0	101	50	20	0	0	70	25	53	0	0	78	249
05:15 PM	49	54	0	0	103	71	11	0	0	82	24	57	0	0	81	266
05:20 PM	39	56	0	0	95	57	18	0	0	75	16	48	0	0	64	234
05:25 PM	34	67	0	0	101	68	15	0	0	83	22	50	0	0	72	256
05:30 PM	43	60	0	0	103	59	9	0	0	68	14	46	0	0	60	231
05:35 PM	34	60	0	0	94	68	17	0	0	85	20	49	0	0	69	248
05:40 PM	38	45	1	0	84	53	12	1	0	66	24	55	0	0	79	229
05:45 PM	26	53	0	0	79	51	15	0	0	66	28	61	0	0	89	234
05:50 PM	45	42	0	0	87	69	9	0	0	78	32	53	0	0	85	250
05:55 PM	37	56	0	0	93	48	16	0	0	64	28	49	0	0	77	234
Total	461	679	1	0	1141	693	169	1	0	863	288	608	0	0	896	2900
Grand Total	1451	2898	6	0	4355	2612	692	2	1	3307	1121	1905	0	0	3026	10688
Apprch %	33.3	66.5	0.1	0		79	20.9	0.1	0		37	63	0	0		
Total %	13.6	27.1	0.1	0	40.7	24.4	6.5	0	0	30.9	10.5	17.8	0	0	28.3	
Cars +	1440	2854	6	0	4300	2557	689	2	1	3249	1109	1892	0	0	3001	10550
% Cars +	99.2	98.5	100	0	98.7	97.9	99.6	100	100	98.2	98.9	99.3	0	0	99.2	98.7
Trucks	11	44	0	0	55	55	3	0	0	58	12	13	0	0	25	138
% Trucks	0.8	1.5	0	0	1.3	2.1	0.4	0	0	1.8	1.1	0.7	0	0	0.8	1.3

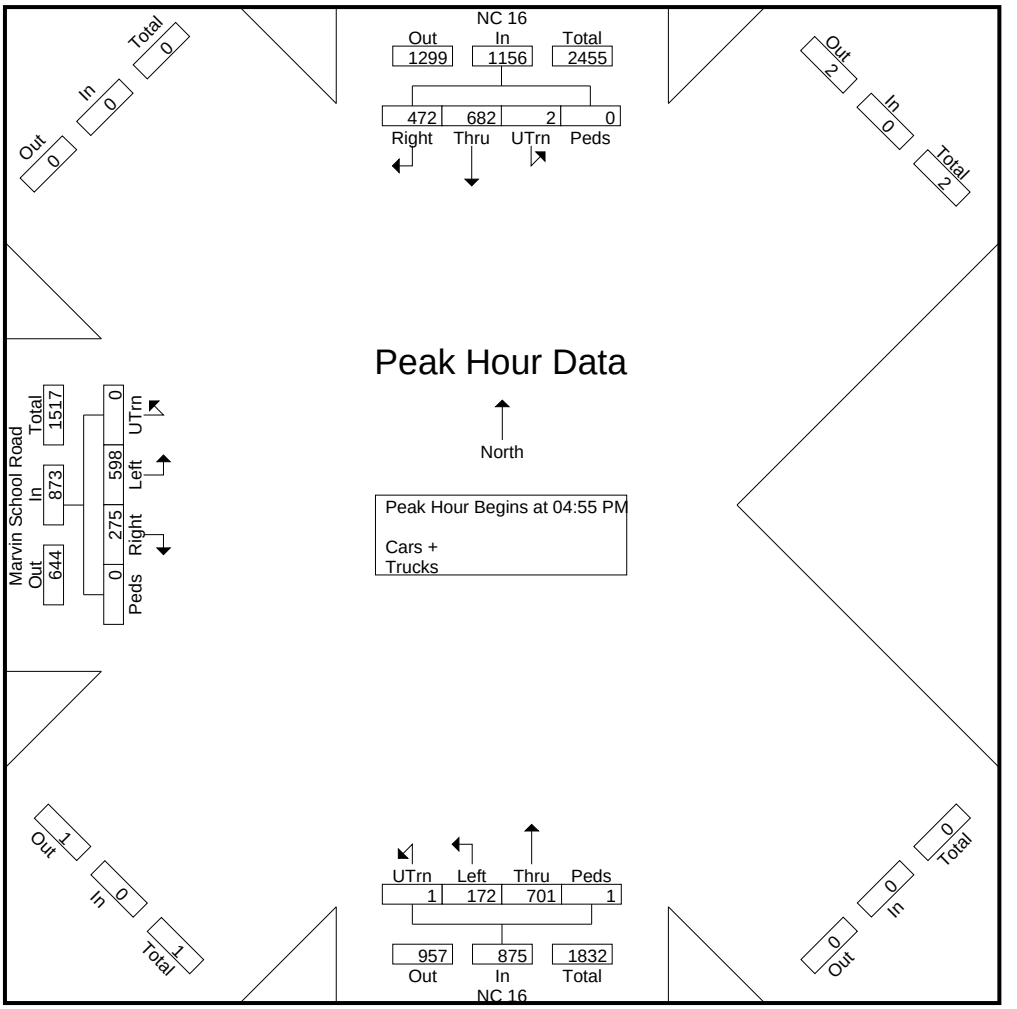
TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Marvin School)1189.2
Site Code :
Start Date : 1/16/2023
Page No : 3

	NC 16 Southbound					NC 16 Northbound					Marvin School Road Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:55 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:55 PM																
04:55 PM	48	59	**1**	0	**108**	56	19	0	**1**	76	15	39	0	0	54	238
05:00 PM	37	62	0	0	99	52	15	0	0	67	25	48	0	0	73	239
05:05 PM	44	58	0	0	102	47	12	0	0	59	30	39	0	0	69	230
05:10 PM	35	66	0	0	101	50	**20**	0	0	70	25	53	0	0	78	249
05:15 PM	**49**	54	0	0	103	**71**	11	0	0	82	24	57	0	0	81	**266**
05:20 PM	39	56	0	0	95	57	18	0	0	75	16	48	0	0	64	234
05:25 PM	34	**67**	0	0	101	68	15	0	0	83	22	50	0	0	72	256
05:30 PM	43	60	0	0	103	59	9	0	0	68	14	46	0	0	60	231
05:35 PM	34	60	0	0	94	68	17	0	0	**85**	20	49	0	0	69	248
05:40 PM	38	45	1	0	84	53	12	**1**	0	66	24	55	0	0	79	229
05:45 PM	26	53	0	0	79	51	15	0	0	66	28	**61**	0	0	**89**	234
05:50 PM	45	42	0	0	87	69	9	0	0	78	**32**	53	0	0	85	250
Total Volume	472	682	2	0	1156	701	172	1	1	875	275	598	0	0	873	2904
% App. Total	40.8	59	0.2	0		80.1	19.7	0.1	0.1		31.5	68.5	0	0		
PHF	.803	.848	.167	.000	.892	.823	.717	.083	.083	.858	.716	.817	.000	.000	.817	.910

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Marvin School)1189.2
Site Code :
Start Date : 1/16/2023
Page No : 4



File Name : Weddington(NC 16 and Weddington Rd)2150
Site Code :
Start Date : 1/12/2023
Page No : 1

Groups Printed- Cars + - Trucks

	NC 16 Southbound					NC 84 Westbound					NC 16 Northbound					Church Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	0	22	11	0	33	48	0	13	0	61	10	74	0	1	85	0	0	0	0	0	179
07:05 AM	0	26	12	0	38	42	0	9	0	51	20	104	0	0	124	0	0	0	0	0	213
07:10 AM	0	35	15	0	50	44	1	20	0	65	17	89	0	0	106	0	0	2	0	2	223
07:15 AM	0	37	24	0	61	56	0	17	0	73	20	95	0	0	115	0	1	0	0	1	250
07:20 AM	0	39	18	0	57	54	0	36	0	90	18	88	0	0	106	0	0	0	0	0	253
07:25 AM	0	35	19	0	54	39	0	24	0	63	21	98	0	0	119	0	0	0	0	0	236
07:30 AM	0	47	23	0	70	29	0	25	0	54	31	73	0	1	105	0	0	2	0	2	231
07:35 AM	0	49	23	0	72	23	0	27	0	50	27	116	0	0	143	0	0	0	0	0	265
07:40 AM	0	54	19	0	73	26	0	29	0	55	24	83	0	1	108	0	0	0	0	0	236
07:45 AM	1	45	17	0	63	24	0	26	0	50	23	86	0	0	109	0	0	0	0	0	222
07:50 AM	0	39	20	0	59	25	0	36	0	61	30	72	0	2	104	0	0	0	0	0	224
07:55 AM	0	53	17	0	70	21	0	37	0	58	14	78	1	0	93	0	0	0	0	0	221
Total	1	481	218	0	700	431	1	299	0	731	255	1056	1	5	1317	0	1	4	0	5	2753
08:00 AM	0	34	22	0	56	22	0	34	2	58	11	49	0	4	64	0	4	3	0	7	185
08:05 AM	0	55	18	0	73	20	1	23	0	44	14	85	0	4	103	0	2	11	0	13	233
08:10 AM	1	53	18	1	73	21	2	31	1	55	18	84	0	4	106	0	2	6	0	8	242
08:15 AM	0	60	13	0	73	29	0	25	0	54	16	100	0	2	118	0	2	3	0	5	250
08:20 AM	0	54	22	0	76	29	3	34	0	66	12	94	1	0	107	0	1	1	0	2	251
08:25 AM	0	70	25	0	95	48	5	32	0	85	17	82	0	0	99	0	1	1	0	2	281
08:30 AM	0	28	10	0	38	37	3	17	0	57	7	81	0	0	88	0	1	1	0	2	185
08:35 AM	0	69	32	0	101	31	1	36	0	68	25	73	0	0	98	0	0	0	0	0	267
08:40 AM	0	45	29	0	74	40	0	29	0	69	20	93	0	0	113	0	0	0	0	0	256
08:45 AM	0	46	23	0	69	40	0	26	0	66	17	86	0	0	103	0	4	3	0	7	245
08:50 AM	0	48	33	0	81	40	0	45	0	85	28	57	0	1	86	2	4	7	0	13	265
08:55 AM	0	57	17	0	74	36	0	33	0	69	14	77	0	0	91	0	4	9	0	13	247
Total	1	619	262	1	883	393	15	365	3	776	199	961	1	15	1176	2	25	45	0	72	2907
Grand Total	2	1100	480	1	1583	824	16	664	3	1507	454	2017	2	20	2493	2	26	49	0	77	5660
Apprch %	0.1	69.5	30.3	0.1		54.7	1.1	44.1	0.2		18.2	80.9	0.1	0.8		2.6	33.8	63.6	0		
Total %	0	19.4	8.5	0	28	14.6	0.3	11.7	0.1	26.6	8	35.6	0	0.4	44	0	0.5	0.9	0	1.4	
Cars +	2	1050	465	1	1518	812	16	651	3	1482	443	2002	2	20	2467	2	26	49	0	77	5544
% Cars +	100	95.5	96.9	100	95.9	98.5	100	98	100	98.3	97.6	99.3	100	100	99	100	100	100	0	100	98
Trucks	0	50	15	0	65	12	0	13	0	25	11	15	0	0	26	0	0	0	0	0	116
% Trucks	0	4.5	3.1	0	4.1	1.5	0	2	0	1.7	2.4	0.7	0	0	1	0	0	0	0	0	2

TRAFFIC DATA COLLECTION

File Name : Weddington(NC 16 and Weddington Rd)2150
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	NC 16 Southbound					NC 84 Westbound					NC 16 Northbound					Church Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:55 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	34	22	0	56	22	0	34	**2**	58	11	49	0	**4**	64	0	**4**	3	0	7	185
08:05 AM	0	55	18	0	73	20	1	23	0	44	14	85	0	4	103	0	2	**11**	0	**13**	233
08:10 AM	**1**	53	18	**1**	73	21	2	31	1	55	18	84	0	4	106	0	2	6	0	8	242
08:15 AM	0	60	13	0	73	29	0	25	0	54	16	**100**	0	2	**118**	0	2	3	0	5	250
08:20 AM	0	54	22	0	76	29	3	34	0	66	12	94	**1**	0	107	0	1	1	0	2	251
08:25 AM	0	**70**	25	0	95	**48**	**5**	32	0	**85**	17	82	0	0	99	0	1	1	0	2	**281**
08:30 AM	0	28	10	0	38	37	3	17	0	57	7	81	0	0	88	0	1	1	0	2	185
08:35 AM	0	69	32	0	**101**	31	1	36	0	68	25	73	0	0	98	0	0	0	0	0	267
08:40 AM	0	45	29	0	74	40	0	29	0	69	20	93	0	0	113	0	0	0	0	0	256
08:45 AM	0	46	23	0	69	40	0	26	0	66	17	86	0	0	103	0	4	3	0	7	245
08:50 AM	0	48	**33**	0	81	40	0	**45**	0	85	**28**	57	0	1	86	**2**	4	7	0	13	265
08:55 AM	0	57	17	0	74	36	0	33	0	69	14	77	0	0	91	0	4	9	0	13	247
Total Volume	1	619	262	1	883	393	15	365	3	776	199	961	1	15	1176	2	25	45	0	72	2907
% App. Total	0.1	70.1	29.7	0.1		50.6	1.9	47	0.4		16.9	81.7	0.1	1.3		2.8	34.7	62.5	0		
PHF	.083	.737	.662	.083	.729	.682	.250	.676	.125	.761	.592	.801	.083	.313	.831	.083	.521	.341	.000	.462	.862

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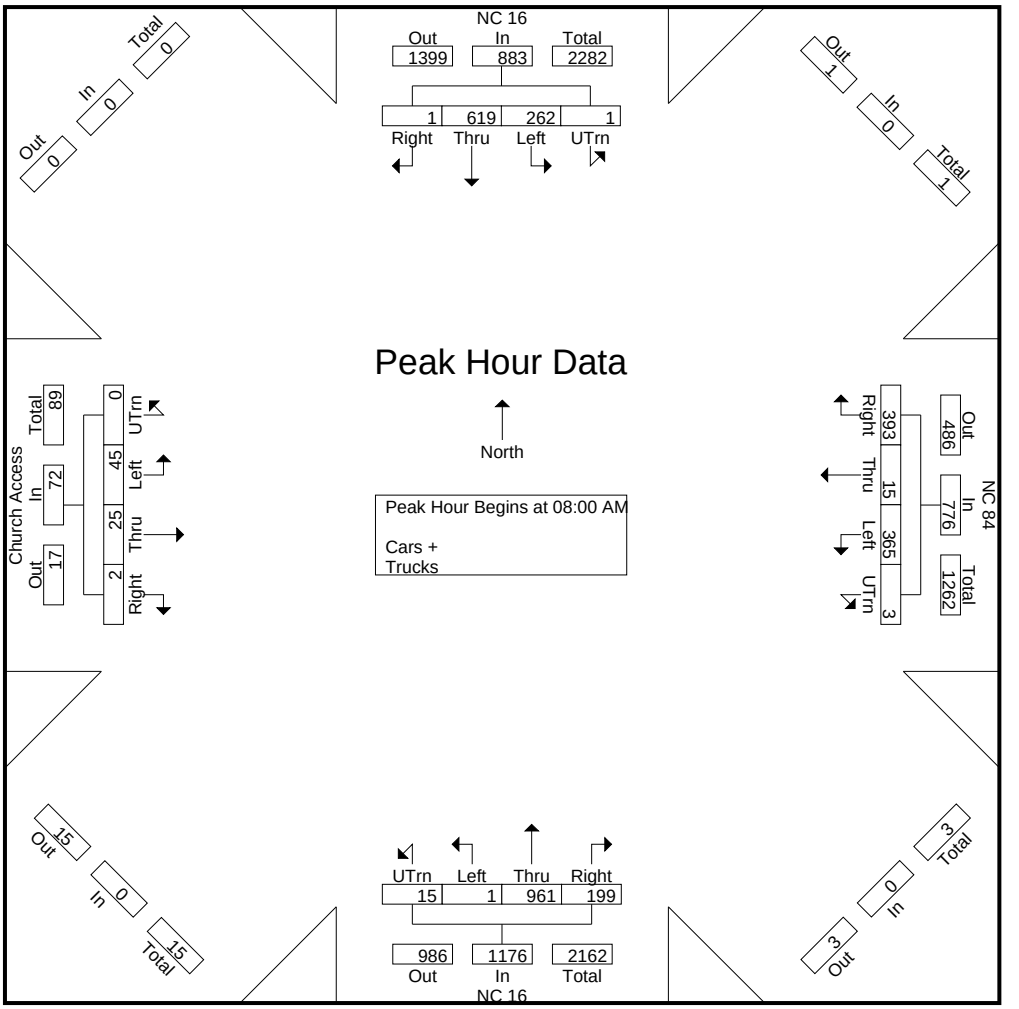

File Name : Weddington(NC 16 and Weddington Rd)2150
Site Code :
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Groups Printed- Cars + - Trucks

	NC 16 Southbound					NC 84 Westbound					NC 16 Northbound					Church Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
02:00 PM	0	47	18	1	66	25	0	32	0	57	22	48	0	0	70	0	1	2	0	3	196
02:05 PM	0	66	27	0	93	23	0	10	0	33	7	61	0	0	68	0	0	0	0	0	194
02:10 PM	0	34	27	0	61	35	0	28	0	63	26	50	0	0	76	0	0	0	0	0	200
02:15 PM	0	74	44	0	118	29	0	9	0	38	16	70	1	0	87	0	0	1	0	1	244
02:20 PM	0	46	16	0	62	27	3	30	0	60	17	45	0	0	62	0	0	0	0	0	184
02:25 PM	1	50	36	0	87	18	0	16	0	34	19	78	0	0	97	0	1	0	0	1	219
02:30 PM	3	71	19	0	93	29	1	0	0	30	23	51	0	0	74	0	0	0	0	0	197
02:35 PM	0	63	42	0	105	31	1	23	0	55	21	67	1	0	89	1	3	0	0	4	253
02:40 PM	0	68	24	0	92	21	0	28	0	49	16	66	0	0	82	0	0	2	0	2	225
02:45 PM	0	77	28	0	105	25	1	22	0	48	26	73	2	0	101	0	0	2	0	2	256
02:50 PM	0	54	22	0	76	21	1	28	0	50	17	44	0	0	61	0	6	0	0	6	193
02:55 PM	0	73	31	0	104	31	0	4	0	35	21	76	0	0	97	0	5	7	0	12	248
Total	4	723	334	1	1062	315	7	230	0	552	231	729	4	0	964	1	16	14	0	31	2609
03:00 PM	0	47	26	0	73	22	0	12	0	34	17	44	0	0	61	0	1	1	0	2	170
03:05 PM	0	95	41	0	136	14	0	20	0	34	40	81	0	0	121	0	0	2	0	2	293
03:10 PM	0	75	39	0	114	32	0	29	0	61	31	46	0	0	77	0	1	1	0	2	254
03:15 PM	0	53	25	0	78	35	1	24	0	60	26	54	0	0	80	0	0	0	0	0	218
03:20 PM	0	53	32	0	85	29	0	31	0	60	20	66	0	0	86	0	2	1	0	3	234
03:25 PM	0	69	48	0	117	34	0	17	0	51	22	59	0	0	81	0	1	0	0	1	250
03:30 PM	0	89	27	0	116	44	1	34	0	79	32	65	0	0	97	0	0	0	0	0	292
03:35 PM	0	57	40	0	97	21	0	29	0	50	26	62	0	0	88	0	2	0	0	2	237
03:40 PM	0	82	44	0	126	25	1	21	0	47	39	59	0	0	98	0	3	1	0	4	275
03:45 PM	0	71	25	0	96	27	0	11	0	38	23	69	0	0	92	0	0	0	0	0	226
03:50 PM	0	63	30	0	93	35	0	15	0	50	22	90	0	0	112	0	0	0	0	0	255
03:55 PM	0	87	39	0	126	23	0	27	0	50	24	64	0	0	88	0	0	0	0	0	264
Total	0	841	416	0	1257	341	3	270	0	614	322	759	0	0	1081	0	10	6	0	16	2968
04:00 PM	0	98	37	0	135	26	0	15	0	41	20	58	0	0	78	0	1	0	0	1	255
04:05 PM	0	65	43	0	108	35	0	35	0	70	30	30	0	0	60	0	4	2	0	6	244
04:10 PM	0	66	38	0	104	22	1	20	0	43	17	70	0	0	87	0	0	1	0	1	235
04:15 PM	0	68	47	0	115	34	0	33	0	67	34	52	0	0	86	0	0	1	0	1	269
04:20 PM	0	70	44	0	114	37	1	31	0	69	42	77	0	0	119	0	0	1	0	1	303
04:25 PM	0	81	44	0	125	25	0	22	0	47	28	71	0	0	99	0	0	0	0	0	271
04:30 PM	0	73	46	0	119	34	0	28	0	62	19	72	0	0	91	0	2	0	0	2	274
04:35 PM	0	62	48	0	110	30	0	23	0	53	31	62	0	0	93	0	0	0	0	0	256
04:40 PM	0	78	44	0	122	22	0	21	0	43	33	65	0	0	98	1	0	1	0	2	265
04:45 PM	0	90	33	0	123	32	0	42	0	74	40	69	0	2	111	0	0	1	0	1	309

TRAFFIC DATA COLLECTION

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Groups Printed- Cars + - Trucks

	NC 16 Southbound					NC 84 Westbound					NC 16 Northbound					Church Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
04:50 PM	0	76	38	0	114	32	0	35	0	67	30	55	0	0	85	0	2	0	0	2	268
04:55 PM	0	78	39	0	117	25	0	24	0	49	27	62	0	0	89	0	2	1	0	3	258
Total	0	905	501	0	1406	354	2	329	0	685	351	743	0	2	1096	1	11	8	0	20	3207
05:00 PM	0	73	36	0	109	29	0	31	0	60	29	84	0	0	113	0	3	0	0	3	285
05:05 PM	0	73	38	0	111	28	0	30	0	58	18	68	0	0	86	0	0	0	0	0	255
05:10 PM	0	76	32	0	108	29	0	28	0	57	32	77	0	0	109	0	0	0	0	0	274
05:15 PM	0	79	41	0	120	29	1	36	0	66	38	89	0	0	127	0	0	0	0	0	313
05:20 PM	1	73	23	0	97	27	0	27	0	54	32	116	0	0	148	0	0	1	0	1	300
05:25 PM	0	78	33	0	111	28	0	27	0	55	41	76	0	0	117	0	0	0	0	0	283
05:30 PM	0	67	44	0	111	38	1	23	0	62	23	66	0	0	89	0	0	0	0	0	262
05:35 PM	0	69	36	1	106	32	0	32	0	64	35	81	0	0	116	0	1	0	0	1	287
05:40 PM	1	59	41	0	101	35	0	26	0	61	36	90	0	0	126	0	0	1	0	1	289
05:45 PM	0	54	29	0	83	42	0	34	0	76	33	73	0	0	106	0	0	1	0	1	266
05:50 PM	1	78	26	0	105	20	1	22	0	43	29	107	1	3	140	0	0	1	0	1	289
05:55 PM	0	70	39	0	109	40	1	27	0	68	32	58	0	2	92	0	0	0	0	0	269
Total	3	849	418	1	1271	377	4	343	0	724	378	985	1	5	1369	0	4	4	0	8	3372
Grand Total	7	3318	1669	2	4996	1387	16	1172	0	2575	1282	3216	5	7	4510	2	41	32	0	75	12156
Apprch %	0.1	66.4	33.4	0		53.9	0.6	45.5	0		28.4	71.3	0.1	0.2		2.7	54.7	42.7	0		
Total %	0.1	27.3	13.7	0	41.1	11.4	0.1	9.6	0	21.2	10.5	26.5	0	0.1	37.1	0	0.3	0.3	0	0.6	
Cars +	7	3291	1653	1	4952	1357	15	1159	0	2531	1249	3159	5	7	4420	2	40	32	0	74	11977
% Cars +	100	99.2	99	50	99.1	97.8	93.8	98.9	0	98.3	97.4	98.2	100	100	98	100	97.6	100	0	98.7	98.5
Trucks	0	27	16	1	44	30	1	13	0	44	33	57	0	0	90	0	1	0	0	1	179
% Trucks	0	0.8	1	50	0.9	2.2	6.2	1.1	0	1.7	2.6	1.8	0	0	2	0	2.4	0	0	1.3	1.5

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	NC 16 Southbound					NC 84 Westbound					NC 16 Northbound					Church Access Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:55 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	**90**	33	0	**123**	32	0	**42**	0	**74**	40	69	0	**2**	111	0	0	**1**	0	1	309
04:50 PM	0	76	38	0	114	32	0	35	0	67	30	55	0	0	85	0	2	0	0	2	268
04:55 PM	0	78	39	0	117	25	0	24	0	49	27	62	0	0	89	0	2	1	0	**3**	258
05:00 PM	0	73	36	0	109	29	0	31	0	60	29	84	0	0	113	0	**3**	0	0	3	285
05:05 PM	0	73	38	0	111	28	0	30	0	58	18	68	0	0	86	0	0	0	0	0	255
05:10 PM	0	76	32	0	108	29	0	28	0	57	32	77	0	0	109	0	0	0	0	0	274
05:15 PM	0	79	41	0	120	29	**1**	36	0	66	38	89	0	0	127	0	0	0	0	0	**313**
05:20 PM	**1**	73	23	0	97	27	0	27	0	54	32	**116**	0	0	**148**	0	0	1	0	1	300
05:25 PM	0	78	33	0	111	28	0	27	0	55	**41**	76	0	0	117	0	0	0	0	0	283
05:30 PM	0	67	**44**	0	111	**38**	1	23	0	62	23	66	0	0	89	0	0	0	0	0	262
05:35 PM	0	69	36	**1**	106	32	0	32	0	64	35	81	0	0	116	0	1	0	0	1	287
05:40 PM	1	59	41	0	101	35	0	26	0	61	36	90	0	0	126	0	0	1	0	1	289
Total Volume	2	891	434	1	1328	364	2	361	0	727	381	933	0	2	1316	0	8	4	0	12	3383
% App. Total	0.2	67.1	32.7	0.1		50.1	0.3	49.7	0		29	70.9	0	0.2		0	66.7	33.3	0		
PHF	.167	.825	.822	.083	.900	.798	.167	.716	.000	.819	.774	.670	.000	.083	.741	.000	.222	.333	.000	.333	.901

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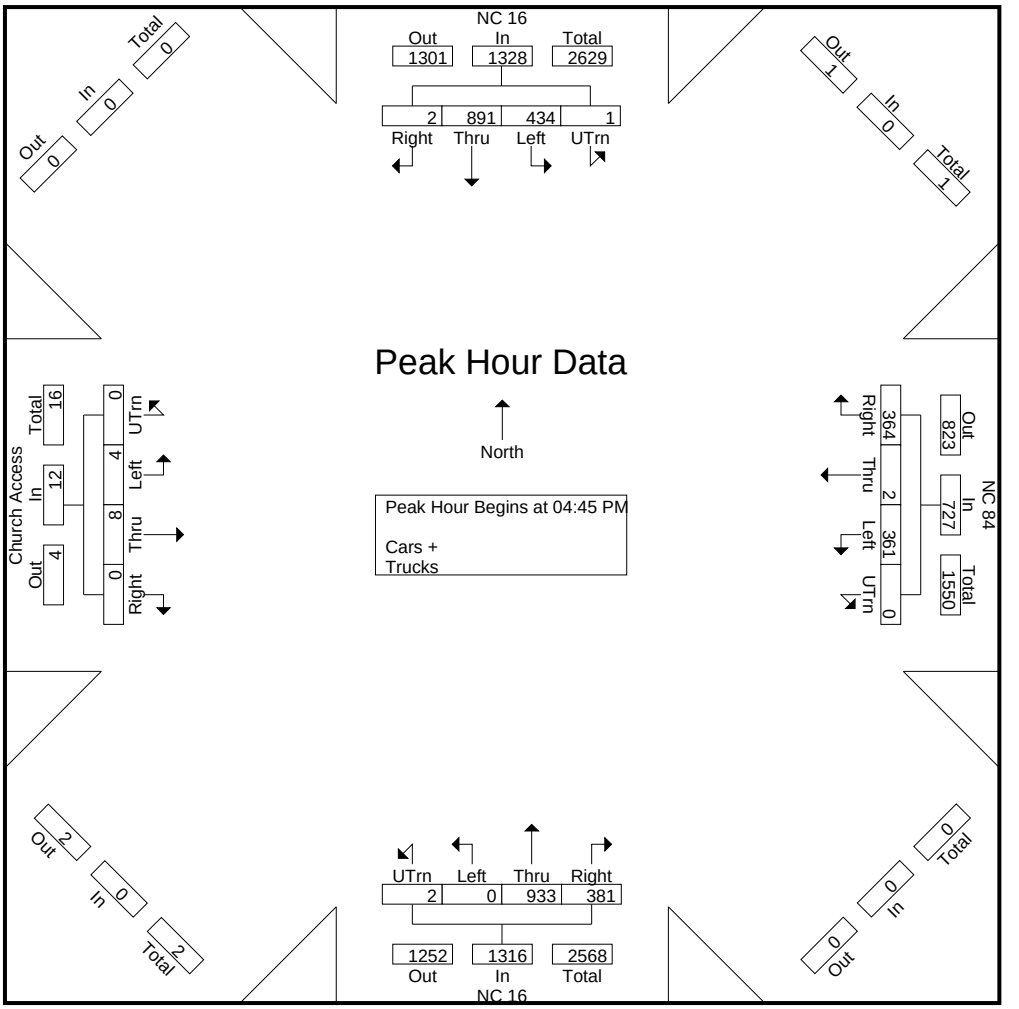
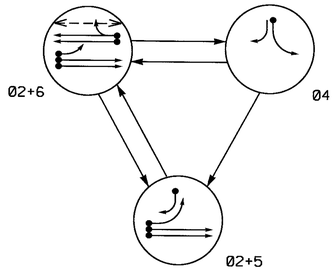


Appendix C – Traffic Signal Plans

PROJECT REFERENCE NO.	SHEET NO.
N/A	Sig. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

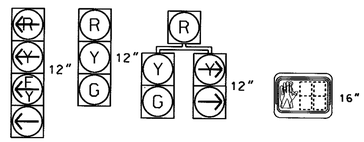
TABLE OF OPERATION

SIGNAL FACE	PHASE 02+5	PHASE 02+6	PHASE 04	FLASH
21, 22	G	G	R	Y
41	R	R	G	R
42	R/←	R	G	R
51	←	~~F~~	~~R~~	~~Y~~
61, 62	R	G	R	Y
P61, P62	DW	W	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

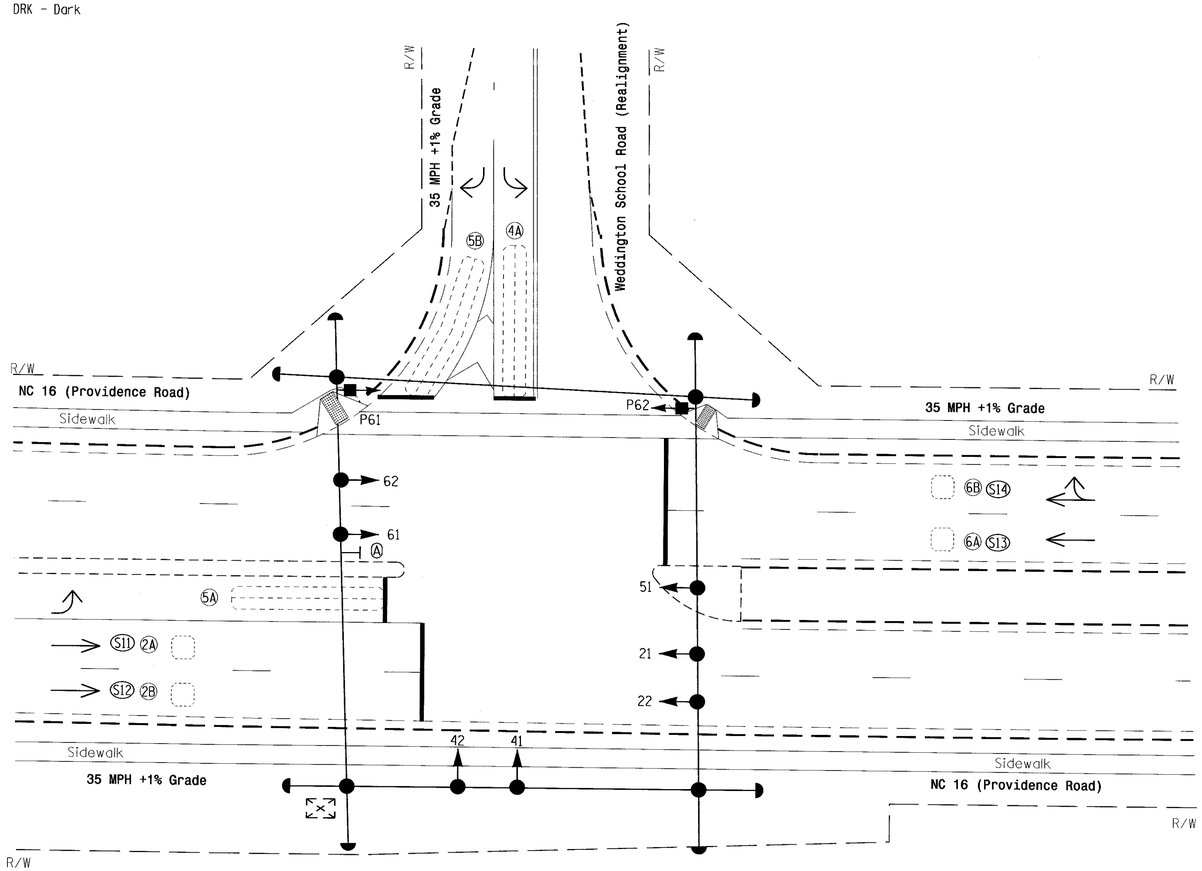
All Heads L.E.D.



51 | 21, 22, 41, 61, 62 | 42 | P61, P62

OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A/S11	6X6	70	3	-	2	Y	Y	-	-	-	Y	-
2B/S12	6X6	70	3	-	2	Y	Y	-	-	-	Y	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	3	-	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
					2	Y	Y	-	-	-	-	-
5B	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
6A/S13	6X6	70	3	-	6	Y	Y	-	-	-	Y	-
6B/S14	6X6	70	3	-	6	Y	Y	-	-	-	Y	-



3 Phase
Fully Actuated
NC 16 (Providence Rd.) CLS

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
8. Closed loop system data: Controller Asset # 2119.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
----	2-in Underground Conduit	----
N/A	Right of Way	----
→	Directional Arrow	→
Ⓐ	No U-Turn Sign (R3-4)	Ⓐ

OASIS 2070L TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 5	PHASE 6
Min Green 1 *	10	7	7	10
Extension 1 *	3.0	2.0	2.0	3.0
Max Green 1 *	50	25	20	50
Yellow Clearance	3.8	3.0	3.0	3.8
Red Clearance	1.5	2.4	2.3	1.5
Walk 1 *	-	-	-	7
Don't Walk 1	-	-	-	24
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Plan of Record

PREPARED BY: M. Mahbooba DATE: October 2012
REVIEWED BY: T. Williams DATE: October 2012
SIGNATURE: T.J.Williams DATE: 10/15/12.

COMMENTS
Relocated cabinet to the SW quadrant.

This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.

Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 20 1"=20'

NC 16 (Providence Road) at Weddington School Road (Realignment)

Division 10 Mecklenburg County Weddington
PLAN DATE: February 2012 REVIEWED BY:
PREPARED BY: M. Mahbooba REVIEWED BY:

REVISIONS	INIT.	DATE

Not a certified document. This document originally issued and sealed by Timothy J.Williams,PE 24393 on 2/28/2012. This document shall not be considered a certified document.

SIG. INVENTORY NO. 10-2119

15-OCT-2012 08:28
S:\Traffic\Traffic Signals\Signal Design Section\Western Region\Div-10\10-2119\#10211SPDR.Sig.csh.20121015.dgn
mahbooba

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	Sig. 8

3 Phase
Fully Actuated
(NC 16 - Providence Rd CLS)

PHASING DIAGRAM

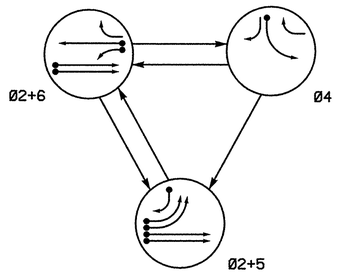
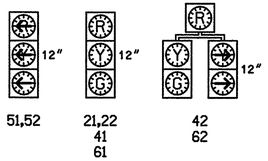


TABLE OF OPERATION				
SIGNAL FACE	PHASE Ø2+5	Ø2+6	Ø4	FLASH
21,22	G	G	R	Y
41	R	R	G	R
42	R/G	R	G	R
51,52	~~—~~	~~R~~	~~R~~	~~R~~
61	R	G	R	Y
62	R	G	R/G	Y

Signal Face I.D.

Denotes L.E.D.



2070L LOOP & DETECTOR INSTALLATION

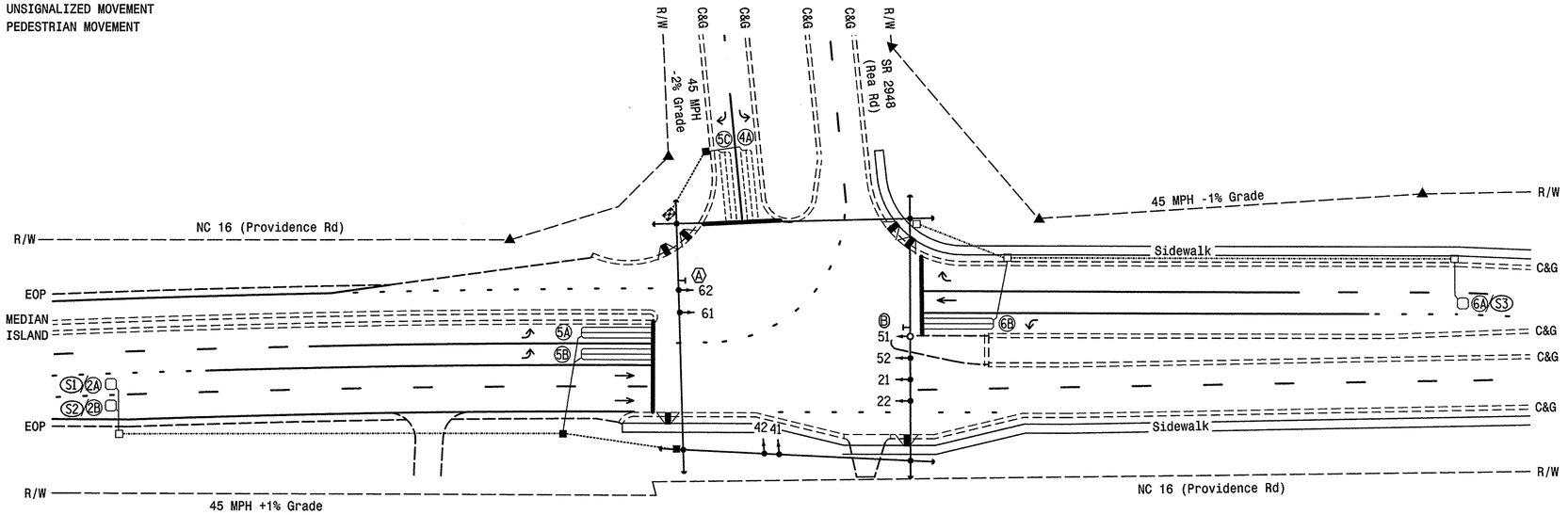
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A/S1	6X6	300	5	Y	2	Y	Y	-	-	-	Y	-
2B/S2	6X6	300	5	Y	2	Y	Y	-	-	-	Y	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-	-
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	-	-	-
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	-	-	-
5C	6X40	0	2-4-2	-	5	Y	Y	-	-	10	-	-
6A/S3	6X6	300	5	Y	6	Y	Y	-	-	-	Y	-
6B	6X40	0	2-4-2	Y	6	Y	Y	Y	-	3	-	Y

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Enable Backup Protect for phase 2 to allow the controller to clear from phase 2+6 to phase 2+5 by progressing through an all red display.
4. Reposition existing signal heads numbered 21, 22, 52, 61 and 62.
5. Set all detector units to presence mode.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
7. Closed loop system data: Controller Asset #1694.

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole With Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
N/A	Wheelchair Ramp	
Ⓐ	Right Arrow "ONLY" Sign (R3-5R)	N/A
N/A	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓑ

2070L TIMING CHART

FEATURE	PHASE 2	4	5	6
Min Green 1 *	12	7	7	12
Extension 1 *	6.0	2.0	2.0	6.0
Max Green 1 *	60	20	20	60
Yellow Clearance	4.4	4.7	3.0	4.6
Red Clearance	2.0	1.7	3.6	1.9
Red Revert	5.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	1.5	-	-	2.5
Max Variable Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduce *	30	-	-	30
Minimum Gap	3.0	-	-	3.0
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Final Signal

Traffic Engineering and Safety Systems Branch
Signals and Geometrics Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Parkway
Garner, NC 27529

NC 16 (Providence Rd)
at
SR 2948 (Rea Rd)

Division 10 Union County Weddington

PLAN DATE:	July 2007	REVIEWED BY:	N.W. Rodevick
PREPARED BY:	T.R. Terrell	REVIEWED BY:	S.T. Franklin

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 028657 ENGINEER SPENCER T. FRANKLIN

SIGNATURE 7.27.07 DATE

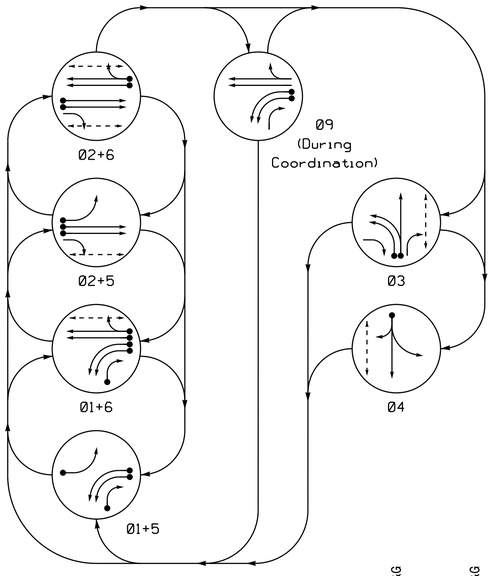
SIG. INVENTORY NO. 10-1694

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609

PROJECT REFERENCE NO.	SHEET NO.
N/A	Sig. 1

6 Phase
Fully Actuated
NC 16 (Providence Rd) CLS

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

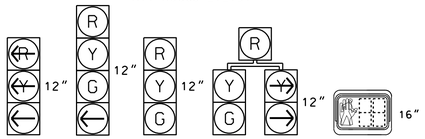
TABLE OF OPERATION

SIGNAL FACE	PHASE						
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø9	Ø3	Ø4	FLASH
11,12	←	←	~~R~~	~~R~~	←	~~R~~	~~R~~	~~R~~
21	R	R	G	G	R	R	R	Y
22	R	R	G	G	R	R/←	R	Y
31	R	R	R	R	R	G/←	R	R
32	R	R	R	R	R	G	R	R
33	R/←	R/←	R	R	R/←	G	R	R
41	R	R	R	R	R	G/←	R	R
42	R	R	R	R	R	R	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61,62	R	G	R	G	G	R	R	Y
P21,P22	DW	DW	W	W	DW	DW	DW	DRK
P31,P32	DW	DW	DW	DW	DW	W	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.

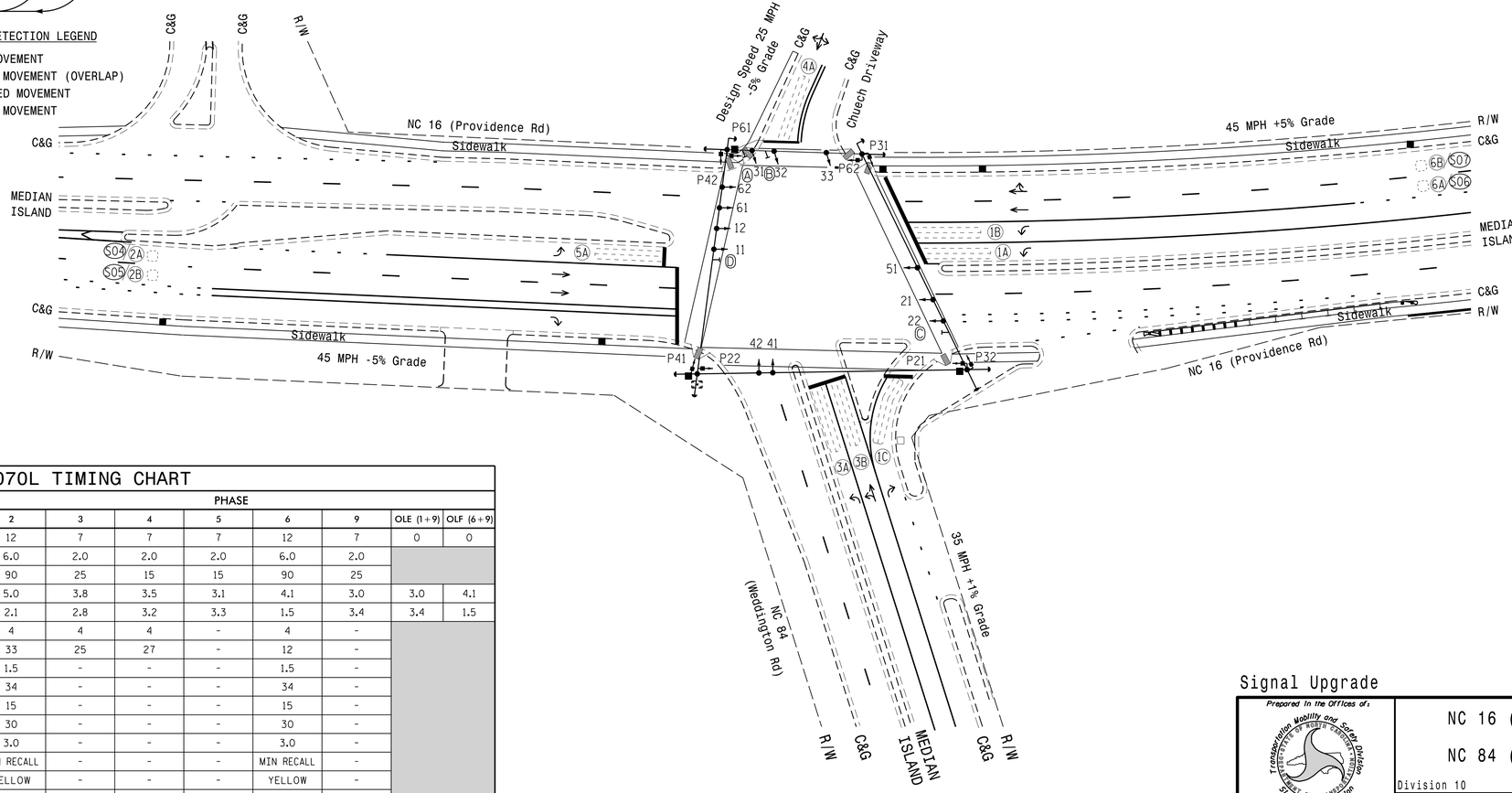


2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6x40	0	2-4-2	-	1/9	Y	Y	-	-	-	-	-
1B	6x40	0	2-4-2	-	1/9	Y	Y	-	-	-	-	-
1C	6x40	0	2-4-2	-	1	Y	Y	-	-	15	-	-
2A/S4	6x6	300	5	-	2	Y	Y	-	-	-	Y	-
2B/S5	6x6	300	5	-	2	Y	Y	-	-	-	Y	-
3A	6x40	0	2-4-2	-	3	Y	Y	-	-	-	-	-
3B	6x40	0	2-4-2	-	3	Y	Y	-	-	-	-	-
4A	6x40	0	2-4-2	-	4	Y	Y	-	-	10	-	-
5A	6x40	0	2-4-2	-	5	Y	Y	-	-	-	-	-
6A/S6	6x6	300	5	-	6	Y	Y	-	-	-	Y	-
6B/S7	6x6	300	5	-	6	Y	Y	-	-	-	Y	-

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Set all detector units to presence mode.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. This signal utilizes a special ring configuration. See electrical details.
9. Phase 9 is used only during coordination.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
11. Closed loop system data: Controller Asset #0907.



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□	Pedestrian Signal Head With Push Button & Sign	■
○	Signal Pole with Guy	●→
○	Signal Pole with Sidewalk Guy	●
▭	Inductive Loop Detector	⋯
⊠	Controller & Cabinet	⊡
N/A	Guardrail	═
□	Junction Box	■
⋯	2-in Underground Conduit	⋯
N/A	Right of Way	— — —
→	Directional Arrow	→
N/A	Wheelchair Ramp	♿
Ⓐ	Left Arrow "ONLY" Sign (R3-5L)	Ⓐ
Ⓑ	Combined Through and Left Arrow Sign (R3-6L)	Ⓑ
Ⓒ	Right Arrow "ONLY" Sign (R3-5R)	Ⓒ
Ⓓ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓓ

2070L TIMING CHART

FEATURE	PHASE								
	1	2	3	4	5	6	9	OLE (1+9)	OLF (6+9)
Min Green 1 *	7	12	7	7	7	12	7	0	0
Extension 1 *	2.0	6.0	2.0	2.0	2.0	6.0	2.0		
Max Green 1 *	25	90	25	15	15	90	25		
Yellow Clearance	3.0	5.0	3.8	3.5	3.1	4.1	3.0	3.0	4.1
Red Clearance	3.4	2.1	2.8	3.2	3.3	1.5	3.4	3.4	1.5
Walk 1 *	-	4	4	4	-	4	-		
Don't Walk 1	-	33	25	27	-	12	-		
Seconds Per Actuation *	-	1.5	-	-	-	1.5	-		
Max Variable Initial *	-	34	-	-	-	34	-		
Time Before Reduction *	-	15	-	-	-	15	-		
Time To Reduce *	-	30	-	-	-	30	-		
Minimum Gap	-	3.0	-	-	-	3.0	-		
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-		
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-		
Dual Entry	-	-	-	-	-	-	-		
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON		

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

Prepared In the Offices of:
Transportation Mobility and Safety Division
Traffic Engineering Branch
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

NC 16 (Providence Rd)
at
NC 84 (Weddington Rd)

Division 10 | Union County | Weddington

PLAN DATE: August 2015 | REVIEWED BY: Z. Little
PREPARED BY: M. Mahbooba | REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL 030530 ENGINEER
ZACHARY M. LITTLE

DocuSigned by: Zachary M. Little 10/14/2015
DC21EFD94F8341F... DATE

SIG. INVENTORY NO. 10-0907

14-OCT-2015 12:25
S:*TISSIG*TIS Signals\Signal Design Section\Western Region\Div-10\10-0907*10907_SIG_DSN_20151013.dgn
mmahbooba

Appendix D – Synchro / SimTraffic Analysis Outputs

2023 Existing Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	25	4	368	15	393	16	961	199	263	619	4
Future Volume (vph)	45	25	4	368	15	393	16	961	199	263	619	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.993				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1839	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.689		0.950	0.956		0.950			0.950		
Satd. Flow (perm)	0	1306	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	50	28	4	409	17	437	18	1068	221	292	688	4
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	82	0	213	213	437	18	1068	221	292	692	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	17.2	17.2		27.0	27.0		13.4	53.8	27.0			
Total Split (%)	12.7%	12.7%		20.0%	20.0%		9.9%	39.9%	20.0%			
Maximum Green (s)	10.5	10.5		20.4	20.4		7.0	46.7	20.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

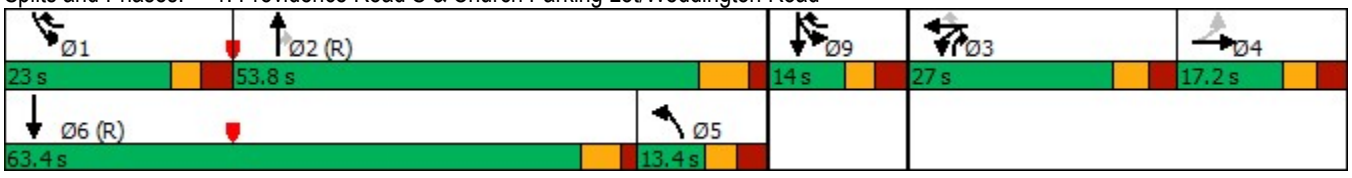
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	23.0	63.4	14.0
Total Split (%)	17%	47%	10%
Maximum Green (s)	16.6	57.8	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		11.6		20.5	20.5	48.9	8.4	54.5	75.0	23.3	80.5	
Actuated g/C Ratio		0.09		0.15	0.15	0.36	0.06	0.40	0.56	0.17	0.60	
v/c Ratio		0.73		0.84	0.83	0.77	0.16	0.73	0.25	0.51	0.34	
Control Delay		94.0		82.4	81.6	33.0	54.2	30.5	7.4	28.8	11.9	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		94.0		82.4	81.6	33.0	54.2	30.5	7.4	28.8	11.9	
LOS		F		F	F	C	D	C	A	C	B	
Approach Delay		94.0			57.2			26.9			16.9	
Approach LOS		F			E			C			B	
Queue Length 50th (ft)		71		190	190	237	16	460	59	64	136	
Queue Length 95th (ft)		#153		#318	#317	314	m36	508	78	84	171	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		119		272	274	613	112	1464	919	669	2054	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.69		0.78	0.78	0.71	0.16	0.73	0.24	0.44	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 37 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 33.6 Intersection LOS: C
Intersection Capacity Utilization 69.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

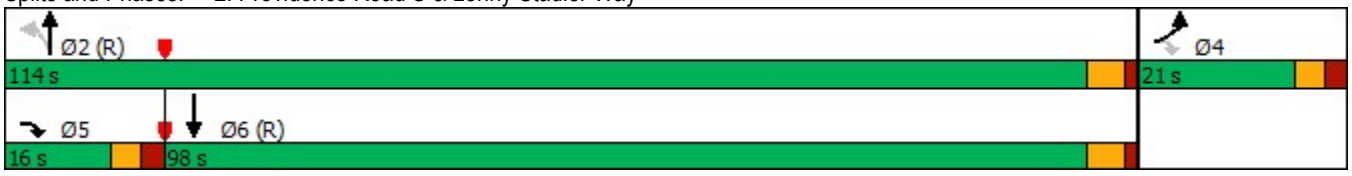
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	28	73	1203	928	59
Future Volume (vph)	38	28	73	1203	928	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3490	0
Flt Permitted	0.950		0.222			
Satd. Flow (perm)	1761	1575	411	3522	3490	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	42	31	81	1337	1031	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	31	81	1337	1097	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	custom	Perm	NA	NA	
Protected Phases	4	5		2	6	
Permitted Phases		4	2			
Detector Phase	4	5	2	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	15.3	15.3	36.3	
Total Split (s)	21.0	16.0	114.0	114.0	98.0	
Total Split (%)	15.6%	11.9%	84.4%	84.4%	72.6%	
Maximum Green (s)	15.6	10.7	108.7	108.7	92.7	
Yellow Time (s)	3.0	3.0	3.8	3.8	3.8	
All-Red Time (s)	2.4	2.3	1.5	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead			Lag	
Lead-Lag Optimize?		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	8.7	18.5	119.8	119.8	112.4	
Actuated g/C Ratio	0.06	0.14	0.89	0.89	0.83	
v/c Ratio	0.37	0.14	0.22	0.43	0.38	
Control Delay	69.4	50.2	2.5	1.6	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.4	50.2	2.5	1.6	2.3	
LOS	E	D	A	A	A	
Approach Delay	61.2			1.6	2.3	
Approach LOS	E			A	A	
Queue Length 50th (ft)	36	24	6	60	76	
Queue Length 95th (ft)	75	54	m14	89	64	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	208	259	364	3125	2905	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.20	0.12	0.22	0.43	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 114 (84%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 3.6		Intersection LOS: A	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way

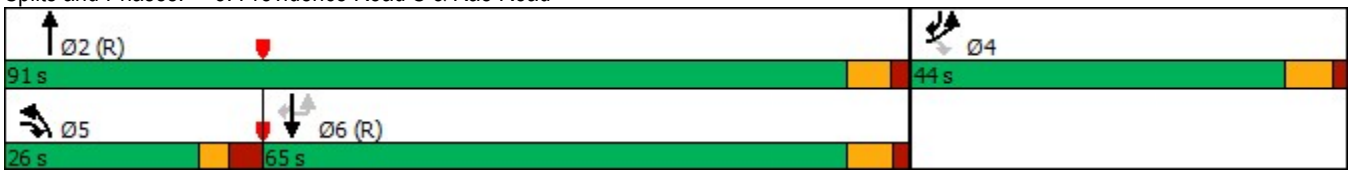


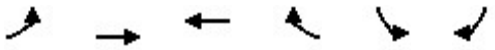
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	336	189	343	947	4	550	323
Future Volume (vph)	336	189	343	947	4	550	323
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.272		
Satd. Flow (perm)	1787	1599	3416	3522	509	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	373	210	381	1052	4	611	359
Shared Lane Traffic (%)							
Lane Group Flow (vph)	373	210	381	1052	4	611	359
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	44.0	26.0	26.0	91.0	65.0	65.0	44.0
Total Split (%)	32.6%	19.3%	19.3%	67.4%	48.1%	48.1%	32.6%
Maximum Green (s)	37.6	19.4	19.4	84.6	58.5	58.5	37.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	33.1	57.9	19.8	91.9	67.1	67.1	105.2
Actuated g/C Ratio	0.25	0.43	0.15	0.68	0.50	0.50	0.78
v/c Ratio	0.85	0.31	0.76	0.44	0.02	0.66	0.29
Control Delay	66.8	25.5	65.7	11.1	17.0	22.1	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	25.5	65.7	11.1	17.0	22.1	2.6
LOS	E	C	E	B	B	C	A
Approach Delay	51.9			25.6		14.9	
Approach LOS	D			C		B	
Queue Length 50th (ft)	311	116	165	208	1	237	38
Queue Length 95th (ft)	414	164	222	284	m4	287	40
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	516	702	538	2398	253	931	1309
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.30	0.71	0.44	0.02	0.66	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 132 (98%), Referenced to phase 2:NBT and 6:SBTU, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 27.3		Intersection LOS: C	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	377	686	7	5	10
Future Volume (vph)	5	377	686	7	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.913	
Flt Protected	0.950				0.983	
Satd. Flow (prot)	1770	1863	1863	1583	1672	0
Flt Permitted	0.950				0.983	
Satd. Flow (perm)	1770	1863	1863	1583	1672	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	419	762	8	6	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	419	762	8	17	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

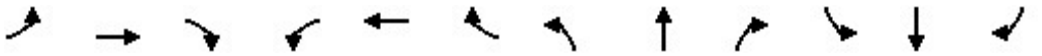
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	377	686	7	5	10
Future Vol, veh/h	5	377	686	7	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	419	762	8	6	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	770	0	-	0	1193	762
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	431	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	844	-	-	-	206	405
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	844	-	-	-	205	405
Mov Cap-2 Maneuver	-	-	-	-	205	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	844	-	-	-	306
HCM Lane V/C Ratio	0.007	-	-	-	0.054
HCM Control Delay (s)	9.3	-	-	-	17.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	10	4	270	4	341	4	759	322	416	841	4
Future Volume (vph)	6	10	4	270	4	341	4	759	322	416	841	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.975				0.850			0.850		0.999	
Flt Protected		0.984		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1832	0	1673	1680	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.834		0.950	0.954		0.950			0.950		
Satd. Flow (perm)	0	1553	0	1673	1680	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	7	11	4	300	4	379	4	843	358	462	934	4
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	22	0	153	151	379	4	843	358	462	938	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		24.6	24.6		13.4	42.8	24.6			
Total Split (%)	11.4%	11.4%		20.5%	20.5%		11.2%	35.7%	20.5%			
Maximum Green (s)	7.0	7.0		18.0	18.0		7.0	35.7	18.0			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

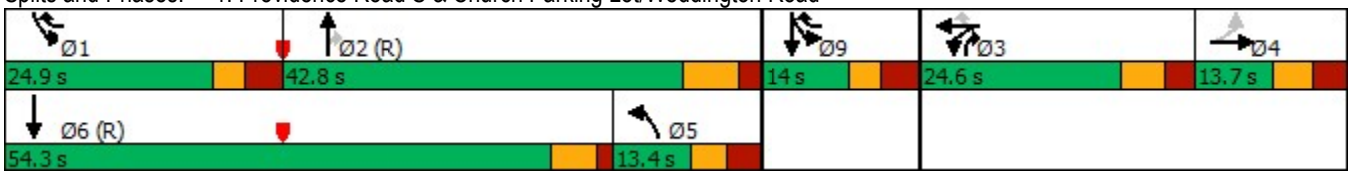
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	24.9	54.3	14.0
Total Split (%)	21%	45%	12%
Maximum Green (s)	18.5	48.7	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		16.2	16.2	45.9	8.4	52.9	69.1	22.7	81.9	
Actuated g/C Ratio		0.07		0.14	0.14	0.38	0.07	0.44	0.58	0.19	0.68	
v/c Ratio		0.20		0.68	0.67	0.63	0.03	0.53	0.38	0.73	0.40	
Control Delay		56.8		64.3	63.5	26.7	41.5	18.5	6.7	34.1	9.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		56.8		64.3	63.5	26.7	41.5	18.5	6.7	34.1	9.2	
LOS		E		E	E	C	D	B	A	C	A	
Approach Delay		56.8			43.3			15.1			17.4	
Approach LOS		E			D			B			B	
Queue Length 50th (ft)		16		120	117	177	3	202	69	97	163	
Queue Length 95th (ft)		44		191	189	215	m7	303	149	109	218	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		112		273	274	683	126	1599	980	806	2352	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.20		0.56	0.55	0.55	0.03	0.53	0.37	0.57	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 60.4% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

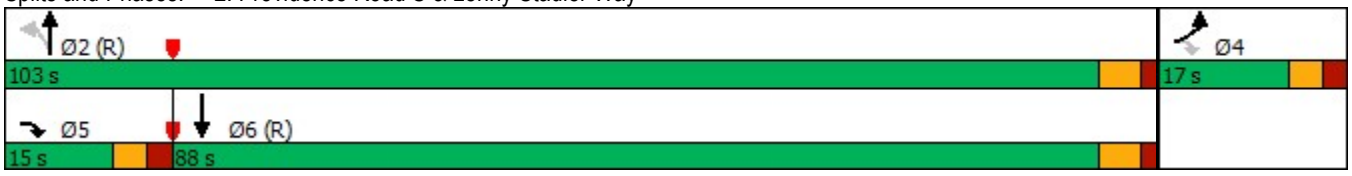
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	23	42	1086	1071	42
Future Volume (vph)	37	23	42	1086	1071	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3500	0
Flt Permitted	0.950		0.183			
Satd. Flow (perm)	1761	1575	339	3522	3500	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	41	26	47	1207	1190	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	26	47	1207	1237	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	custom	Perm	NA	NA	
Protected Phases	4	5		2	6	
Permitted Phases		4	2			
Detector Phase	4	5	2	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	15.3	15.3	36.3	
Total Split (s)	17.0	15.0	103.0	103.0	88.0	
Total Split (%)	14.2%	12.5%	85.8%	85.8%	73.3%	
Maximum Green (s)	11.6	9.7	97.7	97.7	82.7	
Yellow Time (s)	3.0	3.0	3.8	3.8	3.8	
All-Red Time (s)	2.4	2.3	1.5	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead			Lag	
Lead-Lag Optimize?		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	8.4	18.2	105.1	105.1	97.7	
Actuated g/C Ratio	0.07	0.15	0.88	0.88	0.81	
v/c Ratio	0.34	0.11	0.16	0.39	0.43	
Control Delay	60.3	42.5	2.0	1.3	3.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.3	42.5	2.0	1.3	3.3	
LOS	E	D	A	A	A	
Approach Delay	53.4			1.3	3.3	
Approach LOS	D			A	A	
Queue Length 50th (ft)	31	17	3	40	112	
Queue Length 95th (ft)	67	43	m6	m58	80	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	176	274	296	3085	2850	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.09	0.16	0.39	0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 107 (89%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 3.6		Intersection LOS: A	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way

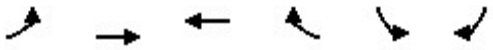


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	433	281	200	679	4	754	314
Future Volume (vph)	433	281	200	679	4	754	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.366		
Satd. Flow (perm)	1787	1599	3416	3522	685	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	481	312	222	754	4	838	349
Shared Lane Traffic (%)							
Lane Group Flow (vph)	481	312	222	754	4	838	349
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	40.0	14.1	14.1	80.0	65.9	65.9	40.0
Total Split (%)	33.3%	11.8%	11.8%	66.7%	54.9%	54.9%	33.3%
Maximum Green (s)	33.6	7.5	7.5	73.6	59.4	59.4	33.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	34.2	48.7	9.5	75.8	61.3	61.3	100.5
Actuated g/C Ratio	0.28	0.41	0.08	0.63	0.51	0.51	0.84
v/c Ratio	0.94	0.48	0.82	0.34	0.01	0.88	0.26
Control Delay	70.8	29.3	78.8	11.0	13.0	33.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	29.3	78.8	11.0	13.0	33.1	1.9
LOS	E	C	E	B	B	C	A
Approach Delay	54.5			26.4		23.9	
Approach LOS	D			C		C	
Queue Length 50th (ft)	361	175	89	136	2	327	20
Queue Length 95th (ft)	#565	260	#158	172	m4	#812	50
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	521	648	270	2225	350	957	1343
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.48	0.82	0.34	0.01	0.88	0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBTU, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 32.9		Intersection LOS: C	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	607	505	10	11	10
Future Volume (vph)	11	607	505	10	11	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.935	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1770	1863	1863	1583	1698	0
Flt Permitted	0.950				0.975	
Satd. Flow (perm)	1770	1863	1863	1583	1698	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	12	674	561	11	12	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	674	561	11	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	607	505	10	11	10
Future Vol, veh/h	11	607	505	10	11	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	674	561	11	12	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	572	0	-	0	1259	561
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	698	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1001	-	-	-	188	527
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1001	-	-	-	186	527
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1001	-	-	-	269
HCM Lane V/C Ratio	0.012	-	-	-	0.087
HCM Control Delay (s)	8.6	-	-	-	19.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	147	251	310	353	52	402	401	128	205	164	163	166
Average Queue (ft)	74	165	190	218	18	274	285	63	114	46	91	77
95th Queue (ft)	137	256	319	345	48	417	425	115	186	141	157	155
Link Distance (ft)	948		728			1069	1069				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)			0	3			1					
Queuing Penalty (veh)			1	13			2					

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	95	72	76	91	121	81	92
Average Queue (ft)	39	28	39	30	44	31	33
95th Queue (ft)	85	66	73	83	112	73	79
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	15	13					
Queuing Penalty (veh)	5	5					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	410	210	239	275	243	231	25	501	203
Average Queue (ft)	280	106	163	202	140	135	4	325	92
95th Queue (ft)	413	193	243	272	234	225	18	484	183
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								12	
Queuing Penalty (veh)								0	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	18	36
Average Queue (ft)	2	11
95th Queue (ft)	16	35
Link Distance (ft)		956
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 27

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	45	159	205	300	23	283	291	187	238	197	156	149
Average Queue (ft)	15	100	110	168	6	186	194	104	155	95	71	65
95th Queue (ft)	41	154	184	277	23	284	294	180	229	203	141	137
Link Distance (ft)	948		728			1069	1069				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)				0								
Queuing Penalty (veh)				1								

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	95	75	66	84	123	121	111
Average Queue (ft)	40	29	29	24	40	43	42
95th Queue (ft)	86	68	63	73	110	104	97
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	13	7					
Queuing Penalty (veh)	3	3					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	647	365	201	226	181	169	62	724	207
Average Queue (ft)	479	168	132	168	100	90	8	479	58
95th Queue (ft)	841	340	220	238	164	164	89	788	168
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								28	
Queuing Penalty (veh)								1	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	27	42
Average Queue (ft)	4	17
95th Queue (ft)	23	45
Link Distance (ft)		956
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 9

2026 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	27	4	396	16	423	17	1035	214	283	667	4
Future Volume (vph)	48	27	4	396	16	423	17	1035	214	283	667	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.994				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1841	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.680		0.950	0.956		0.950			0.950		
Satd. Flow (perm)	0	1291	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	53	30	4	440	18	470	19	1150	238	314	741	4
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	87	0	229	229	470	19	1150	238	314	745	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	16.0	16.0		27.0	27.0		13.4	55.0	27.0			
Total Split (%)	11.9%	11.9%		20.0%	20.0%		9.9%	40.7%	20.0%			
Maximum Green (s)	9.3	9.3		20.4	20.4		7.0	47.9	20.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

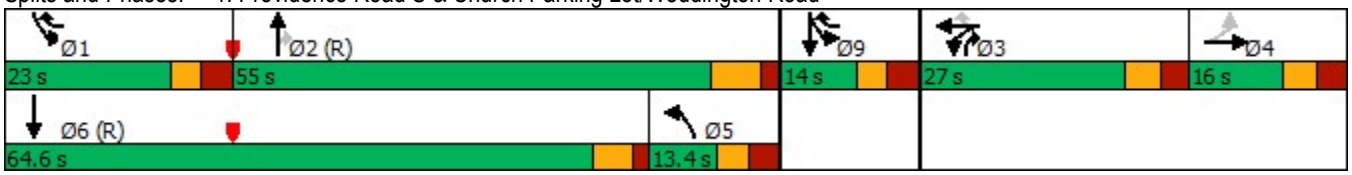
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	23.0	64.6	14.0
Total Split (%)	17%	48%	10%
Maximum Green (s)	16.6	59.0	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		10.9		21.2	21.2	50.1	8.4	54.0	75.1	24.0	80.6	
Actuated g/C Ratio		0.08		0.16	0.16	0.37	0.06	0.40	0.56	0.18	0.60	
v/c Ratio		0.84		0.87	0.87	0.80	0.17	0.79	0.26	0.53	0.36	
Control Delay		113.0		86.7	85.6	35.3	53.8	32.0	7.7	29.0	12.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		113.0		86.7	85.6	35.3	53.8	32.0	7.7	29.0	12.0	
LOS		F		F	F	D	D	C	A	C	B	
Approach Delay		113.0			60.4			28.2			17.0	
Approach LOS		F			E			C			B	
Queue Length 50th (ft)		76		207	207	266	17	438	61	71	146	
Queue Length 95th (ft)		#175		#355	#353	353	m35	546	89	92	181	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		105		272	274	620	112	1450	913	669	2057	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.83		0.84	0.84	0.76	0.17	0.79	0.26	0.47	0.36	

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 36 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 35.5 Intersection LOS: D
Intersection Capacity Utilization 73.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

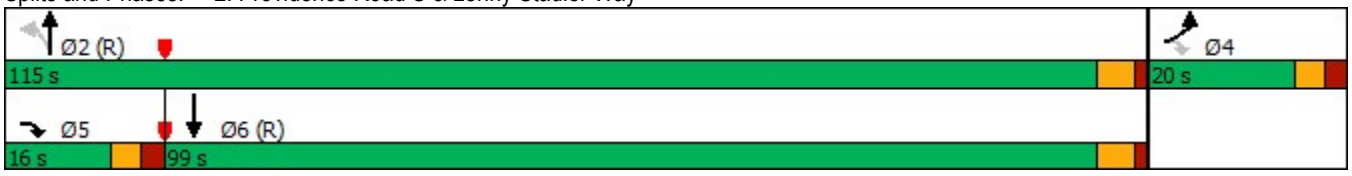
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	30	79	1295	999	64
Future Volume (vph)	41	30	79	1295	999	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3490	0
Flt Permitted	0.950		0.201			
Satd. Flow (perm)	1761	1575	373	3522	3490	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	46	33	88	1439	1110	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	33	88	1439	1181	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	custom	Perm	NA	NA	
Protected Phases	4	5		2	6	
Permitted Phases		4	2			
Detector Phase	4	5	2	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	15.3	15.3	36.3	
Total Split (s)	20.0	16.0	115.0	115.0	99.0	
Total Split (%)	14.8%	11.9%	85.2%	85.2%	73.3%	
Maximum Green (s)	14.6	10.7	109.7	109.7	93.7	
Yellow Time (s)	3.0	3.0	3.8	3.8	3.8	
All-Red Time (s)	2.4	2.3	1.5	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead			Lag	
Lead-Lag Optimize?		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	8.9	18.7	119.6	119.6	112.2	
Actuated g/C Ratio	0.07	0.14	0.89	0.89	0.83	
v/c Ratio	0.40	0.15	0.27	0.46	0.41	
Control Delay	70.1	50.1	3.0	1.7	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.1	50.1	3.0	1.7	2.3	
LOS	E	D	A	A	A	
Approach Delay	61.7			1.8	2.3	
Approach LOS	E			A	A	
Queue Length 50th (ft)	40	25	7	68	84	
Queue Length 95th (ft)	81	57	m16	101	63	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	195	261	330	3119	2900	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.13	0.27	0.46	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 115 (85%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 3.7		Intersection LOS: A	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way

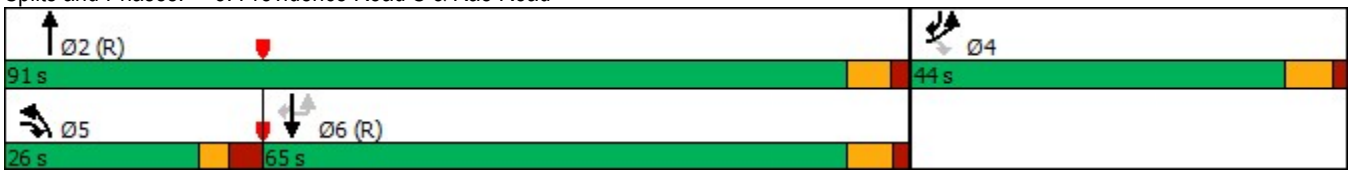


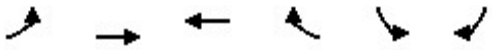
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	362	204	369	1020	4	592	348
Future Volume (vph)	362	204	369	1020	4	592	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.251		
Satd. Flow (perm)	1787	1599	3416	3522	470	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	402	227	410	1133	4	658	387
Shared Lane Traffic (%)							
Lane Group Flow (vph)	402	227	410	1133	4	658	387
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	44.0	26.0	26.0	91.0	65.0	65.0	44.0
Total Split (%)	32.6%	19.3%	19.3%	67.4%	48.1%	48.1%	32.6%
Maximum Green (s)	37.6	19.4	19.4	84.6	58.5	58.5	37.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	34.7	59.9	20.2	90.3	65.1	65.1	104.8
Actuated g/C Ratio	0.26	0.44	0.15	0.67	0.48	0.48	0.78
v/c Ratio	0.88	0.32	0.80	0.48	0.02	0.73	0.31
Control Delay	68.1	24.8	68.0	12.3	17.8	25.0	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	24.8	68.0	12.3	17.8	25.0	2.7
LOS	E	C	E	B	B	C	A
Approach Delay	52.5			27.1		16.8	
Approach LOS	D			C		B	
Queue Length 50th (ft)	334	120	178	246	0	260	40
Queue Length 95th (ft)	452	178	239	314	m4	313	46
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	516	721	537	2355	226	902	1285
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.31	0.76	0.48	0.02	0.73	0.30

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 132 (98%), Referenced to phase 2:NBT and 6:SBTU, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 74.2%	ICU Level of Service D
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	406	739	8	5	11
Future Volume (vph)	5	406	739	8	5	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.910	
Flt Protected	0.950				0.984	
Satd. Flow (prot)	1770	1863	1863	1583	1668	0
Flt Permitted	0.950				0.984	
Satd. Flow (perm)	1770	1863	1863	1583	1668	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	451	821	9	6	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	451	821	9	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

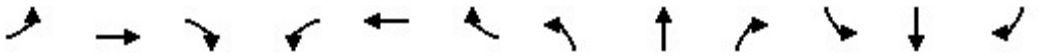
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	406	739	8	5	11
Future Vol, veh/h	5	406	739	8	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	451	821	9	6	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	830	0	-	0	1284	821
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	463	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	802	-	-	-	182	374
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	802	-	-	-	181	374
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	634	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	802	-	-	-	281
HCM Lane V/C Ratio	0.007	-	-	-	0.063
HCM Control Delay (s)	9.5	-	-	-	18.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	11	4	291	4	367	4	817	347	448	906	4
Future Volume (vph)	6	11	4	291	4	367	4	817	347	448	906	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.999	
Flt Protected		0.985		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1837	0	1673	1680	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.835		0.950	0.954		0.950			0.950		
Satd. Flow (perm)	0	1558	0	1673	1680	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	7	12	4	323	4	408	4	908	386	498	1007	4
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	23	0	165	162	408	4	908	386	498	1011	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		24.0	24.0		13.4	44.3	24.0			
Total Split (%)	11.4%	11.4%		20.0%	20.0%		11.2%	36.9%	20.0%			
Maximum Green (s)	7.0	7.0		17.4	17.4		7.0	37.2	17.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	24.0	54.9	14.0
Total Split (%)	20%	46%	12%
Maximum Green (s)	17.6	49.3	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

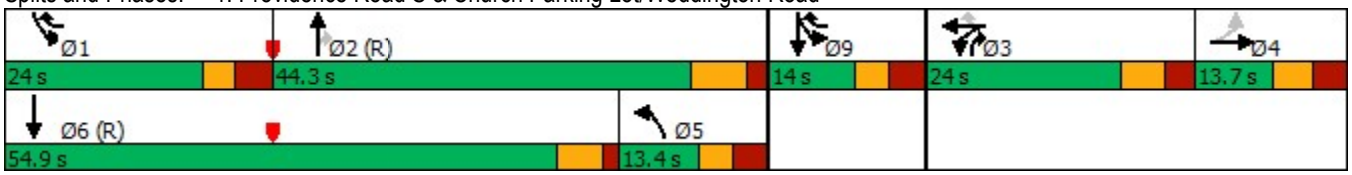
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		16.4	16.4	47.1	8.4	51.7	68.1	23.6	81.7	
Actuated g/C Ratio		0.07		0.14	0.14	0.39	0.07	0.43	0.57	0.20	0.68	
v/c Ratio		0.21		0.72	0.70	0.66	0.03	0.58	0.42	0.76	0.43	
Control Delay		57.1		67.3	65.9	27.1	40.2	19.7	7.3	35.5	9.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		57.1		67.3	65.9	27.1	40.2	19.7	7.3	35.5	9.8	
LOS		E		E	E	C	D	B	A	D	A	
Approach Delay		57.1			44.7			16.1			18.3	
Approach LOS		E			D			B			B	
Queue Length 50th (ft)		17		128	126	184	2	240	90	101	185	
Queue Length 95th (ft)		45		207	203	241	m6	320	164	126	241	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		112		264	266	675	126	1563	956	780	2345	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.21		0.63	0.61	0.60	0.03	0.58	0.40	0.64	0.43	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 42 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 23.2 Intersection LOS: C
Intersection Capacity Utilization 63.6% ICU Level of Service B
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

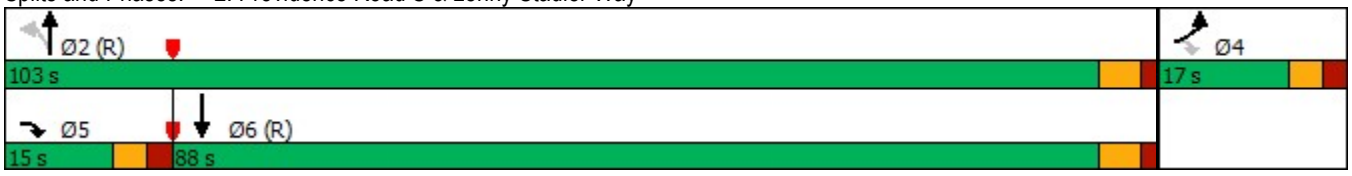
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	25	45	1170	1153	45
Future Volume (vph)	40	25	45	1170	1153	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3500	0
Flt Permitted	0.950		0.163			
Satd. Flow (perm)	1761	1575	302	3522	3500	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	28	50	1300	1281	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	28	50	1300	1331	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	custom	Perm	NA	NA	
Protected Phases	4	5		2	6	
Permitted Phases		4	2			
Detector Phase	4	5	2	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	15.3	15.3	36.3	
Total Split (s)	17.0	15.0	103.0	103.0	88.0	
Total Split (%)	14.2%	12.5%	85.8%	85.8%	73.3%	
Maximum Green (s)	11.6	9.7	97.7	97.7	82.7	
Yellow Time (s)	3.0	3.0	3.8	3.8	3.8	
All-Red Time (s)	2.4	2.3	1.5	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead			Lag	
Lead-Lag Optimize?		Yes			Yes	
Vehicle Extension (s)	2.0	2.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	8.5	18.4	104.9	104.9	97.6	
Actuated g/C Ratio	0.07	0.15	0.87	0.87	0.81	
v/c Ratio	0.35	0.12	0.19	0.42	0.47	
Control Delay	60.6	42.4	2.4	1.4	3.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.6	42.4	2.4	1.4	3.5	
LOS	E	D	A	A	A	
Approach Delay	53.5			1.4	3.5	
Approach LOS	D			A	A	
Queue Length 50th (ft)	33	19	3	45	125	
Queue Length 95th (ft)	71	45	m7	m63	91	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	176	276	264	3080	2845	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.10	0.19	0.42	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 105 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 3.8		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way

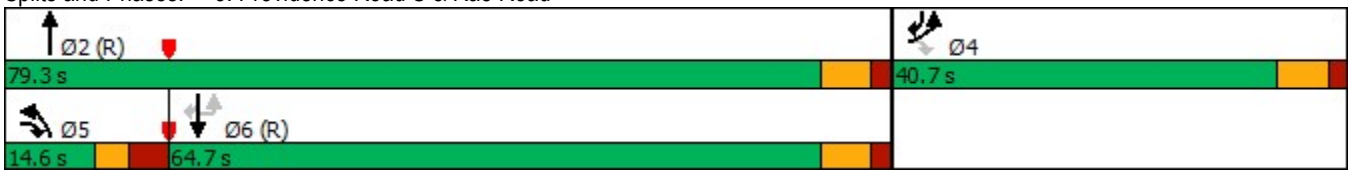


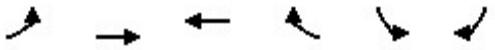
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	466	303	215	731	4	812	338
Future Volume (vph)	466	303	215	731	4	812	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.345		
Satd. Flow (perm)	1787	1599	3416	3522	646	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	518	337	239	812	4	902	376
Shared Lane Traffic (%)							
Lane Group Flow (vph)	518	337	239	812	4	902	376
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	40.7	14.6	14.6	79.3	64.7	64.7	40.7
Total Split (%)	33.9%	12.2%	12.2%	66.1%	53.9%	53.9%	33.9%
Maximum Green (s)	34.3	8.0	8.0	72.9	58.2	58.2	34.3
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	35.7	50.3	9.6	74.3	59.7	59.7	100.4
Actuated g/C Ratio	0.30	0.42	0.08	0.62	0.50	0.50	0.84
v/c Ratio	0.98	0.50	0.88	0.37	0.01	0.97	0.28
Control Delay	75.7	28.9	85.1	11.9	14.5	46.7	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	28.9	85.1	11.9	14.5	46.7	2.3
LOS	E	C	F	B	B	D	A
Approach Delay	57.3			28.5		33.6	
Approach LOS	E			C		C	
Queue Length 50th (ft)	397	189	96	153	2	564	21
Queue Length 95th (ft)	#621	279	#169	192	m3	#939	70
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	531	670	273	2180	321	931	1331
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.50	0.88	0.37	0.01	0.97	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTU, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 38.3		Intersection LOS: D	
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	12	654	544	11	12	11
Future Volume (vph)	12	654	544	11	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.935	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1770	1863	1863	1583	1698	0
Flt Permitted	0.950				0.975	
Satd. Flow (perm)	1770	1863	1863	1583	1698	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	727	604	12	13	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	727	604	12	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	654	544	11	12	11
Future Vol, veh/h	12	654	544	11	12	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	727	604	12	13	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	616	0	-	0	1357	604
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	753	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	964	-	-	-	164	498
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	964	-	-	-	162	498
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	465	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	964	-	-	-	239
HCM Lane V/C Ratio	0.014	-	-	-	0.107
HCM Control Delay (s)	8.8	-	-	-	21.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	159	363	397	379	62	454	467	220	201	165	182	176
Average Queue (ft)	77	232	250	253	22	318	330	80	122	61	102	92
95th Queue (ft)	144	395	430	413	55	459	469	184	190	158	176	170
Link Distance (ft)	948		728			1069	1069				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)		0	6	5		0	1					
Queuing Penalty (veh)		0	42	22		0	3					

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	98	75	85	110	128	92	101
Average Queue (ft)	41	29	42	32	51	34	33
95th Queue (ft)	86	69	80	94	121	79	82
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	17	13					
Queuing Penalty (veh)	6	6					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	465	192	236	274	262	260	28	561	197
Average Queue (ft)	310	102	170	208	159	156	5	388	99
95th Queue (ft)	461	180	250	274	255	248	22	562	181
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								22	
Queuing Penalty (veh)								1	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	18	36
Average Queue (ft)	3	13
95th Queue (ft)	16	39
Link Distance (ft)		956
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 80

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	62	189	215	299	25	308	322	204	240	199	181	175
Average Queue (ft)	21	116	126	174	5	204	215	114	159	106	93	87
95th Queue (ft)	57	182	198	284	20	311	320	185	238	212	179	166
Link Distance (ft)	948		728			1069	1069				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)				1								
Queuing Penalty (veh)				2								

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	89	79	61	108	140	129	133
Average Queue (ft)	45	31	29	28	51	55	49
95th Queue (ft)	89	74	62	87	128	124	117
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	19	11					
Queuing Penalty (veh)	5	5					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	844	424	206	236	192	178	100	1454	1147
Average Queue (ft)	636	222	139	173	114	102	8	1033	347
95th Queue (ft)	1057	586	233	248	186	173	88	1642	1065
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)	2	1							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								49	
Queuing Penalty (veh)								2	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	B5	SB
Directions Served	L	T	LR
Maximum Queue (ft)	27	77	46
Average Queue (ft)	4	5	19
95th Queue (ft)	21	108	48
Link Distance (ft)		728	956
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 14

2028 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	28	4	416	17	445	18	1087	225	298	700	4
Future Volume (vph)	51	28	4	416	17	445	18	1087	225	298	700	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.994				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1841	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.670		0.950	0.956		0.950			0.950		
Satd. Flow (perm)	0	1272	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	57	31	4	462	19	494	20	1208	250	331	778	4
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	92	0	240	241	494	20	1208	250	331	782	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	16.0	16.0		26.0	26.0		13.4	57.0	26.0			
Total Split (%)	11.9%	11.9%		19.3%	19.3%		9.9%	42.2%	19.3%			
Maximum Green (s)	9.3	9.3		19.4	19.4		7.0	49.9	19.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

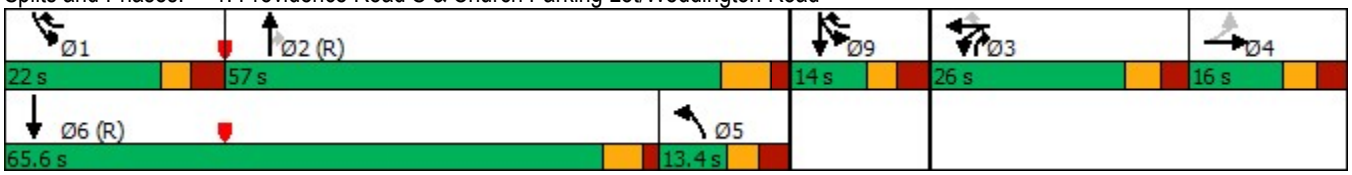
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	22.0	65.6	14.0
Total Split (%)	16%	49%	10%
Maximum Green (s)	15.6	60.0	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		11.1		20.9	20.9	50.5	8.4	53.3	74.2	24.7	77.0	
Actuated g/C Ratio		0.08		0.15	0.15	0.37	0.06	0.39	0.55	0.18	0.57	
v/c Ratio		0.88		0.93	0.93	0.84	0.18	0.84	0.28	0.54	0.40	
Control Delay		121.6		96.5	96.3	38.4	53.0	33.9	10.2	29.4	12.4	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		121.6		96.5	96.3	38.4	53.0	33.9	10.2	29.4	12.4	
LOS		F		F	F	D	D	C	B	C	B	
Approach Delay		121.6			67.0			30.1			17.5	
Approach LOS		F			E			C			B	
Queue Length 50th (ft)		81		221	222	283	17	460	85	74	151	
Queue Length 95th (ft)		#190		#392	#392	#404	m35	540	111	101	187	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		104		260	261	605	112	1433	893	644	1965	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.88		0.92	0.92	0.82	0.18	0.84	0.28	0.51	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 34 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 38.4 Intersection LOS: D
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

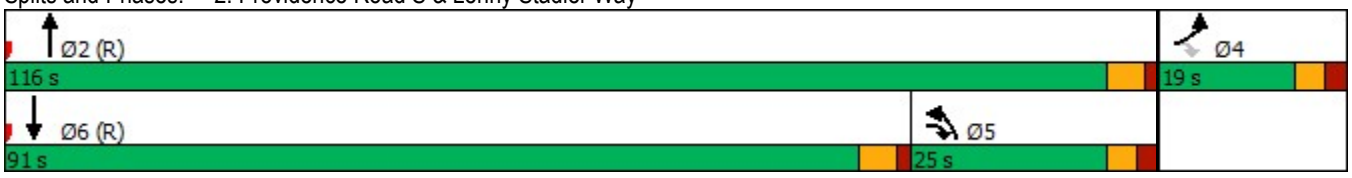
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	43	32	83	1361	1050	67
Future Volume (vph)	43	32	83	1361	1050	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3490	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1761	1575	1761	3522	3490	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	36	92	1512	1167	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	36	92	1512	1241	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	12.3	15.3	36.3	
Total Split (s)	19.0	25.0	25.0	116.0	91.0	
Total Split (%)	14.1%	18.5%	18.5%	85.9%	67.4%	
Maximum Green (s)	13.6	19.7	19.7	110.7	85.7	
Yellow Time (s)	3.0	3.0	3.0	3.8	3.8	
All-Red Time (s)	2.4	2.3	2.3	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	9.0	31.6	20.0	119.4	93.4	
Actuated g/C Ratio	0.07	0.23	0.15	0.88	0.69	
v/c Ratio	0.41	0.10	0.35	0.49	0.51	
Control Delay	70.3	38.7	51.6	1.7	5.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.3	38.7	51.6	1.7	5.6	
LOS	E	D	D	A	A	
Approach Delay	56.8			4.6	5.6	
Approach LOS	E			A	A	
Queue Length 50th (ft)	41	24	77	74	88	
Queue Length 95th (ft)	82	53	m123	104	m97	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	182	368	260	3116	2415	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.10	0.35	0.49	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 113 (84%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 6.5		Intersection LOS: A	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way

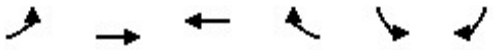


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	380	214	388	1071	4	622	365
Future Volume (vph)	380	214	388	1071	4	622	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.237		
Satd. Flow (perm)	1787	1599	3416	3522	444	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	422	238	431	1190	4	691	406
Shared Lane Traffic (%)							
Lane Group Flow (vph)	422	238	431	1190	4	691	406
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	44.0	26.0	26.0	91.0	65.0	65.0	44.0
Total Split (%)	32.6%	19.3%	19.3%	67.4%	48.1%	48.1%	32.6%
Maximum Green (s)	37.6	19.4	19.4	84.6	58.5	58.5	37.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	35.7	61.3	20.6	89.3	63.7	63.7	104.4
Actuated g/C Ratio	0.26	0.45	0.15	0.66	0.47	0.47	0.77
v/c Ratio	0.89	0.33	0.83	0.51	0.02	0.78	0.33
Control Delay	69.5	24.4	69.8	13.1	16.5	25.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	24.4	69.8	13.1	16.5	25.0	2.1
LOS	E	C	E	B	B	C	A
Approach Delay	53.2			28.2		16.5	
Approach LOS	D			C		B	
Queue Length 50th (ft)	349	124	189	276	1	244	22
Queue Length 95th (ft)	#508	186	#262	338	m3	291	26
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	516	733	536	2329	209	883	1269
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.32	0.80	0.51	0.02	0.78	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 132 (98%), Referenced to phase 2:NBT and 6:SBTU, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 29.3		Intersection LOS: C	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	427	776	8	6	11
Future Volume (vph)	6	427	776	8	6	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.915	
Flt Protected	0.950				0.982	
Satd. Flow (prot)	1770	1863	1863	1583	1674	0
Flt Permitted	0.950				0.982	
Satd. Flow (perm)	1770	1863	1863	1583	1674	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	474	862	9	7	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	474	862	9	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	427	776	8	6	11
Future Vol, veh/h	6	427	776	8	6	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	474	862	9	7	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	871	0	-	0	1350	862
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	774	-	-	-	166	355
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	774	-	-	-	165	355
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	20.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	774	-	-	-	252
HCM Lane V/C Ratio	0.009	-	-	-	0.075
HCM Control Delay (s)	9.7	-	-	-	20.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	11	4	305	4	386	4	859	364	471	952	4
Future Volume (vph)	7	11	4	305	4	386	4	859	364	471	952	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.999	
Flt Protected		0.984		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1836	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.819		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1528	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	8	12	4	339	4	429	4	954	404	523	1058	4
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	24	0	173	170	429	4	954	404	523	1062	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		24.0	24.0		13.4	45.3	24.0			
Total Split (%)	11.4%	11.4%		20.0%	20.0%		11.2%	37.8%	20.0%			
Maximum Green (s)	7.0	7.0		17.4	17.4		7.0	38.2	17.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

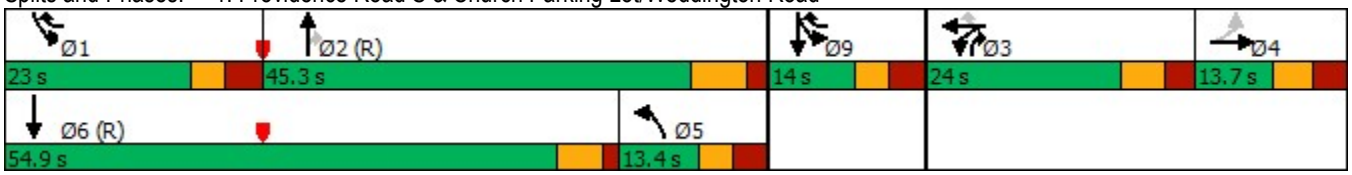
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	23.0	54.9	14.0
Total Split (%)	19%	46%	12%
Maximum Green (s)	16.6	49.3	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		16.7	16.7	47.7	8.4	51.0	67.8	24.0	81.4	
Actuated g/C Ratio		0.07		0.14	0.14	0.40	0.07	0.42	0.56	0.20	0.68	
v/c Ratio		0.22		0.74	0.73	0.69	0.03	0.62	0.44	0.78	0.45	
Control Delay		57.5		68.6	67.3	27.7	40.5	20.6	7.7	37.3	10.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		57.5		68.6	67.3	27.7	40.5	20.6	7.7	37.3	10.3	
LOS		E		E	E	C	D	C	A	D	B	
Approach Delay		57.5			45.6			16.9			19.2	
Approach LOS		E			D			B			B	
Queue Length 50th (ft)		18		134	132	192	3	267	102	104	202	
Queue Length 95th (ft)		47		216	211	263	m6	332	177	140	265	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		110		264	265	666	126	1543	947	753	2336	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.22		0.66	0.64	0.64	0.03	0.62	0.43	0.69	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 42 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.1 Intersection LOS: C
Intersection Capacity Utilization 66.0% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

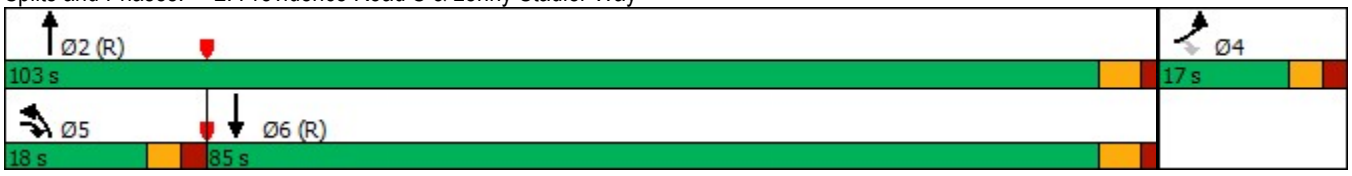
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	26	48	1229	1212	48
Future Volume (vph)	42	26	48	1229	1212	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3500	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1761	1575	1761	3522	3500	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	29	53	1366	1347	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	29	53	1366	1400	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	12.3	15.3	36.3	
Total Split (s)	17.0	18.0	18.0	103.0	85.0	
Total Split (%)	14.2%	15.0%	15.0%	85.8%	70.8%	
Maximum Green (s)	11.6	12.7	12.7	97.7	79.7	
Yellow Time (s)	3.0	3.0	3.0	3.8	3.8	
All-Red Time (s)	2.4	2.3	2.3	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	8.7	20.0	8.9	104.8	93.4	
Actuated g/C Ratio	0.07	0.17	0.07	0.87	0.78	
v/c Ratio	0.37	0.11	0.41	0.44	0.51	
Control Delay	61.0	39.8	61.3	1.4	4.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.0	39.8	61.3	1.4	4.7	
LOS	E	D	E	A	A	
Approach Delay	52.9			3.7	4.7	
Approach LOS	D			A	A	
Queue Length 50th (ft)	36	19	42	48	141	
Queue Length 95th (ft)	74	44	m67	m67	96	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	176	317	190	3076	2724	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.09	0.28	0.44	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 109 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way



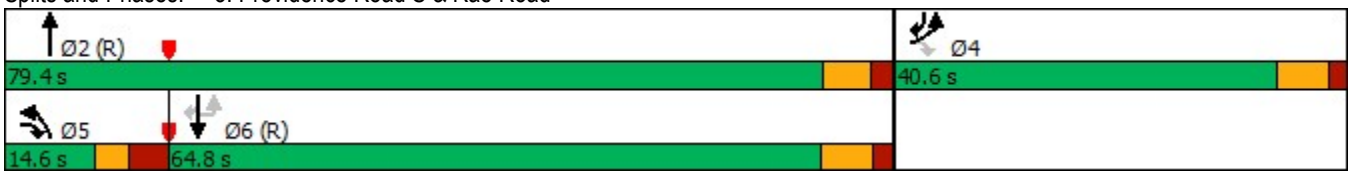
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	490	318	226	768	4	853	355
Future Volume (vph)	490	318	226	768	4	853	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.332		
Satd. Flow (perm)	1787	1599	3416	3522	622	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	544	353	251	853	4	948	394
Shared Lane Traffic (%)							
Lane Group Flow (vph)	544	353	251	853	4	948	394
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	40.6	14.6	14.6	79.4	64.8	64.8	40.6
Total Split (%)	33.8%	12.2%	12.2%	66.2%	54.0%	54.0%	33.8%
Maximum Green (s)	34.2	8.0	8.0	73.0	58.3	58.3	34.2
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

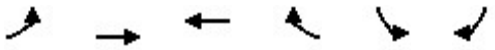
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	35.6	50.2	9.6	74.4	59.8	59.8	100.4
Actuated g/C Ratio	0.30	0.42	0.08	0.62	0.50	0.50	0.84
v/c Ratio	1.03	0.53	0.92	0.39	0.01	1.02	0.30
Control Delay	87.9	29.6	92.2	12.1	14.5	57.1	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.9	29.6	92.2	12.1	14.5	57.1	2.7
LOS	F	C	F	B	B	E	A
Approach Delay	65.0			30.3		41.0	
Approach LOS	E			C		D	
Queue Length 50th (ft)	~450	201	101	163	2	~623	32
Queue Length 95th (ft)	#667	295	#181	203	m4	#1016	88
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	530	668	273	2183	309	932	1331
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.53	0.92	0.39	0.01	1.02	0.30

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTU, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 43.9 Intersection LOS: D
Intersection Capacity Utilization 91.0% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	12	687	571	11	12	11
Future Volume (vph)	12	687	571	11	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.935	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1770	1863	1863	1583	1698	0
Flt Permitted	0.950				0.975	
Satd. Flow (perm)	1770	1863	1863	1583	1698	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	763	634	12	13	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	763	634	12	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	687	571	11	12	11
Future Vol, veh/h	12	687	571	11	12	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	763	634	12	13	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	646	0	-	0	1423	634
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	939	-	-	-	150	479
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	448	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	939	-	-	-	148	479
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	448	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	23.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	939	-	-	-	221
HCM Lane V/C Ratio	0.014	-	-	-	0.116
HCM Control Delay (s)	8.9	-	-	-	23.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	B5	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	LT	R	T	L	T	T	R	L	L	T
Maximum Queue (ft)	160	402	548	421	65	58	473	471	203	224	190	196
Average Queue (ft)	84	268	325	325	18	21	340	347	89	129	70	101
95th Queue (ft)	159	505	626	474	168	55	478	485	214	210	178	177
Link Distance (ft)	948		728		872		1069	1069				945
Upstream Blk Time (%)			2									
Queuing Penalty (veh)			22									
Storage Bay Dist (ft)		550		325		550			450	450	450	
Storage Blk Time (%)		2	11	18			0	2				
Queuing Penalty (veh)		18	77	88			0	5				

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	187
Average Queue (ft)	92
95th Queue (ft)	169
Link Distance (ft)	945
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	102	69	139	104	128	167	176
Average Queue (ft)	40	25	75	32	53	88	93
95th Queue (ft)	88	63	136	88	124	161	172
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	16	8					
Queuing Penalty (veh)	6	4					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	512	192	276	321	259	263	26	583	255
Average Queue (ft)	338	106	193	231	167	164	3	393	91
95th Queue (ft)	516	180	269	306	251	252	18	697	218
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								21	
Queuing Penalty (veh)								1	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	27	43
Average Queue (ft)	3	14
95th Queue (ft)	18	42
Link Distance (ft)		956
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 219

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	54	178	202	332	34	336	343	261	249	214	223	227
Average Queue (ft)	18	118	127	189	7	215	228	126	173	129	95	92
95th Queue (ft)	49	172	191	311	27	332	339	235	250	227	188	189
Link Distance (ft)	948		728			1069	1069				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)			0	1			0					
Queuing Penalty (veh)			1	4			1					

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	93	63	105	125	156	221	236
Average Queue (ft)	43	24	50	37	58	85	91
95th Queue (ft)	86	56	100	104	144	185	197
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	15	6					
Queuing Penalty (veh)	4	3					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	1132	778	230	266	192	184	178	1763	1367
Average Queue (ft)	867	331	161	195	122	113	14	1204	533
95th Queue (ft)	1315	915	252	282	187	185	126	2075	1456
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)	6	4							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								50	
Queuing Penalty (veh)								2	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	33	42
Average Queue (ft)	7	18
95th Queue (ft)	29	46
Link Distance (ft)		956
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 15

2031 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	30	4	448	18	479	19	1171	242	320	754	4
Future Volume (vph)	55	30	4	448	18	479	19	1171	242	320	754	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.994				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1841	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.659		0.950	0.956		0.950			0.950		
Satd. Flow (perm)	0	1251	0	1673	1683	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	61	33	4	498	20	532	21	1301	269	356	838	4
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	98	0	259	259	532	21	1301	269	356	842	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	16.4	16.4		27.0	27.0		13.4	55.4	27.0			
Total Split (%)	12.1%	12.1%		20.0%	20.0%		9.9%	41.0%	20.0%			
Maximum Green (s)	9.7	9.7		20.4	20.4		7.0	48.3	20.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

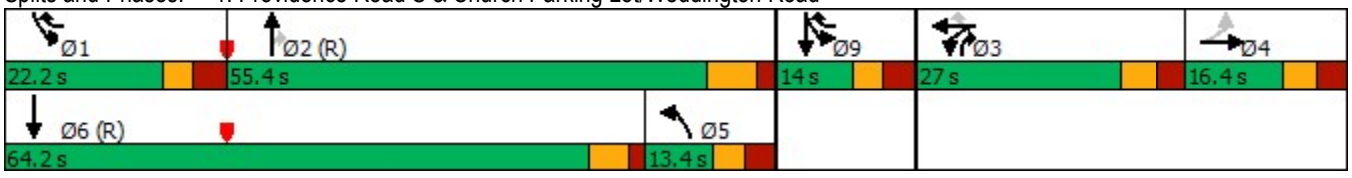
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	22.2	64.2	14.0
Total Split (%)	16%	48%	10%
Maximum Green (s)	15.8	58.6	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		11.4		22.0	22.0	52.6	8.4	51.0	73.0	25.6	75.6	
Actuated g/C Ratio		0.08		0.16	0.16	0.39	0.06	0.38	0.54	0.19	0.56	
v/c Ratio		0.93		0.95	0.95	0.87	0.19	0.95	0.31	0.56	0.44	
Control Delay		132.1		99.4	97.7	40.0	53.1	44.9	7.4	29.5	13.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		132.1		99.4	97.7	40.0	53.1	44.9	7.4	29.5	13.5	
LOS		F		F	F	D	D	D	A	C	B	
Approach Delay		132.1			68.9			38.7			18.2	
Approach LOS		F			E			D			B	
Queue Length 50th (ft)		87		240	238	304	18	570	68	77	172	
Queue Length 95th (ft)		#202		#421	#418	#439	m33	#724	87	105	212	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		105		272	274	620	112	1370	877	649	1929	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.93		0.95	0.95	0.86	0.19	0.95	0.31	0.55	0.44	

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 35 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 42.8 Intersection LOS: D
Intersection Capacity Utilization 80.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

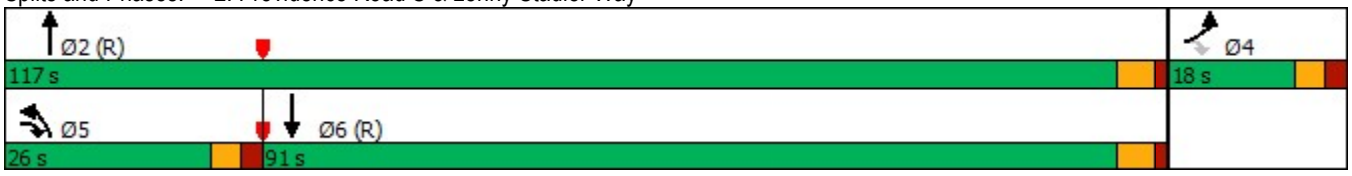
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	34	89	1466	1131	72
Future Volume (vph)	46	34	89	1466	1131	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3490	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1761	1575	1761	3522	3490	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	51	38	99	1629	1257	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	38	99	1629	1337	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	12.3	15.3	36.3	
Total Split (s)	18.0	26.0	26.0	117.0	91.0	
Total Split (%)	13.3%	19.3%	19.3%	86.7%	67.4%	
Maximum Green (s)	12.6	20.7	20.7	111.7	85.7	
Yellow Time (s)	3.0	3.0	3.0	3.8	3.8	
All-Red Time (s)	2.4	2.3	2.3	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	9.2	24.0	12.3	119.3	101.0	
Actuated g/C Ratio	0.07	0.18	0.09	0.88	0.75	
v/c Ratio	0.43	0.14	0.62	0.52	0.51	
Control Delay	70.8	43.3	69.4	1.9	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.8	43.3	69.4	1.9	4.2	
LOS	E	D	E	A	A	
Approach Delay	59.1			5.8	4.2	
Approach LOS	E			A	A	
Queue Length 50th (ft)	44	28	87	85	86	
Queue Length 95th (ft)	87	56	m132	125	m94	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	169	381	273	3112	2611	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.10	0.36	0.52	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 115 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 6.6		Intersection LOS: A	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way



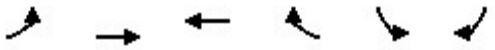
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	409	230	418	1154	4	670	394
Future Volume (vph)	409	230	418	1154	4	670	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.216		
Satd. Flow (perm)	1787	1599	3416	3522	404	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	454	256	464	1282	4	744	438
Shared Lane Traffic (%)							
Lane Group Flow (vph)	454	256	464	1282	4	744	438
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	44.0	26.0	26.0	91.0	65.0	65.0	44.0
Total Split (%)	32.6%	19.3%	19.3%	67.4%	48.1%	48.1%	32.6%
Maximum Green (s)	37.6	19.4	19.4	84.6	58.5	58.5	37.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	37.2	63.2	21.0	87.8	61.8	61.8	104.0
Actuated g/C Ratio	0.28	0.47	0.16	0.65	0.46	0.46	0.77
v/c Ratio	0.92	0.34	0.87	0.56	0.02	0.87	0.36
Control Delay	72.9	23.9	73.7	14.4	17.5	32.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	23.9	73.7	14.4	17.5	32.1	2.3
LOS	E	C	E	B	B	C	A
Approach Delay	55.2			30.2		21.0	
Approach LOS	E			C		C	
Queue Length 50th (ft)	380	136	207	316	1	360	26
Queue Length 95th (ft)	#571	201	#296	377	m3	#815	32
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	516	751	539	2291	185	857	1247
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.34	0.86	0.56	0.02	0.87	0.35

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 132 (98%), Referenced to phase 2:NBT and 6:SBTU, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 32.1 Intersection LOS: C
Intersection Capacity Utilization 82.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	459	836	9	6	12
Future Volume (vph)	6	459	836	9	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.912	
Flt Protected	0.950				0.983	
Satd. Flow (prot)	1770	1863	1863	1583	1670	0
Flt Permitted	0.950				0.983	
Satd. Flow (perm)	1770	1863	1863	1583	1670	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	510	929	10	7	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	510	929	10	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

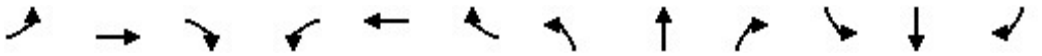
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	459	836	9	6	12
Future Vol, veh/h	6	459	836	9	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	510	929	10	7	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	939	0	-	0	1453	929
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	524	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	730	-	-	-	144	324
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	730	-	-	-	143	324
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	730	-	-	-	228
HCM Lane V/C Ratio	0.009	-	-	-	0.088
HCM Control Delay (s)	10	-	-	-	22.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	12	4	329	4	415	4	925	392	507	1025	4
Future Volume (vph)	7	12	4	329	4	415	4	925	392	507	1025	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.999	
Flt Protected		0.984		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1837	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.820		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1531	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
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
Adj. Flow (vph)	8	13	4	366	4	461	4	1028	436	563	1139	4
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	25	0	187	183	461	4	1028	436	563	1143	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		23.0	23.0		13.4	46.3	23.0			
Total Split (%)	11.4%	11.4%		19.2%	19.2%		11.2%	38.6%	19.2%			
Maximum Green (s)	7.0	7.0		16.4	16.4		7.0	39.2	16.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

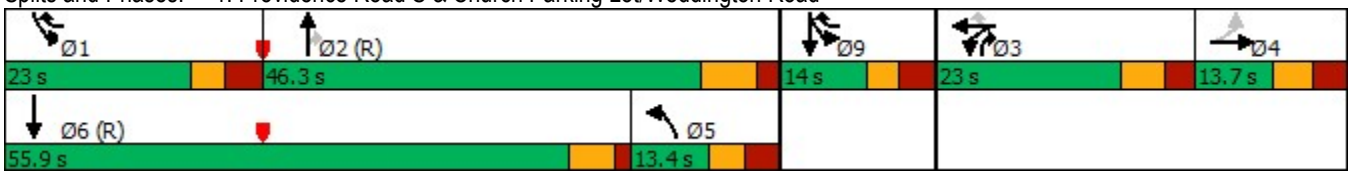
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	23.0	55.9	14.0
Total Split (%)	19%	47%	12%
Maximum Green (s)	16.6	50.3	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		4.0	4.0			4.0	4.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		16.8	16.8	48.8	8.4	50.0	66.8	24.9	81.3	
Actuated g/C Ratio		0.07		0.14	0.14	0.41	0.07	0.42	0.56	0.21	0.68	
v/c Ratio		0.23		0.80	0.78	0.72	0.03	0.68	0.48	0.81	0.49	
Control Delay		57.9		74.3	72.1	28.8	41.2	21.9	10.0	39.4	10.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		57.9		74.3	72.1	28.8	41.2	21.9	10.0	39.4	10.8	
LOS		E		E	E	C	D	C	A	D	B	
Approach Delay		57.9			48.6			18.4			20.3	
Approach LOS		E			D			B			C	
Queue Length 50th (ft)		19		147	144	207	2	307	149	110	223	
Queue Length 95th (ft)		48		#260	#252	296	m5	371	236	159	297	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		110		250	251	667	126	1511	919	753	2334	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.23		0.75	0.73	0.69	0.03	0.68	0.47	0.75	0.49	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 25.7 Intersection LOS: C
Intersection Capacity Utilization 69.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

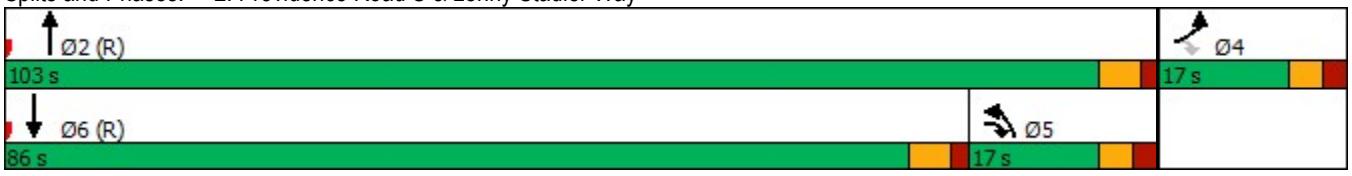
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	28	51	1323	1305	51
Future Volume (vph)	45	28	51	1323	1305	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			1%	1%	
Storage Length (ft)	0	50	325			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1761	1575	1761	3522	3500	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1761	1575	1761	3522	3500	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1059			2837	1141	
Travel Time (s)	20.6			55.3	22.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	31	57	1470	1450	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	31	57	1470	1507	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	12.4	12.3	12.3	15.3	36.3	
Total Split (s)	17.0	17.0	17.0	103.0	86.0	
Total Split (%)	14.2%	14.2%	14.2%	85.8%	71.7%	
Maximum Green (s)	11.6	11.7	11.7	97.7	80.7	
Yellow Time (s)	3.0	3.0	3.0	3.8	3.8	
All-Red Time (s)	2.4	2.3	2.3	1.5	1.5	
Lost Time Adjust (s)	-0.4	-0.3	-0.3	-0.3	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Walk Time (s)					7.0	
Flash Dont Walk (s)					24.0	
Pedestrian Calls (#/hr)					0	
Act Effct Green (s)	8.8	22.4	11.1	104.7	91.1	
Actuated g/C Ratio	0.07	0.19	0.09	0.87	0.76	
v/c Ratio	0.39	0.11	0.35	0.48	0.57	
Control Delay	61.3	38.0	51.6	1.5	5.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.3	38.0	51.6	1.5	5.8	
LOS	E	D	D	A	A	
Approach Delay	52.4			3.4	5.8	
Approach LOS	D			A	A	
Queue Length 50th (ft)	38	20	44	54	181	
Queue Length 95th (ft)	78	45	m70	m72	211	
Internal Link Dist (ft)	979			2757	1061	
Turn Bay Length (ft)		50	325			
Base Capacity (vph)	176	306	176	3071	2656	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.10	0.32	0.48	0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 113 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way



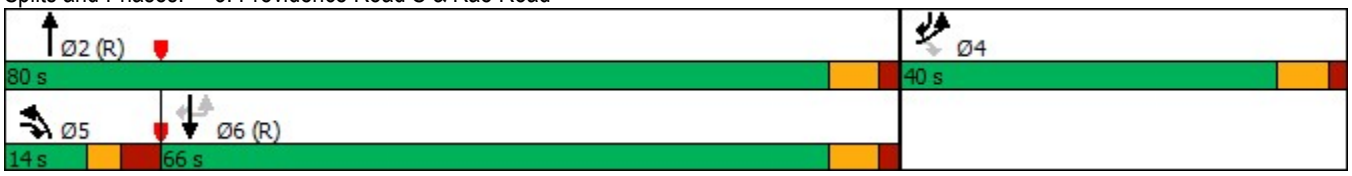
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	528	342	244	827	4	919	383
Future Volume (vph)	528	342	244	827	4	919	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.311		
Satd. Flow (perm)	1787	1599	3416	3522	582	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	587	380	271	919	4	1021	426
Shared Lane Traffic (%)							
Lane Group Flow (vph)	587	380	271	919	4	1021	426
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	40.0	14.0	14.0	80.0	66.0	66.0	40.0
Total Split (%)	33.3%	11.7%	11.7%	66.7%	55.0%	55.0%	33.3%
Maximum Green (s)	33.6	7.4	7.4	73.6	59.5	59.5	33.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

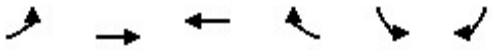
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	35.0	49.0	9.0	75.0	61.0	61.0	101.0
Actuated g/C Ratio	0.29	0.41	0.08	0.62	0.51	0.51	0.84
v/c Ratio	1.13	0.58	1.06	0.42	0.01	1.07	0.32
Control Delay	118.7	32.0	125.3	12.1	13.2	72.7	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	118.7	32.0	125.3	12.1	13.2	72.7	2.7
LOS	F	C	F	B	B	E	A
Approach Delay	84.7			37.9		52.0	
Approach LOS	F			D		D	
Queue Length 50th (ft)	~526	225	~118	177	2	~875	39
Queue Length 95th (ft)	#749	329	#206	220	m3	#1109	93
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	521	652	256	2201	295	951	1339
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.58	1.06	0.42	0.01	1.07	0.32

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NBT and 6:SBTU, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 56.1 Intersection LOS: E
Intersection Capacity Utilization 97.1% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	740	615	12	13	12
Future Volume (vph)	13	740	615	12	13	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			125	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.935	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1770	1863	1863	1583	1698	0
Flt Permitted	0.950				0.975	
Satd. Flow (perm)	1770	1863	1863	1583	1698	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		934	1208		997	
Travel Time (s)		18.2	23.5		27.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	14	822	683	13	14	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	822	683	13	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	740	615	12	13	12
Future Vol, veh/h	13	740	615	12	13	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	125	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	822	683	13	14	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	696	0	-	0	1533	683
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	850	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	900	-	-	-	128	449
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	419	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	900	-	-	-	126	449
Mov Cap-2 Maneuver	-	-	-	-	126	-
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	419	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	26.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	900	-	-	-	192
HCM Lane V/C Ratio	0.016	-	-	-	0.145
HCM Control Delay (s)	9.1	-	-	-	26.9
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	B5	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	LT	R	T	L	T	T	R	L	L	T
Maximum Queue (ft)	186	630	758	425	427	232	765	779	477	214	187	188
Average Queue (ft)	96	438	538	385	141	44	541	554	275	144	86	110
95th Queue (ft)	173	740	888	505	605	233	905	926	653	214	188	178
Link Distance (ft)	948		728		872		1069	1069				945
Upstream Blk Time (%)			13		1		1	1				
Queuing Penalty (veh)			120		9		7	9				
Storage Bay Dist (ft)		550		325		550			450	450	450	
Storage Blk Time (%)		2	25	44			14	25				
Queuing Penalty (veh)		20	197	230			3	67				

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	191
Average Queue (ft)	105
95th Queue (ft)	184
Link Distance (ft)	945
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	122	77	199	237	242	174	176
Average Queue (ft)	54	29	95	95	116	92	97
95th Queue (ft)	109	70	178	254	271	168	175
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	25	9		1			
Queuing Penalty (veh)	9	5		1			

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	588	224	337	365	272	291	31	672	259
Average Queue (ft)	415	120	210	246	181	190	4	453	100
95th Queue (ft)	626	206	312	351	271	289	21	745	238
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)				0				32	
Queuing Penalty (veh)				0				1	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	WB	SB
Directions Served	L	T	LR
Maximum Queue (ft)	24	89	36
Average Queue (ft)	3	27	16
95th Queue (ft)	19	222	42
Link Distance (ft)		1184	956
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)		3	
Queuing Penalty (veh)		0	

Zone Summary

Zone wide Queuing Penalty: 677

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	56	204	264	342	20	354	356	182	279	232	217	219
Average Queue (ft)	20	127	140	204	5	238	246	109	185	140	106	108
95th Queue (ft)	54	190	235	322	22	344	353	173	282	248	196	198
Link Distance (ft)	948		728			1069	1069				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)			0	2			0					
Queuing Penalty (veh)			0	7			0					

Intersection: 2: Providence Road S & Lenny Stadler Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	100	77	110	83	110	261	264
Average Queue (ft)	51	30	55	24	45	114	115
95th Queue (ft)	104	73	104	71	106	231	230
Link Distance (ft)	1007			2766	2766	1069	1069
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	325				
Storage Blk Time (%)	21	11					
Queuing Penalty (veh)	6	6					

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	1356	1351	399	436	407	256	103	2381	2016
Average Queue (ft)	1213	947	273	306	166	138	8	1656	920
95th Queue (ft)	1567	1814	456	488	391	306	89	2637	2098
Link Distance (ft)	1322	1322			1034	1034		2766	2766
Upstream Blk Time (%)	51	40						0	
Queuing Penalty (veh)	0	0						1	
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)			2	6	0			52	
Queuing Penalty (veh)			9	29	0			2	

Intersection: 4: Weddington Road & Wheatberry Hill Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	33	42
Average Queue (ft)	6	18
95th Queue (ft)	26	46
Link Distance (ft)		956
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 60

2026 Build Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	27	4	486	16	547	17	1035	331	478	706	4
Future Volume (vph)	48	27	4	486	16	547	17	1035	331	478	706	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.994				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	1841	0	1673	1682	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.640		0.950	0.955		0.950			0.950		
Satd. Flow (perm)	0	1215	0	1673	1682	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
Peak Hour Factor	0.90	0.90	0.90	0.83	0.90	0.81	0.90	0.90	0.76	0.74	0.88	0.90
Adj. Flow (vph)	53	30	4	586	18	675	19	1150	436	646	802	4
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	87	0	299	305	675	19	1150	436	646	806	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	15.1	15.1		29.2	29.2		13.4	49.3	29.2			
Total Split (%)	11.2%	11.2%		21.6%	21.6%		9.9%	36.5%	21.6%			
Maximum Green (s)	8.4	8.4		22.6	22.6		7.0	42.2	22.6			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

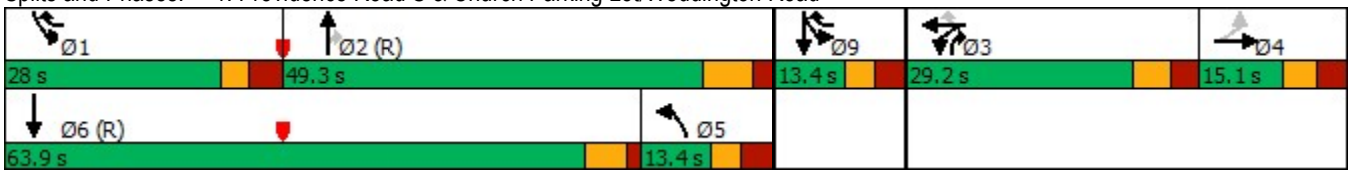
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	13.4
Total Split (s)	28.0	63.9	13.4
Total Split (%)	21%	47%	10%
Maximum Green (s)	21.6	58.3	7.0
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		7.0	7.0			4.0	7.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		10.1		24.2	24.2	60.6	8.4	44.3	68.5	31.4	78.3	
Actuated g/C Ratio		0.07		0.18	0.18	0.45	0.06	0.33	0.51	0.23	0.58	
v/c Ratio		0.97		1.00	1.01	0.95	0.17	0.97	0.53	0.83	0.40	
Control Delay		147.6		107.1	109.7	48.8	54.1	51.7	12.7	43.7	13.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		147.6		107.1	109.7	48.8	54.1	51.7	12.7	43.7	13.3	
LOS		F		F	F	D	D	D	B	D	B	
Approach Delay		147.6			77.0			41.1			26.8	
Approach LOS		F			E			D			C	
Queue Length 50th (ft)		77		278	~289	397	15	412	136	172	166	
Queue Length 95th (ft)		#189		#422	#492	#481	m28	#658	171	168	198	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		90		299	301	707	112	1190	823	778	2000	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.97		1.00	1.01	0.95	0.17	0.97	0.53	0.83	0.40	

Intersection Summary

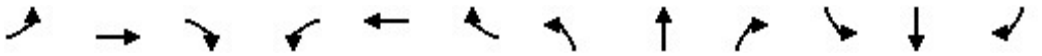
Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 48 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 48.9 Intersection LOS: D
Intersection Capacity Utilization 80.8% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary



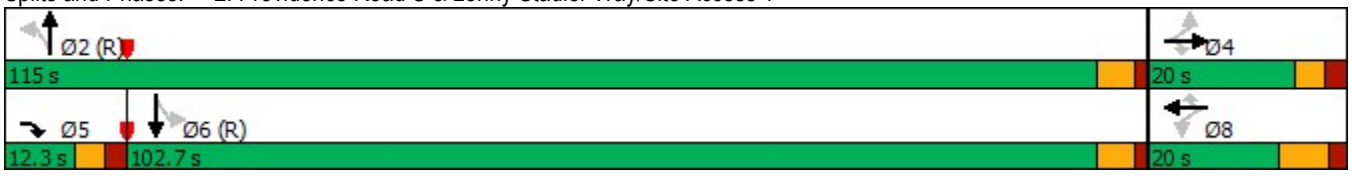
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	4	30	4	4	4	79	1412	23	55	1073	64
Future Volume (vph)	41	4	30	4	4	4	79	1412	23	55	1073	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.996			0.992	
Flt Protected		0.959			0.976		0.950				0.996	
Satd. Flow (prot)	0	1777	1575	0	1818	1583	1761	3507	0	0	3479	0
Flt Permitted		0.746			0.778		0.148				0.594	
Satd. Flow (perm)	0	1383	1575	0	1449	1583	274	3507	0	0	2075	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.87	0.50	0.50	0.87	0.90
Adj. Flow (vph)	46	8	33	8	8	8	88	1623	46	110	1233	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	33	0	16	8	88	1669	0	0	1414	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	custom	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4	5		8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	5	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	15.3	15.3		36.3	36.3	
Total Split (s)	20.0	20.0	12.3	20.0	20.0	20.0	115.0	115.0		102.7	102.7	
Total Split (%)	14.8%	14.8%	9.1%	14.8%	14.8%	14.8%	85.2%	85.2%		76.1%	76.1%	
Maximum Green (s)	14.6	14.6	7.0	13.0	13.0	13.0	109.7	109.7		97.4	97.4	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.8	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3			-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0			5.0	
Lead/Lag			Lead							Lag	Lag	
Lead-Lag Optimize?			Yes							Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		12.2	20.4		10.9	10.9	117.9	117.9			110.5	
Actuated g/C Ratio		0.09	0.15		0.08	0.08	0.87	0.87			0.82	
v/c Ratio		0.44	0.14		0.14	0.06	0.37	0.54			0.83	
Control Delay		68.4	47.9		59.1	56.8	5.0	2.1			13.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	
Total Delay		68.4	47.9		59.1	56.8	5.0	2.1			13.0	
LOS		E	D		E	E	A	A			B	
Approach Delay		60.6			58.3			2.3			13.0	
Approach LOS		E			E			A			B	
Queue Length 50th (ft)		46	25		13	7	8	87			132	
Queue Length 95th (ft)		47	55		20	13	m20	140			m459	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325					
Base Capacity (vph)		170	237		161	175	239	3063			1698	
Starvation Cap Reductn		0	0		0	0	0	0			0	
Spillback Cap Reductn		0	0		0	0	0	0			0	
Storage Cap Reductn		0	0		0	0	0	0			0	
Reduced v/c Ratio		0.32	0.14		0.10	0.05	0.37	0.54			0.83	

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 116 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 8.9 Intersection LOS: A
Intersection Capacity Utilization 89.3% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1

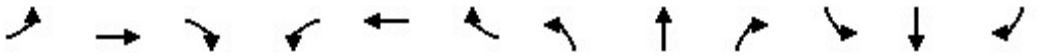


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	455	204	369	1067	4	617	397
Future Volume (vph)	455	204	369	1067	4	617	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.224		
Satd. Flow (perm)	1787	1599	3416	3522	419	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.82	0.90	0.90	0.88	0.90	0.88	0.85
Adj. Flow (vph)	555	227	410	1213	4	701	467
Shared Lane Traffic (%)							
Lane Group Flow (vph)	555	227	410	1213	4	701	467
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	51.0	23.0	23.0	84.0	61.0	61.0	51.0
Total Split (%)	37.8%	17.0%	17.0%	62.2%	45.2%	45.2%	37.8%
Maximum Green (s)	44.6	16.4	16.4	77.6	54.5	54.5	44.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	44.5	67.6	18.1	80.5	57.4	57.4	106.9
Actuated g/C Ratio	0.33	0.50	0.13	0.60	0.43	0.43	0.79
v/c Ratio	0.94	0.28	0.90	0.58	0.02	0.88	0.37
Control Delay	69.6	20.4	80.0	18.4	30.2	46.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	20.4	80.0	18.4	30.2	46.1	2.2
LOS	E	C	F	B	C	D	A
Approach Delay	55.3			34.0		28.6	
Approach LOS	E			C		C	
Queue Length 50th (ft)	464	110	185	338	2	490	24
Queue Length 95th (ft)	#573	167	#277	389	m3	#771	42
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	608	801	458	2100	177	795	1277
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.28	0.90	0.58	0.02	0.88	0.37

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 9 (7%), Referenced to phase 2:NBT and 6:SBTU, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 36.9	Intersection LOS: D
Intersection Capacity Utilization 80.7%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	406	312	77	755	8	198	4	49	5	4	11
Future Volume (vph)	5	406	312	77	755	8	198	4	49	5	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
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		0.913				0.850		0.974			0.938	
Flt Protected	0.950				0.992			0.962			0.989	
Satd. Flow (prot)	1770	1701	0	0	1848	1583	0	1745	0	0	1728	0
Flt Permitted	0.950				0.992			0.962			0.989	
Satd. Flow (perm)	1770	1701	0	0	1848	1583	0	1745	0	0	1728	0
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.90	0.50	0.50	0.89	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	6	451	624	154	848	9	396	8	98	6	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	1075	0	0	1002	9	0	502	0	0	26	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 115.3%		ICU Level of Service H	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1513.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	406	312	77	755	8	198	4	49	5	4	11
Future Vol, veh/h	5	406	312	77	755	8	198	4	49	5	4	11
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	125	-	-	-	-	125	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	50	50	89	90	50	50	50	90	50	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	451	624	154	848	9	396	8	98	6	8	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	857	0	0	1075	0	0	1946	1940	763	1984	2243	848
Stage 1	-	-	-	-	-	-	775	775	-	1156	1156	-
Stage 2	-	-	-	-	-	-	1171	1165	-	828	1087	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	783	-	-	649	-	-	~ 49	65	404	46	42	361
Stage 1	-	-	-	-	-	-	~ 391	408	-	239	271	-
Stage 2	-	-	-	-	-	-	~ 235	268	-	365	292	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	783	-	-	649	-	-	~ 23	35	404	19	23	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 23	35	-	19	23	-
Stage 1	-	-	-	-	-	-	~ 388	405	-	237	148	-
Stage 2	-	-	-	-	-	-	~ 117	146	-	269	290	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.9	$ 7885.2	212.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	28	783	-	-	649	-	-	38
HCM Lane V/C Ratio	17.929	0.007	-	-	0.237	-	-	0.678
HCM Control Delay (s)	$ 7885.2	9.6	-	-	12.3	0	-	212.2
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	62.3	0	-	-	0.9	-	-	2.4

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	11	4	402	4	551	4	856	421	544	906	4
Future Volume (vph)	6	11	4	402	4	551	4	856	421	544	906	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.999	
Flt Protected		0.985		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1837	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.798		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1489	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
Peak Hour Factor	0.90	0.90	0.90	0.79	0.90	0.77	0.90	0.88	0.83	0.83	0.90	0.90
Adj. Flow (vph)	7	12	4	509	4	716	4	973	507	655	1007	4
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	23	0	254	259	716	4	973	507	655	1011	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		24.4	24.4		13.4	38.5	24.4			
Total Split (%)	11.4%	11.4%		20.3%	20.3%		11.2%	32.1%	20.3%			
Maximum Green (s)	7.0	7.0		17.8	17.8		7.0	31.4	17.8			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

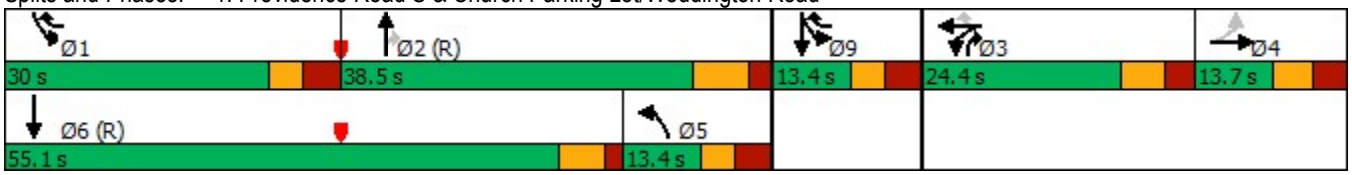
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	13.4
Total Split (s)	30.0	55.1	13.4
Total Split (%)	25%	46%	11%
Maximum Green (s)	23.6	49.5	7.0
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		7.0	7.0			4.0	7.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		19.4	19.4	58.8	8.4	39.9	59.3	32.4	78.7	
Actuated g/C Ratio		0.07		0.16	0.16	0.49	0.07	0.33	0.49	0.27	0.66	
v/c Ratio		0.21		0.94	0.96	0.93	0.03	0.81	0.63	0.72	0.45	
Control Delay		57.6		91.7	94.8	41.9	46.5	34.4	17.4	31.4	10.9	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		57.6		91.7	94.8	41.9	46.5	34.4	17.4	31.4	10.9	
LOS		E		F	F	D	D	C	B	C	B	
Approach Delay		57.6			63.3			28.6			18.9	
Approach LOS		E			E			C			B	
Queue Length 50th (ft)		17		207	211	342	2	318	233	130	194	
Queue Length 95th (ft)		45		#303	#387	361	m6	#495	272	164	250	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		107		270	271	787	126	1207	802	937	2260	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.21		0.94	0.96	0.91	0.03	0.81	0.63	0.70	0.45	

Intersection Summary

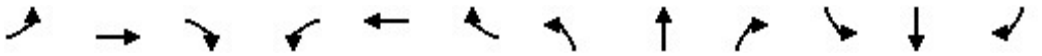
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 56 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 34.8 Intersection LOS: C
Intersection Capacity Utilization 76.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

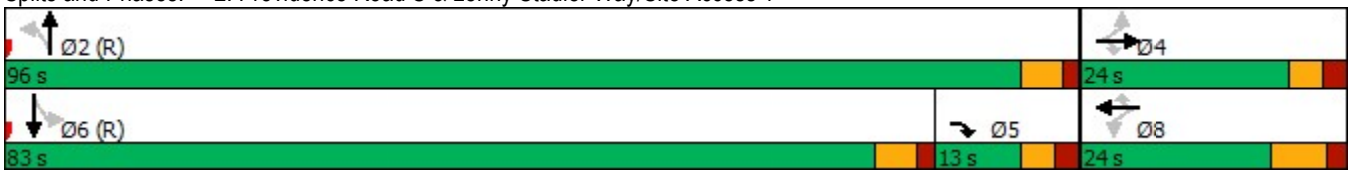


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	4	25	23	4	55	45	1228	4	4	1264	45
Future Volume (vph)	40	4	25	23	4	55	45	1228	4	4	1264	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.999			0.995	
Flt Protected		0.959			0.959		0.950					
Satd. Flow (prot)	0	1777	1575	0	1786	1583	1761	3518	0	0	3504	0
Flt Permitted		0.747			0.721		0.127				0.945	
Satd. Flow (perm)	0	1385	1575	0	1343	1583	235	3518	0	0	3311	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.86	0.90
Adj. Flow (vph)	44	8	28	46	8	110	50	1395	8	8	1470	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	28	0	54	110	50	1403	0	0	1528	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	custom	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4	5		8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	5	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	15.3	15.3		36.3	36.3	
Total Split (s)	24.0	24.0	13.0	24.0	24.0	24.0	96.0	96.0		83.0	83.0	
Total Split (%)	20.0%	20.0%	10.8%	20.0%	20.0%	20.0%	80.0%	80.0%		69.2%	69.2%	
Maximum Green (s)	18.6	18.6	7.7	17.0	17.0	17.0	90.7	90.7		77.7	77.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.8	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3			-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0			5.0	
Lead/Lag			Lag							Lead	Lead	
Lead-Lag Optimize?			Yes							Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		16.8	25.9		15.2	15.2	94.8	94.8			87.0	
Actuated g/C Ratio		0.14	0.22		0.13	0.13	0.79	0.79			0.72	
v/c Ratio		0.27	0.08		0.32	0.55	0.27	0.50			0.64	
Control Delay		48.4	34.9		51.6	59.1	5.0	2.7			6.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	
Total Delay		48.4	34.9		51.6	59.1	5.0	2.7			6.5	
LOS		D	C		D	E	A	A			A	
Approach Delay		43.7			56.6			2.8			6.5	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		36	17		38	81	5	80			175	
Queue Length 95th (ft)		40	40		41	72	m10	m96			m188	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325					
Base Capacity (vph)		237	370		212	250	185	2779			2401	
Starvation Cap Reductn		0	0		0	0	0	0			0	
Spillback Cap Reductn		0	0		0	0	0	0			0	
Storage Cap Reductn		0	0		0	0	0	0			0	
Reduced v/c Ratio		0.22	0.08		0.25	0.44	0.27	0.50			0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 8.3		Intersection LOS: A	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



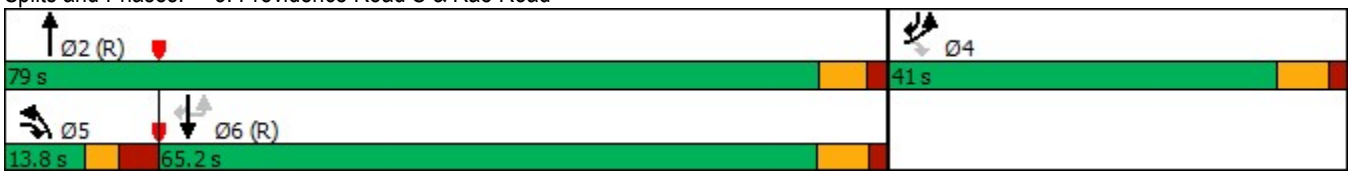
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	504	303	215	751	4	857	427
Future Volume (vph)	504	303	215	751	4	857	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.335		
Satd. Flow (perm)	1787	1599	3416	3522	627	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.87	0.90	0.90	0.89	0.90	0.88	0.82
Adj. Flow (vph)	579	337	239	844	4	974	521
Shared Lane Traffic (%)							
Lane Group Flow (vph)	579	337	239	844	4	974	521
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	41.0	13.8	13.8	79.0	65.2	65.2	41.0
Total Split (%)	34.2%	11.5%	11.5%	65.8%	54.3%	54.3%	34.2%
Maximum Green (s)	34.6	7.2	7.2	72.6	58.7	58.7	34.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	36.0	49.8	8.8	74.0	60.2	60.2	101.2
Actuated g/C Ratio	0.30	0.42	0.07	0.62	0.50	0.50	0.84
v/c Ratio	1.08	0.51	0.96	0.39	0.01	1.04	0.39
Control Delay	102.6	29.4	102.3	12.2	15.8	59.8	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.6	29.4	102.3	12.2	15.8	59.8	1.6
LOS	F	C	F	B	B	E	A
Approach Delay	75.7			32.1		39.4	
Approach LOS	E			C		D	
Queue Length 50th (ft)	~501	190	96	162	0	~795	15
Queue Length 95th (ft)	#685	281	#178	200	m3	#1005	35
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	536	663	250	2171	314	939	1341
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.51	0.96	0.39	0.01	1.04	0.39

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBTU, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 46.7 Intersection LOS: D
Intersection Capacity Utilization 91.7% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	670	154	38	544	11	295	4	73	12	4	11
Future Volume (vph)	12	670	154	38	544	11	295	4	73	12	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
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		0.956				0.850		0.974			0.951	
Flt Protected	0.950				0.994			0.962			0.981	
Satd. Flow (prot)	1770	1781	0	0	1852	1583	0	1745	0	0	1738	0
Flt Permitted	0.950				0.994			0.962			0.981	
Satd. Flow (perm)	1770	1781	0	0	1852	1583	0	1745	0	0	1738	0
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.89	0.50	0.50	0.90	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	13	753	308	76	604	12	590	8	146	13	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	1061	0	0	680	12	0	744	0	0	33	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 94.2%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1412

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	670	154	38	544	11	295	4	73	12	4	11
Future Vol, veh/h	12	670	154	38	544	11	295	4	73	12	4	11
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	125	-	-	-	-	125	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	89	50	50	90	90	50	50	50	90	50	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	753	308	76	604	12	590	8	146	13	8	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	616	0	0	1061	0	0	1705	1701	907	1766	1843	604
Stage 1	-	-	-	-	-	-	933	933	-	756	756	-
Stage 2	-	-	-	-	-	-	772	768	-	1010	1087	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	964	-	-	657	-	-	~ 72	92	334	65	75	498
Stage 1	-	-	-	-	-	-	~ 319	345	-	400	416	-
Stage 2	-	-	-	-	-	-	~ 392	411	-	289	292	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	964	-	-	657	-	-	~ 54	75	334	29	61	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 54	75	-	29	61	-
Stage 1	-	-	-	-	-	-	~ 315	341	-	395	343	-
Stage 2	-	-	-	-	-	-	~ 308	339	-	157	288	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.2	$ 4821.1	142.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	65	964	-	-	657	-	-	55
HCM Lane V/C Ratio	11.446	0.014	-	-	0.116	-	-	0.61
HCM Control Delay (s)	$ 4821.1	8.8	-	-	11.2	0	-	142.9
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	88	0	-	-	0.4	-	-	2.5

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

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	137	185	214	293	128	590	615	456	335	293	200	197
Average Queue (ft)	77	76	90	123	28	395	409	252	235	189	86	82
95th Queue (ft)	136	167	195	275	120	639	667	487	336	281	179	179
Link Distance (ft)	948		728			1067	1067				945	945
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)				1		3	10	0	0	0	0	
Queuing Penalty (veh)				5		1	42	1	1	0	0	

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	LT	TR
Maximum Queue (ft)	122	79	64	38	79	356	399	281	282
Average Queue (ft)	55	28	18	7	40	118	154	129	116
95th Queue (ft)	110	70	55	33	77	358	400	266	265
Link Distance (ft)	1008					2759	2759	1067	1067
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		50		425	325				
Storage Blk Time (%)	27	10							
Queuing Penalty (veh)	9	5							

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	654	178	298	333	333	340	22	413	138
Average Queue (ft)	436	89	189	222	199	210	3	251	60
95th Queue (ft)	684	164	297	327	316	326	16	394	127
Link Distance (ft)	1322	1322			1034	1034		2759	2759
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)			0	0				4	
Queuing Penalty (veh)			0	1				0	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	B5	WB	WB	NB	SB
Directions Served	L	TR	T	LT	R	LTR	LTR
Maximum Queue (ft)	5	478	44	1228	112	1051	307
Average Queue (ft)	1	55	3	1199	9	994	185
95th Queue (ft)	9	329	56	1221	82	1193	337
Link Distance (ft)		866	728	1180		1003	954
Upstream Blk Time (%)		1		92		83	
Queuing Penalty (veh)		10		0		412	
Storage Bay Dist (ft)	125				125		
Storage Blk Time (%)		4		78			
Queuing Penalty (veh)		0		7			

Zone Summary

Zone wide Queuing Penalty: 495

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	60	176	259	347	28	359	371	303	282	229	181	207
Average Queue (ft)	23	97	116	168	5	245	255	174	197	156	82	85
95th Queue (ft)	54	161	228	325	21	352	364	290	273	242	170	177
Link Distance (ft)	948		728			1067	1067				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)				2			0	0				
Queuing Penalty (veh)				9			1	0				

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	LT	TR
Maximum Queue (ft)	92	68	32	63	58	113	157	187	193
Average Queue (ft)	46	25	5	14	25	32	56	75	73
95th Queue (ft)	85	61	24	51	56	90	138	165	166
Link Distance (ft)	1008		454			2759	2759	1067	1067
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		50		425	325				
Storage Blk Time (%)	22	12							
Queuing Penalty (veh)	6	6							

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	1236	1108	246	279	210	187	20	673	285
Average Queue (ft)	932	453	173	206	122	112	2	405	84
95th Queue (ft)	1428	1180	306	329	202	188	14	650	217
Link Distance (ft)	1322	1322			1034	1034		2759	2759
Upstream Blk Time (%)	10	6							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)				0				20	
Queuing Penalty (veh)				1				1	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	B5	B5	WB	WB	NB	SB
Directions Served	L	TR	T		LT	R	LTR	LTR
Maximum Queue (ft)	21	627	163	170	906	133	1051	246
Average Queue (ft)	3	60	20	11	410	13	1036	133
95th Queue (ft)	16	394	196	146	968	101	1051	278
Link Distance (ft)		866	728	728	1180		1003	954
Upstream Blk Time (%)		2	0	0	2		98	
Queuing Penalty (veh)		18	1	0	0		720	
Storage Bay Dist (ft)	125					125		
Storage Blk Time (%)		5			35			
Queuing Penalty (veh)		1			4			

Zone Summary

Zone wide Queuing Penalty: 768

2028 Build Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	28	4	513	17	585	18	1087	309	438	735	4
Future Volume (vph)	51	28	4	513	17	585	18	1087	309	438	735	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.994				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	1841	0	1673	1682	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.626		0.950	0.955		0.950			0.950		
Satd. Flow (perm)	0	1188	0	1673	1682	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
Peak Hour Factor	0.90	0.90	0.90	0.82	0.90	0.80	0.90	0.90	0.79	0.77	0.88	0.90
Adj. Flow (vph)	57	31	4	626	19	731	20	1208	391	569	835	4
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	92	0	319	326	731	20	1208	391	569	839	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	15.2	15.2		29.4	29.4		13.4	48.0	29.4			
Total Split (%)	11.3%	11.3%		21.8%	21.8%		9.9%	35.6%	21.8%			
Maximum Green (s)	8.5	8.5		22.8	22.8		7.0	40.9	22.8			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

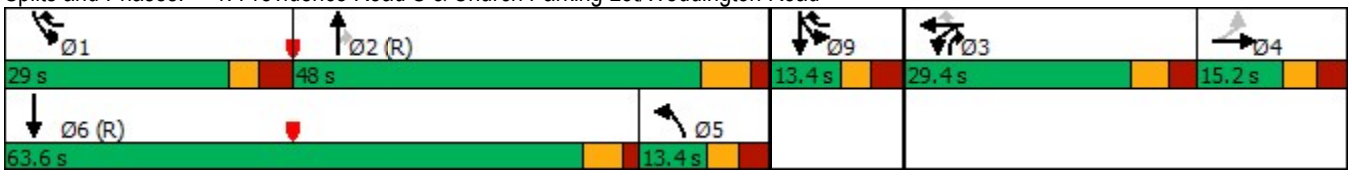
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	13.4
Total Split (s)	29.0	63.6	13.4
Total Split (%)	21%	47%	10%
Maximum Green (s)	22.6	58.0	7.0
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		7.0	7.0			4.0	7.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		10.2		24.4	24.4	61.8	8.4	43.0	67.4	32.4	74.4	
Actuated g/C Ratio		0.08		0.18	0.18	0.46	0.06	0.32	0.50	0.24	0.55	
v/c Ratio		1.03		1.06	1.07	1.01	0.18	1.05	0.48	0.71	0.44	
Control Delay		164.3		119.7	123.7	62.1	52.9	71.9	11.9	34.9	14.1	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		164.3		119.7	123.7	62.1	52.9	71.9	11.9	34.9	14.1	
LOS		F		F	F	E	D	E	B	C	B	
Approach Delay		164.3			90.1			57.1			22.5	
Approach LOS		F			F			E			C	
Queue Length 50th (ft)		~86		~321	~333	~461	16	~604	121	132	176	
Queue Length 95th (ft)		#202		#449	#534	#482	m29	#732	152	144	210	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		89		302	304	721	112	1155	810	803	1898	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		1.03		1.06	1.07	1.01	0.18	1.05	0.48	0.71	0.44	

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 48 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 58.5 Intersection LOS: E
Intersection Capacity Utilization 84.6% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

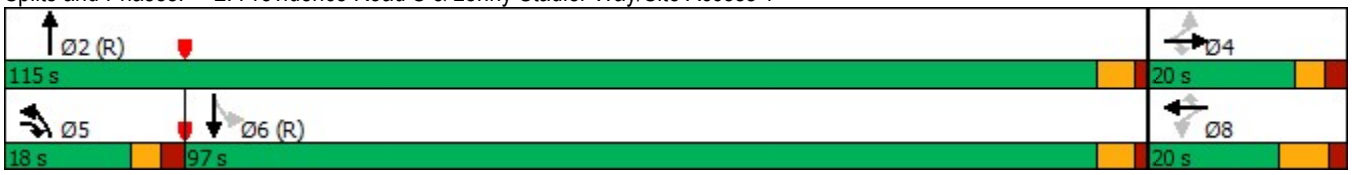
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	4	32	4	4	4	83	1445	21	48	1134	67
Future Volume (vph)	43	4	32	4	4	4	83	1445	21	48	1134	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.996			0.992	
Flt Protected		0.959			0.976		0.950				0.997	
Satd. Flow (prot)	0	1777	1575	0	1818	1583	1761	3507	0	0	3483	0
Flt Permitted		0.745			0.772		0.950				0.622	
Satd. Flow (perm)	0	1381	1575	0	1438	1583	1761	3507	0	0	2173	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.87	0.90
Adj. Flow (vph)	48	8	36	8	8	8	92	1642	42	96	1303	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	36	0	16	8	92	1684	0	0	1473	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	20.0	20.0	18.0	20.0	20.0	20.0	18.0	115.0		97.0	97.0	
Total Split (%)	14.8%	14.8%	13.3%	14.8%	14.8%	14.8%	13.3%	85.2%		71.9%	71.9%	
Maximum Green (s)	14.6	14.6	12.7	13.0	13.0	13.0	12.7	109.7		91.7	91.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3			-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0			5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		12.3	24.3		11.0	11.0	11.1	117.8			100.7	
Actuated g/C Ratio		0.09	0.18		0.08	0.08	0.08	0.87			0.75	
v/c Ratio		0.44	0.13		0.14	0.06	0.64	0.55			0.91	
Control Delay		68.6	43.1		58.9	56.5	72.1	2.2			18.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	
Total Delay		68.6	43.1		58.9	56.5	72.1	2.2			18.2	
LOS		E	D		E	E	E	A			B	
Approach Delay		58.6			58.1			5.8			18.2	
Approach LOS		E			E			A			B	
Queue Length 50th (ft)		48	26		13	7	81	92			156	
Queue Length 95th (ft)		49	55		20	13	m123	150			m#716	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325					
Base Capacity (vph)		169	308		159	175	171	3059			1620	
Starvation Cap Reductn		0	0		0	0	0	0			0	
Spillback Cap Reductn		0	0		0	0	0	0			0	
Storage Cap Reductn		0	0		0	0	0	0			0	
Reduced v/c Ratio		0.33	0.12		0.10	0.05	0.54	0.55			0.91	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 117 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1

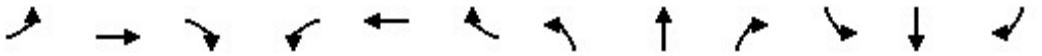


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	449	214	388	1107	4	650	421
Future Volume (vph)	449	214	388	1107	4	650	421
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.221		
Satd. Flow (perm)	1787	1599	3416	3522	414	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.84	0.90	0.90	0.89	0.90	0.88	0.85
Adj. Flow (vph)	535	238	431	1244	4	739	495
Shared Lane Traffic (%)							
Lane Group Flow (vph)	535	238	431	1244	4	739	495
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	48.0	24.0	24.0	87.0	63.0	63.0	48.0
Total Split (%)	35.6%	17.8%	17.8%	64.4%	46.7%	46.7%	35.6%
Maximum Green (s)	41.6	17.4	17.4	80.6	56.5	56.5	41.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	42.2	66.1	19.0	82.8	58.9	58.9	106.0
Actuated g/C Ratio	0.31	0.49	0.14	0.61	0.44	0.44	0.79
v/c Ratio	0.96	0.30	0.90	0.58	0.02	0.91	0.40
Control Delay	74.7	21.7	79.6	17.1	30.2	45.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.7	21.7	79.6	17.1	30.2	45.1	2.0
LOS	E	C	E	B	C	D	A
Approach Delay	58.4			33.2		27.8	
Approach LOS	E			C		C	
Queue Length 50th (ft)	456	120	194	330	2	513	32
Queue Length 95th (ft)	#600	180	#286	387	m3	m#679	m40
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	569	783	480	2160	180	816	1259
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.30	0.90	0.58	0.02	0.91	0.39

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 6 (4%), Referenced to phase 2:NBT and 6:SBTU, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 36.7	Intersection LOS: D
Intersection Capacity Utilization 82.7%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	427	224	56	789	8	224	4	56	6	4	11
Future Volume (vph)	6	427	224	56	789	8	224	4	56	6	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
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		0.927				0.850		0.973			0.940	
Flt Protected	0.950				0.994			0.962			0.987	
Satd. Flow (prot)	1770	1727	0	0	1852	1583	0	1744	0	0	1728	0
Flt Permitted	0.950				0.994			0.962			0.987	
Satd. Flow (perm)	1770	1727	0	0	1852	1583	0	1744	0	0	1728	0
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.90	0.50	0.50	0.89	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	7	474	448	112	887	9	448	8	112	7	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	922	0	0	999	9	0	568	0	0	27	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1243.4

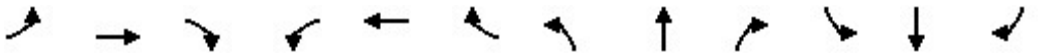
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	427	224	56	789	8	224	4	56	6	4	11
Future Vol, veh/h	6	427	224	56	789	8	224	4	56	6	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	125	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	50	50	89	90	50	50	50	90	50	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	474	448	112	887	9	448	8	112	7	8	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	896	0	0	922	0	0	1838	1832	698	1883	2047	887
Stage 1	-	-	-	-	-	-	712	712	-	1111	1111	-
Stage 2	-	-	-	-	-	-	1126	1120	-	772	936	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	757	-	-	741	-	-	~ 58	76	440	54	56	343
Stage 1	-	-	-	-	-	-	~ 423	436	-	254	285	-
Stage 2	-	-	-	-	-	-	~ 249	282	-	392	344	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	757	-	-	741	-	-	~ 36	53	440	27	39	343
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 36	53	-	27	39	-
Stage 1	-	-	-	-	-	-	~ 419	432	-	252	199	-
Stage 2	-	-	-	-	-	-	~ 161	197	-	284	341	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.2	$ 5533.2	121.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	44	757	-	-	741	-	-	55
HCM Lane V/C Ratio	12.909	0.009	-	-	0.151	-	-	0.489
HCM Control Delay (s)	$ 5533.2	9.8	-	-	10.7	0	-	121.7
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	68.6	0	-	-	0.5	-	-	1.9

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	11	4	364	4	484	4	894	436	569	952	4
Future Volume (vph)	7	11	4	364	4	484	4	894	436	569	952	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.999	
Flt Protected		0.984		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1836	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.799		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1490	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
Peak Hour Factor	0.90	0.90	0.90	0.84	0.90	0.82	0.90	0.88	0.83	0.83	0.90	0.90
Adj. Flow (vph)	8	12	4	433	4	590	4	1016	525	686	1058	4
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	24	0	216	221	590	4	1016	525	686	1062	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		24.0	24.0		13.4	44.3	24.0			
Total Split (%)	11.4%	11.4%		20.0%	20.0%		11.2%	36.9%	20.0%			
Maximum Green (s)	7.0	7.0		17.4	17.4		7.0	37.2	17.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

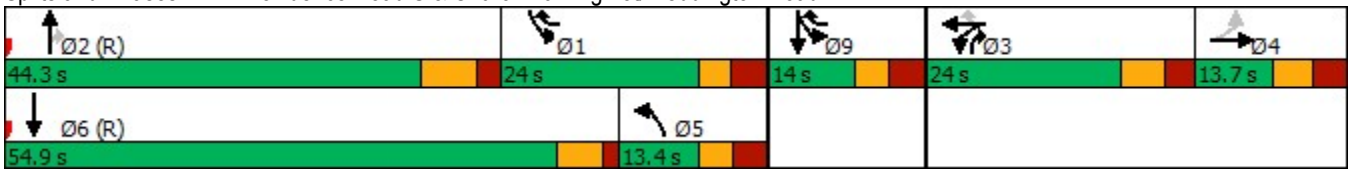
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	14.0
Total Split (s)	24.0	54.9	14.0
Total Split (%)	20%	46%	12%
Maximum Green (s)	17.6	49.3	7.6
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		7.0	7.0			4.0	7.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		18.9	18.9	56.9	8.4	44.9	65.8	33.0	79.2	
Actuated g/C Ratio		0.07		0.16	0.16	0.47	0.07	0.37	0.55	0.28	0.66	
v/c Ratio		0.22		0.82	0.84	0.79	0.03	0.75	0.59	0.75	0.47	
Control Delay		57.8		74.0	75.8	35.8	51.8	25.4	9.1	45.6	10.9	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		57.8		74.0	75.8	35.8	51.8	25.4	9.1	45.6	10.9	
LOS		E		E	E	D	D	C	A	D	B	
Approach Delay		57.8			52.5			19.9			24.5	
Approach LOS		E			D			B			C	
Queue Length 50th (ft)		18		172	176	373	3	376	106	250	206	
Queue Length 95th (ft)		46		#270	#317	453	m6	367	137	287	265	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		108		264	265	747	126	1357	877	920	2274	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.22		0.82	0.83	0.79	0.03	0.75	0.60	0.75	0.47	

Intersection Summary

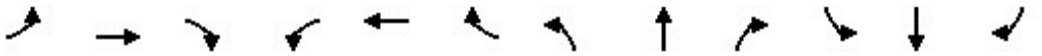
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 29.7 Intersection LOS: C
Intersection Capacity Utilization 73.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

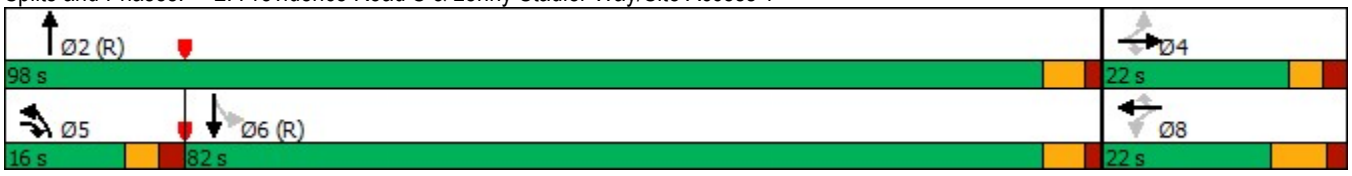


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	4	26	21	4	48	48	1288	4	4	1271	48
Future Volume (vph)	42	4	26	21	4	48	48	1288	4	4	1271	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.999			0.995	
Flt Protected		0.959			0.960		0.950					
Satd. Flow (prot)	0	1777	1575	0	1788	1583	1761	3518	0	0	3504	0
Flt Permitted		0.739			0.722		0.950				0.944	
Satd. Flow (perm)	0	1370	1575	0	1345	1583	1761	3518	0	0	3308	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.88	0.90
Adj. Flow (vph)	47	8	29	42	8	96	53	1464	8	8	1444	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	29	0	50	96	53	1472	0	0	1505	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	22.0	22.0	16.0	22.0	22.0	22.0	16.0	98.0		82.0	82.0	
Total Split (%)	18.3%	18.3%	13.3%	18.3%	18.3%	18.3%	13.3%	81.7%		68.3%	68.3%	
Maximum Green (s)	16.6	16.6	10.7	15.0	15.0	15.0	10.7	92.7		76.7	76.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3			-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0			5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		15.6	27.7		14.0	14.0	8.7	96.0			84.7	
Actuated g/C Ratio		0.13	0.23		0.12	0.12	0.07	0.80			0.71	
v/c Ratio		0.31	0.08		0.32	0.52	0.41	0.52			0.64	
Control Delay		51.0	34.6		53.0	59.5	54.4	8.2			9.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	
Total Delay		51.0	34.6		53.0	59.5	54.4	8.2			9.3	
LOS		D	C		D	E	D	A			A	
Approach Delay		45.3			57.3			9.8			9.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		39	18		36	71	37	354			299	
Queue Length 95th (ft)		42	41		40	66	m56	m375			311	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325					
Base Capacity (vph)		212	394		190	224	161	2813			2335	
Starvation Cap Reductn		0	0		0	0	0	0			0	
Spillback Cap Reductn		0	0		0	0	0	0			0	
Storage Cap Reductn		0	0		0	0	0	0			0	
Reduced v/c Ratio		0.26	0.07		0.26	0.43	0.33	0.52			0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 15 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	529	318	226	788	4	881	407
Future Volume (vph)	529	318	226	788	4	881	407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.257		
Satd. Flow (perm)	1787	1599	3416	3522	481	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.87	0.90	0.90	0.89	0.90	0.89	0.85
Adj. Flow (vph)	608	353	251	885	4	990	479
Shared Lane Traffic (%)							
Lane Group Flow (vph)	608	353	251	885	4	990	479
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	42.6	14.0	14.0	77.4	63.4	63.4	42.6
Total Split (%)	35.5%	11.7%	11.7%	64.5%	52.8%	52.8%	35.5%
Maximum Green (s)	36.2	7.4	7.4	71.0	56.9	56.9	36.2
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	37.6	51.6	9.0	72.4	58.4	58.4	101.0
Actuated g/C Ratio	0.31	0.43	0.08	0.60	0.49	0.49	0.84
v/c Ratio	1.09	0.51	0.98	0.42	0.02	1.09	0.36
Control Delay	103.5	28.3	107.1	13.4	7.2	74.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.5	28.3	107.1	13.4	7.2	74.4	1.8
LOS	F	C	F	B	A	E	A
Approach Delay	75.9			34.1		50.6	
Approach LOS	E			C		D	
Queue Length 50th (ft)	~529	196	102	179	1	~874	35
Queue Length 95th (ft)	#712	288	#188	220	m1	#1108	42
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	559	687	256	2124	234	911	1339
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.51	0.98	0.42	0.02	1.09	0.36

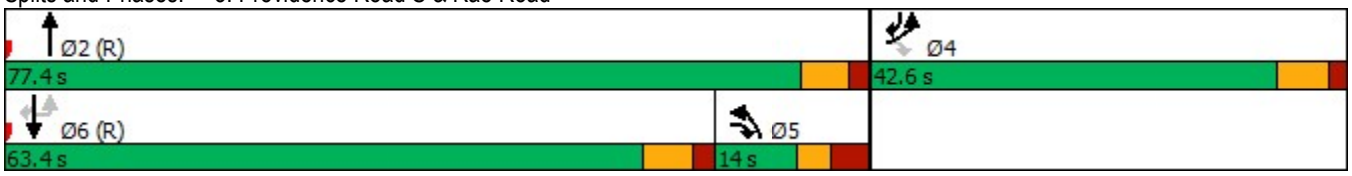
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 61 (51%), Referenced to phase 2:NBT and 6:SBTU, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 52.1		Intersection LOS: D	
Intersection Capacity Utilization 94.6%		ICU Level of Service F	
Analysis Period (min) 15			

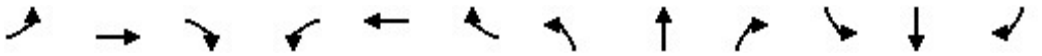
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	700	157	39	571	11	157	4	39	12	4	11
Future Volume (vph)	12	700	157	39	571	11	157	4	39	12	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
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		0.957				0.850		0.974			0.951	
Flt Protected	0.950				0.995			0.962			0.981	
Satd. Flow (prot)	1770	1783	0	0	1853	1583	0	1745	0	0	1738	0
Flt Permitted	0.950				0.995			0.962			0.981	
Satd. Flow (perm)	1770	1783	0	0	1853	1583	0	1745	0	0	1738	0
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.89	0.50	0.50	0.90	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	13	787	314	78	634	12	314	8	78	13	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	1101	0	0	712	12	0	400	0	0	33	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 86.7%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	503.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	700	157	39	571	11	157	4	39	12	4	11
Future Vol, veh/h	12	700	157	39	571	11	157	4	39	12	4	11
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	125	-	-	-	-	125	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	89	50	50	90	90	50	50	50	90	50	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	787	314	78	634	12	314	8	78	13	8	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	646	0	0	1101	0	0	1776	1772	944	1803	1917	634
Stage 1	-	-	-	-	-	-	970	970	-	790	790	-
Stage 2	-	-	-	-	-	-	806	802	-	1013	1127	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	939	-	-	634	-	-	~ 64	83	318	62	67	479
Stage 1	-	-	-	-	-	-	~ 304	331	-	383	402	-
Stage 2	-	-	-	-	-	-	376	396	-	288	280	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	939	-	-	634	-	-	~ 47	66	318	36	53	479
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 47	66	-	36	53	-
Stage 1	-	-	-	-	-	-	~ 300	326	-	378	325	-
Stage 2	-	-	-	-	-	-	~ 289	320	-	209	276	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.2	$ 2847.8	120.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	57	939	-	-	634	-	-	61
HCM Lane V/C Ratio	7.018	0.014	-	-	0.123	-	-	0.55
HCM Control Delay (s)	$ 2847.8	8.9	-	-	11.5	0	-	120.4
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	46.1	0	-	-	0.4	-	-	2.2

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

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	158	278	354	390	417	969	997	550	308	235	202	206
Average Queue (ft)	78	155	172	212	68	740	761	416	205	157	111	109
95th Queue (ft)	144	275	322	387	340	1189	1210	739	293	241	188	194
Link Distance (ft)	948		728			1068	1068				945	945
Upstream Blk Time (%)						5	6					
Queuing Penalty (veh)						42	51					
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)			0	4		33	47					
Queuing Penalty (veh)			3	26		7	183					

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	LT	TR
Maximum Queue (ft)	107	78	43	37	268	760	791	421	415
Average Queue (ft)	53	28	13	9	103	245	280	221	214
95th Queue (ft)	105	67	43	32	266	802	836	429	428
Link Distance (ft)	1008					2759	2759	1068	1068
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		50		425	325				
Storage Blk Time (%)	29	11				9			
Queuing Penalty (veh)	11	6				8			

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	765	302	277	314	296	301	59	612	208
Average Queue (ft)	569	121	198	234	203	206	5	355	85
95th Queue (ft)	947	254	295	325	294	291	63	600	187
Link Distance (ft)	1322	1322			1034	1034		2759	2759
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								20	
Queuing Penalty (veh)								1	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	B5	B5	WB	WB	NB	SB
Directions Served	L	TR	T		LT	R	LTR	LTR
Maximum Queue (ft)	25	900	338	151	1214	22	1051	254
Average Queue (ft)	3	153	34	14	908	2	1000	146
95th Queue (ft)	17	675	239	174	1554	32	1203	285
Link Distance (ft)		866	728	728	1180		1001	954
Upstream Blk Time (%)		7	0	0	41		83	
Queuing Penalty (veh)		66	1	0	0		464	
Storage Bay Dist (ft)	125					125		
Storage Blk Time (%)		12			54			
Queuing Penalty (veh)		1			5			

Zone Summary

Zone wide Queuing Penalty: 874

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	58	294	426	413	30	308	327	294	442	414	359	291
Average Queue (ft)	19	136	166	268	5	152	164	145	333	281	126	105
95th Queue (ft)	52	313	403	439	24	311	354	286	462	428	388	325
Link Distance (ft)	948		728			1068	1068				945	945
Upstream Blk Time (%)			0				0				1	1
Queuing Penalty (veh)			0				2				0	0
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)			0	7				2	4	3	0	
Queuing Penalty (veh)			4	31				8	21	15	1	

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	LT	TR
Maximum Queue (ft)	106	60	64	121	87	175	208	209	200
Average Queue (ft)	46	24	16	31	43	63	93	91	88
95th Queue (ft)	94	58	55	100	87	149	192	188	179
Link Distance (ft)	1008		454			2759	2759	1068	1068
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		50		425	325				
Storage Blk Time (%)	20	7							
Queuing Penalty (veh)	6	4							

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	1228	981	250	280	220	208	23	1150	865
Average Queue (ft)	937	461	172	200	144	140	3	728	260
95th Queue (ft)	1506	1270	286	307	207	209	16	1390	882
Link Distance (ft)	1322	1322			1034	1034		2759	2759
Upstream Blk Time (%)	16	11							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)								40	
Queuing Penalty (veh)								2	

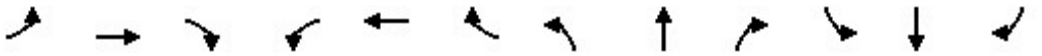
Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	B5	B5	WB	WB	NB	SB
Directions Served	L	TR	T		LT	R	LTR	LTR
Maximum Queue (ft)	29	367	542	304	1111	135	1048	313
Average Queue (ft)	4	85	116	39	699	12	992	191
95th Queue (ft)	20	473	526	294	1352	95	1195	387
Link Distance (ft)		866	728	728	1180		1001	954
Upstream Blk Time (%)		4	3	3	17		83	
Queuing Penalty (veh)		49	16	16	0		324	
Storage Bay Dist (ft)	125					125		
Storage Blk Time (%)		6			52			
Queuing Penalty (veh)		1			6			

Zone Summary

Zone wide Queuing Penalty: 504

2031 Build Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	30	4	526	18	591	19	1171	309	432	782	4
Future Volume (vph)	55	30	4	526	18	591	19	1171	309	432	782	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.994				0.850			0.850		0.999	
Flt Protected		0.970		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	1841	0	1673	1682	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.628		0.950	0.955		0.950			0.950		
Satd. Flow (perm)	0	1192	0	1673	1682	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
Peak Hour Factor	0.90	0.90	0.90	0.84	0.90	0.82	0.90	0.90	0.81	0.80	0.89	0.90
Adj. Flow (vph)	61	33	4	626	20	721	21	1301	381	540	879	4
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	98	0	326	320	721	21	1301	381	540	883	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	14.0	14.0		28.0	28.0		13.4	52.6	28.0			
Total Split (%)	10.4%	10.4%		20.7%	20.7%		9.9%	39.0%	20.7%			
Maximum Green (s)	7.3	7.3		21.4	21.4		7.0	45.5	21.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

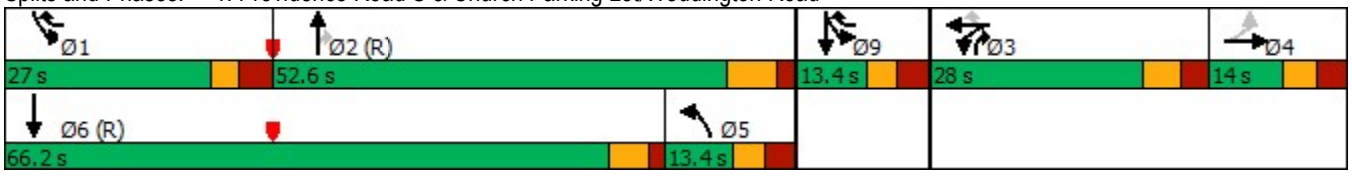
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	13.4
Total Split (s)	27.0	66.2	13.4
Total Split (%)	20%	49%	10%
Maximum Green (s)	20.6	60.6	7.0
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		7.0	7.0			4.0	7.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		9.0		23.0	23.0	58.4	8.4	47.6	70.6	30.4	77.0	
Actuated g/C Ratio		0.07		0.17	0.17	0.43	0.06	0.35	0.52	0.23	0.57	
v/c Ratio		1.24		1.14	1.12	1.06	0.19	1.02	0.45	0.72	0.45	
Control Delay		229.0		147.1	139.2	78.2	53.3	59.8	14.1	36.8	13.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		229.0		147.1	139.2	78.2	53.3	59.8	14.1	36.8	13.0	
LOS		F		F	F	E	D	E	B	D	B	
Approach Delay		229.0			108.9			49.5			22.0	
Approach LOS		F			F			D			C	
Queue Length 50th (ft)		~106		~351	~338	~453	16	~573	147	122	177	
Queue Length 95th (ft)		#226		#496	#540	#555	m30	#763	175	145	214	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		79		285	286	681	112	1279	848	753	1965	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		1.24		1.14	1.12	1.06	0.19	1.02	0.45	0.72	0.45	

Intersection Summary

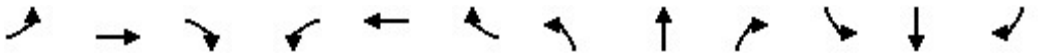
Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 52 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 62.5 Intersection LOS: E
Intersection Capacity Utilization 87.3% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

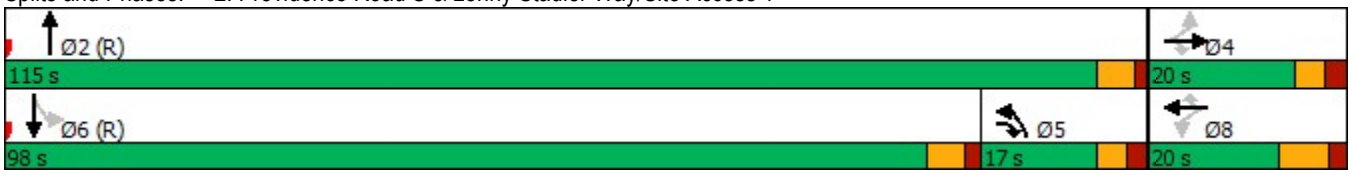


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	4	34	4	4	4	89	1533	17	39	1198	72
Future Volume (vph)	46	4	34	4	4	4	89	1533	17	39	1198	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.997			0.992	
Flt Protected		0.959			0.976		0.950				0.997	
Satd. Flow (prot)	0	1777	1575	0	1818	1583	1761	3511	0	0	3483	0
Flt Permitted		0.744			0.768		0.950				0.643	
Satd. Flow (perm)	0	1379	1575	0	1431	1583	1761	3511	0	0	2246	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			785			2837			1141	
Travel Time (s)		20.6			53.5			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.88	0.90
Adj. Flow (vph)	51	8	38	8	8	8	99	1742	34	78	1361	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	38	0	16	8	99	1776	0	0	1519	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	20.0	20.0	17.0	20.0	20.0	20.0	17.0	115.0		98.0	98.0	
Total Split (%)	14.8%	14.8%	12.6%	14.8%	14.8%	14.8%	12.6%	85.2%		72.6%	72.6%	
Maximum Green (s)	14.6	14.6	11.7	13.0	13.0	13.0	11.7	109.7		92.7	92.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3			-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0			5.0	
Lead/Lag			Lag				Lag			Lead	Lead	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		12.5	25.4		11.2	11.2	12.0	117.6			99.6	
Actuated g/C Ratio		0.09	0.19		0.08	0.08	0.09	0.87			0.74	
v/c Ratio		0.46	0.13		0.14	0.06	0.63	0.58			0.92	
Control Delay		69.2	43.5		58.6	56.2	65.6	2.2			18.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	
Total Delay		69.2	43.5		58.6	56.2	65.6	2.2			18.2	
LOS		E	D		E	E	E	A			B	
Approach Delay		59.1			57.8			5.5			18.2	
Approach LOS		E			E			A			B	
Queue Length 50th (ft)		50	28		13	7	87	103			481	
Queue Length 95th (ft)		51	58		20	13	m130	m128			m702	
Internal Link Dist (ft)		979			705			2757			1061	
Turn Bay Length (ft)			50			425	325					
Base Capacity (vph)		169	296		159	175	156	3058			1657	
Starvation Cap Reductn		0	0		0	0	0	0			0	
Spillback Cap Reductn		0	0		0	0	0	0			0	
Storage Cap Reductn		0	0		0	0	0	0			0	
Reduced v/c Ratio		0.35	0.13		0.10	0.05	0.63	0.58			0.92	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 125 (93%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 90.9%		ICU Level of Service E	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



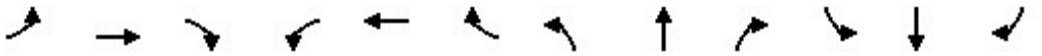
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	465	230	418	1182	4	692	439
Future Volume (vph)	465	230	418	1182	4	692	439
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.193		
Satd. Flow (perm)	1787	1599	3416	3522	361	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.85	0.90	0.90	0.89	0.90	0.89	0.86
Adj. Flow (vph)	547	256	464	1328	4	778	510
Shared Lane Traffic (%)							
Lane Group Flow (vph)	547	256	464	1328	4	778	510
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	47.3	24.3	24.3	87.7	63.4	63.4	47.3
Total Split (%)	35.0%	18.0%	18.0%	65.0%	47.0%	47.0%	35.0%
Maximum Green (s)	40.9	17.7	17.7	81.3	56.9	56.9	40.9
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	42.3	66.6	19.3	82.7	58.4	58.4	105.7
Actuated g/C Ratio	0.31	0.49	0.14	0.61	0.43	0.43	0.78
v/c Ratio	0.98	0.32	0.95	0.62	0.03	0.96	0.41
Control Delay	79.0	22.1	87.3	17.8	30.8	52.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	22.1	87.3	17.8	30.8	52.1	2.3
LOS	E	C	F	B	C	D	A
Approach Delay	60.9			35.8		32.4	
Approach LOS	E			D		C	
Queue Length 50th (ft)	475	132	210	361	2	571	33
Queue Length 95th (ft)	#644	196	#317	421	m3	m#802	m52
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	559	788	488	2157	156	809	1245
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.32	0.95	0.62	0.03	0.96	0.41

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 13 (10%), Referenced to phase 2:NBT and 6:SBTU, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 39.9	Intersection LOS: D
Intersection Capacity Utilization 86.6%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	459	179	45	847	9	179	4	45	6	4	12
Future Volume (vph)	6	459	179	45	847	9	179	4	45	6	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
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		0.938				0.850		0.973			0.937	
Flt Protected	0.950				0.996			0.962			0.988	
Satd. Flow (prot)	1770	1747	0	0	1855	1583	0	1744	0	0	1724	0
Flt Permitted	0.950				0.996			0.962			0.988	
Satd. Flow (perm)	1770	1747	0	0	1855	1583	0	1744	0	0	1724	0
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.90	0.50	0.50	0.89	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	7	510	358	90	952	10	358	8	90	7	8	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	868	0	0	1042	10	0	456	0	0	28	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	773.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	459	179	45	847	9	179	4	45	6	4	12
Future Vol, veh/h	6	459	179	45	847	9	179	4	45	6	4	12
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	125	-	-	-	-	125	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	50	50	89	90	50	50	50	90	50	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	510	358	90	952	10	358	8	90	7	8	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	962	0	0	868	0	0	1851	1845	689	1884	2014	952
Stage 1	-	-	-	-	-	-	703	703	-	1132	1132	-
Stage 2	-	-	-	-	-	-	1148	1142	-	752	882	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	715	-	-	776	-	-	~ 57	75	446	54	59	315
Stage 1	-	-	-	-	-	-	428	440	-	247	278	-
Stage 2	-	-	-	-	-	-	~ 242	275	-	402	364	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	715	-	-	776	-	-	~ 38	56	446	31	44	315
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 38	56	-	31	44	-
Stage 1	-	-	-	-	-	-	424	436	-	245	209	-
Stage 2	-	-	-	-	-	-	~ 167	206	-	312	360	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.9	$ 4081.2	99.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	47	715	-	-	776	-	-	64
HCM Lane V/C Ratio	9.702	0.009	-	-	0.116	-	-	0.438
HCM Control Delay (s)	$ 4081.2	10.1	-	-	10.2	0	-	99.3
HCM Lane LOS	F	B	-	-	B	A	-	F
HCM 95th %tile Q(veh)	54.3	0	-	-	0.4	-	-	1.7

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	12	4	376	4	494	4	953	450	586	1025	4
Future Volume (vph)	7	12	4	376	4	494	4	953	450	586	1025	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			1%			-5%			5%	
Storage Length (ft)	0		0	550		325	550		450	450		0
Storage Lanes	0		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.999	
Flt Protected		0.984		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1837	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Flt Permitted		0.804		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1501	0	1673	1678	1575	1814	3628	1623	3347	3447	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		1005			826			1141			1010	
Travel Time (s)		27.4			16.1			22.2			19.7	
Peak Hour Factor	0.90	0.90	0.90	0.85	0.90	0.84	0.90	0.89	0.85	0.85	0.90	0.90
Adj. Flow (vph)	8	13	4	442	4	588	4	1071	529	689	1139	4
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	25	0	221	225	588	4	1071	529	689	1143	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			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97	1.03	1.03	1.03
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		4		3	3	1 9	5	2	3	1 9	6 9	
Permitted Phases	4					3			2			
Detector Phase	4	4		3	3	1 9	5	2	3	1 9	6 9	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0			
Minimum Split (s)	13.7	13.7		13.6	13.6		13.4	19.1	13.6			
Total Split (s)	13.7	13.7		23.0	23.0		13.4	44.9	23.0			
Total Split (%)	11.4%	11.4%		19.2%	19.2%		11.2%	37.4%	19.2%			
Maximum Green (s)	7.0	7.0		16.4	16.4		7.0	37.8	16.4			
Yellow Time (s)	3.5	3.5		3.8	3.8		3.1	5.0	3.8			
All-Red Time (s)	3.2	3.2		2.8	2.8		3.3	2.1	2.8			
Lost Time Adjust (s)		-1.7		-1.6	-1.6		-1.4	-2.1	-1.6			
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0	5.0			
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0			
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	3.0	2.0			

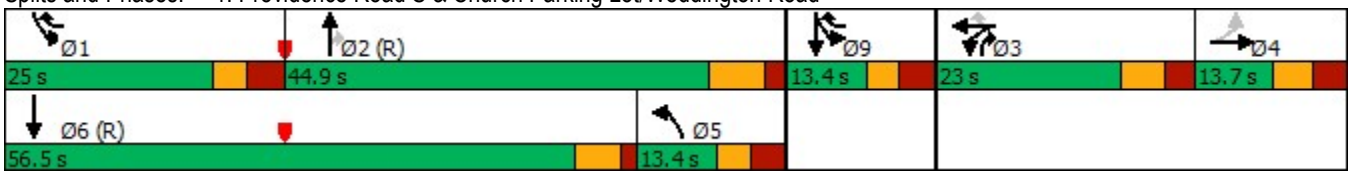
Lane Group	Ø1	Ø6	Ø9
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	1	6	9
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	7.0	12.0	7.0
Minimum Split (s)	13.4	17.6	13.4
Total Split (s)	25.0	56.5	13.4
Total Split (%)	21%	47%	11%
Maximum Green (s)	18.6	50.9	7.0
Yellow Time (s)	3.0	4.1	3.0
All-Red Time (s)	3.4	1.5	3.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	6.0	3.0
Minimum Gap (s)	2.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	0.0			
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	0.0			
Recall Mode	None	None		None	None		None	C-Max	None			
Walk Time (s)	4.0	4.0		7.0	7.0			4.0	7.0			
Flash Dont Walk (s)	27.0	27.0		25.0	25.0			33.0	25.0			
Pedestrian Calls (#/hr)	0	0		0	0			0	0			
Act Effct Green (s)		8.7		17.8	17.8	52.7	8.4	46.1	63.9	27.9	80.3	
Actuated g/C Ratio		0.07		0.15	0.15	0.44	0.07	0.38	0.53	0.23	0.67	
v/c Ratio		0.23		0.89	0.91	0.85	0.03	0.77	0.61	0.89	0.50	
Control Delay		58.1		85.9	88.1	36.2	46.2	28.3	13.1	46.6	11.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		58.1		85.9	88.1	36.2	46.2	28.3	13.1	46.6	11.2	
LOS		E		F	F	D	D	C	B	D	B	
Approach Delay		58.1			58.1			23.3			24.5	
Approach LOS		E			E			C			C	
Queue Length 50th (ft)		19		178	182	286	2	338	210	157	223	
Queue Length 95th (ft)		48		#300	#335	#365	m5	#449	283	203	303	
Internal Link Dist (ft)		925			746			1061			930	
Turn Bay Length (ft)				550		325	550		450	450		
Base Capacity (vph)		108		250	251	699	126	1393	866	795	2306	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.23		0.88	0.90	0.84	0.03	0.77	0.61	0.87	0.50	

Intersection Summary

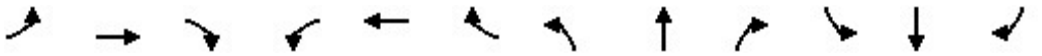
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 32.0 Intersection LOS: C
Intersection Capacity Utilization 75.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Providence Road S & Church Parking Lot/Weddington Road



Lane Group	Ø1	Ø6	Ø9
Time Before Reduce (s)	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0
Recall Mode	None	C-Max	None
Walk Time (s)		4.0	
Flash Dont Walk (s)		12.0	
Pedestrian Calls (#/hr)		0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

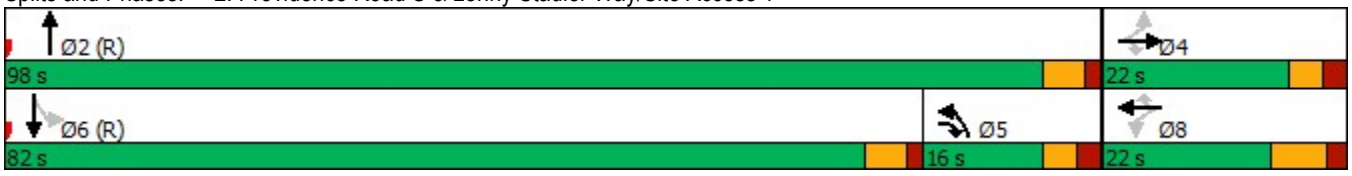


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	4	28	17	4	39	51	1370	4	4	1352	51
Future Volume (vph)	45	4	28	17	4	39	51	1370	4	4	1352	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.999			0.995	
Flt Protected		0.959			0.961		0.950					
Satd. Flow (prot)	0	1777	1575	0	1790	1583	1761	3518	0	0	3504	0
Flt Permitted		0.727			0.718		0.950				0.944	
Satd. Flow (perm)	0	1347	1575	0	1337	1583	1761	3518	0	0	3308	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			785			2837			1141	
Travel Time (s)		20.6			53.5			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.89	0.50	0.50	0.89	0.90
Adj. Flow (vph)	50	8	31	34	8	78	57	1539	8	8	1519	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	31	0	42	78	57	1547	0	0	1584	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	22.0	22.0	16.0	22.0	22.0	22.0	16.0	98.0		82.0	82.0	
Total Split (%)	18.3%	18.3%	13.3%	18.3%	18.3%	18.3%	13.3%	81.7%		68.3%	68.3%	
Maximum Green (s)	16.6	16.6	10.7	15.0	15.0	15.0	10.7	92.7		76.7	76.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3			-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0			5.0	
Lead/Lag			Lag				Lag			Lead	Lead	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		14.4	25.6		13.1	13.1	10.3	100.7			87.9	
Actuated g/C Ratio		0.12	0.21		0.11	0.11	0.09	0.84			0.73	
v/c Ratio		0.36	0.09		0.29	0.45	0.38	0.52			0.65	
Control Delay		53.6	34.5		53.0	57.6	50.4	2.2			8.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0			0.0	
Total Delay		53.6	34.5		53.0	57.6	50.4	2.2			8.6	
LOS		D	C		D	E	D	A			A	
Approach Delay		47.0			56.0			3.9			8.6	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		42	19		30	57	44	80			212	
Queue Length 95th (ft)		45	43		35	56	m69	m97			454	
Internal Link Dist (ft)		979			705			2757			1061	
Turn Bay Length (ft)			50			425	325					
Base Capacity (vph)		208	345		189	224	161	2951			2422	
Starvation Cap Reductn		0	0		0	0	0	0			0	
Spillback Cap Reductn		0	0		0	0	0	0			0	
Storage Cap Reductn		0	0		0	0	0	0			0	
Reduced v/c Ratio		0.28	0.09		0.22	0.35	0.35	0.52			0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 111 (93%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



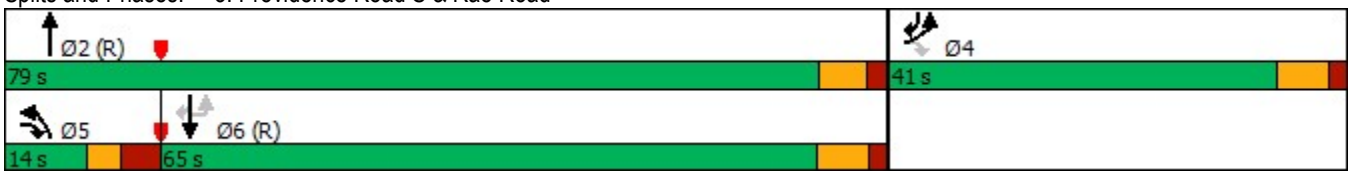
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	559	342	244	843	4	941	425
Future Volume (vph)	559	342	244	843	4	941	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			1%		-1%	
Storage Length (ft)	0	0	450		325		0
Storage Lanes	1	1	2		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	0.97	0.95	1.00	1.00	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	1787	1599	3416	3522	1778	1872	1591
Flt Permitted	0.950		0.950		0.302		
Satd. Flow (perm)	1787	1599	3416	3522	565	1872	1591
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	45			45		45	
Link Distance (ft)	1371			1071		2837	
Travel Time (s)	20.8			16.2		43.0	
Peak Hour Factor	0.88	0.90	0.90	0.89	0.90	0.89	0.86
Adj. Flow (vph)	635	380	271	947	4	1057	494
Shared Lane Traffic (%)							
Lane Group Flow (vph)	635	380	271	947	4	1057	494
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	12			24		24	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	0.99	0.99	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	Prot	NA	Perm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4			6		6
Detector Phase	4	5	5	2	6	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	13.4	13.6	13.6	18.4	18.5	18.5	13.4
Total Split (s)	41.0	14.0	14.0	79.0	65.0	65.0	41.0
Total Split (%)	34.2%	11.7%	11.7%	65.8%	54.2%	54.2%	34.2%
Maximum Green (s)	34.6	7.4	7.4	72.6	58.5	58.5	34.6
Yellow Time (s)	4.7	3.0	3.0	4.4	4.6	4.6	4.7
All-Red Time (s)	1.7	3.6	3.6	2.0	1.9	1.9	1.7
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.4	-1.5	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0

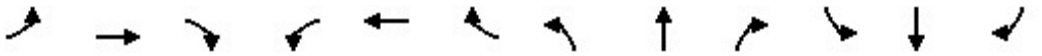
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	30.0	30.0	30.0	0.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max	None
Act Effct Green (s)	36.0	50.0	9.0	74.0	60.0	60.0	101.0
Actuated g/C Ratio	0.30	0.42	0.08	0.62	0.50	0.50	0.84
v/c Ratio	1.18	0.57	1.06	0.44	0.01	1.13	0.37
Control Delay	138.7	31.0	125.3	12.8	17.5	94.2	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	138.7	31.0	125.3	12.8	17.5	94.2	1.9
LOS	F	C	F	B	B	F	A
Approach Delay	98.4			37.9		64.6	
Approach LOS	F			D		E	
Queue Length 50th (ft)	~592	222	~118	189	1	~926	25
Queue Length 95th (ft)	#791	323	#206	230	m3	#1171	50
Internal Link Dist (ft)	1291			991		2757	
Turn Bay Length (ft)			450		325		
Base Capacity (vph)	536	666	256	2171	282	936	1339
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.57	1.06	0.44	0.01	1.13	0.37

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NBT and 6:SBTU, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 65.1 Intersection LOS: E
Intersection Capacity Utilization 100.0% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Providence Road S & Rae Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	751	126	31	615	12	126	4	31	13	4	12
Future Volume (vph)	13	751	126	31	615	12	126	4	31	13	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
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		0.966				0.850		0.974			0.950	
Flt Protected	0.950				0.996			0.962			0.980	
Satd. Flow (prot)	1770	1799	0	0	1855	1583	0	1745	0	0	1734	0
Flt Permitted	0.950				0.996			0.962			0.980	
Satd. Flow (perm)	1770	1799	0	0	1855	1583	0	1745	0	0	1734	0
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.89	0.50	0.50	0.90	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	14	844	252	62	683	13	252	8	62	14	8	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1096	0	0	745	13	0	322	0	0	35	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	346.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	751	126	31	615	12	126	4	31	13	4	12
Future Vol, veh/h	13	751	126	31	615	12	126	4	31	13	4	12
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	125	-	-	-	-	125	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	89	50	50	90	90	50	50	50	90	50	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	844	252	62	683	13	252	8	62	14	8	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	696	0	0	1096	0	0	1822	1818	970	1840	1931	683
Stage 1	-	-	-	-	-	-	998	998	-	807	807	-
Stage 2	-	-	-	-	-	-	824	820	-	1033	1124	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	900	-	-	637	-	-	~ 60	78	307	58	66	449
Stage 1	-	-	-	-	-	-	294	322	-	375	394	-
Stage 2	-	-	-	-	-	-	367	389	-	281	281	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	900	-	-	637	-	-	~ 45	65	307	36	55	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 45	65	-	36	55	-
Stage 1	-	-	-	-	-	-	289	317	-	369	331	-
Stage 2	-	-	-	-	-	-	292	327	-	215	277	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.9	$ 2382.4	123.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	54	900	-	-	637	-	-	62
HCM Lane V/C Ratio	5.963	0.016	-	-	0.097	-	-	0.577
HCM Control Delay (s)	$ 2382.4	9.1	-	-	11.3	0	-	123.3
HCM Lane LOS	F	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	36.8	0	-	-	0.3	-	-	2.4

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

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	B5	NB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	LT	R	T	L	T	T	R	L	L	T
Maximum Queue (ft)	174	506	611	418	127	474	942	963	549	288	235	217
Average Queue (ft)	94	265	330	299	21	76	773	791	417	195	150	116
95th Queue (ft)	168	558	705	485	179	369	1237	1255	750	280	239	202
Link Distance (ft)	948		728		866		1068	1068				945
Upstream Blk Time (%)			3		0		4	5				
Queuing Penalty (veh)			39		1		38	46				
Storage Bay Dist (ft)		550		325		550			450	450	450	
Storage Blk Time (%)		0	2	25			32	46				
Queuing Penalty (veh)		1	19	162			7	174				

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	202
Average Queue (ft)	112
95th Queue (ft)	193
Link Distance (ft)	945
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	LT	TR
Maximum Queue (ft)	164	108	47	41	275	991	1003	717	698
Average Queue (ft)	69	33	15	10	121	314	340	391	383
95th Queue (ft)	138	88	44	34	311	1031	1055	837	839
Link Distance (ft)	1008					2759	2759	1068	1068
Upstream Blk Time (%)						0	0	0	0
Queuing Penalty (veh)						2	2	1	1
Storage Bay Dist (ft)		50		425	325				
Storage Blk Time (%)	36	11				13			
Queuing Penalty (veh)	13	6				13			

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	1112	663	377	422	433	383	65	876	334
Average Queue (ft)	895	290	279	314	260	252	5	487	108
95th Queue (ft)	1396	941	450	486	528	459	63	891	307
Link Distance (ft)	1322	1322			1034	1034		2759	2759
Upstream Blk Time (%)	6	3			0				
Queuing Penalty (veh)	0	0			0				
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)			2	7	0			30	
Queuing Penalty (veh)			13	48	0			1	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	B5	WB	WB	NB	SB
Directions Served	L	TR	T	LT	R	LTR	LTR
Maximum Queue (ft)	28	585	132	1166	156	1048	231
Average Queue (ft)	4	72	9	714	15	952	141
95th Queue (ft)	21	427	99	1398	106	1242	279
Link Distance (ft)		866	728	1180		1001	954
Upstream Blk Time (%)		2		20		71	
Queuing Penalty (veh)		21		0		318	
Storage Bay Dist (ft)	125				125		
Storage Blk Time (%)		8		41			
Queuing Penalty (veh)		1		4			

Zone Summary

Zone wide Queuing Penalty: 932

Intersection: 1: Providence Road S & Church Parking Lot/Weddington Road

Movement	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	LT	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	47	240	302	375	24	391	394	290	342	279	206	214
Average Queue (ft)	17	133	148	202	5	259	272	160	233	188	91	98
95th Queue (ft)	44	228	285	375	21	378	389	270	345	289	180	189
Link Distance (ft)	948		728			1068	1068				945	945
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		550		325	550			450	450	450		
Storage Blk Time (%)			0	4			0		0			
Queuing Penalty (veh)			0	19			0		0			

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	LT	TR
Maximum Queue (ft)	103	65	86	126	101	150	210	310	300
Average Queue (ft)	49	27	22	39	44	48	70	138	138
95th Queue (ft)	93	61	71	108	93	123	172	268	264
Link Distance (ft)	1008		721			2759	2759	1068	1068
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		50		425	325				
Storage Blk Time (%)	22	8							
Queuing Penalty (veh)	7	5							

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	L	T	T	U	T	R
Maximum Queue (ft)	1354	1355	306	330	228	216	185	2090	1865
Average Queue (ft)	1155	861	210	238	138	132	14	1355	682
95th Queue (ft)	1570	1738	345	372	224	213	127	2243	1754
Link Distance (ft)	1322	1322			1034	1034		2759	2759
Upstream Blk Time (%)	42	31							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			450	450			325		
Storage Blk Time (%)				0				53	
Queuing Penalty (veh)				1				2	

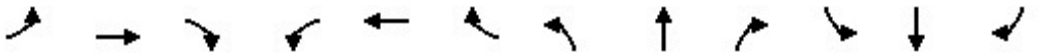
Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	B5	B5	WB	WB	NB	SB
Directions Served	L	TR	T		LT	R	LTR	LTR
Maximum Queue (ft)	26	80	182	73	1029	157	1047	278
Average Queue (ft)	5	10	24	5	552	13	918	160
95th Queue (ft)	22	78	215	103	1283	101	1293	334
Link Distance (ft)		866	728	728	1180		1001	954
Upstream Blk Time (%)					12		71	
Queuing Penalty (veh)					0		222	
Storage Bay Dist (ft)	125					125		
Storage Blk Time (%)		0			36			
Queuing Penalty (veh)		0			5			

Zone Summary

Zone wide Queuing Penalty: 260

2026 Build + Improvements Traffic Volumes

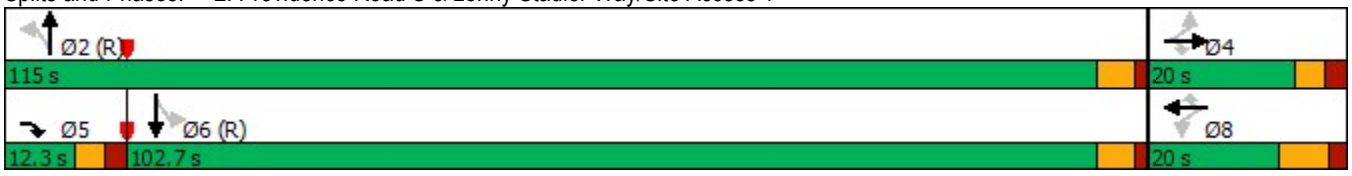


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	4	30	4	4	4	79	1412	23	55	1073	64
Future Volume (vph)	41	4	30	4	4	4	79	1412	23	55	1073	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
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
Frt			0.850			0.850		0.996			0.992	
Flt Protected		0.959			0.976		0.950			0.950		
Satd. Flow (prot)	0	1777	1575	0	1818	1583	1761	3507	0	1761	3493	0
Flt Permitted		0.746			0.778		0.170			0.140		
Satd. Flow (perm)	0	1383	1575	0	1449	1583	315	3507	0	259	3493	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.87	0.50	0.50	0.87	0.90
Adj. Flow (vph)	46	8	33	8	8	8	88	1623	46	110	1233	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	33	0	16	8	88	1669	0	110	1304	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	custom	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4	5		8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	5	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	15.3	15.3		36.3	36.3	
Total Split (s)	20.0	20.0	12.3	20.0	20.0	20.0	115.0	115.0		102.7	102.7	
Total Split (%)	14.8%	14.8%	9.1%	14.8%	14.8%	14.8%	85.2%	85.2%		76.1%	76.1%	
Maximum Green (s)	14.6	14.6	7.0	13.0	13.0	13.0	109.7	109.7		97.4	97.4	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.8	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3		-2.0	-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0		3.3	5.0	
Lead/Lag			Lead							Lag	Lag	
Lead-Lag Optimize?			Yes							Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		12.2	20.4		10.9	10.9	117.9	117.9		111.9	110.5	
Actuated g/C Ratio		0.09	0.15		0.08	0.08	0.87	0.87		0.83	0.82	
v/c Ratio		0.44	0.14		0.14	0.06	0.32	0.54		0.51	0.46	
Control Delay		68.4	47.9		59.1	56.8	3.9	2.1		11.1	2.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		68.4	47.9		59.1	56.8	3.9	2.1		11.1	2.5	
LOS		E	D		E	E	A	A		B	A	
Approach Delay		60.6			58.3			2.2			3.2	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		46	25		13	7	7	87		15	94	
Queue Length 95th (ft)		47	55		20	13	m19	140		9	m66	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325			100		
Base Capacity (vph)		170	237		161	175	275	3063		214	2860	
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		0.32	0.14		0.10	0.05	0.32	0.54		0.51	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 116 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 4.6		Intersection LOS: A	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1

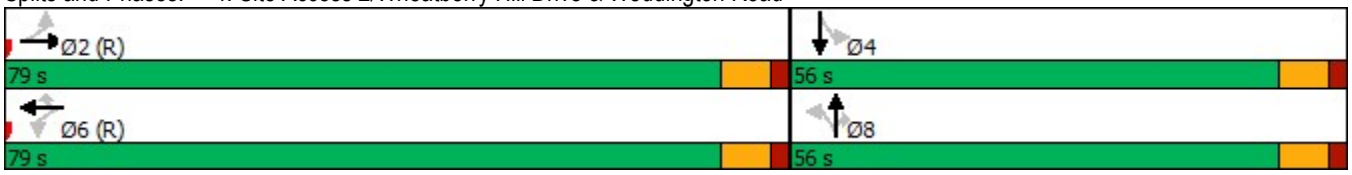


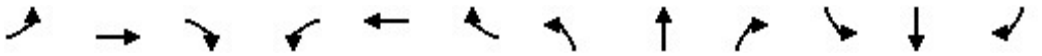
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	406	312	77	755	8	198	4	49	5	4	11
Future Volume (vph)	5	406	312	77	755	8	198	4	49	5	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
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			0.850			0.850			0.850		0.938	
Flt Protected	0.950			0.950				0.953			0.989	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1775	1583	0	1728	0
Flt Permitted	0.150			0.415				0.711			0.914	
Satd. Flow (perm)	279	1863	1583	773	1863	1583	0	1324	1583	0	1597	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.90	0.50	0.50	0.89	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	6	451	624	154	848	9	396	8	98	6	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	451	624	154	848	9	0	404	98	0	26	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			0			0	
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	Free	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		Free	6		6	8		8	4		
Detector Phase	2	2		6	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	14.0	14.0	14.0	14.0	14.0	
Total Split (s)	79.0	79.0		79.0	79.0	79.0	56.0	56.0	56.0	56.0	56.0	
Total Split (%)	58.5%	58.5%		58.5%	58.5%	58.5%	41.5%	41.5%	41.5%	41.5%	41.5%	
Maximum Green (s)	72.0	72.0		72.0	72.0	72.0	49.0	49.0	49.0	49.0	49.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	79.0	79.0	135.0	79.0	79.0	79.0		46.0	46.0		46.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.59	0.59	1.00	0.59	0.59	0.59		0.34	0.34		0.34	
v/c Ratio	0.04	0.41	0.39	0.34	0.78	0.01		0.90	0.18		0.05	
Control Delay	7.6	9.9	1.4	18.5	28.9	13.8		65.0	30.7		27.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	7.6	9.9	1.4	18.5	28.9	13.8		65.0	30.7		27.7	
LOS	A	A	A	B	C	B		E	C		C	
Approach Delay		5.0			27.2			58.3			27.7	
Approach LOS		A			C			E			C	
Queue Length 50th (ft)	1	212	27	70	569	3		325	58		15	
Queue Length 95th (ft)	m2	m285	0	60	782	12		199	52		19	
Internal Link Dist (ft)		854			1128			1011			917	
Turn Bay Length (ft)	125		150	100		125			100			
Base Capacity (vph)	163	1090	1583	452	1090	926		500	598		603	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.04	0.41	0.39	0.34	0.78	0.01		0.81	0.16		0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 66 (49%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road



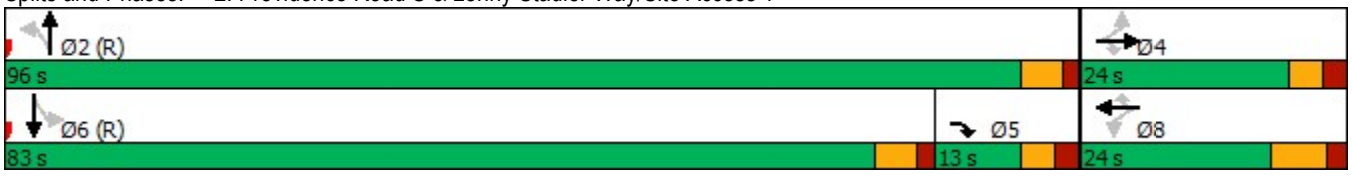


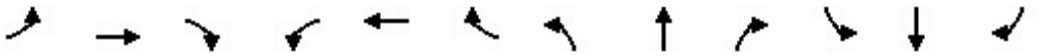
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	4	25	23	4	55	45	1228	4	4	1264	45
Future Volume (vph)	40	4	25	23	4	55	45	1228	4	4	1264	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
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
Frt			0.850			0.850		0.999			0.995	
Flt Protected		0.959			0.959		0.950			0.950		
Satd. Flow (prot)	0	1777	1575	0	1786	1583	1761	3518	0	1761	3504	0
Flt Permitted		0.747			0.721		0.129			0.164		
Satd. Flow (perm)	0	1385	1575	0	1343	1583	239	3518	0	304	3504	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.86	0.90
Adj. Flow (vph)	44	8	28	46	8	110	50	1395	8	8	1470	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	28	0	54	110	50	1403	0	8	1520	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	custom	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4	5		8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	5	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	15.3	15.3		36.3	36.3	
Total Split (s)	24.0	24.0	13.0	24.0	24.0	24.0	96.0	96.0		83.0	83.0	
Total Split (%)	20.0%	20.0%	10.8%	20.0%	20.0%	20.0%	80.0%	80.0%		69.2%	69.2%	
Maximum Green (s)	18.6	18.6	7.7	17.0	17.0	17.0	90.7	90.7		77.7	77.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.8	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3		-2.0	-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0		3.3	5.0	
Lead/Lag			Lag							Lead	Lead	
Lead-Lag Optimize?			Yes							Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		16.8	25.9		15.2	15.2	94.8	94.8		88.7	87.0	
Actuated g/C Ratio		0.14	0.22		0.13	0.13	0.79	0.79		0.74	0.72	
v/c Ratio		0.27	0.08		0.32	0.55	0.27	0.50		0.04	0.60	
Control Delay		48.4	34.9		51.6	59.1	4.9	2.7		4.2	5.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		48.4	34.9		51.6	59.1	4.9	2.7		4.2	5.7	
LOS		D	C		D	E	A	A		A	A	
Approach Delay		43.7			56.6			2.8			5.7	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		36	17		38	81	5	80		1	170	
Queue Length 95th (ft)		40	40		41	72	m10	m96		m1	m158	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325			100		
Base Capacity (vph)		237	370		212	250	188	2779		224	2540	
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		0.22	0.08		0.25	0.44	0.27	0.50		0.04	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



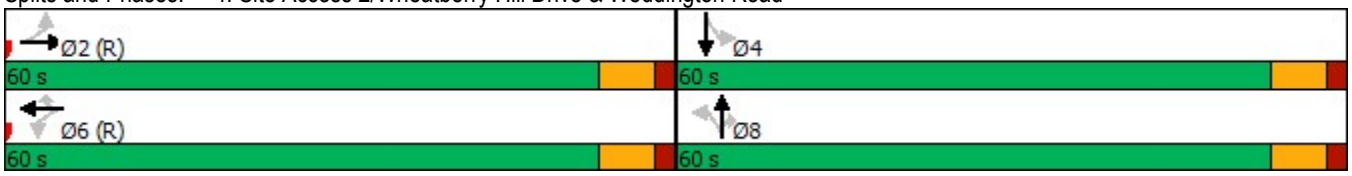


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	670	154	38	544	11	295	4	73	12	4	11
Future Volume (vph)	12	670	154	38	544	11	295	4	73	12	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
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			0.850			0.850			0.850		0.951	
Flt Protected	0.950			0.950				0.953			0.981	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1775	1583	0	1738	0
Flt Permitted	0.215			0.091				0.705			0.802	
Satd. Flow (perm)	400	1863	1583	170	1863	1583	0	1313	1583	0	1421	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.89	0.50	0.50	0.90	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	13	753	308	76	604	12	590	8	146	13	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	753	308	76	604	12	0	598	146	0	33	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			0			0	
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	Free	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		Free	6		6	8		8	4		
Detector Phase	2	2		6	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	14.0	14.0	14.0	14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	53.0	53.0		53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	55.0	55.0	120.0	55.0	55.0	55.0		55.0	55.0		55.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.46	0.46	1.00	0.46	0.46	0.46		0.46	0.46		0.46	
v/c Ratio	0.07	0.88	0.19	0.99	0.71	0.02		1.00	0.20		0.05	
Control Delay	13.8	33.2	0.2	135.8	31.7	17.9		68.7	20.4		18.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	13.8	33.2	0.2	135.8	31.7	17.9		68.7	20.4		18.4	
LOS	B	C	A	F	C	B		E	C		B	
Approach Delay		23.5			42.9			59.2			18.4	
Approach LOS		C			D			E			B	
Queue Length 50th (ft)	4	441	0	56	366	5		450	66		14	
Queue Length 95th (ft)	m8	#729	0	#59	507	16		244	57		18	
Internal Link Dist (ft)		854			1128			1011			917	
Turn Bay Length (ft)	125		150	100		125			100			
Base Capacity (vph)	183	853	1583	77	853	725		601	725		651	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.07	0.88	0.19	0.99	0.71	0.02		1.00	0.20		0.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 83 (69%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 39.2		Intersection LOS: D	
Intersection Capacity Utilization 66.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road



Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	124	102	53	42	156	358	388	138	167	140
Average Queue (ft)	54	31	19	11	57	170	203	57	56	47
95th Queue (ft)	113	80	49	39	196	469	507	124	139	112
Link Distance (ft)	1008					2759	2759		1067	1067
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		50		425	325			100		
Storage Blk Time (%)	22	11				4		6	1	
Queuing Penalty (veh)	7	6				4		37	1	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	EB	B5	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	T	R	LT	R	LTR
Maximum Queue (ft)	50	379	248	126	199	604	71	474	200	71
Average Queue (ft)	7	165	164	12	91	339	5	303	114	21
95th Queue (ft)	41	337	281	150	205	600	57	455	247	59
Link Distance (ft)		866		728		1166		1004		954
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	125		150		100		125		100	
Storage Blk Time (%)		11	12		3	25		53	5	
Queuing Penalty (veh)		66	55		28	41		52	18	

Zone Summary

Zone wide Queuing Penalty: 315

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	106	65	101	184	63	144	182	31	236	228
Average Queue (ft)	45	21	47	97	29	60	85	8	96	98
95th Queue (ft)	93	62	95	168	58	129	163	28	198	203
Link Distance (ft)	1008		454			2759	2759		1067	1067
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		50		425	325			100		
Storage Blk Time (%)	19	5							6	
Queuing Penalty (veh)	5	2							0	

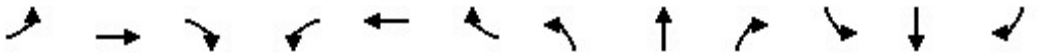
Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	EB	B5	B5	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	T		L	T	R	LT	R	LTR
Maximum Queue (ft)	164	937	250	283	83	199	519	97	755	200	48
Average Queue (ft)	23	663	191	84	28	106	287	9	548	139	17
95th Queue (ft)	118	1063	355	396	252	211	511	76	870	270	50
Link Distance (ft)		866		728	728		1166		1004		954
Upstream Blk Time (%)		10		0	0				2		
Queuing Penalty (veh)		121		2	1				15		
Storage Bay Dist (ft)	125		150			100		125		100	
Storage Blk Time (%)		43	0			28	33		51	6	
Queuing Penalty (veh)		138	1			171	29		75	36	

Zone Summary

Zone wide Queuing Penalty: 596

2028 Build + Improvements Traffic Volumes

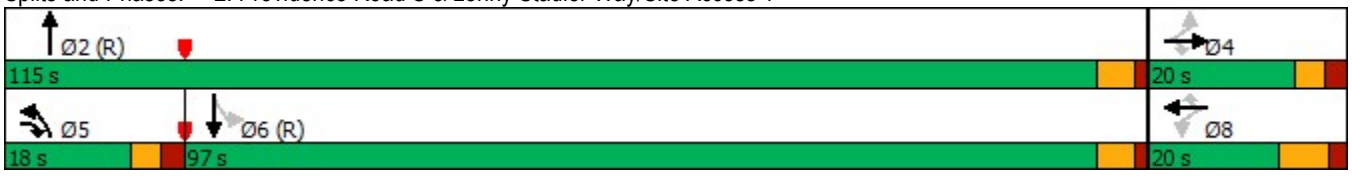


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	4	32	4	4	4	83	1445	21	48	1134	67
Future Volume (vph)	43	4	32	4	4	4	83	1445	21	48	1134	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
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
Frt			0.850			0.850		0.996			0.992	
Flt Protected		0.959			0.976		0.950			0.950		
Satd. Flow (prot)	0	1777	1575	0	1818	1583	1761	3507	0	1761	3493	0
Flt Permitted		0.745			0.772		0.950			0.144		
Satd. Flow (perm)	0	1381	1575	0	1438	1583	1761	3507	0	267	3493	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.87	0.90
Adj. Flow (vph)	48	8	36	8	8	8	92	1642	42	96	1303	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	36	0	16	8	92	1684	0	96	1377	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	20.0	20.0	18.0	20.0	20.0	20.0	18.0	115.0		97.0	97.0	
Total Split (%)	14.8%	14.8%	13.3%	14.8%	14.8%	14.8%	13.3%	85.2%		71.9%	71.9%	
Maximum Green (s)	14.6	14.6	12.7	13.0	13.0	13.0	12.7	109.7		91.7	91.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3		-2.0	-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0		3.3	5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		12.3	24.3		11.0	11.0	11.1	117.8		102.4	100.7	
Actuated g/C Ratio		0.09	0.18		0.08	0.08	0.08	0.87		0.76	0.75	
v/c Ratio		0.44	0.13		0.14	0.06	0.64	0.55		0.48	0.53	
Control Delay		68.6	43.1		58.9	56.5	72.1	2.2		10.3	3.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		68.6	43.1		58.9	56.5	72.1	2.2		10.3	3.8	
LOS		E	D		E	E	E	A		B	A	
Approach Delay		58.6			58.1			5.8			4.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		48	26		13	7	81	92		9	75	
Queue Length 95th (ft)		49	55		20	13	m123	150		m9	m76	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325			100		
Base Capacity (vph)		169	308		159	175	171	3059		202	2604	
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		0.33	0.12		0.10	0.05	0.54	0.55		0.48	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 117 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1

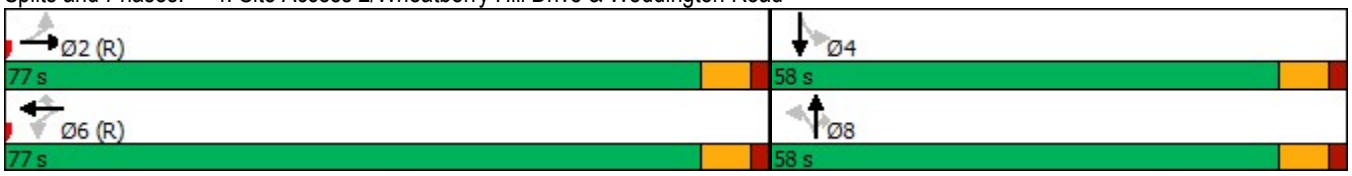


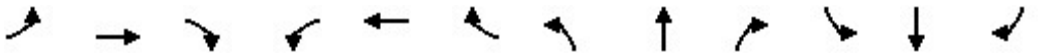
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	427	224	56	789	8	224	4	56	6	4	11
Future Volume (vph)	6	427	224	56	789	8	224	4	56	6	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
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			0.850			0.850			0.850		0.940	
Flt Protected	0.950			0.950				0.953			0.987	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1775	1583	0	1728	0
Flt Permitted	0.096			0.384				0.710			0.896	
Satd. Flow (perm)	179	1863	1583	715	1863	1583	0	1323	1583	0	1569	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.90	0.50	0.50	0.89	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	7	474	448	112	887	9	448	8	112	7	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	474	448	112	887	9	0	456	112	0	27	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			0			0	
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	Free	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		Free	6		6	8		8	4		
Detector Phase	2	2		6	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	14.0	14.0	14.0	14.0	14.0	
Total Split (s)	77.0	77.0		77.0	77.0	77.0	58.0	58.0	58.0	58.0	58.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%	57.0%	43.0%	43.0%	43.0%	43.0%	43.0%	
Maximum Green (s)	70.0	70.0		70.0	70.0	70.0	51.0	51.0	51.0	51.0	51.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	74.9	74.9	135.0	74.9	74.9	74.9		50.1	50.1		50.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.55	0.55	1.00	0.55	0.55	0.55		0.37	0.37		0.37	
v/c Ratio	0.07	0.46	0.28	0.28	0.86	0.01		0.93	0.19		0.05	
Control Delay	10.5	12.4	0.3	19.3	36.5	14.9		67.1	28.8		26.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	10.5	12.4	0.3	19.3	36.5	14.9		67.1	28.8		26.0	
LOS	B	B	A	B	D	B		E	C		C	
Approach Delay		6.6			34.4			59.6			26.0	
Approach LOS		A			C			E			C	
Queue Length 50th (ft)	2	218	0	53	671	4		368	64		15	
Queue Length 95th (ft)	m4	m315	0	47	#943	13		222	57		20	
Internal Link Dist (ft)		854			1128			1011			917	
Turn Bay Length (ft)	125		150	100		125			100			
Base Capacity (vph)	99	1033	1583	396	1033	878		519	621		615	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.07	0.46	0.28	0.28	0.86	0.01		0.88	0.18		0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 67 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	4	26	21	4	48	48	1288	4	4	1271	48
Future Volume (vph)	42	4	26	21	4	48	48	1288	4	4	1271	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
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												
Frt			0.850			0.850		0.999			0.995	
Flt Protected		0.959			0.960		0.950			0.950		
Satd. Flow (prot)	0	1777	1575	0	1788	1583	1761	3518	0	1761	3504	0
Flt Permitted		0.739			0.722		0.950			0.177		
Satd. Flow (perm)	0	1370	1575	0	1345	1583	1761	3518	0	328	3504	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			530			2837			1141	
Travel Time (s)		20.6			36.1			55.3			22.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.88	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	47	8	29	42	8	96	53	1464	8	8	1444	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	29	0	50	96	53	1472	0	8	1497	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	22.0	22.0	16.0	22.0	22.0	22.0	16.0	98.0		82.0	82.0	
Total Split (%)	18.3%	18.3%	13.3%	18.3%	18.3%	18.3%	13.3%	81.7%		68.3%	68.3%	

Liberty Classical Academy

2: Providence Road S & Lenny Stadler Way/Site Access 1

07/18/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	16.6	16.6	10.7	15.0	15.0	15.0	10.7	92.7		76.7	76.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3		-2.0	-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0		3.3	5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Minimum Gap (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		15.6	27.7		14.0	14.0	8.7	96.0		86.4	84.7	
Actuated g/C Ratio		0.13	0.23		0.12	0.12	0.07	0.80		0.72	0.71	
v/c Ratio		0.31	0.08		0.32	0.52	0.41	0.52		0.03	0.61	
Control Delay		51.0	34.6		53.0	59.5	54.4	8.2		4.8	8.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		51.0	34.6		53.0	59.5	54.4	8.2		4.8	8.5	
LOS		D	C		D	E	D	A		A	A	
Approach Delay		45.3			57.3			9.8			8.5	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		39	18		36	71	37	354		1	297	
Queue Length 95th (ft)		42	41		40	66	m56	m375		m3	309	
Internal Link Dist (ft)		979			450			2757			1061	
Turn Bay Length (ft)			50			425	325			100		
Base Capacity (vph)		212	394		190	224	161	2813		236	2473	
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		0.26	0.07		0.26	0.43	0.33	0.52		0.03	0.61	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

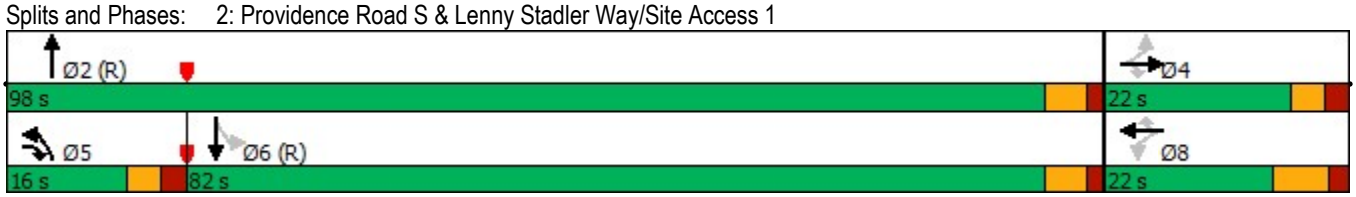
Intersection Signal Delay: 12.2 Intersection LOS: B

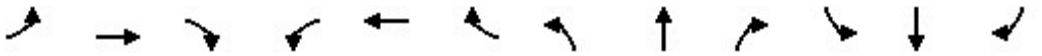
Intersection Capacity Utilization 60.8% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	700	157	39	571	11	157	4	39	12	4	11
Future Volume (vph)	12	700	157	39	571	11	157	4	39	12	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
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
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.951	
Flt Protected	0.950			0.950				0.954			0.981	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1777	1583	0	1738	0
Flt Permitted	0.314			0.220				0.707			0.846	
Satd. Flow (perm)	585	1863	1583	410	1863	1583	0	1317	1583	0	1499	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.89	0.50	0.50	0.90	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	13	787	314	78	634	12	314	8	78	13	8	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	787	314	78	634	12	0	322	78	0	33	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			0			0	
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	Free	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		Free	6		6	8		8	4		
Detector Phase	2	2		6	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	14.0	14.0	14.0	14.0	14.0	
Total Split (s)	72.0	72.0		72.0	72.0	72.0	48.0	48.0	48.0	48.0	48.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%	40.0%	

Liberty Classical Academy

4: Site Access 2/Wheatberry Hill Drive & Weddington Road

07/18/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	65.0	65.0		65.0	65.0	65.0	41.0	41.0	41.0	41.0	41.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	74.9	74.9	120.0	74.9	74.9	74.9		35.1	35.1		35.1	
Actuated g/C Ratio	0.62	0.62	1.00	0.62	0.62	0.62		0.29	0.29		0.29	
v/c Ratio	0.04	0.68	0.20	0.31	0.55	0.01		0.84	0.17		0.08	
Control Delay	4.8	9.7	0.2	16.7	16.4	11.0		58.1	30.3		28.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	4.8	9.7	0.2	16.7	16.4	11.0		58.1	30.3		28.1	
LOS	A	A	A	B	B	B		E	C		C	
Approach Delay		7.0			16.3			52.7			28.1	
Approach LOS		A			B			D			C	
Queue Length 50th (ft)	2	181	0	27	268	3		231	44		18	
Queue Length 95th (ft)	m3	255	0	32	434	13		146	41		22	
Internal Link Dist (ft)		854			1128			1011			917	
Turn Bay Length (ft)	125		150	100		125			100			
Base Capacity (vph)	365	1162	1583	255	1162	987		471	567		537	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.04	0.68	0.20	0.31	0.55	0.01		0.68	0.14		0.06	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

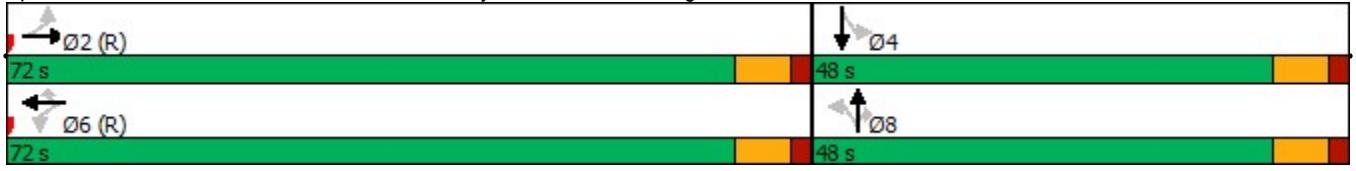
Intersection Signal Delay: 18.3 Intersection LOS: B

Intersection Capacity Utilization 61.0% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road



Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	112	81	58	39	311	775	788	123	184	175
Average Queue (ft)	54	29	17	9	118	348	380	54	84	85
95th Queue (ft)	114	73	49	33	319	966	993	112	167	167
Link Distance (ft)	1008					2759	2759		1068	1068
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		50		425	325			100		
Storage Blk Time (%)	29	9				14		3	4	
Queuing Penalty (veh)	10	5				13		19	4	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	EB	B5	B5	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	T		L	T	R	LT	R	LTR
Maximum Queue (ft)	37	338	249	153	74	199	837	28	490	200	70
Average Queue (ft)	7	165	100	10	5	76	460	2	329	125	21
95th Queue (ft)	29	290	232	155	104	191	810	33	491	249	59
Link Distance (ft)		866		728	728		1166		1002		954
Upstream Blk Time (%)				0	0						
Queuing Penalty (veh)				0	0						
Storage Bay Dist (ft)	125		150			100		125		100	
Storage Blk Time (%)		15	1			1	30		53	5	
Queuing Penalty (veh)		67	4			13	37		60	21	

Zone Summary

Zone wide Queuing Penalty: 252

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	91	62	88	153	98	179	198	30	183	200
Average Queue (ft)	45	23	40	86	42	91	126	5	92	98
95th Queue (ft)	87	54	82	152	91	160	192	23	170	182
Link Distance (ft)	1008		454			2759	2759		1068	1068
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		50		425	325			100		
Storage Blk Time (%)	19	6							5	
Queuing Penalty (veh)	6	3							0	

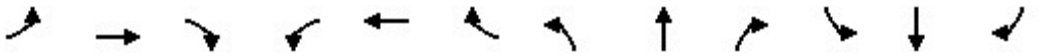
Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	EB	B5	B5	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	T		L	T	R	LT	R	LTR
Maximum Queue (ft)	52	407	250	629	242	159	354	77	427	200	65
Average Queue (ft)	11	229	77	77	20	49	179	6	239	91	23
95th Queue (ft)	47	373	246	414	202	124	319	57	414	217	61
Link Distance (ft)		866		728	728		1166		1002		954
Upstream Blk Time (%)				0	0						
Queuing Penalty (veh)				0	0						
Storage Bay Dist (ft)	125		150			100		125		100	
Storage Blk Time (%)		20				2	16		45	2	
Queuing Penalty (veh)		65				12	15		35	8	

Zone Summary

Zone wide Queuing Penalty: 145

2031 Build + Improvements Traffic Volumes

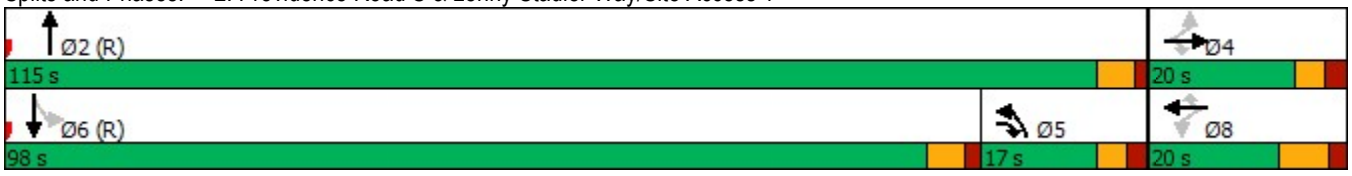


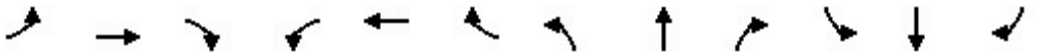
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	4	34	4	4	4	89	1533	17	39	1198	72
Future Volume (vph)	46	4	34	4	4	4	89	1533	17	39	1198	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
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
Frt			0.850			0.850		0.997			0.992	
Flt Protected		0.959			0.976		0.950			0.950		
Satd. Flow (prot)	0	1777	1575	0	1818	1583	1761	3511	0	1761	3493	0
Flt Permitted		0.744			0.768		0.950			0.109		
Satd. Flow (perm)	0	1379	1575	0	1431	1583	1761	3511	0	202	3493	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			785			2837			1141	
Travel Time (s)		20.6			53.5			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.88	0.50	0.50	0.88	0.90
Adj. Flow (vph)	51	8	38	8	8	8	99	1742	34	78	1361	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	38	0	16	8	99	1776	0	78	1441	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	20.0	20.0	17.0	20.0	20.0	20.0	17.0	115.0		98.0	98.0	
Total Split (%)	14.8%	14.8%	12.6%	14.8%	14.8%	14.8%	12.6%	85.2%		72.6%	72.6%	
Maximum Green (s)	14.6	14.6	11.7	13.0	13.0	13.0	11.7	109.7		92.7	92.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3		-2.0	-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0		3.3	5.0	
Lead/Lag			Lag				Lag			Lead	Lead	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		12.5	25.4		11.2	11.2	12.0	117.6		101.3	99.6	
Actuated g/C Ratio		0.09	0.19		0.08	0.08	0.09	0.87		0.75	0.74	
v/c Ratio		0.46	0.13		0.14	0.06	0.63	0.58		0.52	0.56	
Control Delay		69.2	43.5		58.6	56.2	65.6	2.2		14.1	4.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		69.2	43.5		58.6	56.2	65.6	2.2		14.1	4.2	
LOS		E	D		E	E	E	A		B	A	
Approach Delay		59.1			57.8			5.5			4.7	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		50	28		13	7	87	103		8	79	
Queue Length 95th (ft)		51	58		20	13	m130	m128		m8	m79	
Internal Link Dist (ft)		979			705			2757			1061	
Turn Bay Length (ft)			50			425	325			100		
Base Capacity (vph)		169	296		159	175	156	3058		151	2576	
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		0.35	0.13		0.10	0.05	0.63	0.58		0.52	0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 125 (93%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 71.5%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



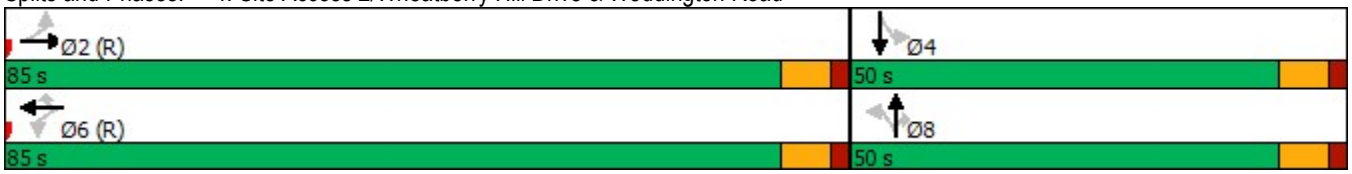


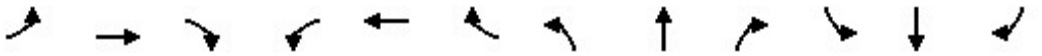
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	459	179	45	847	9	179	4	45	6	4	12
Future Volume (vph)	6	459	179	45	847	9	179	4	45	6	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
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			0.850			0.850			0.850		0.937	
Flt Protected	0.950			0.950				0.953			0.988	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1775	1583	0	1724	0
Flt Permitted	0.116			0.389				0.710			0.906	
Satd. Flow (perm)	216	1863	1583	725	1863	1583	0	1323	1583	0	1581	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.90	0.50	0.50	0.89	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	7	510	358	90	952	10	358	8	90	7	8	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	510	358	90	952	10	0	366	90	0	28	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			0			0	
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	Free	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		Free	6		6	8		8	4		
Detector Phase	2	2		6	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0	
Total Split (s)	85.0	85.0		85.0	85.0	85.0	50.0	50.0	50.0	50.0	50.0	
Total Split (%)	63.0%	63.0%		63.0%	63.0%	63.0%	37.0%	37.0%	37.0%	37.0%	37.0%	
Maximum Green (s)	78.0	78.0		78.0	78.0	78.0	43.0	43.0	43.0	43.0	43.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	83.6	83.6	135.0	83.6	83.6	83.6		41.4	41.4		41.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.62	0.62	1.00	0.62	0.62	0.62		0.31	0.31		0.31	
v/c Ratio	0.05	0.44	0.23	0.20	0.83	0.01		0.90	0.19		0.06	
Control Delay	6.2	8.3	0.3	13.6	28.8	11.3		70.4	34.2		31.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	6.2	8.3	0.3	13.6	28.8	11.3		70.4	34.2		31.5	
LOS	A	A	A	B	C	B		E	C		C	
Approach Delay		5.0			27.3			63.3			31.5	
Approach LOS		A			C			E			C	
Queue Length 50th (ft)	1	202	0	35	659	3		296	56		17	
Queue Length 95th (ft)	m2	m299	0	33	875	12		193	53		22	
Internal Link Dist (ft)		854			1128			1011			917	
Turn Bay Length (ft)	125		150	100		125			100			
Base Capacity (vph)	134	1153	1583	448	1153	980		441	527		527	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.05	0.44	0.23	0.20	0.83	0.01		0.83	0.17		0.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 68 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 26.1		Intersection LOS: C	
Intersection Capacity Utilization 69.7%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road



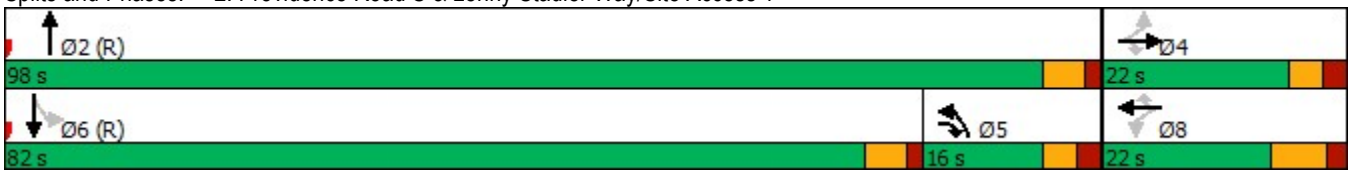


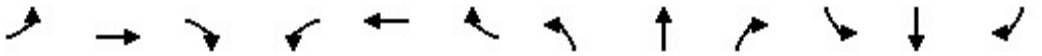
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	4	28	17	4	39	51	1370	4	4	1352	51
Future Volume (vph)	45	4	28	17	4	39	51	1370	4	4	1352	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			1%			1%	
Storage Length (ft)	0		50	0		425	325		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
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
Frt			0.850			0.850		0.999			0.995	
Flt Protected		0.959			0.961		0.950			0.950		
Satd. Flow (prot)	0	1777	1575	0	1790	1583	1761	3518	0	1761	3504	0
Flt Permitted		0.727			0.718		0.950			0.140		
Satd. Flow (perm)	0	1347	1575	0	1337	1583	1761	3518	0	259	3504	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			10			35			35	
Link Distance (ft)		1059			785			2837			1141	
Travel Time (s)		20.6			53.5			55.3			22.2	
Peak Hour Factor	0.90	0.50	0.90	0.50	0.50	0.50	0.90	0.89	0.50	0.50	0.89	0.90
Adj. Flow (vph)	50	8	31	34	8	78	57	1539	8	8	1519	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	31	0	42	78	57	1547	0	8	1576	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	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	4	4	5	8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0		10.0	10.0	
Minimum Split (s)	12.4	12.4	12.3	20.0	20.0	20.0	12.3	15.3		36.3	36.3	
Total Split (s)	22.0	22.0	16.0	22.0	22.0	22.0	16.0	98.0		82.0	82.0	
Total Split (%)	18.3%	18.3%	13.3%	18.3%	18.3%	18.3%	13.3%	81.7%		68.3%	68.3%	
Maximum Green (s)	16.6	16.6	10.7	15.0	15.0	15.0	10.7	92.7		76.7	76.7	
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	3.8		3.8	3.8	
All-Red Time (s)	2.4	2.4	2.3	2.0	2.0	2.0	2.3	1.5		1.5	1.5	
Lost Time Adjust (s)		-2.0	-0.3		-2.0	-2.0	-0.3	-0.3		-2.0	-0.3	
Total Lost Time (s)		3.4	5.0		5.0	5.0	5.0	5.0		3.3	5.0	
Lead/Lag			Lag				Lag			Lead	Lead	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)										7.0	7.0	
Flash Dont Walk (s)										24.0	24.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		14.4	25.6		13.1	13.1	10.3	100.7		89.2	87.9	
Actuated g/C Ratio		0.12	0.21		0.11	0.11	0.09	0.84		0.74	0.73	
v/c Ratio		0.36	0.09		0.29	0.45	0.38	0.52		0.04	0.61	
Control Delay		53.6	34.5		53.0	57.6	50.4	2.2		5.8	7.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		53.6	34.5		53.0	57.6	50.4	2.2		5.8	7.7	
LOS		D	C		D	E	D	A		A	A	
Approach Delay		47.0			56.0			3.9			7.7	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		42	19		30	57	44	80		1	204	
Queue Length 95th (ft)		45	43		35	56	m69	m97		m2	240	
Internal Link Dist (ft)		979			705			2757			1061	
Turn Bay Length (ft)			50			425	325			100		
Base Capacity (vph)		208	345		189	224	161	2951		192	2565	
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		0.28	0.09		0.22	0.35	0.35	0.52		0.04	0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 111 (93%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Providence Road S & Lenny Stadler Way/Site Access 1



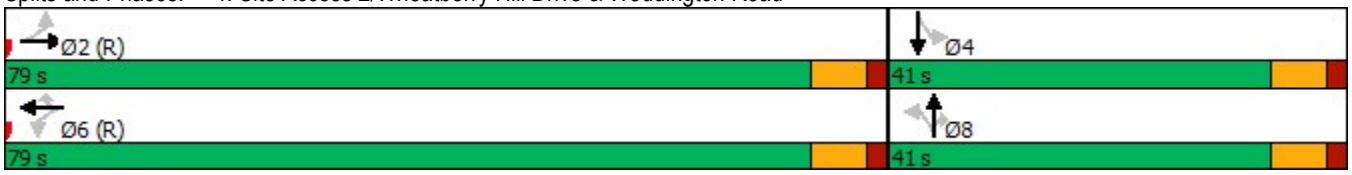


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	751	126	31	615	12	126	4	31	13	4	12
Future Volume (vph)	13	751	126	31	615	12	126	4	31	13	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		150	100		125	0		100	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
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			0.850			0.850			0.850		0.950	
Flt Protected	0.950			0.950				0.954			0.980	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	0	1777	1583	0	1734	0
Flt Permitted	0.310			0.221				0.707			0.848	
Satd. Flow (perm)	577	1863	1583	412	1863	1583	0	1317	1583	0	1501	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			10			25	
Link Distance (ft)		934			1208			1091			997	
Travel Time (s)		18.2			23.5			74.4			27.2	
Peak Hour Factor	0.90	0.89	0.50	0.50	0.90	0.90	0.50	0.50	0.50	0.90	0.50	0.90
Adj. Flow (vph)	14	844	252	62	683	13	252	8	62	14	8	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	844	252	62	683	13	0	260	62	0	35	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			0			0	
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	Free	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		Free	6		6	8		8	4		
Detector Phase	2	2		6	6	6	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0	
Total Split (s)	79.0	79.0		79.0	79.0	79.0	41.0	41.0	41.0	41.0	41.0	
Total Split (%)	65.8%	65.8%		65.8%	65.8%	65.8%	34.2%	34.2%	34.2%	34.2%	34.2%	
Maximum Green (s)	72.0	72.0		72.0	72.0	72.0	34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	80.8	80.8	120.0	80.8	80.8	80.8		29.2	29.2		29.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.67	1.00	0.67	0.67	0.67		0.24	0.24		0.24	
v/c Ratio	0.04	0.67	0.16	0.22	0.54	0.01		0.81	0.16		0.10	
Control Delay	4.2	11.2	0.1	11.7	13.2	8.2		61.8	34.5		33.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	4.2	11.2	0.1	11.7	13.2	8.2		61.8	34.5		33.0	
LOS	A	B	A	B	B	A		E	C		C	
Approach Delay		8.6			13.0			56.5			33.0	
Approach LOS		A			B			E			C	
Queue Length 50th (ft)	1	322	0	17	256	3		189	38		21	
Queue Length 95th (ft)	m2	m519	0	22	413	12		130	38		25	
Internal Link Dist (ft)		854			1128			1011			917	
Turn Bay Length (ft)	125		150	100		125			100			
Base Capacity (vph)	388	1254	1583	277	1254	1065		395	474		450	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.04	0.67	0.16	0.22	0.54	0.01		0.66	0.13		0.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 60 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road



Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	125	87	59	43	296	632	672	132	180	190
Average Queue (ft)	58	27	20	9	122	267	292	57	87	92
95th Queue (ft)	116	73	53	35	317	761	783	126	166	174
Link Distance (ft)	1008					2759	2759		1068	1068
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		50		425	325			100		
Storage Blk Time (%)	28	8				12		8	4	
Queuing Penalty (veh)	11	5				12		57	3	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	EB	B5	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	T	R	LT	R	LTR
Maximum Queue (ft)	21	276	235	220	186	920	25	349	200	74
Average Queue (ft)	4	148	57	19	66	502	3	209	81	27
95th Queue (ft)	19	251	180	213	185	1108	46	328	200	65
Link Distance (ft)		866		728		1166		1002		954
Upstream Blk Time (%)				0		8				
Queuing Penalty (veh)				0		0				
Storage Bay Dist (ft)	125		150		100		125		100	
Storage Blk Time (%)		11	1		0	30		48	3	
Queuing Penalty (veh)		41	4		1	30		44	11	

Zone Summary

Zone wide Queuing Penalty: 219

Intersection: 2: Providence Road S & Lenny Stadler Way/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	104	70	81	133	106	135	190	46	311	302
Average Queue (ft)	49	31	41	74	48	56	89	6	155	156
95th Queue (ft)	95	67	78	127	105	122	175	37	305	301
Link Distance (ft)	1008		721			2759	2759		1068	1068
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		50		425	325			100		
Storage Blk Time (%)	22	10							17	
Queuing Penalty (veh)	7	6							1	

Intersection: 4: Site Access 2/Wheatberry Hill Drive & Weddington Road

Movement	EB	EB	EB	B5	WB	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	T	R	LT	R	LTR
Maximum Queue (ft)	35	479	249	58	120	268	29	288	183	68
Average Queue (ft)	10	245	62	4	42	169	2	170	66	27
95th Queue (ft)	33	426	209	81	101	291	33	261	169	64
Link Distance (ft)		866		728		1166		1002		954
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	125		150		100		125		100	
Storage Blk Time (%)		17			1	12		41	1	
Queuing Penalty (veh)		45			10	9		25	3	

Zone Summary

Zone wide Queuing Penalty: 105

2040 Horizon Year Background Traffic Volumes

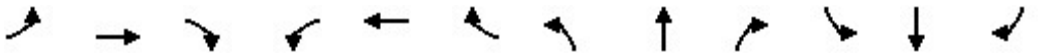
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	363	327	442	155	535	63	712	1371	152	63	1381	590
Future Volume (vph)	363	327	442	155	535	63	712	1371	152	63	1381	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		400	250		250	350		250	450		500
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1243			1501			1182			1356	
Travel Time (s)		24.2			29.2			17.9			20.5	
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
Adj. Flow (vph)	403	363	491	172	594	70	791	1523	169	70	1534	656
Shared Lane Traffic (%)												
Lane Group Flow (vph)	403	363	491	172	594	70	791	1523	169	70	1534	656
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)		24			24			24			24	
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	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	19.0	14.0	14.0	19.0	14.0
Total Split (s)	16.0	21.0	28.0	17.0	22.0	14.0	28.0	68.0	17.0	14.0	54.0	16.0
Total Split (%)	13.3%	17.5%	23.3%	14.2%	18.3%	11.7%	23.3%	56.7%	14.2%	11.7%	45.0%	13.3%
Maximum Green (s)	9.0	14.0	21.0	10.0	15.0	7.0	21.0	61.0	10.0	7.0	47.0	9.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	11.0	16.0	44.0	12.0	17.0	31.0	23.0	63.0	80.0	9.0	49.0	65.0
Actuated g/C Ratio	0.09	0.13	0.37	0.10	0.14	0.26	0.19	0.52	0.67	0.08	0.41	0.54
v/c Ratio	1.28	0.77	0.85	0.97	1.19	0.17	1.20	0.82	0.16	0.53	1.06	0.77
Control Delay	193.1	62.1	50.1	114.9	146.8	36.0	147.7	28.4	7.9	68.6	76.8	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	193.1	62.1	50.1	114.9	146.8	36.0	147.7	28.4	7.9	68.6	76.8	28.9
LOS	F	E	D	F	F	D	F	C	A	E	E	C
Approach Delay		99.4			131.0			65.0			62.6	
Approach LOS		F			F			E			E	
Queue Length 50th (ft)	~204	144	346	135	~291	42	~384	498	45	53	~688	382
Queue Length 95th (ft)	#306	#208	#535	#278	#408	82	#507	602	73	103	#827	548
Internal Link Dist (ft)		1163			1421			1102			1276	
Turn Bay Length (ft)	450		400	250		250	350		250	450		500
Base Capacity (vph)	314	471	580	177	501	408	657	1857	1055	132	1445	857
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.77	0.85	0.97	1.19	0.17	1.20	0.82	0.16	0.53	1.06	0.77

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 78.6 Intersection LOS: E
Intersection Capacity Utilization 100.3% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	590	535	713	153	327	63	442	1381	155	63	1371	363
Future Volume (vph)	590	535	713	153	327	63	442	1381	155	63	1371	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		400	250		250	350		250	450		500
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1243			1501			1182			1356	
Travel Time (s)		24.2			29.2			17.9			20.5	
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
Adj. Flow (vph)	656	594	792	170	363	70	491	1534	172	70	1523	403
Shared Lane Traffic (%)												
Lane Group Flow (vph)	656	594	792	170	363	70	491	1534	172	70	1523	403
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)		24			24			24			24	
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	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	19.0	14.0	14.0	19.0	14.0
Total Split (s)	24.0	24.0	30.0	15.0	15.0	14.0	30.0	67.0	15.0	14.0	51.0	24.0
Total Split (%)	20.0%	20.0%	25.0%	12.5%	12.5%	11.7%	25.0%	55.8%	12.5%	11.7%	42.5%	20.0%
Maximum Green (s)	17.0	17.0	23.0	8.0	8.0	7.0	23.0	60.0	8.0	7.0	44.0	17.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	19.0	19.0	49.0	10.0	10.0	24.0	25.0	62.0	77.0	9.0	46.0	70.0
Actuated g/C Ratio	0.16	0.16	0.41	0.08	0.08	0.20	0.21	0.52	0.64	0.08	0.38	0.58
v/c Ratio	1.21	1.06	1.23	1.16	1.23	0.22	0.69	0.84	0.17	0.53	1.12	0.44
Control Delay	153.2	103.4	147.7	170.7	176.8	42.4	49.6	30.1	9.2	68.6	100.8	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	153.2	103.4	147.7	170.7	176.8	42.4	49.6	30.1	9.2	68.6	100.8	15.8
LOS	F	F	F	F	F	D	D	C	A	E	F	B
Approach Delay		136.6			159.5			32.8			82.5	
Approach LOS		F			F			C			F	
Queue Length 50th (ft)	~319	~266	~756	~155	~182	46	182	514	50	53	~716	165
Queue Length 95th (ft)	#437	#384	#996	#297	#283	89	242	620	80	103	#856	241
Internal Link Dist (ft)		1163			1421			1102			1276	
Turn Bay Length (ft)	450		400	250		250	350		250	450		500
Base Capacity (vph)	543	560	646	147	294	316	715	1828	1015	132	1356	923
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.21	1.06	1.23	1.16	1.23	0.22	0.69	0.84	0.17	0.53	1.12	0.44

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 89.5 Intersection LOS: F
Intersection Capacity Utilization 103.0% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Providence Road S & Rae Road

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	500	550	1204	1203	488	350	1309	1275	350	400	450	1160
Average Queue (ft)	453	499	832	819	421	304	881	851	223	399	449	1124
95th Queue (ft)	584	641	1467	1473	594	453	1507	1478	476	404	456	1258
Link Distance (ft)			1182	1182			1439	1439				1115
Upstream Blk Time (%)			24	10			11	9				67
Queuing Penalty (veh)			0	0			0	0				0
Storage Bay Dist (ft)	450	450			400	250			250	350	350	
Storage Blk Time (%)	40	66	1	1	47	10	83	82		58	79	0
Queuing Penalty (veh)	73	120	4	5	84	30	143	57		441	598	0

Intersection: 3: Providence Road S & Rae Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (ft)	1141	182	550	1315	1331	600
Average Queue (ft)	1098	36	258	1192	1204	582
95th Queue (ft)	1247	139	664	1564	1591	697
Link Distance (ft)	1115			1287	1287	
Upstream Blk Time (%)	10			16	40	
Queuing Penalty (veh)	0			0	0	
Storage Bay Dist (ft)		250	450			500
Storage Blk Time (%)	6			56	52	4
Queuing Penalty (veh)	10			39	342	29

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	438	484	1218	1227	500	350	1252	1210	350	284	414	510
Average Queue (ft)	366	404	1188	1194	500	334	831	783	214	174	232	301
95th Queue (ft)	577	626	1287	1300	503	421	1395	1355	467	265	364	467
Link Distance (ft)			1182	1182			1439	1439				1115
Upstream Blk Time (%)			25	77			3	2				
Queuing Penalty (veh)			0	0			0	0				
Storage Bay Dist (ft)	450	450			400	250			250	350	350	
Storage Blk Time (%)	16	26	0	0	87	49	82	83			0	4
Queuing Penalty (veh)	48	76	2	0	260	89	139	58			1	20

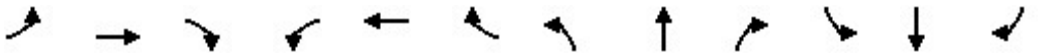
Intersection: 3: Providence Road S & Rae Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (ft)	505	348	550	1333	1326	600
Average Queue (ft)	297	81	254	1266	1270	590
95th Queue (ft)	461	273	665	1455	1457	703
Link Distance (ft)	1115			1287	1287	
Upstream Blk Time (%)				42	57	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		250	450			500
Storage Blk Time (%)	13			64	64	
Queuing Penalty (veh)	22			45	258	

Network Summary

Network wide Queuing Penalty: 1018

2040 Horizon Year Build Traffic Volumes



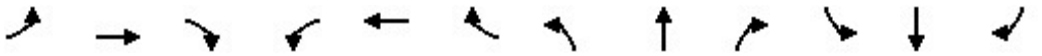
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	456	327	442	155	535	63	712	1418	152	63	1406	639
Future Volume (vph)	456	327	442	155	535	63	712	1418	152	63	1406	639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		400	250		250	350		250	450		500
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1243			1501			1182			1356	
Travel Time (s)		24.2			29.2			17.9			20.5	
Peak Hour Factor	0.82	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.90	0.90	0.89	0.87
Adj. Flow (vph)	556	363	491	172	594	70	791	1593	169	70	1580	734
Shared Lane Traffic (%)												
Lane Group Flow (vph)	556	363	491	172	594	70	791	1593	169	70	1580	734
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)		24			24			24			24	
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	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	19.0	14.0	14.0	19.0	14.0
Total Split (s)	21.0	22.0	27.0	20.0	21.0	14.0	27.0	64.0	20.0	14.0	51.0	21.0
Total Split (%)	17.5%	18.3%	22.5%	16.7%	17.5%	11.7%	22.5%	53.3%	16.7%	11.7%	42.5%	17.5%
Maximum Green (s)	14.0	15.0	20.0	13.0	14.0	7.0	20.0	57.0	13.0	7.0	44.0	14.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	16.0	17.5	44.5	14.5	16.0	30.0	22.0	59.0	78.5	9.0	46.0	67.0
Actuated g/C Ratio	0.13	0.15	0.37	0.12	0.13	0.25	0.18	0.49	0.65	0.08	0.38	0.56
v/c Ratio	1.22	0.70	0.84	0.80	1.26	0.18	1.26	0.92	0.16	0.53	1.17	0.83
Control Delay	160.0	57.2	48.9	78.5	176.3	36.8	169.2	37.8	8.4	68.6	117.3	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	160.0	57.2	48.9	78.5	176.3	36.8	169.2	37.8	8.4	68.6	117.3	31.9
LOS	F	E	D	E	F	D	F	D	A	E	F	C
Approach Delay		94.8			144.5			76.6			89.6	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~271	143	346	131	~303	43	~395	582	46	53	~764	447
Queue Length 95th (ft)	#333	197	#535	#242	#421	83	#519	686	75	103	#887	601
Internal Link Dist (ft)		1163			1421			1102			1276	
Turn Bay Length (ft)	450		400	250		250	350		250	450		500
Base Capacity (vph)	457	516	587	221	471	395	629	1740	1042	132	1356	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	0.70	0.84	0.78	1.26	0.18	1.26	0.92	0.16	0.53	1.17	0.83

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.26
Intersection Signal Delay: 92.4 Intersection LOS: F
Intersection Capacity Utilization 103.6% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Providence Road S & Rae Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	628	535	713	153	327	63	442	1401	155	63	1416	452
Future Volume (vph)	628	535	713	153	327	63	442	1401	155	63	1416	452
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		400	250		250	350		250	450		500
Storage Lanes	2		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1243			1501			1182			1356	
Travel Time (s)		24.2			29.2			17.9			20.5	
Peak Hour Factor	0.88	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.90	0.90	0.89	0.82
Adj. Flow (vph)	714	594	792	170	363	70	491	1574	172	70	1591	551
Shared Lane Traffic (%)												
Lane Group Flow (vph)	714	594	792	170	363	70	491	1574	172	70	1591	551
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)		24			24			24			24	
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	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	19.0	14.0	14.0	19.0	14.0
Total Split (s)	25.0	24.0	28.0	16.0	15.0	14.0	28.0	66.0	16.0	14.0	52.0	25.0
Total Split (%)	20.8%	20.0%	23.3%	13.3%	12.5%	11.7%	23.3%	55.0%	13.3%	11.7%	43.3%	20.8%
Maximum Green (s)	18.0	17.0	21.0	9.0	8.0	7.0	21.0	59.0	9.0	7.0	45.0	18.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	20.0	19.0	47.0	11.0	10.0	24.0	23.0	61.0	77.0	9.0	47.0	72.0
Actuated g/C Ratio	0.17	0.16	0.39	0.09	0.08	0.20	0.19	0.51	0.64	0.08	0.39	0.60
v/c Ratio	1.25	1.06	1.28	1.05	1.23	0.22	0.75	0.88	0.17	0.53	1.15	0.58
Control Delay	167.4	103.4	169.6	136.9	176.8	42.4	53.7	33.0	9.2	68.6	109.9	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.4	103.4	169.6	136.9	176.8	42.4	53.7	33.0	9.2	68.6	109.9	17.8
LOS	F	F	F	F	F	D	D	C	A	E	F	B
Approach Delay		150.1			149.9			35.7			85.6	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	~355	~266	~777	~143	~182	46	186	549	50	53	~761	247
Queue Length 95th (ft)	#460	#384	#1017	#285	#283	89	247	647	80	103	#884	301
Internal Link Dist (ft)		1163			1421			1102			1276	
Turn Bay Length (ft)	450		400	250		250	350		250	450		500
Base Capacity (vph)	572	560	620	162	294	316	657	1798	1015	132	1386	949
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.25	1.06	1.28	1.05	1.23	0.22	0.75	0.88	0.17	0.53	1.15	0.58

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 94.4 Intersection LOS: F
Intersection Capacity Utilization 104.3% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Providence Road S & Rae Road

Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	500	550	1213	1212	420	350	1464	1469	350	400	450	1161
Average Queue (ft)	493	544	1021	959	304	315	1169	1141	259	399	449	1136
95th Queue (ft)	527	574	1494	1519	484	473	1691	1678	495	402	452	1155
Link Distance (ft)			1182	1182			1439	1439				1115
Upstream Blk Time (%)			47	13			34	30				69
Queuing Penalty (veh)			0	0			0	0				0
Storage Bay Dist (ft)	450	450			400	250			250	350	350	
Storage Blk Time (%)	54	82	0	1	9	1	93	92		59	80	0
Queuing Penalty (veh)	97	148	0	4	17	2	160	64		471	636	2

Intersection: 3: Providence Road S & Rae Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (ft)	1136	279	550	1322	1330	600
Average Queue (ft)	1107	57	276	1273	1283	598
95th Queue (ft)	1187	205	693	1451	1461	644
Link Distance (ft)	1115			1287	1287	
Upstream Blk Time (%)	10			25	54	
Queuing Penalty (veh)	0			0	0	
Storage Bay Dist (ft)		250	450			500
Storage Blk Time (%)	10			62	61	3
Queuing Penalty (veh)	18			43	447	21

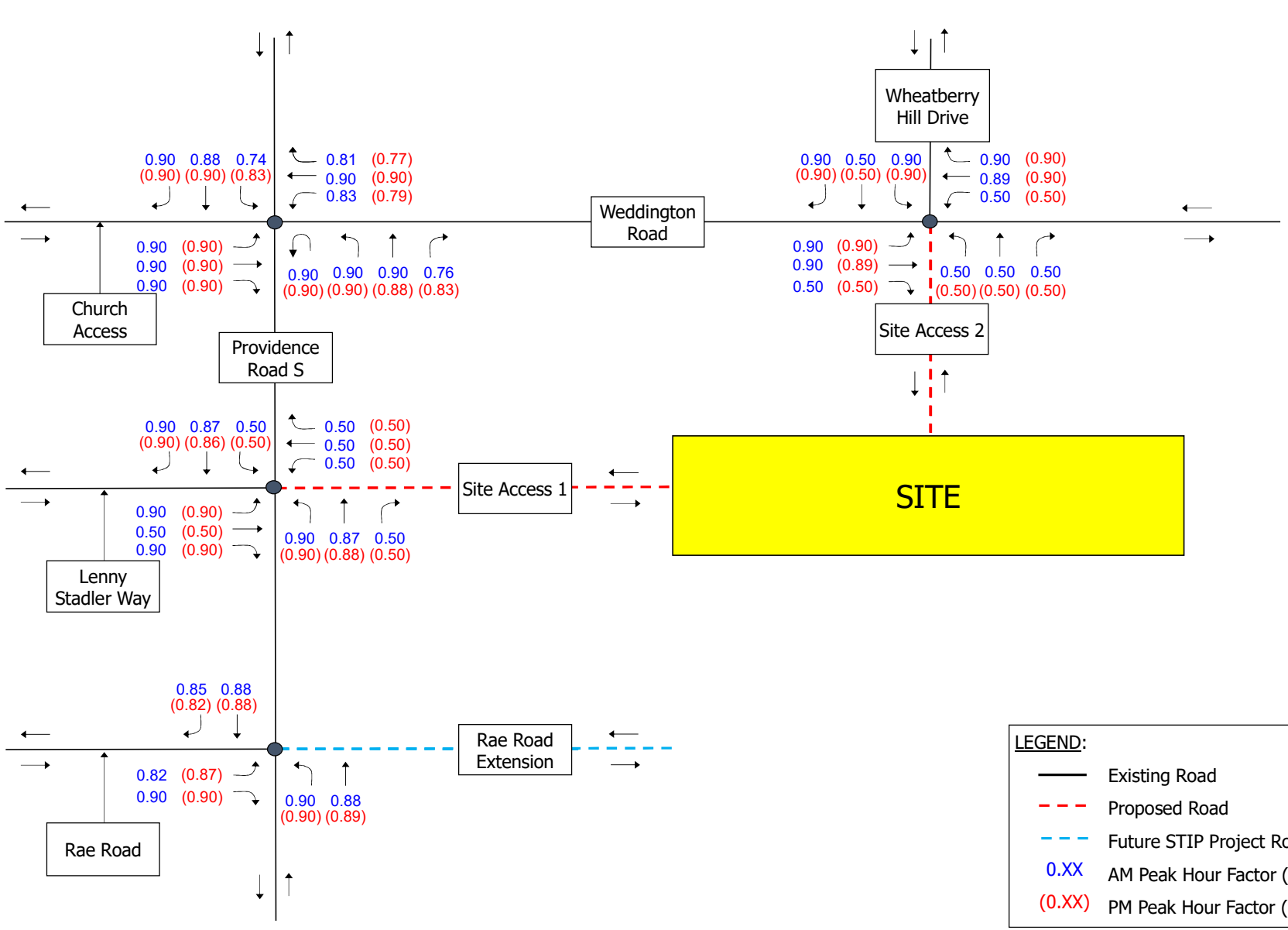
Intersection: 3: Providence Road S & Rae Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	440	481	1213	1226	500	350	1101	1070	324	278	366	502
Average Queue (ft)	341	380	1190	1202	500	328	702	664	213	184	234	311
95th Queue (ft)	576	615	1329	1218	503	417	1218	1175	465	270	358	490
Link Distance (ft)			1182	1182			1439	1439				1115
Upstream Blk Time (%)			23	79			0	0				
Queuing Penalty (veh)			0	0			0	0				
Storage Bay Dist (ft)	450	450			400	250			250	350	350	
Storage Blk Time (%)	8	18	0		90	27	82	81			0	5
Queuing Penalty (veh)	24	54	0		266	49	139	56			1	22

Intersection: 3: Providence Road S & Rae Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (ft)	488	324	550	1322	1329	600
Average Queue (ft)	306	88	238	1290	1292	586
95th Queue (ft)	481	280	648	1404	1406	722
Link Distance (ft)	1115			1287	1287	
Upstream Blk Time (%)				34	57	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		250	450			500
Storage Blk Time (%)	14			62	62	
Queuing Penalty (veh)	24			43	341	

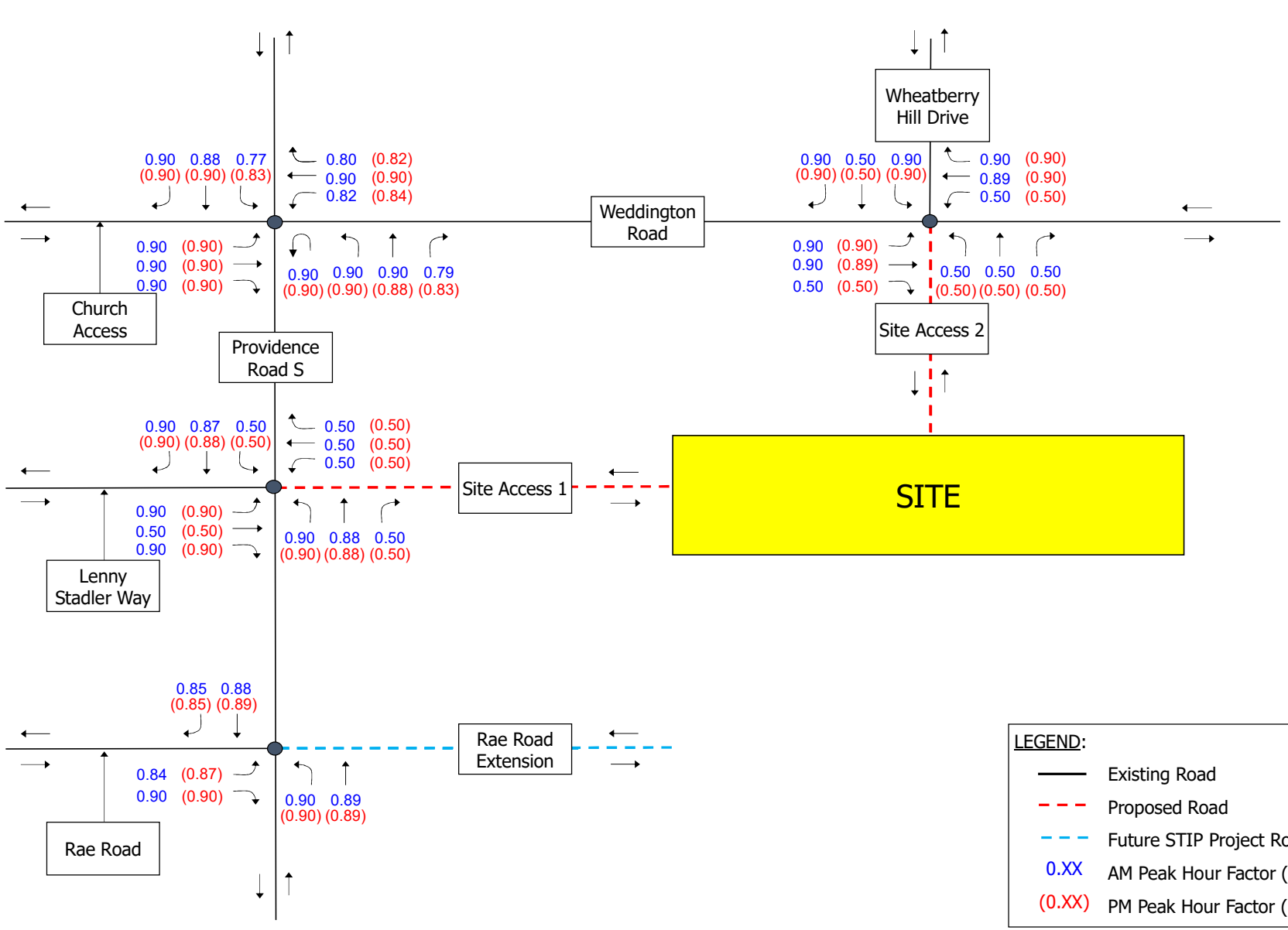
Appendix E – Weighted Peak Hour Factors



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Liberty Classical Academy
Traffic Impact Analysis
High School Peak Hour Factors

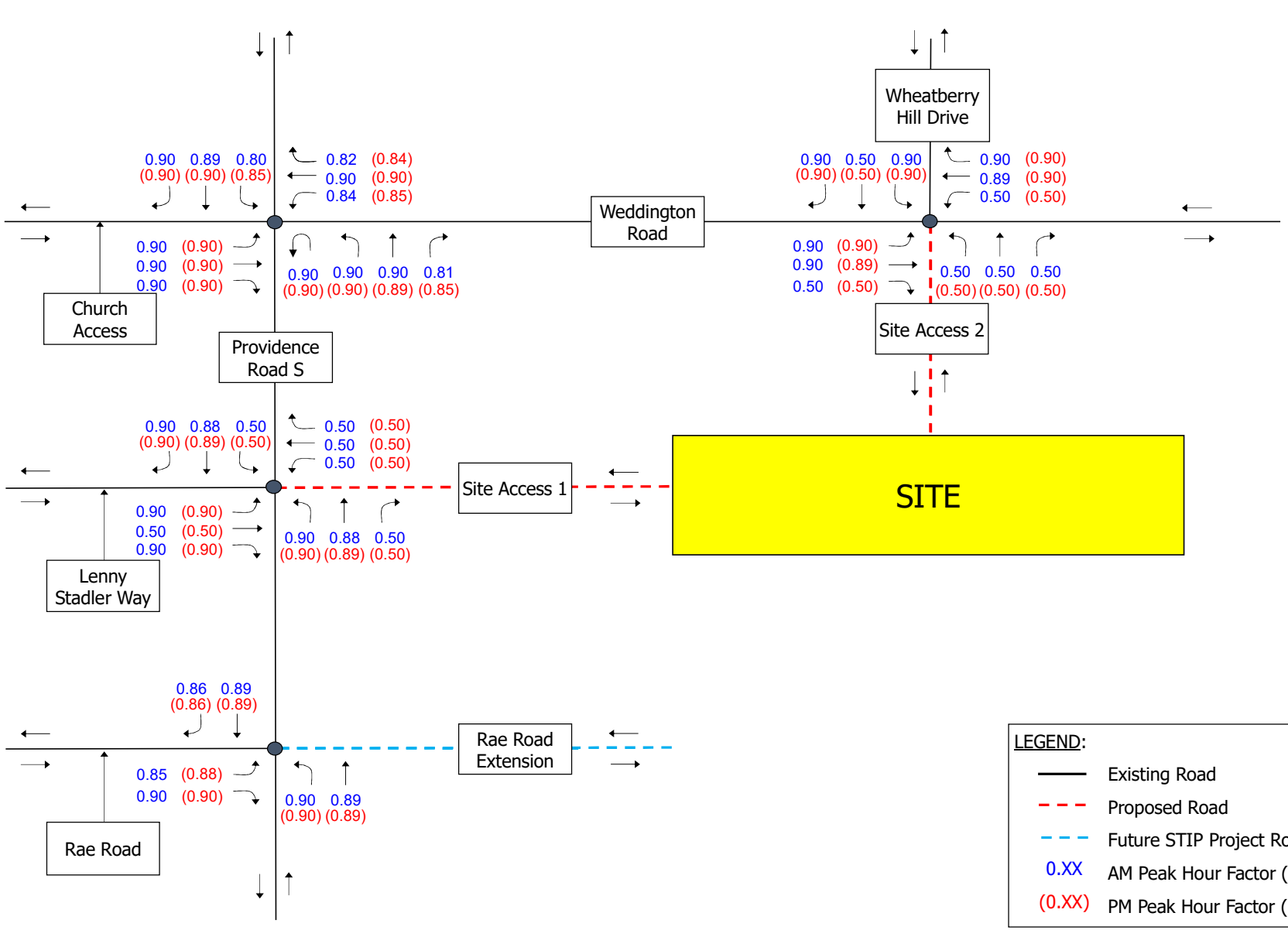
Figure E-1



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Liberty Classical Academy
Traffic Impact Analysis
Middle School Peak Hour Factors

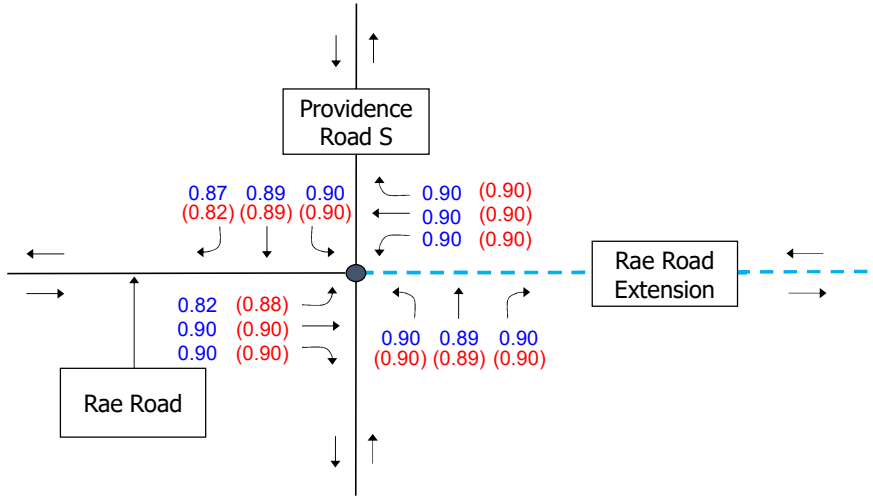
Figure E-2



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Liberty Classical Academy
Traffic Impact Analysis
Elementary School Peak Hour Factors

Figure E-3



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Liberty Classical Academy
Traffic Impact Analysis
Horizon Year Peak Hour Factors

Figure E-4

Appendix F – MSTA School Calculator

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Liberty Classical Academy - Elementary School

Type: **Urban Charter**

Version: 04012021

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input / Calculations

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers	PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
										30%
K - 10	400	6	50		157	77	1709	504	370	2221
11th										
12th										
Sum >>	400	6	50		157	77	1709	504	370	2221
										513

Grade K-10

Direction	AM Trips Generated Parents	Buses	Staff	Trips	PM Trips Generated Parents	Buses	Staff	Trips
IN	224	6	50	280	157			157
OUT	224			224	157	6	50	213
		AM K-10 Trips		**504**		PM K-10 Trips		**370**

ADT
874

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 11th Trips					PM 11th Trips		

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 12th Trips					PM 12th Trips		

All AM TRIPS		
	In	280
	Out	224
	Total	504

All PM TRIPS		
	In	157
	Out	213
	Total	370

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

Calculated 4/7/2023 By:_____

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Liberty Classical Academy - High School

Type: **Urban Charter**

Version: 04012021

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input / Calculations

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers	PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
										30%
K - 10	300	4	37		118	58	1287	377	277	1673
11th	150	3	17	48	53	25	555	175	174	721
12th	150	2	15	128	21	12	274	163	187	357
Sum >>	600	9	69	176	192	95	2116	714	638	2751
										636

Grade K-10

Direction	AM Trips Generated Parents	Buses	Staff	Trips	PM Trips Generated Parents	Buses	Staff	Trips
IN	168	4	37	209	118			118
OUT	168			168	118	4	37	159
		AM K-10 Trips		377		PM K-10 Trips		277

Grade 11

Direction	AM Trips Generated Parents	Buses	Staff	Student Dvr	Trips	PM Trips Generated Parents	Buses	Staff	Student Dvr	Trips
IN	58	3	17	39	117	53				53
OUT	58				58	53	3	17	48	121
			AM 11th Trips		175			PM 11th Trips		174

Grade 12

Direction	AM Trips Generated Parents	Buses	Staff	Student Dvr	Trips	PM Trips Generated Parents	Buses	Staff	Student Dvr	Trips
IN	21	2	15	103	141	21				21
OUT	21				21	21	2	15	128	166
			AM 12th Trips		163			PM 12th Trips		187

All AM TRIPS			All PM TRIPS		
	In	467		In	192
	Out	247		Out	446
	Total	714		Total	638

ADT
654
349
350
1352

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

Calculated 4/7/2023 By:_____

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Liberty Classical Academy - Middle School

Type: **Urban Charter**

Version: 04012021

AM Cars / Student	PM Cars / Student	Avg. Car Length	PM At one Time
55.94%	39.15%	22.19	48.67%
52.91%	47.50%	22.19	46.12%
50.08%	47.58%	22.83	55.71%

MSTA School Queue Input

Grade Level	Student Population	Number of Buses	Staff Members	Student Drivers
K - 10	500	7	62	
11th				
12th				
Sum >>	500	7	62	

Calculations

PM Total Vehicles	PM Peak Vehicles	Average Queue Length	Total AM Trips	Total PM Trips	High Demand Length
					30%
196	96	2130	628	461	2769
196	96	2130	628	461	2769
					639

Grade K-10

Direction	AM Trips Generated Parents	Buses	Staff	Trips	PM Trips Generated Parents	Buses	Staff	Trips
IN	280	7	62	349	196			196
OUT	280			280	196	7	62	265
		AM K-10 Trips		**628**		PM K-10 Trips		**461**

ADT
1089

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 11th Trips					PM 11th Trips		

Direction	AM Trips Generated Parents	Buses	Staff		Trips	PM Trips Generated Parents	Buses	Staff		Trips
IN										
OUT										
			AM 12th Trips					PM 12th Trips		

All AM TRIPS		
	In	349
	Out	280
	Total	628

All PM TRIPS		
	In	196
	Out	265
	Total	461

NOTES

- **Average Queue Length does not** include an alternative traffic pattern required for high traffic demand days which is usually 30% additional length.
- **Average Queue Length does not** include the Student Loading Zone.
- Peak traffic volumes at schools normally occur within a 30-minute time period. (justifying a PHF of 0.5)

Calculated 4/7/2023 By:_____

Appendix G – Traffic Management Plans

Liberty Classical Academy
June 8, 2023

Liberty Classical Academy High School Transportation Management Plan (TMP)

The Transportation Management Plan (TMP) informs staff, parents, and visitors how to efficiently implement school traffic operations. This document may be shared with neighboring residences for informational purposes. It provides a traffic flow pattern and layout for average and high demand days. School traffic operations, such as short-term parking, loading, and unloading operations, should occur only within the designated areas – see **Figure 7-3**.

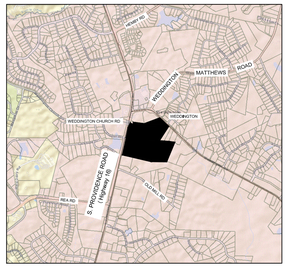
- High School parents should follow the provided plan and only drop off and pick up children in designated unloading / loading zones located on school property.
- **High School parents should not enter the campus 30 minutes prior to the AM or PM bell. This will be enforced by the school.**
- High School parents should only enter the school property via the site access off Weddington Road (Site Access 2) – see **Figure 7-3**.
- Upon entering via Site Access 2, High School parents should continue southwest, turn left at the roundabout, and continue travelling south and west towards the library.
- Upon reaching the library, High School parents should turn right (north) towards unloading / loading zone.
- After performing the right-turning maneuver, High School parents should double-stack (following the queue shown in **Figure 7-3**) until reaching the stop line between the middle school and high school buildings.
- Upon reaching the stop line High School parents are to wait until a school official directs them to pull forward into one single stack lane to approach the unloading / loading zones.
- For both unloading and loading, a school official will direct the first five (5) queued vehicles to pull forward and park in the unloading / loading zones.
- A school official will supervise unloading / loading to ensure the High School students' safety and help expedite the process.
- When a High School student needs longer time to unload / load, or the High School student is to be picked up early, High School parents should use the short-term visitors parking spaces located in front of the high school, south of the unloading / loading zone.
- After dropping off / picking up High School students, High School parents should travel towards the roundabout where they will turn right onto Site Access 2. High School parents will then exit onto Weddington Road only via Site Access 2 – see **Figure 7-3**.
- If needed, implement an "Advanced Identification" loading process during the PM student loading. To better organize and speed-up the student loading, this process will require the placement of a loading assistant (staff member, parent volunteer, or identified student patrol) prior to the student loading zone. It will be the loading assistant's responsibility to determine the name of the next student to be loaded. This can be accomplished by having High School parents display their student's name on a flash card (placed in the car's windshield) or by asking the High School parent. Once the information is obtained, it is forwarded (typically by walkie-talkie or megaphone) to a different loading assistant who has access to the High School students. When High School parents reach the loading zone, the High School student should be waiting next to the curb, ready to enter the vehicle. A third loading assistant should be stationed at the loading zone to supervise and ensure safe operations.
- All walkers and bicyclists should be released prior to the beginning of carpool operations. School officials will direct walkers and bicyclists to follow safe paths and not conflict with vehicular traffic.
- Visitors parking at the school should enter / exit via Site Access 2.

- Faculty / Buses should enter / exit only via Site Access 1 (off Providence Road).
- Staff should enter / exit prior to / following High School parent unloading / loading operations.
- Student drivers should only enter / exit only via Site Access 2.
- (Arriving) Student drivers should travel westbound through the roundabout onto Site Access 1 where they will turn left (south) into the student parking lot.
- (Departing) Student drivers should turn right onto Site Access 1 (from the student parking lot) towards the roundabout, travel through the roundabout (northeast) onto Site Access 2, then exit onto Weddington Road.
- In the event that all students (High School, Middle School, and Elementary School) are dismissed simultaneously:
    - All student drivers should be dismissed first.
    - All parents should enter via Site Access 2.
    - All parents should maintain the typical pattern described above until reaching the double stack queue west of the library. At this point, Elementary School parents should utilize the right lane while High School / Middle School parents utilize either lane.
    - Once parents reach the intersection north of the Cafeteria, Elementary School parents should turn right and double stack until reaching the Elementary School stop line, while High School / Middle School parents should continue straight and double stack until reaching the High School / Middle School stop line.
    - High School / Middle School parents should exit the site in the typical manner described above and Elementary School parents should exit the site as described in the Liberty Classical Academy Elementary School TMP.
    - Site Access 1 should be reserved for buses. Liberty Classical Academy should develop a bus plan specific to simultaneous submittal.
    - Staff should not leave until students have been fully dismissed.

LIBERTY CLASSICAL ACADEMY

TOWN OF WEDDINGTON, NC

4/11/2023



1"=100'

WEDDINGTON ROAD

WEDDINGTON MATTHEWS ROAD

L10

L11

S51°09'28"E 316.88'

L8

L7

N1°20'07"W 430.07'

Weddington Road

WHEATBERRY HILL DRIVE

WEDDINGTON ROAD (NC 84)

S45°50'43"E 785.12'

L18

CHURCH ROAD

WEDDINGTON

S80°51'49"E 456.26'

L5

L6

N20°50'51"E 181.80'

N14°12'18"E 389.97'

OPEN SPACE (NATURAL AREA)

STREAM

330'

350'

350'

BASEBALL FIELD

MULTI-USE FIELD

OPEN SPACE (NATURAL AREA)

STREAM

Parent / Student Driver Entrance / Exit (Site Access 2)

S24°30'

MULTI-USE FIELD

300'

MULTI-USE FIELD

300'

150'

Bus Parking

Bus / Staff Entrance / Exit (Site Access 1)

L4

LENNY STADLER WAY

PRIVATE ACCESS ROAD

Install Signs Stating That Vehicles Should Not Block Internal Roundabout

Parent Loading / Unloading Zone

Student Parking

ES

*Queue Measured From Here

AMENTIZED WATER QUALITY POND

TENNIS COURTS

ADMINISTRATION

Liberty Classical Academy High School

HS

CAFETERIA

OUTDOOR DINING

GYMNASIUM

TRAINING

LIBRARY

STUDY AREA

ARTS/ MEDIA

NATATORIUM

FOOTBALL FIELD

S85°36'50"E 207.69'

BLUEBIRD LANE

Short-Term Parking

Staff Parking

Providence Road S

S75°41'08"E 801.10'

660.45'

Access Temporarily Blocked During Loading / Unloading Operations

S88°12'37"E 594.11'

S 68°48'55" 185.19'

745.30'

S 68°47'07" E 309.84'

LEGEND

- Parents Entrance Route
- Parents Exit Route
- School Bus Route
- Staff Member Position

Liberty Classical Academy High School Conditions:

600 Students Core Capacity
2,116 Feet Average Queue
2,751 Feet High Demand Queue

This Design Provides:

Single-Stack Queue Provided: 1,160 Feet
Double-Stack Queue Provided: 1,640 Feet*
Total Queue Provided: 2,800 Feet

Liberty Classical Academy
June 8, 2023

Liberty Classical Academy Middle School Transportation Management Plan (TMP)

The Transportation Management Plan (TMP) informs staff, parents, and visitors how to efficiently implement school traffic operations. This document may be shared with neighboring residences for informational purposes. It provides a traffic flow pattern and layout for average and high demand days. School traffic operations, such as short-term parking, loading, and unloading operations, should occur only within the designated areas – see **Figure 7-4**.

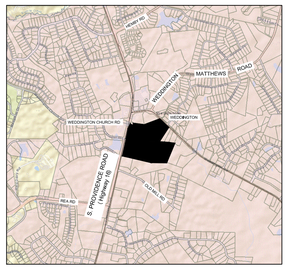
- Middle School parents should follow the provided plan and only drop off and pick up children in designated unloading / loading zones located on school property.
- **Middle School parents should not enter the campus 30 minutes prior to the AM or PM bell. This will be enforced by the school.**
- Middle School parents should only enter the school property via the site access off Weddington Road (Site Access 2) – see **Figure 7-4**.
- Upon entering via Site Access 2, Middle School parents should continue southwest, turn left at the roundabout, and continue travelling south and west towards the library.
- Upon reaching the library, Middle School parents should turn right (north) towards unloading / loading zone.
- After performing the right-turning maneuver, Middle School parents should double-stack (following the queue shown in **Figure 7-4**) until reaching the stop line between the middle school and high school buildings.
- Upon reaching the stop line Middle School parents are to wait until a school official directs them to pull forward into one single stack lane to approach the unloading / loading zones.
- For both unloading and loading, a school official will direct the first five (5) queued vehicles to pull forward and park in the unloading / loading zones.
- A school official will supervise unloading / loading to ensure the Middle School students' safety and help expedite the process.
- When a Middle School student needs longer time to unload / load, or the Middle School student is to be picked up early, Middle School parents should use the short-term visitors parking spaces located in front of the high school, south of the unloading / loading zone.
- After dropping off / picking up Middle School students, Middle School parents should travel towards the roundabout where they will turn right onto Site Access 2. Middle School parents will then exit onto Weddington Road only via Site Access 2 – see **Figure 7-4**.
- If needed, implement an "Advanced Identification" loading process during the PM Middle School student loading. To better organize and speed-up the Middle School student loading, this process will require the placement of a loading assistant (staff member, parent volunteer, or identified student patrol) prior to the Middle School student loading zone. It will be the loading assistant's responsibility to determine the name of the next Middle School student to be loaded. This can be accomplished by having Middle School parents display their Middle School student's name on a flash card (placed in the car's windshield) or by asking the Middle School parent. Once the information is obtained, it is forwarded (typically by walkie-talkie or megaphone) to a different loading assistant who has access to the Middle School students. When Middle School parents reach the loading zone, the Middle School student should be waiting next to the curb, ready to enter the vehicle. A third loading assistant should be stationed at the loading zone to supervise and ensure safe operations.
- All walkers and bicyclists should be released prior to the beginning of carpool operations. School officials will direct walkers and bicyclists to follow safe paths and not conflict with vehicular traffic.

- Visitors parking at the school should enter / exit via Site Access 2.
- Faculty / Buses should enter / exit only via Site Access 1 (off Providence Road).
- Staff should enter / exit prior to / following Middle School parent unloading / loading operations.
- In the event that all students (High School, Middle School, and Elementary School) are dismissed simultaneously:
    - All student drivers should be dismissed first.
    - All parents should enter via Site Access 2.
    - All parents should maintain the typical pattern described above until reaching the double stack queue west of the library. At this point, Elementary School parents should utilize the right lane while High School / Middle School parents utilize either lane.
    - Once parents reach the intersection north of the Cafeteria, Elementary School parents should turn right and double stack until reaching the Elementary School stop line, while High School / Middle School parents should continue straight and double stack until reaching the High School / Middle School stop line.
    - High School / Middle School parents should exit the site in the typical manner described above and Elementary School parents should exit the site as described in the Liberty Classical Academy Elementary School TMP.
    - Site Access 1 should be reserved for buses. Liberty Classical Academy should develop a bus plan specific to simultaneous submittal.
    - Staff should not leave until students have been fully dismissed.

LIBERTY CLASSICAL ACADEMY

TOWN OF WEDDINGTON, NC

4/11/2023



1"=100'

WEDDINGTON ROAD

WEDDINGTON MATTHEWS ROAD

L10

L11

L8

L7

S51°09'28"E 316.88'

N1°20'7.36"W 430.07'

Weddington Road

WHEATBERRY HILL DRIVE

WEDDINGTON ROAD (NC 84)

S45°50'43"E 785.12'

CHURCH ROAD

WEDDINGTON

S80°51'49"E 456.26'

L5

L6

N20°50'51"E 181.80'

N14°12'18"E 389.97'

N14°20'47"E 424.54'

L4

L2

L1

L18

OPEN SPACE (NATURAL AREA)

STREAM

BASEBALL FIELD

330'

360'

330'

MULTI-USE FIELD

MULTI-USE FIELD

MULTI-USE FIELD

300'

300'

160'

OPEN SPACE (NATURAL AREA)

STREAM

PRIVATE ACCESS ROAD

Bus Parking

Parent Entrance / Exit (Site Access 2)

Bus / Staff Entrance / Exit (Site Access 1)

Install Signs Stating That Vehicles Should Not Block Internal Roundabout

*Queue Measured From Here

Liberty Classical Academy Middle School

MS

HS

ES

ADMINISTRATION

CAFETERIA

OUTDOOR DINING

GYMNASIUM

TRAINING

LIBRARY

STUDY AREA

ARTS/ MEDIA

NATATORIUM

TENNIS COURTS

AMENTIZED WATER QUALITY POND

FOOTBALL FIELD

Parent Loading / Unloading Zone

Short-Term Parking

Staff Parking

Access Temporarily Blocked During Loading / Unloading Operations

LENNY STADLER WAY

BLUEBIRD LANE

Providence Road S

S. PROVIDENCE ROAD (Highway 16)

S75°41'08"E 801.

660.45'

S88°12'37"E 594.11'

S24°30'

S85°36'50"E 207.69'

S 68°48'55" E 745.30'

S 68°47'07" E 309.84'

LEGEND

- Parents Entrance Route
- Parents Exit Route
- School Bus Route
- Staff Member Position

Liberty Classical Academy Middle School Conditions:

500 Students Core Capacity
2,130 Feet Average Queue
2,769 Feet High Demand Queue

This Design Provides:

Single-Stack Queue Provided: 1,160 Feet
Double-Stack Queue Provided: 1,640 Feet*
Total Queue Provided: 2,800 Feet

Liberty Classical Academy
June 8, 2023

Liberty Classical Academy Elementary School Transportation Management Plan (TMP)

The Transportation Management Plan (TMP) informs staff, parents, and visitors how to efficiently implement school traffic operations. This document may be shared with neighboring residences for informational purposes. It provides a traffic flow pattern and layout for average and high demand days. School traffic operations, such as short-term parking, loading, and unloading operations, should occur only within the designated areas – see **Figure 7-5**.

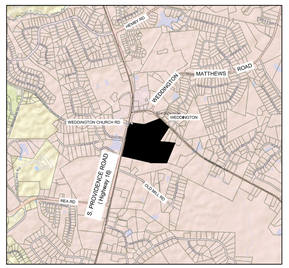
- Elementary School parents should follow the provided plan and only drop off and pick up children in designated unloading / loading zones located on school property.
- **Elementary School parents should not enter the campus 30 minutes prior to the AM or PM bell. This will be enforced by the school.**
- Elementary School parents should only enter the school property via the site access off Weddington Road (Site Access 2) – see **Figure 7-5**.
- Upon entering via Site Access 2, Elementary School parents should continue southwest, turn left at the roundabout, and continue travelling south and west towards the library.
- Upon reaching the library, Elementary School parents should turn right (north) towards cafeteria.
- Upon reaching the cafeteria, Elementary School parents should turn right (east) towards unloading / loading zone.
- After performing the right-turning maneuver, Elementary School parents should single-stack (following the queue shown in **Figure 7-5**) until reaching the stop line near the elementary school building.
- Upon reaching the stop line Elementary School parents are to wait until a school official directs them to pull forward into one single stack lane to approach the unloading / loading zones.
- For both unloading and loading, a school official will direct the first five (5) queued vehicles to pull forward and park in the unloading / loading zones.
- A school official will supervise unloading / loading to ensure the Elementary School students' safety and help expedite the process.
- When an Elementary School student needs longer time to unload / load, or the Elementary School student is to be picked up early, Elementary School parents should use the short-term visitors parking spaces located in front of the elementary school.
- After dropping off / picking up Elementary School students, Elementary School parents should travel towards the roundabout where they will turn right onto Site Access 2. Elementary School parents will then exit onto Weddington Road only via Site Access 2 – see **Figure 7-5**.
- If needed, implement an "Advanced Identification" loading process during the PM Elementary School student loading. To better organize and speed-up the Elementary School student loading, this process will require the placement of a loading assistant (staff member, parent volunteer, or identified student patrol) prior to the Elementary School student loading zone. It will be the loading assistant's responsibility to determine the name of the next Elementary School student to be loaded. This can be accomplished by having Elementary School parents display their Elementary School student's name on a flash card (placed in the car's windshield) or by asking the Elementary School parent. Once the information is obtained, it is forwarded (typically by walkie-talkie or megaphone) to a different loading assistant who has access to the Elementary School students. When Elementary School parents reach the loading zone, the Elementary School student should be waiting next to the curb, ready to enter the vehicle. A third loading assistant should be stationed at the loading zone to supervise and ensure safe operations.

- All walkers and bicyclists should be released prior to the beginning of carpool operations. School officials will direct walkers and bicyclists to follow safe paths and not conflict with vehicular traffic.
- Visitors parking at the school should enter / exit via Site Access 2.
- Faculty / Buses should enter / exit only via Site Access 1 (off Providence Road).
- Staff should enter / exit prior to / following Elementary School parent unloading / loading operations.
- In the event that all students (High School, Middle School, and Elementary School) are dismissed simultaneously:
    - All student drivers should be dismissed first.
    - All parents should enter via Site Access 2.
    - All parents should maintain the typical pattern described above until reaching the double stack queue west of the library. At this point, Elementary School parents should utilize the right lane while High School / Middle School parents utilize either lane.
    - Once parents reach the intersection north of the Cafeteria, Elementary School parents should turn right and double stack until reaching the Elementary School stop line, while High School / Middle School parents should continue straight and double stack until reaching the High School / Middle School stop line.
    - Elementary School parents should exit the site in the typical manner described above and High School / Middle School parents should exit the site as described in the Liberty Classical Academy High / Middle School TMPs.
    - Site Access 1 should be reserved for buses. Liberty Classical Academy should develop a bus plan specific to simultaneous submittal.
    - Staff should not leave until students have been fully dismissed.

LIBERTY CLASSICAL ACADEMY

TOWN OF WEDDINGTON, NC

4/11/2023



1"=100'

WEDDINGTON ROAD

WEDDINGTON MATTHEWS ROAD

L10

L11

S51°09'28"E 316.88'

L8

L7

N1°20'36"W 430.07'

Weddington Road

WHEATBERRY HILL DRIVE

WEDDINGTON ROAD (NC 84)

S45°50'43"E 785.12'

L18

CHURCH ROAD

WEDDINGTON

S80°51'49"E 456.26'

L5

L6

N20°50'51"E 181.80'

N14°12'18"E 389.97'

OPEN SPACE (NATURAL AREA)

STREAM

BASEBALL FIELD

330'

360'

330'

MULTI-USE FIELD

PRIVATE ACCESS ROAD

Parent Entrance / Exit (Site Access 2)

S24°30'

Bus / Staff Entrance / Exit (Site Access 1)

MULTI-USE FIELD

300'

MULTI-USE FIELD

160'

OPEN SPACE (NATURAL AREA)

STREAM

S85°36'50"E 207.69'

L4

LENNY STADLER WAY

Bus Parking

Install Signs Stating That Vehicles Should Not Block Internal Roundabout

MS

ES

Staff Parking

ADMINISTRATION

STUDENT DROP-OFF

CAFETERIA

OUTDOOR DINING

HS

ARTS/ MEDIA

NATATORIUM

AMENTIZED WATER QUALITY POND

Parent Loading / Unloading Zone

Short-Term Parking

Access Temporarily Blocked During Loading / Unloading Operations

*Queue Measured From Here

N14°20'47"E 424.54'

S. PROVIDENCE ROAD (Highway 16)

L2

L1

BLUEBIRD LANE

N75°41'08"W 454.55'

S75°41'08"E 801.88' (Total)

660.45'

141.43'

S88°12'37"E 594.11'

Providence Road S

S 68°48'55" 185.19'

S 68°47'07" E 309.84'

745.30'

LEGEND

- Parents Entrance Route
- Parents Exit Route
- School Bus Route
- Staff Member Position

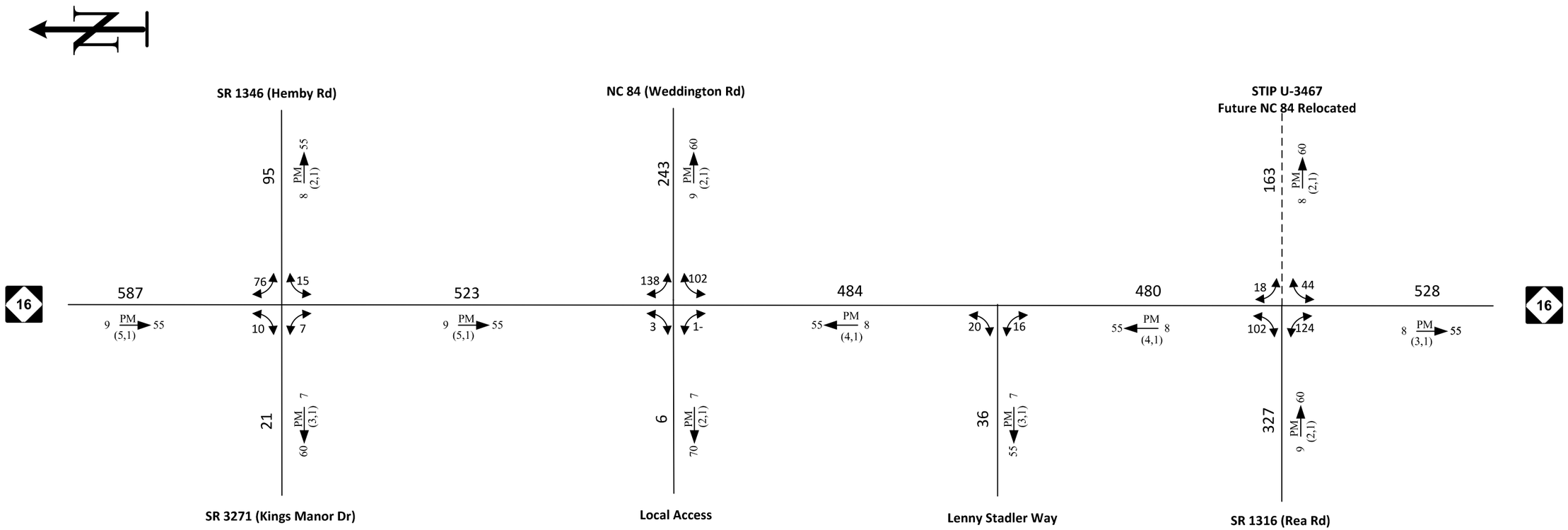
Liberty Classical Academy Elementary School Conditions:

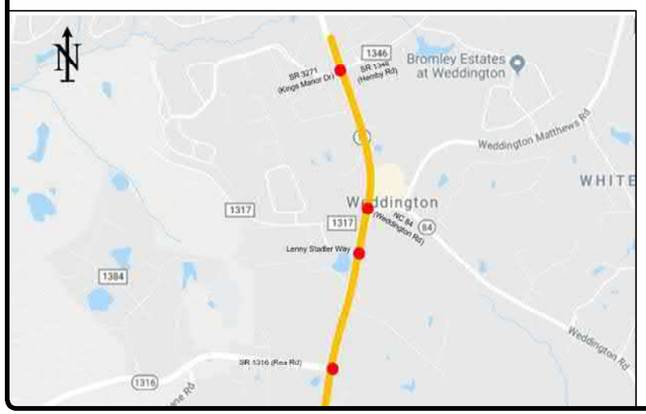
400 Students Core Capacity
1,709 Feet Average Queue
2,221 Feet High Demand Queue

This Design Provides:

Single-Stack Queue Provided: 1,006 Feet
Double-Stack Queue Provided: 1,472 Feet*
Total Queue Provided: 2,478 Feet

Appendix H – STIP Project Information





2040 AVERAGE ANNUAL DAILY TRAFFIC

Build

Sheet 1 of 1

LEGEND

###	No. of Vehicles Per Day in 100s
1-	Less than 50 vpd
X	Movement Prohibited
K AM→ D (d, t)	
K	Design Hour Factor (%)
PM	PM Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TT-STs (%)

TIP: N/A

WBS: 34263.1.1

COUNTY: Union

DIVISION: 10

DATE: September 2018

PREPARED BY: RK&K

LOCATION: Weddington, NC

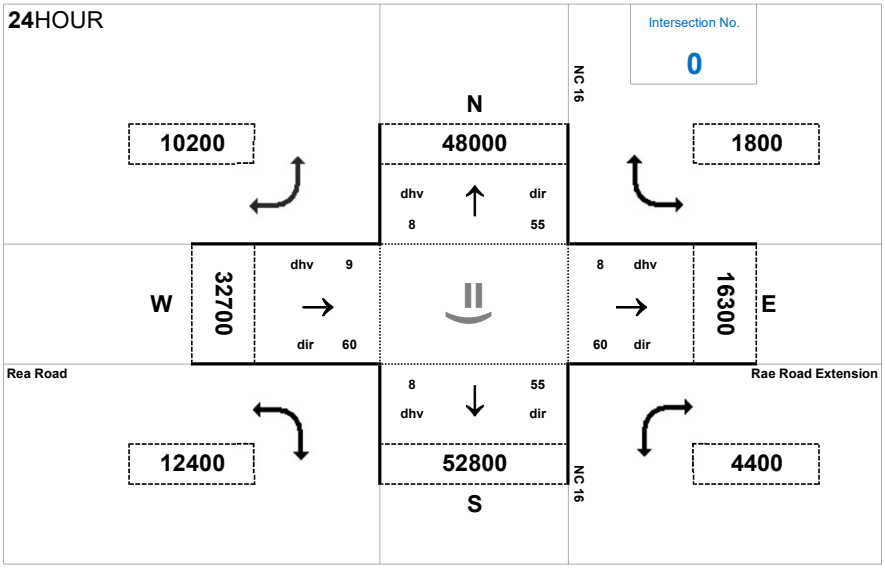
PROJECT: FS-1810D: NC 16 from SR 1316 (Rea Road) to the Mecklenburg County Line

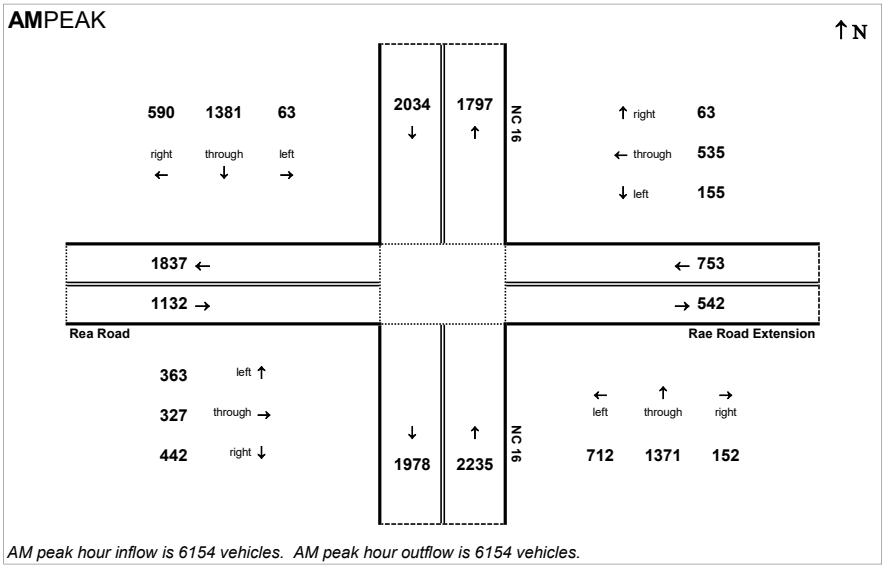
Peak Hour Volume Breakouts Report:
NC 16 / Rea Road

Traffic Forecast Release Date:
September-18

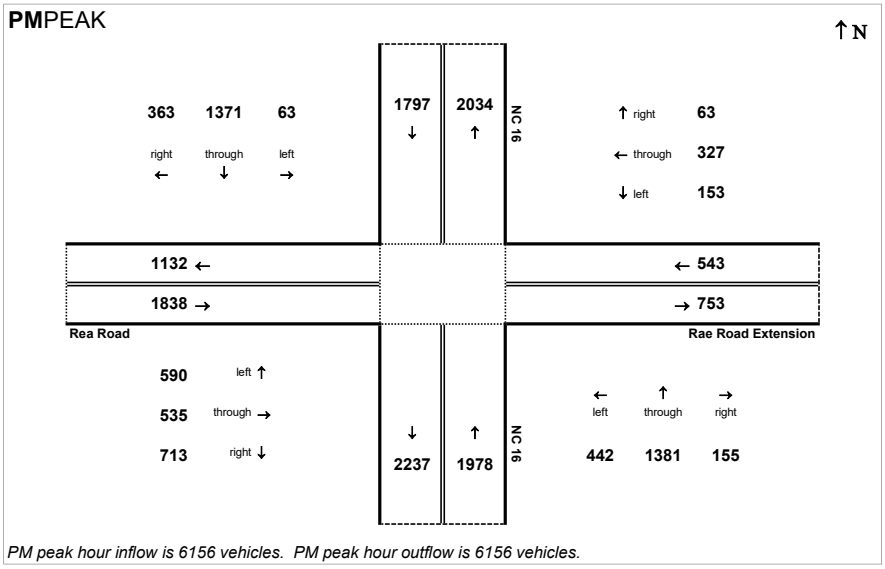
Traffic Data Year:
1/1/2040

Project:
Liberty Classical Academy TIA





AM peak hour inflow is 6154 vehicles. AM peak hour outflow is 6154 vehicles.



PM peak hour inflow is 6156 vehicles. PM peak hour outflow is 6156 vehicles.

DESIGN PUBLIC MEETING MAP

PROJECT 19019.11 (U-3467)
F.A. PROJECT STP-1316(10)
NC 84
NC 16 TO SR 1008 (WAXHAW-INDIAN TRAIL ROAD) IN WESLEY CHAPEL
UNION COUNTY

PREFERRED ALTERNATE CA2

ROLL 1 OF 3 JUNE 2017

U-3467 DESIGN DATA		
Functional Class.	=	Major Collector
Design Speed	=	50 mph
Max. Superelev.	=	0.04

NC ONEMAP PHOTO
Download Date: SPRING 2017