TRANSPORTATION IMPACT STUDY

ARONIMINK ELEMENTARY SCHOOL RENNOVATION
UPPER DARBY SCHOOL DISTRICT
UPPER DARBY TOWNSHIP, DELAWARE COUNTY

Submitted To:

Upper Darby School District
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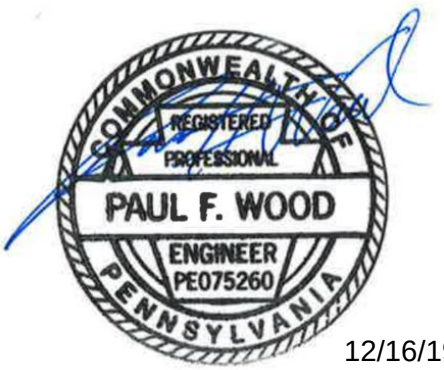

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Executive Summary

The purpose of this report is to examine and address the potential impacts of the Upper Darby School District's proposed renovation and expansion of the Aronimink Elementary School in Upper Darby Township, Delaware County, Pennsylvania. Based on this evaluation, the following conclusions were reached.

1. The project site is bounded by Burmont Road (SR 2007) to the east, Bond Avenue to the south, Roberts Avenue to the west, and Marvine Avenue to the north. Aronimink Elementary School enrollment for the 2018-19 school year was 253 students. Additionally, the District Administrative Offices with 51 employees are housed on-site.
2. The proposed development will consist of a 36,000 square-foot expansion consisting of a new gymnasium and classrooms. Additionally, renovation of 11,000 square-feet of the existing building, currently used as District Administrative Offices, is proposed. At the completion of the project a maximum capacity of 700 elementary students is anticipated.
3. The project scope and study area intersections include:
    1. Marvine Ave & Burmont Rd (SR 2007)
    2. Marvine Ave & Roberts Ave / Site Driveway #1
    3. Roberts Ave & Bond Ave
    4. Bond Ave & Anderson Ave / Site Driveway #2
    5. Bond Ave & Alexander Ave
    6. Bond Ave & Burmont Rd (SR 2007)

    A map of the study intersections is provided in **Figure 1**.
4. Currently on-site parking is provided via two separate parking lots. One provides 33 faculty parking spaces for Aronimink Elementary and is accessed via the driveway at the intersection of Marvine Ave & Roberts Ave. The second lot provides 26 parking spaces for the District Administration Office employees and is accessed via the driveway at the intersection of Bond Ave & Anderson Ave. An existing Site plan is provided in **Figure 3**.
5. Enrollment at the Aronimink Elementary School was 253 students for the 2018-19 school year. The proposed expansion of the school is expected to increase the school's capacity to 700 students, however the school district plans to have approximately 595 students.
6. According to the trip generation estimates, the proposed development is to generate 846 new trips during the average weekday, 299 new trips during the AM peak hour, and 152 new trips during the PM peak hour.
7. Southeast Pennsylvania Transportation Authority (SEPTA) provides trolley and bus service in the vicinity of the Aronimink Elementary School including stops on Anderson Avenue three (3) blocks and two (2) blocks south of the site respectively.
8. The existing driveways at the Marvine Ave & Roberts Ave and Bond Ave & Anderson Ave are proposed to be utilized for teacher parking and parent drop-off and pick-up.
9. Two (2) one-way minimum-use driveways are proposed along Burmont Avenue (SR 2007) for the proposed bus loop. An enter only driveway is proposed, which will create a fourth leg to the intersection of Burmont Road (SR 2007) and Alexander Avenue. An exit only driveway is proposed, which will create a fourth leg to the intersection of Burmont Road (SR 2007) and Blythe Avenue. The exit only driveway is to be right-out only. These driveways will be designed in accordance with PennDOT Highway Occupancy Permit guidelines and will only serve bus traffic during the AM and PM school drop-off and pick-up times.
10. Two (2) one-way low-volume driveways are proposed along Bond Avenue for the proposed parking lot to be constructed between the existing Aronimink Elementary School and the church on the northwest corner of the intersection of Burmont Road (SR 2007) and Bond Avenue. An enter only driveway is proposed near the church's western property line and an exit only driveway is proposed to the west of the enter-only driveway.

11. Site Driveway #1 and #2 will be utilized by parents and faculty in the build condition. Site Driveway #2 will become enter only and Site Driveway #1 will become exit only.
12. Capacity analyses were conducted to determine the Level of Service (LOS) for all study area intersections. The study area intersections were analyzed for the 2019 existing, 2024 No-Build, 2024 Build, 2029 No-Build, and 2029 Build conditions. Capacity analyses were completed using Highway Capacity Manual (HCM) 6th Edition Methodologies in the Synchro 10 software. Capacity analyses LOS results are summarized for the intersections in **Table 1.** The queue analysis results are summarized for the study intersections in **Table 2.**
13. The proposed expansion and renovation of the Aronimink Elementary School contributes new traffic to the study area; however, the analysis did not indicate any LOS or Queue deficiencies attributed to the addition of traffic to and from the site which warranted mitigation.
14. Left Turn Lane Warrants were performed at the intersection of Burmont Road and Bond Avenue under 2029 traffic volumes with the proposed expansion and renovation of the Aronimink Elementary School. A northbound left turn lane is warranted, however due to the anticipated northbound movement's and overall intersection's levels of service being a LOS A, and the 10-second variance criteria not being met, a left turn lane is not recommended.
15. Traffic Signal Warrants were performed at the intersection of Burmont Road and Bond Avenue under 2029 traffic volumes with the proposed expansion and renovation of the Aronimink Elementary School to address public concerns regarding impacts to the roadway network. The anticipated peak hour traffic volumes with the proposed development are not high enough to warrant the installation of a traffic signal. An analysis of the available crash history also does not indicate that a crash trend correctable by signalization exists.

Summary & Conclusions

The following conclusions and recommendations are based on the capacity analyses conducted at each of the study intersections as part of this study:

1. Marvine Avenue and Burmont Road

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- No improvements are recommended.

2. Marvine Avenue and Roberts Avenue / Site Driveway #1

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.

- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- Install one-way and do not enter signs at the proposed Site Driveway to restrict traffic to one-way outbound.
- Install a stop sign to reinforce the all-way stop condition at the intersection.

3. Roberts Avenue and Bond Avenue

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- No improvements are recommended.

4. Bond Avenue and Anderson Avenue / Site Driveway #2

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- Install one-way and do not enter signs at the proposed Site Driveway #2 to restrict traffic to one-way inbound.
- The proposed enter-only driveway will be one-way northbound and Anderson Avenue is currently one-way southbound, which eliminates conflicting traffic movements onto Bond Avenue. Therefore, consider removal of the stop signs along Bond Avenue. If removed or not, a crossing guard should be provided during peak school pedestrian times for the Bond Avenue crossing to ensure student safety.

5. Bond Avenue and Alexander Avenue

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- No improvements are recommended.

6. Bond Avenue and Burmont Avenue (SR 2007)

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.
- Turn lane warrants indicate that a northbound left turn lane is warranted during the AM and PM peak hours with the proposed expansion and redistribution of traffic attributed to the Aronimink Elementary School. Due to the anticipated northbound movement and overall intersection levels of service being a LOS A, and the 10-second variance criteria not being met, a left turn lane is not recommended.

Recommendations:

- No improvements are recommended.

Aronimink Elementary School TIS

Table 1

Level of Service Summary (HCM Results)

Time Period:	Weekday AM Peak Hour				Done By:	AMR		
					Chkd By:	PFW		
Intersection	Approach	Direction / Movement	2019 Existing		2024 / 2029 No-Build		2024 / 2029 Build	
			Delay	LOS	Delay	LOS	Delay	LOS
1) Burmont Road (SR 2007) and Marvine Avenue	Burmont Road (SR 2007)	EB Through	0.0	A	0.0	A	0.0	A
		EB Right Turn						
		Approach	0.0	A	0.0	A	0.0	A
	Burmont Road (SR 2007)	WB Left Turn	0.6	A	0.6	A	0.2	A
		WB Through						
		Approach	0.6	A	0.6	A	0.2	A
	Marvine Avenue	NB Left Turn	14.6	B	14.6	B	15.4	C
		NB Right Turn						
		Approach	14.6	B	14.6	B	15.4	C
	Intersection		**2.4**	**A**	**2.4**	**A**	**4.3**	**A**
2) Marvine Avenue and Roberts Avenue / Driveway 1	Marvine Avenue	EB Left Turn	7.7	A	7.7	A	7.3	A
		EB Through						
		EB Right Turn						
		Approach	7.7	A	7.7	A	7.3	A
	Driveway 1	WB Left Turn	7.0	A	7.0	A	8.2	A
		WB Through						
		WB Right Turn						
		Approach	7.0	A	7.0	A	8.2	A
	Roberts Avenue	NB Left Turn	7.5	A	7.5	A	8.0	A
		NB Through						
		NB Right Turn						
		Approach	7.5	A	7.5	A	8.0	A
	Marvine Avenue	SB Left Turn	7.9	A	7.9	A	7.9	A
		SB Through						
		SB Right Turn						
		Approach	7.9	A	7.9	A	7.9	A
	Intersection		**7.6**	**A**	**7.6**	**A**	**8.1**	**A**
3) Bond Avenue and Roberts Avenue	Bond Avenue	EB Left Turn	7.6	A	7.6	A	7.7	A
		EB Through						
		EB Right Turn						
		Approach	7.6	A	7.6	A	7.7	A
	Bond Avenue	WB Left Turn	7.1	A	7.1	A	7.1	A
		WB Through						
		WB Right Turn						
		Approach	7.1	A	7.1	A	7.1	A
	Roberts Avenue	NB Left Turn	7.4	A	7.4	A	7.2	A
		NB Through						
		NB Right Turn						
		Approach	7.4	A	7.4	A	7.2	A
	Roberts Avenue	SB Left Turn	7.3	A	7.3	A	7.6	A
		SB Through						
		SB Right Turn						
		Approach	7.3	A	7.3	A	7.6	A
	Intersection		**7.4**	**A**	**7.4**	**A**	**7.5**	**A**

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Table 1

Level of Service Summary (HCM Results)

Time Period:	Weekday AM Peak Hour				Done By:	AMR		
					Chkd By:	PFW		
Intersection	**Approach**	**Direction / Movement**	**2019 Existing**		**2024 / 2029 No-Build**		**2024 / 2029 Build**	
			Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
4) Bond Avenue and Anderson Avenue / Driveway 2	**Bond Avenue**	EB Left Turn	7.2	A	7.2	A	5.0	A
		EB Through						
		EB Right Turn						
		Approach	7.2	A	7.2	A	5.0	A
	Bond Avenue	WB Left Turn	7.1	A	7.1	A	5.0	A
		WB Through						
		WB Right Turn						
		Approach	7.1	A	7.1	A	5.0	A
	Driveway 2	SB Left Turn	6.8	A	6.8	A	0.0	A
		SB Through						
		SB Right Turn						
		Approach	6.8	A	6.8	A	0.0	A
	Intersection		**7.1**	**A**	**7.1**	**A**	**5.0**	**A**
5) Bond Avenue and Alexander Avenue	**Bond Avenue**	EB Through	7.2	A	7.2	A	7.3	A
		EB Right Turn						
		Approach	7.2	A	7.2	A	7.3	A
	Bond Avenue	WB Left Turn	7.3	A	7.3	A	8.5	A
		WB Through						
		Approach	7.3	A	7.3	A	8.5	A
	Alexander Avenue	NB Left Turn	6.8	A	6.8	A	7.2	A
		NB Right Turn						
		Approach	6.8	A	6.8	A	7.2	A
	Intersection		**7.1**	**A**	**7.1**	**A**	**8.3**	**A**
6) Burmont Road (SR 2007) and Bond Avenue	**Bond Avenue**	EB Left Turn	14.0	B	14.0	B	34.6	D
		EB Through						
		EB Right Turn						
		Approach	14.0	B	14.0	B	34.6	D
	Bond Avenue	WB Left Turn	11.4	B	11.4	B	21.6	C
		WB Through						
		WB Right Turn						
		Approach	11.4	B	11.4	B	21.6	C
	Burmont Road (SR 2007)	NB Left Turn	0.4	A	0.4	A	3.0	A
		NB Through						
		NB Right Turn						
		Approach	0.4	A	0.4	A	3.0	A
	Burmont Road (SR 2007)	SB Left Turn	0.3	A	0.3	A	1.1	A
		SB Through						
		SB Right Turn						
		Approach	0.3	A	0.3	A	1.1	A
	Intersection		**3.2**	**A**	**3.2**	**A**	**5.9**	**A**

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Table 1

Level of Service Summary (HCM Results)

Time Period:	Weekday PM Peak Hour						Done By:	AMR		
							Chkd By:	PFW		
Intersection	**Approach**	**Direction / Movement**	**2019 Existing**		**2024 / 2029 No-Build**		**2024 / 2029 Build**	
			Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1) Burmont Road (SR 2007) and Marvine Avenue	**Burmont Road (SR 2007)**	EB Through	0.0	A	0.0	A	0.0	A
		EB Right Turn						
		Approach	0.0	A	0.0	A	0.0	A
	Burmont Road (SR 2007)	WB Left Turn	0.8	A	0.8	A	0.6	A
		WB Through						
		Approach	0.8	A	0.8	A	0.6	A
	Marvine Avenue	NB Left Turn	16.1	C	16.1	C	16.7	C
		NB Right Turn						
		Approach	16.1	C	16.1	C	16.7	C
	Intersection		**2.0**	**A**	**2.0**	**A**	**3.3**	**A**
2) Marvine Avenue and Roberts Avenue / Driveway 1	**Marvine Avenue**	EB Left Turn	7.2	A	7.2	A	7.1	A
		EB Through						
		EB Right Turn						
		Approach	7.2	A	7.2	A	7.1	A
	Driveway 1	WB Left Turn	7.1	A	7.1	A	7.3	A
		WB Through						
		WB Right Turn						
		Approach	7.1	A	7.1	A	7.3	A
	Roberts Avenue	NB Left Turn	7.3	A	7.3	A	7.5	A
		NB Through						
		NB Right Turn						
		Approach	7.3	A	7.3	A	7.5	A
	Marvine Avenue	SB Left Turn	7.4	A	7.4	A	7.5	A
		SB Through						
		SB Right Turn						
		Approach	7.4	A	7.4	A	7.5	A
	Intersection		**7.3**	**A**	**7.3**	**A**	**7.4**	**A**
3) Bond Avenue and Roberts Avenue	**Bond Avenue**	EB Left Turn	7.4	A	7.4	A	7.5	A
		EB Through						
		EB Right Turn						
		Approach	7.4	A	7.4	A	7.5	A
	Bond Avenue	WB Left Turn	7.1	A	7.1	A	7.1	A
		WB Through						
		WB Right Turn						
		Approach	7.1	A	7.1	A	7.1	A
	Roberts Avenue	NB Left Turn	7.1	A	7.1	A	7.0	A
		NB Through						
		NB Right Turn						
		Approach	7.1	A	7.1	A	7.0	A
	Roberts Avenue	SB Left Turn	7.4	A	7.4	A	7.5	A
		SB Through						
		SB Right Turn						
		Approach	7.4	A	7.4	A	7.5	A
	Intersection		**7.3**	**A**	**7.3**	**A**	**7.4**	**A**

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Table 1

Level of Service Summary (HCM Results)

Time Period:	Weekday PM Peak Hour				Done By:	AMR		
					Chkd By:	PFW		
Intersection	Approach	Direction / Movement	2019 Existing		2024 / 2029 No-Build		2024 / 2029 Build	
			Delay	LOS	Delay	LOS	Delay	LOS
4) Bond Avenue and Anderson Avenue / Driveway 2	Bond Avenue	EB Left Turn	7.2	A	7.2	A	5.0	A
		EB Through						
		EB Right Turn						
		Approach	7.2	A	7.2	A	5.0	A
	Bond Avenue	WB Left Turn	7.2	A	7.2	A	5.0	A
		WB Through						
		WB Right Turn						
		Approach	7.2	A	7.2	A	5.0	A
	Driveway 2	SB Left Turn	7.0	A	7.0	A	0.0	A
		SB Through						
		SB Right Turn						
		Approach	7.0	A	7.0	A	0.0	A
	Intersection		**7.2**	**A**	**7.2**	**A**	**5.0**	**A**
5) Bond Avenue and Alexander Avenue	Bond Avenue	EB Through	7.2	A	7.2	A	7.2	A
		EB Right Turn						
		Approach	7.2	A	7.2	A	7.2	A
	Bond Avenue	WB Left Turn	7.2	A	7.2	A	7.6	A
		WB Through						
		Approach	7.2	A	7.2	A	7.6	A
	Alexander Avenue	NB Left Turn	6.6	A	6.6	A	6.8	A
		NB Right Turn						
		Approach	6.6	A	6.6	A	6.8	A
	Intersection		**7.0**	**A**	**7.0**	**A**	**7.4**	**A**
6) Burmont Road (SR 2007) and Bond Avenue	Bond Avenue	EB Left Turn	13.8	B	13.8	B	17.8	C
		EB Through						
		EB Right Turn						
		Approach	13.8	B	13.8	B	17.8	C
	Bond Avenue	WB Left Turn	11.8	B	11.8	B	15.5	C
		WB Through						
		WB Right Turn						
		Approach	11.8	B	11.8	B	15.5	C
	Burmont Road (SR 2007)	NB Left Turn	0.2	A	0.2	A	1.8	A
		NB Through						
		NB Right Turn						
		Approach	0.2	A	0.2	A	1.8	A
	Burmont Road (SR 2007)	SB Left Turn	0.3	A	0.3	A	0.7	A
		SB Through						
		SB Right Turn						
		Approach	0.3	A	0.3	A	0.7	A
	Intersection		**2.4**	**A**	**2.4**	**A**	**3.3**	**A**

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Table 1

Level of Service Summary (HCM Results)

Time Period:	Weekday PM Peak Hour of Generator (3:15 - 4:15)		Done By: AMR / Chkd By: PFW					
Intersection	**Approach**	**Direction / Movement**	**2019 Existing**		**2024 / 2029 No-Build**		**2024 / 2029 Build**	
			Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1) Burmont Road (SR 2007) and Marvine Avenue	**Burmont Road (SR 2007)**	EB Through	0.0	A	0.0	A	0.0	A
		EB Right Turn						
		Approach	0.0	A	0.0	A	0.0	A
	Burmont Road (SR 2007)	WB Left Turn	0.8	A	0.8	A	9.4	A
		WB Through						
		Approach	0.8	A	0.8	A	9.4	A
	Marvine Avenue	NB Left Turn	14.5	B	14.5	B	15.4	C
		NB Right Turn						
		Approach	14.5	B	14.5	B	15.4	C
	Intersection		**2.1**	**A**	**2.1**	**A**	**3.4**	**A**
6) Burmont Road (SR 2007) and Bond Avenue	**Bond Avenue**	EB Left Turn	13.2	B	13.2	B	17.0	C
		EB Through						
		EB Right Turn						
		Approach	13.2	B	13.2	B	17.0	C
	Bond Avenue	WB Left Turn	12.4	B	12.4	B	17.3	C
		WB Through						
		WB Right Turn						
		Approach	12.4	B	12.4	B	17.3	C
	Burmont Road (SR 2007)	NB Left Turn	0.2	A	0.2	A	1.9	A
		NB Through						
		NB Right Turn						
		Approach	0.2	A	0.2	A	1.9	A
	Burmont Road (SR 2007)	SB Left Turn	0.7	A	0.7	A	1.1	A
		SB Through						
		SB Right Turn						
		Approach	0.7	A	0.7	A	1.1	A
	Intersection		**2.8**	**A**	**2.8**	**A**	**4.0**	**A**

Aronimink Elementary School TIS
Table 2
HCM 95th Percentile Queue Results

Time Period:	Weekday AM Peak Hour							Done By: AMR Chkd By: PFW	
Intersection	Approach	Direction / Movement	Storage Length[1]	2019 Existing		2024 / 2029 No-Build		2024 / 2029 Build	
			Existing/**Proposed** (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)
1) Burmont Road (SR 2007) and Marvine Avenue	Burmont Road (SR 2007)	EB Through	750	0	0	0	0	0	0
		EB Right Turn							
	Burmont Road (SR 2007)	WB Left Turn	225	0.1	2.5	0.1	2.5	0	0
		WB Through							
	Marvine Avenue	NB Left Turn	350	0.9	22.5	1	25	2.2	55
		NB Right Turn							
2) Marvine Avenue and Roberts Avenue / Driveway 1	Marvine Avenue	EB Left Turn	775	0.1	2.5	0.1	2.5	0.1	2.5
		EB Through							
		EB Right Turn							
	Driveway 1	WB Left Turn	175	0.1	2.5	0.1	2.5	1.1	27.5
		WB Through							
		WB Right Turn							
	Roberts Avenue	NB Left Turn	275	0.4	10	0.4	10	0.3	7.5
		NB Through							
		NB Right Turn							
	Marvine Avenue	SB Left Turn	350	0.4	10	0.4	10	0.2	5
		SB Through							
		SB Right Turn							
3) Bond Avenue and Roberts Avenue	Bond Avenue	EB Left Turn	200	0.2	5	0.2	5	0.3	7.5
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	175	0.2	5	0.2	5	0.1	2.5
		WB Through							
		WB Right Turn							
	Roberts Avenue	NB Left Turn	450	0.2	5	0.2	5	0.2	5
		NB Through							
		NB Right Turn							
	Roberts Avenue	SB Left Turn	250	0.2	5	0.2	5	0.3	7.5
		SB Through							
		SB Right Turn							

Aronimink Elementary School TIS

Table 2

HCM 95th Percentile Queue Results

Time Period:	Weekday AM Peak Hour							Done By: AMR Chkd By: PFW	
Intersection	Approach	Direction / Movement	Storage Length[1]	2019 Existing		2024 / 2029 No-Build		2024 / 2029 Build	
			Existing/**Proposed** (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)
4) Bond Avenue and Anderson Avenue / Driveway 2	Bond Avenue	EB Left Turn	175	0.2	5	0.2	5	0	0
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	175	0.2	5	0.2	5	0	0
		WB Through							
		WB Right Turn							
	Driveway 2	SB Left Turn	125	0	0	0	0	0	0
		SB Through							
		SB Right Turn							
5) Bond Avenue and Alexander Avenue	Bond Avenue	EB Through	175	0.1	2.5	0.1	2.5	0	0
		EB Right Turn							
	Bond Avenue	WB Left Turn	200	0.2	5	0.2	5	1.1	27.5
		WB Through							
	Alexander Avenue	NB Left Turn	450	0.1	2.5	0.1	2.5	0.1	2.5
		NB Right Turn							
6) Burmont Road (SR 2007) and Bond Avenue	Bond Avenue	EB Left Turn	200	0.5	12.5	0.5	12.5	0.9	22.5
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	125	0.5	12.5	0.5	12.5	1.7	42.5
		WB Through							
		WB Right Turn							
	Burmont Road (SR 2007)	NB Left Turn	450	0	0	0	0	0.5	12.5
		NB Through							
		NB Right Turn							
	Burmont Road (SR 2007)	SB Left Turn	275	0	0	0	0	0.2	5
		SB Through							
		SB Right Turn							

[1] For through movements, the distance is measured to the nearest intersection or major driveway.

Aronimink Elementary School TIS

Table 2

HCM 95th Percentile Queue Results

Time Period:	Weekday PM Peak Hour							Done By: AMR	
								Chkd By: PFW	
Intersection	**Approach**	**Direction / Movement**	**Storage Length[1]**	**2019 Existing**		**2024 / 2029 No-Build**		**2024 / 2029 Build**	
			Existing/**Proposed** (Feet)	**HCM (Vehicles)**	**HCM (Feet)**	**HCM (Vehicles)**	**HCM (Feet)**	**HCM (Vehicles)**	**HCM (Feet)**
1) Burmont Road (SR 2007) and Marvine Avenue	**Burmont Road (SR 2007)**	EB Through	750	0	0	0	0	0	0
		EB Right Turn							
	Burmont Road (SR 2007)	WB Left Turn	225	0.1	2.5	0.1	2.5	0.1	2.5
		WB Through							
	Marvine Avenue	NB Left Turn	350	0.8	20	0.8	20	1.7	42.5
		NB Right Turn							
2) Marvine Avenue and Roberts Avenue / Driveway 1	**Marvine Avenue**	EB Left Turn	775	0.1	2.5	0.1	2.5	0.1	2.5
		EB Through							
		EB Right Turn							
	Driveway 1	WB Left Turn	175	0.1	2.5	0.1	2.5	0.5	12.5
		WB Through							
		WB Right Turn							
	Roberts Avenue	NB Left Turn	275	0.2	5	0.2	5	0.2	5
		NB Through							
		NB Right Turn							
	Marvine Avenue	SB Left Turn	350	0.3	7.5	0.3	7.5	0.2	5
		SB Through							
		SB Right Turn							
3) Bond Avenue and Roberts Avenue	**Bond Avenue**	EB Left Turn	200	0.2	5	0.2	5	0.2	5
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	175	0.1	2.5	0.1	2.5	0.1	2.5
		WB Through							
		WB Right Turn							
	Roberts Avenue	NB Left Turn	450	0.1	2.5	0.1	2.5	0.1	2.5
		NB Through							
		NB Right Turn							
	Roberts Avenue	SB Left Turn	250	0.3	7.5	0.3	7.5	0.4	10
		SB Through							
		SB Right Turn							

Aronimink Elementary School TIS

Table 2

HCM 95th Percentile Queue Results

Time Period:	Weekday PM Peak Hour							Done By: AMR Chkd By: PFW	
Intersection	Approach	Direction / Movement	Storage Length[1]	2019 Existing		2024 / 2029 No-Build		2024 / 2029 Build	
			Existing/Proposed (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)
4) Bond Avenue and Anderson Avenue / Driveway 2	Bond Avenue	EB Left Turn	175	0.1	2.5	0.1	2.5	0	0
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	175	0.2	5	0.2	5	0	0
		WB Through							
		WB Right Turn							
	Driveway 2	SB Left Turn	125	0.1	2.5	0.1	2.5	0	0
		SB Through							
		SB Right Turn							
5) Bond Avenue and Alexander Avenue	Bond Avenue	EB Through	175	0.2	5	0.2	5	0.1	2.5
		EB Right Turn							
	Bond Avenue	WB Left Turn	200	0.1	2.5	0.1	2.5	0.5	12.5
		WB Through							
	Alexander Avenue	NB Left Turn	450	0.1	2.5	0.1	2.5	0.1	2.5
		NB Right Turn							
6) Burmont Road (SR 2007) and Bond Avenue	Bond Avenue	EB Left Turn	200	0.4	10	0.4	10	0.5	12.5
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	125	0.4	10	0.4	10	0.8	20
		WB Through							
		WB Right Turn							
	Burmont Road (SR 2007)	NB Left Turn	450	0	0	0	0	0.2	5
		NB Through							
		NB Right Turn							
	Burmont Road (SR 2007)	SB Left Turn	275	0	0	0	0	0.1	2.5
		SB Through							
		SB Right Turn							

[1] For through movements, the distance is measured to the nearest intersection or major driveway.

Aronimink Elementary School TIS

Table 2

HCM 95th Percentile Queue Results

Time Period:	Weekday PM Peak Hour of Generator (3:15 - 4:15)							Done By: AMR Chkd By: PFW	
Intersection	Approach	Direction / Movement	Storage Length[1]	2019 Existing		2024 / 2029 No-Build		2024 / 2029 Build	
			Existing/Proposed (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)	HCM (Vehicles)	HCM (Feet)
1) Burmont Road (SR 2007) and Marvine Avenue	Burmont Road (SR 2007)	EB Through	750	0	0	0	0	0	0
		EB Right Turn							
	Burmont Road (SR 2007)	WB Left Turn	225	0.1	2.5	0.1	2.5	0.1	2.5
		WB Through							
	Marvine Avenue	NB Left Turn	350	0.8	20	0.8	20	1.6	40
		NB Right Turn							
6) Burmont Road (SR 2007) and Bond Avenue	Bond Avenue	EB Left Turn	200	0.3	7.5	0.3	7.5	0.3	7.5
		EB Through							
		EB Right Turn							
	Bond Avenue	WB Left Turn	125	0.6	15	0.6	15	1.1	27.5
		WB Through							
		WB Right Turn							
	Burmont Road (SR 2007)	NB Left Turn	450	0	0	0	0	0.2	5
		NB Through							
		NB Right Turn							
	Burmont Road (SR 2007)	SB Left Turn	275	0.1	2.5	0.1	2.5	0.2	5
		SB Through							
		SB Right Turn							

[1] For through movements, the distance is measured to the nearest intersection or major driveway.

Introduction / Project Summary

The purpose of this report is to examine and address the potential impacts of the Upper Darby School District's proposed expansion and renovation of the existing Aronimink Elementary School. The proposed development will consist of a 36,000 square-foot expansion consisting of a new gymnasium and classrooms. Additionally, renovation of 11,000 square-feet of the existing building, currently used as District Administrative Offices, is proposed. At the completion of the project a maximum capacity of 700 elementary students is anticipated.

Enrollment at the Aronimink Elementary School was 253 students for the 2018-19 school year when traffic data collection was performed. The proposed expansion of the school is expected to increase the school's capacity to 700 students, however the school district plans to accommodate approximately 595 students. A preliminary site plan has been included (See **Figure 3**)

This Transportation Impact Study (TIS) has been prepared in accordance with Section 503 of Delaware County's Subdivision and Land Development Ordinances (SALDO) and PennDOT's Publication 282, Appendix A *Policies and Procedures for Transportation Impact Studies*. Upper Darby Township does not provide guidance on the preparation of Transportation Impact Studies in a separate municipal SALDO. This report summarizes the existing conditions, future conditions without the proposed expansion, and future conditions with the proposed expansion. By comparing the no-build scenarios to the build scenarios, impacts that the proposed development has on the surrounding intersections can be estimated.

Relevant correspondence pertaining to this project has been included in **Appendix A**.

Study Area

The study area consists of six (6) unsignalized intersections. Specifically, the following intersections were studied:

1. Marvine Ave & Burmont Rd (SR 2007)
2. Marvine Ave & Roberts Ave / Site Driveway #1
3. Roberts Ave & Bond Ave
4. Bond Ave & Anderson Ave / Site Driveway #2
5. Bond Ave & Alexander Ave
6. Bond Ave & Burmont Rd (SR 2007)

The location of the site and study intersections are shown in **Figure 1.**

Existing Study Area Characteristics

Land Use Context

PennDOT Publication 10X, Design Manual Part 1X, Appendix B provides guidance on defining land use context for a study area or corridor based on the surrounding characteristics. Seven context areas are described in the *Smart Transportation Guidebook* from the least to the most developed: Rural, Suburban Neighborhood, Suburban Corridor, Suburban Center, Town/Village Neighborhood, Town Center, and Urban Core. The area surrounding the Aronimink Elementary School consists primarily of residential uses and fits the Suburban Neighborhood land use context.

Existing Roadway Network

Bond Avenue is an east-west oriented two-lane local roadway bordering the southern edge of the site. The eastbound and westbound direction each have an 8-foot travel lane, and a seven-foot parking lane. Bond Avenue is classified as a local street and the posted speed limit is 15 mph in the study area.

Roberts Ave/Marvine Ave is a north-south oriented local roadway bordering the western edge of the site. The northbound and southbound direction each have an 8-foot travel lane, and a seven-foot parking lane. Roberts Avenue and Marvine Avenue are both classified as local streets and the posted speed limits are 15 mph in the study area.

Burmont Road (SR 2007) is a north-south oriented two-lane local roadway bordering the northeastern edge of the site. The northbound and southbound directions contain a 13-foot and 17-foot travel lane, respectively, and parking is restricted along both

directions. Burmont Road is classified as a collector and the posted speed limit is 30 mph in the study area, however during the AM and PM pick-up and drop-off periods, 8:20 to 8:50 and 2:45 to 3:25 respectively, the speed limit is 15 mph from Marvine Avenue to Bond Avenue.

Data Collection / Existing Traffic Conditions

Existing intersection traffic conditions are documented with photos and intersection sketches contained in Appendix B.

Manual Traffic Counts

Intersection Turning Movement Counts (TMC) were performed by Imperial Traffic & Data using Miovision technology. Miovision is one of the most accurate and cost-effective traffic data solutions that ensures 95% data accuracy, thus increasing reliability of traffic studies. TMCs were conducted on Thursday, April 25, 2019 from 7 AM to 9:30 AM and 2:30 PM to 6 PM at the study intersections. The AM and PM peak hour traffic volumes and peak hour factors (PHF) were determined for each study intersection. The count data collection, and AM and PM peak hour summaries for each intersection in the study area is provided in Appendix C.

Traffic Growth and Adjustment Factors

Existing count traffic volumes were all collected in 2019, therefore adjustments to the count data were not needed. No nearby developments are anticipated in the vicinity of the study area which would significantly impact traffic volumes.

Pedestrian and Bicycle Facilities

Sidewalks are present throughout the study area, including Bond Avenue, Roberts Avenue, Marvine Avenue, and Burmont Road. Bike lanes are not present in the study area. As part of the proposed site redevelopment enhanced pedestrian connections to the surrounding sidewalks are proposed.

Mass Transit Facilities

Southeastern Pennsylvania Transportation Authority (SEPTA) operates a variety of transit options within proximity to the subject site. The public transit elements serving the vicinity of the site are SEPTA Trolley 101 with the nearest stop three (3) blocks south of the site along Anderson Avenue, and bus route 111 which runs along State Road (SR 2029) two (2) blocks south of the site.

Annual Background Growth

The annual base traffic growth rate used to project the 2019 existing condition count volumes to future traffic conditions (2024 Opening Year and 2029 horizon year) is 0.00%. This growth rate was obtained from PennDOT's table of "Growth Factors for August 2019 to July 2020". A copy of the table can be found in Appendix D.

Level of Service Criteria

Level of Service (LOS) is a term used to describe vehicle operator satisfaction with the driving experience. Research has determined that operator satisfaction is based primarily on travel speed and intersection delay. By utilizing models to simulate the flow of traffic at intersections, the average delay experienced by vehicles can be estimated. These models consider such factors as traffic volumes, roadway geometry, traffic control, and driver behavior. Levels of Service designations are based on a comparison of the average delays calculated by the models with perceived acceptable delays. For the Automobile Mode, the Federal Highway Administration's (FHWA) Highway Capacity Manual (HCM) assigns a Level of Service (LOS) designation between "A" and "F" to intersection operations. LOS "A" designates very good operating conditions, while LOS "F" denotes delays of over 80 seconds for signalized intersections and delays of over 50 seconds for unsignalized intersections and roundabouts. Regardless of the control delay a LOS "F" is assigned to movements with volume-to-capacity ratios that exceed 1.0. The following tables illustrate the guidelines used for designating Levels of Service at unsignalized intersections based on control delay:

Table 3 – Level of Service Criteria for Unsignalized Intersections (1)

Level of Service	Control Delay (seconds per vehicle)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50
Note: If v/c ratio >1.0, the LOS is F regardless of delay.	

(1) Level of Service Criteria for Stop-Controlled intersections (2010 HCM, Exhibit 19-1).

PennDOT requirements for the mitigation of Level of Service drops are provided in Publication 282, Appendix A *Policies and Procedures for Transportation Impact Studies.* The criteria is "If evaluation of the With Development Horizon Year Scenario to the Without Development Horizon Year Scenario indicates that the overall intersection LOS has dropped, the applicant will be required to mitigate the LOS if the increase in overall intersection delay is greater than 10-seconds. If the overall intersection delay increase is less than or equal to 10-seconds, mitigation of the intersection will not be required." Local SALDO requirements indicate that "Arterial and collector streets and their intersections with a level of service below C shall be considered deficient, and specific recommendations for the elimination of these problems shall be listed."

Projected (No-Build) Condition Volumes and Analysis

Projected 2024 (Opening Year) and 2029 (Horizon Year) traffic volumes without the proposed development were developed using the annual base traffic growth rate of 0.00%. The projections for No-Build traffic volumes at each study intersection can be found in the Volume Development Worksheet in **Appendix E**. Since the annual growth factor for Delaware County is 0%, the opening year and horizon year, no-build AM, and PM peak hour traffic volumes are equal. The Existing traffic volumes can be found in **Figure 4**, and the 2024 No-Build, and 2029 No-Build traffic volumes can be found in **Figure 5**.

Capacity analyses were performed using the Highway Capacity Manual (HCM) 6th Edition methodologies of Synchro Version 10.3 (Build 28, Revision 0) to determine the capacity of the study intersections. The analysis investigated the following conditions during the AM and PM peak hours:

- 2019 Existing Traffic Conditions
- Opening year without the proposed development (2024 No-Build)
- Horizon year without the proposed development (2029 No-Build)

The existing conditions and future No-Build capacity analyses are used to establish the baseline LOS at the study intersections in order to compare the No-Build intersection delay to the delay anticipated with the proposed Aronimink Elementary School expansion. Intersection and movement LOS output from the capacity analysis performed for the above scenarios is summarized in **Table 1** and 95th Percentile Queue lengths are summarized in **Table 2**.

Existing and No-Build Deficiencies

Based upon the Synchro capacity analyses, under the 2019 existing, future opening year (2024), and horizon year (2029) conditions, no intersections or approaches operate at an overall intersection LOS worse than LOS C.

The Lane, Volume and Timing Inputs and Synchro HCM 6th Edition output of each of the study intersections for the 2019 Existing, 2024 No-Build, and 2029 No-Build scenarios are included in **Appendix G.**

Proposed Site Access

The existing site driveways at the Marvine Ave & Roberts Ave, and Bond Ave & Anderson Ave intersections are proposed to be utilized for teacher parking and parent drop-off and pick-up.

Two (2) new one-way minimum-use driveways are proposed along Burmont Avenue (SR 2007) for the proposed bus loop. An enter only driveway is proposed, which will create a fourth leg to the intersection of Burmont Road (SR 2007) and Alexander Avenue. An exit only driveway is proposed, which will create a fourth leg to the intersection of Burmont Road (SR 2007) and Blythe Avenue. The exit only driveway is to be right-out only. These driveways will be designed in accordance with PennDOT Highway Occupancy Permit guidelines. This proposed bus loop will separate bus traffic from parent pick-up and drop-off traffic and allows for the utilization of the existing site access driveways by parents and staff. Nine busses are anticipated to be utilized by the school in the 2029 build condition. Levels of service for these driveways were not calculated since the driveways are expected to experience a maximum of 18 trips per day (9 entering and exiting during the AM and PM peak hour).

Two (2) new one-way low-volume driveways are proposed along Bond Avenue for the proposed parking lot to be constructed between the existing Aronimink Elementary School and the church on the northwest corner of the intersection of Burmont Road (SR 2007) and Bond Avenue. An enter only driveway is proposed near the church's western property line and an exit only driveway is proposed to the west of the enter-only driveway.

Sight Distance

Sight distance was measured for the proposed Bus Loop Driveways proposed along Burmont Road. The measurements were compared to the requirements as stated in PennDOT Title 67, Chapter 441, *Access to and Occupancy of Highways by Driveways and Local Roads*. The corner sight distances are summarized in Table 4. Sight distances are calculated for single-unit trucks. There are no sight distance deficiencies at the existing site driveways. Due to the available sight distance looking right at the proposed bus loop exit driveway, this driveway is proposed to be right-out only.

Table 4 – Sight Distance Summary

Level of Service	Direction	Estimated Sight Distance	Speed Limit	AASHTO Intersection Sight Distance	PennDOT Required Sight Distance[3]
Proposed Bus Loop Exit	Left	425'	30 MPH	419'[1]	191'
	Right	350'	30 MPH	419'[1]	201'
Proposed Bus Loop Entrance	Left In	>350'	30 MPH	287'[2]	201'
	Follow-up	>350'	30 MPH	n/a	201'

[1] AASHTO intersection sight distance for Single-Unit Trucks turning left from Stop at 30 MPH.
[2] AASHTO intersection sight distance for single-unit trucks turning left from Major Roadway at 30 MPH (Table 9-16).
[3] Formula Sight distance for passenger cars from PennDOT Form M-950S.

Trip Generation

The trip generation for the Aronimink Elementary School was calculated from the manual on Trip Generation, Tenth Edition, 2017, an Institute of Transportation Engineers (ITE) Informational Report. For the proposed Aronimink Elementary School Expansion and Renovation, Land Use Code 520 (Elementary School) was used to calculate the number of trips the development is expected to generate. Additionally, in order to account for the redistribution of traffic due to the reconfiguration of traffic patterns associated with the proposed modifications to the existing site access, trip generation calculations for the existing school were also performed. Trip generation estimates were calculated for the following time periods: (1) weekday A.M. peak hour, (2) weekday P.M. peak hour, and (3) average weekday.

In order to provide a conservative estimate of trips attributed to the proposed Aronimink Elementary School Expansion and Renovation the trip generation for the peak hour of the generator and peak hour of the adjacent street were compared and the higher value used to estimate the trips associated with the existing and proposed site. Also, the student enrolment for the 2018-19 school year was 253 students. The proposed expansion of the school is expected to increase the school's maximum capacity to 700 students, however the school district plans to have approximately 595 students. Therefore, it is expected that the analyses conducted as part of this study is conservative when compared to the anticipated conditions. Further details of the Trip Generation can be found in Appendix F. Table 5 shows a summary of the trip generation volumes for the site.

Table 5 – Trip Generation Summary

	ITE Land Use Code	STUDENTS	VEHICLE TRIP GENERATION SUMARY (PEAK OF ADJACENT STREET)			
Existing Building				ENTER	EXIT	TOTAL
Elementary School (General Urban/Suburban)	520	253	AM	92	78	170
			PM	39	47	86
			Daily	239	239	478
Proposed Building						
Elementary School (General Urban/Suburban)	520	700	AM	253	216	469
			PM	107	131	238
			Daily	662	662	1324
NEW TRIPS:			AM	161	138	299
			PM	68	84	152
			DAILY	423	423	846

Pass-By Trips

No pass-by trips are generated by the proposed development.

Internal Trips

No Internal Trips are generated by the proposed development.

Trip Distribution

All traffic generated by the proposed development was assumed to be distributed to the surrounding roadway network based upon existing traffic patterns at the site driveways, surrounding intersections, and the fastest travel times to and from the neighborhoods within the school's attendance boundary. The assumed distributions also account for some pedestrian traffic to the neighborhoods immediately surrounding the Aronimink Elementary School. To evaluate the net traffic impact of the redistribution of traffic currently utilizing the existing driveways due to the one-way nature of the driveways serving the parent drop-off and faculty parking existing site traffic is assumed to be removed from the roadway network based upon the existing trip distribution percentages summarized in Figures 6 and 7. The traffic for the proposed development are added back onto the roadway network according to the entering and exiting trip distributions which reflect the expansion of the school's boundary towards the south and east. The proposed trip distribution percentages are summarized in Figures 8 and 9. The supporting documentation regarding the school's existing and proposed boundary and calculations supporting the trip distribution percentages are provided in Appendix E along with the volume development worksheets.

Traffic Assignment

Entering and exiting trips attributed to the existing site including traffic at Site Driveway #1 attributed to school staff, parents and busses, and Site Driveway #2 attributed to the District Administrative Offices, are removed from the roadway network in the 2024 and 2029 build scenarios. New trips generated by the proposed development were assigned to individual intersection movements based on the proposed entering and exiting Trip Distributions. The trip assignment volumes for the removal of existing site traffic and assignment of traffic during the AM and PM peak hours for the build condition are shown in the volume development worksheets in Appendix E.

Projected (Build) Condition Volumes and Analysis

Build condition capacity analyses were competed for the 2024 (Opening Year) and 2029 (Horizon Year) scenarios. The 2024 (Opening Year) and 2029 (Horizon Year) build condition volumes include all new site trips in addition to the removal of existing site traffic from the roadway network. Due to PennDOT's background growth factor for Delaware County being 0.0%, the 2024 and 2029 build conditions are equal. Therefore, only the horizon year analyses are provided. A summary of the Build condition volumes is included in the volume development worksheets in Appendix E and on Figure 10.

Capacity analyses were performed using the Highway Capacity Manual (HCM) 6th Edition methodologies of Synchro Version 10.3 (Build 28, Revision 0) to determine the LOS of the study intersections. The analysis investigated the following conditions:

- 2024 (Opening Year) with the proposed development – AM and PM peak hours
- 2029 (Horizon Year) with the proposed development – AM and PM peak hours

The Lane, Volume and Timing Inputs and HCM 6th Edition level of service output for each of the study intersections is included in Appendix G. Discussion of the traffic operations anticipated 2024 and 2029 build scenarios are included in the Summary/Conclusions section of this study.

Turn Lane Analysis

Turn lane analyses were conducted at the intersection of Burmont Road and Bond Avenue using PennDOT's Turn Lane Warrant Workbook due to concerns regarding the new traffic patterns anticipated with the proposed expansion. Additional northbound left turning traffic is expected at this intersection due to the expansion of the school's catchment area to the south and east, and the proposed one-way access along Bond Avenue. A northbound left turn on Burmont Avenue is warranted during the AM and PM peak hours. However, due to the anticipated northbound movement and overall intersection levels of service being a LOS A, and the 10-second variance criteria not being met, a left turn lane is not recommended. Summaries of the Left Turn Lane Analyses are included in Appendix H.

Traffic Signal Warrant Analysis

Traffic signal warrants are provided by the FHWA in Part 4 of the *Manual on Uniform Traffic Control Devices*. Although no mitigation is required at any study area intersection, Traffic Signal Warrants were performed at the intersection of Burmont Road and Bond Avenue under 2029 Build traffic volumes to address public concerns regarding impacts to the roadway network. The anticipated peak hour traffic volumes with the proposed expansion and renovation of the Aronimink Elementary School and volumes along Burmont Road are not high enough to warrant the installation of a traffic signal. An analysis of the available crash history also does not indicate that a crash trend correctable by signalization exists.

Queue Analysis

The HCM 6th Edition 95th percentile queue length analyses were conducted utilizing Synchro 10 software to determine the impact of the proposed development on the network. The results of the HCM Queue Analyses are summarized in Table 2. Average queue lengths for most approaches are anticipated to be below 1 vehicle. The 95th percentile queue lengths are found within the HCM Outputs for each of the study intersections included in Appendix G.

The average queue length on the northbound approach at the intersection of Burmont Road and Marvine Avenue is expected to increase from 25 feet (1 vehicle) to approximately 55 feet (3 vehicles) in the 2029 AM peak hour with the proposed expansion. It was noted that during the school dismissal times the maximum northbound queue along Marvine Avenue is greater than indicated in the capacity analyses. It is not expected that queues would block the school driveway during school arrival / dismissal. Traffic leaving the site will be metered by the drop-off and pick-up process and school busses will be provided with a separate access along Burmont Road which is expected to decrease queuing by eliminating larger vehicles which require greater gaps in traffic to turn onto Burmont Road. Additionally, queues along Marvine Avenue are visible to drivers exiting the site driveway. Drivers who feel that the additional delay is significant are able to exit to the left towards State Road or straight onto Marvine Avenue towards Route 1. Finally, any queuing at this location will consist primarily of traffic attributed to the school and is expected to quickly dissipate.

Mitigation Analysis

No LOS drops greater than 10 seconds of total intersection delay were observed in the 2024 and 2029 Build conditions. Additionally, no intersection levels of service drop to a level of service below C. While queue lengths increased for some movements, the available queue storage capacities to the nearest intersection accommodate the maximum anticipated queues. Therefore, no mitigation scenarios were analyzed.

Summary / Conclusions

The proposed Aronimink Elementary School expansion and renovation contributes new traffic to the study area. However, the analysis did not indicate any LOS or Queue deficiencies attributed to the addition of traffic to and from the site which warranted mitigation.

The two (2) one-way minimum-use driveways are proposed along Burmont Avenue (SR 2007) for the proposed bus loop. The enter only driveway should be aligned with Alexander Avenue and exit only driveway should be aligned with Blythe Avenue. The exit only driveway is to be right-out only. These driveways will be designed and signed for one-way traffic in accordance with PennDOT Highway Occupancy Permit guidelines.

The two (2) one-way low-volume driveways for the proposed parking lot to be constructed between the existing Aronimink Elementary School and the church on the northwest corner of the intersection of Burmont Road (SR 2007) and Bond Avenue. Parking between enter only driveway near the church's western property line and exit only driveway should be restricted to provide adequate sight distance. Both driveways shall be designed and signed for one-way traffic circulation.

The following conclusions/recommendations are based on the capacity analyses, and queue analyses conducted at each of the study intersections as part of this study.

1. Marvine Avenue and Burmont Road

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- No improvements are recommended.

2. Marvine Avenue and Roberts Avenue / School Driveway #1

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.

- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- Install one-way and do not enter signs at the proposed Site Driveway to restrict traffic to one-way outbound.
- Install a stop sign to reinforce the all-way stop condition at the intersection.

3. Roberts Avenue and Bond Avenue

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- No improvements are recommended.

4. Bond Avenue and Anderson Avenue / Site Driveway #2

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- Install one-way and do not enter signs at the proposed Site Driveway #2 to restrict traffic to one-way inbound.
- The proposed enter-only driveway will be one-way northbound and Anderson Avenue is currently one-way southbound, which eliminates conflicting traffic movements onto Bond Avenue. Consideration could be given to remove the stop signs along Bond Avenue. If removed or not, a crossing guard should be provided during peak school pedestrian times for the Bond Avenue crossing to ensure student safety at the intersection.

5. Bond Avenue and Alexander Avenue

Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.

- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.

Recommendations:

- No improvements are recommended.

6. Bond Avenue and Burmont Avenue (SR 2007)

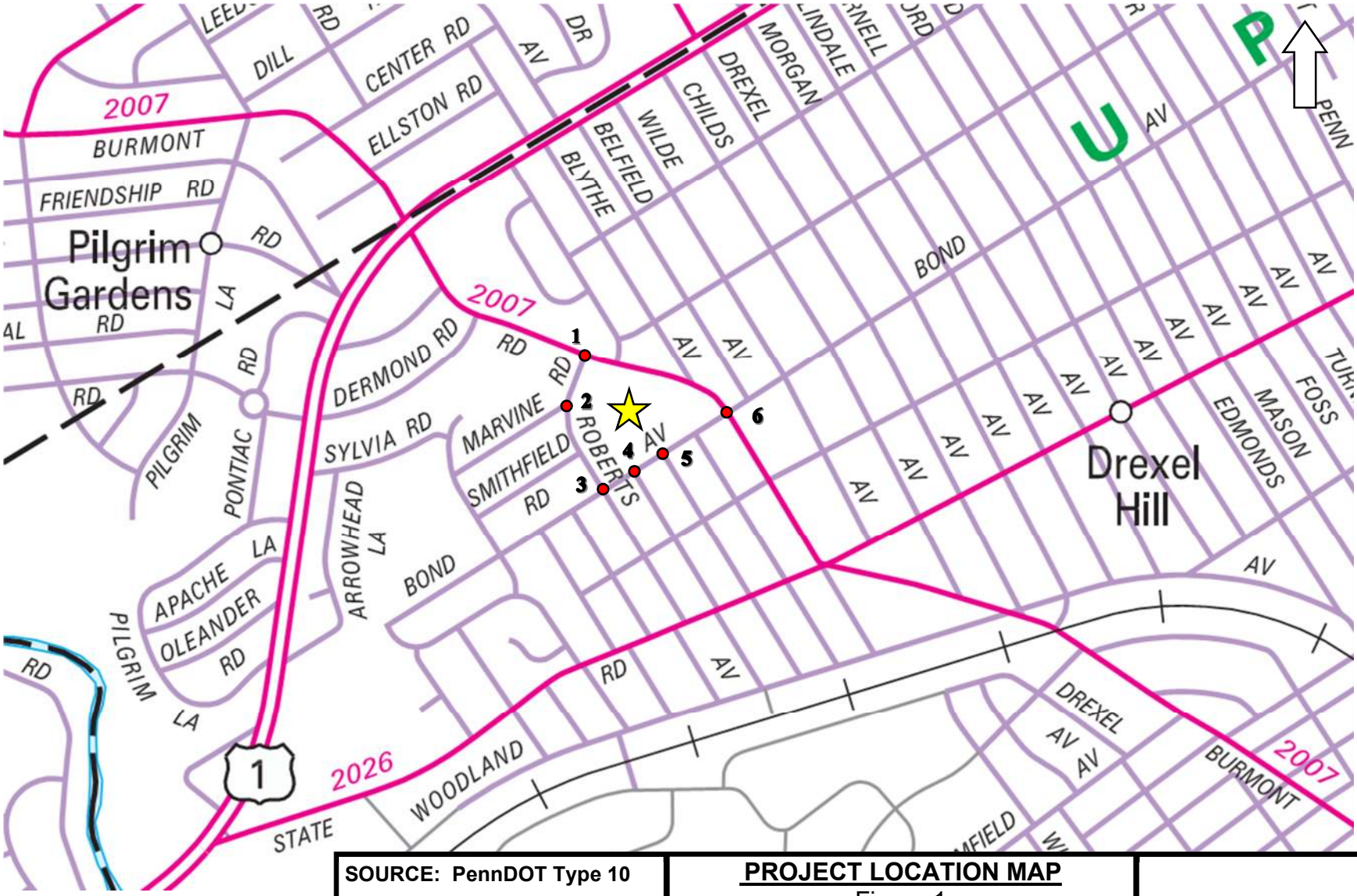
Conclusions:

- This intersection currently operates at an acceptable overall intersection LOS under existing conditions and is anticipated to continue to operate at an acceptable overall intersection LOS under 2024 and 2029 No-Build conditions.
- This intersection is anticipated to operate at an overall intersection LOS A during the AM and PM peak hour in the 2024 and 2029 Build conditions.
- The approaches of this intersection are also anticipated to operate at acceptable LOS during the 2024 and 2029 Build conditions.
- Existing storage lengths are adequate to accommodate Existing (2019), No-Build (2024/2029), and Build (2024/2029) queues.
- Turn lane warrants indicate that a northbound left turn lane is warranted during the AM and PM peak hours with the proposed expansion and redistribution of traffic attributed to the Aronimink Elementary School. Due to the anticipated northbound movement and overall intersection levels of service being a LOS A, and the 10-second variance criteria not being met, a left turn lane is not recommended.

Recommendations:

- No improvements are recommended.

FIGURES



Study Intersection

Site Location

SOURCE: PennDOT Type 10

JOB NO.: UDSDX19001
SCALE: NOT TO SCALE

DRAWN BY : AMR
REVIEWED BY : PFW

PROJECT LOCATION MAP

Figure 1

Aronimink Elementary School TIS

Upper Darby Township
DELEWARE COUNTY, PA

Pennoni

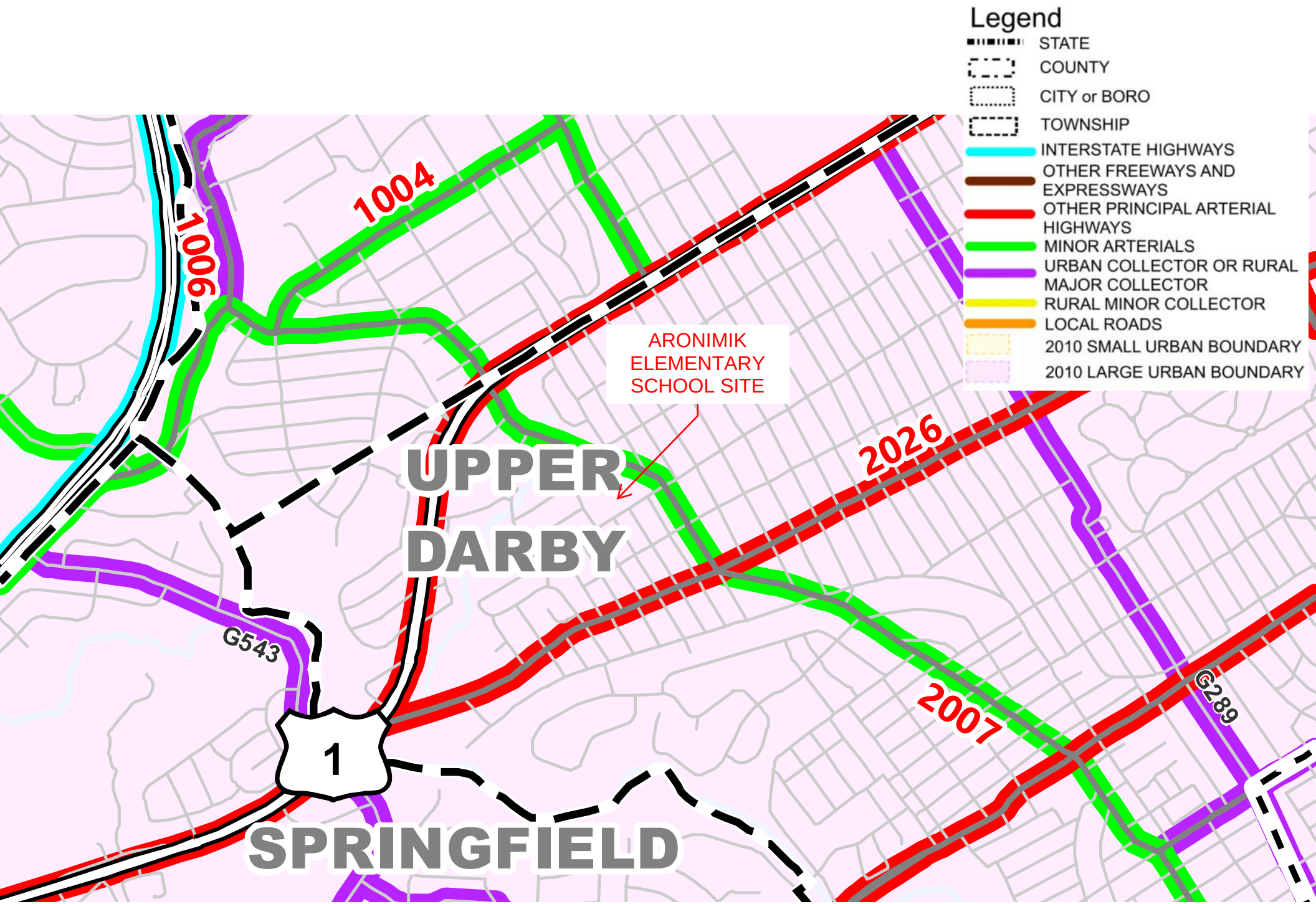


FIGURE #2 FUNCTIONAL CLASSIFICATION MAP

SITE INFORMATION:

ADDRESS: 4611 BOND AVENUE
DREXEL HILL, PA 19026

CLIENT: UPPER DARBY SCHOOL DISTRICT
4611 BOND AVENUE
DREXEL HILL, PA 19026

ENGINEER: PENNONI
JASON SHERIDAN, PE
1900 MARKET STREET, SUITE 300
PHILADELPHIA, PA 19103

ZONING REQUIREMENTS - R-1 RESIDENTIAL DISTRICT

UPPER DARBY TOWNSHIP ZONING CODE - CHAPTER 404					
PROPOSED DEVELOPMENT AREA: 398,894 SF (9.16 ACRES)					
SECTION			REQUIRED/ALLOWABLE	EXISTING	PROPOSED
301	USE REGULATIONS		PUBLIC SCHOOL, COLLEGE, OR UNIVERSITY	PUBLIC SCHOOL	NO CHANGE
401	DIMENSIONAL STANDARDS	MINIMUM LOT SIZE	6,500 SF	398,894 SF	NO CHANGE
		MINIMUM STREET FRONTAGE	35 FT	646 FT	NO CHANGE
		MINIMUM LOT WIDTH AT BUILDING LINE	65 FT	630.19 FT	630.19 FT
		MINIMUM FRONT YARD	25 FT	100.7 FT	NO CHANGE
		MINIMUM SIDE YARD	25 FT AGGREGATE, 10 FT MIN	189.0 FT	134.1'
		MINIMUM REAR YARD	20 FT	289.1 FT	134.1 FT
		MAXIMUM BUILDING HEIGHT	35 FT	35 FT	35 FT
		MAXIMUM BUILDING COVERAGE	30%	6.2%	10.4%

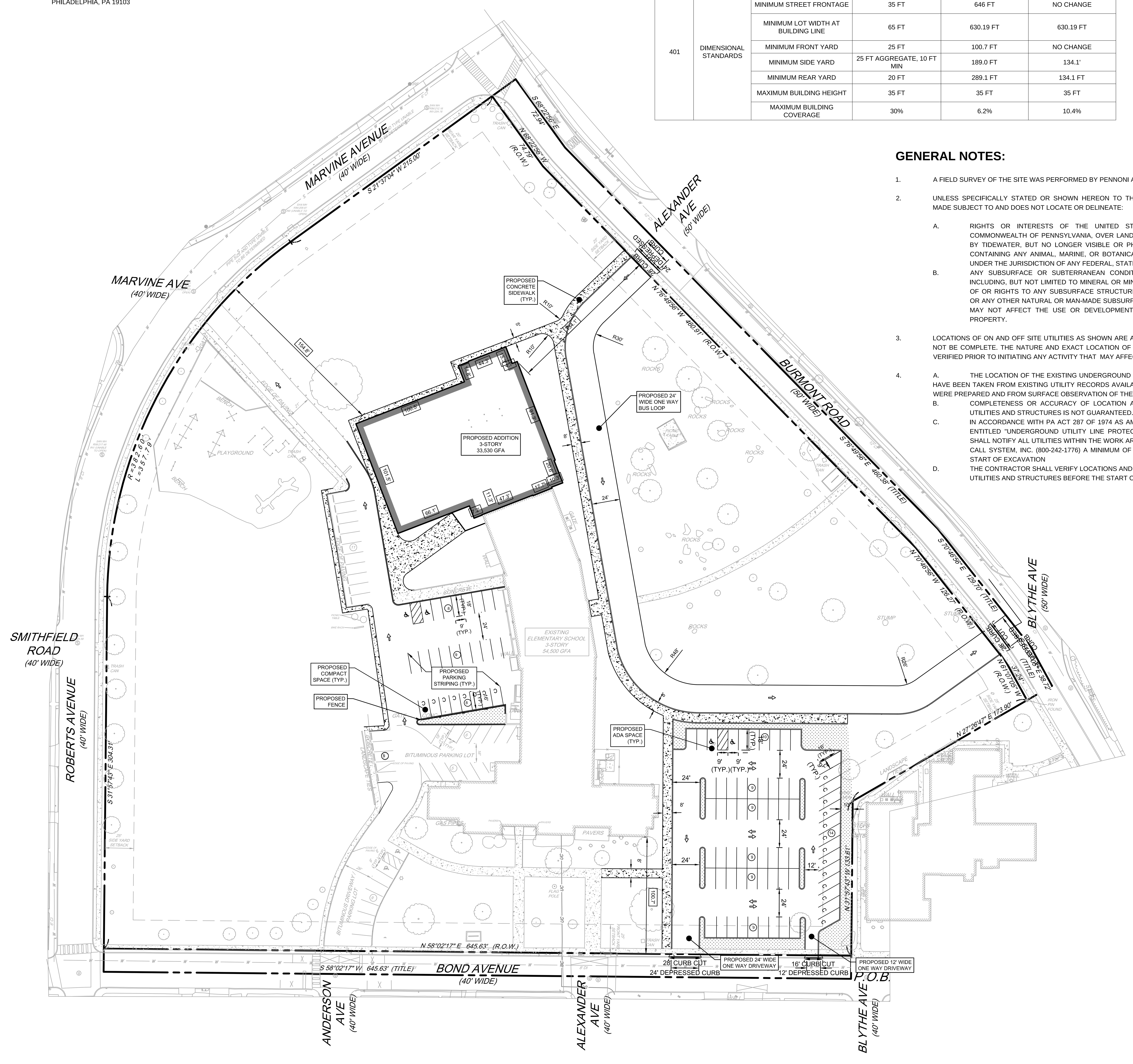
PARKING REQUIREMENTS

USE	REQUIRED ALLOWABLE	EXISTING	PROPOSED
SCHOOL	3 SPACES / 1 CLASSROOM (34 CLASSROOMS x 3 SPACES = 102 REQUIRED)	66 SPACES	119 SPACES

LOADING REQUIREMENTS

USE	REQUIRED ALLOWABLE	PROPOSED
SCHOOL	MINIMUM 1 SPACE (14' WIDE X 50' LONG)	1 SPACE

NORTH



GENERAL NOTES:

1. A FIELD SURVEY OF THE SITE WAS PERFORMED BY PENNONI ASSOCIATES ON APRIL 29, 2019.

2. UNLESS SPECIFICALLY STATED OR SHOWN HEREON TO THE CONTRARY, THIS SURVEY IS MADE SUBJECT TO AND DOES NOT LOCATE OR DELINEATE:

   A. RIGHTS OR INTERESTS OF THE UNITED STATES OF AMERICA OR THE COMMONWEALTH OF PENNSYLVANIA, OVER LANDS NOW OR FORMERLY FLOWED BY TIDEWATER, BUT NO LONGER VISIBLE OR PHYSICALLY EVIDENT, OR LANDS CONTAINING ANY ANIMAL, MARINE, OR BOTANICAL SPECIES REGULATED BY OR UNDER THE JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL AGENCY.

   B. ANY SUBSURFACE OR SUBTERRANEAN CONDITION, EASEMENTS OR RIGHTS, INCLUDING, BUT NOT LIMITED TO MINERAL OR MINING RIGHTS, OR THE LOCATION OF OR RIGHTS TO ANY SUBSURFACE STRUCTURES, CONTAINERS OR FACILITIES OR ANY OTHER NATURAL OR MAN-MADE SUBSURFACE CONDITION WHICH MAY OR MAY NOT AFFECT THE USE OR DEVELOPMENT POTENTIAL OF THE SUBJECT PROPERTY.

3. LOCATIONS OF ON AND OFF SITE UTILITIES AS SHOWN ARE APPROXIMATE AND MAY OR MAY NOT BE COMPLETE. THE NATURE AND EXACT LOCATION OF EXISTING UTILITIES SHOULD BE VERIFIED PRIOR TO INITIATING ANY ACTIVITY THAT MAY AFFECT THEIR USE OR LOCATION.

4. A. THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND FROM SURFACE OBSERVATION OF THE SITE.

   B. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.

   C. IN ACCORDANCE WITH PA ACT 287 OF 1974 AS AMENDED BY PA ACT 121 OF 2008 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW". THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA VIA THE PENNSYLVANIA ONE CALL SYSTEM, INC. (800-242-1776) A MINIMUM OF 3 WORKING DAYS BEFORE THE START OF EXCAVATION

   D. THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

5. THIS SITE IS CURRENTLY ZONED IN THE R-1 RESIDENTIAL DISTRICT.

6. REFERENCE IS MADE TO PENNSYLVANIA ONE CALL SYSTEM, ASSIGNED SERIAL NUMBER 20191162180 IN ACCORDANCE WITH PA ACT 287 OF 1974 AS AMENDED BY PA ACT 121 OF 2008 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW" (800-242-1776)

7. THIS PLAN WAS PREPARED IN ACCORDANCE WITH INSTRUCTIONS OF THE CLIENT.

8. VERTICAL DATUM IS BASED ON NAVD 1988.

9. HORIZONTAL COORDINATE DATUM IS IN PENNSYLVANIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE, NORTH AMERICAN DATUM 1983 BASED ON GPS OBSERVATION.

9. BENCHMARK: NJIT - LEICA SMARTNET VIA GPS OBSERVATION

10. PROPERTY BOUNDARY INFORMATION OBTAINED FROM DEED PLOTS PERFORMED BY PENNONI ASSOCIATES ON MAY 13, 2019.

11. THE SITE IS SERVED BY PUBLIC SEWER (DELCORA).

12. THE SITE IS SERVED BY PUBLIC WATER (AQUA PA).

13. A PENNDOT HOP PERMIT IS REQUIRED FOR THE SITE IMPROVEMENTS WITHIN THE ROW.

14. THE PROPOSED USES ARE PUBLIC SCHOOL AND ACTIVE RECREATION. THE SPRINGFIELD TOWNSHIP AND CLIFTON HEIGHTS BOROUGH JOINT COMPREHENSIVE PLAN DATED JANUARY 2007 INDICATES A LAND USE OF OPEN SPACE.

BOROUGH SIGNATURES

APPROVED BY THE BOROUGH COUNCIL OF THE BOROUGH OF CLIFTON HEIGHTS
THIS ____ DAY OF _____________, 20____

ATTEST SECRETARY

OWNER/DEVELOPER'S CERTIFICIATION

COMMONWEALTH OF PENNSYLVANIA COUNTY OF DELAWARE
ON THE ____________________ DAY OF _______, A.D. 20___, BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN ______________________________, PERSONALLY APPEARED ____________________ (NAME OF OFFICER OF THE CORPORATION), WHO ACKNOWLEDGED (HIMSELF/HERSELF) TO BE THE (PRESIDENT OR SECRETARY), BEING AUTHORIZED TO DO SO, (HE/SHE) EXECUTED THE FOREGOING PLAN BY SIGNING THAT SAID CORPORATION IS THE OWNER OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND IS ENDORSED THEREON AND THAT SAID CORPORATION DESIRES THAT THE FOREGOING PLAN MAY BE DULY RECORDED.

NOTARY PUBLIC MY COMMISSION EXPIRES

ENGINEER CERTIFICATION:

I, ____________________, ., ON THIS DATE ____________________, HEREBY CERTIFY THAT THIS SITE PLAN MEETS THE DELAWARE COUNTY SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

0 40' 80'

EXISTING

- SANITARY SEWER MANHOLE
- SANITARY SEWER
- STORM SEWER MANHOLE
- STORM SEWER
- STORM SEWER INLET
- OVERHEAD COMMUNICATION LINE
- UNDERGROUND POWER LINE
- LIGHT POLE
- UTILITY POLE
- POWER MANHOLE
- ELECTRICAL EQUIPMENT
- WATER PIPE
- WATER VALVE
- MONITORING WELL
- HYDRANT
- GAS VALVE
- TELECOMM MANHOLE
- UNIDENTIFIED MANHOLE
- SIGN
- BOLLARD
- GUARD RAIL
- GUARD RAIL
- WALL
- JUNCTION BOX
- HVAC STRUCTURE
- FLAG POLE
- PROPERTY LINE
- RIGHT OF WAY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING BUILDING OUTLINE
- EXISTING TREES
- EXISTING CURB
- EXISTING SIDEWALK
- ADJACENT PROPERTY LINE
- SETBACK LINE
- SOILS BOUNDARY
- EXISTING GRADES 20%-25%
- EXISTING GRADES 25% OR GREATER

PROPOSED

- CURB LINE
- PROPERTY LINE
- RETAINING WALL
- SIDEWALK
- BUILDING OUTLINE
- DEPRESSED CURB
- SIGN
- PROPOSED MONUMENT
- PROPOSED IRON PIN
- BUILDING OVERHANG
- PROPOSED WALL
- PROPOSED LANDSCAPE AREA
- PROPOSED BIORETENTION/RAIN GARDEN
- 232 PROPOSED CONTOUR
- 240 PROPOSED INDEX CONTOUR
- 244.82 X PROPOSED SPOT ELEVATION
- PROPOSED DRAINAGE MANHOLE
- PROPOSED INLET

NOT FOR CONSTRUCTION

ISSUED FOR: PRELIMINARY LAND DEVELOPMENT SUBMISSION

PDE #XXXX

KCBA Architects
Eight East Broad Street
Hatfield, PA
19440-2401
t 215.368.5806
kcba-architects.com

CONSULTANTS

PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

ARONIMINK ELEMENTARY SCHOOL
RENOVATIONS AND ADDITION
FOR THE
UPPER DARBY SCHOOL DISTRICT
TOWNSHIP OF DREXEL HILL DELAWARE COUNTY, PA

REVISIONS		
MARK	DATE	DESCRIPTION

SITE PLAN

UPPER DARBY
SCHOOL DISTRICT
4611 BOND ROAD
DREXEL HILL, PA 190026

JOB NO.	UDSDX19001
DATE	08.20.2019
DWN. BY	HB
SHEET NO.	1 OF 1

CS1001

FIGURE #4: EXISTING (2019) TRAFFIC VOLUMES

Aronimink Elementary School TIS
Upper Darby Township, Delaware County, PA

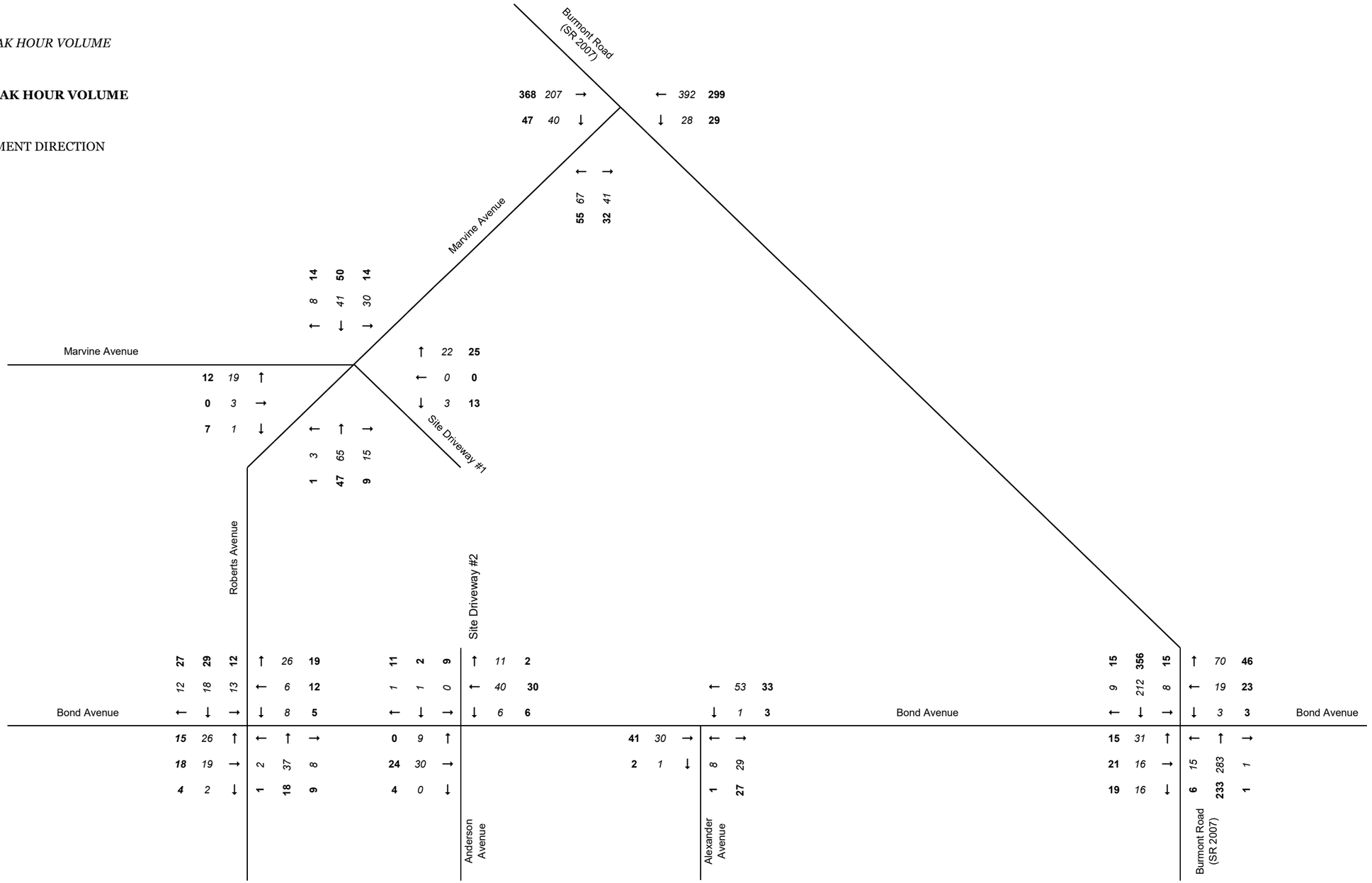
By: AMR Date: 8-28-19
Ckd By: PFW Date: 8-28-19

LEGEND

= *AM PEAK HOUR VOLUME*

= **PM PEAK HOUR VOLUME**

→ = MOVEMENT DIRECTION



NOT TO SCALE

FIGURE #5: 2024 & 2029 NO-BUILD TRAFFIC VOLUMES

Aronimink Elementary School TIS
Upper Darby Township, Delaware County, PA

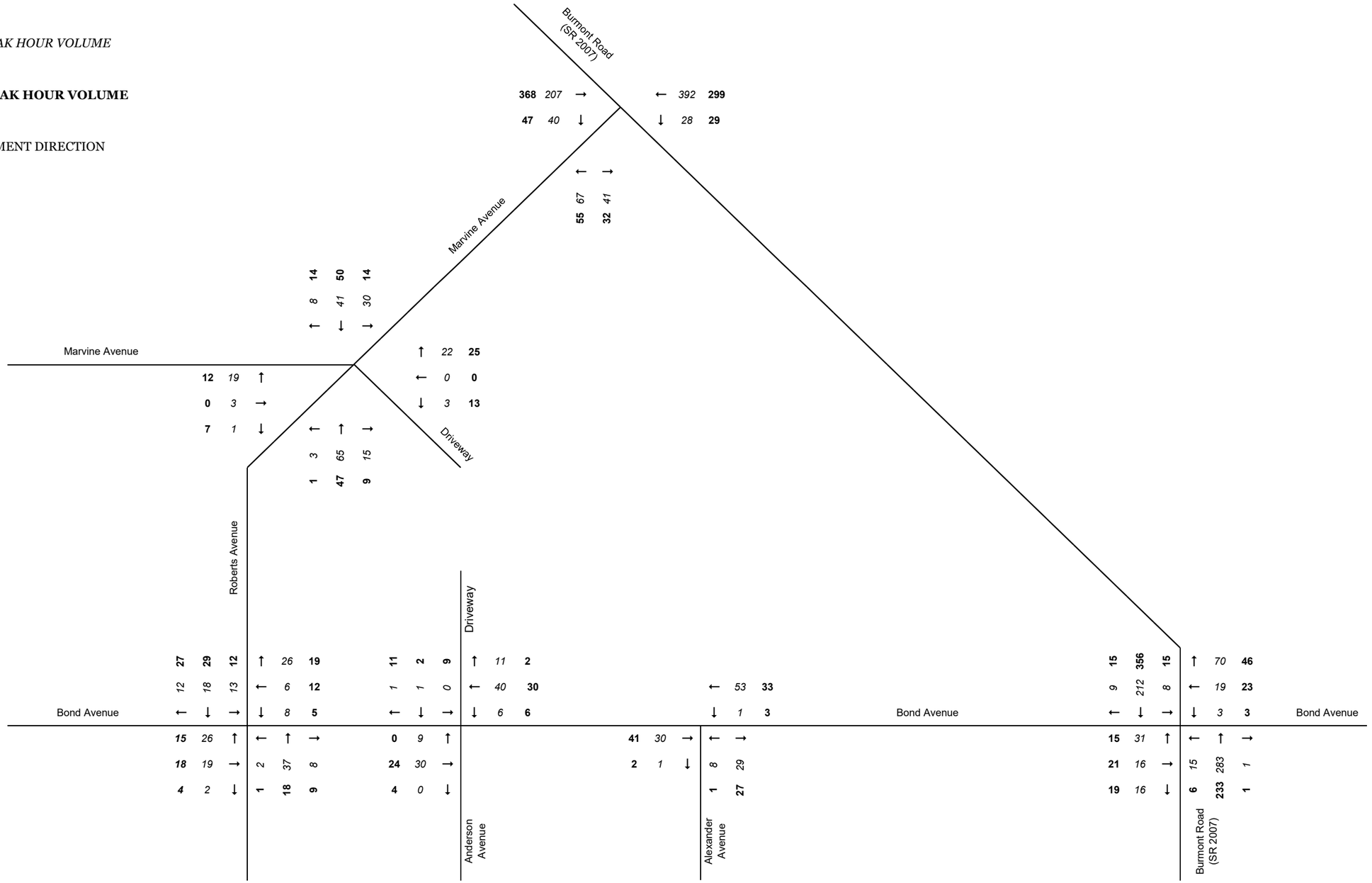
By: AMR Date: 8-28-19
Ckd By: PFW Date: 8-28-19

LEGEND

= *AM PEAK HOUR VOLUME*

= **PM PEAK HOUR VOLUME**

→ = MOVEMENT DIRECTION



NOT TO SCALE

FIGURE #6: EXISTING (2019) TRIP DISTRIBUTION

Aronimink Elementary School TIS
Upper Darby Township, Delaware County, PA

By: AMR Date: 12-4-19
Ckd By: PFW Date: 12-4-19

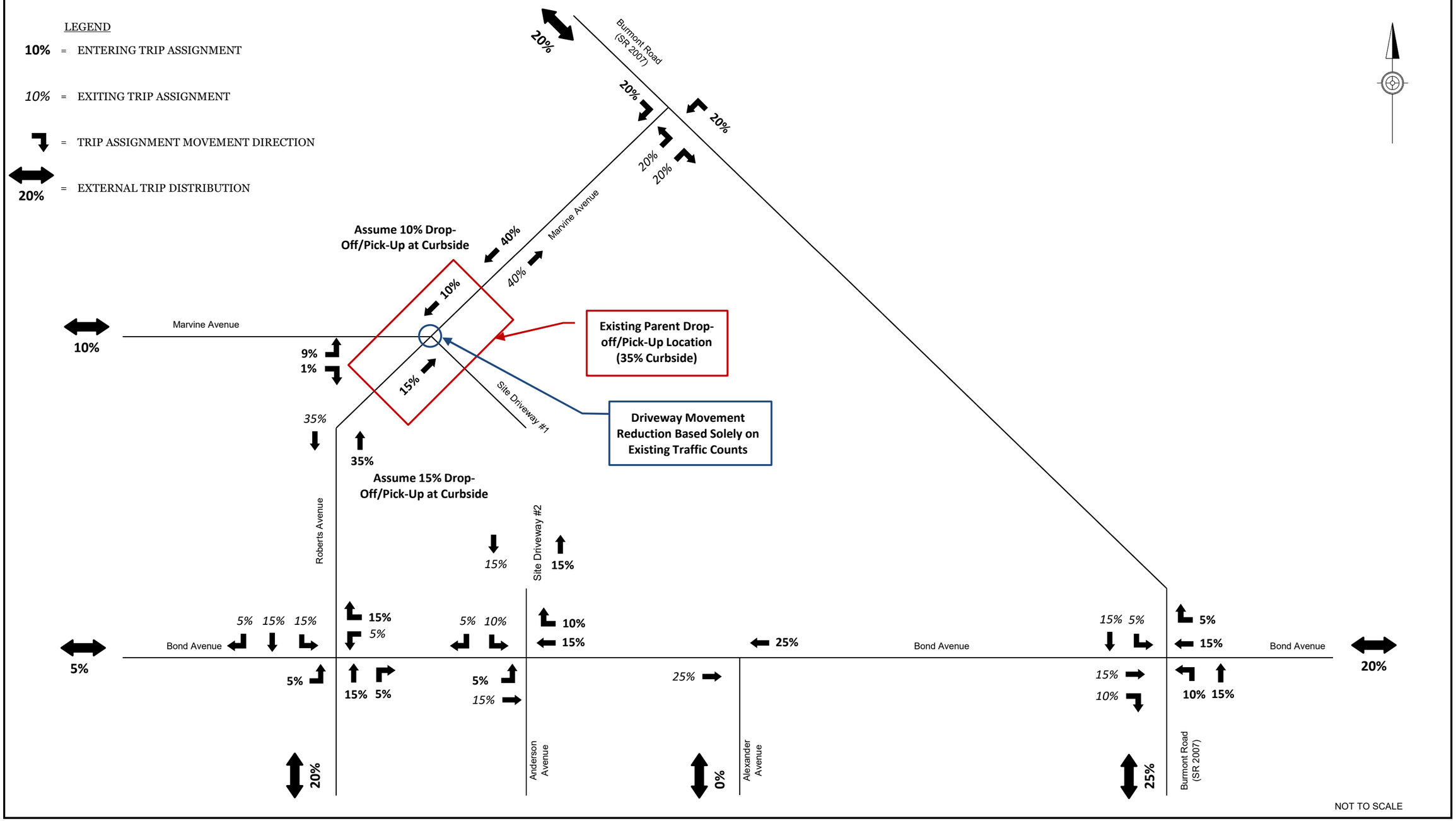


FIGURE #7: PROPOSED TRIP DISTRIBUTION

Aronimink Elementary School TIS
Upper Darby Township, Delaware County, PA

By: AMR Date: 12-4-19
Ckd By: PFW Date: 12-4-19

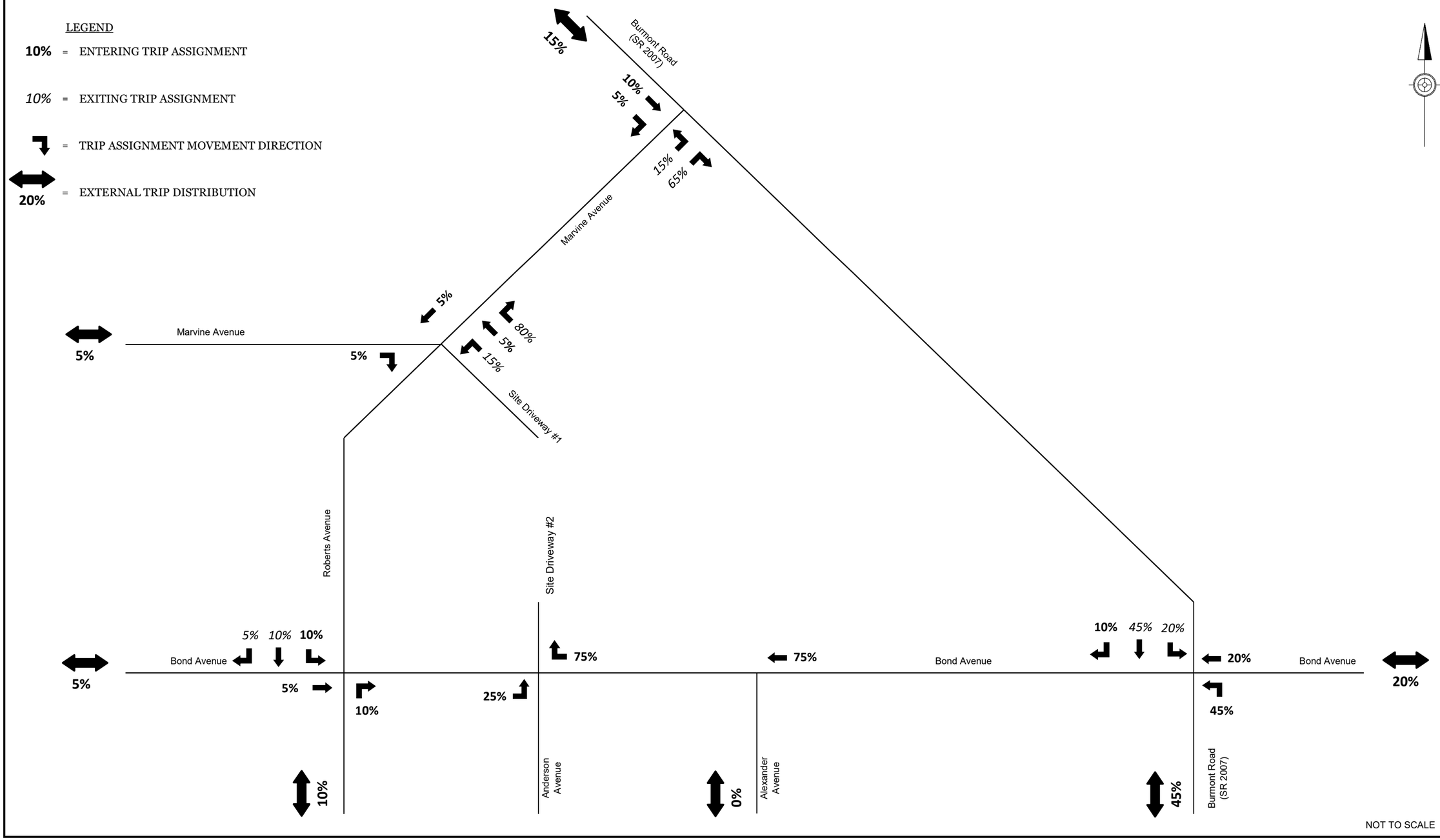


FIGURE #8: 2024 & 2029 BUILD TRAFFIC VOLUMES

Aronimink Elementary School TIS
Upper Darby Township, Delaware County, PA

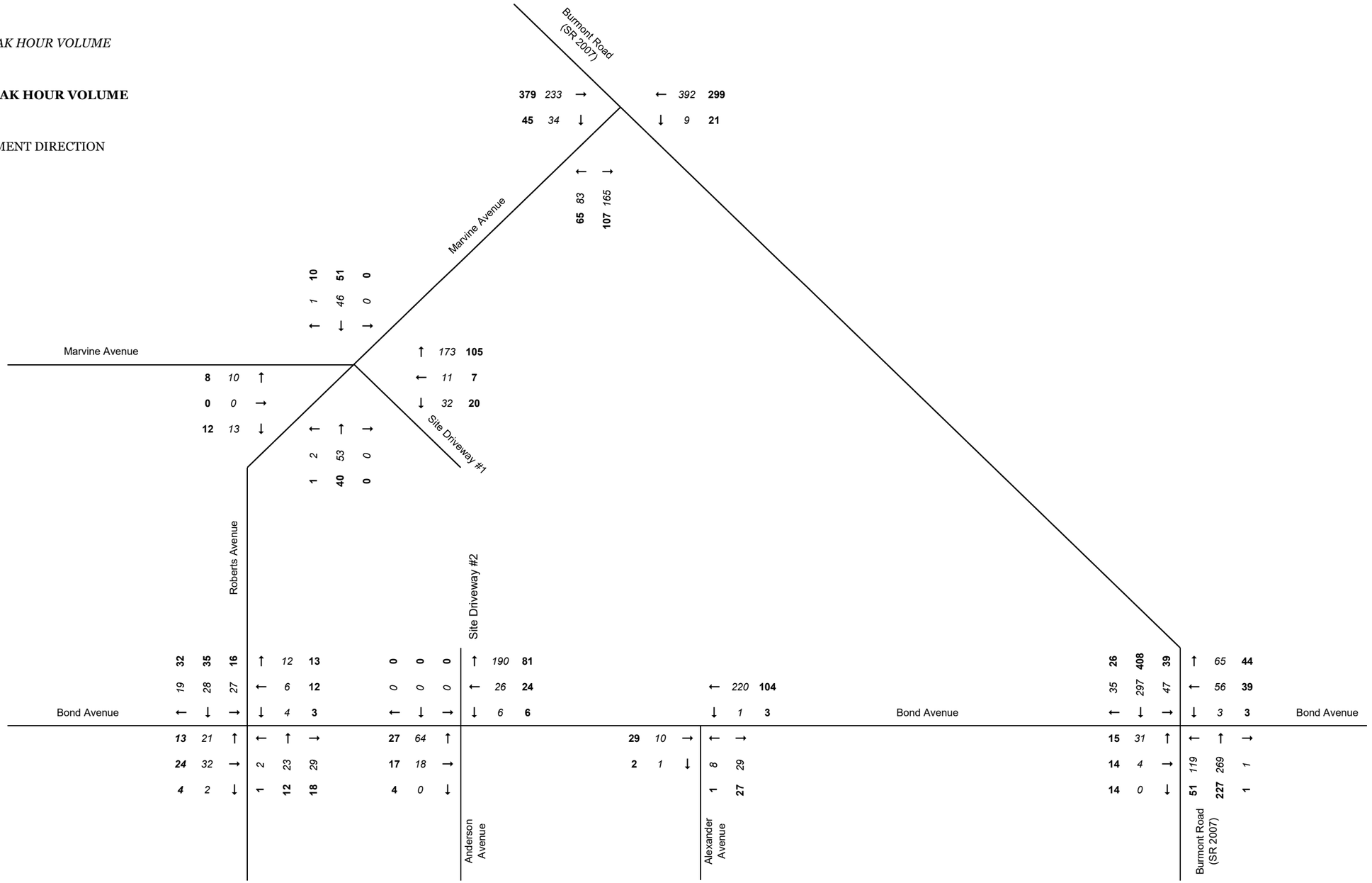
By: AMR Date: 8-28-19
Ckd By: PFW Date: 8-28-19

LEGEND

= *AM PEAK HOUR VOLUME*

= **PM PEAK HOUR VOLUME**

→ = MOVEMENT DIRECTION



NOT TO SCALE

APPENDIX A

CORRESPONDENCE

Est. 1989
TRAFFIC PLANNING AND DESIGN, INC.
WWW.TRAFFICPD.COM

Memorandum

To:	Thomas J. Judge Jr., Chief Administrative Officer
From:	Bryan Proska, PE
Date:	November 14, 2019
Re:	**Aronimink Elementary School Renovation** *Upper Darby Township, Delaware County, PA* TPD No. UDTO.00012
cc:	TPD File

As requested, Traffic Planning and Design, Inc. (TPD) conducted a transportation review of the proposed renovation and expansion of the Aronimink Elementary School in Upper Darby Township, Delaware County, PA.

PROJECT DESCRIPTION

The subject application is for the renovation and expansion of the Aronimink Elementary School to provide 36,000 additional square feet (s.f.) for gymnasium and classroom space, and the renovation of 11,000 s.f. within the existing building from administrative office space to classroom space. As noted in the submitted Transportation Impact Study (TIS), the school enrollment will increase from 253 students (SY 2018-2019) to 700 students. Access to the school is proposed via a new bus loop access along Burmont Road (SR 2007) and the existing site accesses to Bond Avenue and Marvine Road. In addition, two new accesses are proposed to Bond Avenue to provide access to an auxiliary parking area.

TRANSPORTATION REVIEW

The following items which were received by TPD were utilized in preparing this review:

- *Transportation Impact Study for the Aronimink Elementary School Rennovation* prepared by Pennoni Associates, Inc., dated September 24, 2019
- *Sheet CS1001 from the Preliminary/Final Land Development Submission* prepared by Pennoni Associates, Inc., August 29, 2019 and revised September 25, 2019

Based on our coordination and review of the received items, TPD offers the following comments for consideration:

Transportation Impact Study Comments

1. As a PennDOT Highway Occupancy Permit (HOP) is required for this project; prior to submission of a revised TIS, it is recommended that a PennDOT TIS scoping application be made.
2. Our office recommends an operational evaluation of the weekday PM school peak hour be provided given the afternoon dismissal bell occurs prior to the typical adjacent street peak hour. While overall network traffic volume is typically lower in the school peak hour compared to the commuter peak hour, there tends to be lower peak hour factors and higher concentration of traffic on certain movements which can garner different operational results.
3. The sight distance calculations shown in Table 4 for the proposed bus loop access driveways should be based on the truck requirement given the design vehicle (school buses).
4. There are some inconsistencies between the site trips shown in Figure 10 for the 2029 Build conditions and the trip generation values shown in Table 5. The trip assignment at the site accesses should be reviewed and revised accordingly.
5. Supplemental information should be provided related to the trip distribution assumed in the TIS. It is reasonable to assume that the proposed distribution models would differ from the existing distribution model as a result of changes to the school catchment area.
6. There are several instances noted on the Volume Development Worksheets that result in negative volumes for individual movements when existing site traffic was removed due to rounding. The traffic assignment should be reviewed and revised accordingly to match the trip generation values.
7. The operational analyses should be revised to incorporate Pennsylvania default values published by PennDOT including base saturation flow rates and headways.
8. The current school configuration, with reliance of on-street parent drop-off, results in a dispersion of traffic to the local roadway network. While our office agrees that the proposed site circulation is a noted improvement, there will be less dispersion of traffic to the local roadway network with the modifications. As such, the following items should be addressed:
    a. The proposed renovations will result in a greater concentration of entering school traffic from Burmont Road (SR 2007) at Bond Avenue. Auxiliary turn lane warrants should be evaluated at this intersection.
    b. The proposed renovations will result in a greater concentration of school traffic along Marvine Road approaching Burmont Road (SR 2007). Based on field observations during school arrival/dismissal, vehicle queuing on this approach was observed to be greater than the operational analysis indicates during school arrival/dismissal. The queue analysis should be re-evaluated to ensure the vehicles will not queue past the site access disrupting traffic flow.
9. A school route plan should be provided consisting of, but not limited to, a map showing the streets, school, existing traffic controls, school walk routes, established school crossing route, and school area traffic control devices.
10. A formal bus/staff/parent vehicle circulation policy should be developed, provided to the Township, and incorporated into the school handbook to ensure proper drop-off/pick-up procedures are followed.

Site Plan Comments

11. Perpendicular parking stalls are proposed within the main drop-off area with an adjacent interior drive aisle width of 18 feet. Industry standards suggest a minimum drive aisle width of 24 feet be provided with perpendicular parking stalls to ensure proper vehicle maneuvering.

12. Several dead-end parking areas are proposed within the site. §801 of the Upper Darby Township Zoning Code specifies all dead-end parking areas shall be designed to provide sufficient back-up areas for the end stalls of the parking area. Of particular concern is the area requiring vehicles to back-out to the parent drop-off lane to maneuver.

13. The circulation configuration in the ancillary parking area provides for dead-end, two-way parking nearest the bus loop. The configuration in this area should be revised to one-way flow with angled parking stalls.

14. The auxiliary parking area is proposed to also be utilized as an exterior playground area. The intended use of this area should be clearly demonstrated. The Township should consider whether these parking spaces can be included in the required parking calculation given this configuration.

15. Consideration should be given to parking accommodations during special events given the introduction of a gymnasium as part of the proposed renovation and expansion project.

16. The location of the proposed parent drop-off zone should be clearly shown on the plans. The ITE technical paper, "Greening of Student Pick-Ups at School Dismissal", recommends 6% of the total enrollment of students as a recommended on-site stacking length, or 42 vehicles. Assuming a length of 25 feet per vehicle, approximately 1,050 feet of stacking length would be needed. The adequacy to the parent drop-off should be further evaluated as it appears that less than 500 feet of on-site vehicle stacking is available.

17. The location of the proposed bus drop-off zone should be clearly shown on the plans. As indicated in the Transportation Impact Study, up to nine (9) buses are anticipated at full build-out conditions. Assuming a space allocation of 45 feet per stacked bus, approximately 405 feet of stacking length from the pick-up/drop-off location should be provided to accommodate the projected need.

    If changes to the transportation programming occur that would result in any increased bus activity above the nine (9) buses currently anticipated, the plans would need to sufficiently address the number of buses anticipated to be loading and unloading at any time.

18. The current design would require student walkers to cross the proposed parent drop-off loop. Consideration should be given to provide sidewalk connectivity to eliminate the need for a crossing or additional measures provided to reduce vehicle-pedestrian conflicts.

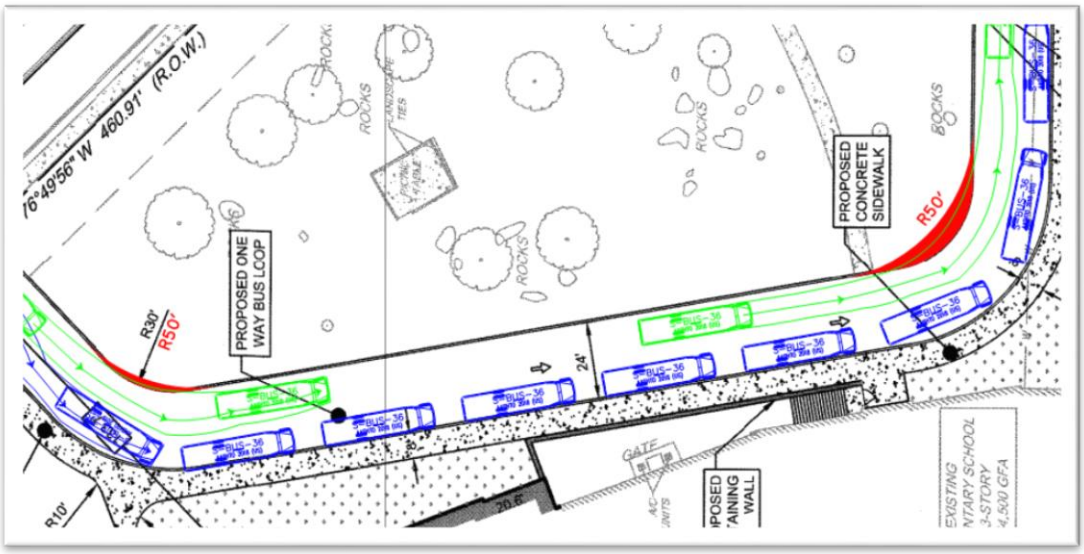
19. The accessible routes for the accessible parking stalls should be clearly denoted on the plans.

20. It does not appear that student bikers are accommodated. Consideration should be given to providing bicycle facilities, such as bicycle parking, depending on Upper Darby School Districts' bicycling policy.

21. Vehicle maneuverability diagrams should be provided to show that a school bus and Upper Darby Township's largest fire truck can access and circulate within the site.

    As illustrated below, it appears the radii on the proposed bus loop are not sufficiently sized to provide an effective by-pass lane for circulating school buses around parked school buses and should be revised accordingly. Our office recommends that this design be further reviewed by

the Fire Marshal with respect to fire codes and local requirements.



22. School zone signage and traffic control devices should be comprehensively reviewed and revised as necessary around the school property to comply with current standards.

23. The existing access to Bond Avenue opposite Alexander Avenue should be revised to better define the driveway and protect the first on-site parking stall.

24. Upper Darby Township should consider prohibiting on-street parking along the school frontage during school hours. Of particular concern is the traffic flow along Bond Avenue given the increased concentration of school-related traffic and the limited cartway width with on-street parking on both sides of Bond Avenue.

    Regardless of whether parking prohibition is implemented on the entire school frontage, on-street parking will need to be restricted on the northern side of Bond Avenue between Alexander Avenue and Blythe Avenue due to several conflicts including crosswalks and the proposed site access points.

25. Any adjustments to public street traffic and parking regulations including but not limited to turn restrictions, parking prohibitions, intersection traffic control, and/or direction of travel, must be addressed and approved by Upper Darby Township Council and/or PennDOT depending on jurisdiction.

26. The following existing deficient conditions were noted pertaining to the pedestrian facilities along the site frontage:
    a. Sidewalk along Bond Avenue, Roberts Avenue and Marvine Avenue is four-feet wide whereas ADA requires five feet or a five-foot by five-foot passing area every 200 feet.
    b. The existing curb ramps at intersections are not ADA-compliant.
    c. There are several locations where curb ramps are not present at intersections.

    Upper Darby Township should consider requiring the Applicant to upgrade the pedestrian facilities along the site frontage to address these noted deficiencies.

If you have any questions or comments related to this transportation review, please do not hesitate to contact us.

Paul Wood

From: Mike Kelly <mike.kelly@kcba-architects.com>
Sent: Thursday, June 20, 2019 4:18 PM
To: 'Frank Salerno'
Cc: Marvin Lee; Duane Johnson; Ryan Orr; Thomas J. Friese
Subject: RE: Response to question

Frank,
No problem. We were happy to attend.

Thanks for the information below. We will take this into consideration as the design progresses.

Mike

From: Frank Salerno <fsalerno@upperdarbysd.org>
Sent: Thursday, June 20, 2019 3:47 PM
To: jillcamuti@gmail.com
Cc: Marvin Lee <mlee@upperdarbysd.org>; Duane Johnson <dsjohnson@upperdarbysd.org>; Mike Kelly <mike.kelly@kcba-architects.com>; Ryan Orr <ryan.orr@kcba-architects.com>
Subject: Response to question

Hello,

Thank you for attending the Environmental Advisory Committee meeting this week. At the meeting you asked a great question about the number of busses currently scheduled for Aronimink Elementary School and how many busses will be scheduled after the completion of the addition / renovation.

Currently, there are 3 busses going to Aronimink twice per day (drop off and pick up). After the completion of the project, the Aronimink building will temporarily house all Aronimink students and half-day kindergarten students who would otherwise attend the K-Center. During this time, there will likely be a total of 9 busses going to Aronimink twice per day and 6 busses dropping off the PM Kindergarten students and picking up the AM Kindergarten students in the middle of the day.

Please let me know if you have any additional questions or concerns.

Thank you,

--
Frank J. Salerno
Interim Director of Elementary Education
4611 Bond Ave.
Drexel Hill, PA 19026
fsalerno@upperdarbysd.org
610-789-7200

Andrew Robison

From: Abhishek Joshi
Sent: Wednesday, August 21, 2019 4:48 PM
To: Paul Wood; Andrew Robison
Subject: FW: Aronimink Traffic Study

From: Frank Salerno <fsalerno@upperdarbysd.org>
Sent: Wednesday, August 21, 2019 4:42 PM
To: Ryan Orr <ryan.orr@kcba-architects.com>
Cc: Thomas J. Friese <TFriese@Pennoni.com>; Mike Kelly <mike.kelly@kcba-architects.com>; Jason Sheridan <JSheridan@Pennoni.com>; Abhishek Joshi <AJoshi@Pennoni.com>; James P. Markham <JMarkham@Pennoni.com>; Joshua Rehak <jrehak@upperdarbysd.org>; Dan McGarry <dmcgarry@upperdarbysd.org>
Subject: Re: Aronimink Traffic Study

Hello,

Please see my responses below in red.

Total enrollment (existing and proposed)

Existing = 253 Full Day ES Students (this is the correct current enrollment)

When K Center & Aronimink ES = 253 Full Day ES (this is based on the current enrollment and what we presented last night - the projected enrollment for the 2021/2020 SY at Aronimink is 277) Students

283 AM Kindergarten + 284 PM Kindergarten Students (561 total Students at one time)

After K Center moves out (Planned for 2-5 years, but could be longer) = Maximum 700 Student Capacity (SD anticipates 650 students)

Staff (existing and proposed)

Existing = 37 Aronimink ES Staff + 51 DAO Staff

Proposed = 80 Staff

On Wed, Aug 21, 2019 at 11:40 AM Ryan Orr <ryan.orr@kcba-architects.com> wrote:

> Tom,
>
> I have copied a few team members from the school district to confirm numbers of existing staffing between Aronimink ES & DAO. Please call me if there are any questions on any of the below answers:

Total enrollment (existing and proposed)

Existing = 253 Full Day ES Students

When K Center & Aronimink ES = 253 Full Day ES Students & 275 AM Kindergarten + 275 PM Kindergarten Students (528 total Students at one time)

After K Center moves out (Planned for 2-5 years, but could be longer) = Maximum 700 Student Capacity (SD anticipates 650 students)

Staff (existing and proposed)

Existing = 36.5 Aronimink ES Staff + 51 DAO Staff **(Frank & Josh can you please confirm)**

Proposed = 70 Staff

SF breakdown of existing and proposed building.

Existing = 54,500 sf (15 Classrooms)

Proposed = 54,500 sf + 36,000 sf = 90,500 sf (34 Classrooms)

Phasing with dates (Admin, Kindergarten Center, etc.)

DAO Moves Out = Jan. 2020

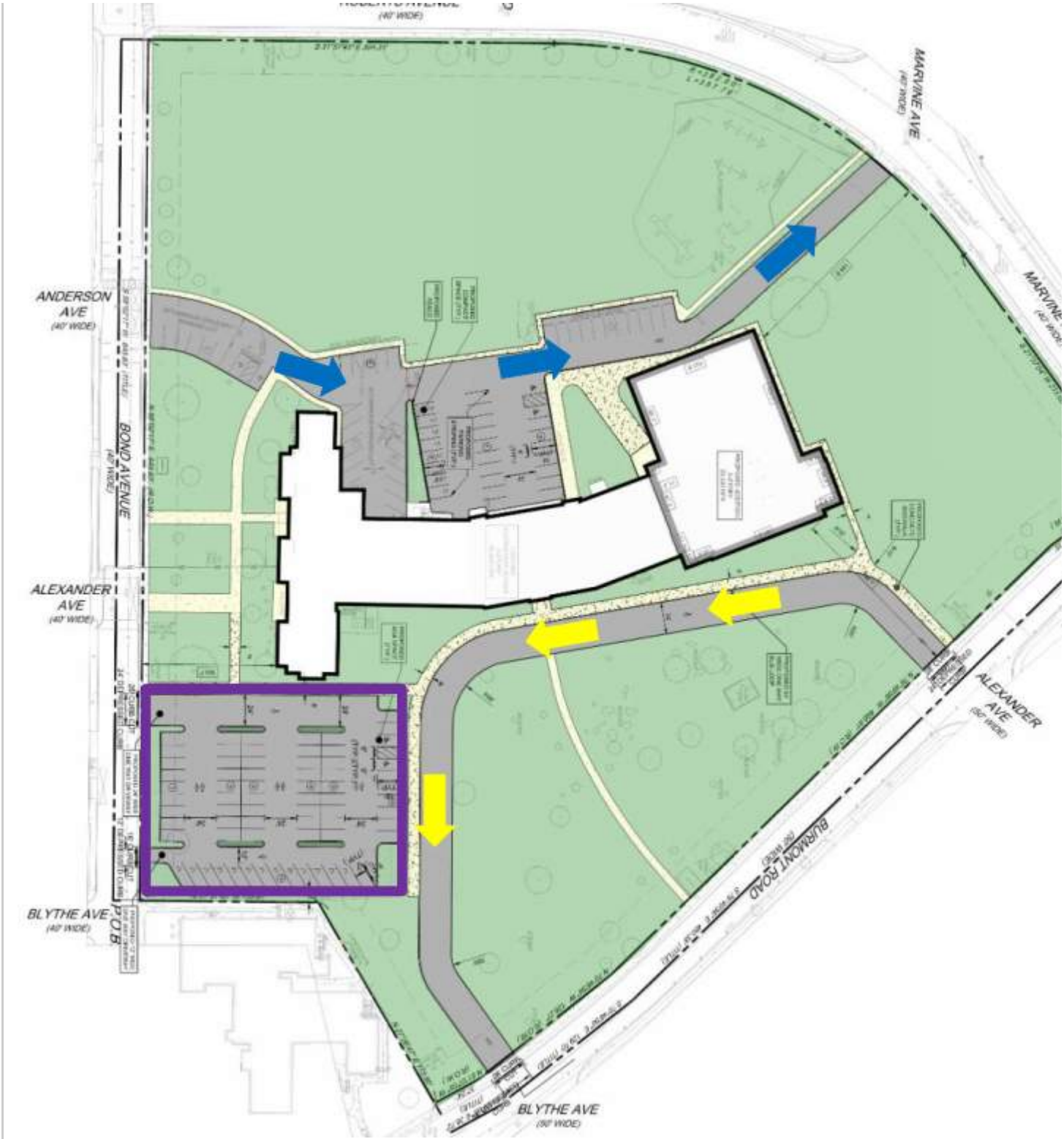
Aronimink ES School population remains at 253 through August 2021

K Center Moves to Aronimink [275 AM Kindergarten + 275 PM Kindergarten Students (528 total Students at one time)] in August 2021

Updated circulation plan (Jason will provide)

Current Circulation: Bus loop Pick-up/Drop-off in Yellow WITHIN Faculty Parking. Parent AM/PM for Pick-up/Drop-off in Red – on street. Front lot is DAO parking, mid area is hard scape play, and rear lot is faculty parking and bus Pick-up/Drop-off.

Proposed Circulation: Bus loop Pick-up/Drop-off in Yellow. Parent Loop AM/PM for Pick-up/Drop-off in Blue. Purple Lot Faculty + Mid Day Parent Loop for Pick-up/Drop-off.



Thank You,

Ryan

Building Area Summary

Existing School:	43,500 SF	
Existing DAO:	11,000 SF	
Total Existing Building:	54,500 SF	15 Classrooms
New Gymnasium:	8,000 SF	
Classroom Addition:	28,000 SF	
Total Addition:	36,000 SF	
Total Existing + Addition:	**90,500 SF**	**34 Classrooms**

kcba Architects

Ryan Orr, AIA, ARA, NCARB
Architect | Project Designer

KCBA Architects

Hatfield

t 215.368.5806
f 215.368.3580

ryan.orr@kcba-architects.com

www.kcba-architects.com

Abhishek Joshi, PE, PTOE

Pennoni
1900 Market St, Suite 300 | Philadelphia, PA 19103
Direct: +1 (215) 254-7768
www.pennoni.com | AJoshi@Pennoni.com

From: Thomas J. Friese <TFriese@Pennoni.com>
Sent: Wednesday, August 21, 2019 11:05 AM
To: Ryan Orr <ryan.orr@kcba-architects.com>
Cc: Mike Kelly <mike.kelly@kcba-architects.com>; Jason Sheridan <JSheridan@Pennoni.com>; Abhishek Joshi <AJoshi@Pennoni.com>; James P. Markham <JMarkham@Pennoni.com>
Subject: Aronimink Traffic Study
Importance: High

Ryan- Our traffic engineers would like the latest data on the Aronimink project. A list of desired information is below. Can you provide this?

Thank you,

Tom

Total enrollment (existing and proposed)

Staff (existing and proposed)

SF breakdown of existing and proposed building.

Phasing with dates (Admin, Kindergarten Center, etc.)

Updated circulation plan (Jason will provide)

Thomas J. Friese, PE
Land Development Division Manager

Pennoni
1900 Market St, Suite 300 | Philadelphia, PA 19103
Direct: +1 (215) 254-7781 | **Mobile:** +1 (267) 693-8048
www.pennoni.com | TFriese@Pennoni.com

PARTNERS FOR WHAT'S POSSIBLE

Smart Solutions are for everyone

--
Frank J. Salerno
Director of Elementary Education
4611 Bond Ave.
Drexel Hill, PA 19026
fsalerno@upperdarbysd.org
610-789-7200

UPPER DARBY SCHOOL DISTRICT
Opportunity · Unity · Excellence

APPENDIX B

INTERSECTION PHOTOS / FIELD SKETCHES

1. Burmont Road (SR 2007) and Marvine Avenue

EB Burmont Road (SR 2007) – 50 Feet

EB Burmont Road (SR 2007) – 200 Feet

1. Burmont Road (SR 2007) and Marvine Avenue

WB Burmont Road (SR 2007) – 50 Feet

WB Burmont Road (SR 2007) – 200 Feet

1. Burmont Road (SR 2007) and Marvine Avenue

NB Marvine Avenue – 50 Feet

NB Marvine Avenue – 200 Feet

2. Marvine Avenue and Roberts Avenue and Site Driveway 1

EB Marvine Avenue – 50 Feet

EB Marvine Avenue – 200 Feet

2. Marvine Avenue and Roberts Avenue and Site Driveway 1

WB Site Driveway 1 – 50 Feet

WB Site Driveway 1 – 200 Feet

2. Marvine Avenue and Roberts Avenue and Site Driveway 1

NB Roberts Avenue – 50 Feet

NB Roberts Avenue – 200 Feet

2. Marvine Avenue and Roberts Avenue and Site Driveway 1

SB Marvine Avenue – 50 Feet

SB Marvine Avenue – 200 Feet

3. Bond Avenue and Roberts Avenue

EB Bond Avenue – 50 Feet

EB Bond Avenue – 200 Feet

3. Bond Avenue and Roberts Avenue

WB Bond Avenue – 50 Feet

WB Bond Avenue – 200 Feet

3. Bond Avenue and Roberts Avenue

NB Roberts Avenue – 50 Feet

NB Roberts Avenue – 200 Feet

3. Bond Avenue and Roberts Avenue

SB Roberts Avenue – 50 Feet

SB Roberts Avenue – 200 Feet

4. Bond Avenue and Anderson Avenue / Site Driveway 2

EB Bond Avenue – 50 Feet

EB Bond Avenue – 200 Feet

4. Bond Avenue and Anderson Avenue / Site Driveway 2

WB Bond Avenue – 50 Feet

WB Bond Avenue – 200 Feet

4. Bond Avenue and Anderson Avenue / Site Driveway 2

NB Bond Avenue – 50 Feet

NB Bond Avenue – 200 Feet

4. Bond Avenue and Anderson Avenue / Site Driveway 2

SB Site Driveway 2 – 50 Feet

SB Site Driveway 2 – 200 Feet

5. Bond Avenue and Alexander Avenue

WB Bond Avenue – 50 Feet

WB Bond Avenue – 200 Feet

5. Bond Avenue and Alexander Avenue

NB Alexander Avenue – 50 Feet

NB Alexander Avenue – 200 Feet

5. Bond Avenue and Alexander Avenue

EB Bond Avenue – 50 Feet

EB Bond Avenue – 200 Feet

6. Burmont Road (SR 2007) and Bond Avenue

SB Burmont Road (SR 2007) – 50 Feet

SB Burmont Road (SR 2007) – 200 Feet

6. Burmont Road (SR 2007) and Bond Avenue

WB Bond Avenue – 50 Feet

WB Bond Avenue – 200 Feet

6. Burmont Road (SR 2007) and Bond Avenue

NB Burmont Road (SR 2007) – 50 Feet

NB Burmont Road (SR 2007) – 200 Feet

6. Burmont Road (SR 2007) and Bond Avenue

EB Bond Avenue – 50 Feet

EB Bond Avenue – 200 Feet

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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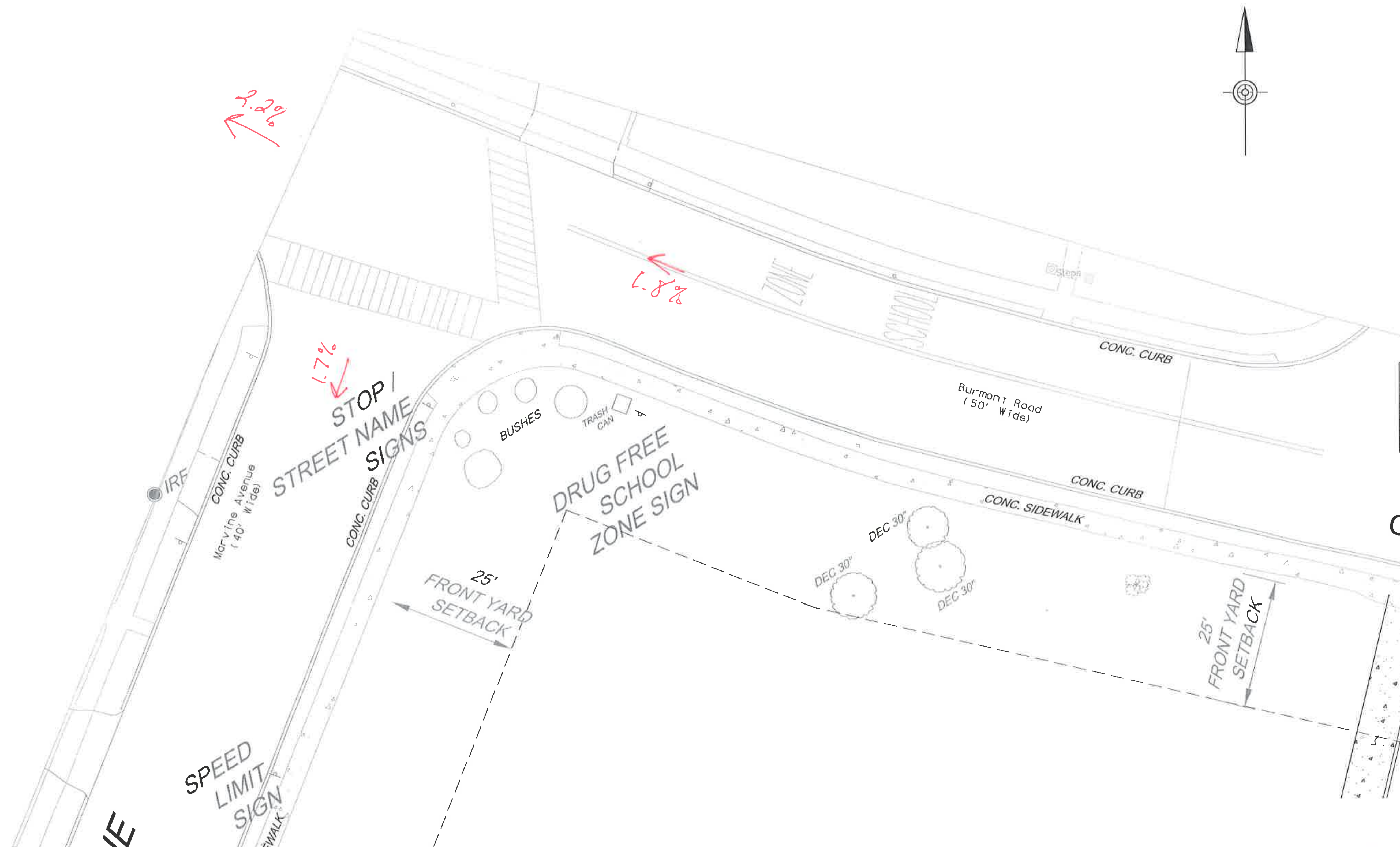
REVISON NUMBER	REVISIONS	DATE	BY



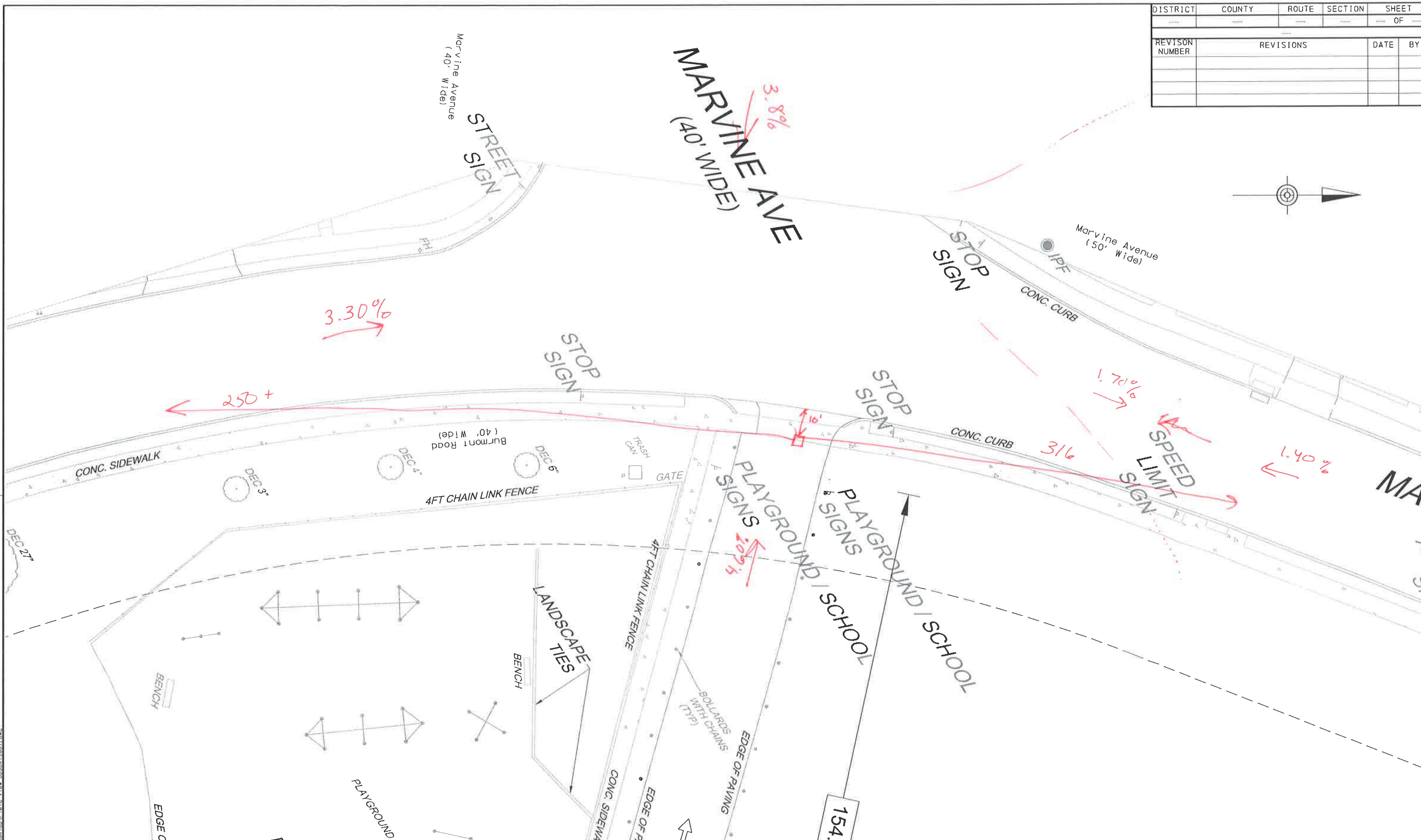
Scale 1"=10'

NOT FOR CONSTRUCTION

Marvine Avenue and Burmont Road

FOR PROFILE, SEE SHEET | SURVEY BOOK #

PENNONI ASSOCIATES INC.
USER NAME:ANTHONY RIZZO
PEN TABLE:PENNONI NCS.STB
PLOT DRIVER:DWG TO PDF.PC3
DATE PLOTTED:8/22/2019 5:00 PM
FILE NAME:C:\Users\ARizzo\Desktop\Field View UDSDX19001.dwg



Scale 1"=10'

NOT FOR CONSTRUCTION

Marvine Avenue and Roberts Avenue

FOR PROFILE, SEE SHEET | SURVEY BOOK #

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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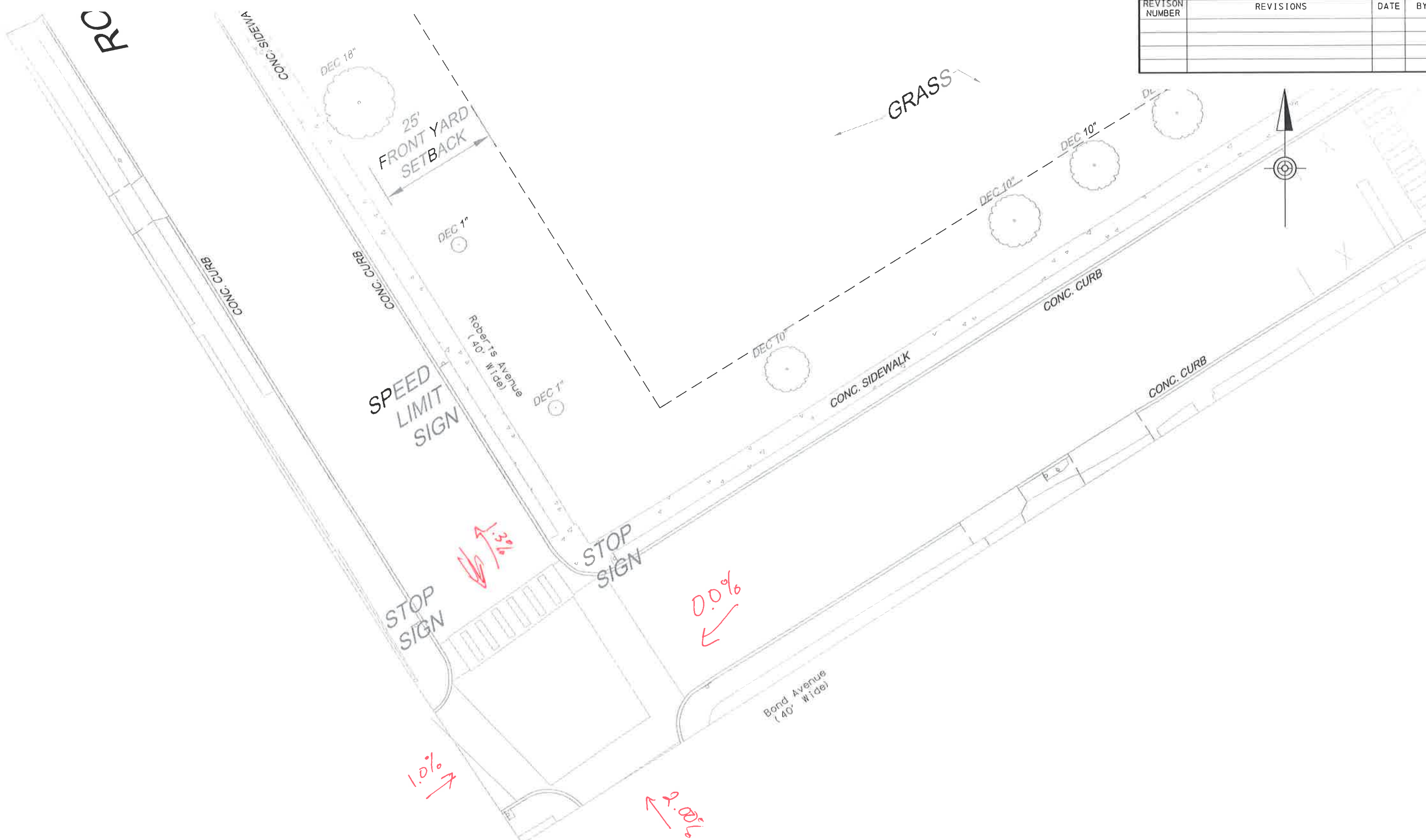
REVISON NUMBER	REVISIONS	DATE	BY



SEE SHEET

SEE SHEET

Scale 1"=10'

NOT FOR CONSTRUCTION

Roberts Avenue and Bond Avenue

FOR PROFILE, SEE SHEET | SURVEY BOOK #

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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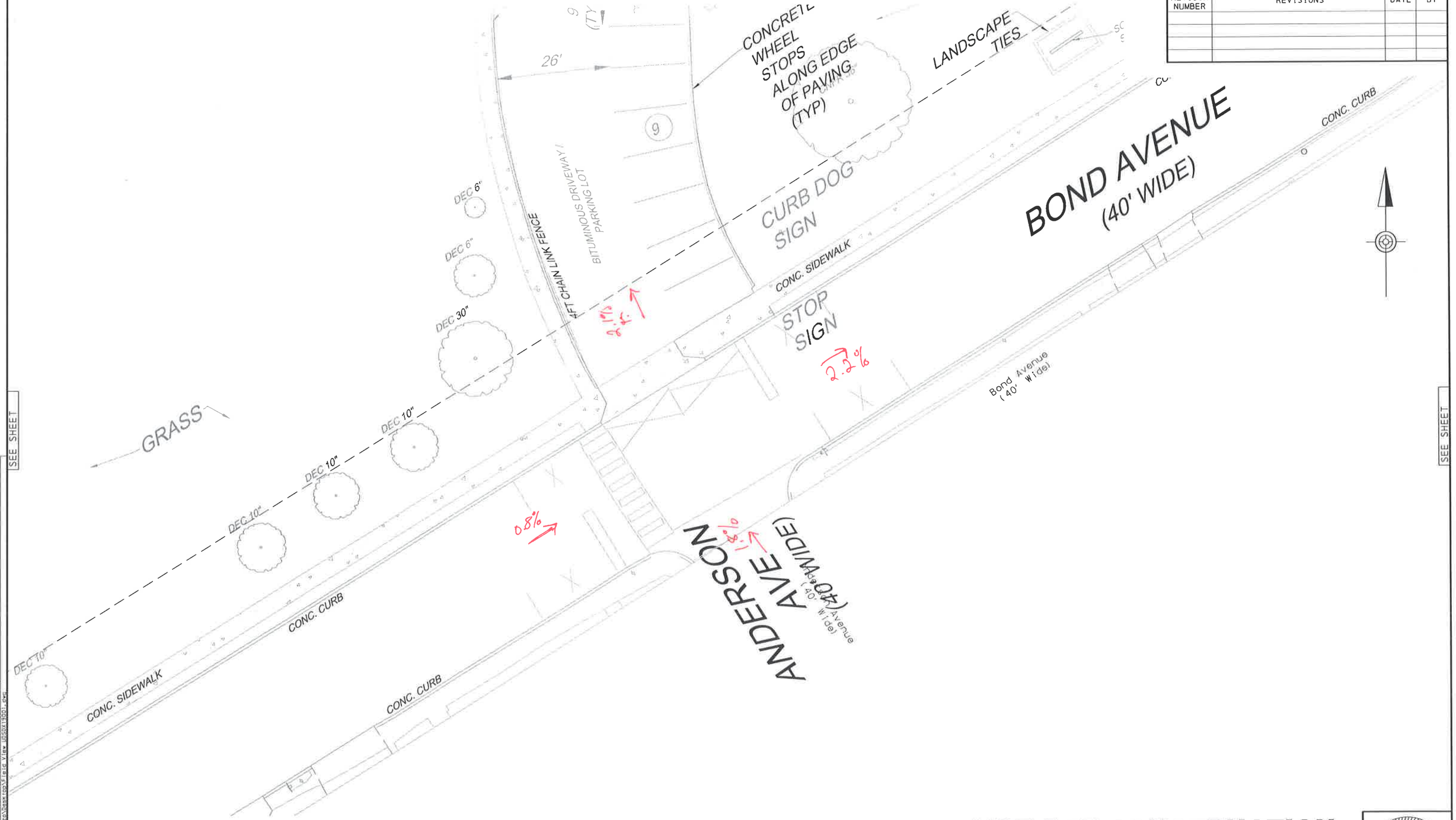
REVISON NUMBER	REVISIONS	DATE	BY



Scale 1"=10'

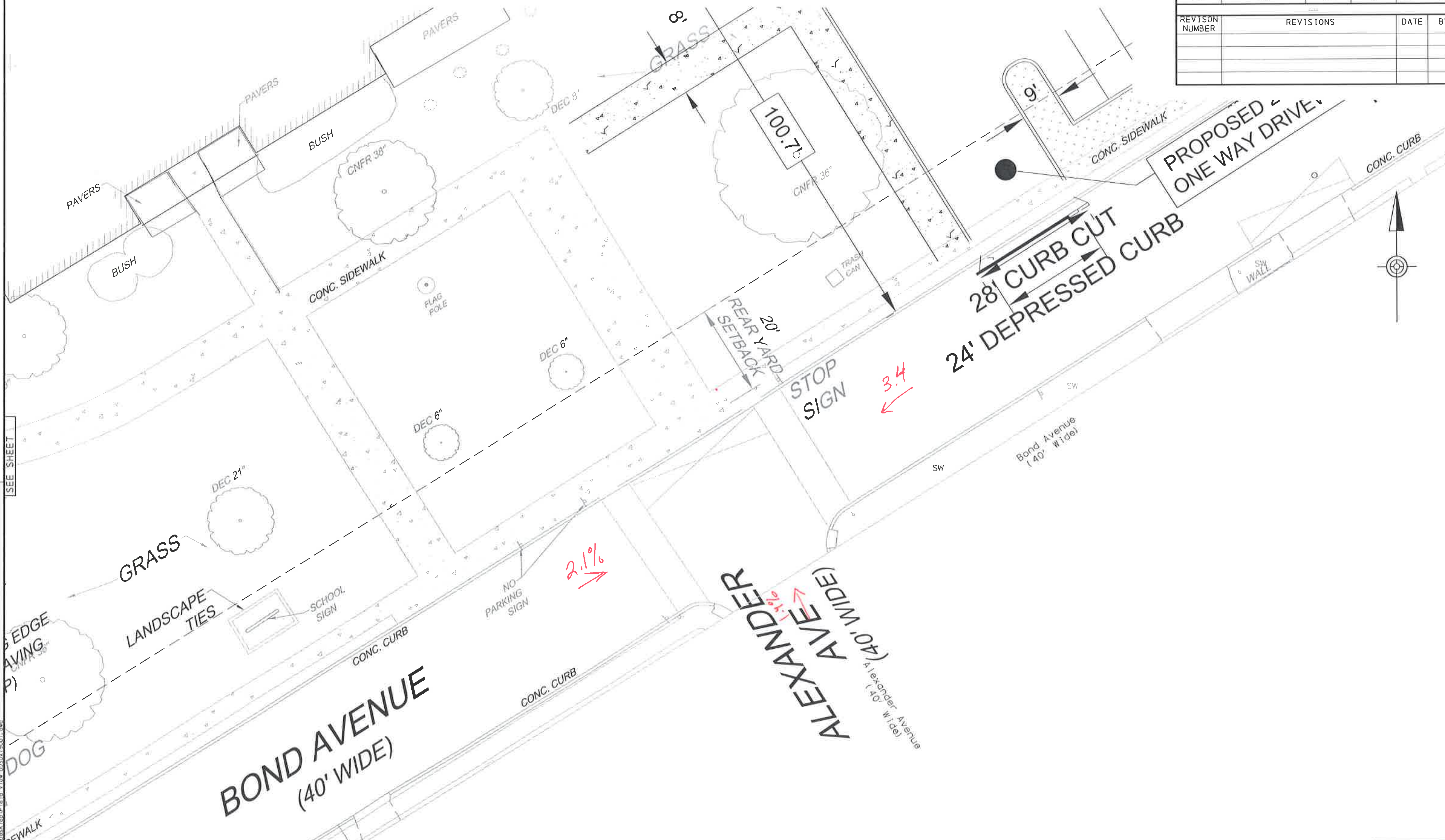
NOT FOR CONSTRUCTION

Bond Avenue and Anderson Avenue

FOR PROFILE, SEE SHEET | SURVEY BOOK #

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				OF

REVISON NUMBER	REVISIONS	DATE	BY



Scale 1"=10'

NOT FOR CONSTRUCTION

Bond Avenue and Alexander Avenue

FOR PROFILE, SEE SHEET | SURVEY BOOK #

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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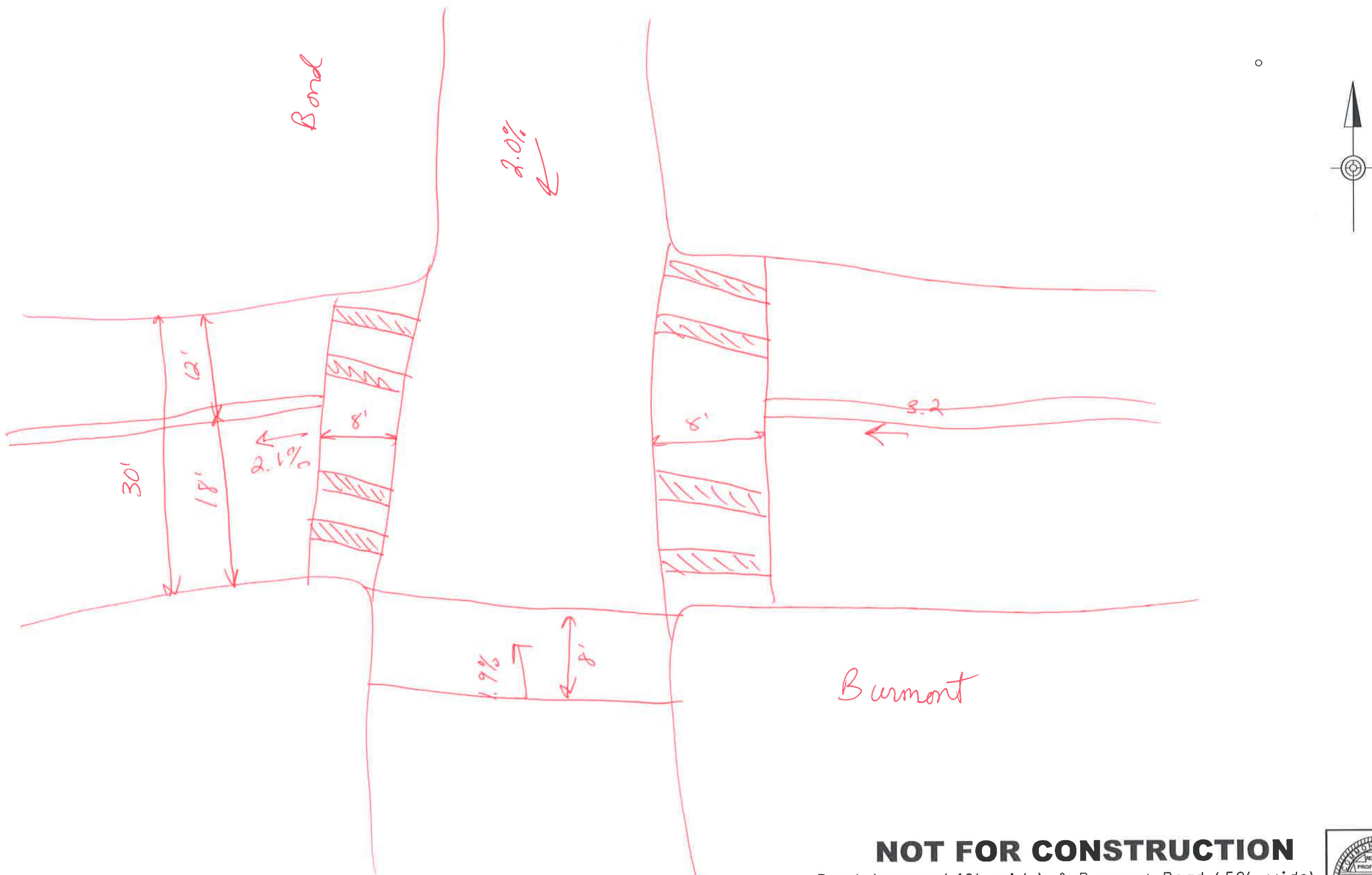
REVISON NUMBER	REVISIONS	DATE	BY

SEE SHEET



SEE SHEET

Scale 1"=10'

NOT FOR CONSTRUCTION

Bond Avenue (40' wide) & Burmont Road (50' wide)

FOR PROFILE, SEE SHEET | SURVEY BOOK #

PENNONI ASSOCIATES INC.
USER NAME: ANTHONY RIZZO
PEN TABLE: PENNONI NCS.STB
PLOT DRIVER: DWG TO PDF.PC3
DATE PLOTTED: 8/22/2019 5:00 PM
FILE NAME: C:\Users\ARizzo\Desktop\Field View UD5DX19001.dwg

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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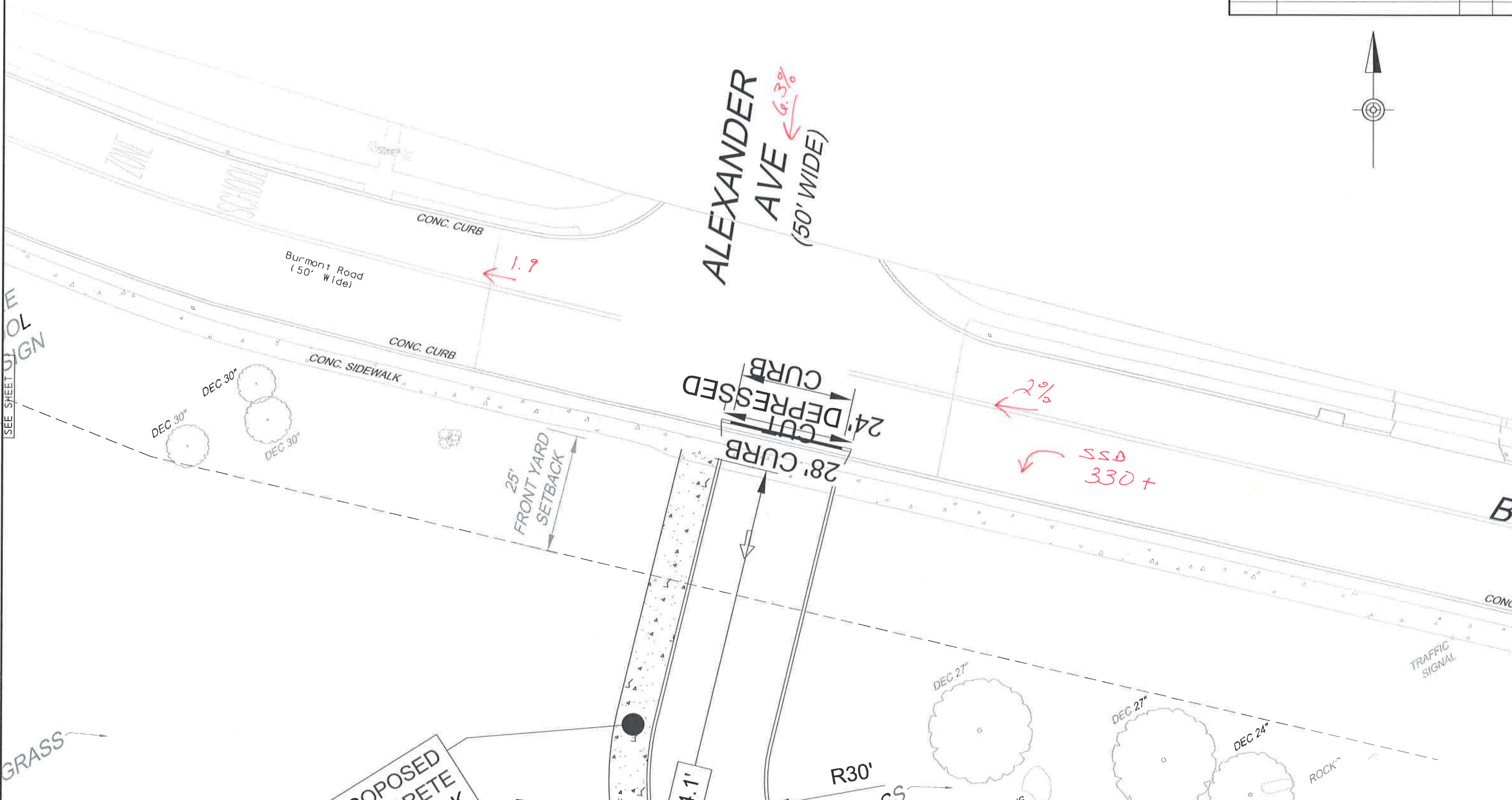
REVISON NUMBER	REVISIONS	DATE	BY

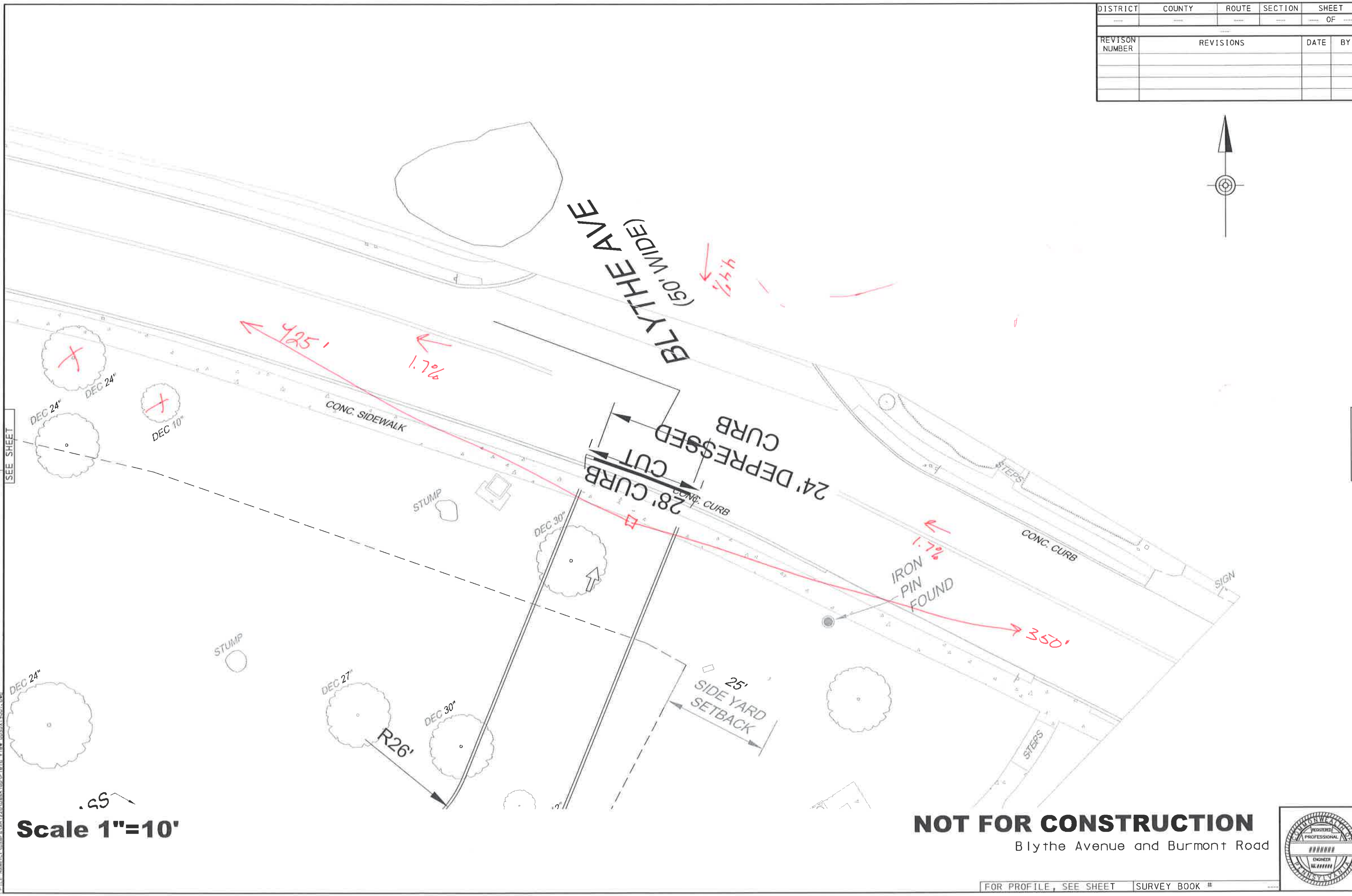


Scale 1"=10'

NOT FOR CONSTRUCTION

Alexander Avenue and Burmont Road

FOR PROFILE, SEE SHEET | SURVEY BOOK #



DISTRICT
COUNTY
ROUTE
SECTION
SHEET
OF
REVISON NUMBER
REVISIONS
DATE
BY
BLYTHE AVE
(50' WIDE)
24' DEPRESSED CURB
28' CURB CUT
CONC. SIDEWALK
CONC. CURB
IRON PIN FOUND
STUMP
STEPS
SIGN
25' SIDE YARD SETBACK
R26'
DEC 24"
DEC 10"
DEC 30"
DEC 27"
425'
350'
1.7%
4.4%
SEE SHEET
Scale 1"=10'
NOT FOR CONSTRUCTION
Blythe Avenue and Burmont Road
FOR PROFILE, SEE SHEET
SURVEY BOOK #

APPENDIX C

MANUAL TURNING MOVEMENT COUNTS

1. Marvine Avenue & Burmont Road - TMC

Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646835, Location: 39.954262, -75.316951, Site Code: 1

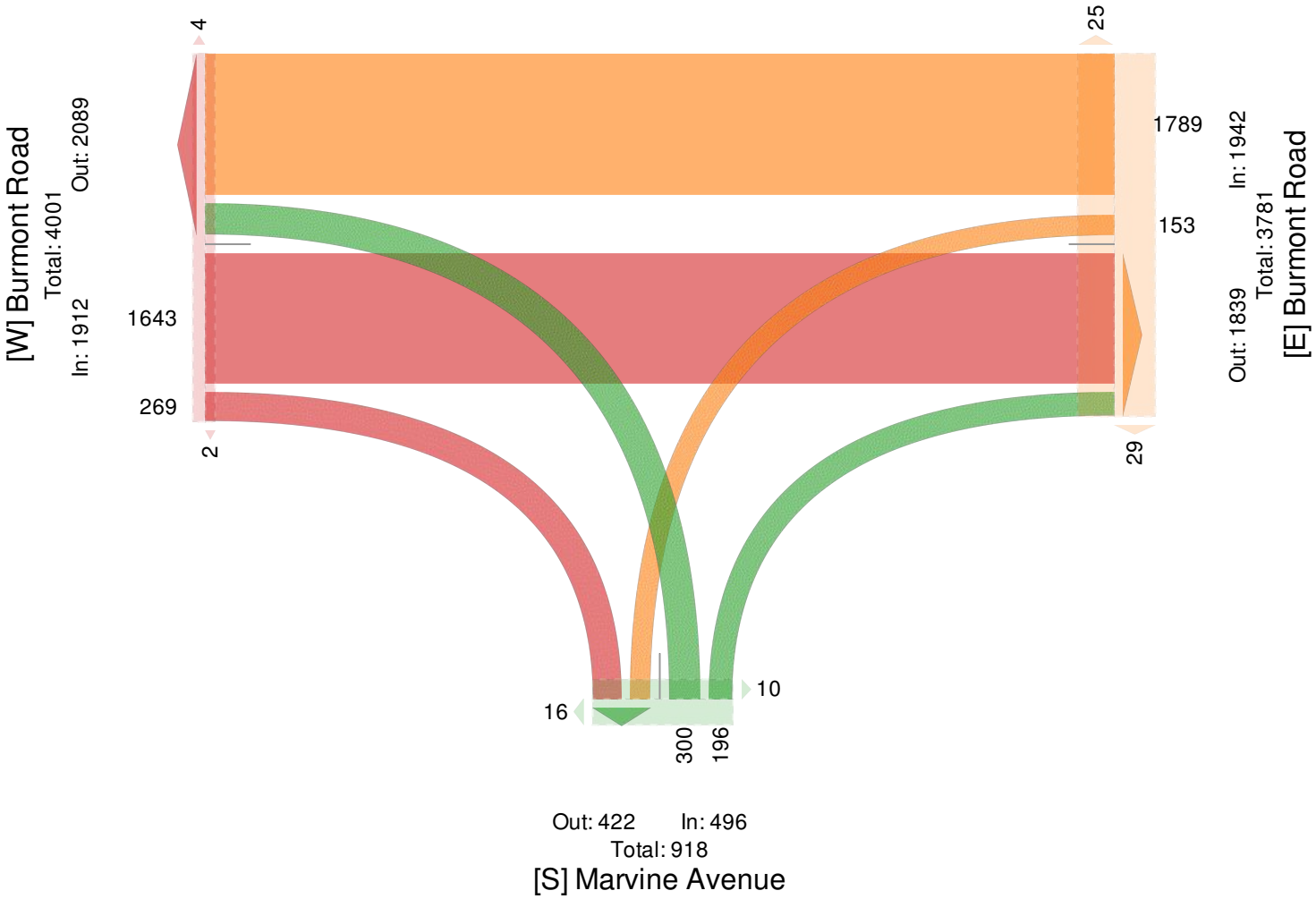
Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US

Leg / Direction	Burmont Road Eastbound					Burmont Road Westbound					Marvine Avenue Northbound					
Time	T	R	U	App	Ped*	L	T	U	App	Ped*	L	R	U	App	Ped*	Int
2019-04-25 7:00AM	31	6	0	**37**	0	5	109	0	**114**	0	11	1	0	**12**	0	**163**
7:15AM	40	5	0	**45**	0	0	119	0	**119**	0	10	10	0	**20**	3	**184**
7:30AM	54	12	0	**66**	0	7	101	0	**108**	3	20	8	0	**28**	0	**202**
7:45AM	60	11	0	**71**	0	9	90	0	**99**	0	22	11	0	**33**	4	**203**
Hourly Total	185	34	0	**219**	0	21	419	0	**440**	3	63	30	0	**93**	7	**752**
8:00AM	53	12	0	**65**	0	12	82	0	**94**	0	15	12	0	**27**	0	**186**
8:15AM	40	9	0	**49**	0	3	83	0	**86**	2	6	5	0	**11**	1	**146**
8:30AM	33	7	0	**40**	0	16	74	0	**90**	7	19	21	0	**40**	0	**170**
8:45AM	40	8	0	**48**	0	9	69	0	**78**	0	17	16	0	**33**	0	**159**
Hourly Total	166	36	0	**202**	0	40	308	0	**348**	9	57	54	0	**111**	1	**661**
9:00AM	45	4	0	**49**	0	2	58	0	**60**	1	11	6	0	**17**	2	**126**
9:15AM	38	4	0	**42**	0	1	61	0	**62**	2	10	3	0	**13**	0	**117**
9:30AM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	83	8	0	**91**	0	3	119	0	**122**	3	21	9	0	**30**	2	**243**
2:30PM	70	15	0	**85**	0	7	65	0	**72**	0	6	5	0	**11**	0	**168**
2:45PM	77	21	0	**98**	0	3	77	0	**80**	15	7	1	0	**8**	3	**186**
Hourly Total	147	36	0	**183**	0	10	142	0	**152**	15	13	6	0	**19**	3	**354**
3:00PM	91	13	0	**104**	0	5	60	0	**65**	4	6	6	0	**12**	1	**181**
3:15PM	57	10	0	**67**	0	5	50	0	**55**	8	16	16	0	**32**	0	**154**
3:30PM	83	14	0	**97**	0	5	67	0	**72**	2	11	4	0	**15**	1	**184**
3:45PM	87	15	0	**102**	0	6	74	0	**80**	0	11	9	0	**20**	0	**202**
Hourly Total	318	52	0	**370**	0	21	251	0	**272**	14	44	35	0	**79**	2	**721**
4:00PM	88	12	0	**100**	0	8	71	0	**79**	0	15	9	0	**24**	1	**203**
4:15PM	102	13	0	**115**	0	5	80	0	**85**	1	14	6	0	**20**	1	**220**
4:30PM	86	7	0	**93**	0	9	67	0	**76**	0	11	13	0	**24**	2	**193**
4:45PM	92	15	0	**107**	0	7	81	0	**88**	3	15	4	0	**19**	0	**214**
Hourly Total	368	47	0	**415**	0	29	299	0	**328**	4	55	32	0	**87**	4	**830**
5:00PM	102	13	0	**115**	2	6	64	0	**70**	0	11	5	0	**16**	3	**201**
5:15PM	93	18	0	**111**	4	7	58	0	**65**	1	10	5	0	**15**	4	**191**
5:30PM	84	18	0	**102**	0	6	76	0	**82**	3	9	9	0	**18**	0	**202**
5:45PM	97	7	0	**104**	0	10	53	0	**63**	2	17	11	0	**28**	0	**195**
Hourly Total	376	56	0	**432**	6	29	251	0	**280**	6	47	30	0	**77**	7	**789**
Total	1643	269	0	**1912**	6	153	1789	0	**1942**	54	300	196	0	**496**	26	**4350**
% Approach	85.9%	14.1%	0%	**-**	-	7.9%	92.1%	0%	**-**	-	60.5%	39.5%	0%	**-**	-	-
% Total	37.8%	6.2%	0%	**44.0%**	-	3.5%	41.1%	0%	**44.6%**	-	6.9%	4.5%	0%	**11.4%**	-	-
Lights	1598	263	0	**1861**	-	144	1741	0	**1885**	-	298	183	0	**481**	-	4227
% Lights	97.3%	97.8%	0%	**97.3%**	-	94.1%	97.3%	0%	**97.1%**	-	99.3%	93.4%	0%	**97.0%**	-	97.2%
Articulated Trucks	1	1	0	**2**	-	0	1	0	**1**	-	0	1	0	**1**	-	4
% Articulated Trucks	0.1%	0.4%	0%	**0.1%**	-	0%	0.1%	0%	**0.1%**	-	0%	0.5%	0%	**0.2%**	-	0.1%
Buses and Single-Unit Trucks	44	5	0	**49**	-	9	47	0	**56**	-	2	12	0	**14**	-	119
% Buses and Single-Unit Trucks	2.7%	1.9%	0%	**2.6%**	-	5.9%	2.6%	0%	**2.9%**	-	0.7%	6.1%	0%	**2.8%**	-	2.7%
Pedestrians	-	-	-	-	4	-	-	-	-	51	-	-	-	-	26	
% Pedestrians	-	-	-	-	66.7%	-	-	-	-	94.4%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	3	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	33.3%	-	-	-	-	5.6%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Marvine Avenue & Burmont Road - TMC
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646835, Location: 39.954262, -75.316951, Site Code: 1

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



1. Marvine Avenue & Burmont Road - TMC

Thu Apr 25, 2019
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646835, Location: 39.954262, -75.316951, Site Code: 1

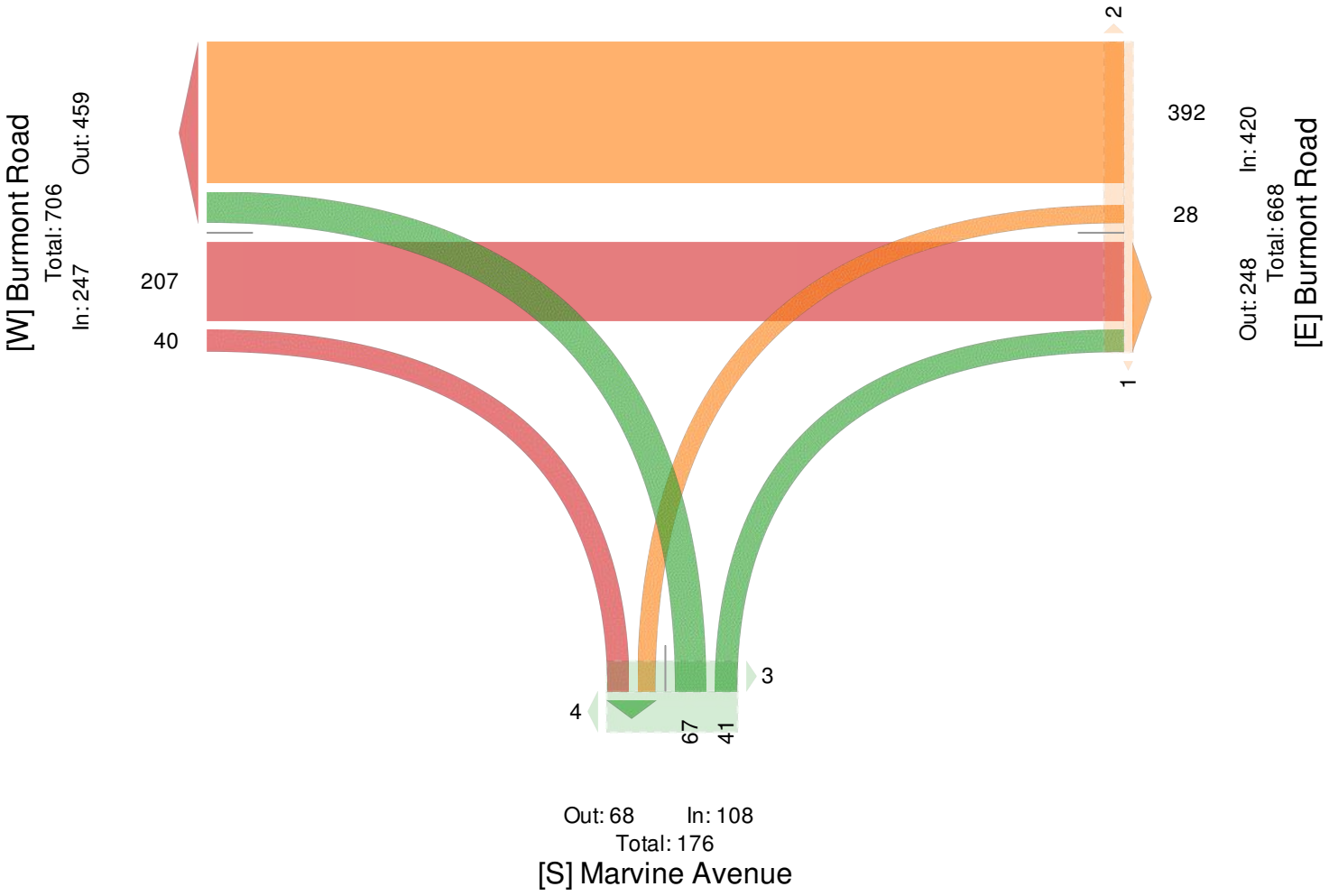
Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US

Leg Direction	Burmont Road Eastbound					Burmont Road Westbound					Marvine Avenue Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2019-04-25 7:15AM	40	5	0	**45**	0	0	119	0	**119**	0	10	10	0	**20**	3	**184**
7:30AM	54	12	0	**66**	0	7	101	0	**108**	3	20	8	0	**28**	0	**202**
7:45AM	60	11	0	**71**	0	9	90	0	**99**	0	22	11	0	**33**	4	**203**
8:00AM	53	12	0	**65**	0	12	82	0	**94**	0	15	12	0	**27**	0	**186**
Total	207	40	0	**247**	0	28	392	0	**420**	3	67	41	0	**108**	7	**775**
% Approach	83.8%	16.2%	0%	**-**	-	6.7%	93.3%	0%	**-**	-	62.0%	38.0%	0%	**-**	-	-
% Total	26.7%	5.2%	0%	**31.9%**	-	3.6%	50.6%	0%	**54.2%**	-	8.6%	5.3%	0%	**13.9%**	-	-
PHF	0.863	0.833	-	**0.870**	-	0.583	0.824	-	**0.882**	-	0.761	0.854	-	**0.818**	-	0.954
Lights	196	39	0	**235**	-	28	384	0	**412**	-	67	40	0	**107**	-	754
% Lights	94.7%	97.5%	0%	**95.1%**	-	100%	98.0%	0%	**98.1%**	-	100%	97.6%	0%	**99.1%**	-	97.3%
Articulated Trucks	0	0	0	**0**	-	0	1	0	**1**	-	0	1	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.3%	0%	**0.2%**	-	0%	2.4%	0%	**0.9%**	-	0.3%
Buses and Single-Unit Trucks	11	1	0	**12**	-	0	7	0	**7**	-	0	0	0	**0**	-	19
% Buses and Single-Unit Trucks	5.3%	2.5%	0%	**4.9%**	-	0%	1.8%	0%	**1.7%**	-	0%	0%	0%	**0%**	-	2.5%
Pedestrians	-	-	-	-	0	-	-	-	-	3	-	-	-	-	7	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Marvine Avenue & Burmont Road - TMC
Thu Apr 25, 2019
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646835, Location: 39.954262, -75.316951, Site Code: 1

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



1. Marvine Avenue & Burmont Road - TMC

Thu Apr 25, 2019
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646835, Location: 39.954262, -75.316951, Site Code: 1

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US

Leg Direction	Burmont Road Eastbound					Burmont Road Westbound					Marvine Avenue Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2019-04-25 4:00PM	88	12	0	**100**	0	8	71	0	**79**	0	15	9	0	**24**	1	**203**
4:15PM	102	13	0	**115**	0	5	80	0	**85**	1	14	6	0	**20**	1	**220**
4:30PM	86	7	0	**93**	0	9	67	0	**76**	0	11	13	0	**24**	2	**193**
4:45PM	92	15	0	**107**	0	7	81	0	**88**	3	15	4	0	**19**	0	**214**
Total	368	47	0	**415**	0	29	299	0	**328**	4	55	32	0	**87**	4	**830**
% Approach	88.7%	11.3%	0%	**-**	-	8.8%	91.2%	0%	**-**	-	63.2%	36.8%	0%	**-**	-	-
% Total	44.3%	5.7%	0%	**50.0%**	-	3.5%	36.0%	0%	**39.5%**	-	6.6%	3.9%	0%	**10.5%**	-	-
PHF	0.902	0.783	-	**0.902**	-	0.806	0.923	-	**0.932**	-	0.917	0.615	-	**0.906**	-	0.943
Lights	362	46	0	**408**	-	28	295	0	**323**	-	55	32	0	**87**	-	818
% Lights	98.4%	97.9%	0%	**98.3%**	-	96.6%	98.7%	0%	**98.5%**	-	100%	100%	0%	**100%**	-	98.6%
Articulated Trucks	1	0	0	**1**	-	0	0	0	**0**	-	0	0	0	**0**	-	1
% Articulated Trucks	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	5	1	0	**6**	-	1	4	0	**5**	-	0	0	0	**0**	-	11
% Buses and Single-Unit Trucks	1.4%	2.1%	0%	**1.4%**	-	3.4%	1.3%	0%	**1.5%**	-	0%	0%	0%	**0%**	-	1.3%
Pedestrians	-	-	-	-	0	-	-	-	-	4	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Marvine Avenue & Burmont Road - TMC
Thu Apr 25, 2019
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646835, Location: 39.954262, -75.316951, Site Code: 1

Provided by: Imperial Traffic & Data Collection
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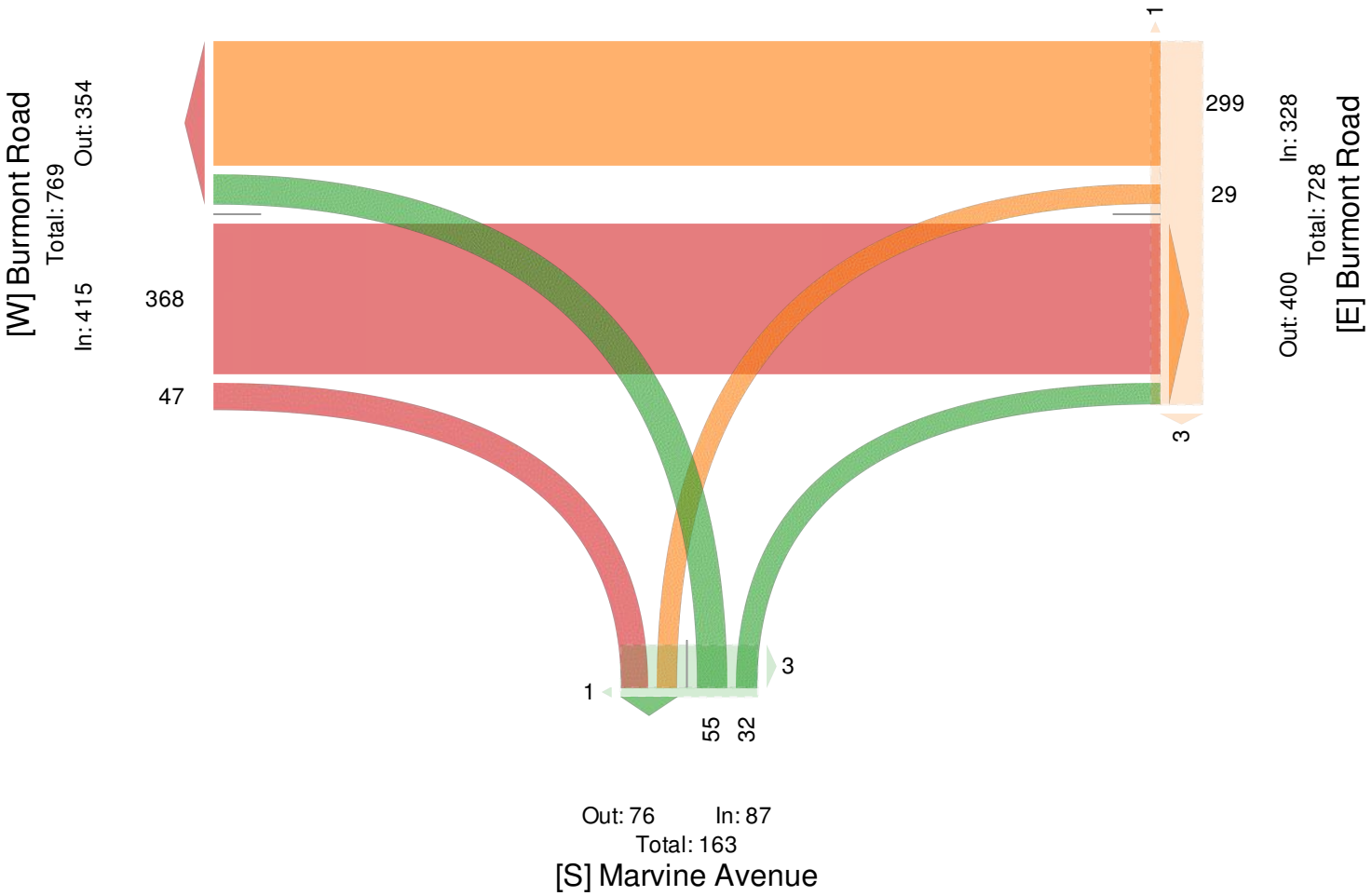

2. Marvine Avenue & Roberts Avenue - TMC

Thu Apr 25, 2019

Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 646836, Location: 39.953362, -75.31746, Site Code: 2

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Leg	School Driveway						Marvine Avenue						Marvine Avenue						Roberts Avenue						
Direction	Westbound						Northbound						Southbound						Northwestbound						
Time	HL	L	R	U	App	Ped*	T	R	HR	U	App	Ped*	L	BL	T	U	App	Ped*	HL	BR	HR	U	App	Ped*	Int
2019-04-25 7:00AM	0	0	0	0	**0**	1	2	0	1	0	**3**	2	5	6	0	0	**11**	0	0	9	1	0	**10**	1	**24**
7:15AM	0	0	1	0	**1**	1	7	0	0	0	**7**	1	1	4	0	0	**5**	0	1	10	2	0	**13**	0	**26**
7:30AM	0	0	7	0	**7**	6	6	0	0	0	**6**	1	7	13	0	0	**20**	2	1	16	1	0	**18**	0	**51**
7:45AM	0	0	7	0	**7**	2	7	0	0	0	**7**	0	7	13	0	0	**20**	1	1	22	8	0	**31**	0	**65**
Hourly Total	0	0	15	0	**15**	10	22	0	1	0	**23**	4	20	36	0	0	**56**	3	3	57	12	0	**72**	1	**166**
8:00AM	2	0	7	0	**9**	1	5	2	0	0	**7**	1	15	8	2	0	**25**	0	0	9	5	0	**14**	0	**55**
8:15AM	0	0	2	0	**2**	3	3	1	0	0	**4**	0	3	8	1	0	**12**	0	1	8	1	0	**10**	0	**28**
8:30AM	1	0	6	0	**7**	11	4	0	1	0	**5**	0	5	12	5	1	**23**	0	1	26	1	0	**28**	0	**63**
8:45AM	3	1	12	0	**16**	2	3	0	0	0	**3**	0	9	5	1	1	**16**	0	3	15	9	0	**27**	0	**62**
Hourly Total	6	1	27	0	**34**	17	15	3	1	0	**19**	1	32	33	9	2	**76**	0	5	58	16	0	**79**	0	**208**
9:00AM	1	0	4	0	**5**	6	1	0	0	0	**1**	0	2	5	0	0	**7**	0	0	13	1	0	**14**	0	**27**
9:15AM	1	0	1	0	**2**	7	2	0	0	0	**2**	0	1	3	2	0	**6**	0	0	9	2	0	**11**	0	**21**
9:30AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	2	0	5	0	**7**	13	3	0	0	0	**3**	0	3	8	2	0	**13**	0	0	22	3	0	**25**	0	**48**
2:30PM	0	0	2	0	**2**	0	2	0	2	0	**4**	0	2	14	4	1	**21**	0	0	8	0	0	**8**	0	**35**
2:45PM	0	0	0	0	**0**	9	0	0	0	0	**0**	0	2	21	4	0	**27**	2	0	9	1	0	**10**	0	**37**
Hourly Total	0	0	2	0	**2**	9	2	0	2	0	**4**	0	4	35	8	1	**48**	2	0	17	1	0	**18**	0	**72**
3:00PM	0	0	2	0	**2**	2	3	0	1	0	**4**	0	1	12	4	1	**18**	0	0	8	0	0	**8**	1	**32**
3:15PM	1	0	6	0	**7**	35	4	0	0	0	**4**	1	2	11	2	0	**15**	0	0	19	1	0	**20**	0	**46**
3:30PM	6	0	10	0	**16**	1	0	1	0	0	**1**	0	4	15	1	0	**20**	0	0	4	0	0	**4**	0	**41**
3:45PM	1	0	2	0	**3**	47	1	0	1	0	**2**	0	2	14	3	0	**19**	0	0	17	1	0	**18**	0	**42**
Hourly Total	8	0	20	0	**28**	85	8	1	2	0	**11**	1	9	52	10	1	**72**	0	0	48	2	0	**50**	1	**161**
4:00PM	1	0	6	0	**7**	58	3	0	2	0	**5**	0	5	10	4	0	**19**	0	0	18	2	0	**20**	0	**51**
4:15PM	6	0	4	0	**10**	23	3	0	2	0	**5**	0	5	13	1	0	**19**	0	0	11	6	0	**17**	0	**51**
4:30PM	4	0	12	0	**16**	4	1	0	3	0	**4**	1	3	9	4	0	**16**	0	0	6	0	0	**6**	0	**42**
4:45PM	2	0	3	0	**5**	5	5	0	0	0	**5**	0	1	18	5	0	**24**	0	1	12	1	0	**14**	0	**48**
Hourly Total	13	0	25	0	**38**	90	12	0	7	0	**19**	1	14	50	14	0	**78**	0	1	47	9	0	**57**	0	**192**
5:00PM	2	0	3	0	**5**	3	1	0	0	0	**1**	0	4	14	1	0	**19**	0	2	12	3	0	**17**	0	**42**
5:15PM	2	1	5	0	**8**	6	4	0	1	0	**5**	0	0	18	4	0	**22**	0	0	5	1	0	**6**	0	**41**
5:30PM	2	0	1	0	**3**	2	2	0	0	0	**2**	1	4	15	5	0	**24**	1	0	11	2	0	**13**	0	**42**
5:45PM	2	0	7	0	**9**	2	3	0	0	0	**3**	1	5	8	4	0	**17**	0	0	17	5	0	**22**	3	**51**
Hourly Total	8	1	16	0	**25**	13	10	0	1	0	**11**	2	13	55	14	0	**82**	1	2	45	11	0	**58**	3	**176**
Total	37	2	110	0	**149**	237	72	4	14	0	**90**	9	95	269	57	4	**425**	6	11	294	54	0	**359**	5	**1023**
% Approach	24.8%	1.3%	73.8%	0%	**-**	-	80.0%	4.4%	15.6%	0%	**-**	-	22.4%	63.3%	13.4%	0.9%	**-**	-	3.1%	81.9%	15.0%	0%	**-**	-	-
% Total	3.6%	0.2%	10.8%	0%	**14.6%**	-	7.0%	0.4%	1.4%	0%	**8.8%**	-	9.3%	26.3%	5.6%	0.4%	**41.5%**	-	1.1%	28.7%	5.3%	0%	**35.1%**	-	-
Lights	36	2	101	0	**139**	-	72	3	14	0	**89**	-	86	263	57	4	**410**	-	10	292	53	0	**355**	-	993
% Lights	97.3%	100%	91.8%	0%	**93.3%**	-	100%	75.0%	100%	0%	**98.9%**	-	90.5%	97.8%	100%	100%	**96.5%**	-	90.9%	99.3%	98.1%	0%	**98.9%**	-	97.1%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	1	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.4%	0%	0%	**0.2%**	-	0%	0%	1.9%	0%	**0.3%**	-	0.2%
Buses and Single-Unit Trucks	1	0	9	0	**10**	-	0	1	0	0	**1**	-	9	5	0	0	**14**	-	1	2	0	0	**3**	-	28
% Buses and Single-Unit Trucks	2.7%	0%	8.2%	0%	**6.7%**	-	0%	25.0%	0%	0%	**1.1%**	-	9.5%	1.9%	0%	0%	**3.3%**	-	9.1%	0.7%	0%	0%	**0.8%**	-	2.7%
Pedestrians	-	-	-	-	-	231	-	-	-	-	-	9	-	-	-	-	-	6	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	97.5%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	2.5%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

2. Marvine Avenue & Roberts Avenue - TMC
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646836, Location: 39.953362, -75.31746, Site Code: 2

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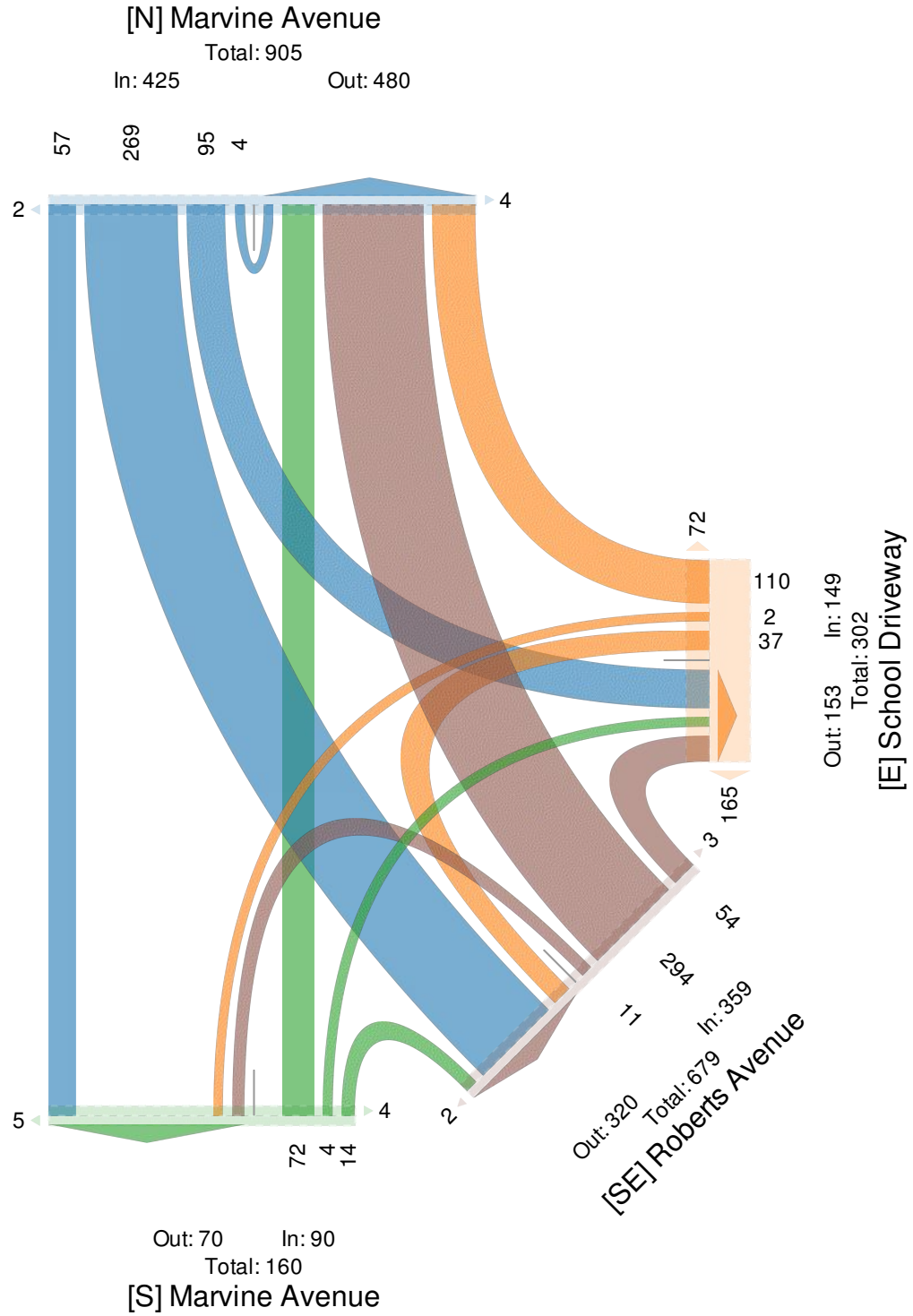

2. Marvine Avenue & Roberts Avenue - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646836, Location: 39.953362, -75.31746, Site Code: 2

Leg	School Driveway						Marvine Avenue						Marvine Avenue						Roberts Avenue						
Direction	Westbound						Northbound						Southbound						Northwestbound						
Time	HL	L	R	U	App	Ped*	T	R	HR	U	App	Ped*	L	BL	T	U	App	Ped*	HL	BR	HR	U	App	Ped*	Int
2019-04-25 7:45AM	0	0	7	0	**7**	2	7	0	0	0	**7**	0	7	13	0	0	**20**	1	1	22	8	0	**31**	0	**65**
8:00AM	2	0	7	0	**9**	1	5	2	0	0	**7**	1	15	8	2	0	**25**	0	0	9	5	0	**14**	0	**55**
8:15AM	0	0	2	0	**2**	3	3	1	0	0	**4**	0	3	8	1	0	**12**	0	1	8	1	0	**10**	0	**28**
8:30AM	1	0	6	0	**7**	11	4	0	1	0	**5**	0	5	12	5	1	**23**	0	1	26	1	0	**28**	0	**63**
Total	3	0	22	0	**25**	17	19	3	1	0	**23**	1	30	41	8	1	**80**	1	3	65	15	0	**83**	0	**211**
% Approach	12.0%	0%	88.0%	0%	**-**	-	82.6%	13.0%	4.3%	0%	**-**	-	37.5%	51.3%	10.0%	1.3%	**-**	-	3.6%	78.3%	18.1%	0%	**-**	-	-
% Total	1.4%	0%	10.4%	0%	**11.8%**	-	9.0%	1.4%	0.5%	0%	**10.9%**	-	14.2%	19.4%	3.8%	0.5%	**37.9%**	-	1.4%	30.8%	7.1%	0%	**39.3%**	-	-
PHF	0.375	-	0.786	-	**0.694**	-	0.679	0.375	0.250	-	**0.821**	-	0.500	0.788	0.400	0.250	**0.800**	-	0.750	0.625	0.469	-	**0.669**	-	0.812
Lights	3	0	18	0	**21**	-	19	3	1	0	**23**	-	26	41	8	1	**76**	-	3	65	14	0	**82**	-	202
% Lights	100%	0%	81.8%	0%	**84.0%**	-	100%	100%	100%	0%	**100%**	-	86.7%	100%	100%	100%	**95.0%**	-	100%	100%	93.3%	0%	**98.8%**	-	95.7%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	6.7%	0%	**1.2%**	-	0.5%
Buses and Single-Unit Trucks	0	0	4	0	**4**	-	0	0	0	0	**0**	-	4	0	0	0	**4**	-	0	0	0	0	**0**	-	8
% Buses and Single-Unit Trucks	0%	0%	18.2%	0%	**16.0%**	-	0%	0%	0%	0%	**0%**	-	13.3%	0%	0%	0%	**5.0%**	-	0%	0%	0%	0%	**0%**	-	3.8%
Pedestrians	-	-	-	-	-	17	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

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Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
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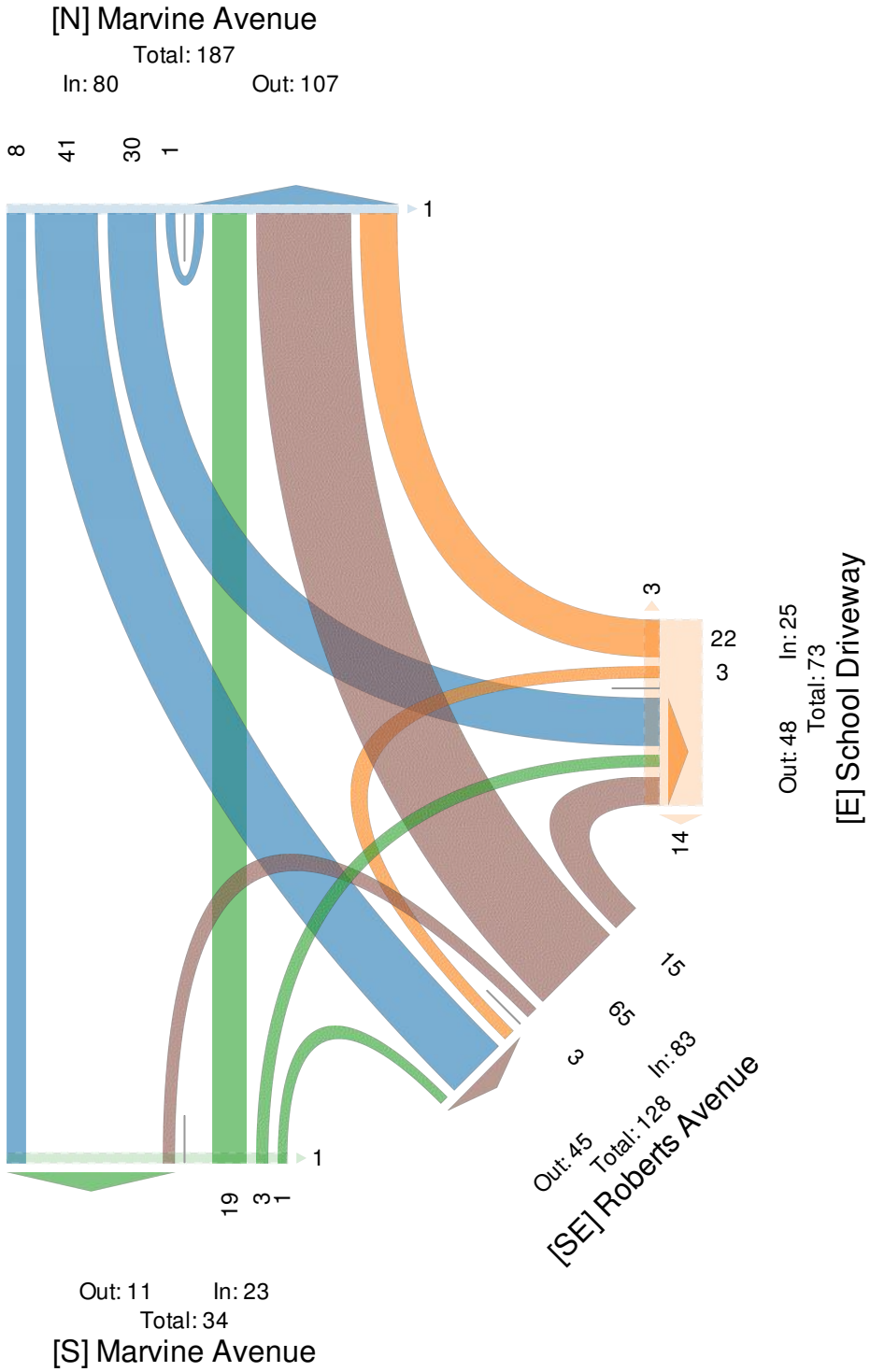


2. Marvine Avenue & Roberts Avenue - TMC

Thu Apr 25, 2019
PM Peak (4 PM - 5 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646836, Location: 39.953362, -75.31746, Site Code: 2

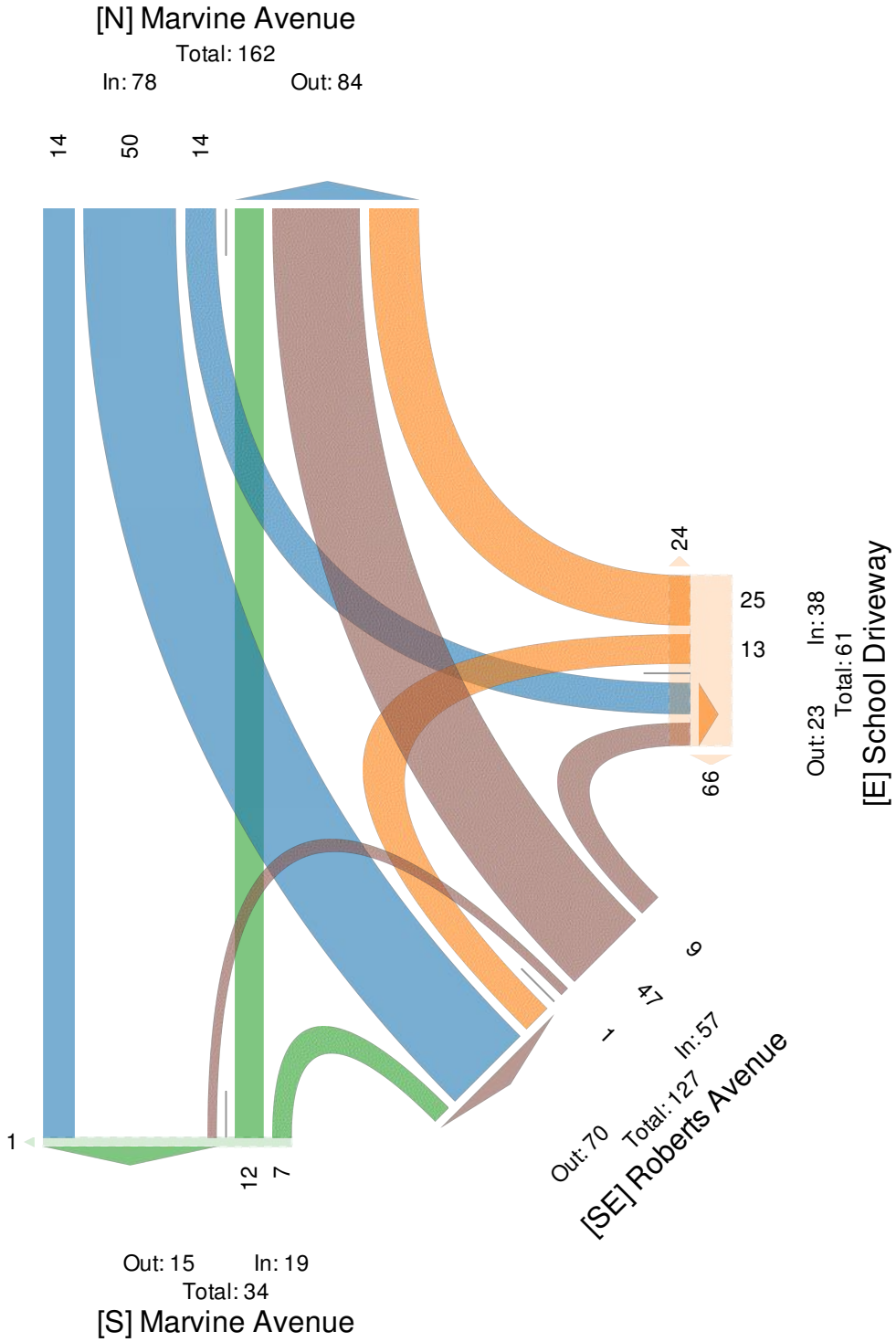
Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Leg / Direction	School Driveway Westbound						Marvine Avenue Northbound						Marvine Avenue Southbound						Roberts Avenue Northwestbound						
Time	HL	L	R	U	**App**	Ped*	T	R	HR	U	**App**	Ped*	L	BL	T	U	**App**	Ped*	HL	BR	HR	U	**App**	Ped*	**Int**
2019-04-25 4:00PM	1	0	6	0	**7**	58	3	0	2	0	**5**	0	5	10	4	0	**19**	0	0	18	2	0	**20**	0	**51**
4:15PM	6	0	4	0	**10**	23	3	0	2	0	**5**	0	5	13	1	0	**19**	0	0	11	6	0	**17**	0	**51**
4:30PM	4	0	12	0	**16**	4	1	0	3	0	**4**	1	3	9	4	0	**16**	0	0	6	0	0	**6**	0	**42**
4:45PM	2	0	3	0	**5**	5	5	0	0	0	**5**	0	1	18	5	0	**24**	0	1	12	1	0	**14**	0	**48**
Total	13	0	25	0	**38**	90	12	0	7	0	**19**	1	14	50	14	0	**78**	0	1	47	9	0	**57**	0	**192**
% Approach	34.2%	0%	65.8%	0%	**-**	-	63.2%	0%	36.8%	0%	**-**	-	17.9%	64.1%	17.9%	0%	**-**	-	1.8%	82.5%	15.8%	0%	**-**	-	-
% Total	6.8%	0%	13.0%	0%	**19.8%**	-	6.3%	0%	3.6%	0%	**9.9%**	-	7.3%	26.0%	7.3%	0%	**40.6%**	-	0.5%	24.5%	4.7%	0%	**29.7%**	-	-
PHF	0.542	-	0.521	-	**0.594**	-	0.600	-	0.583	-	**0.950**	-	0.700	0.694	0.700	-	**0.813**	-	0.250	0.653	0.375	-	**0.713**	-	0.941
Lights	13	0	25	0	**38**	-	12	0	7	0	**19**	-	14	49	14	0	**77**	-	0	47	9	0	**56**	-	190
% Lights	100%	0%	100%	0%	**100%**	-	100%	0%	100%	0%	**100%**	-	100%	98.0%	100%	0%	**98.7%**	-	0%	100%	100%	0%	**98.2%**	-	99.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1	0	0	0	**1**	-	2
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.0%	0%	0%	**1.3%**	-	100%	0%	0%	0%	**1.8%**	-	1.0%
Pedestrians	-	-	-	-	-	90	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

2. Marvine Avenue & Roberts Avenue - TMC
Thu Apr 25, 2019
PM Peak (4 PM - 5 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646836, Location: 39.953362, -75.31746, Site Code: 2

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



3. Roberts Avenue & Bond Avenue - TMC

Thu Apr 25, 2019

Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 646838, Location: 39.951902, -75.316593, Site Code: 3

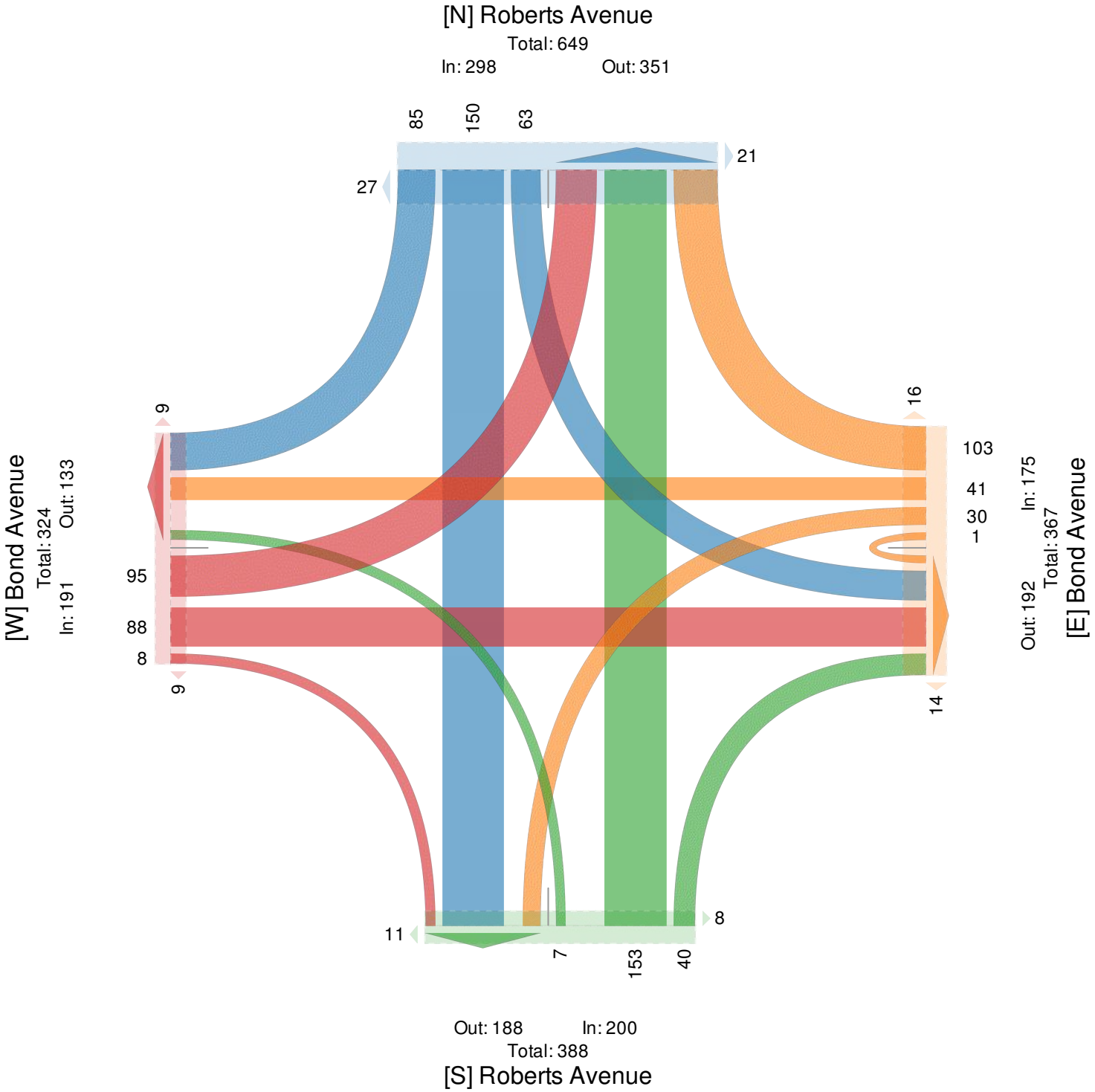
Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Leg	Bond Avenue						Bond Avenue						Roberts Avenue						Roberts Avenue						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 7:00AM	4	3	0	0	**7**	0	0	0	1	0	**1**	2	0	5	1	0	**6**	0	2	4	2	0	**8**	1	**22**
7:15AM	3	2	0	0	**5**	1	1	0	0	0	**1**	1	1	6	1	0	**8**	0	1	2	1	0	**4**	1	**18**
7:30AM	7	3	0	0	**10**	0	0	0	0	0	**0**	1	1	8	2	0	**11**	0	5	4	5	0	**14**	1	**35**
7:45AM	12	7	0	0	**19**	0	1	3	3	0	**7**	1	0	15	1	0	**16**	0	3	4	5	0	**12**	0	**54**
Hourly Total	26	15	0	0	**41**	1	2	3	4	0	**9**	5	2	34	5	0	**41**	0	11	14	13	0	**38**	3	**129**
8:00AM	6	7	1	0	**14**	2	1	2	2	0	**5**	0	1	6	4	0	**11**	7	3	5	3	0	**11**	0	**41**
8:15AM	3	5	0	0	**8**	0	3	0	5	0	**8**	0	0	7	2	0	**9**	1	3	2	1	0	**6**	0	**31**
8:30AM	5	0	1	0	**6**	5	3	1	16	0	**20**	3	1	9	1	0	**11**	1	4	7	3	0	**14**	8	**51**
8:45AM	8	2	0	0	**10**	2	2	0	4	0	**6**	3	0	7	2	0	**9**	0	4	4	2	0	**10**	6	**35**
Hourly Total	22	14	2	0	**38**	9	9	3	27	0	**39**	6	2	29	9	0	**40**	9	14	18	9	0	**41**	14	**158**
9:00AM	3	2	0	0	**5**	0	1	0	5	0	**6**	0	0	9	0	0	**9**	1	2	2	1	0	**5**	1	**25**
9:15AM	3	1	0	0	**4**	0	0	2	3	0	**5**	1	0	5	1	0	**6**	0	1	1	1	0	**3**	2	**18**
9:30AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	6	3	0	0	**9**	0	1	2	8	0	**11**	1	0	14	1	0	**15**	1	3	3	2	0	**8**	3	**43**
2:30PM	4	3	0	0	**7**	0	0	1	1	0	**2**	0	0	3	0	0	**3**	0	5	7	4	0	**16**	0	**28**
2:45PM	2	5	0	0	**7**	0	1	2	6	0	**9**	3	0	2	2	0	**4**	3	2	7	6	0	**15**	2	**35**
Hourly Total	6	8	0	0	**14**	0	1	3	7	0	**11**	3	0	5	2	0	**7**	3	7	14	10	0	**31**	2	**63**
3:00PM	3	5	1	0	**9**	0	1	1	8	0	**10**	2	0	9	5	0	**14**	2	2	8	1	0	**11**	0	**44**
3:15PM	2	4	0	0	**6**	6	3	4	5	0	**12**	5	0	3	1	0	**4**	0	4	4	3	0	**11**	8	**33**
3:30PM	0	1	0	0	**1**	0	1	1	2	1	**5**	2	0	2	1	0	**3**	0	0	19	1	0	**20**	0	**29**
3:45PM	1	2	0	0	**3**	0	3	3	6	0	**12**	0	1	8	4	0	**13**	0	1	8	4	0	**13**	0	**41**
Hourly Total	6	12	1	0	**19**	6	8	9	21	1	**39**	9	1	22	11	0	**34**	2	7	39	9	0	**55**	8	**147**
4:00PM	3	4	1	0	**8**	0	4	4	9	0	**17**	0	1	7	0	0	**8**	1	0	7	4	0	**11**	3	**44**
4:15PM	2	4	0	0	**6**	0	2	3	6	0	**11**	1	0	5	0	0	**5**	0	2	10	4	0	**16**	2	**38**
4:30PM	2	3	1	0	**6**	1	3	3	3	0	**9**	1	1	3	2	0	**6**	2	5	6	6	0	**17**	4	**38**
4:45PM	3	3	0	0	**6**	0	0	3	4	0	**7**	1	0	7	4	0	**11**	0	3	7	10	0	**20**	4	**44**
Hourly Total	10	14	2	0	**26**	1	9	13	22	0	**44**	3	2	22	6	0	**30**	3	10	30	24	0	**64**	13	**164**
5:00PM	8	8	3	0	**19**	0	0	3	6	0	**9**	0	0	3	3	0	**6**	0	2	6	7	0	**15**	2	**49**
5:15PM	0	5	0	0	**5**	0	0	2	2	0	**4**	0	0	4	0	0	**4**	0	4	10	4	0	**18**	1	**31**
5:30PM	6	5	0	0	**11**	1	0	3	2	0	**5**	3	0	7	3	0	**10**	1	3	10	3	0	**16**	1	**42**
5:45PM	5	4	0	0	**9**	0	0	0	4	0	**4**	0	0	13	0	0	**13**	0	2	6	4	0	**12**	1	**38**
Hourly Total	19	22	3	0	**44**	1	0	8	14	0	**22**	3	0	27	6	0	**33**	1	11	32	18	0	**61**	5	**160**
Total	95	88	8	0	**191**	18	30	41	103	1	**175**	30	7	153	40	0	**200**	19	63	150	85	0	**298**	48	**864**
% Approach	49.7%	46.1%	4.2%	0%	**-**	-	17.1%	23.4%	58.9%	0.6%	**-**	-	3.5%	76.5%	20.0%	0%	**-**	-	21.1%	50.3%	28.5%	0%	**-**	-	-
% Total	11.0%	10.2%	0.9%	0%	**22.1%**	-	3.5%	4.7%	11.9%	0.1%	**20.3%**	-	0.8%	17.7%	4.6%	0%	**23.1%**	-	7.3%	17.4%	9.8%	0%	**34.5%**	-	-
Lights	94	86	8	0	**188**	-	30	41	103	1	**175**	-	7	152	40	0	**199**	-	60	147	84	0	**291**	-	853
% Lights	98.9%	97.7%	100%	0%	**98.4%**	-	100%	100%	100%	100%	**100%**	-	100%	99.3%	100%	0%	**99.5%**	-	95.2%	98.0%	98.8%	0%	**97.7%**	-	98.7%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.3%**	-	0.1%
Buses and Single-Unit Trucks	1	2	0	0	**3**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3	2	1	0	**6**	-	10
% Buses and Single-Unit Trucks	1.1%	2.3%	0%	0%	**1.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.5%**	-	4.8%	1.3%	1.2%	0%	**2.0%**	-	1.2%
Pedestrians	-	-	-	-	-	17	-	-	-	-	-	27	-	-	-	-	-	16	-	-	-	-	-	44	
% Pedestrians	-	-	-	-	-	94.4%	-	-	-	-	-	90.0%	-	-	-	-	-	84.2%	-	-	-	-	-	91.7%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	4	
% Bicycles on Crosswalk	-	-	-	-	-	5.6%	-	-	-	-	-	10.0%	-	-	-	-	-	15.8%	-	-	-	-	-	8.3%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Roberts Avenue & Bond Avenue - TMC
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646838, Location: 39.951902, -75.316593, Site Code: 3

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



3. Roberts Avenue & Bond Avenue - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646838, Location: 39.951902, -75.316593, Site Code: 3

Leg	Bond Avenue						Bond Avenue						Roberts Avenue						Roberts Avenue						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 7:45AM	12	7	0	0	**19**	0	1	3	3	0	**7**	1	0	15	1	0	**16**	0	3	4	5	0	**12**	0	**54**
8:00AM	6	7	1	0	**14**	2	1	2	2	0	**5**	0	1	6	4	0	**11**	7	3	5	3	0	**11**	0	**41**
8:15AM	3	5	0	0	**8**	0	3	0	5	0	**8**	0	0	7	2	0	**9**	1	3	2	1	0	**6**	0	**31**
8:30AM	5	0	1	0	**6**	5	3	1	16	0	**20**	3	1	9	1	0	**11**	1	4	7	3	0	**14**	8	**51**
Total	26	19	2	0	**47**	7	8	6	26	0	**40**	4	2	37	8	0	**47**	9	13	18	12	0	**43**	8	**177**
% Approach	55.3%	40.4%	4.3%	0%	-	-	20.0%	15.0%	65.0%	0%	-	-	4.3%	78.7%	17.0%	0%	-	-	30.2%	41.9%	27.9%	0%	-	-	-
% Total	14.7%	10.7%	1.1%	0%	**26.6%**	-	4.5%	3.4%	14.7%	0%	**22.6%**	-	1.1%	20.9%	4.5%	0%	**26.6%**	-	7.3%	10.2%	6.8%	0%	**24.3%**	-	-
PHF	0.542	0.679	0.500	-	**0.618**	-	0.667	0.500	0.406	-	**0.500**	-	0.500	0.617	0.500	-	**0.734**	-	0.813	0.643	0.600	-	**0.768**	-	0.819
Lights	26	18	2	0	**46**	-	8	6	26	0	**40**	-	2	37	8	0	**47**	-	13	18	12	0	**43**	-	176
% Lights	100%	94.7%	100%	0%	**97.9%**	-	100%	100%	100%	0%	**100%**	-	100%	100%	100%	0%	**100%**	-	100%	100%	100%	0%	**100%**	-	99.4%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Buses and Single-Unit Trucks	0%	5.3%	0%	0%	**2.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.6%
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	8	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	66.7%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	33.3%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Roberts Avenue & Bond Avenue - TMC

Thu Apr 25, 2019

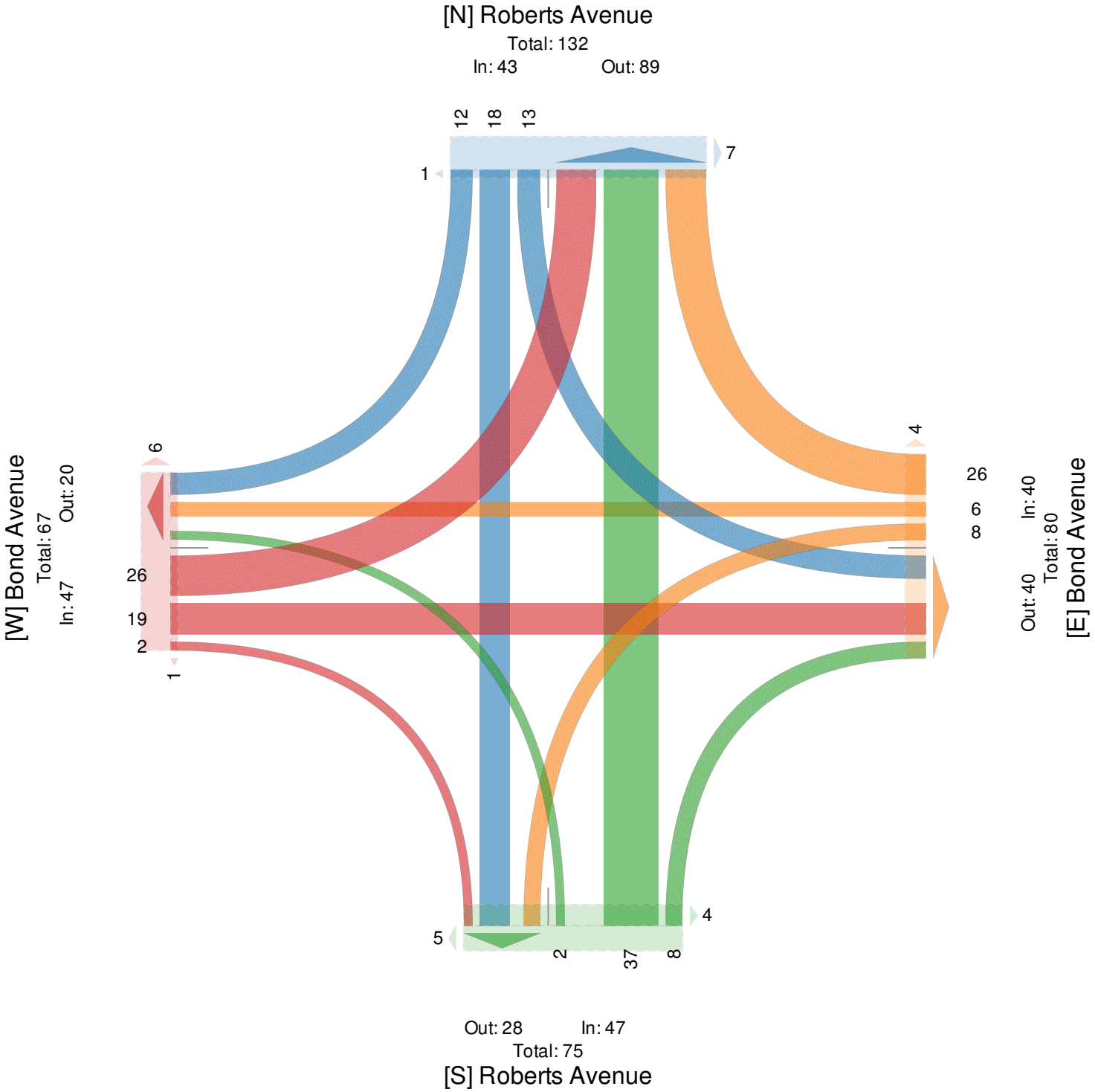
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 646838, Location: 39.951902, -75.316593, Site Code: 3

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



3. Roberts Avenue & Bond Avenue - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

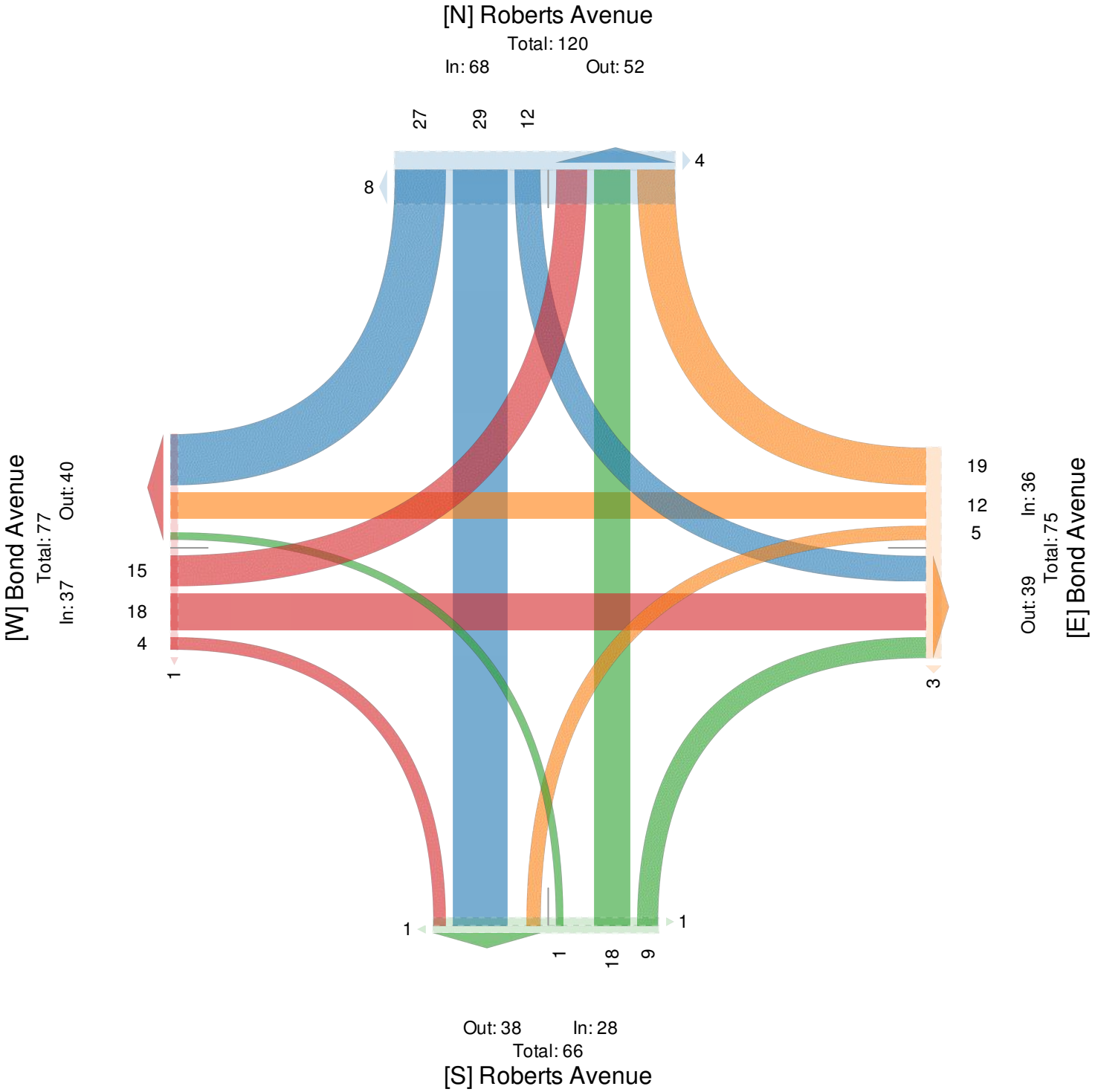
Thu Apr 25, 2019
PM Peak (4:15 PM - 5:15 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646838, Location: 39.951902, -75.316593, Site Code: 3

Leg	Bond Avenue						Bond Avenue						Roberts Avenue						Roberts Avenue						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 4:15PM	2	4	0	0	**6**	0	2	3	6	0	**11**	1	0	5	0	0	**5**	0	2	10	4	0	**16**	2	**38**
4:30PM	2	3	1	0	**6**	1	3	3	3	0	**9**	1	1	3	2	0	**6**	2	5	6	6	0	**17**	4	**38**
4:45PM	3	3	0	0	**6**	0	0	3	4	0	**7**	1	0	7	4	0	**11**	0	3	7	10	0	**20**	4	**44**
5:00PM	8	8	3	0	**19**	0	0	3	6	0	**9**	0	0	3	3	0	**6**	0	2	6	7	0	**15**	2	**49**
Total	15	18	4	0	**37**	1	5	12	19	0	**36**	3	1	18	9	0	**28**	2	12	29	27	0	**68**	12	**169**
% Approach	40.5%	48.6%	10.8%	0%	**-**	-	13.9%	33.3%	52.8%	0%	**-**	-	3.6%	64.3%	32.1%	0%	**-**	-	17.6%	42.6%	39.7%	0%	**-**	-	**-**
% Total	8.9%	10.7%	2.4%	0%	**21.9%**	-	3.0%	7.1%	11.2%	0%	**21.3%**	-	0.6%	10.7%	5.3%	0%	**16.6%**	-	7.1%	17.2%	16.0%	0%	**40.2%**	-	**-**
PHF	0.469	0.563	0.333	-	**0.487**	-	0.417	1.000	0.792	-	**0.818**	-	0.250	0.643	0.563	-	**0.636**	-	0.600	0.725	0.675	-	**0.850**	-	0.862
Lights	15	18	4	0	**37**	-	5	12	19	0	**36**	-	1	17	9	0	**27**	-	11	29	27	0	**67**	-	167
% Lights	100%	100%	100%	0%	**100%**	-	100%	100%	100%	0%	**100%**	-	100%	94.4%	100%	0%	**96.4%**	-	91.7%	100%	100%	0%	**98.5%**	-	98.8%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1	0	0	0	**1**	-	2
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	5.6%	0%	0%	**3.6%**	-	8.3%	0%	0%	0%	**1.5%**	-	1.2%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	11	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	91.7%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	8.3%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Roberts Avenue & Bond Avenue - TMC
Thu Apr 25, 2019
PM Peak (4:15 PM - 5:15 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646838, Location: 39.951902, -75.316593, Site Code: 3

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



4. Bond Avenue & Anderson Avenue - TMC

Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646839, Location: 39.952217, -75.315898, Site Code: 4

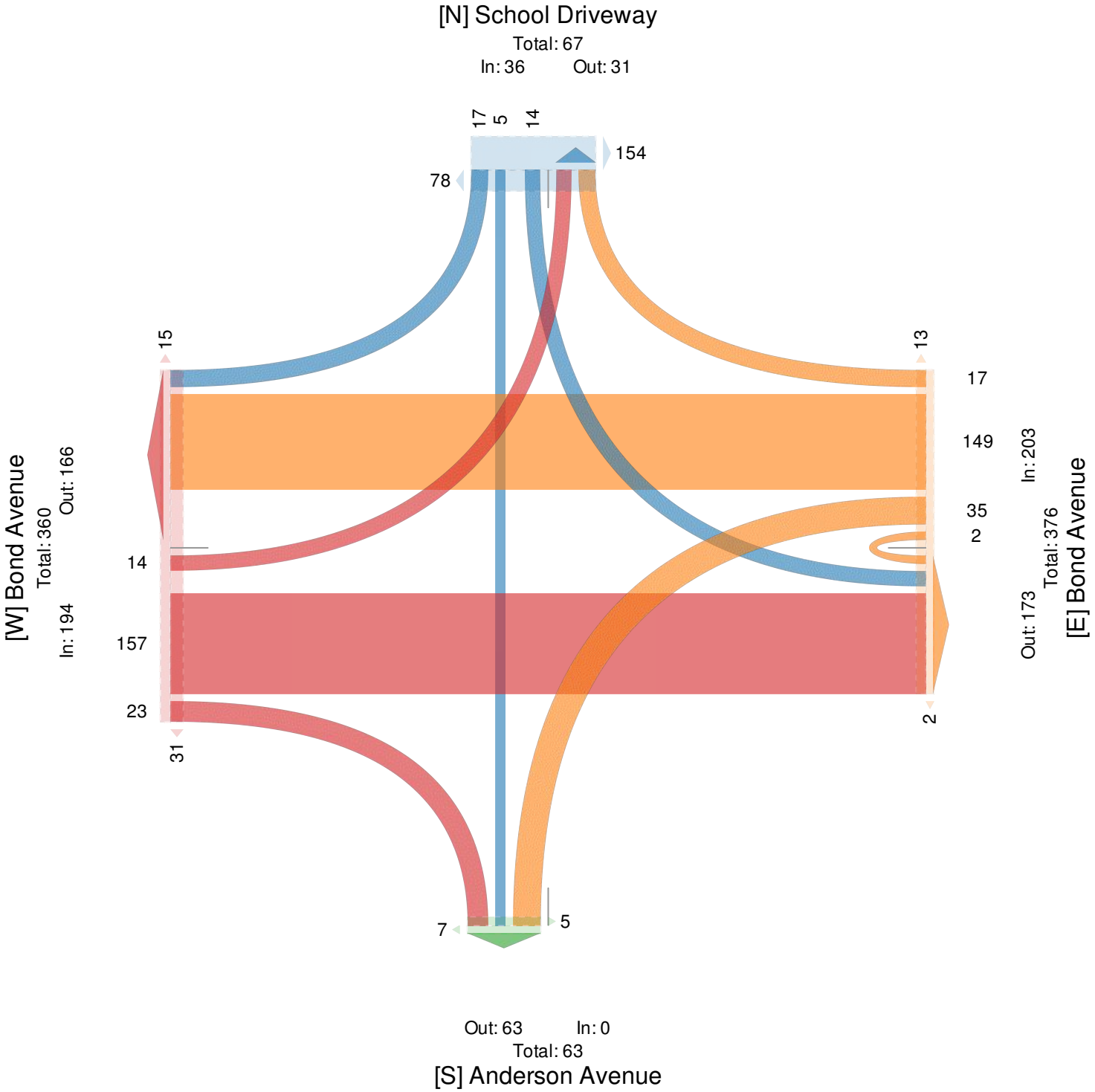
Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Leg / Direction	Bond Avenue Eastbound						Bond Avenue Westbound						Anderson Avenue Northbound						School Driveway Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 7:00AM	0	6	1	0	**7**	0	1	1	0	0	**2**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	2	**9**
7:15AM	2	2	1	0	**5**	0	2	0	1	0	**3**	0	0	0	0	0	**0**	0	1	0	1	0	**2**	2	**10**
7:30AM	2	7	0	0	**9**	0	1	0	3	0	**4**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	6	**13**
7:45AM	4	5	0	0	**9**	2	0	8	5	0	**13**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	1	**23**
Hourly Total	8	20	2	0	**30**	2	4	9	9	0	**22**	0	0	0	0	0	**0**	0	1	1	1	0	**3**	11	**55**
8:00AM	4	12	0	0	**16**	2	3	4	3	1	**11**	1	0	0	0	0	**0**	3	0	0	0	0	**0**	3	**27**
8:15AM	0	9	0	0	**9**	5	0	10	3	0	**13**	2	0	0	0	0	**0**	0	1	0	0	0	**1**	5	**23**
8:30AM	1	4	0	0	**5**	3	3	18	0	1	**22**	7	0	0	0	0	**0**	0	0	1	1	0	**2**	20	**29**
8:45AM	0	8	0	0	**8**	3	1	5	0	0	**6**	0	0	0	0	0	**0**	0	0	0	1	0	**1**	7	**15**
Hourly Total	5	33	0	0	**38**	13	7	37	6	2	**52**	10	0	0	0	0	**0**	3	1	1	2	0	**4**	35	**94**
9:00AM	0	4	0	0	**4**	1	1	5	0	0	**6**	0	0	0	0	0	**0**	2	0	0	0	0	**0**	2	**10**
9:15AM	0	3	0	0	**3**	0	1	5	0	0	**6**	0	0	0	0	0	**0**	2	0	0	0	0	**0**	5	**9**
9:30AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	7	0	0	**7**	1	2	10	0	0	**12**	0	0	0	0	0	**0**	4	0	0	0	0	**0**	7	**19**
2:30PM	0	3	3	0	**6**	0	2	3	0	0	**5**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	3	**11**
2:45PM	0	6	2	0	**8**	0	0	9	0	0	**9**	1	0	0	0	0	**0**	0	0	1	0	0	**1**	6	**18**
Hourly Total	0	9	5	0	**14**	0	2	12	0	0	**14**	1	0	0	0	0	**0**	0	0	1	0	0	**1**	9	**29**
3:00PM	1	6	3	0	**10**	2	0	10	0	0	**10**	4	0	0	0	0	**0**	0	0	0	0	0	**0**	9	**20**
3:15PM	0	9	3	0	**12**	15	1	10	1	0	**12**	0	0	0	0	0	**0**	0	1	0	2	0	**3**	16	**27**
3:30PM	0	3	0	0	**3**	2	1	5	1	0	**7**	0	0	0	0	0	**0**	1	0	0	0	0	**0**	7	**10**
3:45PM	0	8	0	0	**8**	4	1	6	0	0	**7**	0	0	0	0	0	**0**	0	3	1	2	0	**6**	58	**21**
Hourly Total	1	26	6	0	**33**	23	3	31	2	0	**36**	4	0	0	0	0	**0**	1	4	1	4	0	**9**	90	**78**
4:00PM	0	4	1	0	**5**	1	3	9	0	0	**12**	0	0	0	0	0	**0**	1	5	1	7	0	**13**	40	**30**
4:15PM	0	4	2	0	**6**	0	0	7	0	0	**7**	0	0	0	0	0	**0**	1	0	0	1	0	**1**	8	**14**
4:30PM	0	8	2	0	**10**	3	0	6	0	0	**6**	0	0	0	0	0	**0**	0	0	0	1	0	**1**	5	**17**
4:45PM	0	10	1	0	**11**	0	4	7	0	0	**11**	0	0	0	0	0	**0**	2	2	0	0	0	**2**	2	**24**
Hourly Total	0	26	6	0	**32**	4	7	29	0	0	**36**	0	0	0	0	0	**0**	4	7	1	9	0	**17**	55	**85**
5:00PM	0	12	1	0	**13**	1	4	8	0	0	**12**	0	0	0	0	0	**0**	0	0	0	1	0	**1**	9	**26**
5:15PM	0	8	2	0	**10**	0	0	4	0	0	**4**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	1	**14**
5:30PM	0	10	0	0	**10**	0	4	5	0	0	**9**	0	0	0	0	0	**0**	0	1	0	0	0	**1**	9	**20**
5:45PM	0	6	1	0	**7**	2	2	4	0	0	**6**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	6	**13**
Hourly Total	0	36	4	0	**40**	3	10	21	0	0	**31**	0	0	0	0	0	**0**	0	1	0	1	0	**2**	25	**73**
Total	14	157	23	0	**194**	46	35	149	17	2	**203**	15	0	0	0	0	**0**	12	14	5	17	0	**36**	232	**433**
% Approach	7.2%	80.9%	11.9%	0%	**-**	-	17.2%	73.4%	8.4%	1.0%	**-**	-	0%	0%	0%	0%	**-**	-	38.9%	13.9%	47.2%	0%	**-**	-	-
% Total	3.2%	36.3%	5.3%	0%	**44.8%**	-	8.1%	34.4%	3.9%	0.5%	**46.9%**	-	0%	0%	0%	0%	**0%**	-	3.2%	1.2%	3.9%	0%	**8.3%**	-	-
Lights	14	150	23	0	**187**	-	34	149	17	2	**202**	-	0	0	0	0	**0**	-	14	5	17	0	**36**	-	425
% Lights	100%	95.5%	100%	0%	**96.4%**	-	97.1%	100%	100%	100%	**99.5%**	-	0%	0%	0%	0%	**-**	-	100%	100%	100%	0%	**100%**	-	98.2%
Articulated Trucks	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	2.9%	0%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	0.2%
Buses and Single-Unit Trucks	0	7	0	0	**7**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	7
% Buses and Single-Unit Trucks	0%	4.5%	0%	0%	**3.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	1.6%
Pedestrians	-	-	-	-	-	42	-	-	-	-	-	14	-	-	-	-	-	12	-	-	-	-	-	224	
% Pedestrians	-	-	-	-	-	91.3%	-	-	-	-	-	93.3%	-	-	-	-	-	100%	-	-	-	-	-	96.6%	-
Bicycles on Crosswalk	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	8	
% Bicycles on Crosswalk	-	-	-	-	-	8.7%	-	-	-	-	-	6.7%	-	-	-	-	-	0%	-	-	-	-	-	3.4%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. Bond Avenue & Anderson Avenue - TMC
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646839, Location: 39.952217, -75.315898, Site Code: 4

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



4. Bond Avenue & Anderson Avenue - TMC

Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646839, Location: 39.952217, -75.315898, Site Code: 4

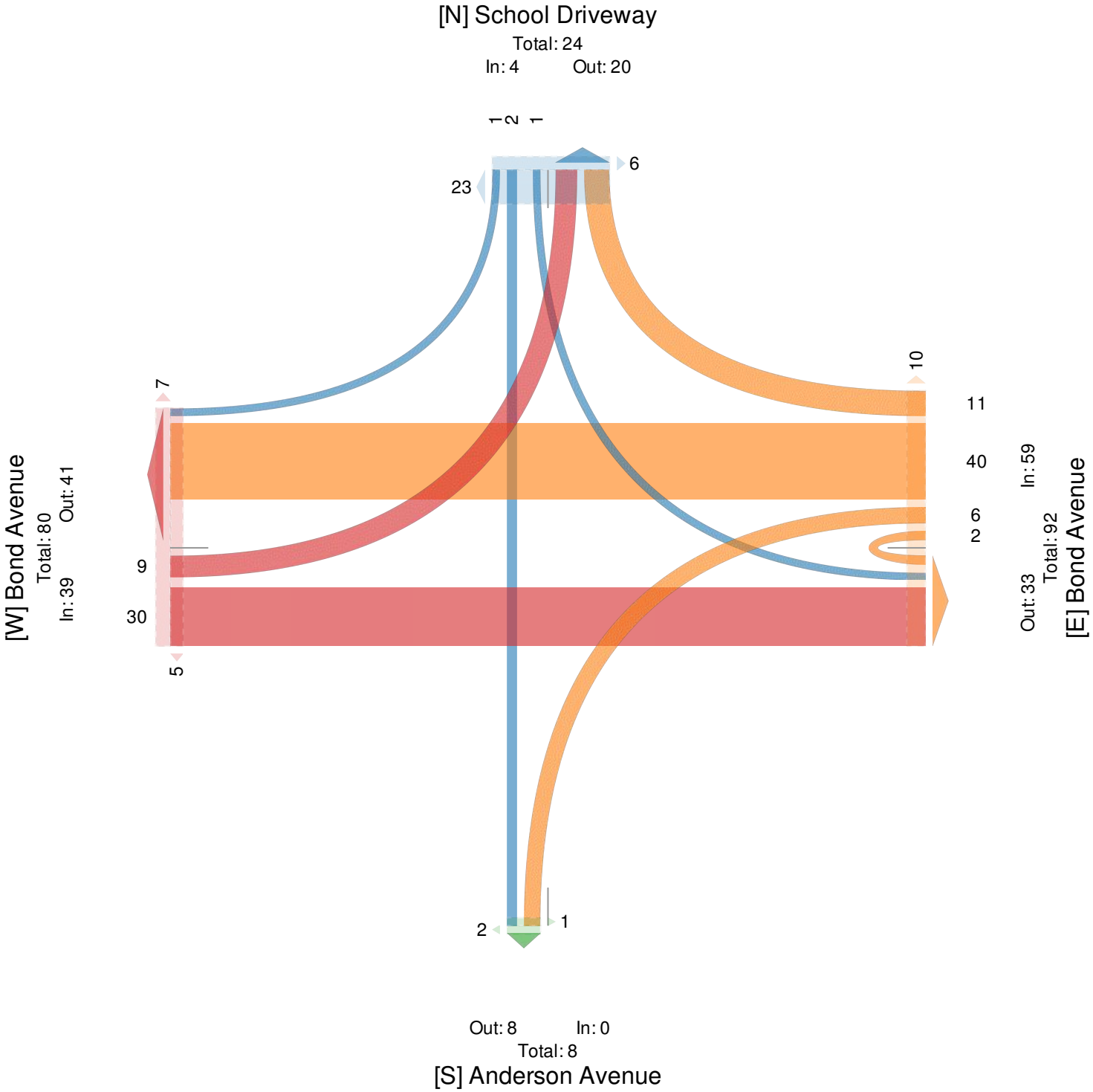
Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Leg / Direction	Bond Avenue Eastbound						Bond Avenue Westbound						Anderson Avenue Northbound						School Driveway Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 7:45AM	4	5	0	0	**9**	2	0	8	5	0	**13**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	1	**23**
8:00AM	4	12	0	0	**16**	2	3	4	3	1	**11**	1	0	0	0	0	**0**	3	0	0	0	0	**0**	3	**27**
8:15AM	0	9	0	0	**9**	5	0	10	3	0	**13**	2	0	0	0	0	**0**	0	1	0	0	0	**1**	5	**23**
8:30AM	1	4	0	0	**5**	3	3	18	0	1	**22**	7	0	0	0	0	**0**	0	0	1	1	0	**2**	20	**29**
Total	9	30	0	0	**39**	12	6	40	11	2	**59**	10	0	0	0	0	**0**	3	1	2	1	0	**4**	29	**102**
% Approach	23.1%	76.9%	0%	0%	**-**	-	10.2%	67.8%	18.6%	3.4%	**-**	-	0%	0%	0%	0%	**-**	-	25.0%	50.0%	25.0%	0%	**-**	-	-
% Total	8.8%	29.4%	0%	0%	**38.2%**	-	5.9%	39.2%	10.8%	2.0%	**57.8%**	-	0%	0%	0%	0%	**0%**	-	1.0%	2.0%	1.0%	0%	**3.9%**	-	-
PHF	0.563	0.625	-	-	**0.609**	-	0.500	0.556	0.550	0.500	**0.670**	-	-	-	-	-	**-**	-	0.250	0.500	0.250		**0.500**	-	0.879
Lights	9	29	0	0	**38**	-	6	40	11	2	**59**	-	0	0	0	0	**0**	-	1	2	1	0	**4**	-	101
% Lights	100%	96.7%	0%	0%	**97.4%**	-	100%	100%	100%	100%	**100%**	-	0%	0%	0%	0%	**-**	-	100%	100%	100%	0%	**100%**	-	99.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Buses and Single-Unit Trucks	0%	3.3%	0%	0%	**2.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	1.0%
Pedestrians	-	-	-	-	-	11	-	-	-	-	-	9	-	-	-	-	-	3	-	-	-	-	-	28	
% Pedestrians	-	-	-	-	-	91.7%	-	-	-	-	-	90.0%	-	-	-	-	-	100%	-	-	-	-	-	96.6%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	8.3%	-	-	-	-	-	10.0%	-	-	-	-	-	0%	-	-	-	-	-	3.4%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. Bond Avenue & Anderson Avenue - TMC
Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646839, Location: 39.952217, -75.315898, Site Code: 4

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



4. Bond Avenue & Anderson Avenue - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

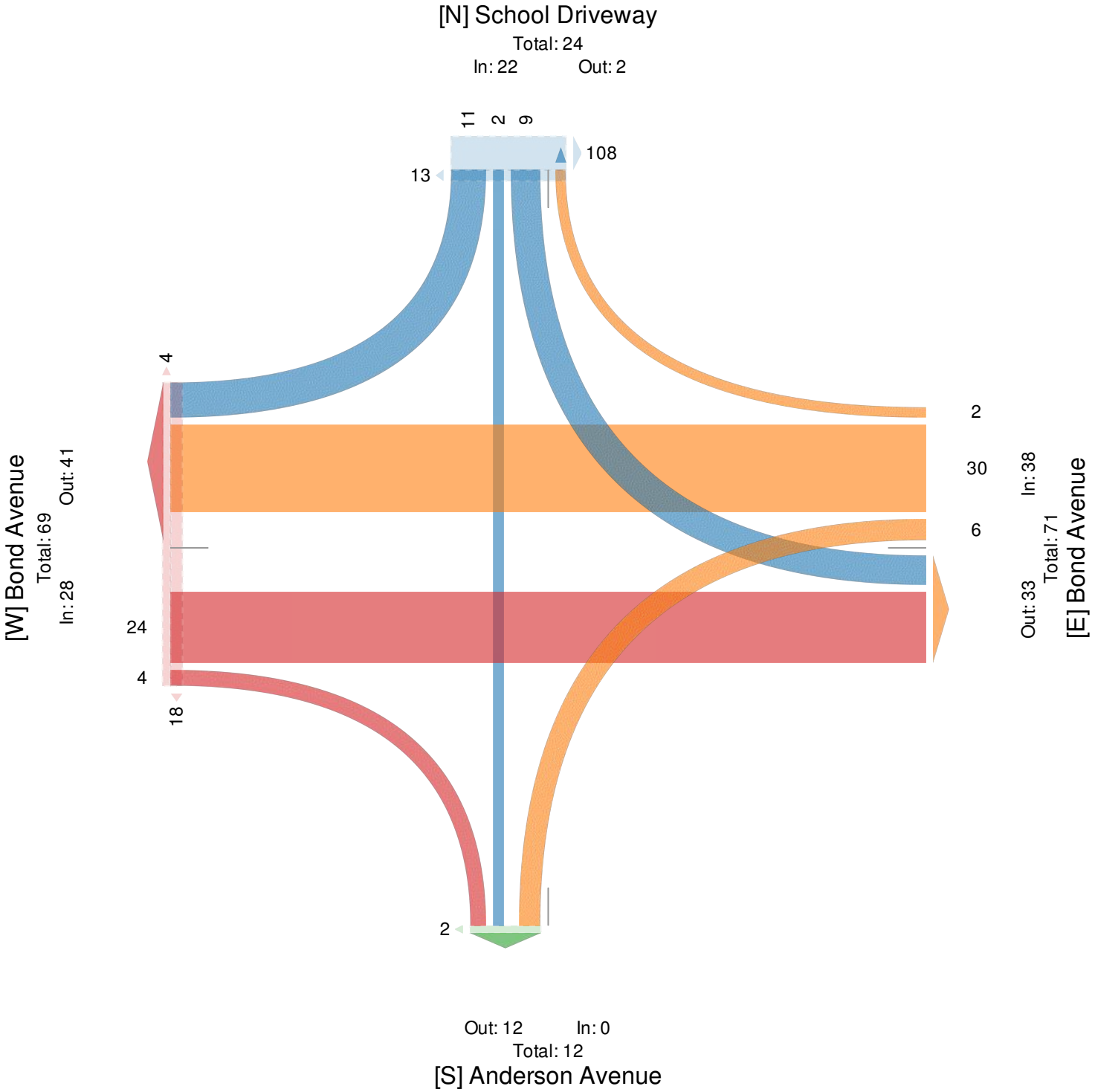
Thu Apr 25, 2019
PM Peak (3:15 PM - 4:15 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646839, Location: 39.952217, -75.315898, Site Code: 4

Leg	Bond Avenue						Bond Avenue						Anderson Avenue						School Driveway						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 3:15PM	0	9	3	0	**12**	15	1	10	1	0	**12**	0	0	0	0	0	**0**	0	1	0	2	0	**3**	16	**27**
3:30PM	0	3	0	0	**3**	2	1	5	1	0	**7**	0	0	0	0	0	**0**	1	0	0	0	0	**0**	7	**10**
3:45PM	0	8	0	0	**8**	4	1	6	0	0	**7**	0	0	0	0	0	**0**	0	3	1	2	0	**6**	58	**21**
4:00PM	0	4	1	0	**5**	1	3	9	0	0	**12**	0	0	0	0	0	**0**	1	5	1	7	0	**13**	40	**30**
Total	0	24	4	0	**28**	22	6	30	2	0	**38**	0	0	0	0	0	**0**	2	9	2	11	0	**22**	121	**88**
% Approach	0%	85.7%	14.3%	0%	**-**	-	15.8%	78.9%	5.3%	0%	**-**	-	0%	0%	0%	0%	**-**	-	40.9%	9.1%	50.0%	0%	**-**	-	**-**
% Total	0%	27.3%	4.5%	0%	**31.8%**	-	6.8%	34.1%	2.3%	0%	**43.2%**	-	0%	0%	0%	0%	**0%**	-	10.2%	2.3%	12.5%	0%	**25.0%**	-	**-**
PHF	-	0.667	0.333	-	**0.583**	-	0.500	0.750	0.500	-	**0.792**	-	-	-	-	-	**-**	-	0.450	0.500	0.393	-	**0.423**	-	0.733
Lights	0	23	4	0	**27**	-	6	30	2	0	**38**	-	0	0	0	0	**0**	-	9	2	11	0	**22**	-	87
% Lights	0%	95.8%	100%	0%	**96.4%**	-	100%	100%	100%	0%	**100%**	-	0%	0%	0%	0%	**-**	-	100%	100%	100%	0%	**100%**	-	98.9%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Buses and Single-Unit Trucks	0%	4.2%	0%	0%	**3.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	1.1%
Pedestrians	-	-	-	-	-	21	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	120	
% Pedestrians	-	-	-	-	-	95.5%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	99.2%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	4.5%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0.8%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. Bond Avenue & Anderson Avenue - TMC
Thu Apr 25, 2019
PM Peak (3:15 PM - 4:15 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646839, Location: 39.952217, -75.315898, Site Code: 4

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



5. Bond Avenue & Alexander Avenue - TMC

Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646840, Location: 39.952514, -75.315233, Site Code: 5

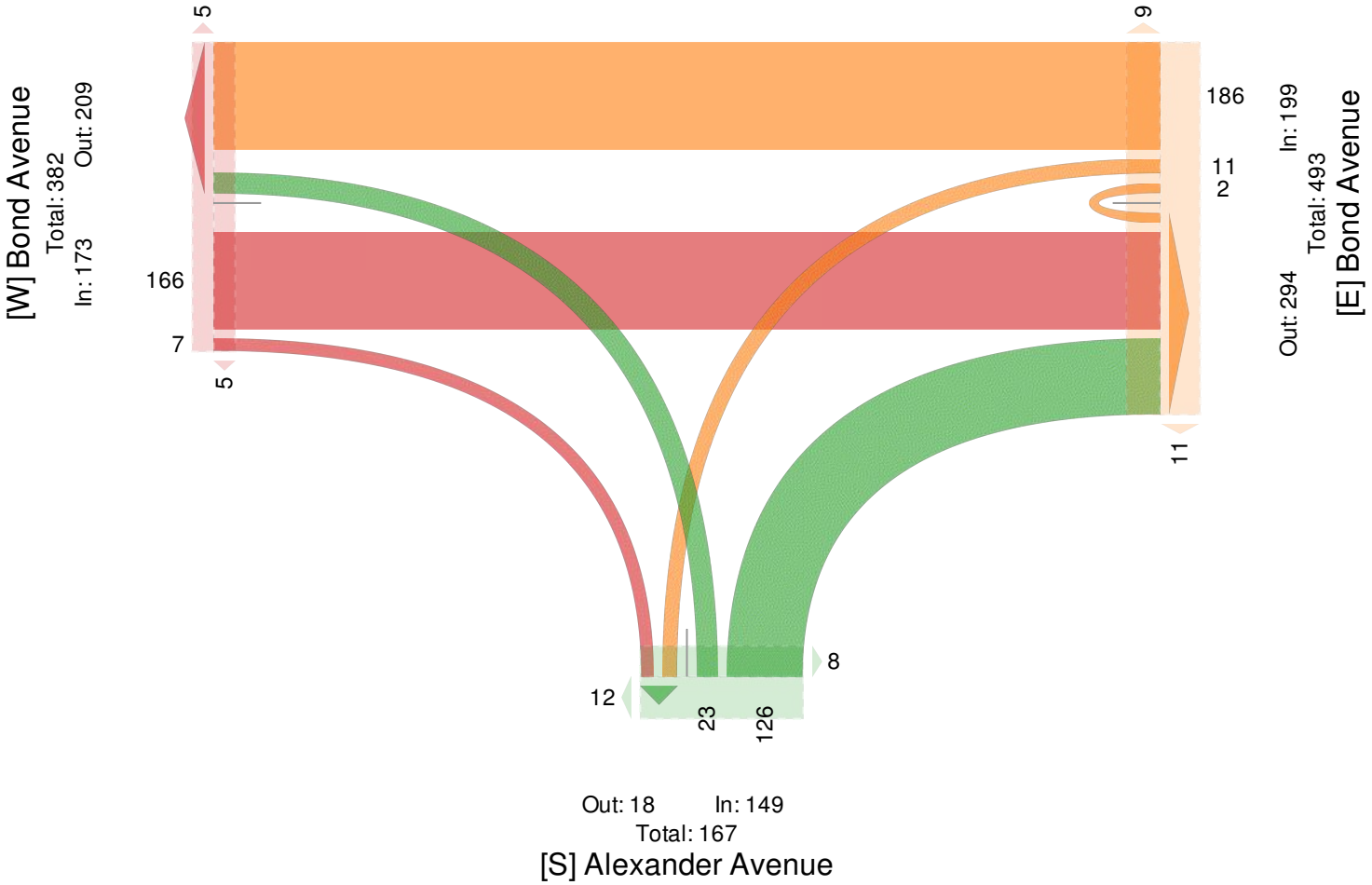
Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US

Leg / Direction	Bond Avenue Eastbound					Bond Avenue Westbound					Alexander Avenue Northbound					
Time	T	R	U	App	Ped*	L	T	U	App	Ped*	L	R	U	App	Ped*	Int
2019-04-25 7:00AM	6	0	0	**6**	0	0	1	0	**1**	1	1	9	0	**10**	1	**17**
7:15AM	3	0	0	**3**	3	0	2	0	**2**	2	1	5	0	**6**	3	**11**
7:30AM	7	0	0	**7**	0	0	6	0	**6**	0	1	8	0	**9**	0	**22**
7:45AM	4	1	0	**5**	0	0	11	0	**11**	0	1	12	0	**13**	0	**29**
Hourly Total	20	1	0	**21**	3	0	20	0	**20**	3	4	34	0	**38**	4	**79**
8:00AM	9	0	0	**9**	1	1	9	0	**10**	1	3	9	0	**12**	1	**31**
8:15AM	10	0	0	**10**	1	0	12	1	**13**	1	2	3	0	**5**	1	**28**
8:30AM	7	0	0	**7**	0	0	21	0	**21**	0	2	5	0	**7**	0	**35**
8:45AM	8	0	0	**8**	0	0	5	0	**5**	0	0	1	0	**1**	0	**14**
Hourly Total	34	0	0	**34**	2	1	47	1	**49**	2	7	18	0	**25**	2	**108**
9:00AM	4	0	0	**4**	0	0	5	0	**5**	0	2	2	0	**4**	1	**13**
9:15AM	3	0	0	**3**	0	0	4	0	**4**	0	1	1	0	**2**	2	**9**
9:30AM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	7	0	0	**7**	0	0	9	0	**9**	0	3	3	0	**6**	3	**22**
2:30PM	4	0	0	**4**	0	1	4	0	**5**	0	1	3	0	**4**	0	**13**
2:45PM	6	0	0	**6**	0	1	7	0	**8**	1	2	5	0	**7**	0	**21**
Hourly Total	10	0	0	**10**	0	2	11	0	**13**	1	3	8	0	**11**	0	**34**
3:00PM	6	0	0	**6**	1	0	13	0	**13**	3	1	7	0	**8**	2	**27**
3:15PM	9	1	0	**10**	0	3	9	0	**12**	2	0	2	0	**2**	1	**24**
3:30PM	2	0	0	**2**	0	0	10	0	**10**	0	0	1	0	**1**	2	**13**
3:45PM	10	1	0	**11**	1	0	7	0	**7**	2	1	5	0	**6**	1	**24**
Hourly Total	27	2	0	**29**	2	3	39	0	**42**	7	2	15	0	**17**	6	**88**
4:00PM	10	1	0	**11**	0	0	10	1	**11**	2	1	2	0	**3**	1	**25**
4:15PM	4	0	0	**4**	0	0	6	0	**6**	1	0	8	0	**8**	1	**18**
4:30PM	8	0	0	**8**	2	1	5	0	**6**	0	2	5	0	**7**	2	**21**
4:45PM	11	0	0	**11**	0	0	10	0	**10**	0	0	5	0	**5**	0	**26**
Hourly Total	33	1	0	**34**	2	1	31	1	**33**	3	3	20	0	**23**	4	**90**
5:00PM	11	1	0	**12**	1	1	10	0	**11**	1	1	5	0	**6**	0	**29**
5:15PM	8	0	0	**8**	0	0	4	0	**4**	1	0	10	0	**10**	0	**22**
5:30PM	11	1	0	**12**	0	2	9	0	**11**	0	0	7	0	**7**	0	**30**
5:45PM	5	1	0	**6**	0	1	6	0	**7**	2	0	6	0	**6**	1	**19**
Hourly Total	35	3	0	**38**	1	4	29	0	**33**	4	1	28	0	**29**	1	**100**
Total	166	7	0	**173**	10	11	186	2	**199**	20	23	126	0	**149**	20	**521**
% Approach	96.0%	4.0%	0%	-	-	5.5%	93.5%	1.0%	-	-	15.4%	84.6%	0%	-	-	-
% Total	31.9%	1.3%	0%	**33.2%**	-	2.1%	35.7%	0.4%	**38.2%**	-	4.4%	24.2%	0%	**28.6%**	-	-
Lights	159	7	0	**166**	-	11	186	2	**199**	-	22	125	0	**147**	-	512
% Lights	95.8%	100%	0%	**96.0%**	-	100%	100%	100%	**100%**	-	95.7%	99.2%	0%	**98.7%**	-	98.3%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	7	0	0	**7**	-	0	0	0	**0**	-	1	1	0	**2**	-	9
% Buses and Single-Unit Trucks	4.2%	0%	0%	**4.0%**	-	0%	0%	0%	**0%**	-	4.3%	0.8%	0%	**1.3%**	-	1.7%
Pedestrians	-	-	-	-	9	-	-	-	-	20	-	-	-	-	20	
% Pedestrians	-	-	-	-	90.0%	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	10.0%	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5. Bond Avenue & Alexander Avenue - TMC
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646840, Location: 39.952514, -75.315233, Site Code: 5

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



5. Bond Avenue & Alexander Avenue - TMC

Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646840, Location: 39.952514, -75.315233, Site Code: 5

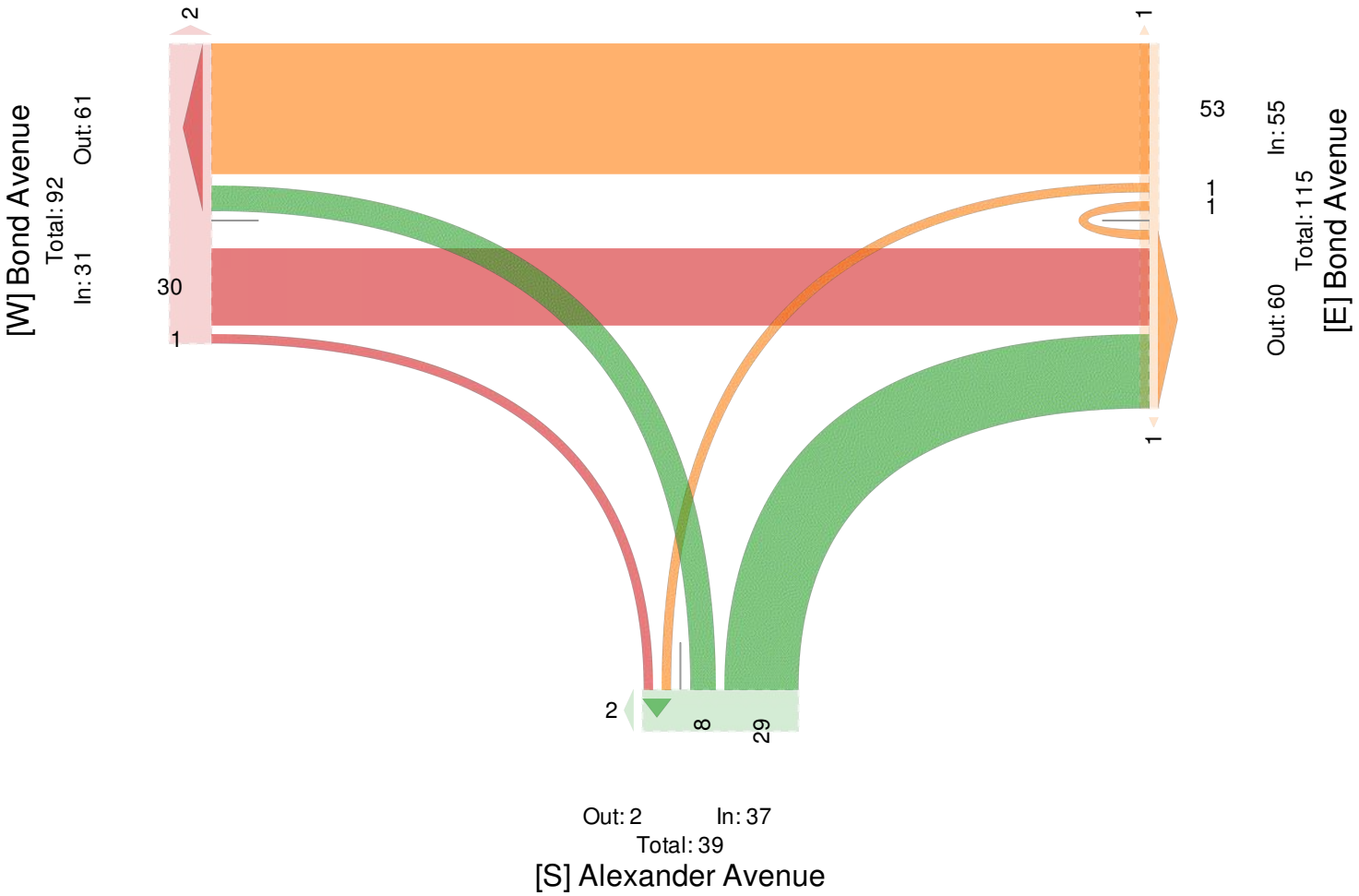
Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US

Leg Direction	Bond Avenue Eastbound					Bond Avenue Westbound					Alexander Avenue Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2019-04-25 7:45AM	4	1	0	**5**	0	0	11	0	**11**	0	1	12	0	**13**	0	**29**
8:00AM	9	0	0	**9**	1	1	9	0	**10**	1	3	9	0	**12**	1	**31**
8:15AM	10	0	0	**10**	1	0	12	1	**13**	1	2	3	0	**5**	1	**28**
8:30AM	7	0	0	**7**	0	0	21	0	**21**	0	2	5	0	**7**	0	**35**
Total	30	1	0	**31**	2	1	53	1	**55**	2	8	29	0	**37**	2	**123**
% Approach	96.8%	3.2%	0%	**-**	-	1.8%	96.4%	1.8%	**-**	-	21.6%	78.4%	0%	**-**	-	**-**
% Total	24.4%	0.8%	0%	**25.2%**	-	0.8%	43.1%	0.8%	**44.7%**	-	6.5%	23.6%	0%	**30.1%**	-	**-**
PHF	0.750	0.250	-	**0.775**	-	0.250	0.631	0.250	**0.655**	-	0.667	0.604	-	**0.712**	-	0.879
Lights	29	1	0	**30**	-	1	53	1	**55**	-	8	29	0	**37**	-	122
% Lights	96.7%	100%	0%	**96.8%**	-	100%	100%	100%	**100%**	-	100%	100%	0%	**100%**	-	99.2%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	1	0	0	**1**	-	0	0	0	**0**	-	0	0	0	**0**	-	1
% Buses and Single-Unit Trucks	3.3%	0%	0%	**3.2%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.8%
Pedestrians	-	-	-	-	2	-	-	-	-	2	-	-	-	-	2	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5. Bond Avenue & Alexander Avenue - TMC
Thu Apr 25, 2019
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646840, Location: 39.952514, -75.315233, Site Code: 5

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



5. Bond Avenue & Alexander Avenue - TMC

Thu Apr 25, 2019
PM Peak (4:45 PM - 5:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646840, Location: 39.952514, -75.315233, Site Code: 5

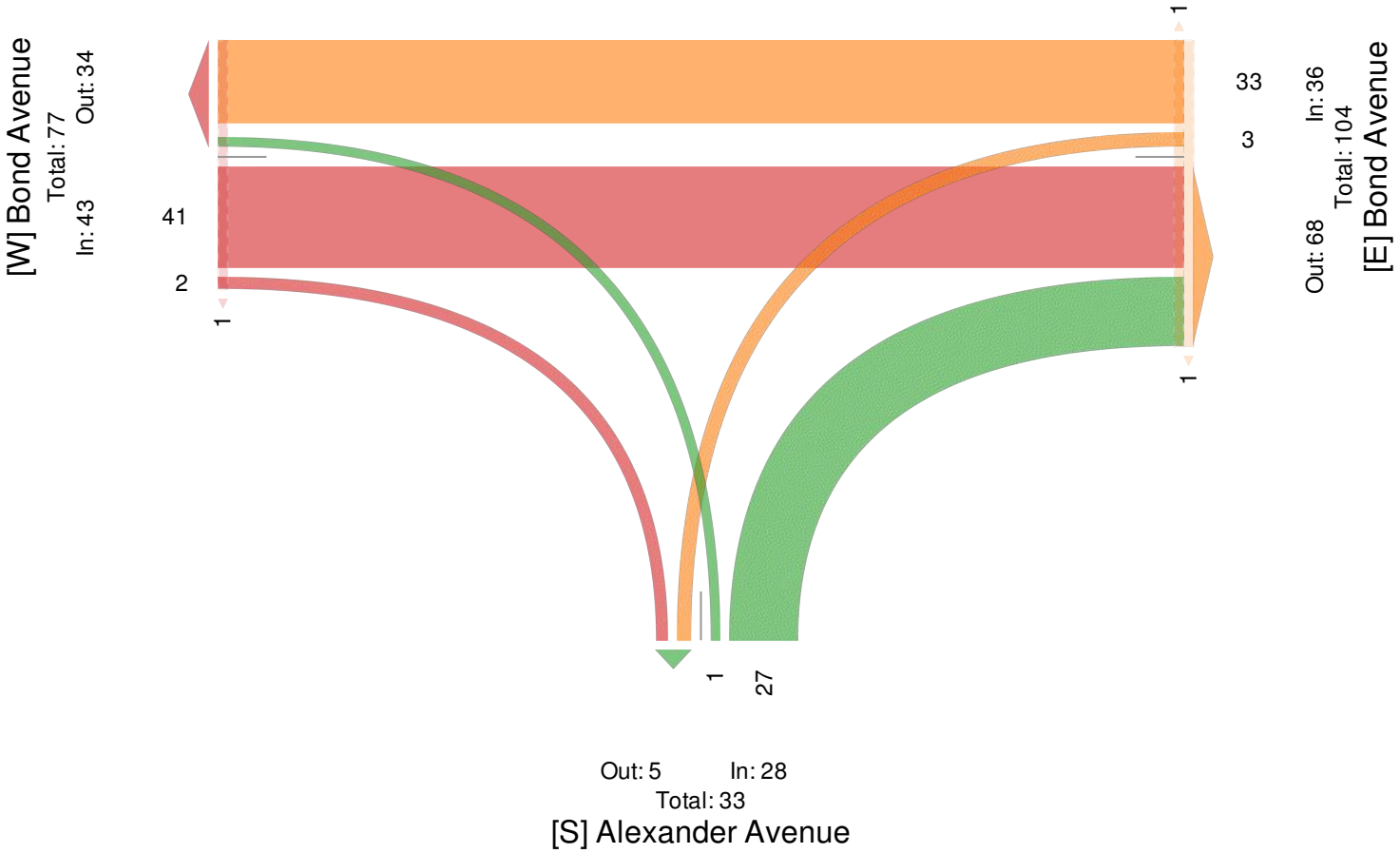
Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US

Leg Direction	Bond Avenue Eastbound					Bond Avenue Westbound					Alexander Avenue Northbound					
Time	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2019-04-25 4:45PM	11	0	0	**11**	0	0	10	0	**10**	0	0	5	0	**5**	0	**26**
5:00PM	11	1	0	**12**	1	1	10	0	**11**	1	1	5	0	**6**	0	**29**
5:15PM	8	0	0	**8**	0	0	4	0	**4**	1	0	10	0	**10**	0	**22**
5:30PM	11	1	0	**12**	0	2	9	0	**11**	0	0	7	0	**7**	0	**30**
Total	41	2	0	**43**	1	3	33	0	**36**	2	1	27	0	**28**	0	**107**
% Approach	95.3%	4.7%	0%	**-**	-	8.3%	91.7%	0%	**-**	-	3.6%	96.4%	0%	**-**	-	-
% Total	38.3%	1.9%	0%	**40.2%**	-	2.8%	30.8%	0%	**33.6%**	-	0.9%	25.2%	0%	**26.2%**	-	-
PHF	0.932	0.500	-	**0.896**	-	0.375	0.825	-	**0.818**	-	0.250	0.675	-	**0.700**	-	0.892
Lights	41	2	0	**43**	-	3	33	0	**36**	-	1	27	0	**28**	-	107
% Lights	100%	100%	0%	**100%**	-	100%	100%	0%	**100%**	-	100%	100%	0%	**100%**	-	100%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	
% Pedestrians	-	-	-	-	0%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	100%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5. Bond Avenue & Alexander Avenue - TMC
Thu Apr 25, 2019
PM Peak (4:45 PM - 5:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646840, Location: 39.952514, -75.315233, Site Code: 5

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



6. Bond Avenue & Burmont Road - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

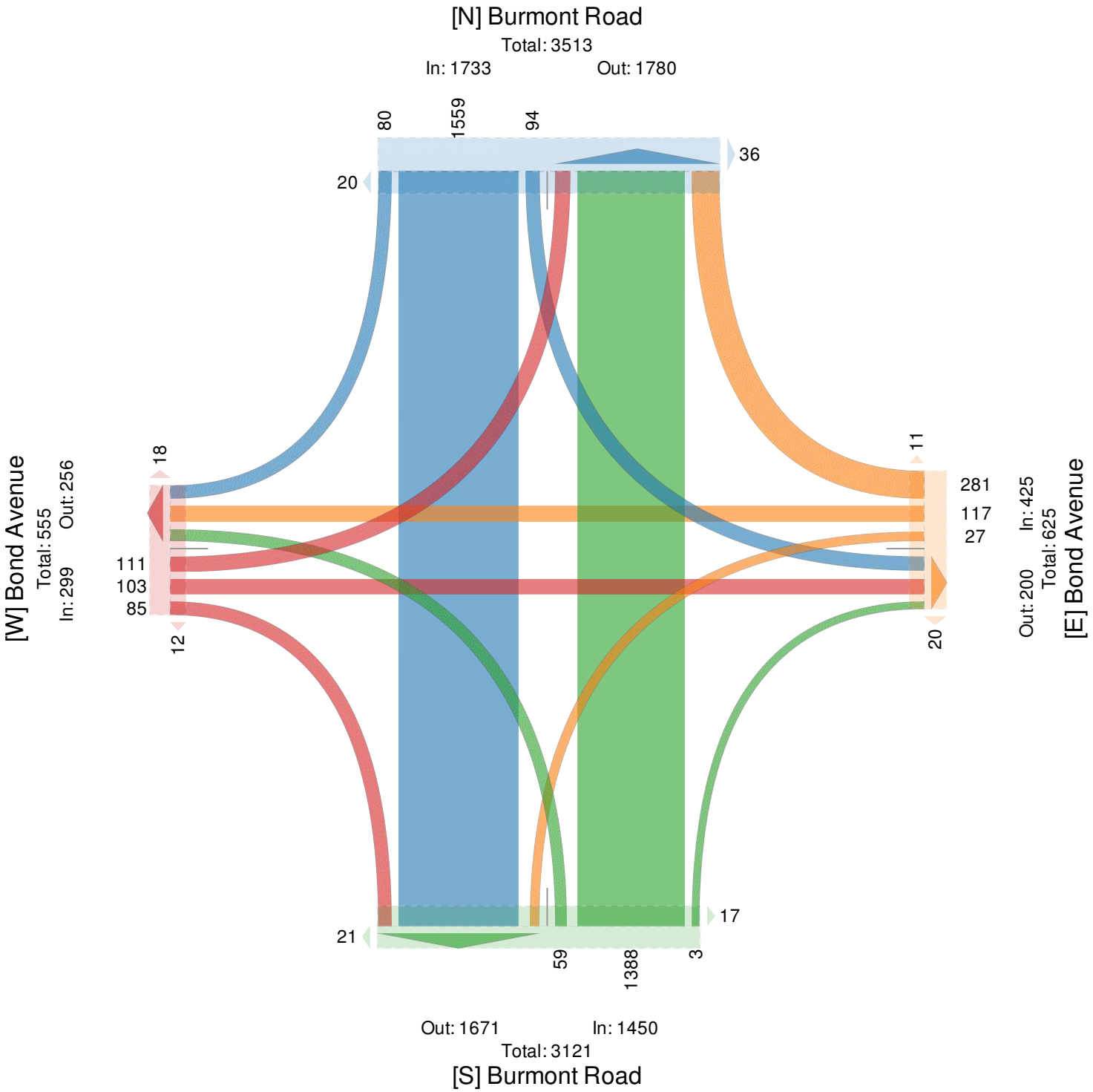
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646841, Location: 39.953195, -75.313755, Site Code: 7

Leg	Bond Avenue						Bond Avenue						Burmont Road						Burmont Road						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 7:00AM	11	1	2	0	**14**	1	0	0	20	0	**20**	0	0	86	0	0	**86**	1	0	33	2	0	**35**	1	**155**
7:15AM	6	0	5	0	**11**	4	0	2	19	0	**21**	2	1	82	0	0	**83**	4	0	48	0	0	**48**	2	**163**
7:30AM	7	7	3	0	**17**	0	2	4	23	0	**29**	0	3	73	0	0	**76**	1	2	53	2	0	**57**	2	**179**
7:45AM	10	2	5	0	**17**	4	1	9	11	0	**21**	5	6	71	1	0	**78**	4	2	57	5	0	**64**	2	**180**
Hourly Total	34	10	15	0	**59**	9	3	15	73	0	**91**	7	10	312	1	0	**323**	10	4	191	9	0	**204**	7	**677**
8:00AM	8	7	3	0	**18**	0	0	4	17	0	**21**	0	5	57	0	0	**62**	0	4	54	2	0	**60**	0	**161**
8:15AM	4	5	5	0	**14**	0	0	11	11	0	**22**	0	8	64	0	0	**72**	2	3	41	2	0	**46**	3	**154**
8:30AM	5	1	4	0	**10**	3	0	11	10	0	**21**	0	6	63	0	0	**69**	4	5	38	5	0	**48**	0	**148**
8:45AM	3	2	5	0	**10**	0	0	3	9	0	**12**	0	4	53	0	0	**57**	0	0	46	1	0	**47**	2	**126**
Hourly Total	20	15	17	0	**52**	3	0	29	47	0	**76**	0	23	237	0	0	**260**	6	12	179	10	0	**201**	5	**589**
9:00AM	6	1	1	0	**8**	0	1	3	8	0	**12**	0	1	41	0	0	**42**	0	2	44	3	0	**49**	1	**111**
9:15AM	2	2	2	0	**6**	1	2	0	5	0	**7**	1	2	51	0	0	**53**	1	1	36	3	0	**40**	4	**106**
9:30AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	8	3	3	0	**14**	1	3	3	13	0	**19**	1	3	92	0	0	**95**	1	3	80	6	0	**89**	5	**217**
2:30PM	1	1	4	0	**6**	0	1	1	5	0	**7**	0	1	58	0	0	**59**	0	3	60	6	0	**69**	3	**141**
2:45PM	6	5	2	0	**13**	0	1	2	10	0	**13**	1	3	56	0	0	**59**	0	3	70	4	0	**77**	0	**162**
Hourly Total	7	6	6	0	**19**	0	2	3	15	0	**20**	1	4	114	0	0	**118**	0	6	130	10	0	**146**	3	**303**
3:00PM	2	8	1	0	**11**	2	2	8	9	0	**19**	6	3	45	0	0	**48**	0	2	84	5	0	**91**	3	**169**
3:15PM	3	2	5	0	**10**	6	2	7	11	0	**20**	3	1	43	0	0	**44**	8	4	56	2	0	**62**	14	**136**
3:30PM	0	4	3	0	**7**	0	3	6	10	0	**19**	0	1	48	0	0	**49**	3	10	68	4	0	**82**	0	**157**
3:45PM	3	4	4	0	**11**	0	3	5	14	0	**22**	2	2	61	1	0	**64**	1	7	68	2	0	**77**	0	**174**
Hourly Total	8	18	13	0	**39**	8	10	26	44	0	**80**	11	7	197	1	0	**205**	12	23	276	13	0	**312**	17	**636**
4:00PM	4	2	6	0	**12**	1	2	7	16	0	**25**	0	0	52	0	0	**52**	0	5	90	3	0	**98**	0	**187**
4:15PM	5	4	2	0	**11**	6	0	2	12	0	**14**	0	0	59	0	0	**59**	6	4	95	3	0	**102**	2	**186**
4:30PM	4	3	4	0	**11**	0	1	6	12	0	**19**	0	1	59	0	0	**60**	0	4	91	1	0	**96**	3	**186**
4:45PM	4	5	7	0	**16**	0	1	9	15	0	**25**	0	2	64	0	0	**66**	0	2	75	4	0	**81**	3	**188**
Hourly Total	17	14	19	0	**50**	7	4	24	55	0	**83**	0	3	234	0	0	**237**	6	15	351	11	0	**377**	8	**747**
5:00PM	2	9	6	0	**17**	0	1	6	7	0	**14**	0	3	51	1	0	**55**	0	5	95	7	0	**107**	2	**193**
5:15PM	4	13	1	0	**18**	1	2	2	10	0	**14**	2	1	49	0	0	**50**	1	8	89	6	0	**103**	0	**185**
5:30PM	7	10	2	0	**19**	1	1	4	9	0	**14**	8	3	57	0	0	**60**	0	7	77	6	0	**90**	6	**183**
5:45PM	4	5	3	0	**12**	0	1	5	8	0	**14**	1	2	44	0	0	**46**	2	11	90	2	0	**103**	3	**175**
Hourly Total	17	37	12	0	**66**	2	5	17	34	0	**56**	11	9	201	1	0	**211**	3	31	351	21	0	**403**	11	**736**
6:00PM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	0	0	1	0	0	**1**	0	**2**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	0	0	1	0	0	**1**	0	**2**
Total	111	103	85	0	**299**	30	27	117	281	0	**425**	31	59	1388	3	0	**1450**	38	94	1559	80	0	**1733**	56	**3907**
% Approach	37.1%	34.4%	28.4%	0%	**-**	-	6.4%	27.5%	66.1%	0%	**-**	-	4.1%	95.7%	0.2%	0%	**-**	-	5.4%	90.0%	4.6%	0%	**-**	-	-
% Total	2.8%	2.6%	2.2%	0%	**7.7%**	-	0.7%	3.0%	7.2%	0%	**10.9%**	-	1.5%	35.5%	0.1%	0%	**37.1%**	-	2.4%	39.9%	2.0%	0%	**44.4%**	-	-
Lights	110	102	80	0	**292**	-	25	117	277	0	**419**	-	59	1345	3	0	**1407**	-	92	1514	79	0	**1685**	-	3803
% Lights	99.1%	99.0%	94.1%	0%	**97.7%**	-	92.6%	100%	98.6%	0%	**98.6%**	-	100%	96.9%	100%	0%	**97.0%**	-	97.9%	97.1%	98.8%	0%	**97.2%**	-	97.3%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	1	1	5	0	**7**	-	2	0	4	0	**6**	-	0	43	0	0	**43**	-	2	43	1	0	**46**	-	102
% Buses and Single-Unit Trucks	0.9%	1.0%	5.9%	0%	**2.3%**	-	7.4%	0%	1.4%	0%	**1.4%**	-	0%	3.1%	0%	0%	**3.0%**	-	2.1%	2.8%	1.3%	0%	**2.7%**	-	2.6%
Pedestrians	-	-	-	-	-	29	-	-	-	-	-	31	-	-	-	-	-	38	-	-	-	-	-	53	
% Pedestrians	-	-	-	-	-	96.7%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	94.6%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	3.3%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	5.4%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

6. Bond Avenue & Burmont Road - TMC
Thu Apr 25, 2019
Full Length (7 AM-9:30 AM, 2:30 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646841, Location: 39.953195, -75.313755, Site Code: 7

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



6. Bond Avenue & Burmont Road - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

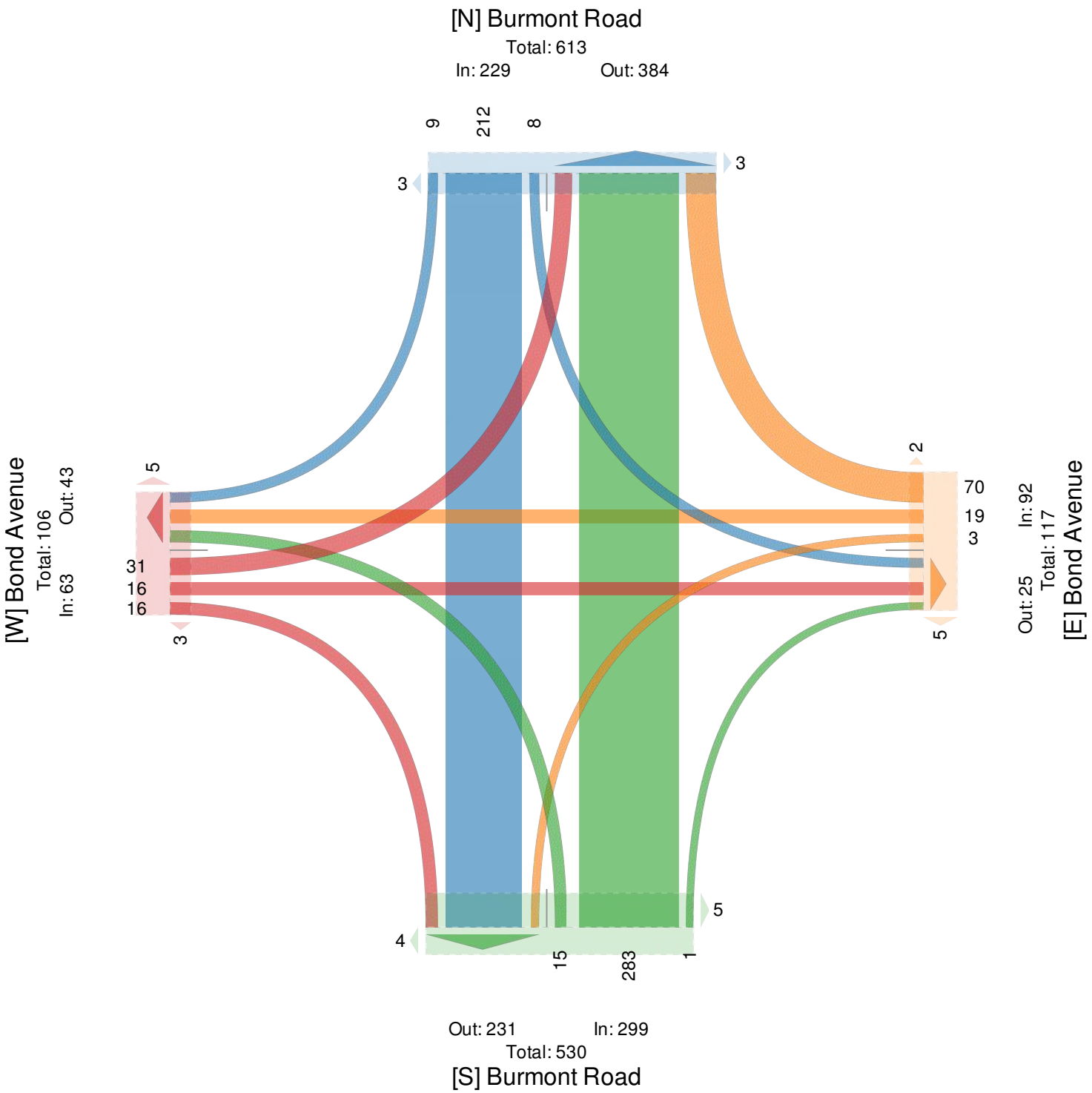
Thu Apr 25, 2019
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646841, Location: 39.953195, -75.313755, Site Code: 7

Leg	Bond Avenue						Bond Avenue						Burmont Road						Burmont Road						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 7:15AM	6	0	5	0	**11**	4	0	2	19	0	**21**	2	1	82	0	0	**83**	4	0	48	0	0	**48**	2	**163**
7:30AM	7	7	3	0	**17**	0	2	4	23	0	**29**	0	3	73	0	0	**76**	1	2	53	2	0	**57**	2	**179**
7:45AM	10	2	5	0	**17**	4	1	9	11	0	**21**	5	6	71	1	0	**78**	4	2	57	5	0	**64**	2	**180**
8:00AM	8	7	3	0	**18**	0	0	4	17	0	**21**	0	5	57	0	0	**62**	0	4	54	2	0	**60**	0	**161**
Total	31	16	16	0	**63**	8	3	19	70	0	**92**	7	15	283	1	0	**299**	9	8	212	9	0	**229**	6	**683**
% Approach	49.2%	25.4%	25.4%	0%	-	-	3.3%	20.7%	76.1%	0%	-	-	5.0%	94.6%	0.3%	0%	-	-	3.5%	92.6%	3.9%	0%	-	-	-
% Total	4.5%	2.3%	2.3%	0%	**9.2%**	-	0.4%	2.8%	10.2%	0%	**13.5%**	-	2.2%	41.4%	0.1%	0%	**43.8%**	-	1.2%	31.0%	1.3%	0%	**33.5%**	-	-
PHF	0.775	0.571	0.800	-	**0.875**	-	0.375	0.528	0.761	-	**0.793**	-	0.625	0.863	0.250	-	**0.901**	-	0.500	0.930	0.450	-	**0.895**	-	0.949
Lights	30	15	15	0	**60**	-	3	19	69	0	**91**	-	15	277	1	0	**293**	-	8	201	9	0	**218**	-	662
% Lights	96.8%	93.8%	93.8%	0%	**95.2%**	-	100%	100%	98.6%	0%	**98.9%**	-	100%	97.9%	100%	0%	**98.0%**	-	100%	94.8%	100%	0%	**95.2%**	-	96.9%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	1	1	1	0	**3**	-	0	0	1	0	**1**	-	0	6	0	0	**6**	-	0	11	0	0	**11**	-	21
% Buses and Single-Unit Trucks	3.2%	6.3%	6.3%	0%	**4.8%**	-	0%	0%	1.4%	0%	**1.1%**	-	0%	2.1%	0%	0%	**2.0%**	-	0%	5.2%	0%	0%	**4.8%**	-	3.1%
Pedestrians	-	-	-	-	-	8	-	-	-	-	-	7	-	-	-	-	-	9	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	83.3%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	16.7%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

6. Bond Avenue & Burmont Road - TMC
Thu Apr 25, 2019
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646841, Location: 39.953195, -75.313755, Site Code: 7

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



6. Bond Avenue & Burmont Road - TMC

Provided by: Imperial Traffic & Data Collection
PO Box 4637, Cherry Hill, NJ, 08003, US

Thu Apr 25, 2019
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 646841, Location: 39.953195, -75.313755, Site Code: 7

Leg	Bond Avenue						Bond Avenue						Burmont Road						Burmont Road						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-04-25 4:15PM	5	4	2	0	**11**	6	0	2	12	0	**14**	0	0	59	0	0	**59**	6	4	95	3	0	**102**	2	**186**
4:30PM	4	3	4	0	**11**	0	1	6	12	0	**19**	0	1	59	0	0	**60**	0	4	91	1	0	**96**	3	**186**
4:45PM	4	5	7	0	**16**	0	1	9	15	0	**25**	0	2	64	0	0	**66**	0	2	75	4	0	**81**	3	**188**
5:00PM	2	9	6	0	**17**	0	1	6	7	0	**14**	0	3	51	1	0	**55**	0	5	95	7	0	**107**	2	**193**
Total	15	21	19	0	**55**	6	3	23	46	0	**72**	0	6	233	1	0	**240**	6	15	356	15	0	**386**	10	**753**
% Approach	27.3%	38.2%	34.5%	0%	**-**	-	4.2%	31.9%	63.9%	0%	**-**	-	2.5%	97.1%	0.4%	0%	**-**	-	3.9%	92.2%	3.9%	0%	**-**	-	-
% Total	2.0%	2.8%	2.5%	0%	**7.3%**	-	0.4%	3.1%	6.1%	0%	**9.6%**	-	0.8%	30.9%	0.1%	0%	**31.9%**	-	2.0%	47.3%	2.0%	0%	**51.3%**	-	-
PHF	0.750	0.583	0.679	-	**0.809**	-	0.750	0.639	0.767	-	**0.720**	-	0.500	0.910	0.250	-	**0.909**	-	0.750	0.937	0.536	-	**0.902**	-	0.975
Lights	15	21	19	0	**55**	-	3	23	44	0	**70**	-	6	229	1	0	**236**	-	15	354	14	0	**383**	-	744
% Lights	100%	100%	100%	0%	**100%**	-	100%	100%	95.7%	0%	**97.2%**	-	100%	98.3%	100%	0%	**98.3%**	-	100%	99.4%	93.3%	0%	**99.2%**	-	98.8%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	4	0	0	**4**	-	0	2	1	0	**3**	-	9
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	4.3%	0%	**2.8%**	-	0%	1.7%	0%	0%	**1.7%**	-	0%	0.6%	6.7%	0%	**0.8%**	-	1.2%
Pedestrians	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	9	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	90.0%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	10.0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

6. Bond Avenue & Burmont Road - TMC

Thu Apr 25, 2019

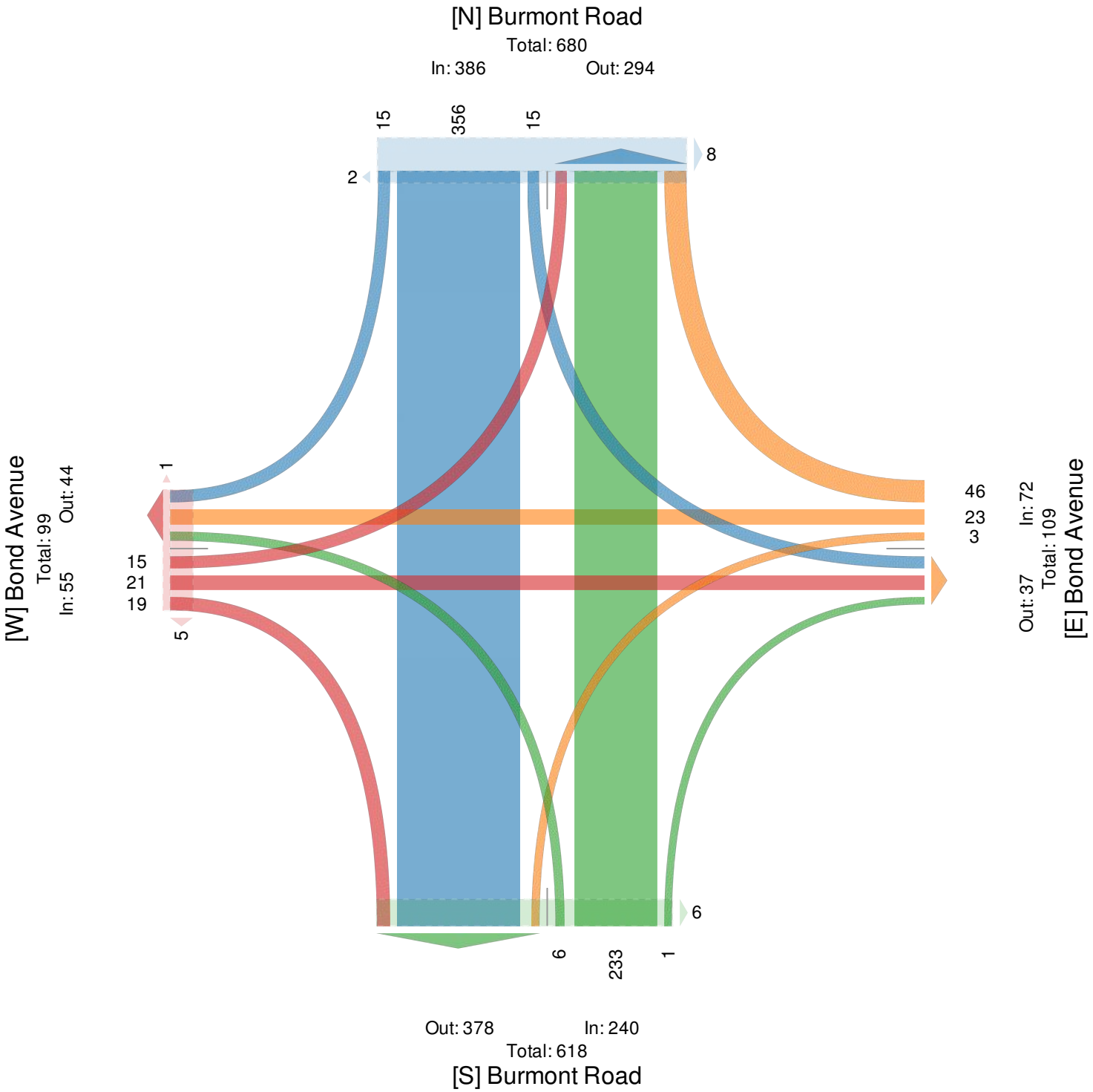
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 646841, Location: 39.953195, -75.313755, Site Code: 7

Provided by: Imperial Traffic & Data Collection
PO Box 4637,
Cherry Hill, NJ, 08003, US



APPENDIX D

GROWTH RATE DOCUMENTATION

Growth Factors for August 2019 to July 2020				
County	**Urban Interstate**	**Rural Interstate**	**Urban Non-Interstate**	**Rural Non-Interstate**
ADAMS	*	*	0.93	0.73
ALLEGHENY	0.81	*	0.00	0.37
ARMSTRONG	0.79	*	0.00	0.36
BEAVER	0.73	1.93	0.00	0.33
BEDFORD	*	2.10	0.00	0.42
BERKS	1.10	2.41	0.20	0.57
BLAIR	0.75	1.91	0.00	0.36
BRADFORD	1.08	*	0.01	0.49
BUCKS	1.31	2.31	0.54	0.59
BUTLER	1.75	2.74	0.65	0.75
CAMBRIA	0.34	*	0.00	0.18
CAMERON	*	*	*	0.14
CARBON	1.30	2.58	0.33	0.62
CENTRE	1.49	2.53	0.65	0.68
CHESTER	1.70	2.99	0.52	0.80
CLARION	0.90	2.00	0.00	0.40
CLEARFIELD	0.93	2.06	0.00	0.42
CLINTON	0.88	2.21	0.00	0.45
COLUMBIA	1.14	2.25	0.30	0.54
CRAWFORD	0.89	1.96	0.03	0.42
CUMBERLAND	1.53	2.55	0.74	0.69
DAUPHIN	1.31	*	0.41	0.63
DELAWARE	0.93	*	0.00	*
ELK	*	*	0.00	0.29
ERIE	0.95	2.14	0.00	0.43
FAYETTE	0.77	*	0.00	0.38
FOREST	*	*	*	0.65
FRANKLIN	1.31	2.54	0.47	0.65
FULTON	*	2.10	*	0.50
GREENE	1.19	2.62	0.00	0.56
HUNTINGDON	*	1.91	0.00	0.37
INDIANA	1.17	*	0.11	0.52
JEFFERSON	*	2.11	0.00	0.42
JUNIATA	*	*	*	0.55
LACKAWANNA	0.78	2.27	0.00	0.42
LANCASTER	1.74	2.64	1.08	0.78
LAWRENCE	0.74	2.05	0.00	0.35
LEBANON	*	2.44	0.39	0.61
LEHIGH	1.54	2.86	0.43	0.73
LUZERNE	0.71	2.14	0.00	0.39
LYCOMING	0.96	2.16	0.00	0.45
MCKEAN	0.60	*	0.00	0.33
MERCER	0.63	1.96	0.00	0.33
MIFFLIN	0.73	*	0.00	0.37
MONROE	1.40	2.46	0.68	0.67
MONTGOMERY	1.17	*	0.28	0.57
MONTOUR	1.48	2.61	0.28	0.65
NORTHAMPTON	1.28	2.53	0.41	0.63
NORTHUMBERLAND	0.75	2.04	0.00	0.39
PERRY	*	*	0.92	0.63
PHILADELPHIA	0.69	*	0.00	*
PIKE	2.14	2.79	1.59	0.96
POTTER	*	*	*	0.46
SCHUYLKILL	0.58	1.89	0.00	0.33
SNYDER	1.15	*	0.35	0.55
SOMERSET	0.59	1.72	0.00	0.32
SULLIVAN	*	*	*	0.42
SUSQUEHANNA	1.11	2.23	0.27	0.53
TIOGA	*	*	*	0.48
UNION	1.52	2.42	0.82	0.69
VENANGO	*	1.67	0.00	0.28
WARREN	*	*	0.00	0.36
WASHINGTON	1.28	2.62	0.10	0.59
WAYNE	*	2.22	0.16	0.51
WESTMORELAND	0.89	2.05	0.00	0.40
WYOMING	*	*	0.00	0.43
YORK	1.34	2.53	0.54	0.66

* = Functional Class Doesn't Exist in County

Questions? Please contact Andrew O'Neill at the Bureau of Planning and Research, 717-346-3250 or andoneill@pa.gov

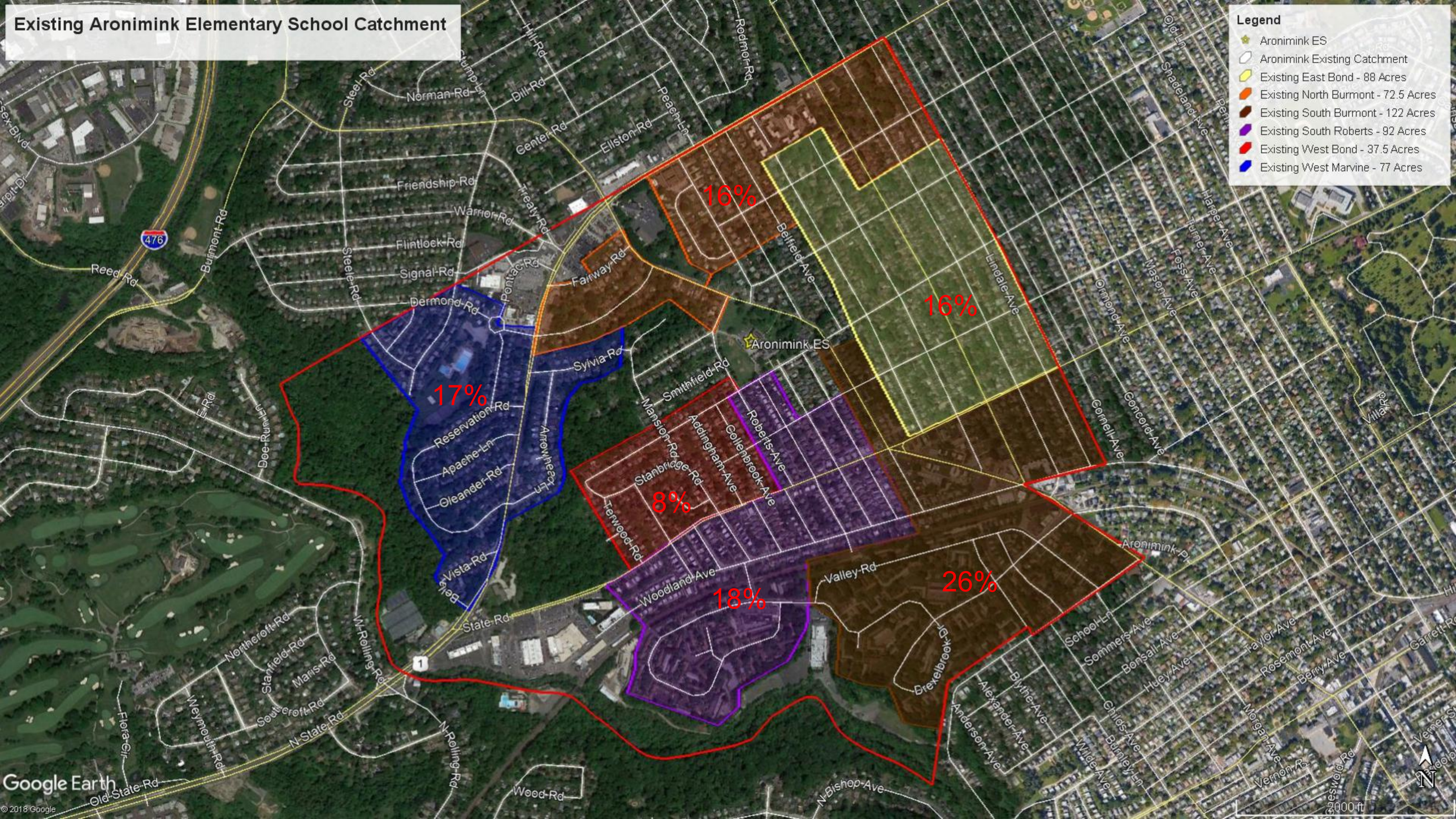
NOTE: The projected growth factors are derived using historical VMT (Vehicle Miles Traveled) data (1994 to 2018), as well as Woods and Poole demographic and economic data. The factors should be compounded when calculating future values. The factors should not be used to project traffic beyond a 20-year period. Please be aware that these factors are estimates, and unforeseen events (opening of shopping centers, fast food franchises, gas stations, etc) could cause growth to change over time.

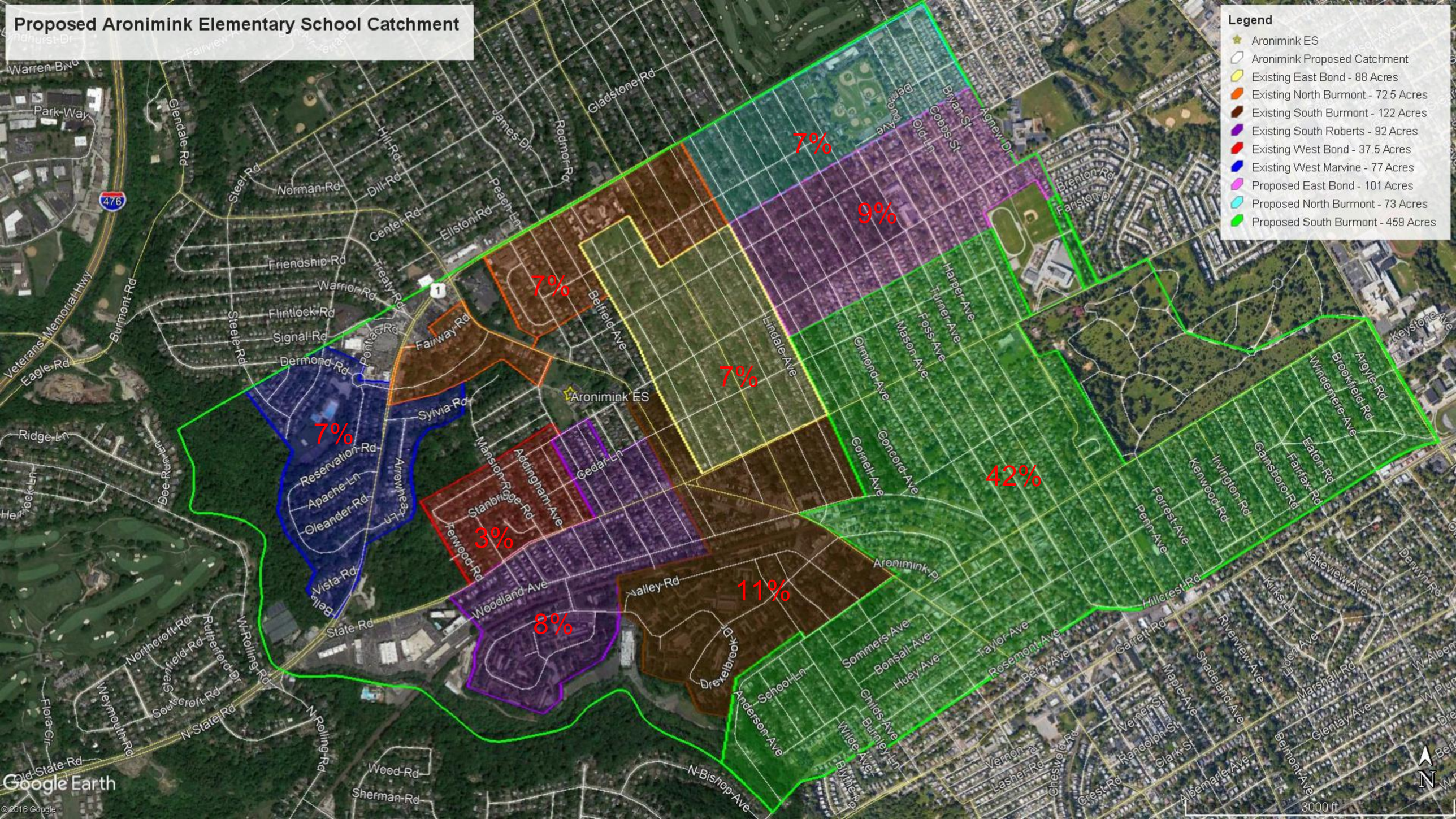
pennsylvania
DEPARTMENT OF TRANSPORTATION

APPENDIX E

VOLUME DEVELOPMENT WORKSHEETS

Existing Aronimink Elementary School Catchment




Proposed Aronimink Elementary School Catchment
Legend
Aronimink ES
Aronimink Proposed Catchment
Existing East Bond - 88 Acres
Existing North Burmont - 72.5 Acres
Existing South Burmont - 122 Acres
Existing South Roberts - 92 Acres
Existing West Bond - 37.5 Acres
Existing West Marvine - 77 Acres
Proposed East Bond - 101 Acres
Proposed North Burmont - 73 Acres
Proposed South Burmont - 459 Acres
7%
9%
7%
7%
42%
3%
11%
8%
7%
Aronimink ES
Warren Blvd
Park Way
Glendale Rd
Steel Rd
Norman Rd
Hill Rd
Dill Rd
James Dr
Rodmor Rd
Gladstone Rd
Center Rd
Ellston Rd
Peach Ln
Friendship Rd
Warrior Rd
Flintlock Rd
Signal Rd
Dermond Rd
Pontiac Rd
Freaty Rd
Steele Rd
Burmont Rd
Veterans Memorial Hwy
Eagle Rd
Fairway Rd
Belfield Ave
Lindale Ave
Sylvia Rd
Ridge Ln
Doe Run Ln
Reservation Rd
Apache Ln
Oleander Rd
Arrowhead Ln
Vista Rd
Mansion Ridge Rd
Addingham Ave
Cedar Ln
Fenwood Rd
Woodland Ave
Valley Rd
Drexelbrook Dr
State Rd
Northcroft Rd
Stanfield Rd
Rutherford Dr
Southcroft Rd
W Rolling Rd
N State Rd
N Rolling Rd
Weymouth Rd
Flora Cir
Old State Rd
Wood Rd
Sherman Rd
N Bishop Ave
Ormond Ave
Mason Ave
Foss Ave
Turner Ave
Harper Ave
Cornell Ave
Concord Ave
Aronimink Dr
Penn Ave
Forest Ave
Kenwood Rd
Irvington Rd
Garnsboro Rd
Fairfax Rd
Eaton Rd
Windermere Ave
Brookfield Rd
Argyle Rd
Keystone Ave
Hillcrest Rd
Lakeview Ave
Derwyn Rd
Kirk Ln
Riverview Ave
Shadeland Ave
Maple Ave
Marshall Rd
Glentay Ave
Belmont Ave
Albemarle Ave
Garrett Rd
Taylor Ave
Rosemont Ave
Berry Ave
Sommers Ave
Bonsall Ave
Huey Ave
Childs Ave
Burnley Ln
Wilde Ave
Bywater Rd
School Ln
Anderson Ave
Vernon Rd
Lasher Rd
Chesswold Rd
Crest Rd
Vernon St
Randolph St
Clark St
Bryan St
Cobbs St
Old Ln
Agnew Dr
Brenton Rd
Farston Dr
Penn Ave
Google Earth
© 2018 Google
3000 ft
N

Catchment Area	Acres	Dist	Say
Existing			
West Marvine	77	16.1%	**10%**
North Burmont	72.5	15.1%	**20%**
East Bond	88	18.4%	**20%**
West Bond	37.5	7.8%	**5%**
South Roberts	82	17.1%	**20%**
South Burmont	122	25.5%	**25%**
Total	479	100%	100%
Proposed			
West Marvine	77	7.0%	**5%**
North Burmont	145.5	13.3%	**15%**
East Bond	173.5	15.8%	**20%**
West Bond	37.5	3.4%	**5%**
South Roberts	82	7.5%	**10%**
South Burmont	581	53.0%	**45%**
Total	1096.5	100%	100%

Intersection	Approach	Direction / Movement	Peak Hour Factor	Heavy Vehicle Percent	Pedestrian Volumes	2019 Count Volumes	2024 No Build Volumes	2029 No Build Volumes	Existing Trip Removal				New Development Trips				2024 Build Volumes	2029 Build Volumes
									Enter		Exit		Enter		Exit			
										92		78		253		216		
									%	Volume	%	Volume	%	Volume	%	Volume		
1) Burmont Road (SR 2007) and Marvine Avenue	Burmont Road (SR 2007)	EB Through	0.95	5%	0	207	207	207	0%	0	0%	0	10%	26	0%	0	233	233
		EB Right Turn		3%		40	40	40	-20%	-19	0%	0	5%	13	0%	0	34	34
	Burmont Road (SR 2007)	WB Left Turn		0%	3	28	28	28	-20%	-19	0%	0	0%	0	0%	0	9	9
		WB Through		2%		392	392	392	0%	0	0%	0	0%	0	0%	0	392	392
	Marvine Avenue	NB Left Turn		0%	7	67	67	67	0%	0	-20%	-16	0%	0	15%	32	83	83
		NB Right Turn		2%		41	41	41	0%	0	-20%	-16	0%	0	65%	140	165	165
	Total					**775**	**775**	**775**	**-40%**	**-38**	**-40%**	**-32**	**15%**	**39**	**80%**	**172**	**916**	**916**
2) Marvine Avenue and Roberts Avenue / Site Driveway 1	Marvine Avenue	EB Left Turn	0.81	0%	1	19	19	19	-9%	-9	0%	0	0%	0	0%	0	10	10
		EB Through		0%		3	3	3	*	-3	0%	0	0%	0	0%	0	0	0
		EB Right Turn		0%		1	1	1	-1%	-1	0%	0	5%	13	0%	0	13	13
	Site Driveway #1	WB Left Turn		0%	17	3	3	3	0%	0	*	-3	0%	0	15%	32	32	32
		WB Through		0%		0	0	0	0%	0	*	0	0%	0	5%	11	11	11
		WB Right Turn		18%		22	22	22	0%	0	*	-22	0%	0	80%	173	173	173
	Roberts Avenue	NB Left Turn		0%	0	3	3	3	0%	0	-1%	-1	0%	0	0%	0	2	2
		NB Through		0%		65	65	65	0%	0	-15%	-12	0%	0	0%	0	53	53
		NB Right Turn		7%		15	15	15	*	-15	0%	0	0%	0	0%	0	0	0
	Marvine Avenue	SB Left Turn		13%	1	30	30	30	*	-30	0%	0	0%	0	0%	0	0	0
		SB Through		0%		41	41	41	0%	0	-10%	-8	5%	13	0%	0	46	46
		SB Right Turn		0%		8	8	8	0%	0	-9%	-7	0%	0	0%	0	1	1
	Total					**210**	**210**	**210**	**-10%**	**-58**	**-35%**	**-53**	**10%**	**26**	**100%**	**216**	**341**	**341**
3) Bond Avenue and Roberts Avenue	Bond Avenue	EB Left Turn	0.82	0%	7	26	26	26	-5%	-5	0%	0	0%	0	0%	0	21	21
		EB Through		5%		19	19	19	0%	0	0%	0	5%	13	0%	0	32	32
		EB Right Turn		0%		2	2	2	0%	0	0%	0	0%	0	0%	0	2	2
	Bond Avenue	WB Left Turn		0%	4	8	8	8	0%	0	-5%	-4	0%	0	0%	0	4	4
		WB Through		0%		6	6	6	0%	0	0%	0	0%	0	0%	0	6	6
		WB Right Turn		0%		26	26	26	-15%	-14	0%	0	0%	0	0%	0	12	12
	Roberts Avenue	NB Left Turn		0%	9	2	2	2	0%	0	0%	0	0%	0	0%	0	2	2
		NB Through		0%		37	37	37	-15%	-14	0%	0	0%	0	0%	0	23	23
		NB Right Turn		0%		8	8	8	-5%	-5	0%	0	10%	26	0%	0	29	29
	Roberts Avenue	SB Left Turn		0%	8	13	13	13	0%	0	-15%	-12	10%	26	0%	0	27	27
		SB Through		0%		18	18	18	0%	0	-15%	-12	0%	0	10%	22	28	28
		SB Right Turn		0%		12	12	12	0%	0	-5%	-4	0%	0	5%	11	19	19
	Total					**177**	**177**	**177**	**-40%**	**-38**	**-40%**	**-32**	**25%**	**65**	**15%**	**33**	**205**	**205**
4) Bond Avenue and Anderson Avenue / Site Driveway #2	Bond Avenue	EB Left Turn	0.88	0%	12	9	9	9	*	-9	0%	0	25%	64	0%	0	64	64
		EB Through		3%		30	30	30	0%	0	-15%	-12	0%	0	0%	0	18	18
		EB Right Turn		0%		0	0	0	0%	0	0%	0	0%	0	0%	0	0	0
	Bond Avenue	WB Left Turn		0%	10	6	6	6	0%	0	0%	0	0%	0	0%	0	6	6
		WB Through		0%		40	40	40	-15%	-14	0%	0	0%	0	0%	0	26	26
		WB Right Turn		0%		11	11	11	*	-11	0%	0	75%	190	0%	0	190	190
	Site Driveway #2	SB Left Turn		0%	29	0	0	0	0%	0	*	0	0%	0	0%	0	0	0
		SB Through		0%		1	1	1	0%	0	*	-1	0%	0	0%	0	0	0
		SB Right Turn		0%		1	1	1	0%	0	*	-1	0%	0	0%	0	0	0
	Total					**98**	**98**	**98**	**-15%**	**-34**	**-15%**	**-14**	**100%**	**254**	**0%**	**0**	**304**	**304**

Intersection	Approach	Direction / Movement	Peak Hour Factor	Heavy Vehicle Percent	Pedestrian Volumes	2019 Count Volumes	2024 No Build Volumes	2029 No Build Volumes	Existing Trip Removal				New Development Trips				2024 Build Volumes	2029 Build Volumes
									Enter		Exit		Enter		Exit			
										92		78		253		216		
									%	Volume	%	Volume	%	Volume	%	Volume		
5) Bond Avenue and Alexander Avenue	Bond Avenue	EB Through	0.88	3%	2	30	30	30	0%	0	-25%	-20	0%	0	0%	0	10	10
		EB Right Turn		0%		1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
	Bond Avenue	WB Left Turn		0%	2	1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
		WB Through		0%		53	53	53	-25%	-23	0%	0	75%	190	0%	0	220	220
	Alexander Avenue	NB Left Turn		0%	2	8	8	8	0%	0	0%	0	0%	0	0%	0	8	8
		NB Right Turn		0%		29	29	29	0%	0	0%	0	0%	0	0%	0	29	29
	Total					**122**	**122**	**122**	**-25%**	**-23**	**-25%**	**-20**	**75%**	**190**	**0%**	**0**	**269**	**269**
6) Burmont Road (SR 2007) and Bond Avenue	Bond Avenue	EB Left Turn	0.95	3%	8	31	31	31	0%	0	0%	0	0%	0	0%	0	31	31
		EB Through		6%		16	16	16	0%	0	-15%	-12	0%	0	0%	0	4	4
		EB Right Turn		6%		16	16	16	0%	0	-10%	-8	0%	0	0%	0	0	0
	Bond Avenue	WB Left Turn		0%	7	3	3	3	0%	0	0%	0	0%	0	0%	0	3	3
		WB Through		0%		19	19	19	-15%	-14	0%	0	20%	51	0%	0	56	56
		WB Right Turn		1%		70	70	70	-5%	-5	0%	0	0%	0	0%	0	65	65
	Burmont Road (SR 2007)	NB Left Turn		0%	9	15	15	15	-10%	-10	0%	0	45%	114	0%	0	119	119
		NB Through		2%		283	283	283	-15%	-14	0%	0	0%	0	0%	0	269	269
		NB Right Turn		0%		1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
	Burmont Road (SR 2007)	SB Left Turn		0%	6	8	8	8	0%	0	-5%	-4	0%	0	20%	43	47	47
		SB Through		5%		212	212	212	0%	0	-15%	-12	0%	0	45%	97	297	297
		SB Right Turn		0%		9	9	9	0%	0	0%	0	10%	26	0%	0	35	35
	Total					**683**	**683**	**683**	**-45%**	**-43**	**-45%**	**-36**	**75%**	**191**	**65%**	**140**	**927**	**927**

* Denotes existing driveway movemement eliminated by proposed site modifications.

Intersection	Approach	Direction / Movement	Peak Hour Factor	Heavy Vehicle Percent	Pedestrian Volumes	2019 Count Volumes	2024 No Build Volumes	2029 No Build Volumes	Existing Trip Removal				New Development Trips				2024 Build Volumes	2029 Build Volumes
									Enter		Exit		Enter		Exit			
										39		47		107		131		
									%	Volume	%	Volume	%	Volume	%	Volume		
1) Burmont Road (SR 2007) and Marvine Avenue	Burmont Road (SR 2007)	EB Through	0.94	2%	0	368	368	368	0%	0	0%	0	10%	11	0%	0	379	379
		EB Right Turn		2%		47	47	47	-20%	-8	0%	0	5%	6	0%	0	45	45
	Burmont Road (SR 2007)	WB Left Turn		3%	4	29	29	29	-20%	-8	0%	0	0%	0	0%	0	21	21
		WB Through		1%		299	299	299	0%	0	0%	0	0%	0	0%	0	299	299
	Marvine Avenue	NB Left Turn		0%	4	55	55	55	0%	0	-20%	-10	0%	0	15%	20	65	65
		NB Right Turn		0%		32	32	32	0%	0	-20%	-10	0%	0	65%	85	107	107
	Total					**830**	**830**	**830**	**-40%**	**-16**	**-40%**	**-20**	**15%**	**17**	**80%**	**105**	**916**	**916**
2) Marvine Avenue and Roberts Avenue / Site Driveway 1	Marvine Avenue	EB Left Turn	0.94	0%	1	12	12	12	-9%	-4	0%	0	0%	0	0%	0	8	8
		EB Through		0%		0	0	0	*	0	0%	0	0%	0	0%	0	0	0
		EB Right Turn		0%		7	7	7	-1%	-1	0%	0	5%	6	0%	0	12	12
	Site Driveway #1	WB Left Turn		0%	90	13	13	13	0%	0	*	-13	0%	0	15%	20	20	20
		WB Through		0%		0	0	0	0%	0	*	0	0%	0	5%	7	7	7
		WB Right Turn		0%		25	25	25	0%	0	*	-25	0%	0	80%	105	105	105
	Roberts Avenue	NB Left Turn		0%	0	1	1	1	0%	0	-1%	0	0%	0	0%	0	1	1
		NB Through		0%		47	47	47	0%	0	-15%	-7	0%	0	0%	0	40	40
		NB Right Turn		0%		9	9	9	*	-9	0%	0	0%	0	0%	0	0	0
	Marvine Avenue	SB Left Turn		0%	0	14	14	14	*	-14	0%	0	0%	0	0%	0	0	0
		SB Through		2%		50	50	50	0%	0	-10%	-5	5%	6	0%	0	51	51
		SB Right Turn		0%		14	14	14	0%	0	-9%	-4	0%	0	0%	0	10	10
	Total					**192**	**192**	**192**	**-10%**	**-28**	**-35%**	**-54**	**10%**	**12**	**100%**	**132**	**254**	**254**
3) Bond Avenue and Roberts Avenue	Bond Avenue	EB Left Turn	0.86	0%	1	15	15	15	-5%	-2	0%	0	0%	0	0%	0	13	13
		EB Through		0%		18	18	18	0%	0	0%	0	5%	6	0%	0	24	24
		EB Right Turn		0%		4	4	4	0%	0	0%	0	0%	0	0%	0	4	4
	Bond Avenue	WB Left Turn		0%	3	5	5	5	0%	0	-5%	-2	0%	0	0%	0	3	3
		WB Through		0%		12	12	12	0%	0	0%	0	0%	0	0%	0	12	12
		WB Right Turn		0%		19	19	19	-15%	-6	0%	0	0%	0	0%	0	13	13
	Roberts Avenue	NB Left Turn		0%	2	1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
		NB Through		6%		18	18	18	-15%	-6	0%	0	0%	0	0%	0	12	12
		NB Right Turn		0%		9	9	9	-5%	-2	0%	0	10%	11	0%	0	18	18
	Roberts Avenue	SB Left Turn		8%	12	12	12	12	0%	0	-15%	-7	10%	11	0%	0	16	16
		SB Through		0%		29	29	29	0%	0	-15%	-7	0%	0	10%	13	35	35
		SB Right Turn		0%		27	27	27	0%	0	-5%	-2	0%	0	5%	7	32	32
	Total					**169**	**169**	**169**	**-40%**	**-16**	**-40%**	**-18**	**25%**	**28**	**15%**	**20**	**183**	**183**
4) Bond Avenue and Anderson Avenue / Site Driveway #2	Bond Avenue	EB Left Turn	0.73	0%	22	0	0	0	*	0	0%	0	25%	27	0%	0	27	27
		EB Through		4%		24	24	24	0%	0	-15%	-7	0%	0	0%	0	17	17
		EB Right Turn		0%		4	4	4	0%	0	0%	0	0%	0	0%	0	4	4
	Bond Avenue	WB Left Turn		0%	0	6	6	6	0%	0	0%	0	0%	0	0%	0	6	6
		WB Through		0%		30	30	30	-15%	-6	0%	0	0%	0	0%	0	24	24
		WB Right Turn		0%		2	2	2	*	-2	0%	0	75%	81	0%	0	81	81
	Site Driveway #2	SB Left Turn		0%	121	9	9	9	0%	0	*	-9	0%	0	0%	0	0	0
		SB Through		0%		2	2	2	0%	0	*	-2	0%	0	0%	0	0	0
		SB Right Turn		0%		11	11	11	0%	0	*	-11	0%	0	0%	0	0	0
	Total					**88**	**88**	**88**	**-15%**	**-8**	**-15%**	**-29**	**100%**	**108**	**0%**	**0**	**159**	**159**

Intersection	Approach	Direction / Movement	Peak Hour Factor	Heavy Vehicle Percent	Pedestrian Volumes	2019 Count Volumes	2024 No Build Volumes	2029 No Build Volumes	Existing Trip Removal				New Development Trips				2024 Build Volumes	2029 Build Volumes
									Enter		Exit		Enter		Exit			
										39		47		107		131		
									%	Volume	%	Volume	%	Volume	%	Volume		
5) Bond Avenue and Alexander Avenue	**Bond Avenue**	EB Through	0.89	0%	1	41	41	41	0%	0	-25%	-12	0%	0	0%	0	29	29
		EB Right Turn		0%		2	2	2	0%	0	0%	0	0%	0	0%	0	2	2
	Bond Avenue	WB Left Turn		0%	2	3	3	3	0%	0	0%	0	0%	0	0%	0	3	3
		WB Through		0%		33	33	33	-25%	-10	0%	0	75%	81	0%	0	104	104
	Alexander Avenue	NB Left Turn		0%	0	1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
		NB Right Turn		0%		27	27	27	0%	0	0%	0	0%	0	0%	0	27	27
	Total					**107**	**107**	**107**	**-25%**	**-10**	**-25%**	**-12**	**75%**	**81**	**0%**	**0**	**166**	**166**
6) Burmont Road (SR 2007) and Bond Avenue	**Bond Avenue**	EB Left Turn	0.98	0%	6	15	15	15	0%	0	0%	0	0%	0	0%	0	15	15
		EB Through		0%		21	21	21	0%	0	-15%	-7	0%	0	0%	0	14	14
		EB Right Turn		0%		19	19	19	0%	0	-10%	-5	0%	0	0%	0	14	14
	Bond Avenue	WB Left Turn		0%	0	3	3	3	0%	0	0%	0	0%	0	0%	0	3	3
		WB Through		0%		23	23	23	-15%	-6	0%	0	20%	22	0%	0	39	39
		WB Right Turn		4%		46	46	46	-5%	-2	0%	0	0%	0	0%	0	44	44
	Burmont Road (SR 2007)	NB Left Turn		0%	6	6	6	6	-10%	-4	0%	0	45%	49	0%	0	51	51
		NB Through		2%		233	233	233	-15%	-6	0%	0	0%	0	0%	0	227	227
		NB Right Turn		0%		1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
	Burmont Road (SR 2007)	SB Left Turn		0%	10	15	15	15	0%	0	-5%	-2	0%	0	20%	26	39	39
		SB Through		1%		356	356	356	0%	0	-15%	-7	0%	0	45%	59	408	408
		SB Right Turn		7%		15	15	15	0%	0	0%	0	10%	11	0%	0	26	26
	Total					**753**	**753**	**753**	**-45%**	**-18**	**-45%**	**-21**	**75%**	**82**	**65%**	**85**	**881**	**881**

* Denotes existing driveway movemement eliminated by proposed site modifications.

Aronimink Elementary School Traffic Impact Study
Traffic Volume Development Worksheet

Time Period:	**Weekday PM Peak Hour of Gen**															Done By:	AMR	**12/3/2019**
Annual Growth Rate:	**0.00%**															Chkd By:	PFW	**12/4/2019**
Intersection	**Approach**	**Direction / Movement**	**Peak Hour Factor**	**Heavy Vehicle Percent**	**Pedestrian Volumes**	**2019 Count Volumes**	**2024 No Build Volumes**	**2029 No Build Volumes**	**Existing Trip Removal**				**New Development Trips**				**2024 Build Volumes**	**2029 Build Volumes**
									Enter		**Exit**		**Enter**		**Exit**			
										39		**47**		**107**		**131**		
									%	**Volume**	**%**	**Volume**	**%**	**Volume**	**%**	**Volume**		
1) Burmont Road (SR 2007) and Marvine Avenue	**Burmont Road (SR 2007)**	EB Through	0.91	3%	0	315	315	315	0%	0	0%	0	10%	11	0%	0	326	326
		EB Right Turn		6%		51	51	51	-20%	-8	0%	0	5%	6	0%	0	49	49
	Burmont Road (SR 2007)	WB Left Turn		8%	10	24	24	24	-20%	-8	0%	0	0%	0	0%	0	16	16
		WB Through		3%		263	263	263	0%	0	0%	0	0%	0	0%	0	263	263
	Marvine Avenue	NB Left Turn		0%	2	53	53	53	0%	0	-20%	-10	0%	0	15%	20	63	63
		NB Right Turn		3%		38	38	38	0%	0	-20%	-10	0%	0	65%	85	113	113
	Total					**744**	**744**	**744**	**-40%**	**-16**	**-40%**	**-20**	**15%**	**17**	**80%**	**105**	**830**	**830**
6) Burmont Road (SR 2007) and Bond Avenue	**Bond Avenue**	EB Left Turn	0.87	0%	7	10	10	10	0%	0	0%	0	0%	0	0%	0	10	10
		EB Through		0%		12	12	12	0%	0	-15%	-7	0%	0	0%	0	5	5
		EB Right Turn		6%		18	18	18	0%	0	-10%	-5	0%	0	0%	0	13	13
	Bond Avenue	WB Left Turn		20%	5	10	10	10	0%	0	0%	0	0%	0	0%	0	10	10
		WB Through		0%		25	25	25	-15%	-6	0%	0	20%	22	0%	0	41	41
		WB Right Turn		2%		51	51	51	-5%	-2	0%	0	0%	0	0%	0	49	49
	Burmont Road (SR 2007)	NB Left Turn		0%	12	4	4	4	-10%	-4	0%	0	45%	49	0%	0	49	49
		NB Through		4%		204	204	204	-15%	-6	0%	0	0%	0	0%	0	198	198
		NB Right Turn		0%		1	1	1	0%	0	0%	0	0%	0	0%	0	1	1
	Burmont Road (SR 2007)	SB Left Turn		4%	14	26	26	26	0%	0	-5%	-2	0%	0	20%	26	50	50
		SB Through		3%		282	282	282	0%	0	-15%	-7	0%	0	45%	59	334	334
		SB Right Turn		0%		11	11	11	0%	0	0%	0	10%	11	0%	0	22	22
	Total					**654**	**654**	**654**	**-45%**	**-18**	**-45%**	**-21**	**75%**	**82**	**65%**	**85**	**782**	**782**

* Denotes existing driveway movemement eliminated by proposed site modifications.

APPENDIX F

TRIP GENERATION

Elementary School
(520)

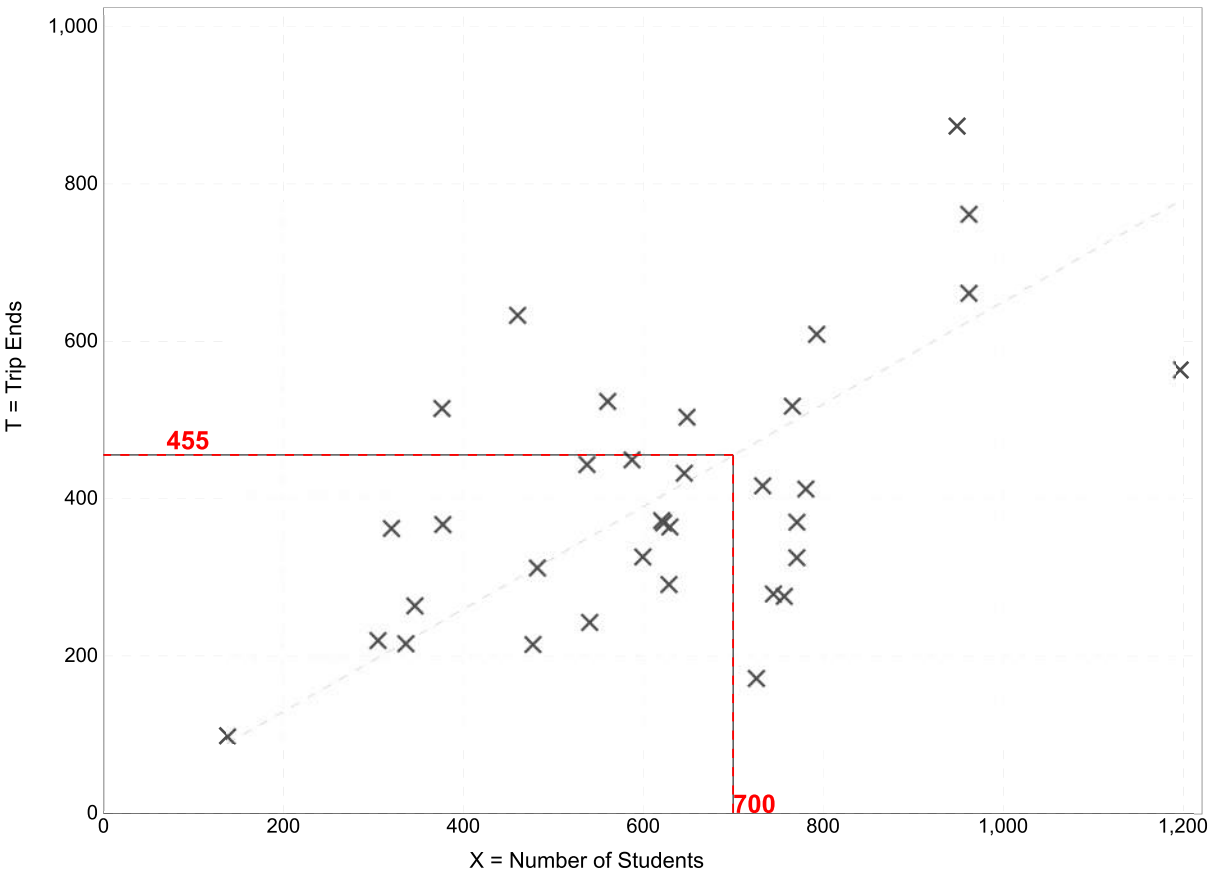
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 34
Avg. Num. of Students: 622
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.65	0.24 - 1.37	0.24

Data Plot and Equation



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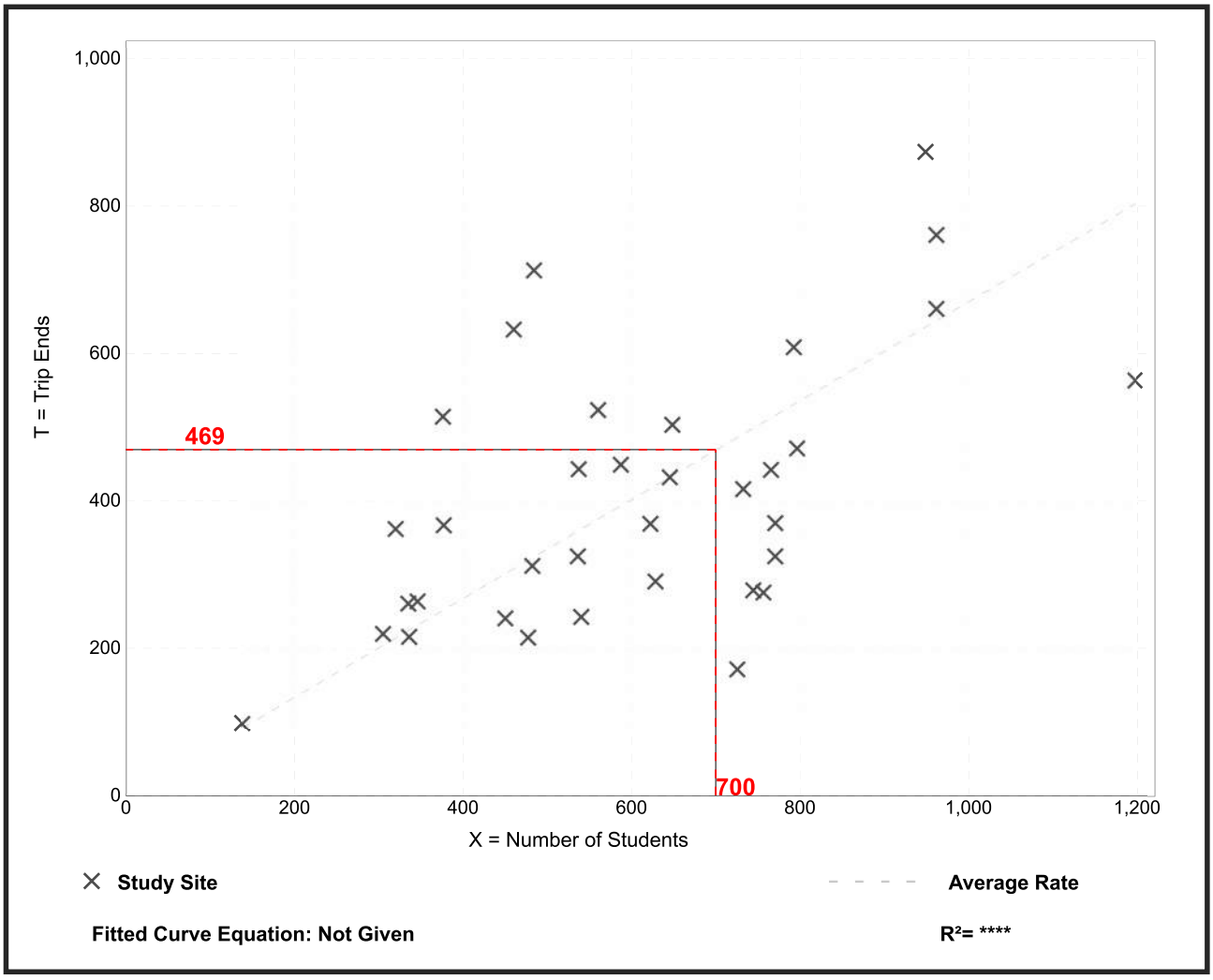
Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 35
Avg. Num. of Students: 603
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.67	0.24 - 1.47	0.27

Data Plot and Equation



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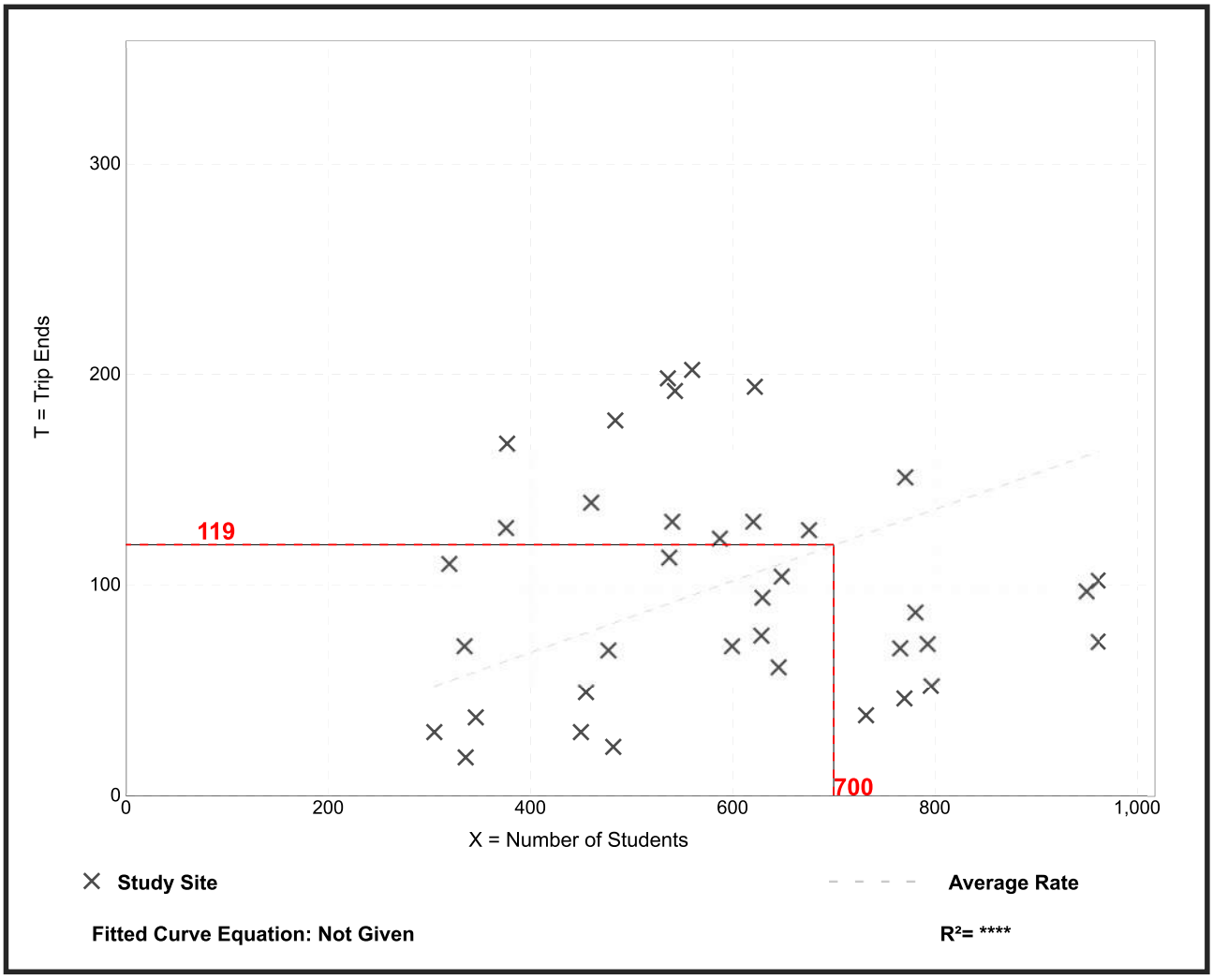
Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 37
Avg. Num. of Students: 590
Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.17	0.05 - 0.44	0.11

Data Plot and Equation



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Elementary School
(520)

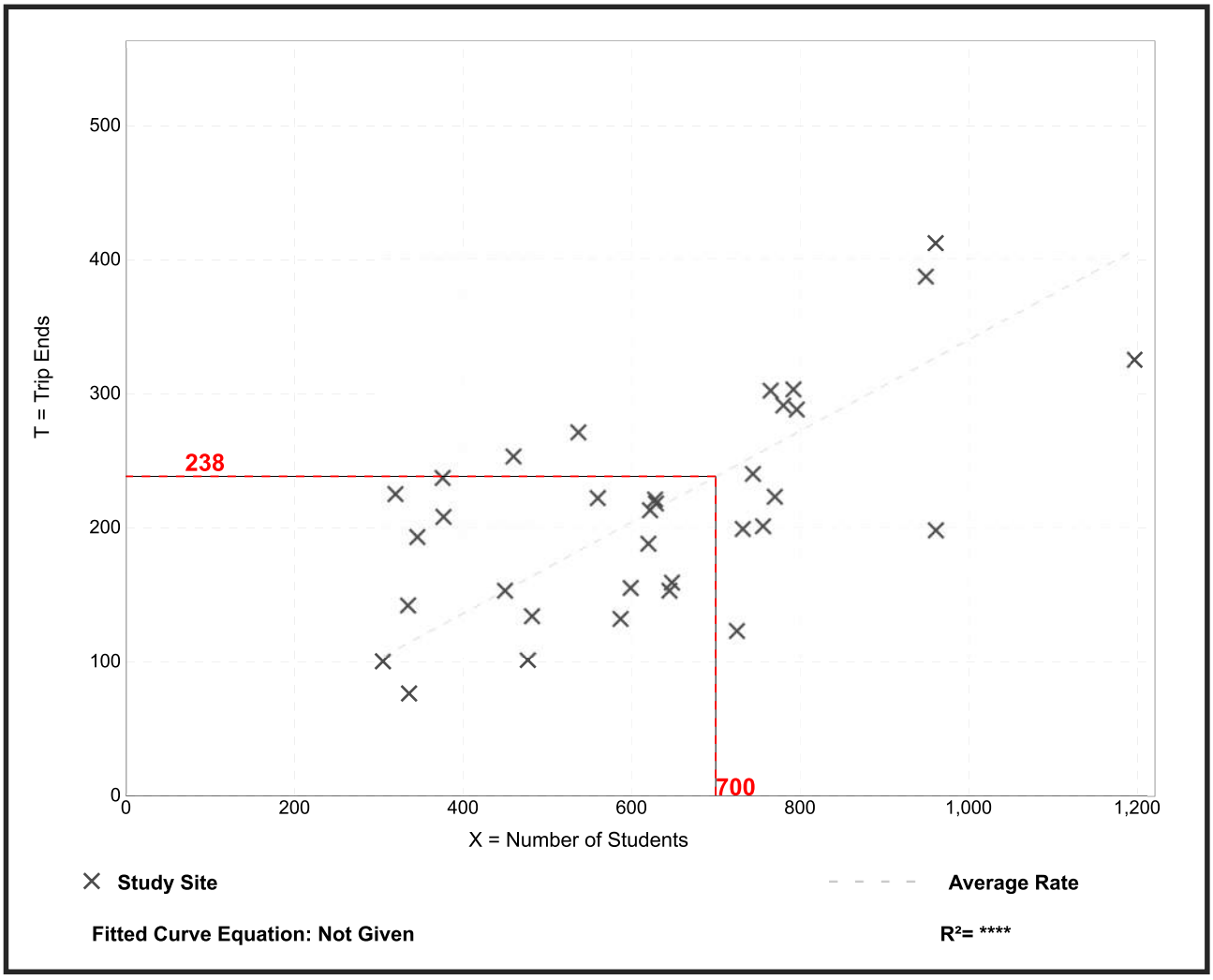
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 34
Avg. Num. of Students: 626
Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.34	0.17 - 0.70	0.11

Data Plot and Equation



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Elementary School
(520)

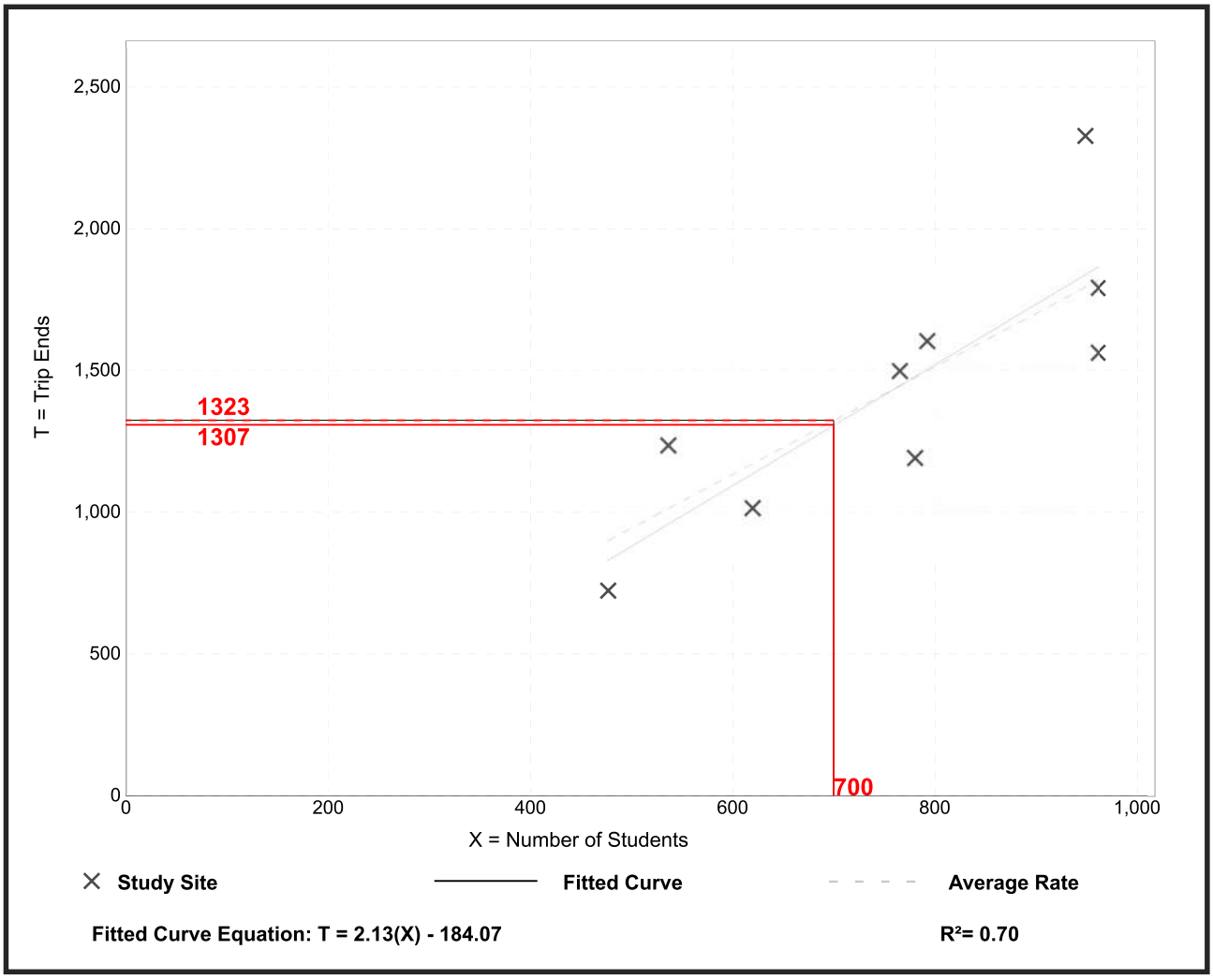
Vehicle Trip Ends vs: **Students**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Students: 760
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
1.89	1.51 - 2.45	0.34

Data Plot and Equation



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Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 35
Avg. Num. of Students: 603
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
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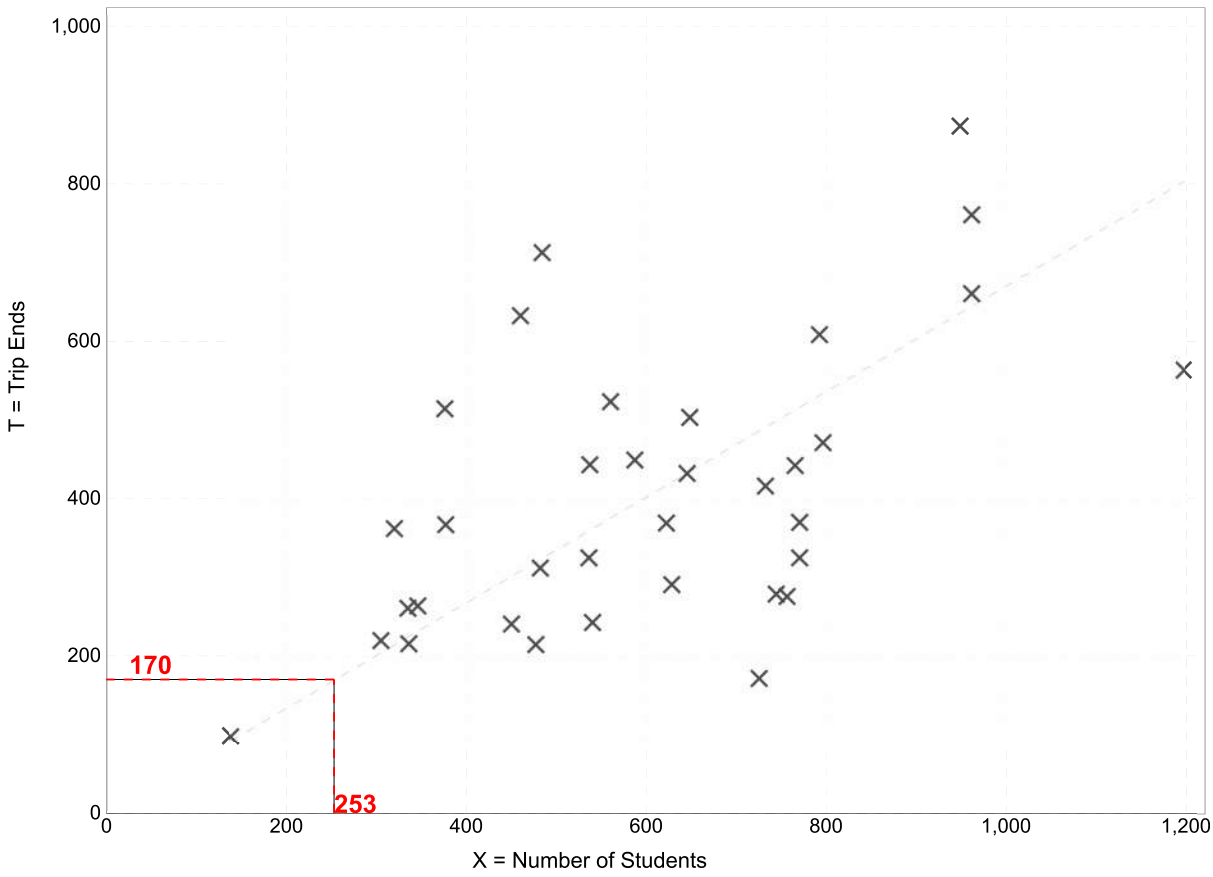

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Elementary School
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On a: **Weekday,**
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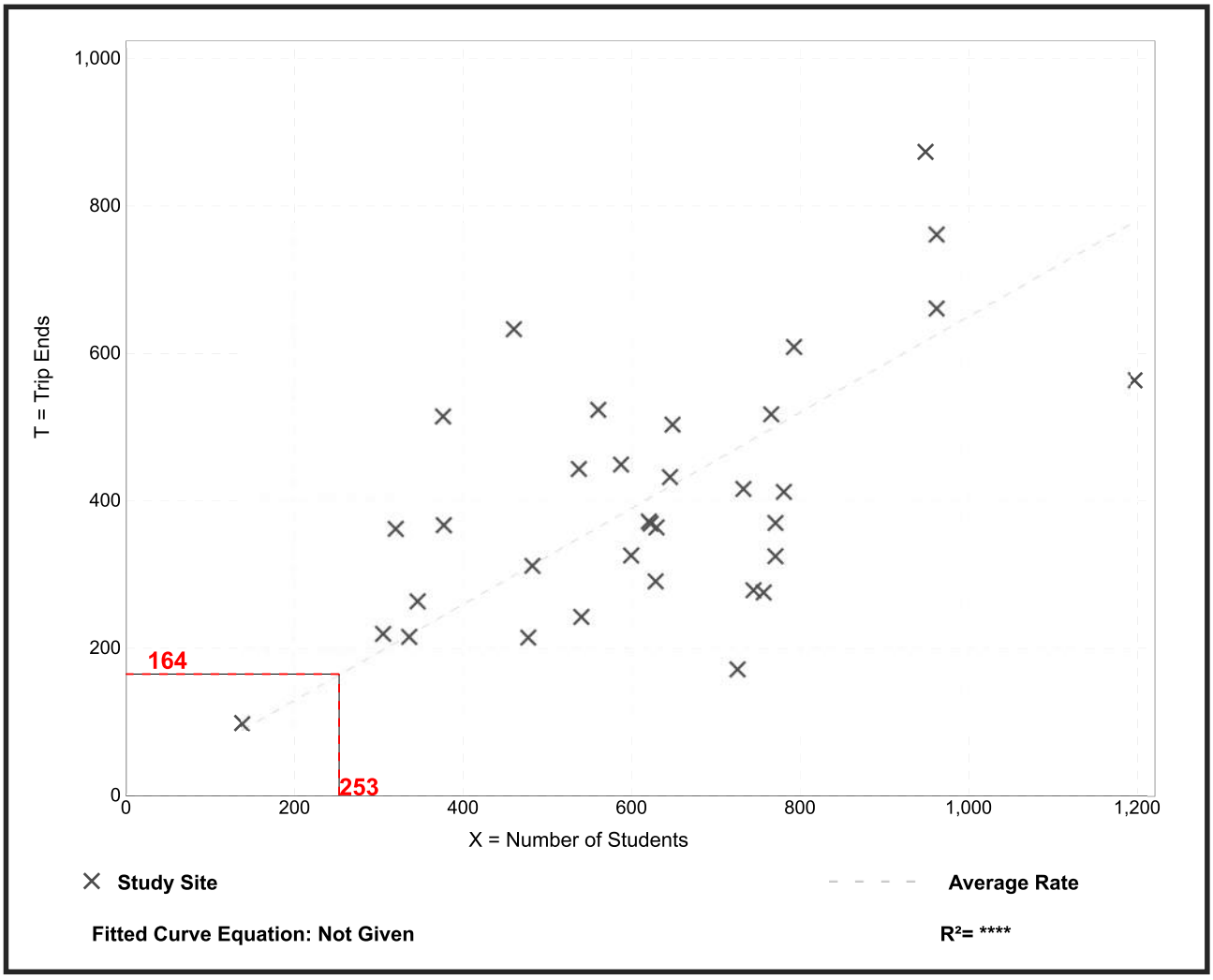

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Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 37
Avg. Num. of Students: 590
Directional Distribution: 48% entering, 52% exiting

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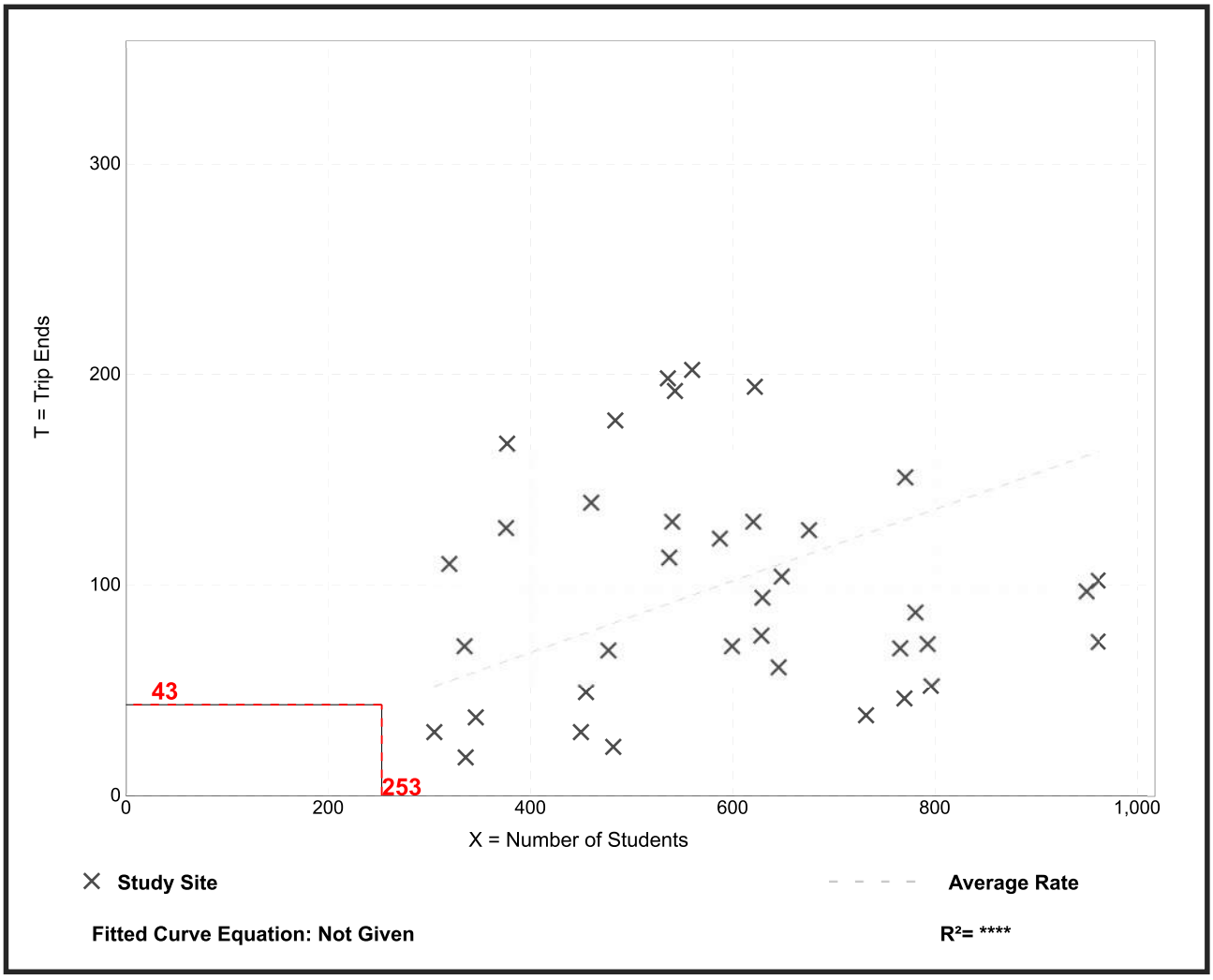

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Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 34
Avg. Num. of Students: 626
Directional Distribution: 45% entering, 55% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
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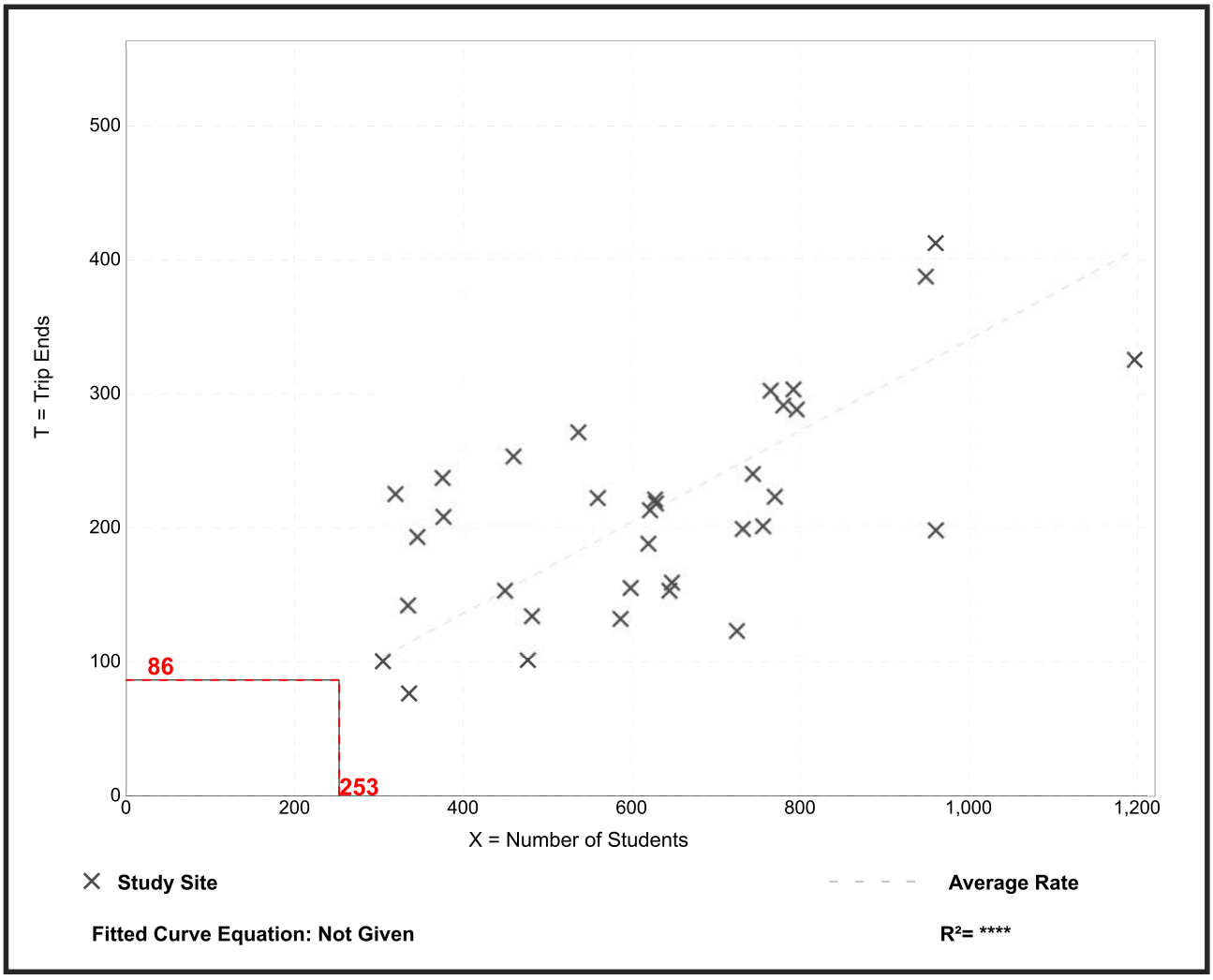

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Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Students: 760
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

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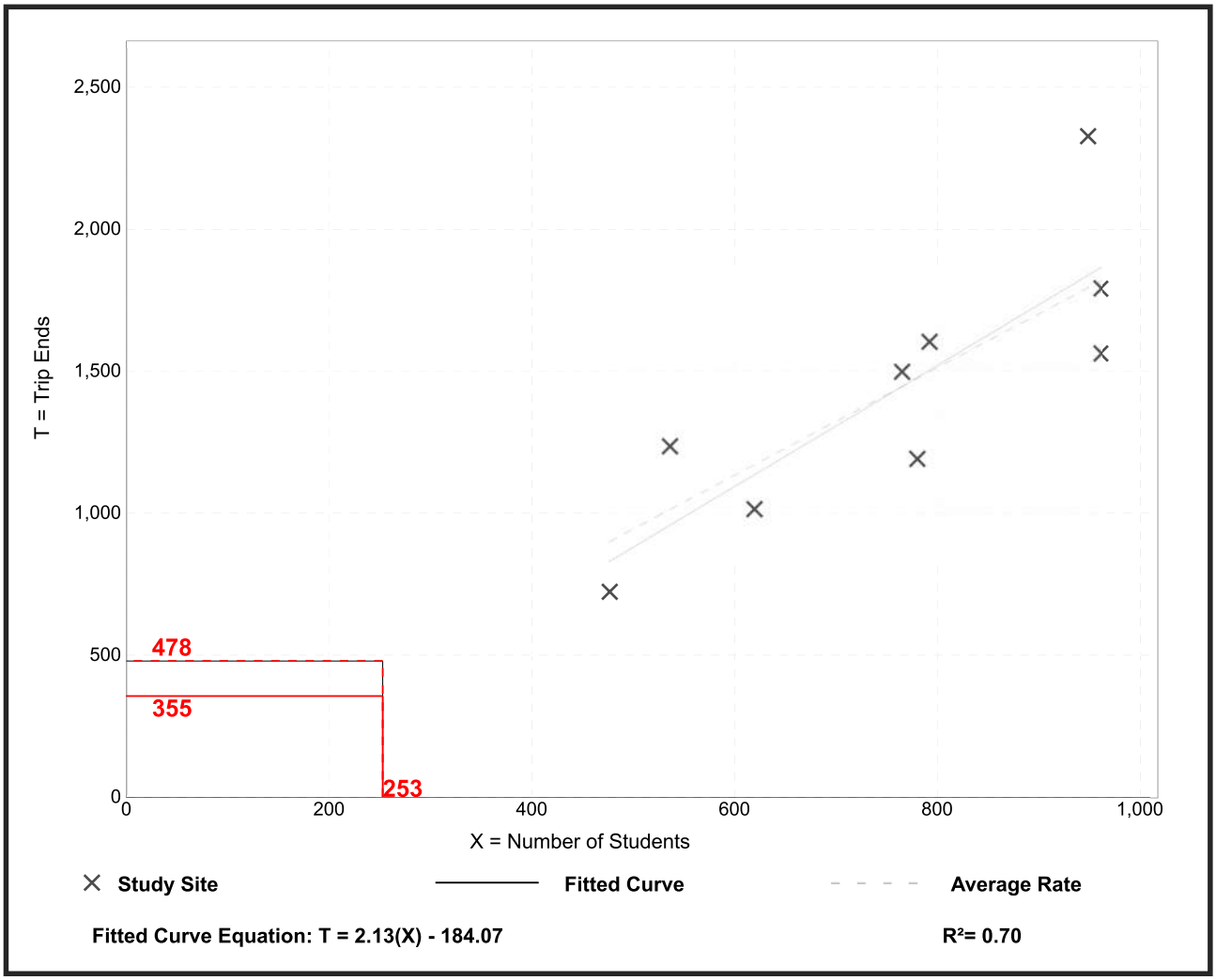
Data Plot and Equation



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APPENDIX G

CAPACITY ANALYSIS OUTPUT

Burmont Road (SR 2007) and Marvine Ave

- T-Intersection with 2 lanes on Major Hwy.

AM PEAK HOUR								
		Fc Base	Ff Base	% HV x 100	% G x 100	T3	Tc	Tf
LEFT TURN FROM MAJOR	NBL	4.3	3.0	0	-2		4.3	3.0
	SBL						0.0	0.0
RIGHT TURN FROM MINOR	EBR	6.2	3.1	2	2		6.4	3.1
	WBR						0.0	0.0
LEFT TURN FROM MINOR	EBL	7.1	3.0	0	2	0.7	6.8	3.0
	WBL						0.0	0.0

PM PEAK HOUR OF GENERATOR (3:12 - 4:15)								
		Fc Base	Ff Base	% HV x 100	% G x 100	T3	Tc	Tf
LEFT TURN FROM MAJOR	NBL	4.3	3.0	0	-2		4.3	3.0
	SBL						0.0	0.0
RIGHT TURN FROM MINOR	EBR	6.2	3.1	3	2		6.4	3.1
	WBR						0.0	0.0
LEFT TURN FROM MINOR	EBL	6.5	3.0	0	2	0.7	6.2	3.0
	WBL						0.0	0.0

PM PEAK HOUR								
		Fc Base	Ff Base	% HV x 100	% G x 100	T3	Tc	Tf
LEFT TURN FROM MAJOR	NBL	4.3	3.0	3	-2		7.3	3.0
	SBL						0.0	0.0
RIGHT TURN FROM MINOR	EBR	6.2	3.1	0	2		6.4	3.1
	WBR						0.0	0.0
LEFT TURN FROM MINOR	EBL	6.5	3.0	0	2	0.7	6.2	3.0
	WBL						0.0	0.0

Burmont Road (SR 2007) and Bond Ave

- 4-Leg Intersection with 2 lanes on Major Hwy.

AM PEAK								
		Fc Base	Ff Base	% HV x 100	% G x 100	T3	Tc	Tf
LEFT TURN FROM MAJOR	NBL	4.3	3.0	0	-3		4.3	3.0
	SBL	4.3	3.0	0	2		4.3	3.0
RIGHT TURN FROM MINOR	EBR	6.2	3.1	6	-2		6.1	3.2
	WBR	6.2	3.1	1	-2		6.0	3.1
THROUGH FROM MINOR	EBT	6.5	4.0	6	-2		6.2	4.1
	WBT	6.5	4.0	0	-2		6.1	4.0
LEFT TURN FROM MINOR	EBL	7.1	3.0	3	-2		6.7	3.0
	WBL	7.1	3.0	0	-2		6.7	3.0

PM PEAK HOUR OF GENERATOR (3:12 - 4:15)								
		Fc Base	Ff Base	% HV x 100	% G x 100	T3	Tc	Tf
LEFT TURN FROM MAJOR	NBL	4.3	3.0	0	-3		4.3	3.0
	SBL	4.3	3.0	4	2		4.3	3.0
RIGHT TURN FROM MINOR	EBR	6.2	3.1	6	-2		6.1	3.2
	WBR	6.2	3.1	2	-2		6.0	3.1
THROUGH FROM MINOR	EBT	6.5	4.0	0	-2		6.1	4.0
	WBT	6.5	4.0	0	-2		6.1	4.0
LEFT TURN FROM MINOR	EBL	7.1	3.0	0	-2		6.7	3.0
	WBL	7.1	3.0	20	-2		6.9	3.2

PM PEAK								
		Fc Base	Ff Base	% HV x 100	% G x 100	T3	Tc	Tf
LEFT TURN FROM MAJOR	NBL	4.3	3.0	0	-3		4.3	3.0
	SBL	4.3	3.0	0	2		4.3	3.0
RIGHT TURN FROM MINOR	EBR	6.2	3.1	0	-2		6.0	3.1
	WBR	6.2	3.1	4	-2		6.0	3.1
THROUGH FROM MINOR	EBT	6.5	4.0	0	-2		6.1	4.0
	WBT	6.5	4.0	0	-2		6.1	4.0
LEFT TURN FROM MINOR	EBL	7.1	3.0	0	-2		6.7	3.0
	WBL	7.1	3.0	0	-2		6.7	3.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	207	40	28	392	67	41
Future Volume (vph)	207	40	28	392	67	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	15	15	15
Grade (%)	2%			-2%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.978				0.949	
Flt Protected				0.997	0.970	
Satd. Flow (prot)	1933	0	0	2066	1890	0
Flt Permitted				0.997	0.970	
Satd. Flow (perm)	1933	0	0	2066	1890	0
Link Speed (mph)	30			30	15	
Link Distance (ft)	410			220	329	
Travel Time (s)	9.3			5.0	15.0	
Confl. Peds. (#/hr)		7	7			3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	3%	0%	2%	0%	2%
Parking (#/hr)						0
Adj. Flow (vph)	218	42	29	413	71	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	260	0	0	442	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	0.89	0.89	0.87	0.87	0.89	0.89
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	207	40	28	392	67	41
Future Vol, veh/h	207	40	28	392	67	41
Conflicting Peds, #/hr	0	7	7	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	3	0	2	0	2
Mvmt Flow	218	42	29	413	71	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	267	0	717	249
Stage 1	-	-	-	-	246	-
Stage 2	-	-	-	-	471	-
Critical Hdwy	-	-	4.3	-	6.8	6.42
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3	-	3	3.1
Pot Cap-1 Maneuver	-	-	973	-	411	828
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	965	-	392	818
Mov Cap-2 Maneuver	-	-	-	-	392	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	653	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	489	-	-	965	-
HCM Lane V/C Ratio	0.232	-	-	0.031	-
HCM Control Delay (s)	14.6	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	3	1	3	0	22	3	65	15	30	41	8
Future Volume (vph)	19	3	1	3	0	22	3	65	15	30	41	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	15	15	15	15	15	15
Grade (%)		4%			5%			3%			-2%	
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		0.995			0.882			0.975			0.986	
Flt Protected		0.961			0.994			0.998			0.981	
Satd. Flow (prot)	0	1721	0	0	1310	0	0	1978	0	0	1946	0
Flt Permitted		0.961			0.994			0.998			0.981	
Satd. Flow (perm)	0	1721	0	0	1310	0	0	1978	0	0	1946	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		586			177			618			329	
Travel Time (s)		13.3			4.0			14.0			7.5	
Confl. Peds. (#/hr)	1					1	1		17	17		1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	0%	7%	13%	0%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	23	4	1	4	0	27	4	80	19	37	51	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	0	0	31	0	0	103	0	0	98	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.13	1.13	1.13	0.90	0.90	0.90	0.87	0.87	0.87
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	3	1	3	0	22	3	65	15	30	41	8
Future Vol, veh/h	19	3	1	3	0	22	3	65	15	30	41	8
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	18	0	0	7	13	0	0
Mvmt Flow	23	4	1	4	0	27	4	80	19	37	51	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7	7.5	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	83%	12%	38%
Vol Thru, %	78%	13%	0%	52%
Vol Right, %	18%	4%	88%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	23	25	79
LT Vol	3	19	3	30
Through Vol	65	3	0	41
RT Vol	15	1	22	8
Lane Flow Rate	102	28	31	98
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.036	0.033	0.117
Departure Headway (Hd)	3.975	4.512	3.869	4.316
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	894	798	931	825
Service Time	2.034	2.513	1.87	2.369
HCM Lane V/C Ratio	0.114	0.035	0.033	0.119
HCM Control Delay	7.5	7.7	7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.1	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	19	2	8	6	26	2	37	8	13	18	12
Future Volume (vph)	26	19	2	8	6	26	2	37	8	13	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	12	12	12	14	14	14
Grade (%)		0%			0%			-2%			1%	
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		0.995			0.912			0.976			0.962	
Flt Protected		0.973			0.990			0.998			0.985	
Satd. Flow (prot)	0	1803	0	0	1887	0	0	1869	0	0	1911	0
Flt Permitted		0.973			0.990			0.998			0.985	
Satd. Flow (perm)	0	1803	0	0	1887	0	0	1869	0	0	1911	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		699			229			229			618	
Travel Time (s)		15.9			5.2			5.2			14.0	
Confl. Peds. (#/hr)	8		9	9		8	7		4	4		7
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	32	23	2	10	7	32	2	45	10	16	22	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	49	0	0	57	0	0	53	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.99	0.99	0.99	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	19	2	8	6	26	2	37	8	13	18	12
Future Vol, veh/h	26	19	2	8	6	26	2	37	8	13	18	12
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	5	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	32	23	2	10	7	32	2	45	10	16	22	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.1	7.4	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	55%	20%	30%
Vol Thru, %	79%	40%	15%	42%
Vol Right, %	17%	4%	65%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	47	40	43
LT Vol	2	26	8	13
Through Vol	37	19	6	18
RT Vol	8	2	26	12
Lane Flow Rate	57	57	49	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.064	0.067	0.051	0.059
Departure Headway (Hd)	4.03	4.213	3.784	4.02
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	882	844	937	884
Service Time	2.087	2.269	1.847	2.078
HCM Lane V/C Ratio	0.065	0.068	0.052	0.059
HCM Control Delay	7.4	7.6	7.1	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	30	0	6	40	11	0	0	0	0	1	1
Future Volume (vph)	9	30	0	6	40	11	0	0	0	0	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	8	8	16	16	16	10	10	10
Grade (%)		-1%			2%			-2%			2%	
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					0.973						0.932	
Flt Protected		0.989			0.995							
Satd. Flow (prot)	0	1600	0	0	1578	0	0	0	0	0	1636	0
Flt Permitted		0.989			0.995							
Satd. Flow (perm)	0	1600	0	0	1578	0	0	0	0	0	1636	0
Link Speed (mph)		15			15			30			15	
Link Distance (ft)		229			214			345			157	
Travel Time (s)		10.4			9.7			7.8			7.1	
Confl. Peds. (#/hr)	29					29	12		10	10		12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0			0						
Adj. Flow (vph)	10	34	0	7	45	13	0	0	0	0	1	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	65	0	0	0	0	0	2	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.22	1.22	1.22	0.84	0.84	0.84	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕						↕	
Traffic Vol, veh/h	9	30	0	6	40	11	0	0	0	0	1	1
Future Vol, veh/h	9	30	0	6	40	11	0	0	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	3	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	34	0	7	45	13	0	0	0	0	1	1
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.2	7.1	6.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	11%	0%
Vol Thru, %	77%	70%	50%
Vol Right, %	0%	19%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	39	57	2
LT Vol	9	6	0
Through Vol	30	40	1
RT Vol	0	11	1
Lane Flow Rate	44	65	2
Geometry Grp	1	1	1
Degree of Util (X)	0.049	0.069	0.002
Departure Headway (Hd)	3.998	3.842	3.787
Convergence, Y/N	Yes	Yes	Yes
Cap	899	936	940
Service Time	2.008	1.85	1.828
HCM Lane V/C Ratio	0.049	0.069	0.002
HCM Control Delay	7.2	7.1	6.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	1	1	53	8	29
Future Volume (vph)	30	1	1	53	8	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	11	11
Grade (%)	-2%			-3%	-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.996				0.894	
Flt Protected				0.999	0.989	
Satd. Flow (prot)	1610	0	0	1503	1632	0
Flt Permitted				0.999	0.989	
Satd. Flow (perm)	1610	0	0	1503	1632	0
Link Speed (mph)	15			15	25	
Link Distance (ft)	214			486	404	
Travel Time (s)	9.7			22.1	11.0	
Confl. Peds. (#/hr)		2	2		2	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%
Parking (#/hr)		0		0		0
Adj. Flow (vph)	34	1	1	60	9	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	61	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	1.19	1.19	1.18	1.34	1.04	1.04
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	1	1	53	8	29
Future Vol, veh/h	30	1	1	53	8	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	0	0	0	0	0
Mvmt Flow	34	1	1	60	9	33
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.2	7.3	6.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	22%	0%	2%
Vol Thru, %	0%	97%	98%
Vol Right, %	78%	3%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	37	31	54
LT Vol	8	0	1
Through Vol	0	30	53
RT Vol	29	1	0
Lane Flow Rate	42	35	61
Geometry Grp	1	1	1
Degree of Util (X)	0.043	0.04	0.068
Departure Headway (Hd)	3.639	4.051	4.003
Convergence, Y/N	Yes	Yes	Yes
Cap	979	884	896
Service Time	1.681	2.074	2.023
HCM Lane V/C Ratio	0.043	0.04	0.068
HCM Control Delay	6.8	7.2	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (vph)	31	16	16	3	19	70	15	283	1	8	212	9
Future Volume (vph)	31	16	16	3	19	70	15	283	1	8	212	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	8	8	8	12	12	12	12	12	12
Grade (%)		-2%			-2%			-3%			2%	
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		0.966			0.897						0.995	
Flt Protected		0.976			0.998			0.997			0.998	
Satd. Flow (prot)	0	1558	0	0	1478	0	0	1887	0	0	1785	0
Flt Permitted		0.976			0.998			0.997			0.998	
Satd. Flow (perm)	0	1558	0	0	1478	0	0	1887	0	0	1785	0
Link Speed (mph)		15			25			30			30	
Link Distance (ft)		486			433			601			327	
Travel Time (s)		22.1			11.8			13.7			7.4	
Confl. Peds. (#/hr)	6		9	9		6	8		7	7		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	6%	6%	0%	0%	1%	0%	2%	0%	0%	5%	0%
Parking (#/hr)			0			0						
Adj. Flow (vph)	33	17	17	3	20	74	16	298	1	8	223	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	97	0	0	315	0	0	240	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.13	1.13	1.13	1.19	1.19	1.19	0.98	0.98	0.98	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	16	16	3	19	70	15	283	1	8	212	9
Future Vol, veh/h	31	16	16	3	19	70	15	283	1	8	212	9
Conflicting Peds, #/hr	6	0	9	9	0	6	8	0	7	7	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-2	-	-	-3	-	-	2	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	6	6	0	0	1	0	2	0	0	5	0
Mvmt Flow	33	17	17	3	20	74	16	298	1	8	223	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	636	590	245	608	594	312	240	0	0	306	0	0
Stage 1	252	252	-	338	338	-	-	-	-	-	-	-
Stage 2	384	338	-	270	256	-	-	-	-	-	-	-
Critical Hdwy	6.73	6.16	6.06	6.7	6.1	6.01	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.73	5.16	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.73	5.16	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.054	3.2	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	471	443	829	493	449	787	994	-	-	943	-	-
Stage 1	891	711	-	806	669	-	-	-	-	-	-	-
Stage 2	761	658	-	874	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	398	426	817	452	432	779	988	-	-	939	-	-
Mov Cap-2 Maneuver	398	426	-	452	432	-	-	-	-	-	-	-
Stage 1	869	700	-	787	654	-	-	-	-	-	-	-
Stage 2	652	643	-	820	708	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	11.4	0.4	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	988	-	-	467	655	939	-	-
HCM Lane V/C Ratio	0.016	-	-	0.142	0.148	0.009	-	-
HCM Control Delay (s)	8.7	0	-	14	11.4	8.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		461	327		386	
Travel Time (s)		10.5	7.4		8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		8	8		8	
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 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		220	461		343	
Travel Time (s)		5.0	10.5		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		8	8		8	
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 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	233	34	9	392	83	165
Future Volume (vph)	233	34	9	392	83	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	15	15	15
Grade (%)	2%			-2%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.983				0.910	
Flt Protected				0.999	0.984	
Satd. Flow (prot)	1942	0	0	2068	1828	0
Flt Permitted				0.999	0.984	
Satd. Flow (perm)	1942	0	0	2068	1828	0
Link Speed (mph)	30			30	15	
Link Distance (ft)	410			220	329	
Travel Time (s)	9.3			5.0	15.0	
Confl. Peds. (#/hr)		7	7			3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	3%	0%	2%	0%	2%
Parking (#/hr)						0
Adj. Flow (vph)	245	36	9	413	87	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	0	0	422	261	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	0.89	0.89	0.87	0.87	0.89	0.89
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	233	34	9	392	83	165
Future Vol, veh/h	233	34	9	392	83	165
Conflicting Peds, #/hr	0	7	7	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	3	0	2	0	2
Mvmt Flow	245	36	9	413	87	174

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	288	0	701	273
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	431	-
Critical Hdwy	-	-	4.3	-	6.8	6.42
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3	-	3	3.1
Pot Cap-1 Maneuver	-	-	957	-	422	801
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	949	-	414	791
Mov Cap-2 Maneuver	-	-	-	-	414	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	606	-	-	949	-
HCM Lane V/C Ratio	0.431	-	-	0.01	-
HCM Control Delay (s)	15.4	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.2	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	13	32	11	173	2	53	0	0	46	1
Future Volume (vph)	10	0	13	32	11	173	2	53	0	0	46	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	15	15	15	15	15	15
Grade (%)		4%			5%			3%			-2%	
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		0.923			0.892						0.998	
Flt Protected		0.979			0.993			0.999				
Satd. Flow (prot)	0	1626	0	0	1339	0	0	2057	0	0	2107	0
Flt Permitted		0.979			0.993			0.999				
Satd. Flow (perm)	0	1626	0	0	1339	0	0	2057	0	0	2107	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		586			177			618			329	
Travel Time (s)		13.3			4.0			14.0			7.5	
Confl. Peds. (#/hr)	1					1	1		17	17		1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	18%	0%	0%	7%	13%	0%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	12	0	16	40	14	214	2	65	0	0	57	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	0	0	268	0	0	67	0	0	58	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.13	1.13	1.13	0.90	0.90	0.90	0.87	0.87	0.87
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	13	32	11	173	2	53	0	0	46	1
Future Vol, veh/h	10	0	13	32	11	173	2	53	0	0	46	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	18	0	0	7	13	0	0
Mvmt Flow	12	0	16	40	14	214	2	65	0	0	57	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	8.2	8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	43%	15%	0%
Vol Thru, %	96%	0%	5%	98%
Vol Right, %	0%	57%	80%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	23	216	47
LT Vol	2	10	32	0
Through Vol	53	0	11	46
RT Vol	0	13	173	1
Lane Flow Rate	68	28	267	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.086	0.033	0.273	0.074
Departure Headway (Hd)	4.569	4.195	3.688	4.561
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	788	857	955	790
Service Time	2.573	2.204	1.787	2.565
HCM Lane V/C Ratio	0.086	0.033	0.28	0.073
HCM Control Delay	8	7.3	8.2	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.1	1.1	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	32	2	4	6	12	2	23	29	27	28	19
Future Volume (vph)	21	32	2	4	6	12	2	23	29	27	28	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	12	12	12	14	14	14
Grade (%)		0%			0%			-2%			1%	
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		0.996			0.925			0.927			0.965	
Flt Protected		0.981			0.991			0.998			0.982	
Satd. Flow (prot)	0	1804	0	0	1916	0	0	1775	0	0	1911	0
Flt Permitted		0.981			0.991			0.998			0.982	
Satd. Flow (perm)	0	1804	0	0	1916	0	0	1775	0	0	1911	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		699			229			229			618	
Travel Time (s)		15.9			5.2			5.2			14.0	
Confl. Peds. (#/hr)	8		9	9		8	7		4	4		7
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	26	39	2	5	7	15	2	28	35	33	34	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	27	0	0	65	0	0	90	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.99	0.99	0.99	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	32	2	4	6	12	2	23	29	27	28	19
Future Vol, veh/h	21	32	2	4	6	12	2	23	29	27	28	19
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	5	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	26	39	2	5	7	15	2	28	35	33	34	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.1	7.2	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	38%	18%	36%
Vol Thru, %	43%	58%	27%	38%
Vol Right, %	54%	4%	55%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	54	55	22	74
LT Vol	2	21	4	27
Through Vol	23	32	6	28
RT Vol	29	2	12	19
Lane Flow Rate	66	67	27	90
Geometry Grp	1	1	1	1
Degree of Util (X)	0.07	0.079	0.029	0.101
Departure Headway (Hd)	3.818	4.245	3.931	4.034
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	928	836	898	882
Service Time	1.883	2.311	2.01	2.091
HCM Lane V/C Ratio	0.071	0.08	0.03	0.102
HCM Control Delay	7.2	7.7	7.1	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.1	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	18	0	6	26	190	0	0	0	0	0	0
Future Volume (vph)	64	18	0	6	26	190	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	8	8	16	16	16	10	10	10
Grade (%)		-1%			2%			-2%			2%	
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					0.885							
Flt Protected		0.962			0.999							
Satd. Flow (prot)	0	1582	0	0	1441	0	0	0	0	0	0	0
Flt Permitted		0.962			0.999							
Satd. Flow (perm)	0	1582	0	0	1441	0	0	0	0	0	0	0
Link Speed (mph)		15			15			30			15	
Link Distance (ft)		229			214			345			157	
Travel Time (s)		10.4			9.7			7.8			7.1	
Confl. Peds. (#/hr)	29					29	12		10	10		12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0			0						
Adj. Flow (vph)	73	20	0	7	30	216	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	0	253	0	0	0	0	0	0	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.22	1.22	1.22	0.84	0.84	0.84	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕							
Traffic Vol, veh/h	64	18	0	6	26	190	0	0	0	0	0	0
Future Vol, veh/h	64	18	0	6	26	190	0	0	0	0	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	3	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	73	20	0	7	30	216	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	EBLn1	WBLn1
Vol Left, %	78%	3%
Vol Thru, %	22%	12%
Vol Right, %	0%	86%
Sign Control	Stop	Stop
Traffic Vol by Lane	82	222
LT Vol	64	6
Through Vol	18	26
RT Vol	0	190
Lane Flow Rate	93	252
Geometry Grp	0	0
Degree of Util (X)	0	0
Departure Headway (Hd)	0	0
Convergence, Y/N	Yes	Yes
Cap	0	0
Service Time	0	0
HCM Lane V/C Ratio	0	0
HCM Control Delay	5	5
HCM Lane LOS	N	N
HCM 95th-tile Q	0	0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	10	1	1	220	8	29
Future Volume (vph)	10	1	1	220	8	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	11	11
Grade (%)	-2%			-3%	-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.989				0.894	
Flt Protected					0.989	
Satd. Flow (prot)	1601	0	0	1504	1632	0
Flt Permitted					0.989	
Satd. Flow (perm)	1601	0	0	1504	1632	0
Link Speed (mph)	15			15	25	
Link Distance (ft)	214			486	404	
Travel Time (s)	9.7			22.1	11.0	
Confl. Peds. (#/hr)		2	2		2	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%
Parking (#/hr)		0		0		0
Adj. Flow (vph)	11	1	1	250	9	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	251	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	1.19	1.19	1.18	1.34	1.04	1.04
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	1	1	220	8	29
Future Vol, veh/h	10	1	1	220	8	29
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	0	0	0	0	0
Mvmt Flow	11	1	1	250	9	33
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.3	8.5	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	22%	0%	0%
Vol Thru, %	0%	91%	100%
Vol Right, %	78%	9%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	37	11	221
LT Vol	8	0	1
Through Vol	0	10	220
RT Vol	29	1	0
Lane Flow Rate	42	12	251
Geometry Grp	1	1	1
Degree of Util (X)	0.047	0.014	0.278
Departure Headway (Hd)	4.039	4.159	3.983
Convergence, Y/N	Yes	Yes	Yes
Cap	892	852	902
Service Time	2.039	2.226	2.006
HCM Lane V/C Ratio	0.047	0.014	0.278
HCM Control Delay	7.2	7.3	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	1.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	4	0	3	56	65	119	269	1	47	297	35
Future Volume (vph)	31	4	0	3	56	65	119	269	1	47	297	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	8	8	8	12	12	12	12	12	12
Grade (%)		-2%			-2%			-3%			2%	
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					0.929						0.987	
Flt Protected		0.957			0.999			0.985			0.994	
Satd. Flow (prot)	0	1600	0	0	1535	0	0	1874	0	0	1776	0
Flt Permitted		0.957			0.999			0.985			0.994	
Satd. Flow (perm)	0	1600	0	0	1535	0	0	1874	0	0	1776	0
Link Speed (mph)		15			25			30			30	
Link Distance (ft)		486			433			601			327	
Travel Time (s)		22.1			11.8			13.7			7.4	
Confl. Peds. (#/hr)	6		9	9		6	8		7	7		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	6%	6%	0%	0%	1%	0%	2%	0%	0%	5%	0%
Parking (#/hr)			0			0						
Adj. Flow (vph)	33	4	0	3	59	68	125	283	1	49	313	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	0	130	0	0	409	0	0	399	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.13	1.13	1.13	1.19	1.19	1.19	0.98	0.98	0.98	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	66.1%	ICU Level of Service C	
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	4	0	3	56	65	119	269	1	47	297	35
Future Vol, veh/h	31	4	0	3	56	65	119	269	1	47	297	35
Conflicting Peds, #/hr	6	0	9	9	0	6	8	0	7	7	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-2	-	-	-3	-	-	2	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	6	6	0	0	1	0	2	0	0	5	0
Mvmt Flow	33	4	0	3	59	68	125	283	1	49	313	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1041	979	349	982	997	297	358	0	0	291	0	0
Stage 1	438	438	-	541	541	-	-	-	-	-	-	-
Stage 2	603	541	-	441	456	-	-	-	-	-	-	-
Critical Hdwy	6.73	6.16	6.06	6.7	6.1	6.01	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.73	5.16	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.73	5.16	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3	4.054	3.2	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	256	274	727	283	275	802	905	-	-	955	-	-
Stage 1	713	600	-	633	556	-	-	-	-	-	-	-
Stage 2	585	546	-	713	601	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	153	212	717	229	213	794	900	-	-	951	-	-
Mov Cap-2 Maneuver	153	212	-	229	213	-	-	-	-	-	-	-
Stage 1	592	558	-	526	463	-	-	-	-	-	-	-
Stage 2	387	454	-	657	559	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.6	21.6	3	1.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	900	-	-	158	346	951	-	-
HCM Lane V/C Ratio	0.139	-	-	0.233	0.377	0.052	-	-
HCM Control Delay (s)	9.6	0	-	34.6	21.6	9	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.9	1.7	0.2	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		461	327		386	
Travel Time (s)		10.5	7.4		8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		8	8		8	
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 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		220	461		343	
Travel Time (s)		5.0	10.5		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		8	8		8	
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 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	368	47	29	299	55	32
Future Volume (vph)	368	47	29	299	55	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	15	15	15
Grade (%)	2%			-2%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.985				0.951	
Flt Protected				0.996	0.969	
Satd. Flow (prot)	1998	0	0	2078	1907	0
Flt Permitted				0.996	0.969	
Satd. Flow (perm)	1998	0	0	2078	1907	0
Link Speed (mph)	30			30	15	
Link Distance (ft)	410			220	329	
Travel Time (s)	9.3			5.0	15.0	
Confl. Peds. (#/hr)		4	4			4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	3%	1%	0%	0%
Parking (#/hr)						0
Adj. Flow (vph)	391	50	31	318	59	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	441	0	0	349	93	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	0.89	0.89	0.87	0.87	0.89	0.89
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	368	47	29	299	55	32
Future Vol, veh/h	368	47	29	299	55	32
Conflicting Peds, #/hr	0	4	4	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	3	1	0	0
Mvmt Flow	391	50	31	318	59	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	445	0	800	424
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	380	-
Critical Hdwy	-	-	4.3	-	6.8	6.4
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3	-	3	3.1
Pot Cap-1 Maneuver	-	-	844	-	363	652
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	840	-	345	646
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	416	-	-	840	-
HCM Lane V/C Ratio	0.222	-	-	0.037	-
HCM Control Delay (s)	16.1	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	7	13	0	25	1	47	9	14	50	14
Future Volume (vph)	12	0	7	13	0	25	1	47	9	14	50	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	15	15	15	15	15	15
Grade (%)		4%			5%			3%			-2%	
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		0.953			0.911			0.978			0.976	
Flt Protected		0.969			0.983			0.999			0.991	
Satd. Flow (prot)	0	1662	0	0	1548	0	0	2011	0	0	2016	0
Flt Permitted		0.969			0.983			0.999			0.991	
Satd. Flow (perm)	0	1662	0	0	1548	0	0	2011	0	0	2016	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		586			177			618			329	
Travel Time (s)		13.3			4.0			14.0			7.5	
Confl. Peds. (#/hr)							1		90	90		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	13	0	7	14	0	27	1	50	10	15	53	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	41	0	0	61	0	0	83	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.13	1.13	1.13	0.90	0.90	0.90	0.87	0.87	0.87
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	0	7	13	0	25	1	47	9	14	50	14
Future Vol, veh/h	12	0	7	13	0	25	1	47	9	14	50	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	0
Mvmt Flow	13	0	7	14	0	27	1	50	10	15	53	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.1	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	63%	34%	18%
Vol Thru, %	82%	0%	0%	64%
Vol Right, %	16%	37%	66%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	19	38	78
LT Vol	1	12	13	14
Through Vol	47	0	0	50
RT Vol	9	7	25	14
Lane Flow Rate	61	20	40	83
Geometry Grp	1	1	1	1
Degree of Util (X)	0.067	0.023	0.043	0.092
Departure Headway (Hd)	3.977	4.085	3.837	3.98
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	897	868	923	898
Service Time	2.017	2.151	1.901	2.015
HCM Lane V/C Ratio	0.068	0.023	0.043	0.092
HCM Control Delay	7.3	7.2	7.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	18	4	5	12	19	1	18	9	12	29	27
Future Volume (vph)	15	18	4	5	12	19	1	18	9	12	29	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	12	12	12	14	14	14
Grade (%)		0%			0%			-2%			1%	
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		0.984			0.929			0.958			0.947	
Flt Protected		0.981			0.993			0.998			0.991	
Satd. Flow (prot)	0	1834	0	0	1928	0	0	1765	0	0	1866	0
Flt Permitted		0.981			0.993			0.998			0.991	
Satd. Flow (perm)	0	1834	0	0	1928	0	0	1765	0	0	1866	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		699			229			229			618	
Travel Time (s)		15.9			5.2			5.2			14.0	
Confl. Peds. (#/hr)	12		2	2		12	1		3	3		1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	6%	0%	8%	0%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	17	21	5	6	14	22	1	21	10	14	34	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	42	0	0	32	0	0	79	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.99	0.99	0.99	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	22.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	18	4	5	12	19	1	18	9	12	29	27
Future Vol, veh/h	15	18	4	5	12	19	1	18	9	12	29	27
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	6	0	8	0	0
Mvmt Flow	17	21	5	6	14	22	1	21	10	14	34	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.1	7.1	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	41%	14%	18%
Vol Thru, %	64%	49%	33%	43%
Vol Right, %	32%	11%	53%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	37	36	68
LT Vol	1	15	5	12
Through Vol	18	18	12	29
RT Vol	9	4	19	27
Lane Flow Rate	33	43	42	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.049	0.045	0.088
Departure Headway (Hd)	3.921	4.141	3.836	4.004
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	906	859	926	891
Service Time	1.974	2.195	1.893	2.046
HCM Lane V/C Ratio	0.036	0.05	0.045	0.089
HCM Control Delay	7.1	7.4	7.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	24	4	6	30	2	0	0	0	9	2	11
Future Volume (vph)	0	24	4	6	30	2	0	0	0	9	2	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	8	8	16	16	16	10	10	10
Grade (%)		-1%			2%			-2%			2%	
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		0.982			0.992						0.932	
Flt Protected					0.992						0.980	
Satd. Flow (prot)	0	1571	0	0	1604	0	0	0	0	0	1603	0
Flt Permitted					0.992						0.980	
Satd. Flow (perm)	0	1571	0	0	1604	0	0	0	0	0	1603	0
Link Speed (mph)		15			15			30			15	
Link Distance (ft)		229			214			345			157	
Travel Time (s)		10.4			9.7			7.8			7.1	
Confl. Peds. (#/hr)	121					121	22					22
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0			0						
Adj. Flow (vph)	0	33	5	8	41	3	0	0	0	12	3	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	52	0	0	0	0	0	30	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.22	1.22	1.22	0.84	0.84	0.84	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕						↕	
Traffic Vol, veh/h	0	24	4	6	30	2	0	0	0	9	2	11
Future Vol, veh/h	0	24	4	6	30	2	0	0	0	9	2	11
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	0	4	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	33	5	8	41	3	0	0	0	12	3	15
Number of Lanes	0	1	0	0	1	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.2	7.2	7
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	16%	41%
Vol Thru, %	86%	79%	9%
Vol Right, %	14%	5%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	38	22
LT Vol	0	6	9
Through Vol	24	30	2
RT Vol	4	2	11
Lane Flow Rate	38	52	30
Geometry Grp	1	1	1
Degree of Util (X)	0.042	0.058	0.032
Departure Headway (Hd)	3.974	3.982	3.837
Convergence, Y/N	Yes	Yes	Yes
Cap	902	901	929
Service Time	1.994	1.999	1.875
HCM Lane V/C Ratio	0.042	0.058	0.032
HCM Control Delay	7.2	7.2	7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	41	2	3	33	1	27
Future Volume (vph)	41	2	3	33	1	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	11	11
Grade (%)	-2%			-3%	-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.994				0.869	
Flt Protected				0.996	0.998	
Satd. Flow (prot)	1653	0	0	1498	1601	0
Flt Permitted				0.996	0.998	
Satd. Flow (perm)	1653	0	0	1498	1601	0
Link Speed (mph)	15			15	25	
Link Distance (ft)	214			486	404	
Travel Time (s)	9.7			22.1	11.0	
Confl. Peds. (#/hr)					1	2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Parking (#/hr)		0		0		0
Adj. Flow (vph)	46	2	3	37	1	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	0	40	31	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	1.19	1.19	1.18	1.34	1.04	1.04
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	2	3	33	1	27
Future Vol, veh/h	41	2	3	33	1	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	46	2	3	37	1	30
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.2	7.2	6.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	4%	0%	8%
Vol Thru, %	0%	95%	92%
Vol Right, %	96%	5%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	43	36
LT Vol	1	0	3
Through Vol	0	41	33
RT Vol	27	2	0
Lane Flow Rate	31	48	40
Geometry Grp	1	1	1
Degree of Util (X)	0.03	0.053	0.045
Departure Headway (Hd)	3.481	3.958	4.008
Convergence, Y/N	Yes	Yes	Yes
Cap	1024	908	896
Service Time	1.517	1.969	2.021
HCM Lane V/C Ratio	0.03	0.053	0.045
HCM Control Delay	6.6	7.2	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	21	19	3	23	46	6	233	1	15	356	15
Future Volume (vph)	15	21	19	3	23	46	6	233	1	15	356	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	8	8	8	12	12	12	12	12	12
Grade (%)		-2%			-2%			-3%			2%	
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		0.953			0.913			0.999			0.995	
Flt Protected		0.987			0.998			0.999			0.998	
Satd. Flow (prot)	0	1625	0	0	1477	0	0	1888	0	0	1846	0
Flt Permitted		0.987			0.998			0.999			0.998	
Satd. Flow (perm)	0	1625	0	0	1477	0	0	1888	0	0	1846	0
Link Speed (mph)		15			25			30			30	
Link Distance (ft)		486			433			601			327	
Travel Time (s)		22.1			11.8			13.7			7.4	
Confl. Peds. (#/hr)	10		6	6		10	6					6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	4%	0%	2%	0%	0%	1%	7%
Parking (#/hr)			0			0						
Adj. Flow (vph)	15	21	19	3	23	47	6	238	1	15	363	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	73	0	0	245	0	0	393	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.13	1.13	1.13	1.19	1.19	1.19	0.98	0.98	0.98	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.6%	ICU Level of Service A	
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	21	19	3	23	46	6	233	1	15	356	15
Future Vol, veh/h	15	21	19	3	23	46	6	233	1	15	356	15
Conflicting Peds, #/hr	10	0	6	6	0	10	6	0	0	0	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-2	-	-	-3	-	-	2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	1	7
Mvmt Flow	15	21	19	3	23	47	6	238	1	15	363	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	703	658	383	678	665	249	384	0	0	239	0	0
Stage 1	407	407	-	251	251	-	-	-	-	-	-	-
Stage 2	296	251	-	427	414	-	-	-	-	-	-	-
Critical Hdwy	6.7	6.1	6	6.7	6.1	6.04	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.7	5.1	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	5.1	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	429	416	720	445	413	850	886	-	-	995	-	-
Stage 1	743	629	-	894	723	-	-	-	-	-	-	-
Stage 2	847	723	-	725	625	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	374	403	713	405	400	842	882	-	-	995	-	-
Mov Cap-2 Maneuver	374	403	-	405	400	-	-	-	-	-	-	-
Stage 1	734	615	-	887	717	-	-	-	-	-	-	-
Stage 2	760	717	-	664	611	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	11.8	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	882	-	-	463	602	995	-	-
HCM Lane V/C Ratio	0.007	-	-	0.121	0.122	0.015	-	-
HCM Control Delay (s)	9.1	0	-	13.8	11.8	8.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	0	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		461	327		386	
Travel Time (s)		10.5	7.4		8.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		8	8		8	
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 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		220	461		343	
Travel Time (s)		5.0	10.5		7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		8	8		8	
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 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	315	51	24	263	53	38
Future Vol, veh/h	315	51	24	263	53	38
Conflicting Peds, #/hr	0	2	2	0	0	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	2	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	6	8	3	0	3
Mvmt Flow	346	56	26	289	58	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	404	0	717	386
Stage 1	-	-	-	-	376	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	-	-	4.4	-	6.8	6.43
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3.1	-	3	3.1
Pot Cap-1 Maneuver	-	-	839	-	411	685
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	796	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	837	-	395	675
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	478	-	-	837	-
HCM Lane V/C Ratio	0.209	-	-	0.032	-
HCM Control Delay (s)	14.5	-	-	9.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	12	18	10	25	51	4	204	1	26	282	11
Future Vol, veh/h	10	12	18	10	25	51	4	204	1	26	282	11
Conflicting Peds, #/hr	14	0	12	12	0	14	7	0	5	5	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-2	-	-	-3	-	-	2	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	6	20	0	2	0	4	0	4	3	0
Mvmt Flow	11	14	21	11	29	59	5	234	1	30	324	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	701	648	350	670	654	254	344	0	0	240	0	0
Stage 1	398	398	-	250	250	-	-	-	-	-	-	-
Stage 2	303	250	-	420	404	-	-	-	-	-	-	-
Critical Hdwy	6.7	6.1	6.06	6.9	6.1	6.02	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.7	5.1	-	5.9	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	5.1	-	5.9	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	4	2.9	3.5	4	2.8	3	-	-	3	-	-
Pot Cap-1 Maneuver	410	421	790	388	418	927	915	-	-	994	-	-
Stage 1	711	634	-	769	723	-	-	-	-	-	-	-
Stage 2	794	723	-	629	630	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	344	400	777	351	397	912	910	-	-	991	-	-
Mov Cap-2 Maneuver	344	400	-	351	397	-	-	-	-	-	-	-
Stage 1	703	607	-	762	716	-	-	-	-	-	-	-
Stage 2	699	716	-	570	604	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	12.4	0.2	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	910	-	-	486	584	991	-	-
HCM Lane V/C Ratio	0.005	-	-	0.095	0.169	0.03	-	-
HCM Control Delay (s)	9	0	-	13.2	12.4	8.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.6	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	379	45	21	299	65	107
Future Volume (vph)	379	45	21	299	65	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	15	15	15
Grade (%)	2%			-2%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.916	
Flt Protected				0.997	0.981	
Satd. Flow (prot)	2000	0	0	2081	1859	0
Flt Permitted				0.997	0.981	
Satd. Flow (perm)	2000	0	0	2081	1859	0
Link Speed (mph)	30			30	15	
Link Distance (ft)	410			220	329	
Travel Time (s)	9.3			5.0	15.0	
Confl. Peds. (#/hr)		4	4			4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	3%	1%	0%	0%
Parking (#/hr)						0
Adj. Flow (vph)	403	48	22	318	69	114
Shared Lane Traffic (%)						
Lane Group Flow (vph)	451	0	0	340	183	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	15	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	0.89	0.89	0.87	0.87	0.89	0.89
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	379	45	21	299	65	107
Future Vol, veh/h	379	45	21	299	65	107
Conflicting Peds, #/hr	0	4	4	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	3	1	0	0
Mvmt Flow	403	48	22	318	69	114

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	455	0	793	435
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	362	-
Critical Hdwy	-	-	4.3	-	6.8	6.4
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3	-	3	3.1
Pot Cap-1 Maneuver	-	-	837	-	367	643
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	353	637
Mov Cap-2 Maneuver	-	-	-	-	353	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	751	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	488	-	-	833	-
HCM Lane V/C Ratio	0.375	-	-	0.027	-
HCM Control Delay (s)	16.7	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	12	20	7	105	1	40	0	0	51	10
Future Volume (vph)	8	0	12	20	7	105	1	40	0	0	51	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	10	10	15	15	15	15	15	15
Grade (%)		4%			5%			3%			-2%	
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		0.920			0.892						0.977	
Flt Protected		0.980			0.993			0.999				
Satd. Flow (prot)	0	1623	0	0	1531	0	0	2057	0	0	2029	0
Flt Permitted		0.980			0.993			0.999				
Satd. Flow (perm)	0	1623	0	0	1531	0	0	2057	0	0	2029	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		586			177			618			329	
Travel Time (s)		13.3			4.0			14.0			7.5	
Confl. Peds. (#/hr)							1		90	90		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	9	0	13	21	7	112	1	43	0	0	54	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	0	0	140	0	0	44	0	0	65	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.13	1.13	1.13	0.90	0.90	0.90	0.87	0.87	0.87
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	12	20	7	105	1	40	0	0	51	10
Future Vol, veh/h	8	0	12	20	7	105	1	40	0	0	51	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	0
Mvmt Flow	9	0	13	21	7	112	1	43	0	0	54	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.3	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	40%	15%	0%
Vol Thru, %	98%	0%	5%	84%
Vol Right, %	0%	60%	80%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	41	20	132	61
LT Vol	1	8	20	0
Through Vol	40	0	7	51
RT Vol	0	12	105	10
Lane Flow Rate	44	21	140	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.051	0.023	0.143	0.075
Departure Headway (Hd)	4.238	3.917	3.657	4.151
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	902	970	857
Service Time	2.296	1.991	1.717	2.205
HCM Lane V/C Ratio	0.052	0.023	0.144	0.076
HCM Control Delay	7.5	7.1	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.5	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	24	4	3	12	13	1	12	18	16	35	32
Future Volume (vph)	13	24	4	3	12	13	1	12	18	16	35	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	12	12	12	14	14	14
Grade (%)		0%			0%			-2%			1%	
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		0.986			0.937			0.921			0.949	
Flt Protected		0.985			0.995			0.999			0.990	
Satd. Flow (prot)	0	1845	0	0	1949	0	0	1725	0	0	1865	0
Flt Permitted		0.985			0.995			0.999			0.990	
Satd. Flow (perm)	0	1845	0	0	1949	0	0	1725	0	0	1865	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		699			229			229			618	
Travel Time (s)		15.9			5.2			5.2			14.0	
Confl. Peds. (#/hr)	12		2	2		12	1		3	3		1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	6%	0%	8%	0%	0%
Parking (#/hr)			0			0			0			0
Adj. Flow (vph)	15	28	5	3	14	15	1	14	21	19	41	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	32	0	0	36	0	0	97	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.99	0.99	0.99	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	24	4	3	12	13	1	12	18	16	35	32
Future Vol, veh/h	13	24	4	3	12	13	1	12	18	16	35	32
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	6	0	8	0	0
Mvmt Flow	15	28	5	3	14	15	1	14	21	19	41	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.1	7	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	32%	11%	19%
Vol Thru, %	39%	59%	43%	42%
Vol Right, %	58%	10%	46%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	41	28	83
LT Vol	1	13	3	16
Through Vol	12	24	12	35
RT Vol	18	4	13	32
Lane Flow Rate	36	48	33	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.038	0.055	0.035	0.107
Departure Headway (Hd)	3.77	4.16	3.909	4.009
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	942	854	907	890
Service Time	1.826	2.218	1.973	2.051
HCM Lane V/C Ratio	0.038	0.056	0.036	0.109
HCM Control Delay	7	7.5	7.1	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	17	4	6	24	81	0	0	0	0	0	0
Future Volume (vph)	27	17	4	6	24	81	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	8	8	16	16	16	10	10	10
Grade (%)		-1%			2%			-2%			2%	
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		0.990			0.901							
Flt Protected		0.972			0.997							
Satd. Flow (prot)	0	1570	0	0	1464	0	0	0	0	0	0	0
Flt Permitted		0.972			0.997							
Satd. Flow (perm)	0	1570	0	0	1464	0	0	0	0	0	0	0
Link Speed (mph)		15			15			30			15	
Link Distance (ft)		229			214			345			157	
Travel Time (s)		10.4			9.7			7.8			7.1	
Confl. Peds. (#/hr)	121					121	22					22
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)			0			0						
Adj. Flow (vph)	37	23	5	8	33	111	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	152	0	0	0	0	0	0	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.22	1.22	1.22	0.84	0.84	0.84	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	17	4	6	24	81	0	0	0	0	0	0
Future Vol, veh/h	27	17	4	6	24	81	0	0	0	0	0	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	0	4	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	37	23	5	8	33	111	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	0	0	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	EBLn1	WBLn1
Vol Left, %	56%	5%
Vol Thru, %	35%	22%
Vol Right, %	8%	73%
Sign Control	Stop	Stop
Traffic Vol by Lane	48	111
LT Vol	27	6
Through Vol	17	24
RT Vol	4	81
Lane Flow Rate	66	152
Geometry Grp	0	0
Degree of Util (X)	0	0
Departure Headway (Hd)	0	0
Convergence, Y/N	Yes	Yes
Cap	0	0
Service Time	0	0
HCM Lane V/C Ratio	0	0
HCM Control Delay	5	5
HCM Lane LOS	N	N
HCM 95th-tile Q	0	0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	29	2	3	104	1	27
Future Volume (vph)	29	2	3	104	1	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	8	8	8	8	11	11
Grade (%)	-2%			-3%	-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.992				0.869	
Flt Protected				0.999	0.998	
Satd. Flow (prot)	1650	0	0	1503	1601	0
Flt Permitted				0.999	0.998	
Satd. Flow (perm)	1650	0	0	1503	1601	0
Link Speed (mph)	15			15	25	
Link Distance (ft)	214			486	404	
Travel Time (s)	9.7			22.1	11.0	
Confl. Peds. (#/hr)					1	2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Parking (#/hr)		0		0		0
Adj. Flow (vph)	33	2	3	117	1	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	120	31	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	11	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	8			8	8	
Two way Left Turn Lane						
Headway Factor	1.19	1.19	1.18	1.34	1.04	1.04
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	29	2	3	104	1	27
Future Vol, veh/h	29	2	3	104	1	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	2	3	117	1	30
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.2	7.6	6.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	4%	0%	3%
Vol Thru, %	0%	94%	97%
Vol Right, %	96%	6%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	31	107
LT Vol	1	0	3
Through Vol	0	29	104
RT Vol	27	2	0
Lane Flow Rate	31	35	120
Geometry Grp	1	1	1
Degree of Util (X)	0.031	0.039	0.133
Departure Headway (Hd)	3.595	4.007	3.987
Convergence, Y/N	Yes	Yes	Yes
Cap	984	893	902
Service Time	1.659	2.035	2
HCM Lane V/C Ratio	0.032	0.039	0.133
HCM Control Delay	6.8	7.2	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.1	0.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	14	14	3	39	44	51	227	1	39	408	26
Future Volume (vph)	15	14	14	3	39	44	51	227	1	39	408	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	9	9	8	8	8	12	12	12	12	12	12
Grade (%)		-2%			-2%			-3%			2%	
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		0.956			0.931						0.992	
Flt Protected		0.983			0.998			0.991			0.996	
Satd. Flow (prot)	0	1623	0	0	1514	0	0	1881	0	0	1835	0
Flt Permitted		0.983			0.998			0.991			0.996	
Satd. Flow (perm)	0	1623	0	0	1514	0	0	1881	0	0	1835	0
Link Speed (mph)		15			25			30			30	
Link Distance (ft)		486			433			601			327	
Travel Time (s)		22.1			11.8			13.7			7.4	
Confl. Peds. (#/hr)	10		6	6		10	6					6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	4%	0%	2%	0%	0%	1%	7%
Parking (#/hr)			0			0						
Adj. Flow (vph)	15	14	14	3	40	45	52	232	1	40	416	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	88	0	0	285	0	0	483	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			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		8			8			8			8	
Two way Left Turn Lane												
Headway Factor	1.13	1.13	1.13	1.19	1.19	1.19	0.98	0.98	0.98	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.2%	ICU Level of Service A	
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	14	14	3	39	44	51	227	1	39	408	26
Future Vol, veh/h	15	14	14	3	39	44	51	227	1	39	408	26
Conflicting Peds, #/hr	10	0	6	6	0	10	6	0	0	0	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-2	-	-	-3	-	-	2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	4	0	2	0	0	1	7
Mvmt Flow	15	14	14	3	40	45	52	232	1	40	416	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	905	853	442	867	866	243	449	0	0	233	0	0
Stage 1	516	516	-	337	337	-	-	-	-	-	-	-
Stage 2	389	337	-	530	529	-	-	-	-	-	-	-
Critical Hdwy	6.7	6.1	6	6.7	6.1	6.04	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.7	5.1	-	5.7	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	5.1	-	5.7	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	317	328	668	336	323	856	841	-	-	1000	-	-
Stage 1	652	569	-	807	669	-	-	-	-	-	-	-
Stage 2	759	669	-	641	563	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	240	287	661	286	283	848	837	-	-	1000	-	-
Mov Cap-2 Maneuver	240	287	-	286	283	-	-	-	-	-	-	-
Stage 1	603	537	-	750	622	-	-	-	-	-	-	-
Stage 2	619	622	-	575	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.8	15.5	1.8	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	837	-	-	325	430	1000	-	-
HCM Lane V/C Ratio	0.062	-	-	0.135	0.204	0.04	-	-
HCM Control Delay (s)	9.6	0	-	17.8	15.5	8.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.8	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	326	49	16	263	63	113
Future Vol, veh/h	326	49	16	263	63	113
Conflicting Peds, #/hr	0	2	2	0	0	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-2	2	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	6	8	3	0	3
Mvmt Flow	358	54	18	289	69	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	414	0	712	397
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	-	-	4.4	-	6.8	6.43
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3.1	-	3	3.1
Pot Cap-1 Maneuver	-	-	832	-	415	675
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	830	-	403	665
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	790	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	539	-	-	830	-
HCM Lane V/C Ratio	0.359	-	-	0.021	-
HCM Control Delay (s)	15.4	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	13	10	41	49	49	198	1	50	334	22
Future Vol, veh/h	10	5	13	10	41	49	49	198	1	50	334	22
Conflicting Peds, #/hr	14	0	12	12	0	14	7	0	5	5	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-2	-	-	-3	-	-	2	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	6	20	0	2	0	4	0	4	3	0
Mvmt Flow	11	6	15	11	47	56	56	228	1	57	384	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	924	864	416	879	876	248	416	0	0	234	0	0
Stage 1	518	518	-	346	346	-	-	-	-	-	-	-
Stage 2	406	346	-	533	530	-	-	-	-	-	-	-
Critical Hdwy	6.7	6.1	6.06	6.9	6.1	6.02	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.7	5.1	-	5.9	5.1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	5.1	-	5.9	5.1	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	4	2.9	3.5	4	2.8	3	-	-	3	-	-
Pot Cap-1 Maneuver	295	324	725	284	319	934	864	-	-	999	-	-
Stage 1	618	568	-	687	664	-	-	-	-	-	-	-
Stage 2	705	664	-	550	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	210	275	713	240	271	919	860	-	-	996	-	-
Mov Cap-2 Maneuver	210	275	-	240	271	-	-	-	-	-	-	-
Stage 1	569	523	-	633	612	-	-	-	-	-	-	-
Stage 2	557	612	-	488	518	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	17.3	1.9	1.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	333	406	996	-	-
HCM Lane V/C Ratio	0.065	-	-	0.097	0.283	0.058	-	-
HCM Control Delay (s)	9.5	0	-	17	17.3	8.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1.1	0.2	-	-

APPENDIX H

LEFT TURN LANE WARRANTS

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Darby Township	**Analysis Date:**	11/15/2019
County:	Delaware County	**Conducted By:**	AMR
PennDOT Engineering District:	6	**Checked By:**	PFW
		Agency/Company Name:	Pennoni

Intersection & Approach Description: Burmont Road (SR 2007) and Bond Avenue - Northbound

Analysis Period:	2029 Build	**Number of Approach Lanes:**	1
Design Hour:	AM Peak Hour	**Undivided or Divided Highway:**	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	30		**Type of Analysis**
Type of Terrain:	level	**Left or Right-Turn Lane Analysis?:**	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	119	0.0%	119
	Through	-	269	2.0%	272
	Right	Yes	1	0.0%	1
Opposing	Left	No	47	0.0%	N/A
	Through	-	297	5.0%	305
	Right	Yes	35	0.0%	35

Advancing Volume:	392
Opposing Volume:	340
Left Turn Volume:	119
% Left Turns in Advancing Volume:	30.36%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	0	0.0%	N/A
	Right	-	0	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 1**

Warrant Met?: **Yes**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	119
Cycles Per Hour (Assumed):	Known
Cycles Per Hour (If Known):	40

Average # of Vehicles/Cycle: 3.0

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

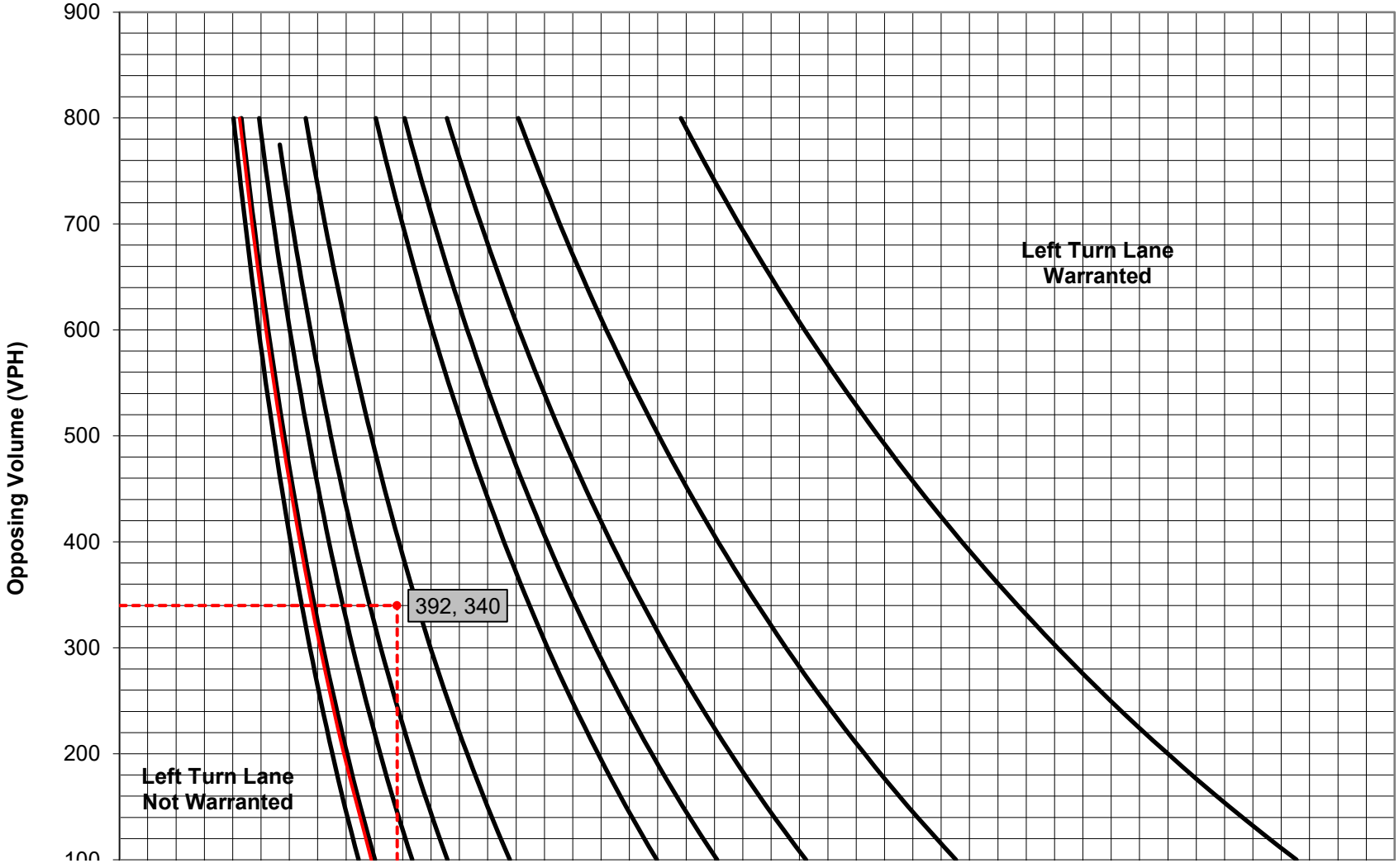
Left Turn Lane Storage Length, Condition A:	**150**	**Feet**
Condition B:	**N/A**	**Feet**
Condition C:	**N/A**	**Feet**
Required Left Turn Lane Storage Length:	**150**	**Feet**

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
(speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Darby Township	**Analysis Date:**	11/15/2019
County:	Delaware County	**Conducted By:**	AMR
PennDOT Engineering District:	6	**Checked By:**	PFW
		Agency/Company Name:	Pennoni

Intersection & Approach Description: Burmont Road (SR 2007) and Bond Avenue - Northbound

Analysis Period:	2029 Build	**Number of Approach Lanes:**	1
Design Hour:	PM Peak Hour	**Undivided or Divided Highway:**	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	30		**Type of Analysis**
Type of Terrain:	level	**Left or Right-Turn Lane Analysis?:**	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	51	0.0%	51
	Through	-	227	2.0%	230
	Right	Yes	1	0.0%	1
Opposing	Left	Yes	39	0.0%	39
	Through	-	408	1.0%	411
	Right	Yes	26	7.0%	27

Advancing Volume:	282
Opposing Volume:	477
Left Turn Volume:	51
% Left Turns in Advancing Volume:	18.09%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	0	0.0%	N/A
	Right	-	0	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 1**

Warrant Met?: **Yes**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	51
Cycles Per Hour (Assumed):	Known
Cycles Per Hour (If Known):	40

Average # of Vehicles/Cycle: 1.0

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

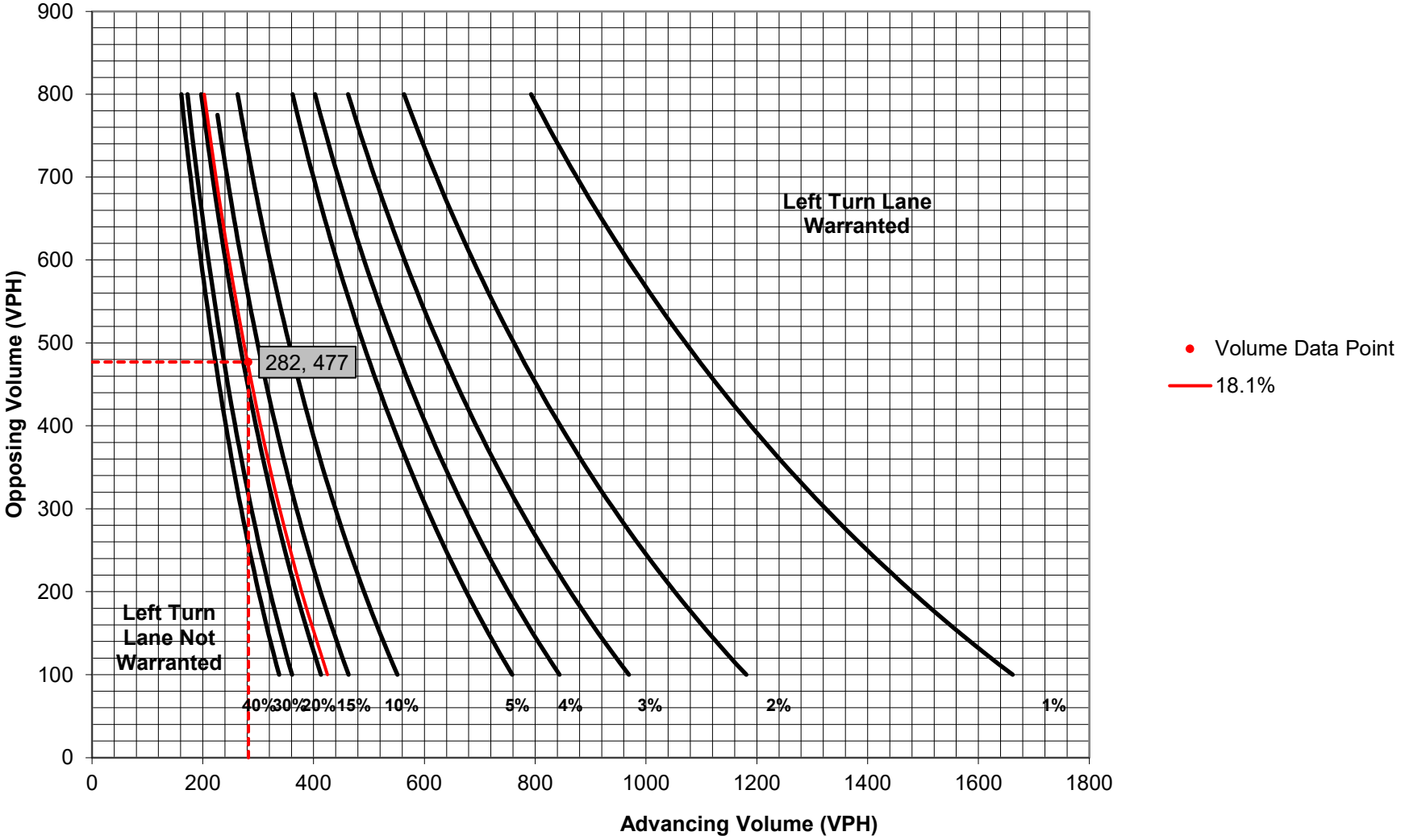
Left Turn Lane Storage Length, Condition A:	**75**	**Feet**
Condition B:	**N/A**	**Feet**
Condition C:	**N/A**	**Feet**
Required Left Turn Lane Storage Length:	**75**	**Feet**

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
(speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



APPENDIX I

CIRCULATION POLICY AND ROUTE PLAN

UPPER DARBY
SCHOOL DISTRICT

ADMINISTRATIVE REGULATION

APPROVED: 12/11/2019

REVISED:

Bus / Staff / Parent Vehicle Circulation Policy at Aronimink Elementary School

School Buses

- Buses will enter the site via the northern bus loop driveway opposite Alexander Avenue, and enter the bus loop for drop off and pick up.
- Safety personnel will supervise loading and unloading of students, and vehicles exiting the site.
- Buses will only be permitted to turn right onto Burmont Avenue while exiting the bus loop driveway opposite Blythe Avenue.

Motorists (Parent drop-off and pick-up)

- Student drop off time window is between TBD AM and TBD AM.
- Student pick up time window is between TBD PM and TBD PM
- Parents with vehicles will enter the site via Bond Avenue entrance in a single line and spend approximately 30 seconds to drop off and pick up students.
- The parent vehicles will travel north through the site and exit onto Marvine Avenue.

Staff Parking On-Site

- Staff parking is available on the Aronimink site on Bond Avenue between Alexander Avenue and Blythe Avenue.
- Vehicles will enter the parking area from east side of the parking area and exit the parking area from the west side of the parking area onto the Bond Avenue.

ARONIMINK ELEMENTARY SCHOOL
ROUTE PLAN MAP