

**TRAFFIC IMPACT ANALYSIS FOR THE
PROPOSED DEVELOPMENT
RANDOLPH, MASSACHUSETTS**

**SUBMITTED TO:
THE VERTEX COMPANIES INC.
400 LIBBEY PARKWAY
WEYMOUTH, MA 02189**

**SUBMITTED BY:
PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865**

APRIL 2023



TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE</u>
Introduction	1
Data Collection	1
Existing Roadway Conditions	4
North Main Street	4
Scanlon Drive	4
High Street	4
Reed Street	4
North Main Street (Route 28) at Scanlon Drive and Russ Street	5
High Street at Reed Street	5
Existing Site Observations	6
Existing Traffic Volumes	6
Safety Analysis	8
Crash Data	8
Sight Distance	9
Future Conditions	10
Build Conditions	10
Trip Generation	10
Trip Distribution	11
Capacity Analysis	15
Conclusions	18



Figures

Figure 1:	Locus Map	2
Figure 2:	Proposed Site Layout	3
Figure 3:	Existing Traffic Volumes	7
Figure 4:	Future (2029) No-Build Traffic Volumes	12
Figure 5:	Site Generated Traffic Volumes	13
Figure 6:	Future (2029) Build Traffic Volumes	14

Tables

Table 1:	Crash Summary for Study Area	8
Table 2:	Crash Rate Summary	9
Table 3:	Scanlon Drive Speed Study Summary	9
Table 4:	Sight Distance Summary	9
Table 5:	LOS Criteria for Signalized and Unsignalized Intersections	15
Table 6:	A.M. Peak Hour LOS Table	16
Table 7:	P.M. Peak Hour LOS Table	17

APPENDICES

Appendix A	Traffic Counts
Appendix B	Crash Data
Appendix C	Speed Study
Appendix D	Census Data
Appendix E	Trip Generation & Distribution
Appendix F	Traffic Capacity Analysis



INTRODUCTION

The following represents the traffic study completed for the construction of a proposed bus facility to be located at 34 Scanlon Drive in Randolph, Massachusetts. This site will be utilized as a bus storage and maintenance area. The existing site currently consists of a church and a paved lot for bus and vehicle parking.

Presented within are existing conditions in the vicinity of the project site, a safety analysis of the study area, an analysis of the traffic based on existing, future (2029) no-build and future (2029) build conditions, and proposed recommendations, as necessary. A locus map of the study area is provided in Figure 1 and the proposed site layout is shown in Figure 2.

DATA COLLECTION

In addition to the proposed site driveways, two study intersections have been identified for assessment with regards to traffic capacity and safety as part of this study. The study intersections include:

- North Main Street at Scanlon Drive and Russ Street
- High Street at Reed Street

On May 25, 2022 manual turning movement counts (MTMCs) were conducted at these study area intersections between the hours of 7:00 a.m. and 9:00 a.m. and 4:00 p.m. and 6:00 p.m.

Crash data for the roadway network in the vicinity of the project site was retrieved from the Massachusetts Department of Transportation (MassDOT) Crash Data Portal for the period of January 2018 to December 2022. A crash review is included in this report to identify any potential trends that may require mitigation.

A field review of the study area was conducted on Thursday, April 21, 2022. Geometric measurements and other field observations were recorded at the significant intersections in the vicinity of the project site, the information obtained was used in the analysis of the study area intersections.

The Planning Department for the Town of Randolph was contacted to determine if there are currently any developments proposed whose trip generation information should be included in the study, of which none were noted.

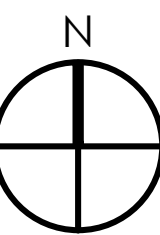


TGAS
THE GALANTE
ARCHITECTURE
STUDIO INC

146 MT AUBURN ST CAMBRIDGE, MA 02138

6 1 7 5 7 6 2 5 0 0

WWW.GALANTEARCHITECTURE.COM



Project Number
2221

Project Title
Yankee Bus Line HQ

34 Scanlon Drive
Randolph, MA 02368



Samiotes Consultants Inc.
Civil Engineers • Land Surveyors

20 A Street
Frammingham, MA 01701

T 508.877.6688
F 508.877.8349
www.samiotes.com

Drawing Title

LAYOUT PLAN

Date/Issued For
04.20.23
Planning Board
Submission

NOT FOR
CONSTRUCTION

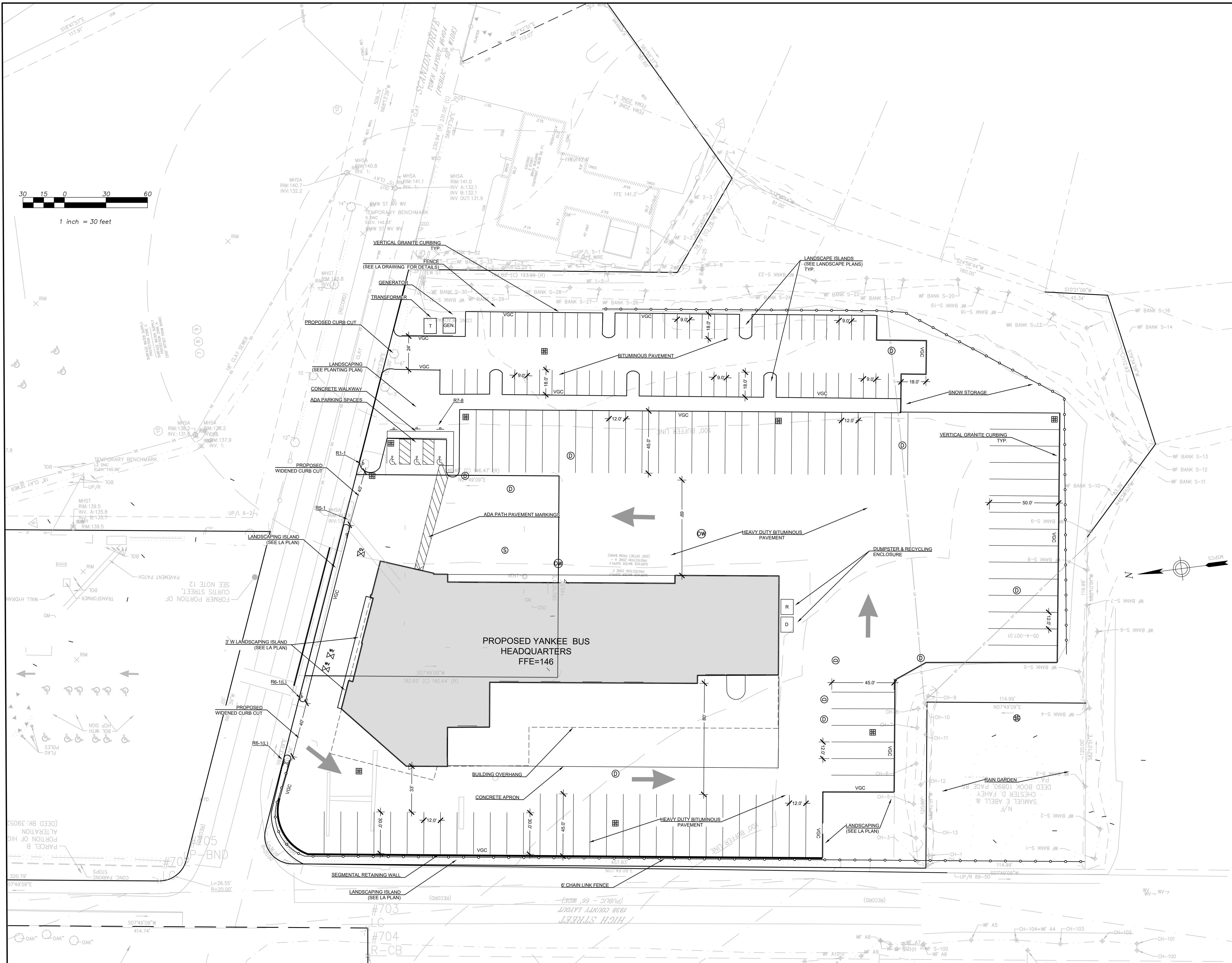
Print 24x36

Scale
As Noted

Drawn By
MEK

Drawing Number

C-201



EXISTING ROADWAY CONDITIONS

The study area for the development is defined as the significant roadways and intersections in the vicinity of the site that may be impacted by the construction of a bus storage and maintenance area. Listed below are the roadways and intersections included in the study area.

Study Area Roadways

1. North Main Street from Reed Street to Scanlon Drive
2. Scanlon Drive from North Main Street to High Street
3. High Street from Scanlon Drive to Reed Street
4. Reed Street from High Street to North Main Street

Study Area Intersections

1. North Main Street at Scanlon Drive and Russ Street
2. High Street at Reed Street

Study Area Roadways

North Main Street

North Main Street (Route 28) is a north/south roadway within the study area. This State route extends from Eastham, Massachusetts to the New Hampshire state line in Methuen, Massachusetts. The roadway is classified as an urban principal arterial under State jurisdiction. The roadway cross section is typically comprised of two, 11-foot-wide travel lanes in each direction. There are 8-foot-wide concrete sidewalks along both the east and west sides of the roadway. The posted speed limit within the study area is 30 miles per hour. Given the site's proximity to the I-93/Route 28 interchange, it is anticipated most bus traffic generated by the site will be destined to/from the highway via North Main Street.

Scanlon Drive

Scanlon Drive is approximately 1,100 feet long extending east/west from North Main Street to High Street and serves as the primary access to and from the site. Scanlon Drive is an urban minor arterial under Town jurisdiction. The roadway cross section consists of one, 12-foot-wide lane with a 7-foot-wide shoulder in each direction. There is no posted speed limit along Scanlon Drive.

High Street

High Street runs in the general north/south direction along the west side of the site connecting to nearby neighborhoods. From Scanlon Drive to Reed Street, this roadway is classified as an urban minor arterial under Town jurisdiction. Similar to Scanlon Drive, the roadway cross section consists of one, 12-foot-wide lane with a 7-foot-wide shoulder in each direction. Parking is prohibited along the western side of the roadway. The posted speed limit is 30 miles per hour.

Reed Street

Reed Street runs in the general east/west direction and is classified as an urban minor arterial under Town jurisdiction. The roadway cross section is typically comprised of one, 12-foot-wide travel lane and a 6-foot-wide shoulder in each direction. There are 5-foot-wide concrete sidewalks along both the north and south sides of the roadway. The posted speed limit within the study area is 30 miles per hour.

Study Area Intersections

North Main Street (Route 28) at Scanlon Drive and Russ Street

North Main Street at Scanlon Drive/Russ Street functions as a four-way, signalized intersection with approach legs from all cardinal directions. The northern quadrants are occupied by commercial properties, while the southern quadrants are residential properties.

At the northbound approach to the intersection, the two lanes present on North Main Street taper into three lanes, with one dedicated to left turns, one dedicated to through movements and one for through and right-turn movements. For the southbound approach to the intersection, the two lanes present on North Main Street taper into four lanes, with one dedicated to left-turn movements, two dedicated to through movements and one dedicated to right-turn movements.



Photo 1: North Main Street traveling Southbound to Scanlon Drive and Russ Street Intersection

The westbound approach to the intersection is two lanes at the intersection, with one dedicated to left-turn movements and one allowing through and right movements. The eastbound approach to the intersection is comprised of two lanes with one lane dedicated to left turn movements, while the other allows for all movements.

Sidewalks surround each leg of the intersection, with crosswalks present along the south, east, and west legs.

High Street at Reed Street



Photo 2: Intersection of High Street at Reed Street

The intersection of High Street at Reed Street forms a four-way, signalized intersection with approach legs from all cardinal directions. High Street forms the north and south legs, while Reed Street forms the east and west legs. This intersection is surrounded predominantly by residential properties. Each leg of the intersection is comprised of one travel lane per direction. Sidewalks exist on both sides of both roadways and crosswalks are present at each leg of the intersection, accompanied by mast-arm mounted push buttons. The vertical curvature of the eastern leg of the intersection limits drivers' sight lines.

EXISTING SITE OBSERVATIONS

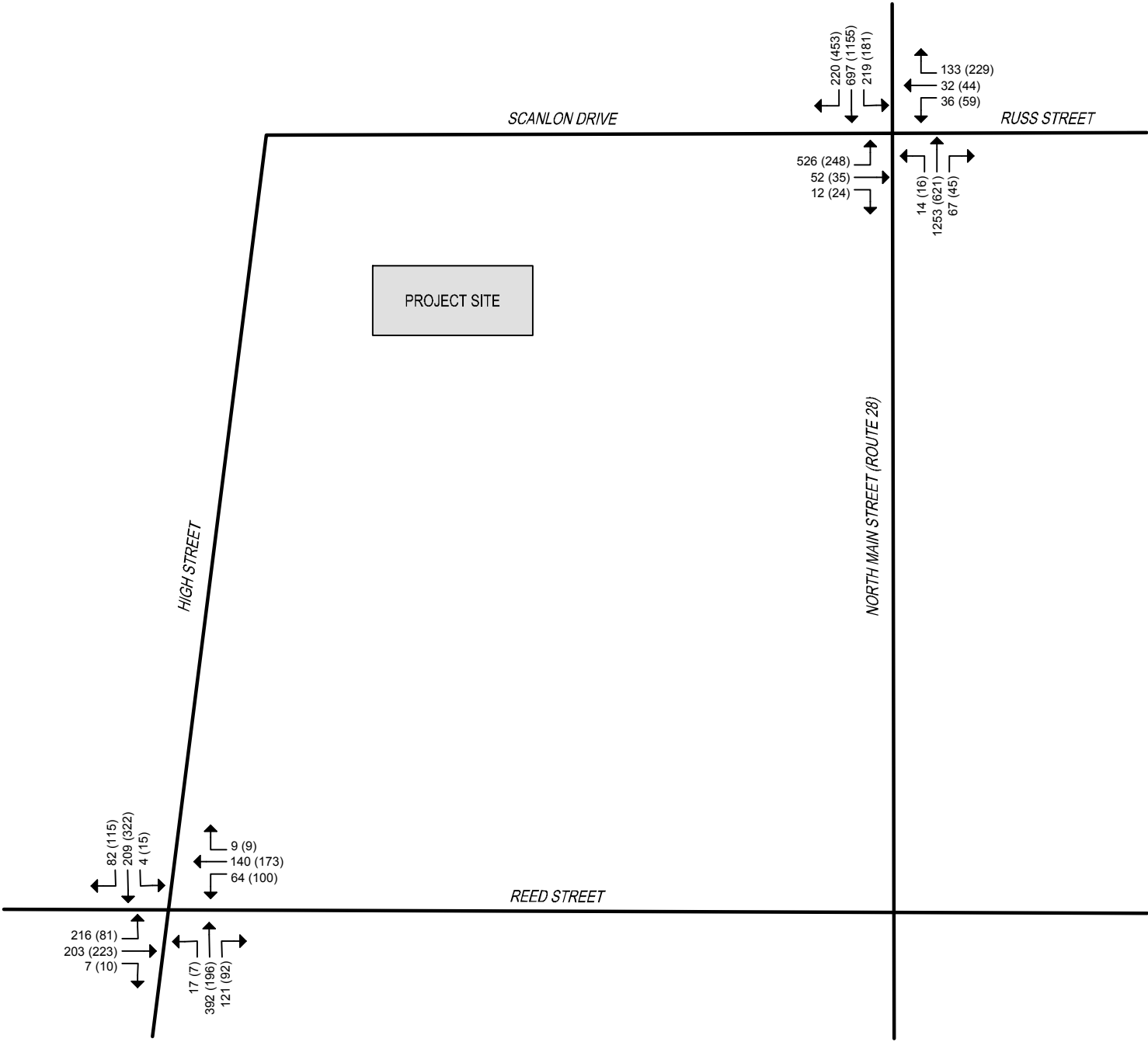
The existing site currently serves a church and a paved lot for bus and vehicle parking. There are multiple driveways along Scanlon Drive and one along High Street. Though the existing uses currently generate traffic, the peak periods for the church are assumed to be in the evening and/or weekend hours.

EXISTING TRAFFIC VOLUMES

Manual turning movement counts (MTMCs) were conducted on May 25, 2022 during the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. for the following intersections:

- North Main Street at Scanlon Drive and Russ Street
- High Street at Reed Street

Copies of all count data are provided in Appendix A. Existing traffic volumes for the morning peak hour and afternoon peak hour are shown in Figure 3.



AM PEAK VOLUMES (PM PEAK VOLUMES)



PROJECT NO. 22077.00
DATE: MARCH 2023

FIGURE 3
EXISTING (2022) PEAK HOUR TRAFFIC VOLUMES
RANDOLPH SCANLON DRIVE DEVELOPMENT

RANDOLPH, MASSACHUSETTS

SAFETY ANALYSIS

Crash Data

Crash data for the study area was extracted from the MassDOT Crash Data Portal for the most recent five (5) year period from January 2018 through December 2022. Table 1 shows a summary of crashes by type and severity and a detailed table of all crash data reviewed is provided in Appendix B.

Table 1: Crash Summary for Study Area

Roadway/ Intersection	Total Crashes	Non-Fatal Injuries	Angle	Head On	Single Vehicle	Rear End	Side- swipe	Unknown
High Street	12	4	2	0	5	5	0	0
North Main Street (Route 28)	155	110	75	7	14	35	23	1
Reed Street	7	4	1	0	3	1	2	0
Pond Street	1	0	0	0	0	1	0	0
Scanlon Drive	2	0	2	0	0	0	0	0
High Street at Reed Street	27	22	15	0	3	6	2	1
North Main Street at Reed Street/Pond Street	25	24	14	2	1	2	6	0
North Main Street at Scanlon Drive/Russ Street	26	15	10	0	3	11	2	0
High Street at Scanlon Drive	1	0	0	0	1	0	0	0

Between January 2018 and December 2022, a total of 256 crashes occurred within the study area. There were no fatalities but 47% of the crashes resulted in personal injuries. Most of these collisions (61%) were along the approximate 3,700 feet of North Main Street (Route 28) within the study area. Along this roadway, 48% were angle collisions and 23% were rear-end collisions. The rear end and angle collisions along North Main Street (Route 28) are the most common types of crashes typically associated with turning movements into and out of side streets and driveways and they are generally low-severity incidents.

For the signalized intersections within the crash review area, at least half of the collisions were rear end or angle collisions. Additionally, these three intersections are currently listed on the “Top 5% Intersection Crash Clusters 2017-2019” released by MassDOT.

To assess the severity of this high crash volume, Pare assessed the crash rates for the intersections and roadway segments compared to the state averages. Crash rates are calculated to normalize the number of crashes relative to the volume of traffic that both the roadway segment and intersection see. Typical crash rates for signalized intersections are generally 0.75 crashes per million entering vehicles, while crash rates for urban principal arterials are 3.58 crashes per million vehicle miles traveled. Table 2 provides a summary of the crash rates for the study area.

Table 2: Crash Rate Summary

Intersection/Roadway Segment:	Crash Rate:
North Main Street at Scanlon Drive and Russ Street	0.41/MEV
North Main Street at Reed Street and Pond Street	0.46/ MEV
High Street at Reed Street	0.95/MEV
North Main Street (Route 28)	2.46/MVMT

MEV: Million Entering Vehicles

MVMT: Million Vehicle Miles Traveled

As shown, the intersection of High Street and Reed Street shows a slightly elevated crash rate. The remaining intersections and the segment of North Main Street (Route 28) analyzed have lower crash rates than the state average.

Sight Distance

On June 17, 2021, a spot speed study was conducted on Scanlon Drive near the site driveways to assess driving speeds along the roadway. A summary of the speed data results is shown in Table 3 below. The complete data log can be found in Appendix C. As there was no speed limit posted for Scanlon Drive, a de facto speed of 30 miles per hour was assumed, consistent with all the other roadways in the study area. The most notable metric presented in Table 3 is the 85th percentile speed, which was utilized for the sight distance analysis. The captured 85th percentile speed of 34 miles per hour on Scanlon Drive was rounded up to a design speed of 35 miles per hour to provide a more conservative analysis.

Table 3: Scanlon Drive Speed Study Summary

	Posted Speed	Average Speed	True Median (50 th Percentile)	85 th Percentile	10 MPH Pace	% over Posted
Eastbound	30	30	31	34	26-35	52%
Westbound	30	30	31	34	26-35	54%

In conjunction with the spot speed study conducted, the available sight distances for the existing site driveways were observed and measured. According to the latest edition of the American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on the Geometric Design of Highways and Streets*, the minimum safe stopping sight distance (SSD) for 35 miles per hour is 250 feet. AASHTO gives guidance for a more desirable intersection sight distance (ISD) for incremental speeds, which will not only avoid collisions, but maintain vehicular flow of at least 70 percent of the original operating speed. The minimum intersection sight distances (ISD) for left- and right-turning vehicles are 390 feet and 335 feet, respectively, for a speed of 35 mph. A summary of the sight distances available for the driveway can be seen in Table 4 below.

Table 4: Sight Distance Summary

		Required SSD (ft)	Required ISD (ft)
Site Driveway at Scanlon Drive	To the East	250	390
	To the West	250	335

During the field visit, sight lines along Scanlon Drive were assessed to determine areas where sight distance would become hindered, identifying areas where a proposed driveway would be problematic for site design.

On Scanlon Drive, there exists decorative bushes and additional floral arrangements that hinder drivers' sight lines substantially at the existing driveways, requiring drivers to move past the intended shoulder striping when attempting to exit. Additionally, the eastern end of Scanlon Drive has significant horizontal and vertical curvature. For drivers heading west along Scanlon Drive, the combined curvature and placement of bushes can block a driver's sight line to the extent that it prevents them from seeing any drivers attempting to exit the lots. For drivers attempting to exit, this combination will also prevent them from seeing cars as they move along the curve and behind the bushes.

An analysis of the proposed driveway locations shows sufficient sight lines for vehicles circulating the site. Decorative bushes are proposed within the vicinity of the driveway and may increase risks for exiting vehicles. It is recommended that they be regularly maintained so as not to interfere with sightlines in and out of the site.

According to AASHTO, if the intersection sight distances cannot be achieved, but the available sight distance is at least equal to the appropriate stopping sight distance, then drivers have sufficient sight distance to anticipate and avoid collisions.

FUTURE CONDITIONS

Future traffic volumes are determined by projecting the existing traffic volumes based on a determined annual growth rate and including known potential developments within the study area. The Town of Randolph Planning Department was contacted to determine if there are currently any developments proposed within the vicinity of the site whose trip generation information should be included in the study to which none were noted.

To account for background growth along the roadways within the vicinity of the project site, the existing traffic volumes were projected over a seven-year horizon from 2022 to 2029. Recent census data was reviewed to determine the appropriate growth rate. The census data showed an average population increase of approximately 0.86% per year from 2010 to 2020 for the town. To provide a conservative analysis of the project area, a growth rate of 1.0% per year was used for the seven-year projection.

A copy of the available census data is provided in Appendix D. Figure 4 provides the 2029 future no-build volumes for the morning peak hour, and the afternoon peak hour.

BUILD CONDITIONS

The future 2029 build condition represents the future 2029 no-build condition plus potential traffic increases expected from new bus storage and maintenance area.

Trip Generation

The site will generate trips for both buses and passenger vehicles. Information provided for the proposed site operations and parking usage were used to determine the estimated trips at the site. Approximately 75 buses are expected to be using the site; however, due to the staggering schedule of operations, only 20% or 15 buses are estimated to enter and exit the site during peak hours. This

number is also used to determine the bus drivers' contribution to the number of passenger vehicles circulating the site during peak hours. In addition, on-site staff will be present to regulate the maintenance area in which up to 20 passenger vehicles were estimated to be entering in the morning and exiting in the afternoon peak. Circulation at the site is as follows:

Morning Peak Hour

- Entering:
 - 20 passenger vehicles for on-site staff
 - 15 passenger vehicles for bus drivers starting their shift.
 - 15 buses returning from a trip.
- Exiting:
 - 15 buses leaving for a trip
 - 15 passenger vehicles for bus drivers leaving after their shift

Afternoon Peak Hour

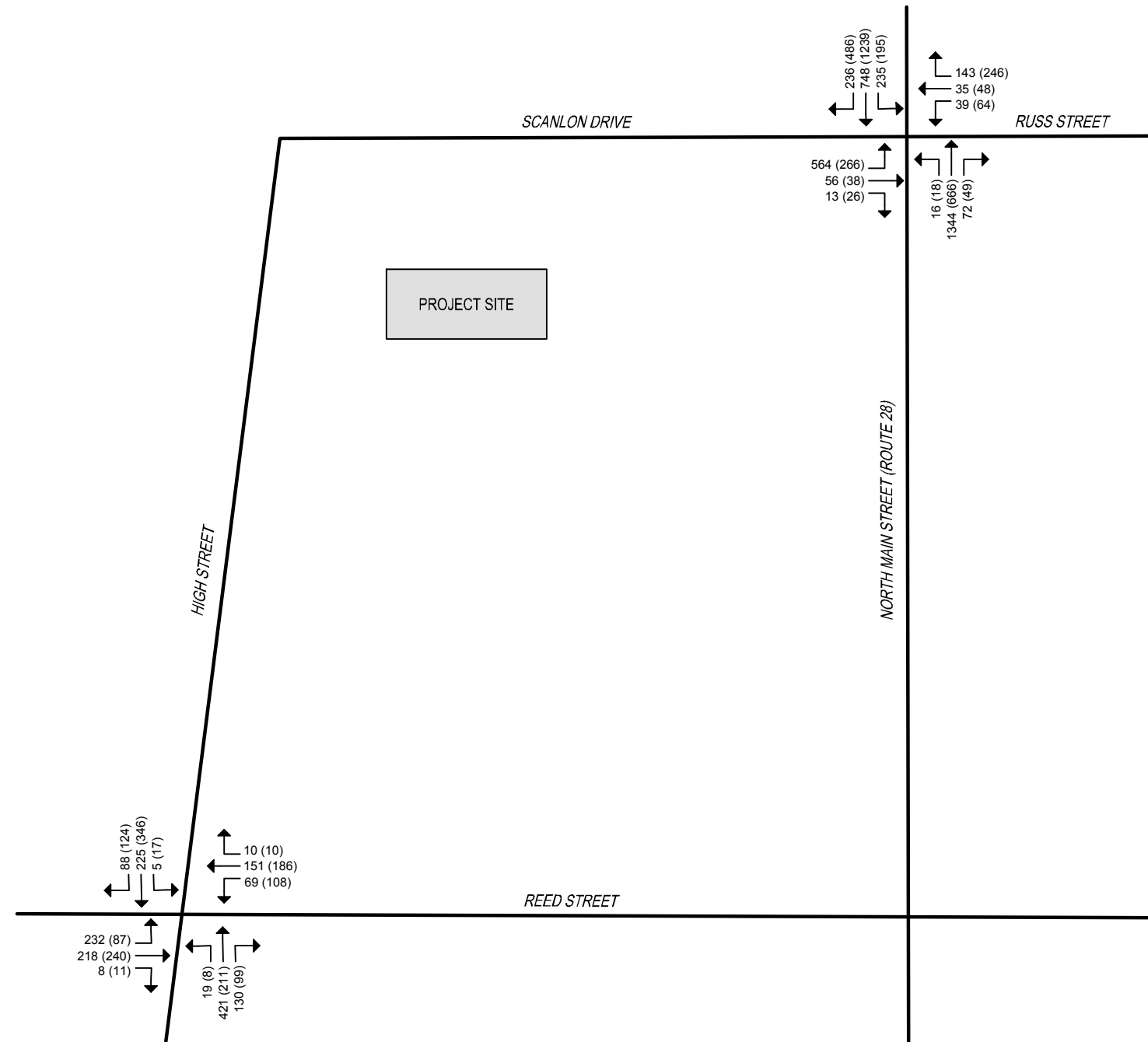
- Entering:
 - 15 buses returning from a trip
 - 15 passenger vehicles for bus drivers starting their shift
- Exiting:
 - 20 passenger vehicles for on-site staff
 - 15 passenger vehicles for bus drivers after their shift
 - 15 buses leaving for a trip

Complete trip generation calculations are provided in Appendix E.

Trip Distribution

Trip distribution of the new bus storage and maintenance area for passenger vehicles will mimic the existing site operations. As bus operations are not localized within the town, it is assumed that trips for buses will use the most direct route to and from the highway using North Main Street (Route 28). Within the site, the western driveway will be utilized for entering buses, the central driveway will be utilized for exiting buses, and the eastern driveway will be utilized by autos entering and exiting the site.

Complete trip distribution calculations are provided in Appendix E. Site generated traffic volumes are shown in Figure 5 and the future (2029) build volumes are shown in Figure 6.



AM PEAK VOLUMES (PM PEAK VOLUMES)

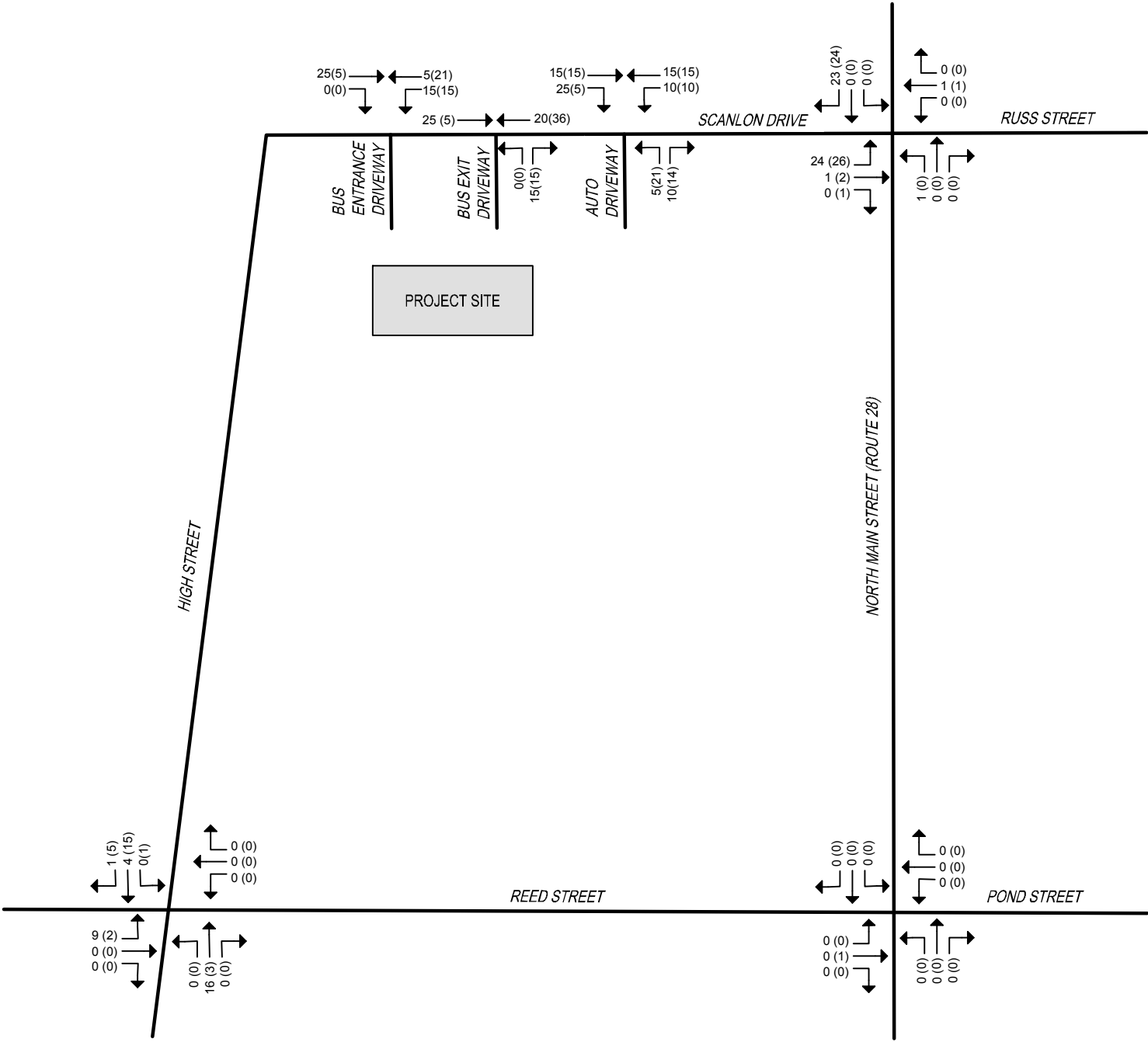


PROJECT NO. 22077.00

DATE: MARCH 2023

FIGURE 4
NO-BUILD (2029) PEAK HOUR TRAFFIC VOLUMES
RANDOLPH SCANLON DRIVE DEVELOPMENT

RANDOLPH, MASSACHUSETTS



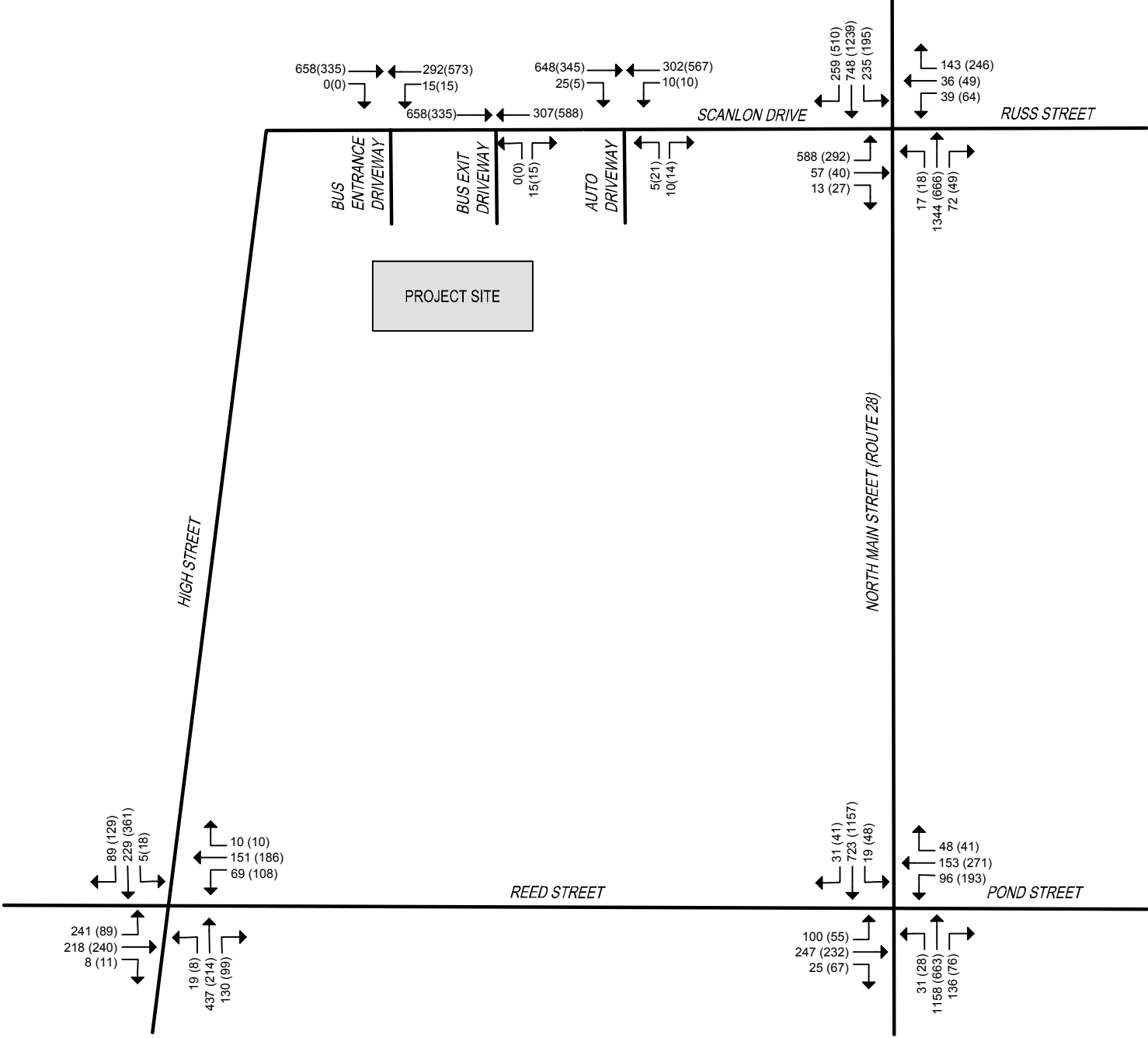
AM PEAK VOLUMES (PM PEAK VOLUMES)



PROJECT NO. 22077.00
DATE: MARCH 2023

FIGURE 5
SITE GENERATED PEAK HOUR TRAFFIC VOLUMES
RANDOLPH SCANLON DRIVE DEVELOPMENT

RANDOLPH, MASSACHUSETTS



AM PEAK VOLUMES (PM PEAK VOLUMES)



PROJECT NO. 22077.00
DATE: MARCH 2023

FIGURE 6
BUILD (2029) PEAK HOUR TRAFFIC VOLUMES
RANDOLPH SCANLON DRIVE DEVELOPMENT

RANDOLPH, MASSACHUSETTS

CAPACITY ANALYSIS

Capacity analysis was completed for all study intersections for existing, future (2029) no-build, and future (2029) build conditions. Capacity analysis characterizes intersections based on their level of service (LOS). LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of service measures such as speed, travel times, traffic interruptions, etc. Six LOS, from A to F, are defined for each type of facility, with A representing the best operating conditions and F representing the worst operating conditions. The LOS criteria for signalized and unsignalized intersections is provided in Table 5. Tables 6 and 7 and provides the capacity analysis results for all intersections for the a.m. and p.m. peak hours, respectively. The complete capacity analyses can be found in Appendix F.

Table 5: LOS Criteria for Signalized Intersections

	Signalized Intersection	Unsignalized Intersection
LOS	Delay Time (sec/veh)	Delay Time (sec/veh)
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

As shown in the tables below, there is not expected to be any change in overall LOS at the signalized intersections between no-build and build conditions during either the morning or afternoon peak hours. The overall impact of the proposed development is anticipated to be less than two seconds of additional delay at both intersections during both peak hours. Under existing conditions, the intersection of North Main Street (Route 128) at Scanlon Drive and Russ Street operates at an LOS D and an LOS C for the morning peak hour and afternoon peak hour, respectively. The afternoon peak hour remains at an LOS C for both the no-build and build conditions. The morning peak hour is expected to operate at an LOS E for both the no-build and build conditions.

The intersection of High Street and Reed Street was also analyzed as a portion of passenger vehicles traveling to and from the site are expected to go through this intersection. A traffic signal plan for the intersection could not be obtained to provide a more accurate analysis. However, optimized timings were utilized to provide an idea of the intersection's conditions. Based on the analyses, the existing condition of the intersection operates at an LOS C and LOS B for the morning and afternoon peak hours, respectively. The no-build and build scenarios for both peaks reflect an increased delay but still maintain the LOS for their respective existing conditions.

There is a minor increase in delay at intersections surrounding the site; however, the additional trips associated with the proposed bus storage and maintenance area is not expected to significantly affect traffic and will result in no change to the level of service compared to the no-build condition.

The proposed driveways in the build scenario were analyzed and are expected to operate at an LOS C or better for all movements at all three driveways. There are expected to be slight delays both entering and exiting the site.

Table 6: A.M. Peak Hour LOS Table

Intersection	Movement		Existing (2022)		Future (2029) No-Build		Future (2029) Build	
			LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²
North Main Street (Route 28) at Scanlon Drive/ Russ Street	NB	L	B (16.9)	13	B (10.9)	14	B (10.9)	15
		T, R	D (36.4)	#689	E (70.5)	#798	E (68.0)	#789
	SB	L	C (23.3)	#232	E (63.5)	#284	E (63.5)	#284
		T	C (32.0)	221	B (16.1)	257	B (16.1)	257
		R	A (1.8)	18	A (0.9)	19	A (1.0)	20
	EB	L	D (40.1)	#433	F (93.5)	#469	F (103.8)	#496
		T, R	D (38.1)	#431	F (91.0)	#471	F (99.0)	#493
	WB	L	D (41.0)	63	E (67.0)	69	E (67.0)	69
		T, R	C (32.7)	#170	E (75.6)	#200	E (78.3)	#204
	Intersection		D (49.1)		E (57.6)		E (58.3)	
High Street at Reed Street	NB	L, T, R	C (21.8)	#292	C (26.9)	#340	C (29.0)	#355
	SB	L, T, R	B (12.2)	116	B (12.8)	128	B (13.0)	130
	EB	L, T, R	C (34.5)	#278	C (31.9)	#304	C (34.5)	#313
	WB	L, T, R	B (13.1)	93	B (12.9)	100	B (12.9)	100
	Intersection		C (22.5)		C (23.5)		C (25.1)	
Scanlon Drive at Bus Entrance Driveway	WB	L,T	N/A	N/A	N/A	N/A	B (11.6)	3
Scanlon Drive at Bus Exit Driveway	NB	L, R	N/A	N/A	N/A	N/A	C (17.6)	5
Scanlon Drive at Auto Driveway	NB	L, R	N/A	N/A	N/A	N/A	C (16.0)	3
	WB	L, T	N/A	N/A	N/A	N/A	A (9.1)	0

- 95th percentile volume exceeds capacity; queue may be longer; N/C – No Conflict.

1. Delay shown in seconds per vehicle.

2. Queue Length shown in feet.

Table 7: PM Peak Hour LOS Table

Intersection	Movement		Existing (2022)		Future (2029) No-Build		Future (2029) Build	
			LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²
North Main Street (Route 28) at Scanlon Drive/ Russ Street	NB	L	B (16.4)	18	B (16.9)	20	B (17.2)	20
		T, R	C (33.7)	291	D (36.4)	324	D (37.4)	324
	SB	L	C (20.7)	121	C (23.3)	134	C (24.5)	136
		T	C (28.8)	#582	C (32.0)	#659	C (33.3)	#659
		R	A (1.8)	36	A (1.8)	36	A (1.9)	37
	EB	L	D (39.5)	164	D (40.1)	180	D (42.2)	198
		T, R	D (37.3)	157	D (38.1)	174	D (39.2)	188
	WB	L	D (39.8)	78	D (41.0)	84	D (41.6)	84
		T, R	C (31.8)	146	C (30.9)	#193	C (32.6)	#200
	Intersection		C (26.9)		C (28.7)		C (29.7)	
High Street at Reed Street	NB	L, T, R	A (10.0)	92	B (10.7)	103	B (10.9)	105
	SB	L, T, R	B (16.0)	#175	B (18.4)	#231	C (20.2)	#248
	EB	L, T, R	B (15.1)	122	B (14.9)	134	B (15.0)	135
	WB	L, T, R	A (7.5)	m36	A (6.6)	m33	A (6.7)	m33
	Intersection		B (12.6)		B (13.4)		B (14.2)	
Scanlon Drive at Bus Entrance Driveway	WB	L	N/A	N/A	N/A	N/A	A (9.5)	3
Scanlon Drive at Bus Exit Driveway	NB	L, R	N/A	N/A	N/A	N/A	B (12.3)	3
Scanlon Drive at Auto Driveway	NB	L, R	N/A	N/A	N/A	N/A	C (16.6)	10
	WB	L, T	N/A	N/A	N/A	N/A	A (8.1)	0

- 95th percentile volume exceeds capacity; queue may be longer; N/C – No Conflict.

1. Delay shown in seconds per vehicle.

2. Queue Length shown in feet

CONCLUSIONS

Pare Corporation conducted analyses of the potential impacts of the construction of a bus storage and maintenance area located at 34 Scanlon Drive in Randolph, Massachusetts. The site is anticipated to have three driveways along Scanlon Drive, which will be located in close proximity to the existing driveways. The western driveway will be utilized for entering buses, the central driveway will be utilized for exiting buses, and the eastern driveway will be utilized by autos entering and exiting the site.

A safety review was conducted for the study area roadways and intersections. Five years of crash data extracted from the MassDOT Crash Data Portal showed a slightly elevated crash rate for the intersection of High Street at Reed Street compared to the state average. Vertical curvature present on Reed Street can be a factor of the high crash rate. However, the proposed development is expected to generate only a marginal increase compared to the existing trips at the intersection; therefore, the low volume is not anticipated to exacerbate these conditions.

Based on the sight distance analyses, it is anticipated that the addition of this development's traffic to the driveway access and to Scanlon Drive can be accommodated safely if vegetation within the vicinity of the proposed driveways is regularly maintained, so as not to interfere with sight lines. It is also observed that the location of the proposed eastern driveway provides enough reaction time for vehicles approaching and exiting the site.

As outlined in the trip generation section, the proposed bus storage and maintenance use and development size would result in a peak hour demand of 80 trips (entering and exiting) for both the morning and afternoon peak hours. Due to the staggered and irregular bus schedule of operations, a maximum of 15 buses are anticipated to be entering and exiting at a time during the peak hours. The remaining volume contribution is due to bus drivers commuting to and from the site for their work shifts as well as on-site staff that will be maintaining the site during regular work hours.

Capacity analyses were conducted at the signalized intersections of North Main Street at Scanlon Drive and Russ Street and High Street at Reed Street due to the trip distribution to and from the site. The analyses indicated an increased delay from the existing conditions; however, the build conditions are expected to result in less than two seconds of added delay and no change in LOS compared to the no-build conditions. Additionally, the driveways are expected to operate at an LOS C or better. Delays at the three driveways are a result of conflicting movements as vehicles enter or exit the site. Therefore, the bus storage and maintenance area will have an insignificant impact on the surrounding roadway network.

As a result, it is Pare Corporation's professional opinion that the development of a bus storage and maintenance area at 34 Scanlon Drive in Randolph, Massachusetts will not negatively affect traffic conditions or traffic safety in the vicinity of the site.

Appendix A

Traffic Counts

tel (781) 587-0086 cell (781) 439-4999

File Name : 05569A
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

[illegible][illegible]

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569A
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Cars & Peds

	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	37	89	31	0	23	7	2	1	17	374	4	1	0	9	167	0	762
07:15 AM	50	107	46	1	22	8	7	0	9	326	3	0	3	8	142	0	732
07:30 AM	55	158	53	0	21	8	12	0	8	336	1	0	3	15	130	0	800
07:45 AM	51	172	60	0	42	7	14	0	17	306	4	0	5	11	155	1	845
Total	193	526	190	1	108	30	35	1	51	1342	12	1	11	43	594	1	3139
08:00 AM	56	160	46	0	32	9	8	0	16	293	3	1	1	21	108	1	755
08:15 AM	42	161	57	0	36	8	2	2	25	286	4	0	3	5	126	1	758
08:30 AM	46	137	48	0	41	10	10	1	13	230	3	0	2	9	122	0	672
08:45 AM	55	139	38	0	35	9	16	2	11	239	9	1	3	12	91	0	660
Total	199	597	189	0	144	36	36	5	65	1048	19	2	9	47	447	2	2845
Grand Total	392	1123	379	1	252	66	71	6	116	2390	31	3	20	90	1041	3	5984
Apprch %	20.7	59.3	20	0.1	63.8	16.7	18	1.5	4.6	94.1	1.2	0.1	1.7	7.8	90.2	0.3	
Total %	6.6	18.8	6.3	0	4.2	1.1	1.2	0.1	1.9	39.9	0.5	0.1	0.3	1.5	17.4	0.1	

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	55	158	53	0	266	21	8	12	0	41	8	336	1	0	345	3	15	130	0	148	800
07:45 AM	51	172	60	0	283	42	7	14	0	63	17	306	4	0	327	5	11	155	1	172	845
08:00 AM	56	160	46	0	262	32	9	8	0	49	16	293	3	1	313	1	21	108	1	131	755
08:15 AM	42	161	57	0	260	36	8	2	2	48	25	286	4	0	315	3	5	126	1	135	758
Total Volume	204	651	216	0	1071	131	32	36	2	201	66	1221	12	1	1300	12	52	519	3	586	3158
% App. Total	19	60.8	20.2	0		65.2	15.9	17.9	1		5.1	93.9	0.9	0.1		2	8.9	88.6	0.5		
PHF	.911	.946	.900	.000	.946	.780	.889	.643	.250	.798	.660	.908	.750	.250	.942	.600	.619	.837	.750	.852	.934

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569A
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Trucks & Buses

	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	7	0	0	0	0	0	0	1	8	0	0	0	0	4	0	20
07:15 AM	0	5	0	0	0	1	1	0	0	5	0	0	1	1	2	0	16
07:30 AM	2	7	0	0	1	0	0	0	0	15	0	0	0	0	3	0	28
07:45 AM	5	6	0	0	0	0	0	0	1	3	0	0	0	0	2	0	17
Total	7	25	0	0	1	1	1	0	2	31	0	0	1	1	11	0	81
08:00 AM	1	17	2	0	1	0	0	0	0	10	0	0	0	0	1	0	32
08:15 AM	8	16	1	0	0	0	0	0	0	4	2	0	0	0	1	0	32
08:30 AM	4	11	1	0	0	0	0	0	0	9	0	0	0	0	2	0	27
08:45 AM	7	13	1	0	1	0	0	0	0	6	0	0	0	0	1	0	29
Total	20	57	5	0	2	0	0	0	0	29	2	0	0	0	5	0	120
Grand Total	27	82	5	0	3	1	1	0	2	60	2	0	1	1	16	0	201
Apprch %	23.7	71.9	4.4	0	60	20	20	0	3.1	93.8	3.1	0	5.6	5.6	88.9	0	
Total %	13.4	40.8	2.5	0	1.5	0.5	0.5	0	1	29.9	1	0	0.5	0.5	8	0	

	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				Int. Total
Start Time	Right		Peds	App. Total	Right		Peds	App. Total	Right		Peds	App. Total	Right		Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	17	2	0	20	1	0	0	0	1	0	10	0	0	10	0	32
08:15 AM	8	16	1	0	25	0	0	0	0	0	4	2	0	6	0	1	32
08:30 AM	4	11	1	0	16	0	0	0	0	0	9	0	0	9	0	2	27
08:45 AM	7	13	1	0	21	1	0	0	0	1	0	6	0	6	0	1	29
Total Volume	20	57	5	0	82	2	0	0	0	2	0	29	2	0	31	0	120
% App. Total	24.4	69.5	6.1	0		100	0	0	0		0	93.5	6.5	0		0	
PHF	.625	.838	.625	.000	.820	.500	.000	.000	.500		.000	.725	.250	.000	.775	.000	.938

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569A
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Bikes by Direction

[illegible][illegible]

Transportation Data Corporation

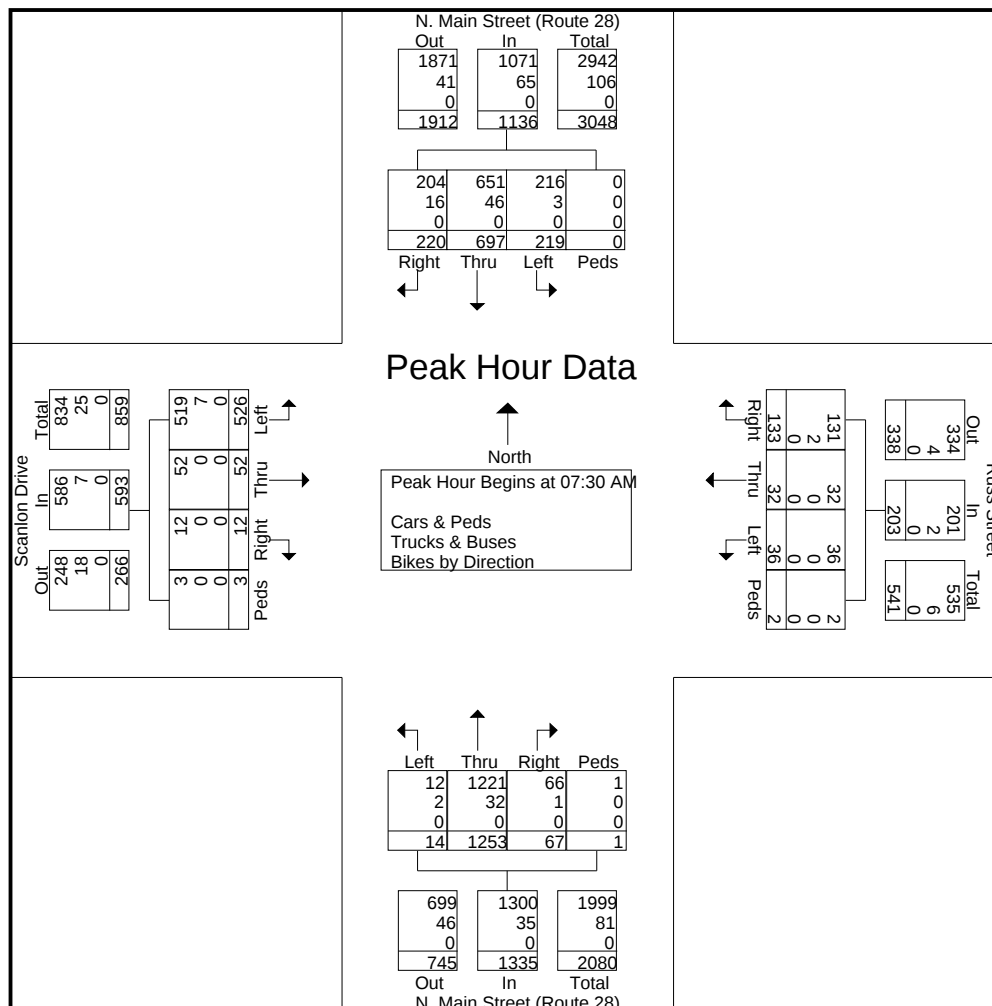
Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569A
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	57	165	53	0	275	22	8	12	0	42	8	351	1	0	360	3	15	133	0	151	828
07:45 AM	56	178	60	0	294	42	7	14	0	63	18	309	4	0	331	5	11	157	1	174	862
08:00 AM	57	177	48	0	282	33	9	8	0	50	16	303	3	1	323	1	21	109	1	132	787
08:15 AM	50	177	58	0	285	36	8	2	2	48	25	290	6	0	321	3	5	127	1	136	790
Total Volume	220	697	219	0	1136	133	32	36	2	203	67	1253	14	1	1335	12	52	526	3	593	3267
% App. Total	19.4	61.4	19.3	0		65.5	15.8	17.7	1		5	93.9	1	0.1		2	8.8	88.7	0.5		
PHF	.965	.979	.913	.000	.966	.792	.889	.643	.250	.806	.670	.892	.583	.250	.927	.600	.619	.838	.750	.852	.948
Cars & Peds	204	651	216	0	1071	131	32	36	2	201	66	1221	12	1	1300	12	52	519	3	586	3158
% Cars & Peds	92.7	93.4	98.6	0	94.3	98.5	100	100	100	99.0	98.5	97.4	85.7	100	97.4	100	100	98.7	100	98.8	96.7
Trucks & Buses	16	46	3	0	65	2	0	0	0	2	1	32	2	0	35	0	0	7	0	7	109
% Trucks & Buses	7.3	6.6	1.4	0	5.7	1.5	0	0	0	1.0	1.5	2.6	14.3	0	2.6	0	0	1.3	0	1.2	3.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569AA
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	80	223	36	0	80	4	20	1	11	162	3	1	5	4	63	0	693
04:15 PM	93	262	47	0	73	9	18	0	18	166	8	1	9	6	61	2	773
04:30 PM	72	256	40	0	72	11	15	0	11	152	2	0	4	14	52	0	701
04:45 PM	103	287	31	0	59	10	13	1	16	143	2	2	3	7	65	2	744
Total	348	1028	154	0	284	34	66	2	56	623	15	4	21	31	241	4	2911
05:00 PM	101	319	47	0	74	11	16	0	4	173	3	0	6	7	64	0	825
05:15 PM	120	249	51	0	55	9	14	0	13	145	4	1	9	11	56	0	737
05:30 PM	129	300	52	0	41	14	16	0	12	160	7	3	6	10	63	3	816
05:45 PM	110	311	34	0	47	14	14	0	10	130	4	0	3	5	55	1	738
Total	460	1179	184	0	217	48	60	0	39	608	18	4	24	33	238	4	3116
Grand Total	808	2207	338	0	501	82	126	2	95	1231	33	8	45	64	479	8	6027
Apprch %	24.1	65.8	10.1	0	70.5	11.5	17.7	0.3	6.9	90.1	2.4	0.6	7.6	10.7	80.4	1.3	
Total %	13.4	36.6	5.6	0	8.3	1.4	2.1	0	1.6	20.4	0.5	0.1	0.7	1.1	7.9	0.1	
Cars & Peds	779	2131	335	0	498	82	125	2	94	1193	33	8	45	64	472	8	5869
% Cars & Peds	96.4	96.6	99.1	0	99.4	100	99.2	100	98.9	96.9	100	100	100	100	98.5	100	97.4
Trucks & Buses																	
% Trucks & Buses	3.6	3.4	0.9	0	0.6	0	0	0	0	3.1	0	0	0	0	1.5	0	2.6
Bikes by Direction	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	3
% Bikes by Direction	0	0	0	0	0	0	0.8	0	1.1	0	0	0	0	0	0	0	0

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					Int. Total
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	103	287	31	0	421	59	10	13	1	83	16	143	2	2	163	3	7	65	2	77	744
05:00 PM	101	319	47	0	467	74	11	16	0	101	4	173	3	0	180	6	7	64	0	77	825
05:15 PM	120	249	51	0	420	55	9	14	0	78	13	145	4	1	163	9	11	56	0	76	737
05:30 PM	129	300	52	0	481	41	14	16	0	71	12	160	7	3	182	6	10	63	3	82	816
Total Volume	453	1155	181	0	1789	229	44	59	1	333	45	621	16	6	688	24	35	248	5	312	3122
% App. Total	25.3	64.6	10.1	0		68.8	13.2	17.7	0.3		6.5	90.3	2.3	0.9		7.7	11.2	79.5	1.6		
PHF	.878	.905	.870	.000	.930	.774	.786	.922	.250	.824	.703	.897	.571	.500	.945	.667	.795	.954	.417	.951	.946
Cars & Peds	440	1111	181	0	1732	229	44	58	1	332	44	600	16	6	666	24	35	245	5	309	3039
% Cars & Peds	97.1	96.2	100	0	96.8	100	100	98.3	100	99.7	97.8	96.6	100	100	96.8	100	100	98.8	100	99.0	97.3
Trucks & Buses	13	44	0	0	57	0	0	0	0	0	0	21	0	0	21	0	0	3	0	3	81
% Trucks & Buses	2.9	3.8	0	0	3.2	0	0	0	0	0	0	3.4	0	0	3.1	0	0	1.2	0	1.0	2.6
Bikes by Direction	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0	0	0	0	0	0	1.7	0	0.3	2.2	0	0	0	0.1	0	0	0	0	0	0.1

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569AA
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Cars & Peds

	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	74	215	34	0	79	4	20	1	11	157	3	1	5	4	61	0	669
04:15 PM	87	253	47	0	72	9	18	0	18	161	8	1	9	6	59	2	750
04:30 PM	70	249	39	0	72	11	15	0	11	149	2	0	4	14	52	0	688
04:45 PM	99	273	31	0	59	10	13	1	16	136	2	2	3	7	63	2	717
Total	330	990	151	0	282	34	66	2	56	603	15	4	21	31	235	4	2824
05:00 PM	99	311	47	0	74	11	16	0	4	169	3	0	6	7	64	0	811
05:15 PM	114	240	51	0	55	9	14	0	13	137	4	1	9	11	56	0	714
05:30 PM	128	287	52	0	41	14	15	0	11	158	7	3	6	10	62	3	797
05:45 PM	108	303	34	0	46	14	14	0	10	126	4	0	3	5	55	1	723
Total	449	1141	184	0	216	48	59	0	38	590	18	4	24	33	237	4	3045
Grand Total	779	2131	335	0	498	82	125	2	94	1193	33	8	45	64	472	8	5869
Apprch %	24	65.7	10.3	0	70.4	11.6	17.7	0.3	7.1	89.8	2.5	0.6	7.6	10.9	80.1	1.4	
Total %	13.3	36.3	5.7	0	8.5	1.4	2.1	0	1.6	20.3	0.6	0.1	0.8	1.1	8	0.1	

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	99	311	47	0	457	74	11	16	0	101	4	169	3	0	176	6	7	64	0	77	811
05:15 PM	114	240	51	0	405	55	9	14	0	78	13	137	4	1	155	9	11	56	0	76	714
05:30 PM	128	287	52	0	467	41	14	15	0	70	11	158	7	3	179	6	10	62	3	81	797
05:45 PM	108	303	34	0	445	46	14	14	0	74	10	126	4	0	140	3	5	55	1	64	723
Total Volume	449	1141	184	0	1774	216	48	59	0	323	38	590	18	4	650	24	33	237	4	298	3045
% App. Total	25.3	64.3	10.4	0		66.9	14.9	18.3	0		5.8	90.8	2.8	0.6		8.1	11.1	79.5	1.3		
PHF	.877	.917	.885	.000	.950	.730	.857	.922	.000	.800	.731	.873	.643	.333	.908	.667	.750	.926	.333	.920	.939

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569AA
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Trucks & Buses

	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	6	8	2	0	1	0	0	0	0	5	0	0	0	0	2	0	24
04:15 PM	6	9	0	0	1	0	0	0	0	5	0	0	0	0	2	0	23
04:30 PM	2	6	1	0	0	0	0	0	0	3	0	0	0	0	0	0	12
04:45 PM	4	14	0	0	0	0	0	0	0	7	0	0	0	0	2	0	27
Total	18	37	3	0	2	0	0	0	0	20	0	0	0	0	6	0	86
05:00 PM	2	8	0	0	0	0	0	0	0	4	0	0	0	0	0	0	14
05:15 PM	6	9	0	0	0	0	0	0	0	8	0	0	0	0	0	0	23
05:30 PM	1	13	0	0	0	0	0	0	0	2	0	0	0	0	1	0	17
05:45 PM	2	8	0	0	1	0	0	0	0	4	0	0	0	0	0	0	15
Total	11	38	0	0	1	0	0	0	0	18	0	0	0	0	1	0	69
Grand Total	29	75	3	0	3	0	0	0	0	38	0	0	0	0	7	0	155
Apprch %	27.1	70.1	2.8	0	100	0	0	0	0	100	0	0	0	0	100	0	
Total %	18.7	48.4	1.9	0	1.9	0	0	0	0	24.5	0	0	0	0	4.5	0	

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	6	8	2	0	16	1	0	0	0	1	0	5	0	0	5	0	0	2	0	2	24
04:15 PM	6	9	0	0	15	1	0	0	0	1	0	5	0	0	5	0	0	2	0	2	23
04:30 PM	2	6	1	0	9	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	12
04:45 PM	4	14	0	0	18	0	0	0	0	0	0	7	0	0	7	0	0	2	0	2	27
Total Volume	18	37	3	0	58	2	0	0	0	2	0	20	0	0	20	0	0	6	0	6	86
% App. Total	31	63.8	5.2	0		100	0	0	0		0	100	0	0		0	0	100	0		
PHF	.750	.661	.375	.000	.806	.500	.000	.000	.000	.500	.000	.714	.000	.000	.714	.000	.000	.750	.000	.750	.796

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569AA
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Bikes by Direction

Groups Linked - Bikes by Direction																	
	N. Main Street (Route 28) From North				Russ Street From East				N. Main Street (Route 28) From South				Scanlon Drive From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
Grand Total	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	3
Apprch %	0	100	0	0	0	0	100	0	100	0	0	0	0	0	0	0	
Total %	0	33.3	0	0	0	0	33.3	0	33.3	0	0	0	0	0	0	0	

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	100	0		100	0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250

Transportation Data Corporation

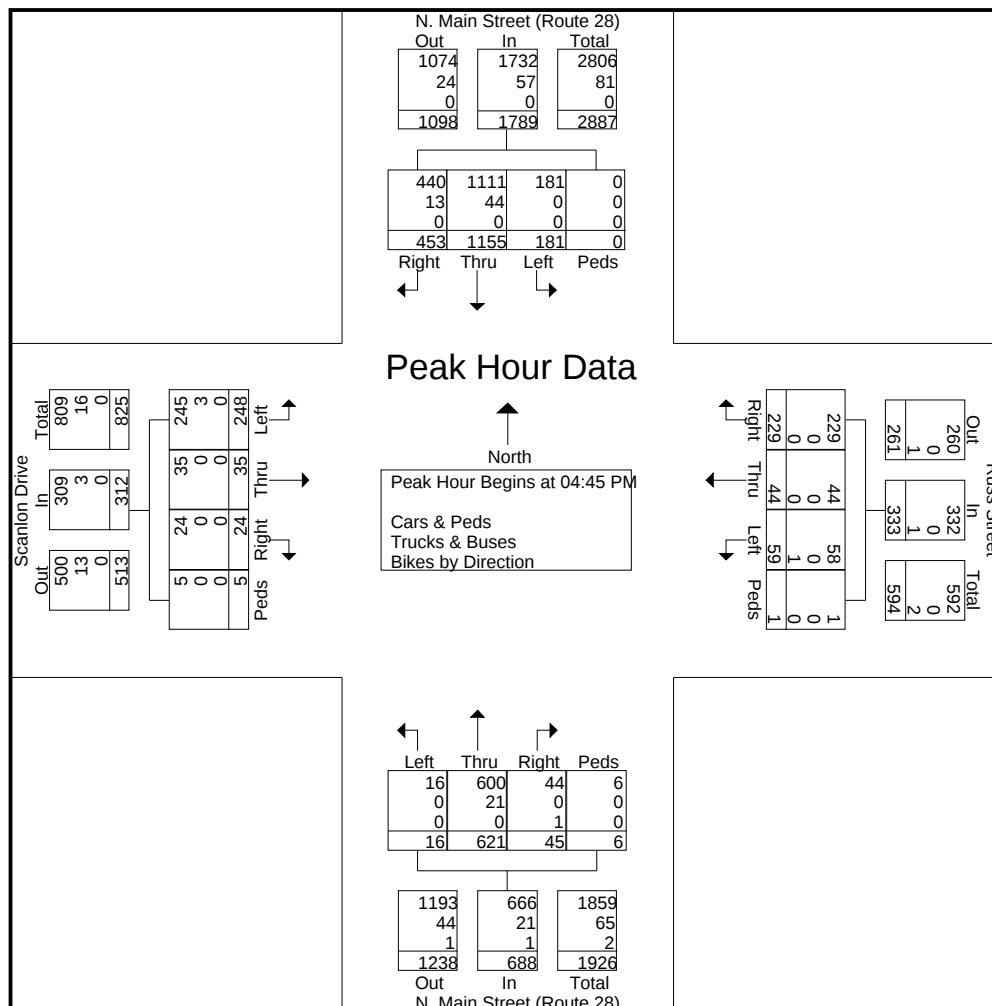
Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: N. Main Street (Route 28)
E/W: Russ Street/Scanlon Drive
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569AA
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

	N. Main Street (Route 28) From North					Russ Street From East					N. Main Street (Route 28) From South					Scanlon Drive From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	103	287	31	0	421	59	10	13	1	83	16	143	2	2	163	3	7	65	2	77	744
05:00 PM	101	319	47	0	467	74	11	16	0	101	4	173	3	0	180	6	7	64	0	77	825
05:15 PM	120	249	51	0	420	55	9	14	0	78	13	145	4	1	163	9	11	56	0	76	737
05:30 PM	129	300	52	0	481	41	14	16	0	71	12	160	7	3	182	6	10	63	3	82	816
Total Volume	453	1155	181	0	1789	229	44	59	1	333	45	621	16	6	688	24	35	248	5	312	3122
% App. Total	25.3	64.6	10.1	0		68.8	13.2	17.7	0.3		6.5	90.3	2.3	0.9		7.7	11.2	79.5	1.6		
PHF	.878	.905	.870	.000	.930	.774	.786	.922	.250	.824	.703	.897	.571	.500	.945	.667	.795	.954	.417	.951	.946
Cars & Peds	440	1111	181	0	1732	229	44	58	1	332	44	600	16	6	666	24	35	245	5	309	3039
% Cars & Peds	97.1	96.2	100	0	96.8	100	100	98.3	100	99.7	97.8	96.6	100	100	96.8	100	100	98.8	100	99.0	97.3
Trucks & Buses	13	44	0	0	57	0	0	0	0	0	0	21	0	0	21	0	0	3	0	3	81
% Trucks & Buses	2.9	3.8	0	0	3.2	0	0	0	0	0	0	3.4	0	0	3.1	0	0	1.2	0	1.0	2.6
Bikes by Direction	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0	0	0	0	0	0	1.7	0	0.3	2.2	0	0	0	0.1	0	0	0	0	0	0.1



Transportation Data Corporation
 Mario Perone, mperone1@verizon.net
 tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
 E/W: Reed Street
 City, State: Randolph, MA
 Client: Pare/Amy Archer

File Name : 05569C
 Site Code : 05569
 Start Date : 5/25/2022
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	17	35	0	0	2	34	5	3	22	121	1	0	1	41	60	0	342
07:15 AM	26	53	1	0	3	33	23	1	22	112	1	0	1	35	53	0	364
07:30 AM	25	49	1	0	4	45	16	0	29	94	3	0	1	58	63	1	389
07:45 AM	20	39	2	0	1	35	7	0	27	97	5	0	4	67	56	0	360
Total	88	176	4	0	10	147	51	4	100	424	10	0	7	201	232	1	1455
08:00 AM	11	68	0	2	1	27	18	3	43	89	8	2	1	43	44	1	361
08:15 AM	21	33	1	10	1	40	6	0	20	83	27	3	3	52	48	4	352
08:30 AM	18	42	2	2	0	51	13	0	24	92	15	0	11	53	53	0	376
08:45 AM	11	45	3	0	4	25	9	0	17	71	2	0	4	38	33	0	262
Total	61	188	6	14	6	143	46	3	104	335	52	5	19	186	178	5	1351
Grand Total	149	364	10	14	16	290	97	7	204	759	62	5	26	387	410	6	2806
Apprch %	27.7	67.8	1.9	2.6	3.9	70.7	23.7	1.7	19.8	73.7	6	0.5	3.1	46.7	49.5	0.7	
Total %	5.3	13	0.4	0.5	0.6	10.3	3.5	0.2	7.3	27	2.2	0.2	0.9	13.8	14.6	0.2	
Cars & Peds	148	338	10	14	16	282	91	7	198	743	58	5	26	380	408	6	2730
% Cars & Peds	99.3	92.9	100	100	100	97.2	93.8	100	97.1	97.9	93.5	100	100	98.2	99.5	100	97.3
Trucks & Buses																	
% Trucks & Buses	0.7	7.1	0	0	0	1.4	6.2	0	2.9	2.1	1.6	0	0	1.8	0.5	0	2.5
Bikes by Direction	0	0	0	0	0	4	0	0	0	0	3	0	0	0	0	0	7
% Bikes by Direction	0	0	0	0	0	1.4	0	0	0	0	4.8	0	0	0	0	0	0.2

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					Int. Total
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	26	53	1	0	80	3	33	23	1	60	22	112	1	0	135	1	35	53	0	89	364
07:30 AM	25	49	1	0	75	4	45	16	0	65	29	94	3	0	126	1	58	63	1	123	389
07:45 AM	20	39	2	0	61	1	35	7	0	43	27	97	5	0	129	4	67	56	0	127	360
08:00 AM	11	68	0	2	81	1	27	18	3	49	43	89	8	2	142	1	43	44	1	89	361
Total Volume	82	209	4	2	297	9	140	64	4	217	121	392	17	2	532	7	203	216	2	428	1474
% App. Total	27.6	70.4	1.3	0.7		4.1	64.5	29.5	1.8		22.7	73.7	3.2	0.4		1.6	47.4	50.5	0.5		
PHF	.788	.768	.500	.250	.917	.563	.778	.696	.333	.835	.703	.875	.531	.250	.937	.438	.757	.857	.500	.843	.947
Cars & Peds	82	200	4	2	288	9	137	62	4	212	118	383	15	2	518	7	200	214	2	423	1441
% Cars & Peds	100	95.7	100	100	97.0	100	97.9	96.9	100	97.7	97.5	97.7	88.2	100	97.4	100	98.5	99.1	100	98.8	97.8
Trucks & Buses	0	9	0	0	9	0	2	2	0	4	3	9	1	0	13	0	3	2	0	5	31
% Trucks & Buses	0	4.3	0	0	3.0	0	1.4	3.1	0	1.8	2.5	2.3	5.9	0	2.4	0	1.5	0.9	0	1.2	2.1
Bikes by Direction	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0	0	0	0	0	0.7	0	0	0.5	0	0	5.9	0	0.2	0	0	0	0	0	0.1

Transportation Data Corporation
 Mario Perone, mperone1@verizon.net
 tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
 E/W: Reed Street
 City, State: Randolph, MA
 Client: Pare/Amy Archer

File Name : 05569C
 Site Code : 05569
 Start Date : 5/25/2022
 Page No : 1

Groups Printed- Cars & Peds

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	17	35	0	0	2	32	5	3	22	117	1	0	1	39	60	0	334
07:15 AM	26	51	1	0	3	31	23	1	22	107	1	0	1	35	53	0	355
07:30 AM	25	48	1	0	4	45	14	0	28	93	3	0	1	57	62	1	382
07:45 AM	20	36	2	0	1	35	7	0	26	95	4	0	4	67	56	0	353
Total	88	170	4	0	10	143	49	4	98	412	9	0	7	198	231	1	1424
08:00 AM	11	65	0	2	1	26	18	3	42	88	7	2	1	41	43	1	351
08:15 AM	21	28	1	10	1	39	6	0	20	83	25	3	3	51	48	4	343
08:30 AM	18	37	2	2	0	49	12	0	23	90	15	0	11	53	53	0	365
08:45 AM	10	38	3	0	4	25	6	0	15	70	2	0	4	37	33	0	247
Total	60	168	6	14	6	139	42	3	100	331	49	5	19	182	177	5	1306
Grand Total	148	338	10	14	16	282	91	7	198	743	58	5	26	380	408	6	2730
Apprch %	29	66.3	2	2.7	4	71.2	23	1.8	19.7	74	5.8	0.5	3.2	46.3	49.8	0.7	
Total %	5.4	12.4	0.4	0.5	0.6	10.3	3.3	0.3	7.3	27.2	2.1	0.2	1	13.9	14.9	0.2	

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	26	51	1	0	78	3	31	23	1	58	22	107	1	0	130	1	35	53	0	89	355
07:30 AM	25	48	1	0	74	4	45	14	0	63	28	93	3	0	124	1	57	62	1	121	382
07:45 AM	20	36	2	0	58	1	35	7	0	43	26	95	4	0	125	4	67	56	0	127	353
08:00 AM	11	65	0	2	78	1	26	18	3	48	42	88	7	2	139	1	41	43	1	86	351
Total Volume	82	200	4	2	288	9	137	62	4	212	118	383	15	2	518	7	200	214	2	423	1441
% App. Total	28.5	69.4	1.4	0.7		4.2	64.6	29.2	1.9		22.8	73.9	2.9	0.4		1.7	47.3	50.6	0.5		
PHF	.788	.769	.500	.250	.923	.563	.761	.674	.333	.841	.702	.895	.536	.250	.932	.438	.746	.863	.500	.833	.943

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569C
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Trucks & Buses

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	2	0	0	0	4	0	0	0	2	0	0	8
07:15 AM	0	2	0	0	0	2	0	0	0	5	0	0	0	0	0	0	9
07:30 AM	0	1	0	0	0	0	2	0	1	1	0	0	0	1	1	0	7
07:45 AM	0	3	0	0	0	0	0	0	1	2	0	0	0	0	0	0	6
Total	0	6	0	0	0	4	2	0	2	12	0	0	0	3	1	0	30
08:00 AM	0	3	0	0	0	0	0	0	1	1	1	0	0	2	1	0	9
08:15 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	6
08:30 AM	0	5	0	0	0	0	1	0	1	2	0	0	0	0	0	0	9
08:45 AM	1	7	0	0	0	0	3	0	2	1	0	0	0	1	0	0	15
Total	1	20	0	0	0	0	4	0	4	4	1	0	0	4	1	0	39
Grand Total	1	26	0	0	0	4	6	0	6	16	1	0	0	7	2	0	69
Apprch %	3.7	96.3	0	0	0	40	60	0	26.1	69.6	4.3	0	0	77.8	22.2	0	
Total %	1.4	37.7	0	0	0	5.8	8.7	0	8.7	23.2	1.4	0	0	10.1	2.9	0	

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					Int. Total
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	3	0	0	3	0	0	0	0	0	1	1	1	0	3	0	2	1	0	3	9
08:15 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6
08:30 AM	0	5	0	0	5	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	9
08:45 AM	1	7	0	0	8	0	0	3	0	3	2	1	0	0	3	0	1	0	0	1	15
Total Volume	1	20	0	0	21	0	0	4	0	4	4	4	1	0	9	0	4	1	0	5	39
% App. Total	4.8	95.2	0	0		0	0	100	0		44.4	44.4	11.1	0		0	80	20	0		
PHF	.250	.714	.000	.000	.656	.000	.000	.333	.000	.333	.500	.500	.250	.000	.750	.000	.500	.250	.000	.417	.650

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569C
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Bikes by Direction

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0	0	6
Grand Total	0	0	0	0	0	4	0	0	0	0	3	0	0	0	0	0	7
Apprch %	0	0	0	0	0	100	0	0	0	0	100	0	0	0	0	0	
Total %	0	0	0	0	0	57.1	0	0	0	0	42.9	0	0	0	0	0	

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	4	0	0	4	0	0	3	0	3	0	0	0	0	0	7
% App. Total	0	0	0	0		0	100	0	0		0	0	100	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.583

Transportation Data Corporation

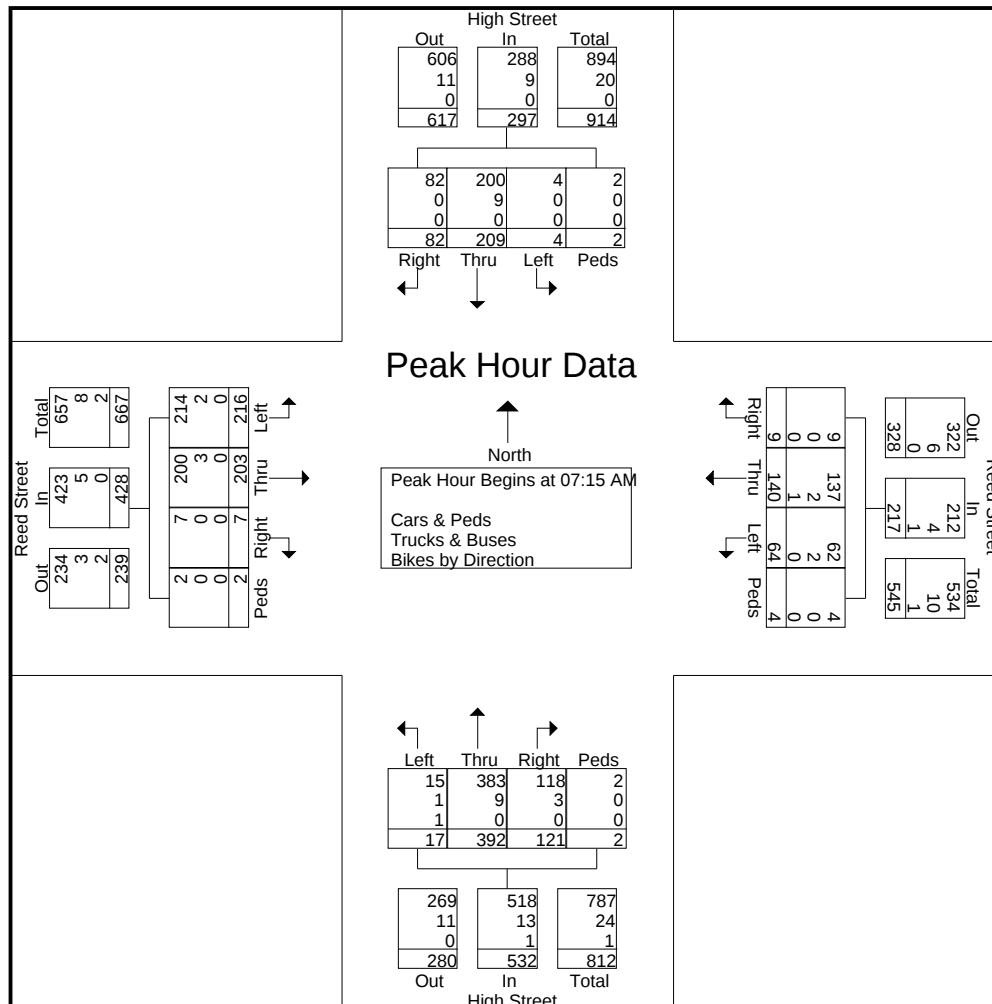
Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569C
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	26	53	1	0	80	3	33	23	1	60	22	112	1	0	135	1	35	53	0	89	364
07:30 AM	25	49	1	0	75	4	45	16	0	65	29	94	3	0	126	1	58	63	1	123	389
07:45 AM	20	39	2	0	61	1	35	7	0	43	27	97	5	0	129	4	67	56	0	127	360
08:00 AM	11	68	0	2	81	1	27	18	3	49	43	89	8	2	142	1	43	44	1	89	361
Total Volume	82	209	4	2	297	9	140	64	4	217	121	392	17	2	532	7	203	216	2	428	1474
% App. Total	27.6	70.4	1.3	0.7		4.1	64.5	29.5	1.8		22.7	73.7	3.2	0.4		1.6	47.4	50.5	0.5		
PHF	.788	.768	.500	.250	.917	.563	.778	.696	.333	.835	.703	.875	.531	.250	.937	.438	.757	.857	.500	.843	.947
Cars & Peds	82	200	4	2	288	9	137	62	4	212	118	383	15	2	518	7	200	214	2	423	1441
% Cars & Peds	100	95.7	100	100	97.0	100	97.9	96.9	100	97.7	97.5	97.7	88.2	100	97.4	100	98.5	99.1	100	98.8	97.8
Trucks & Buses	0	9	0	0	9	0	2	2	0	4	3	9	1	0	13	0	3	2	0	5	31
% Trucks & Buses	0	4.3	0	0	3.0	0	1.4	3.1	0	1.8	2.5	2.3	5.9	0	2.4	0	1.5	0.9	0	1.2	2.1
Bikes by Direction	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0	0	0	0	0	0.7	0	0	0.5	0	0	5.9	0	0.2	0	0	0	0	0	0.1



Transportation Data Corporation
 Mario Perone, mperone1@verizon.net
 tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
 E/W: Reed Street
 City, State: Randolph, MA
 Client: Pare/Amy Archer

File Name : 05569CC
 Site Code : 05569
 Start Date : 5/25/2022
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	19	58	2	0	2	51	28	0	18	45	3	0	2	54	12	0	294
04:15 PM	21	67	0	0	1	53	34	0	17	46	2	0	3	40	13	0	297
04:30 PM	20	52	2	0	3	45	23	0	19	55	2	0	1	57	13	0	292
04:45 PM	19	90	3	2	4	44	32	0	23	49	3	1	3	61	20	3	357
Total	79	267	7	2	10	193	117	0	77	195	10	1	9	212	58	3	1240
05:00 PM	26	70	4	1	1	39	24	0	24	64	2	0	2	45	10	0	312
05:15 PM	36	91	5	2	2	50	28	0	21	40	1	0	2	65	23	0	366
05:30 PM	34	71	3	0	2	40	16	0	24	43	1	1	3	52	28	0	318
05:45 PM	23	83	2	0	1	43	19	2	19	40	1	1	3	57	20	0	314
Total	119	315	14	3	6	172	87	2	88	187	5	2	10	219	81	0	1310
Grand Total	198	582	21	5	16	365	204	2	165	382	15	3	19	431	139	3	2550
Apprch %	24.6	72.2	2.6	0.6	2.7	62.2	34.8	0.3	29.2	67.6	2.7	0.5	3.2	72.8	23.5	0.5	
Total %	7.8	22.8	0.8	0.2	0.6	14.3	8	0.1	6.5	15	0.6	0.1	0.7	16.9	5.5	0.1	
Cars & Peds	196	565	20	5	16	359	197	2	161	376	13	3	17	431	138	3	2502
% Cars & Peds	99	97.1	95.2	100	100	98.4	96.6	100	97.6	98.4	86.7	100	89.5	100	99.3	100	98.1
Trucks & Buses																	
% Trucks & Buses	1	2.9	4.8	0	0	1.4	3.4	0	2.4	1.3	6.7	0	5.3	0	0	0	1.7
Bikes by Direction	0	0	0	0	0	1	0	0	0	1	1	0	1	0	1	0	5
% Bikes by Direction	0	0	0	0	0	0.3	0	0	0	0.3	6.7	0	5.3	0	0.7	0	0.2

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					Int. Total
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	19	90	3	2	114	4	44	32	0	80	23	49	3	1	76	3	61	20	3	87	357
05:00 PM	26	70	4	1	101	1	39	24	0	64	24	64	2	0	90	2	45	10	0	57	312
05:15 PM	36	91	5	2	134	2	50	28	0	80	21	40	1	0	62	2	65	23	0	90	366
05:30 PM	34	71	3	0	108	2	40	16	0	58	24	43	1	1	69	3	52	28	0	83	318
Total Volume	115	322	15	5	457	9	173	100	0	282	92	196	7	2	297	10	223	81	3	317	1353
% App. Total	25.2	70.5	3.3	1.1		3.2	61.3	35.5	0		31	66	2.4	0.7		3.2	70.3	25.6	0.9		
PHF	.799	.885	.750	.625	.853	.563	.865	.781	.000	.881	.958	.766	.583	.500	.825	.833	.858	.723	.250	.881	.924
Cars & Peds	114	315	14	5	448	9	172	97	0	278	91	195	6	2	294	9	223	80	3	315	1335
% Cars & Peds	99.1	97.8	93.3	100	98.0	100	99.4	97.0	0	98.6	98.9	99.5	85.7	100	99.0	90.0	100	98.8	100	99.4	98.7
Trucks & Buses	1	7	1	0	9	0	0	3	0	3	1	1	1	0	3	1	0	0	0	1	16
% Trucks & Buses	0.9	2.2	6.7	0	2.0	0	0	3.0	0	1.1	1.1	0.5	14.3	0	1.0	10.0	0	0	0	0.3	1.2
Bikes by Direction	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
% Bikes by Direction	0	0	0	0	0	0	0.6	0	0	0.4	0	0	0	0	0	0	0	1.2	0	0.3	0.1

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569CC
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Cars & Peds

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	19	55	2	0	2	50	28	0	18	45	3	0	2	54	12	0	290
04:15 PM	21	63	0	0	1	52	31	0	17	43	2	0	2	40	13	0	285
04:30 PM	20	49	2	0	3	43	22	0	16	54	2	0	1	57	13	0	282
04:45 PM	18	89	2	2	4	44	32	0	22	49	2	1	2	61	20	3	351
Total	78	256	6	2	10	189	113	0	73	191	9	1	7	212	58	3	1208
05:00 PM	26	69	4	1	1	39	23	0	24	64	2	0	2	45	10	0	310
05:15 PM	36	86	5	2	2	49	26	0	21	40	1	0	2	65	23	0	358
05:30 PM	34	71	3	0	2	40	16	0	24	42	1	1	3	52	27	0	316
05:45 PM	22	83	2	0	1	42	19	2	19	39	0	1	3	57	20	0	310
Total	118	309	14	3	6	170	84	2	88	185	4	2	10	219	80	0	1294
Grand Total	196	565	20	5	16	359	197	2	161	376	13	3	17	431	138	3	2502
Apprch %	24.9	71.9	2.5	0.6	2.8	62.5	34.3	0.3	29.1	68	2.4	0.5	2.9	73.2	23.4	0.5	
Total %	7.8	22.6	0.8	0.2	0.6	14.3	7.9	0.1	6.4	15	0.5	0.1	0.7	17.2	5.5	0.1	

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	18	89	2	2	111	4	44	32	0	80	22	49	2	1	74	2	61	20	3	86	351
05:00 PM	26	69	4	1	100	1	39	23	0	63	24	64	2	0	90	2	45	10	0	57	310
05:15 PM	36	86	5	2	129	2	49	26	0	77	21	40	1	0	62	2	65	23	0	90	358
05:30 PM	34	71	3	0	108	2	40	16	0	58	24	42	1	1	68	3	52	27	0	82	316
Total Volume	114	315	14	5	448	9	172	97	0	278	91	195	6	2	294	9	223	80	3	315	1335
% App. Total	25.4	70.3	3.1	1.1		3.2	61.9	34.9	0		31	66.3	2	0.7		2.9	70.8	25.4	1		
PHF	.792	.885	.700	.625	.868	.563	.878	.758	.000	.869	.948	.762	.750	.500	.817	.750	.858	.741	.250	.875	.932

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569CC
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Trucks & Buses

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
04:15 PM	0	4	0	0	0	1	3	0	0	3	0	0	0	0	0	0	11
04:30 PM	0	3	0	0	0	2	1	0	3	0	0	0	0	0	0	0	9
04:45 PM	1	1	1	0	0	0	0	0	1	0	1	0	1	0	0	0	6
Total	1	11	1	0	0	4	4	0	4	3	1	0	1	0	0	0	30
05:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	0	7
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:45 PM	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
Total	1	6	0	0	0	1	3	0	0	2	0	0	0	0	0	0	13
Grand Total	2	17	1	0	0	5	7	0	4	5	1	0	1	0	0	0	43
Apprch %	10	85	5	0	0	41.7	58.3	0	40	50	10	0	100	0	0	0	
Total %	4.7	39.5	2.3	0	0	11.6	16.3	0	9.3	11.6	2.3	0	2.3	0	0	0	

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					Int. Total
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
04:15 PM	0	4	0	0	4	0	1	3	0	4	0	3	0	0	3	0	0	0	0	0	11
04:30 PM	0	3	0	0	3	0	2	1	0	3	3	0	0	0	3	0	0	0	0	0	9
04:45 PM	1	1	1	0	3	0	0	0	0	0	1	0	1	0	2	1	0	0	0	1	6
Total Volume	1	11	1	0	13	0	4	4	0	8	4	3	1	0	8	1	0	0	0	1	30
% App. Total	7.7	84.6	7.7	0		0	50	50	0		50	37.5	12.5	0		100	0	0	0		
PHF	.250	.688	.250	.000	.813	.000	.500	.333	.000	.500	.333	.250	.250	.000	.667	.250	.000	.000	.000	.250	.682

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569CC
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

Groups Printed- Bikes by Direction

	High Street From North				Reed Street From East				High Street From South				Reed Street From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	3
Grand Total	0	0	0	0	0	1	0	0	0	1	1	0	1	0	1	0	5
Apprch %	0	0	0	0	0	100	0	0	0	50	50	0	50	0	50	0	
Total %	0	0	0	0	0	20	0	0	0	20	20	0	20	0	20	0	

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					Int. Total
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	3
% App. Total	0	0	0	0		0	100	0	0		0	0	100	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.250	.000	.250	.000	.000	.250	.000	.250	.750

Transportation Data Corporation

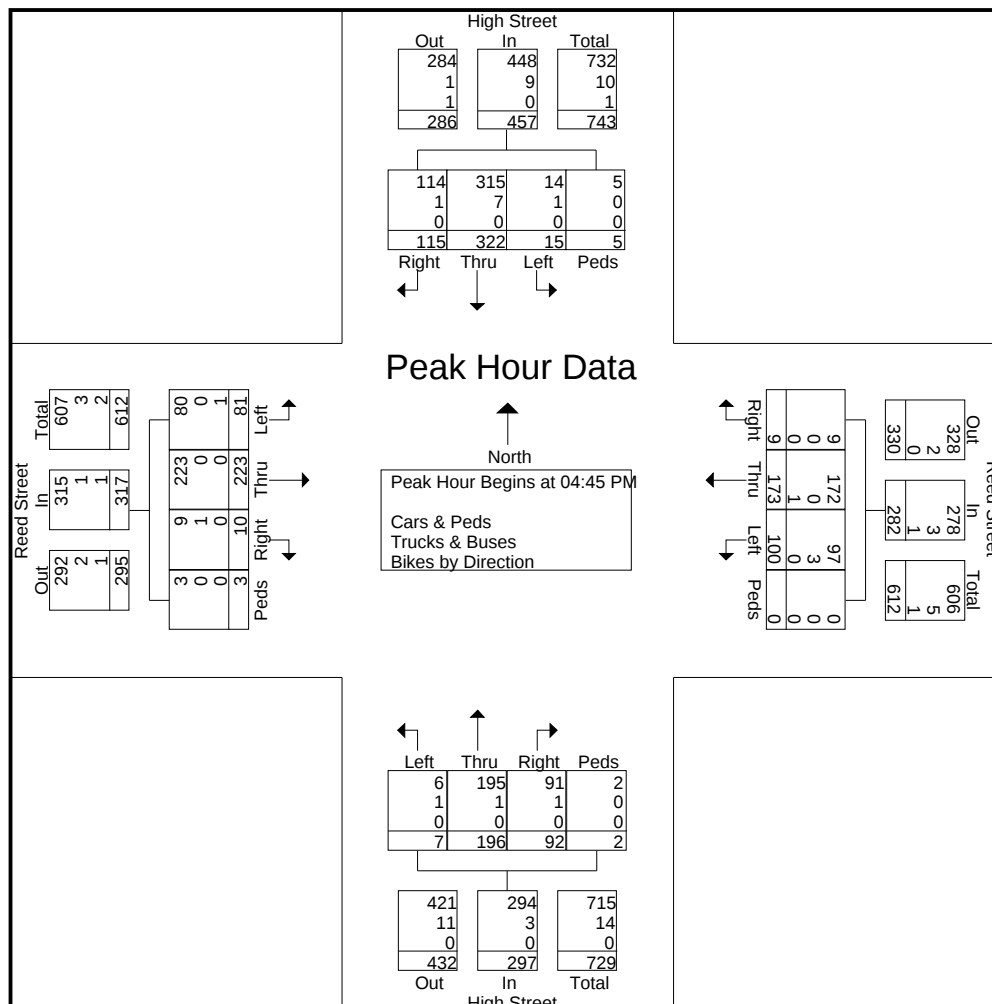
Mario Perone, mperone1@verizon.net

tel (781) 587-0086 cell (781) 439-4999

N/S: High Street
E/W: Reed Street
City, State: Randolph, MA
Client: Pare/Amy Archer

File Name : 05569CC
Site Code : 05569
Start Date : 5/25/2022
Page No : 1

	High Street From North					Reed Street From East					High Street From South					Reed Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	19	90	3	2	114	4	44	32	0	80	23	49	3	1	76	3	61	20	3	87	357
05:00 PM	26	70	4	1	101	1	39	24	0	64	24	64	2	0	90	2	45	10	0	57	312
05:15 PM	36	91	5	2	134	2	50	28	0	80	21	40	1	0	62	2	65	23	0	90	366
05:30 PM	34	71	3	0	108	2	40	16	0	58	24	43	1	1	69	3	52	28	0	83	318
Total Volume	115	322	15	5	457	9	173	100	0	282	92	196	7	2	297	10	223	81	3	317	1353
% App. Total	25.2	70.5	3.3	1.1		3.2	61.3	35.5	0		31	66	2.4	0.7		3.2	70.3	25.6	0.9		
PHF	.799	.885	.750	.625	.853	.563	.865	.781	.000	.881	.958	.766	.583	.500	.825	.833	.858	.723	.250	.881	.924
Cars & Peds	114	315	14	5	448	9	172	97	0	278	91	195	6	2	294	9	223	80	3	315	1335
% Cars & Peds	99.1	97.8	93.3	100	98.0	100	99.4	97.0	0	98.6	98.9	99.5	85.7	100	99.0	90.0	100	98.8	100	99.4	98.7
Trucks & Buses	1	7	1	0	9	0	0	3	0	3	1	1	1	0	3	1	0	0	0	1	16
% Trucks & Buses	0.9	2.2	6.7	0	2.0	0	0	3.0	0	1.1	1.1	0.5	14.3	0	1.0	10.0	0	0	0	0.3	1.2
Bikes by Direction	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
% Bikes by Direction	0	0	0	0	0	0	0.6	0	0	0.4	0	0	0	0	0	0	0	1.2	0	0.3	0.1



Appendix B

Crash Data



Crash Ref. No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type	Notes
1	10/26/2022	7:44 PM	North Main Street		V1: W / V2: N	2	0	0	Rain/Cloudy	Wet	Dark - lighted roadway	Angle	
2	10/26/2022	3:19 PM	North Main Street		V1: S / V2: S	2	0	0	Cloudy/Fog, smog, :	Wet	Daylight	Rear-end	
3	10/16/2022	3:49 AM	North Main Street		V1: S	1	1	0	Clear	Dry	Dark - roadway not lighted	Single vehicle	
4	8/28/2022	9:49 PM	North Main Street	Reed Street/Pond Street	V1: N / V2: S	2	1	0	Clear/Clear	Dry	Daylight	Angle	
5	8/26/2022	7:21 PM	North Main Street		V1: N / V2: W	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
6	8/18/2022	3:39 PM	North Main Street		V1: W	1	1	0	Clear	Dry	Daylight	Angle	
7	9/10/2022	9:10 AM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Angle	
8	8/13/2022	6:27 AM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
9	8/13/2022	4:10 PM	North Main Street		V1: S / V2: W	2	0	0	Clear/Clear	Dry	Daylight	Sideswipe	opposite direction
10	8/18/2022	4:50 PM	North Main Street		V2: N / V1: N	2	1	0	Clear	Dry	Daylight	Sideswipe	same direction
11	8/5/2022	1:54 PM	North Main Street		V1: S / V2: N / V3: N	3	0	0	Clear/Clear	Dry	Daylight	Angle	
12	8/2/2022	2:46 PM	High Street	Reed Street	V1: Not Reported / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
13	7/29/2022	10:13 AM	North Main Street		V1: S / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Angle	
14	8/5/2022	11:24 AM	North Main Street	Reed Street/Pond Street	V1: W / V2: Not Reported	2	0	0	Clear	Dry	Daylight	Angle	
15	7/10/2022	7:01 AM	North Main Street		V1: S / V2: S	2	2	0	Clear	Dry	Daylight	Rear-end	
16	6/19/2022	4:50 PM	North Main Street		V1: N / V2: N / V3: N	3	0	0	Clear	Dry	Daylight	Rear-end	
17	1/13/2022	8:45 AM	North Main Street		V1: N / V2: N	2	0	0	Clear/Cloudy	Dry	Daylight	Sideswipe	same direction
18	10/27/2021	8:13 AM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: E	2	2	0	Rain/Severe crossw	Wet	Daylight	Angle	
19	10/27/2021	8:20 AM	North Main Street	Reed Street/Pond Street	V1: S / V2: W	2	0	0	Rain/Severe crossw	Wet	Daylight	Angle	
20	10/27/2021	9:15 AM	High Street	Reed Street	V1: W / V2: S	2	2	0	Rain	Wet	Daylight	Angle	
21	12/16/2021	4:32 PM	High Street	Scanlon Drive	V1: W	1	0	0	Cloudy/Cloudy	Dry	Dusk	Single vehicle	
22	12/8/2021	9:54 PM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: N	2	2	0	Sleet, hail (freezing	Wet	Dark - lighted roadway	Angle	
23	10/27/2021	5:23 PM	High Street	Reed Street	V1: W / V2: E	2	0	0	Rain/Cloudy	Wet	Dusk	Sideswipe	same direction
24	10/23/2021	6:46 PM	North Main Street	Scanlon Drive/Russ Street	V1: W / V2: S	2	2	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
25	1/2/2022	3:37 PM	North Main Street	Reed Street/Pond Street	V1: W / V2: W	2	2	0	Rain	Wet	Daylight	Head-On	
26	1/7/2022	11:58 AM	Reed Street		V1: E	1	0	0	Blowing sand, snow	Snow	Daylight	Single vehicle	
27	12/8/2021	6:14 PM	North Main Street		V1: N / V2: S / V3: S / V4: E	4	3	0	Rain/Snow	Wet	Dark - lighted roadway	Head-On	
28	10/31/2021	12:29 PM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: N / V3: N / V4: I	5	2	0	Clear/Clear	Dry	Daylight	Rear-end	
29	12/9/2021	12:05 PM	North Main Street		V1: S / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Angle	
30	11/22/2021	3:00 AM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: S	2	0	0	Rain	Wet	Dark - lighted roadway	Rear-end	
31	10/25/2021	7:35 PM	High Street	Reed Street	V1: E / V2: N / V3: W	3	1	0	Clear	Dry	Dark - lighted roadway	Angle	
32	12/19/2021	4:34 PM	North Main Street		V1: N / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Head-On	
33	6/12/2022	12:47 AM	North Main Street		V1: S	1	1	0	Clear	Dry	Dark - lighted roadway	Single vehicle	
34	10/17/2021	2:16 AM	North Main Street		V1: N / V2: N	2	3	0	Rain/Rain	Wet	Dark - unknown roadway lighting	Rear-end	
35	5/19/2022	7:27 AM	High Street	Reed Street	V1: W	1	1	0	Clear	Dry	Daylight	Single vehicle	
36	5/28/2022	10:58 PM	North Main Street		V1: S	1	1	0	Clear/Clear	Dry	Dark - lighted roadway	Single vehicle	
37	5/23/2022	2:08 PM	North Main Street		V1: N	1	0	0	Clear/Clear	Dry	Daylight	Single vehicle	
38	6/3/2022	8:27 PM	North Main Street		V1: N / V2: N	2	0	0	Rain	Wet	Dark - lighted roadway	Sideswipe	same direction
39	5/2/2022	10:06 PM	North Main Street		V1: S / V2: S	2	0	0	Rain/Rain	Wet	Dark - lighted roadway	Rear-end	
40	5/11/2022	5:12 AM	North Main Street		V1: N / V2: E	2	1	0	Clear	Dry	Daylight	Rear-end	
41	5/12/2022	2:56 PM	North Main Street		V2: S / V1: E	2	1	0	Clear/Clear	Dry	Daylight	Angle	
42	5/19/2022	8:15 AM	North Main Street		V1: N / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
43	5/21/2022	8:03 PM	North Main Street		V1: S / V2: W	2	0	0	Clear/Clear	Dry	Dusk	Angle	
44	4/23/2022	12:08 PM	High Street		V1: N / V2: N	2	1	0	Clear/Clear	Dry	Daylight	Rear-end	
45	4/16/2022	10:36 PM	North Main Street		V1: S / V2: W	2	0	0	Rain/Rain	Wet	Dark - lighted roadway	Angle	
46	3/8/2022	10:05 AM	North Main Street	Scanlon Drive/Russ Street	V1: S	1	1	0	Clear/Clear	Dry	Daylight	Single vehicle	
47	3/19/2022	2:48 PM	Reed Street		V1: E	1	1	0	Cloudy/Rain	Wet	Daylight	Single vehicle	
48	3/26/2022	3:07 PM	High Street	Reed Street	V1: W	1	1	0	Clear/Clear	Dry	Daylight	Single vehicle	
49	2/19/2022	4:11 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: S	2	0	0	Cloudy/Cloudy	Wet	Daylight	Angle	
50	3/14/2022	12:46 PM	North Main Street		V1: S / V2: S	2	1	0	Clear/Clear	Dry	Daylight	Sideswipe	opposite direction
51	2/23/2022	8:12 AM	Scanlon Drive		V1: W / V2: E	2	0	0	Cloudy/Cloudy	Wet	Daylight	Angle	
52	3/5/2022	5:10 PM	North Main Street		V1: E / V2: S	2	2	0	Clear/Clear	Dry	Daylight	Angle	
53	3/26/2022	5:10 PM	North Main Street	Reed Street/Pond Street	V1: W / V2: W	2	0	0	Cloudy	Dry	Dusk	Sideswipe	same direction



Crash Ref. No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type	Notes
54	3/18/2022	12:54 PM	North Main Street	Reed Street	V1: S / V2: S	2	0	0	Clear	Dry	Daylight	Rear-end	
55	4/10/2022	12:33 AM	High Street		V1: S / V2: S	2	1	0	Clear	Dry	Dark - lighted roadway	Rear-end	
56	3/31/2022	3:24 PM	North Main Street		V1: S / V2: W	2	0	0	Clear/Clear	Dry	Daylight	Angle	
57	3/30/2022	2:53 PM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: S	2	2	0	Clear/Clear	Dry	Daylight	Angle	
58	3/26/2022	7:21 PM	North Main Street		V1: N / V2: S	2	0	0	Rain/Rain	Wet	Dark - lighted roadway	Angle	
59	3/10/2022	5:28 PM	North Main Street		V1: W / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Angle	
60	2/28/2022	8:01 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: S	2	1	0	Clear/Clear	Dry	Dark - lighted roadway	Rear-end	
61	4/7/2022	8:38 PM	North Main Street		V1: N / V2: S	2	0	0	Rain	Wet	Dark - lighted roadway	Angle	
62	3/1/2022	10:41 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Wet	Dark - lighted roadway	Sideswipe	same direction
63	3/2/2022	10:36 PM	North Main Street	Reed Street/Pond Street	V1: N / V2: S	2	2	0	Rain/Rain	Wet	Dark - lighted roadway	Sideswipe	opposite direction
64	1/28/2022	10:43 PM	North Main Street		V1: N / V2: S	2	0	0	Snow	Wet	Dark - lighted roadway	Sideswipe	opposite direction
65	2/2/2022	8:16 AM	North Main Street		V1: S / V2: N	2	0	0	Cloudy	Wet	Daylight	Angle	
66	10/12/2021	8:39 PM	North Main Street	Reed Street/Pond Street	V1: N / V2: N	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Sideswipe	same direction
67	10/9/2021	6:47 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Rear-end	
68	10/17/2021	11:25 AM	North Main Street		V1: N / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
69	10/6/2021	1:01 PM	North Main Street	Reed Street	V1: W / V2: N	2	2	0	Clear/Clear	Dry	Daylight	Angle	
70	9/29/2021	7:00 PM	North Main Street		V1: N	1	1	0	Clear/Clear	Dry	Dusk	Single vehicle	
71	10/10/2021	5:30 PM	North Main Street		V1: W / V2: E	2	1	0	Clear	Dry	Daylight	Sideswipe	same direction
72	10/9/2021	7:37 PM	North Main Street	Reed Street	V1: N / V2: N	2	0	0	Clear	Dry	Dark - roadway not lighted	Rear-end	
73	10/4/2021	5:46 AM	High Street		V1: E / V2: S	2	0	0	Rain	Wet	Dark - lighted roadway	Angle	
74	9/30/2021	6:29 AM	North Main Street		V1: N / V2: W	2	1	0	Rain/Rain	Wet	Dawn	Angle	
75	9/15/2021	12:22 AM	North Main Street	Reed Street/Pond Street	V1: N / V2: Not Reported / \	3	0	0	Clear	Dry	Dark - lighted roadway	Single vehicle	
76	9/26/2021	2:10 PM	North Main Street		V1: S / V2: N / V3: N / V4: N	4	1	0	Clear/Clear	Dry	Daylight	Sideswipe	same direction
77	9/18/2021	10:21 AM	North Main Street		V1: N / V2: W	2	1	0	Clear/Clear	Dry	Daylight	Angle	
78	9/19/2021	7:24 AM	North Main Street	Reed Street/Pond Street	V1: S / V2: E	2	0	0	Rain/Cloudy	Wet	Daylight	Angle	
79	6/25/2021	10:36 AM	North Main Street		V1: W / V2: N	2	2	0	Cloudy/Rain	Wet	Daylight	Angle	
80	6/23/2021	9:55 PM	North Main Street		V1: N / V2: N	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
81	8/14/2021	11:06 PM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: N	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Sideswipe	opposite direction
82	8/14/2021	9:30 PM	North Main Street		V1: S / V2: Not Reported	2	1	0	Cloudy	Dry	Dark - lighted roadway	Rear-end	
83	8/15/2021	9:31 PM	North Main Street		V1: N / V2: N	2	0	0	Clear	Dry	Dark - lighted roadway	Rear-end	
84	8/7/2021	7:16 PM	High Street	Reed Street/Pond Street	V1: N	1	0	0	Clear/Clear	Dry	Daylight	Single vehicle	
85	8/3/2021	11:56 PM	North Main Street		V1: N / V2: N	2	1	0	Clear	Dry	Dark - lighted roadway	Rear-end	
86	7/20/2021	4:02 PM	North Main Street		V1: S / V2: N	2	3	0	Clear/Clear	Dry	Daylight	Angle	
87	7/20/2021	6:45 PM	North Main Street	Reed Street	V1: S / V2: E	2	1	0	Clear/Clear	Dry	Daylight	Angle	
88	7/12/2021	4:22 AM	High Street		V1: E / V2: S	2	0	0	Rain/Cloudy	Wet	Dark - lighted roadway	Angle	
89	6/30/2021	3:06 PM	North Main Street		V1: N / V2: E / V3: S	3	2	0	Clear	Dry	Daylight	Angle	
90	6/22/2021	5:50 PM	North Main Street	Reed Street/Pond Street	V1: W / V2: N	2	2	0	Rain/Cloudy	Wet	Daylight	Angle	
91	6/18/2021	5:57 PM	North Main Street		V1: N / V2: N	2	2	0	Clear/Clear	Dry	Daylight	Angle	
92	6/18/2021	11:34 AM	North Main Street		V1: W / V2: E	2	2	0	Clear	Dry	Daylight	Head-On	
93	8/28/2021	12:38 PM	High Street	Reed Street/Pond Street	V1: S / V2: S	2	0	0	Clear/Cloudy	Dry	Daylight	Rear-end	
94	4/28/2021	8:31 AM	North Main Street		V1: N / V2: S	2	4	0	Cloudy/Cloudy	Dry	Daylight	Angle	
95	4/24/2021	7:32 PM	North Main Street		V1: N / V2: E	2	4	0	Clear/Clear	Dry	Daylight	Angle	
96	4/24/2021	1:29 PM	North Main Street	Reed Street/Pond Street	V1: E / V2: S	2	0	0	Clear	Dry	Daylight	Angle	
97	4/16/2021	12:50 PM	North Main Street		V1: W / V2: S	2	0	0	Sleet, hail (freezing	Wet	Daylight	Angle	
98	4/15/2021	5:34 PM	North Main Street		V1: Not Reported / V2: N	2	2	0	Rain/Rain	Wet	Daylight	Angle	
99	4/6/2021	8:54 AM	North Main Street	Reed Street/Pond Street	V1: E / V2: N	2	2	0	Clear/Cloudy	Dry	Daylight	Angle	
100	3/27/2021	9:37 AM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
101	3/23/2021	9:32 AM	North Main Street		V1: W / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Angle	
102	6/12/2021	1:37 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: S	2	1	0	Clear	Dry	Daylight	Sideswipe	same direction
103	6/12/2021	11:46 AM	North Main Street		V1: E / V2: S	2	3	0	Cloudy	Dry	Daylight	Angle	
104	6/8/2021	4:15 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Cloudy	Dry	Daylight	Rear-end	
105	5/29/2021	9:15 PM	North Main Street	Reed Street/Pond Street	V1: Not Reported / V2: Not I	2	0	0	Cloudy	Wet	Dark - lighted roadway	Single vehicle	
106	5/22/2021	3:26 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	



Crash Ref. No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type	Notes
107	5/3/2021	1:32 PM	North Main Street		V1: E / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Angle	
108	3/23/2021	11:37 AM	North Main Street		V1: S / V2: E	2	0	0	Clear	Dry	Daylight	Angle	
109	3/10/2021	2:16 PM	High Street	Reed Street	V1: S / V2: E	2	1	0	Rain/Cloudy	Wet	Daylight	Angle	
110	7/19/2020	7:22 PM	High Street	Reed Street	V1: N / V2: W	2	1	0	Clear	Dry	Daylight	Angle	
111	3/29/2021	7:57 AM	North Main Street		V2: S / V3: S / V1: S	3	0	0	Clear/Clear	Dry	Daylight	Sideswipe	same direction
112	2/22/2021	7:26 AM	North Main Street	Reed Street/Pond Street	V1: S / V2: N	2	2	0	Clear/Clear	Dry	Daylight	Angle	
113	2/1/2021	7:57 PM	Scanlon Drive		V1: W / V2: E	2	0	0	Snow/Rain	Snow	Dark - lighted roadway	Angle	
114	1/26/2021	7:16 PM	North Main Street		V1: S / V2: S / V3: S	3	0	0	Snow/Snow	Snow	Dark - lighted roadway	Rear-end	
115	1/16/2021	7:51 AM	North Main Street		V1: E / V2: N	2	0	0	Rain/Rain	Wet	Daylight	Head-On	
116	1/7/2021	12:50 PM	High Street	Reed Street	V1: W / V2: W	2	1	0	Clear/Clear	Dry	Daylight	Single vehicle	
117	11/27/2020	11:50 AM	North Main Street		V1: S / V2: S	2	0	0	Cloudy	Dry	Daylight	Angle	
118	1/11/2021	8:13 AM	North Main Street		V1: N / V2: W	2	1	0	Clear/Clear	Dry	Daylight	Angle	
119	12/22/2020	12:17 PM	North Main Street		V1: E / V2: S	2	0	0	Clear	Dry	Daylight	Angle	
120	12/21/2020	7:52 PM	North Main Street		V1: S	1	1	0	Clear/Clear	Wet	Dark - lighted roadway	Single vehicle	
121	11/25/2020	7:12 AM	High Street	Reed Street	V1: S / V2: S	2	1	0	Clear/Clear	Dry	Daylight	Rear-end	
122	9/23/2020	1:29 AM	High Street		V1: S	1	1	0	Clear	Dry	Dark - lighted roadway	Single vehicle	
123	11/21/2020	8:16 AM	North Main Street		V1: S	1	0	0	Clear	Dry	Daylight	Single vehicle	
124	11/20/2020	3:30 PM	North Main Street		V1: N / V2: N	2	1	0	Clear	Dry	Daylight	Angle	
125	11/1/2020	6:08 PM	North Main Street		V1: N	1	1	0	Rain/Rain	Wet	Dark - lighted roadway	Head-On	
126	10/30/2020	8:34 AM	North Main Street		V1: N / V2: S / V3: S	3	1	0	Rain/Snow	Wet	Daylight	Angle	
127	10/26/2020	12:30 AM	North Main Street		V1: E / V2: Not Reported	2	0	0	Clear/Cloudy	Dry	Dark - roadway not lighted	Angle	
128	10/19/2020	6:30 PM	North Main Street		V1: N / V2: N	2	0	0	Cloudy/Cloudy	Dry	Dark - lighted roadway	Rear-end	
129	10/8/2020	8:20 AM	North Main Street	Reed Street/Pond Street	V2: W / V1: W	2	0	0	Clear	Dry	Daylight	Rear-end	
130	10/1/2020	1:52 AM	North Main Street		V1: S / V2: S	2	1	0	Clear	Dry	Dark - lighted roadway	Rear-end	
131	9/26/2020	2:48 PM	North Main Street		V1: S / V2: N / V3: W	3	0	0	Clear	Dry	Daylight	Sideswipe	opposite direction
132	9/20/2020	2:32 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
133	9/19/2020	12:50 PM	North Main Street		V1: N / V2: N / V3: W	3	1	0	Clear/Clear	Dry	Daylight	Angle	
134	9/15/2020	2:17 PM	High Street	Reed Street	V1: S / V2: S / V3: S	3	0	0	Clear/Clear	Dry	Daylight	Rear-end	
135	8/27/2020	4:20 PM	North Main Street		V1: N / V2: N	2	1	0	Cloudy/Rain	Wet	Daylight	Rear-end	
136	8/16/2020	8:30 PM	North Main Street		V1: N / V2: N	2	0	0	Rain/Rain	Wet	Dark - lighted roadway	Rear-end	
137	7/22/2020	5:08 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
138	8/5/2020	9:54 PM	High Street	Reed Street	V1: N / V2: N	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Rear-end	
139	8/7/2020	8:05 PM	North Main Street		V1: N / V2: N	2	1	0	Clear/Clear	Dry	Dawn	Rear-end	
140	6/26/2020	12:54 AM	North Main Street		V1: S / V2: N	2	1	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
141	7/18/2020	6:13 PM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
142	6/13/2020	7:50 PM	North Main Street		V1: W / V2: N	2	0	0	Clear/Clear	Dry	Dusk	Angle	
143	3/8/2020	12:02 AM	High Street	Reed Street	V1: E / V2: N	2	1	0	Clear	Dry	Dark - lighted roadway	Angle	
144	5/13/2020	4:30 PM	North Main Street		V1: S / V2: N	2	1	0	Clear/Clear	Dry	Daylight	Angle	
145	5/2/2020	4:21 PM	High Street	Reed Street	V1: N / V2: N	2	0	0	Clear	Dry	Daylight	Rear-end	
146	3/31/2020	9:52 PM	North Main Street		V1: N	1	0	0	Clear/Clear	Dry	Dark - lighted roadway	Single vehicle	
147	3/17/2020	3:16 PM	High Street	Reed Street	V1: N / V2: W	2	2	0	Clear/Clear	Dry	Daylight	Angle	
148	3/13/2020	7:58 PM	North Main Street		V1: N / V2: W	2	1	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
149	2/11/2020	8:54 PM	North Main Street		V1: S / V2: E	2	6	0	Clear/Clear	Dry	Dark - lighted roadway	Head-on	
150	2/7/2020	5:41 PM	High Street		V1: S / V2: S	2	0	0	Cloudy/Severe cross	Dry	Dark - lighted roadway	Rear-end	
151	2/22/2020	7:05 AM	North Main Street		V1: N	1	1	0	Clear	Dry	Daylight	Single vehicle	
152	1/22/2020	5:38 PM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: N	2	0	0	Cloudy	Dry	Dark - lighted roadway	Rear-end	
153	1/21/2020	9:01 AM	North Main Street		V1: S / V2: E	2	2	0	Clear/Clear	Dry	Daylight	Angle	
154	1/10/2020	3:21 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: W	2	0	0	Clear/Clear	Dry	Daylight	Angle	
155	12/12/2019	8:50 AM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Sideswipe	opposite direction
156	12/8/2019	11:30 AM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: E	2	0	0	Clear	Dry	Daylight	Sideswipe	same direction
157	12/4/2019	8:20 PM	North Main Street		V1: S / V2: S	2	0	0	Clear	Dry	Dark - lighted roadway	Rear-end	
158	11/23/2019	6:08 PM	North Main Street		V1: W / V2: S	2	1	0	Clear/Cloudy	Dry	Dark - lighted roadway	Angle	
159	11/20/2019	7:20 PM	North Main Street		V1: N / V2: E	2	0	0	Rain/Rain	Wet	Dark - lighted roadway	Angle	



Crash Ref. No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type	Notes
160	11/10/2019	7:34 AM	North Main Street	Reed Street/Pond Street	V1: W / V2: N	2	0	0	Clear	Dry	Daylight	Angle	
161	10/31/2019	11:06 AM	North Main Street		V1: S / V2: S	2	0	0	Rain/Rain	Wet	Daylight	Rear-end	
162	10/27/2019	5:56 PM	North Main Street		V1: N / V2: N	2	0	0	Rain/Rain	Wet	Dark - lighted roadway	Rear-end	
163	10/23/2019	10:38 PM	North Main Street		V1: S / V2: Not Reported	2	2	0	Clear	Dry	Dark - lighted roadway	Sideswipe	same direction
164	10/21/2019	10:22 PM	North Main Street		V1: S / V2: N	2	2	0	Clear/Clear	Dry	Dark - lighted roadway	Head-On	
165	10/17/2019	2:54 PM	North Main Street	Reed Street/Pond Street	V1: W / V2: W	2	2	0	Clear/Clear	Dry	Daylight	Angle	
166	10/4/2019	4:01 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: S / V3: S	3	0	0	Clear	Dry	Daylight	Sideswipe	same direction
167	10/8/2019	1:13 AM	North Main Street		V1: N	1	0	0	Clear/Clear	Dry	Dark - lighted roadway	Single vehicle	
168	9/19/2019	7:34 PM	North Main Street		V1: E / V2: S	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Head-On	
169	9/11/2019	4:23 PM	North Main Street		V1: N / V2: N	2	2	0	Clear	Dry	Daylight	Rear-end	
170	8/20/2019	5:00 PM	North Main Street	Reed Street/Pond Street	V1: N / V2: N	2	0	0	Clear	Dry	Daylight	Sideswipe	same direction
171	8/18/2019	11:30 AM	High Street	Reed Street	V1: S / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Angle	
172	8/5/2019	1:29 AM	North Main Street	Scanlon Drive/Russ Street	V1: N	1	0	0	Clear/Clear	Dry	Dark - lighted roadway	Single vehicle	
173	7/29/2019	3:15 PM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: S / V3: S	3	0	0	Clear/Clear	Dry	Daylight	Rear-end	
174	7/24/2019	9:20 AM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: N	2	2	0	Clear/Clear	Dry	Daylight	Angle	
175	7/21/2019	9:48 AM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Angle	
176	7/19/2019	8:17 AM	North Main Street		V1: N / V2: N	2	2	0	Clear	Dry	Daylight	Rear-end	
177	6/6/2019	4:39 AM	High Street	Reed Street	V1: N / V2: E	2	2	0	Rain	Wet	Dark - lighted roadway	Angle	
178	6/11/2019	7:27 AM	North Main Street		V1: N / V2: N	2	1	0	Rain/Clear	Wet	Daylight	Sideswipe	same direction
179	6/11/2019	2:30 AM	North Main Street		V1: S	1	0	0	Rain/Cloudy	Wet	Dark - lighted roadway	Angle	
180	5/25/2019	12:00 AM	North Main Street		V1: S / V2: S	2	2	0	Clear/Clear	Dry	Daylight	Angle	
181	5/21/2019	1:07 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: S	2	0	0	Clear	Dry	Daylight	Sideswipe	same direction
182	5/14/2019	12:48 PM	North Main Street		V1: N / V2: W	2	1	0	Rain/Rain	Wet	Daylight	Angle	
183	5/11/2019	7:56 PM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: S	2	0	0	Clear	Dry	Dusk	Angle	
184	5/11/2019	2:40 PM	North Main Street		V1: S / V2: S	2	0	0	Clear	Dry	Daylight	Sideswipe	same direction
185	5/10/2019	8:26 AM	North Main Street		V1: S / V2: S	2	0	0	Cloudy/Cloudy	Dry	Daylight	Rear-end	
186	5/11/2019	12:04 AM	North Main Street		V1: S / V2: S	2	0	0	Rain	Wet	Dark - lighted roadway	Sideswipe	same direction
187	4/24/2019	3:30 AM	Reed Street		V1: E / V2: N	2	1	0	Rain/Rain	Wet	Dark - lighted roadway	Angle	
188	4/23/2019	9:27 PM	North Main Street		V1: S / V2: N	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
189	4/15/2019	2:52 AM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: N / V3: N	3	0	0	Clear/Clear	Dry	Dark - lighted roadway	Rear-end	
190	3/22/2019	8:12 AM	North Main Street		V1: E / V2: S	2	1	0	Rain	Wet	Daylight	Angle	
191	3/10/2019	10:07 PM	North Main Street		V1: S / V2: E	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
192	3/15/2019	1:31 PM	North Main Street		V1: S / V2: W / V3: E	3	2	0	Cloudy	Wet	Daylight	Angle	
193	3/15/2019	5:07 AM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: N	2	0	0	Clear	Wet	Dark - lighted roadway	Rear-end	
194	3/7/2019	4:45 PM	North Main Street		V1: N / V2: S	2	1	0	Clear	Dry	Daylight	Angle	
195	2/24/2019	4:04 PM	North Main Street		V1: N / V2: W	2	0	0	Rain/Rain	Wet	Daylight	Angle	
196	2/20/2019	11:21 AM	North Main Street		V1: W / V2: N	2	1	0	Clear	Dry	Daylight	Angle	
197	2/20/2019	2:57 PM	High Street	Reed Street	V1: S / V2: E	2	1	0	Clear	Dry	Daylight	Angle	
198	2/20/2019	6:25 AM	North Main Street		V1: N	1	2	0	Clear/Clear	Wet	Daylight	Single vehicle	
199	2/9/2019	9:30 AM	North Main Street		V1: E / V2: S	2	0	0	Clear	Dry	Daylight	Angle	
200	1/29/2019	11:18 AM	High Street		V1: N / V2: W	2	0	0	Clear/Clear	Dry	Daylight	Angle	
201	2/7/2019	6:18 PM	North Main Street		V1: N / V2: S	2	0	0	Rain	Wet	Dark - lighted roadway	Angle	
202	1/22/2019	7:35 AM	North Main Street		V1: W / V2: E	2	0	0	Clear/Clear	Ice	Daylight	Angle	
203	1/5/2019	11:00 AM	High Street		V1: S / V2: S	2	0	0	Rain	Wet	Daylight	Rear-end	
204	12/24/2018	7:19 PM	North Main Street		V1: E / V2: W	2	0	0	Clear/Clear	Dry	Other	Sideswipe	opposite direction
205	12/31/2018	6:04 PM	North Main Street		V1: N / V2: S	2	2	0	Cloudy	Dry	Dark - lighted roadway	Sideswipe	opposite direction
206	12/1/2018	4:40 PM	High Street		V1: E	1	1	0	Clear	Dry	Dark - lighted roadway	Single vehicle	
207	11/30/2018	4:17 AM	High Street		V1: N	1	1	0	Clear/Clear	Dry	Dark - lighted roadway	Single vehicle	
208	11/21/2018	7:45 AM	North Main Street		V1: E / V2: S	2	0	0	Clear	Dry	Daylight	Angle	
209	11/22/2018	10:52 PM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: S	2	1	0	Clear	Dry	Dark - lighted roadway	Rear-end	
210	11/2/2018	11:47 PM	High Street		V1: W	1	0	0	Rain/Rain	Wet	Dark - lighted roadway	Single vehicle	
211	10/28/2018	3:40 PM	North Main Street		V1: W / V2: S	2	1	0	Rain	Wet	Daylight	Angle	
212	10/27/2018	11:20 AM	High Street	Reed Street	V1: N / V2: W	2	3	0	Rain	Wet	Daylight	Angle	



Crash Ref. No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type	Notes
213	10/19/2018	8:25 AM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Angle	
214	10/18/2018	7:40 AM	North Main Street		V1: E / V2: S	2	0	0	Clear	Dry	Daylight	Angle	
215	10/11/2018	10:48 AM	North Main Street		V1: N / V2: W	2	1	0	Cloudy/Cloudy	Dry	Daylight	Angle	
216	10/9/2018	8:54 PM	North Main Street	Reed Street	V1: E / V2: N	2	1	0	Clear/Clear	Dry	Dark - lighted roadway	Angle	
217	10/10/2018	8:38 AM	Reed Street		V1: W / V2: W	2	1	0	Clear/Clear	Dry	Daylight	Sideswipe	same direction
218	9/26/2018	10:44 PM	High Street		V1: N / V2: S / V3: W	3	0	0	Rain	Wet	Dark - lighted roadway	Unknown	
219	9/24/2018	3:59 AM	North Main Street	Reed Street	V1: N	1	0	0	Clear/Clear	Dry	Dark - lighted roadway	Single vehicle	
220	3/19/2018	6:55 AM	North Main Street		V1: N / V2: N / V3: N	3	1	0	Clear/Clear	Dry	Daylight	Sideswipe	same direction
221	3/17/2018	11:46 PM	High Street		V1: N / V2: Not Reported	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Rear-end	
222	3/11/2018	7:52 PM	North Main Street	Reed Street/Pond Street	V1: S / V2: E	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Unknown	
223	3/6/2018	9:00 AM	North Main Street		V1: S / V2: W	2	1	0	Cloudy	Dry	Daylight	Angle	
224	3/7/2018	10:16 PM	High Street		V1: W / V2: N	2	1	0	Rain/Severe crossw	Wet	Dark - roadway not lighted	Angle	
225	3/2/2018	7:27 PM	High Street	Red Street	V1: S / V2: W / V3: E	3	1	0	Sleet, hail (freezing	Wet	Dark - unknown roadway lighting	Angle	
226	2/27/2018	3:18 PM	North Main Street		V1: S / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Angle	
227	2/22/2018	1:17 PM	North Main Street		V1: W / V2: N	2	2	0	Cloudy	Dry	Daylight	Angle	
228	2/16/2018	7:14 PM	North Main Street	Reed Street	V1: S / V2: S	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Sideswipe	same direction
229	8/13/2018	7:25 AM	High Street		V1: W / V2: N	2	0	0	Rain	Wet	Daylight	Angle	
230	8/12/2018	7:32 PM	North Main Street		V1: S / V2: S	2	4	0	Rain/Cloudy	Wet	Other	Rear-end	
231	8/6/2018	9:37 PM	North Main Street	Reed Street/Pond Street	V1: N / V2: E	2	0	0	Clear	Dry	Dark - lighted roadway	Angle	
232	9/6/2018	7:05 PM	North Main Street		V1: N / V2: Not Reported	2	1	0	Cloudy/Rain	Wet	Daylight	Angle	
233	9/5/2018	4:18 PM	North Main Street		V1: E / V2: E	2	1	0	Clear/Clear	Dry	Daylight	Rear-end	
234	8/22/2018	8:16 AM	Reed Street	Reed Street	V1: E / V2: E	2	1	0	Rain/Cloudy	Wet	Daylight	Rear-end	
235	8/17/2018	12:00 AM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Dark - lighted roadway	Sideswipe	same direction
236	7/22/2018	4:12 AM	North Main Street		V1: N / V2: N	2	1	0	Other	Dry	Dark - lighted roadway	Single vehicle	
237	6/30/2018	4:22 PM	North Main Street	Reed Street	V1: Not Reported	1	1	0	Clear	Dry	Daylight	Single vehicle	
238	6/26/2018	7:31 AM	North Main Street		V1: E / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Angle	
239	7/22/2018	12:15 AM	High Street		V1: N / V2: E	2	1	0	Other/Other	Dry	Dark - lighted roadway	Angle	
240	7/19/2018	6:58 PM	North Main Street	Scanlon Drive/Russ Street	V1: N / V2: S	2	1	0	Clear	Dry	Daylight	Angle	
241	7/14/2018	11:59 PM	Reed Street		V1: E / V2: E	2	0	0	Clear	Dry	Dark - lighted roadway	Sideswipe	same direction
242	6/30/2018	12:00 AM	North Main Street		V1: S / V2: S	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
243	6/28/2018	6:45 PM	North Main Street	Reed Street/Pond Street	V1: W / V2: N	2	0	0	Rain	Wet	Daylight	Angle	
244	6/25/2018	8:29 AM	North Main Street		V1: W / V2: Not Reported	2	0	0	Clear/Cloudy	Dry	Daylight	Angle	
245	6/19/2018	2:00 PM	North Main Street		V1: S / V2: S	2	0	0	Clear	Dry	Daylight	Sideswipe	same direction
246	6/19/2018	11:45 AM	North Main Street	Scanlon Drive/Russ Street	V1: S / V2: S	2	1	0	Clear	Dry	Daylight	Rear-end	
247	6/15/2018	11:42 AM	North Main Street		V1: N / V2: W	2	5	0	Clear	Dry	Daylight	Angle	
248	6/6/2018	6:37 PM	North Main Street		V1: S / V2: S / V3: S	3	2	0	Cloudy	Dry	Daylight	Rear-end	
249	4/19/2018	6:28 AM	North Main Street	Scanlon Drive/Russ Street	V1: E / V2: E	2	0	0	Cloudy/Other	Dry	Daylight	Angle	
250	4/18/2018	1:50 PM	Pond Street		V1: E / V2: E	2	0	0	Clear/Clear	Dry	Daylight	Rear-end	
251	4/17/2018	5:11 PM	North Main Street		V1: W / V2: N	2	0	0	Clear/Clear	Dry	Daylight	Angle	
252	4/16/2018	3:38 PM	North Main Street	Scanlon Drive/Russ Street	V1: N	1	1	0	Rain/Cloudy	Wet	Daylight	Single vehicle	
253	5/15/2018	8:13 AM	High Street		V1: E / V2: E	2	0	0	Cloudy	Dry	Daylight	Sideswipe	same direction
254	5/7/2018	5:42 PM	North Main Street		V1: N	1	1	0	Clear/Clear	Dry	Daylight	Angle	
255	5/7/2018	6:53 AM	North Main Street	Reed Street	V1: N / V2: N	2	1	0	Cloudy/Clear	Dry	Daylight	Rear-end	
256	5/2/2018	3:23 PM	North Main Street		V1: N / V2: W	2	2	0		Dry	Daylight	Angle	

Intersection/ Corridor	Roadway 1	Roadway 2	Total	Injury	Fatality	Rear-end	Angle	Sideswipe	Head-On	Single vehicle
High Street	High Street		12	4	0	5	2	0	0	5
North Main Street	North Main Street		155	110	0	35	75	23	7	14
Reed Street	Reed Street		7	4	0	1	1	2	0	3
Pond Street	Pond Street		1	0	0	1	0	0	0	0
Scanlon Drive	Scanlon Drive		2	0	0	0	2	0	0	0
High Street at Reed Street	High Street	Reed Street	27	22	0	6	15	2	0	3
North Main Street at Reed Street/Pond Street	North Main Street	Reed Street/Po nd Street	25	24	0	2	14	6	2	1
North Main Street at Scanlon Drive/Russ Street	North Main Street	Scanlon Drive/Russ Street	26	15	0	11	10	2	0	3
High Street at Scanlon Drive	High Street	Scanlon Drive	1	0	0	0	0	0	0	1
<i>Total</i>			256	179	0	61	119	35	9	30

Unknown
0
1
0
0
0
1
0
0
0
0
0

SEGMENT CRASH RATE WORKSHEET

CITY/TOWN : Randolph COUNT DATE 5/25/2022

DISTRICT : 6

~ SEGMENT DATA ~

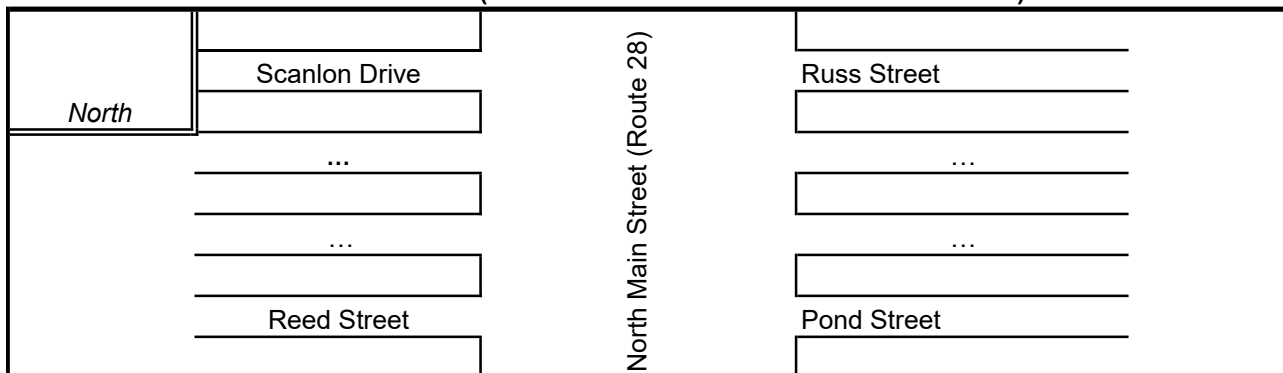
ROADWAY NAME: North Main Street (Route 28)

START POINT: Intersection with Scanlon Drive and Russ Street

END POINT: Intersection with Reed Street and Pond Street

FUNCTIONAL CLASSIFICATION OF ROADWAY: Principal Arterial

ROADWAY DIAGRAM (LABEL ROADWAY AND CROSS STREETS)



AVERAGE DAILY TRAFFIC

SEGMENT LENGTH IN MILES (L): **0.7**

AVERAGE DAILY TRAFFIC VOLUME (V): **49,368**

TOTAL # OF CRASHES:

155

OF
YEARS :

5

AVERAGE # OF
CRASHES PER YEAR (A
) :

31.00

CRASH RATE
CALCULATION :

2.46

RATE = $\frac{(A * 1,000,000)}{L * V * 365}$ (

Comments : _____

Project Title & Date: Pare Project No. 22077.00

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Randolph COUNT DATE : May-22

DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

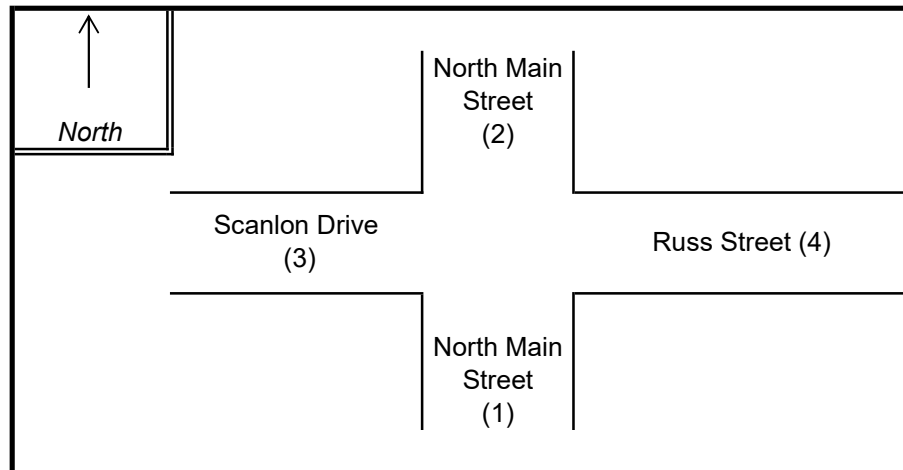
~ INTERSECTION DATA ~

MAJOR STREET : Route 28 (North Main Street)

MINOR STREET(S) : Scanlon Drive

Russ Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/PM) :	688	1,789	312	333		

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

34,689

TOTAL # OF CRASHES :

26

OF
YEARS :

5

AVERAGE # OF
CRASHES PER YEAR
(A) :

5.20

CRASH RATE CALCULATION :

0.41

RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date : Pare Project No. 22077.00 May-22

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Randolph COUNT DATE : May-22

DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

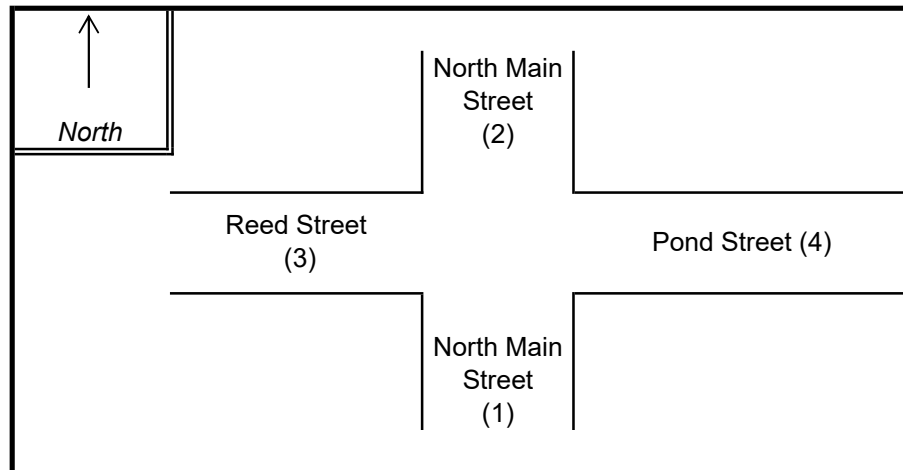
~ INTERSECTION DATA ~

MAJOR STREET : Route 28 (North Main Street)

MINOR STREET(S) : Reed Street

Pond Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/PM) :	718	1,162	328	470		2,678

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

29,756

TOTAL # OF CRASHES :

25

OF YEARS :

5

AVERAGE # OF CRASHES PER YEAR (A) :

5.00

CRASH RATE CALCULATION :

0.46

RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date : Pare Project No. 22077.00 May-22

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Randolph COUNT DATE : May-22

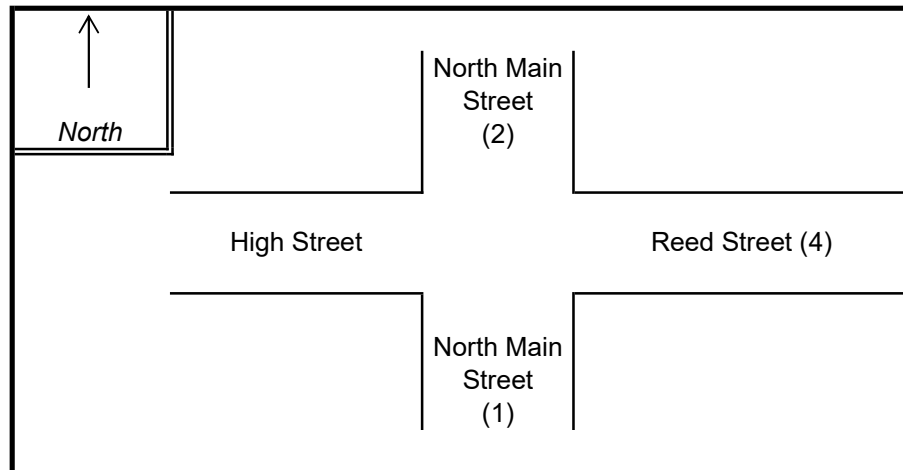
DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : High Street

MINOR STREET(S) : Reed Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB	WB		
PEAK HOURLY VOLUMES (AM/PM) :	297	457	317	282		1,353

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

15,033

TOTAL # OF CRASHES :

26

OF YEARS :

5

AVERAGE # OF CRASHES PER YEAR (A) :

5.20

CRASH RATE CALCULATION :

0.95

RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date : Pare Project No. 22077.00 May-22

Appendix C

Speed Study

Pare Corporation

8 Blackstone Valley Place
Lincoln, RI 02865

www.parecorp.com

File Name : Scanlon Dr AM Speed Study

Site Code : TP168.21

Start Date : 6/17/2021

Page No : 1

#	EB	WB
1	39	34
2	35	38
3	34	29
4	28	33
5	27	33
6	32	33
7	29	26
8	31	27
9	33	32
10	33	28
11	32	34
12	29	30
13	38	24
14	26	24
15	34	35
16	34	24
17	17	31
18	19	27
19	25	30
20	26	28
21	30	31
22	31	29
23	30	26
24	33	24
25	20	32
26	28	31
27	29	20
28	31	29
29	30	32
30	32	25
31	33	29
32	27	28
33	40	30
34	34	27
35	30	24
36	30	37
37	31	35
38	33	31
39	27	32
40	24	30
41	30	31
42	19	38
43	30	34
44	39	33
45	31	34
46	35	35
47	38	32
48	36	36
49	30	35
50	32	32
51		

Class	Vehicle Count	85 Percentile	10 MPH Pace Speed	Number in Pace	Percent in Pace	Number of Vehicles Over 30 MPH	Percent of Vehicles Over 30 MPH	Average Speed	True Median (50th Percentile)	95 Percentile	15 Percentile
EB	50	34	26 - 35	38	76	26	52	30	31	39	26
WB	50	34	26 - 35	39	78	27	54	30	31	37	26
Summary	100	35	26 - 35	77	77	53	53	30	31	38	26

Appendix D

Census Data

34 Scanlon Drive
Randolph, MA
Background Growth Rate
PARE Project No 22077.00
March 1, 2023



US Census Data
Town of Randolph

	Population
2020	34984
2010	32112
Years	10

ANNUAL GROWTH RATE	0.86%
--------------------	-------

SAY	1.00%
------------	--------------

Appendix E

Trip Generation & Distribution



2022-2029
TRAFFIC VOLUME SUMMARY
Future No-Build Growth Factor = 1.0%

Weekday AM Peak Hour 7:30 - 8:30 AM					
North Main Street (Route 28) at Russ Street and Scanlon Drive					
	2022 Existing	Outside Developments	2029 Future No-Build	Site Generated	2029 Future Build
NB - L	14	0	16	1	17
NB - T	1253	0	1344	0	1344
NB - R	67	0	72	0	72
SB - L	219	0	235	0	235
SB - T	697	0	748	0	748
SB - R	220	0	236	23	259
EB - L	526	0	564	24	588
EB - T	52	0	56	1	57
EB - R	12	0	13	0	13
WB - L	36	0	39	0	39
WB - T	32	0	35	1	36
WB - R	133	0	143	0	143

Weekday PM Peak Hour 4:45 - 5:45 PM					
North Main Street (Route 28) at Russ Street and Scanlon Drive					
	2022 Existing	Outside Developments	2029 Future No- Build	Site Generated	2029 Future Build
NB - L	16	0	18	0	18
NB - T	621	0	666	0	666
NB - R	45	0	49	0	49
SB - L	181	0	195	0	195
SB - T	1155	0	1239	0	1239
SB - R	453	0	486	24	510
EB - L	248	0	266	26	292
EB - T	35	0	38	2	40
EB - R	24	0	26	1	27
WB - L	59	0	64	0	64
WB - T	44	0	48	1	49
WB - R	229	0	246	0	246

Weekday AM Peak Hour 7:15 - 8:15 AM					
Reed Street at High Street					
	2022 Existing	Outside Developments	2029 Future No-Build	Site Generated	2029 Future Build
NB - L	17	0	19	0	19
NB - T	392	0	421	16	437
NB - R	121	0	130	0	130
SB - L	4	0	5	0	5
SB - T	209	0	225	4	229
SB - R	82	0	88	1	89
EB - L	216	0	232	9	241
EB - T	203	0	218	0	218
EB - R	7	0	8	0	8
WB - L	64	0	69	0	69
WB - T	140	0	151	0	151
WB - R	9	0	10	0	10

Weekday PM Peak Hour 4:45 - 5:45 PM					
Reed Street at High Street					
	2022 Existing	Outside Developments	2029 Future No- Build	Site Generated	2029 Future Build
NB - L	7	0	8	0	8
NB - T	196	0	211	3	214
NB - R	92	0	99	0	99
SB - L	15	0	17	1	18
SB - T	322	0	346	15	361
SB - R	115	0	124	5	129
EB - L	81	0	87	2	89
EB - T	223	0	240	0	240
EB - R	10	0	11	0	11
WB - L	100	0	108	0	108
WB - T	173	0	186	0	186
WB - R	9	0	10	0	10



2022-2029
TRAFFIC VOLUME SUMMARY
Future No-Build Growth Factor = 1.0%

Weekday AM Peak Hour 7:15 - 8:15 AM					
Scanlon Drive at Bus Entrance Driveway					
	2022 Existing	Outside Developments	2029 Future No-Build	Site Generated	2029 Future Build
EB - T			633	25	658
EB - R			0	0	0
WB - L			0	15	15
WB - T			287	5	292

Weekday PM Peak Hour 4:45 - 5:45 PM					
Scanlon Drive at Bus Entrance Driveway					
	2022 Existing	Outside Developments	2029 Future No- Build	Site Generated	2029 Future Build
EB - T			330	5	335
EB - R				0	0
WB - L				15	15
WB - T			552	21	573

Weekday AM Peak Hour 7:15 - 8:15 AM					
Scanlon Drive at Bus Exit Driveway					
	2022 Existing	Outside Developments	2029 Future No-Build	Site Generated	2029 Future Build
NB - L			0	0	0
NB - R			0	15	15
EB - T			633	25	658
WB - T			287	20	307

Weekday PM Peak Hour 4:45 - 5:45 PM					
Scanlon Drive at Bus Exit Driveway					
	2022 Existing	Outside Developments	2029 Future No- Build	Site Generated	2029 Future Build
NB - L				0	0
NB - R				15	15
EB - T			330	5	335
WB - T			552	36	588

Weekday AM Peak Hour 7:15 - 8:15 AM					
Scanlon Drive at Auto Driveway					
	2022 Existing	Outside Developments	2029 Future No-Build	Site Generated	2029 Future Build
NB - L			0	5	5
NB - R			0	10	10
EB - T			633	15	648
EB - R			0	25	25
WB - L			0	10	10
WB - T			287	15	302

Weekday PM Peak Hour 4:45 - 5:45 PM					
Scanlon Drive at Auto Driveway					
	2022 Existing	Outside Developments	2029 Future No- Build	Site Generated	2029 Future Build
NB - L				21	21
NB - R				14	14
EB - T			330	15	345
EB - R				5	5
WB - L				10	10
WB - T			552	15	567

Appendix F

Traffic Capacity Analysis

Lanes, Volumes, Timings
3: High Street & Reed Street

Build (2029)
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	218	8	69	151	10	19	437	130	5	229	89
Future Volume (vph)	241	218	8	69	151	10	19	437	130	5	229	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00			0.99	
Frt		0.998			0.994			0.970			0.963	
Flt Protected		0.975			0.985			0.998			0.999	
Satd. Flow (prot)	0	1822	0	0	1830	0	0	1792	0	0	1767	0
Flt Permitted		0.726			0.800			0.983			0.992	
Satd. Flow (perm)	0	1356	0	0	1486	0	0	1765	0	0	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			31			42	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		684			2131			461			4064	
Travel Time (s)		15.5			48.4			10.5			92.4	
Confl. Peds. (#/hr)	1		1	2		2	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	2%	0%	3%	1%	0%	6%	2%	2%	0%	4%	0%
Adj. Flow (vph)	262	237	9	75	164	11	21	475	141	5	249	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	508	0	0	250	0	0	637	0	0	351	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)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	28.0	28.0		28.0	28.0		27.0	27.0		27.0	27.0	
Total Split (%)	50.9%	50.9%		50.9%	50.9%		49.1%	49.1%		49.1%	49.1%	
Maximum Green (s)	23.5	23.5		23.5	23.5		22.5	22.5		22.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		23.5			23.5			22.5			22.5	
Actuated g/C Ratio		0.43			0.43			0.41			0.41	
v/c Ratio		0.88			0.39			0.86			0.47	

Lanes, Volumes, Timings
3: High Street & Reed Street

Build (2029)
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		34.5			12.9			29.0			13.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		34.5			12.9			29.0			13.0	
LOS		C			B			C			B	
Approach Delay		34.5			12.9			29.0			13.0	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		143			52			173			69	
Queue Length 95th (ft)		#313			100			#355			130	
Internal Link Dist (ft)		604			2051			381			3984	
Turn Bay Length (ft)												
Base Capacity (vph)		580			637			740			742	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.88			0.39			0.86			0.47	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 92.6%

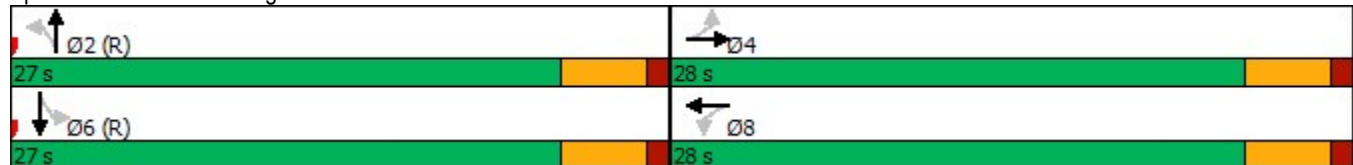
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: High Street & Reed Street



Lanes, Volumes, Timings
3: High Street & Reed Street

Existing (2022)
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	203	7	64	140	9	17	392	121	4	209	82
Future Volume (vph)	216	203	7	64	140	9	17	392	121	4	209	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00			0.99	
Frt		0.998			0.994			0.969			0.962	
Flt Protected		0.975			0.985			0.998			0.999	
Satd. Flow (prot)	0	1822	0	0	1830	0	0	1790	0	0	1765	0
Flt Permitted		0.725			0.798			0.985			0.994	
Satd. Flow (perm)	0	1354	0	0	1482	0	0	1767	0	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			33			43	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		684			2131			461			4064	
Travel Time (s)		15.5			48.4			10.5			92.4	
Confl. Peds. (#/hr)	1		1	2		2	1		1	1		1
Peak Hour Factor	0.84	0.84	0.84	0.83	0.83	0.83	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	1%	2%	0%	3%	1%	0%	6%	2%	2%	0%	4%	0%
Adj. Flow (vph)	257	242	8	77	169	11	18	417	129	4	227	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	507	0	0	257	0	0	564	0	0	320	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)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	28.0	28.0		28.0	28.0		27.0	27.0		27.0	27.0	
Total Split (%)	50.9%	50.9%		50.9%	50.9%		49.1%	49.1%		49.1%	49.1%	
Maximum Green (s)	23.5	23.5		23.5	23.5		22.5	22.5		22.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		23.5			23.5			22.5			22.5	
Actuated g/C Ratio		0.43			0.43			0.41			0.41	
v/c Ratio		0.88			0.40			0.76			0.43	

Lanes, Volumes, Timings
3: High Street & Reed Street

Existing (2022)
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		34.5			13.1			21.8			12.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		34.5			13.1			21.8			12.2	
LOS		C			B			C			B	
Approach Delay		34.5			13.1			21.8			12.2	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		143			54			142			61	
Queue Length 95th (ft)		#278			93			#292			116	
Internal Link Dist (ft)		604			2051			381			3984	
Turn Bay Length (ft)												
Base Capacity (vph)		579			636			742			743	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.88			0.40			0.76			0.43	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 22.5

Intersection LOS: C

Intersection Capacity Utilization 84.7%

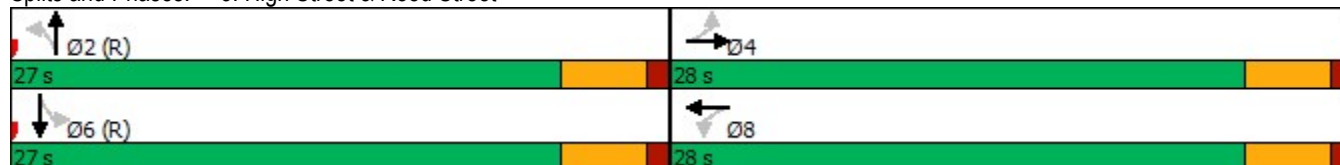
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: High Street & Reed Street



Lanes, Volumes, Timings
3: High Street & Reed Street

No Build (2029)
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	218	8	69	151	10	19	421	130	5	225	88
Future Volume (vph)	232	218	8	69	151	10	19	421	130	5	225	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00			0.99	
Frt		0.998			0.994			0.969			0.963	
Flt Protected		0.975			0.985			0.998			0.999	
Satd. Flow (prot)	0	1822	0	0	1830	0	0	1790	0	0	1767	0
Flt Permitted		0.730			0.802			0.983			0.992	
Satd. Flow (perm)	0	1363	0	0	1489	0	0	1763	0	0	1755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			33			43	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		684			2131			461			4064	
Travel Time (s)		15.5			48.4			10.5			92.4	
Confl. Peds. (#/hr)	1		1	2		2	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	2%	0%	3%	1%	0%	6%	2%	2%	0%	4%	0%
Adj. Flow (vph)	252	237	9	75	164	11	21	458	141	5	245	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	498	0	0	250	0	0	620	0	0	346	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)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	28.0	28.0		28.0	28.0		27.0	27.0		27.0	27.0	
Total Split (%)	50.9%	50.9%		50.9%	50.9%		49.1%	49.1%		49.1%	49.1%	
Maximum Green (s)	23.5	23.5		23.5	23.5		22.5	22.5		22.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		23.5			23.5			22.5			22.5	
Actuated g/C Ratio		0.43			0.43			0.41			0.41	
v/c Ratio		0.85			0.39			0.84			0.47	

Lanes, Volumes, Timings
3: High Street & Reed Street

No Build (2029)
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		31.9			12.9			26.9			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.9			12.9			26.9			12.8	
LOS		C			B			C			B	
Approach Delay		31.9			12.9			26.9			12.8	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		138			52			165			67	
Queue Length 95th (ft)		#304			100			#340			128	
Internal Link Dist (ft)		604			2051			381			3984	
Turn Bay Length (ft)												
Base Capacity (vph)		583			639			740			743	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.85			0.39			0.84			0.47	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.5

Intersection LOS: C

Intersection Capacity Utilization 90.4%

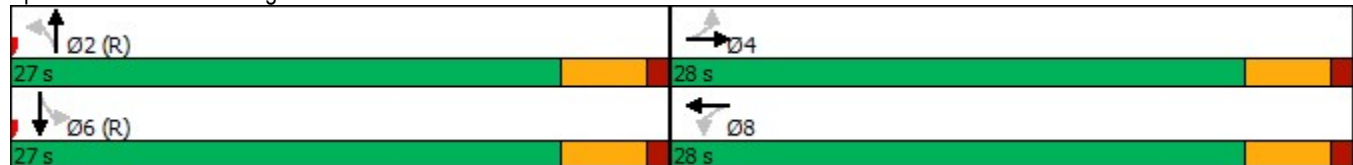
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: High Street & Reed Street



Lanes, Volumes, Timings
3: High Street & Reed Street

Build (2029)
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	240	11	108	186	10	8	214	99	18	361	129
Future Volume (vph)	89	240	11	108	186	10	8	214	99	18	361	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.996			0.995			0.958			0.966	
Flt Protected		0.987			0.983			0.999			0.998	
Satd. Flow (prot)	0	1836	0	0	1826	0	0	1769	0	0	1772	0
Flt Permitted		0.850			0.779			0.984			0.981	
Satd. Flow (perm)	0	1581	0	0	1447	0	0	1743	0	0	1741	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			5			60			45	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		684			2131			461			4064	
Travel Time (s)		15.5			48.4			10.5			92.4	
Confl. Peds. (#/hr)	1		1	2		2	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	2%	0%	3%	1%	0%	6%	2%	2%	0%	4%	0%
Adj. Flow (vph)	97	261	12	117	202	11	9	233	108	20	392	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	370	0	0	330	0	0	350	0	0	552	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)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		18.0			18.0			18.0			18.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.58			0.57			0.48			0.76	

Lanes, Volumes, Timings
3: High Street & Reed Street

Build (2029)
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		15.0			6.7			10.9			20.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.0			6.7			10.9			20.2	
LOS		B			A			B			C	
Approach Delay		15.0			6.7			10.9			20.2	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)		70			35			51			106	
Queue Length 95th (ft)		135			m33			105			#248	
Internal Link Dist (ft)		604			2051			381			3984	
Turn Bay Length (ft)												
Base Capacity (vph)		634			581			733			723	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.58			0.57			0.48			0.76	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 14.2

Intersection LOS: B

Intersection Capacity Utilization 67.9%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: High Street & Reed Street

 Ø2 (R)	 Ø4
22.5 s	22.5 s
 Ø6 (R)	 Ø8
22.5 s	22.5 s

Lanes, Volumes, Timings
3: High Street & Reed Street

Existing (2022)
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	223	10	100	173	9	7	196	92	15	322	115
Future Volume (vph)	81	223	10	100	173	9	7	196	92	15	322	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.996			0.996			0.958			0.966	
Flt Protected		0.987			0.983			0.999			0.998	
Satd. Flow (prot)	0	1836	0	0	1828	0	0	1769	0	0	1771	0
Flt Permitted		0.850			0.775			0.988			0.985	
Satd. Flow (perm)	0	1581	0	0	1441	0	0	1750	0	0	1748	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			4			60			46	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		684			2131			461			4064	
Travel Time (s)		15.5			48.4			10.5			92.4	
Confl. Peds. (#/hr)	1		1	2		2	1		1	1		1
Peak Hour Factor	0.84	0.84	0.84	0.83	0.83	0.83	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	1%	2%	0%	3%	1%	0%	6%	2%	2%	0%	4%	0%
Adj. Flow (vph)	96	265	12	120	208	11	7	209	98	16	350	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	373	0	0	339	0	0	314	0	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		18.0			18.0			18.0			18.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.59			0.59			0.43			0.68	

Lanes, Volumes, Timings
3: High Street & Reed Street

Existing (2022)
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		15.1			7.5			10.0			16.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.1			7.5			10.0			16.0	
LOS		B			A			A			B	
Approach Delay		15.1			7.5			10.0			16.0	
Approach LOS		B			A			A			B	
Queue Length 50th (ft)		70			35			43			88	
Queue Length 95th (ft)		122			m36			92			#175	
Internal Link Dist (ft)		604			2051			381			3984	
Turn Bay Length (ft)												
Base Capacity (vph)		634			578			736			726	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.59			0.59			0.43			0.68	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Pretimed

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 12.6

Intersection LOS: B

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: High Street & Reed Street

 Ø2 (R)	 Ø4
22.5 s	22.5 s
 Ø6 (R)	 Ø8
22.5 s	22.5 s

Lanes, Volumes, Timings

3: High Street & Reed Street

No Build (2029)
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	240	11	108	186	10	8	211	99	17	346	124
Future Volume (vph)	87	240	11	108	186	10	8	211	99	17	346	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.996			0.995			0.958			0.966	
Flt Protected		0.987			0.983			0.999			0.998	
Satd. Flow (prot)	0	1836	0	0	1826	0	0	1769	0	0	1771	0
Flt Permitted		0.852			0.780			0.985			0.983	
Satd. Flow (perm)	0	1584	0	0	1449	0	0	1744	0	0	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			5			61			46	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		684			2131			461			4064	
Travel Time (s)		15.5			48.4			10.5			92.4	
Confl. Peds. (#/hr)	1		1	2		2	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	2%	0%	3%	1%	0%	6%	2%	2%	0%	4%	0%
Adj. Flow (vph)	95	261	12	117	202	11	9	229	108	18	376	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	368	0	0	330	0	0	346	0	0	529	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)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		18.0			18.0			18.0			18.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.58			0.57			0.47			0.73	

Lanes, Volumes, Timings
3: High Street & Reed Street

No Build (2029)
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		14.9			6.6			10.7			18.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.9			6.6			10.7			18.4	
LOS		B			A			B			B	
Approach Delay		14.9			6.6			10.7			18.4	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		69			35			50			98	
Queue Length 95th (ft)		134			m33			103			#231	
Internal Link Dist (ft)		604			2051			381			3984	
Turn Bay Length (ft)												
Base Capacity (vph)		636			582			734			725	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.58			0.57			0.47			0.73	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Pretimed

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 66.4%

ICU Level of Service C

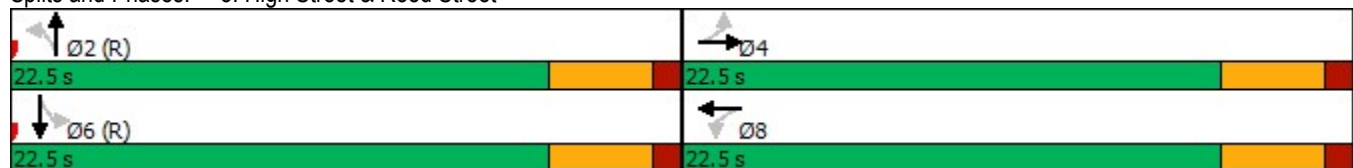
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: High Street & Reed Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	588	57	13	39	36	143	17	1344	72	235	748	259
Future Volume (vph)	588	57	13	39	36	143	17	1344	72	235	748	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.994			0.880			0.992				0.850
Flt Protected	0.950	0.962		0.950			0.950			0.950		
Satd. Flow (prot)	1698	1712	0	1805	1646	0	1583	3474	0	1787	3374	1442
Flt Permitted	0.950	0.962		0.950			0.344			0.068		
Satd. Flow (perm)	1698	1712	0	1805	1646	0	573	3474	0	128	3374	1442
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			120			6				282
Link Speed (mph)		30			30			30				30
Link Distance (ft)		895			630			3614				514
Travel Time (s)		20.3			14.3			82.1				11.7
Confl. Peds. (#/hr)			1						2			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	2%	14%	3%	2%	1%	7%	12%
Adj. Flow (vph)	639	62	14	42	39	155	18	1461	78	255	813	282
Shared Lane Traffic (%)	44%											
Lane Group Flow (vph)	358	357	0	42	194	0	18	1539	0	255	813	282
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	pt+ov
Protected Phases	3	3		4	4		5	2		1	6	6 3
Permitted Phases							2			6		

Lanes, Volumes, Timings

Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3		4	4		5	2		1	6	6 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	12.0		6.0	12.0	
Minimum Split (s)	25.0	25.0		11.0	11.0		13.0	20.0		13.0	24.0	
Total Split (s)	28.0	28.0		11.0	11.0		14.0	53.0		22.0	61.0	
Total Split (%)	24.6%	24.6%		9.6%	9.6%		12.3%	46.5%		19.3%	53.5%	
Maximum Green (s)	23.0	23.0		6.0	6.0		7.0	48.0		15.0	56.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	1.0		3.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		7.0	5.0		7.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	2.0		3.0	2.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	13.0	13.0						8.0			12.0	
Pedestrian Calls (#/hr)	1	1						2			3	
Act Effect Green (s)	23.0	23.0		6.0	6.0		52.2	48.0		67.2	63.8	91.8
Actuated g/C Ratio	0.20	0.20		0.05	0.05		0.46	0.42		0.59	0.56	0.81
v/c Ratio	1.04	1.02		0.44	0.97		0.06	1.04		0.90	0.43	0.23
Control Delay	103.8	99.0		67.0	78.3		10.9	68.0		63.5	16.1	1.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	103.8	99.0		67.0	78.3		10.9	68.0		63.5	16.1	1.0
LOS	F	F		E	E		B	E		E	B	A
Approach Delay		101.4			76.3			67.3			21.9	
Approach LOS		F			E			E			C	
90th %ile Green (s)	23.0	23.0		6.0	6.0		6.9	48.0		15.0	56.1	
90th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
70th %ile Green (s)	23.0	23.0		6.0	6.0		6.4	48.0		15.0	56.6	
70th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
50th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		15.0	70.0	
50th %ile Term Code	Max	Max		Max	Max		Skip	Max		Max	Hold	
30th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		15.0	70.0	
30th %ile Term Code	Max	Max		Max	Max		Skip	Max		Max	Hold	
10th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		11.2	66.2	
10th %ile Term Code	Max	Max		Max	Max		Skip	Max		Gap	Hold	
Queue Length 50th (ft)	~300	~293		30	55		5	~647		137	148	0
Queue Length 95th (ft)	#496	#493		69	#204		15	#789		#284	257	20
Internal Link Dist (ft)		815			550			3534			434	
Turn Bay Length (ft)												
Base Capacity (vph)	344	349		96	201		330	1476		295	1901	1222
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.04	1.02		0.44	0.97		0.05	1.04		0.86	0.43	0.23

Intersection Summary

Area Type: Other

Cycle Length: 114

Actuated Cycle Length: 113.2

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 58.3

Intersection LOS: E

Intersection Capacity Utilization 99.7%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 114

70th %ile Actuated Cycle: 114

50th %ile Actuated Cycle: 114

30th %ile Actuated Cycle: 114

10th %ile Actuated Cycle: 110.2

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: North Main Street (Route 28) & Scanlon Drive/Russ Street

 Ø1	 Ø2	 Ø3	 Ø4
22 s	53 s	28 s	11 s
 Ø5	 Ø6		
14 s	61 s		

Lanes, Volumes, Timings

Existing (2022)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	526	52	12	36	32	133	14	1253	67	219	697	220
Future Volume (vph)	526	52	12	36	32	133	14	1253	67	219	697	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.994			0.879			0.992				0.850
Flt Protected	0.950	0.962		0.950			0.950			0.950		
Satd. Flow (prot)	1698	1712	0	1805	1644	0	1583	3474	0	1787	3374	1509
Flt Permitted	0.950	0.962		0.950			0.378			0.068		
Satd. Flow (perm)	1698	1712	0	1805	1644	0	630	3474	0	128	3374	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			123			6				227
Link Speed (mph)		30			30			30				30
Link Distance (ft)		895			630			3614				514
Travel Time (s)		20.3			14.3			82.1				11.7
Confl. Peds. (#/hr)			1						2			3
Peak Hour Factor	0.85	0.85	0.85	0.81	0.81	0.81	0.93	0.93	0.93	0.97	0.97	0.97
Heavy Vehicles (%)	1%	0%	0%	0%	0%	2%	14%	3%	2%	1%	7%	7%
Adj. Flow (vph)	619	61	14	44	40	164	15	1347	72	226	719	227
Shared Lane Traffic (%)	44%											
Lane Group Flow (vph)	347	347	0	44	204	0	15	1419	0	226	719	227
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	pt+ov
Protected Phases	3	3		4	4		5	2		1	6	6 3
Permitted Phases							2			6		

Lanes, Volumes, Timings

Existing (2022)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3		4	4		5	2		1	6	6 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	12.0		6.0	12.0	
Minimum Split (s)	25.0	25.0		11.0	11.0		13.0	20.0		13.0	24.0	
Total Split (s)	28.0	28.0		11.0	11.0		14.0	53.0		22.0	61.0	
Total Split (%)	24.6%	24.6%		9.6%	9.6%		12.3%	46.5%		19.3%	53.5%	
Maximum Green (s)	23.0	23.0		6.0	6.0		7.0	48.0		15.0	56.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	1.0		3.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		7.0	5.0		7.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	2.0		3.0	2.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	13.0	13.0						8.0			12.0	
Pedestrian Calls (#/hr)	1	1						2			3	
Act Effect Green (s)	23.0	23.0		6.0	6.0		51.6	47.5		65.9	62.6	90.6
Actuated g/C Ratio	0.21	0.21		0.05	0.05		0.46	0.42		0.59	0.56	0.81
v/c Ratio	0.99	0.98		0.45	1.00		0.04	0.96		0.83	0.38	0.18
Control Delay	92.4	88.7		67.7	85.9		10.9	47.7		52.4	15.5	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	92.4	88.7		67.7	85.9		10.9	47.7		52.4	15.5	0.9
LOS	F	F		E	F		B	D		D	B	A
Approach Delay		90.5			82.7			47.3			19.8	
Approach LOS		F			F			D			B	
90th %ile Green (s)	23.0	23.0		6.0	6.0		6.7	48.0		15.0	56.3	
90th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
70th %ile Green (s)	23.0	23.0		6.0	6.0		6.2	48.0		15.0	56.8	
70th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
50th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		15.0	70.0	
50th %ile Term Code	Max	Max		Max	Max		Skip	Max		Max	Hold	
30th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		12.9	67.9	
30th %ile Term Code	Max	Max		Max	Max		Skip	Max		Gap	Hold	
10th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	45.2		9.3	61.5	
10th %ile Term Code	Max	Max		Max	Max		Skip	Gap		Gap	Hold	
Queue Length 50th (ft)	~275	269		32	~61		4	523		113	126	0
Queue Length 95th (ft)	#433	#431		63	#170		13	#689		#232	221	18
Internal Link Dist (ft)		815			550			3534			434	
Turn Bay Length (ft)												
Base Capacity (vph)	349	354		97	204		355	1495		297	1886	1265
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.99	0.98		0.45	1.00		0.04	0.95		0.76	0.38	0.18

Intersection Summary

Area Type: Other

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

AM Peak

Cycle Length: 114

Actuated Cycle Length: 111.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 49.1

Intersection LOS: D

Intersection Capacity Utilization 93.4%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 114

70th %ile Actuated Cycle: 114

50th %ile Actuated Cycle: 114

30th %ile Actuated Cycle: 111.9

10th %ile Actuated Cycle: 105.5

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: North Main Street (Route 28) & Scanlon Drive/Russ Street

 Ø1	 Ø2	 Ø3	 Ø4
22 s	53 s	28 s	11 s
 Ø5	 Ø6		
14 s	61 s		

Lanes, Volumes, Timings

No Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	564	56	13	39	35	143	16	1344	82	235	748	236
Future Volume (vph)	564	56	13	39	35	143	16	1344	82	235	748	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.994			0.880			0.991				0.850
Flt Protected	0.950	0.962		0.950			0.950			0.950		
Satd. Flow (prot)	1698	1712	0	1805	1646	0	1583	3470	0	1787	3374	1509
Flt Permitted	0.950	0.962		0.950			0.344			0.068		
Satd. Flow (perm)	1698	1712	0	1805	1646	0	573	3470	0	128	3374	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			121			7				257
Link Speed (mph)		30			30			30				30
Link Distance (ft)		895			630			3614				514
Travel Time (s)		20.3			14.3			82.1				11.7
Confl. Peds. (#/hr)			1						2			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	2%	14%	3%	2%	1%	7%	7%
Adj. Flow (vph)	613	61	14	42	38	155	17	1461	89	255	813	257
Shared Lane Traffic (%)	44%											
Lane Group Flow (vph)	343	345	0	42	193	0	17	1550	0	255	813	257
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	pt+ov
Protected Phases	3	3		4	4		5	2		1	6	6 3
Permitted Phases							2			6		

Lanes, Volumes, Timings

No Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3		4	4		5	2		1	6	6 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	12.0		6.0	12.0	
Minimum Split (s)	25.0	25.0		11.0	11.0		13.0	20.0		13.0	24.0	
Total Split (s)	28.0	28.0		11.0	11.0		14.0	53.0		22.0	61.0	
Total Split (%)	24.6%	24.6%		9.6%	9.6%		12.3%	46.5%		19.3%	53.5%	
Maximum Green (s)	23.0	23.0		6.0	6.0		7.0	48.0		15.0	56.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	1.0		3.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		7.0	5.0		7.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	2.0		3.0	2.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	13.0	13.0						8.0			12.0	
Pedestrian Calls (#/hr)	1	1						2			3	
Act Effect Green (s)	23.0	23.0		6.0	6.0		52.2	48.0		67.2	63.8	91.8
Actuated g/C Ratio	0.20	0.20		0.05	0.05		0.46	0.42		0.59	0.56	0.81
v/c Ratio	1.00	0.99		0.44	0.96		0.05	1.05		0.90	0.43	0.20
Control Delay	93.5	91.0		67.0	75.6		10.9	70.5		63.5	16.1	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	93.5	91.0		67.0	75.6		10.9	70.5		63.5	16.1	0.9
LOS	F	F		E	E		B	E		E	B	A
Approach Delay		92.2			74.1			69.9			22.3	
Approach LOS		F			E			E			C	
90th %ile Green (s)	23.0	23.0		6.0	6.0		6.9	48.0		15.0	56.1	
90th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
70th %ile Green (s)	23.0	23.0		6.0	6.0		6.3	48.0		15.0	56.7	
70th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
50th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		15.0	70.0	
50th %ile Term Code	Max	Max		Max	Max		Skip	Max		Max	Hold	
30th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		15.0	70.0	
30th %ile Term Code	Max	Max		Max	Max		Skip	Max		Max	Hold	
10th %ile Green (s)	23.0	23.0		6.0	6.0		0.0	48.0		11.2	66.2	
10th %ile Term Code	Max	Max		Max	Max		Skip	Max		Gap	Hold	
Queue Length 50th (ft)	~267	267		30	53		5	~657		137	148	0
Queue Length 95th (ft)	#469	#471		69	#200		14	#798		#284	257	19
Internal Link Dist (ft)		815			550			3534			434	
Turn Bay Length (ft)												
Base Capacity (vph)	344	349		96	202		330	1475		295	1901	1272
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.00	0.99		0.44	0.96		0.05	1.05		0.86	0.43	0.20

Intersection Summary

Area Type: Other

Cycle Length: 114

Actuated Cycle Length: 113.2

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 57.6

Intersection LOS: E

Intersection Capacity Utilization 99.3%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 114

70th %ile Actuated Cycle: 114

50th %ile Actuated Cycle: 114

30th %ile Actuated Cycle: 114

10th %ile Actuated Cycle: 110.2

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: North Main Street (Route 28) & Scanlon Drive/Russ Street

 Ø1	 Ø2	 Ø3	 Ø4
22 s	53 s	28 s	11 s
 Ø5	 Ø6		
14 s	61 s		

Lanes, Volumes, Timings

Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	40	27	64	49	246	18	666	49	195	1239	510
Future Volume (vph)	292	40	27	64	49	246	18	666	49	195	1239	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.977			0.875			0.990				0.850
Flt Protected	0.950	0.970		0.950			0.950			0.950		
Satd. Flow (prot)	1618	1644	0	1805	1662	0	1805	3471	0	1805	3471	1524
Flt Permitted	0.950	0.970		0.950			0.132			0.159		
Satd. Flow (perm)	1618	1644	0	1805	1662	0	251	3471	0	302	3471	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			206			7				554
Link Speed (mph)		30			30			30				30
Link Distance (ft)		847			630			3614				514
Travel Time (s)		19.3			14.3			82.1				11.7
Confl. Peds. (#/hr)			6						1			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	0%	0%	0%	0%	0%	0%	3%	0%	0%	4%	6%
Adj. Flow (vph)	317	43	29	70	53	267	20	724	53	212	1347	554
Shared Lane Traffic (%)	38%											
Lane Group Flow (vph)	197	192	0	70	320	0	20	777	0	212	1347	554
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	pt+ov
Protected Phases	3	3		4	4		5	2		1	6	6 3
Permitted Phases							2			6		

Lanes, Volumes, Timings

Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3		4	4		5	2		1	6	6 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	12.0		6.0	12.0	
Minimum Split (s)	25.0	25.0		11.0	11.0		13.0	20.0		13.0	24.0	
Total Split (s)	28.0	28.0		20.0	20.0		13.0	33.0		22.0	42.0	
Total Split (%)	27.2%	27.2%		19.4%	19.4%		12.6%	32.0%		21.4%	40.8%	
Maximum Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	1.0		3.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		7.0	5.0		7.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	2.0		3.0	2.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	13.0	13.0						8.0			12.0	
Pedestrian Calls (#/hr)	6	6						1			5	
Act Effect Green (s)	18.1	18.1		11.5	11.5		29.6	25.5		42.3	39.9	63.1
Actuated g/C Ratio	0.20	0.20		0.13	0.13		0.33	0.29		0.47	0.45	0.71
v/c Ratio	0.60	0.57		0.30	0.81		0.11	0.78		0.62	0.87	0.45
Control Delay	42.2	39.2		41.6	32.6		17.2	37.4		24.5	33.3	1.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.2	39.2		41.6	32.6		17.2	37.4		24.5	33.3	1.9
LOS	D	D		D	C		B	D		C	C	A
Approach Delay		40.7			34.2			36.9			24.2	
Approach LOS		D			C			D			C	
90th %ile Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
90th %ile Term Code	Max	Max		Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
70th %ile Term Code	Max	Max		Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	20.4	20.4		13.5	13.5		0.0	26.4		12.3	45.7	
50th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Gap		Gap	Hold	
30th %ile Green (s)	15.8	15.8		9.4	9.4		0.0	21.2		9.9	38.1	
30th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Gap		Gap	Hold	
10th %ile Green (s)	10.1	10.1		6.1	6.1		0.0	22.5		7.5	37.0	
10th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Hold		Gap	Max	
Queue Length 50th (ft)	111	103		38	64		6	225		75	345	0
Queue Length 95th (ft)	198	188		84	#200		20	324		136	#659	37
Internal Link Dist (ft)		767			550			3534			434	
Turn Bay Length (ft)												
Base Capacity (vph)	427	440		310	456		190	1120		401	1548	1298
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.46	0.44		0.23	0.70		0.11	0.69		0.53	0.87	0.43

Intersection Summary

Area Type: Other

Cycle Length: 103

Actuated Cycle Length: 89.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 29.7

Intersection LOS: C

Intersection Capacity Utilization 86.5%

ICU Level of Service E

Analysis Period (min) 15

90th %ile Actuated Cycle: 103

70th %ile Actuated Cycle: 103

50th %ile Actuated Cycle: 94.6

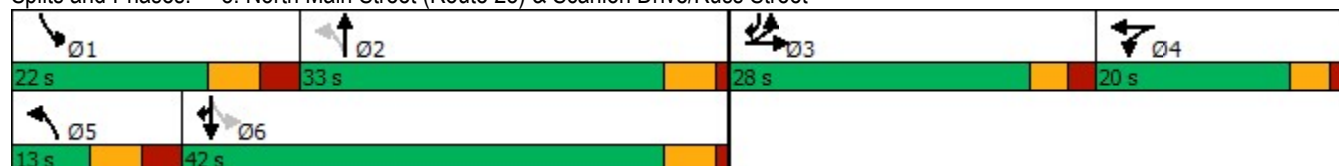
30th %ile Actuated Cycle: 78.3

10th %ile Actuated Cycle: 68.2

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: North Main Street (Route 28) & Scanlon Drive/Russ Street



Lanes, Volumes, Timings

Existing (2022)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	248	35	24	59	44	229	16	621	45	181	1155	453
Future Volume (vph)	248	35	24	59	44	229	16	621	45	181	1155	453
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.977			0.874			0.990				0.850
Flt Protected	0.950	0.970		0.950			0.950			0.950		
Satd. Flow (prot)	1698	1695	0	1805	1661	0	1805	3471	0	1805	3471	1568
Flt Permitted	0.950	0.970		0.950			0.138			0.193		
Satd. Flow (perm)	1698	1695	0	1805	1661	0	262	3471	0	367	3471	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			211			7				487
Link Speed (mph)		30			30			30				30
Link Distance (ft)		847			630			3614				514
Travel Time (s)		19.3			14.3			82.1				11.7
Confl. Peds. (#/hr)			6						1			5
Peak Hour Factor	0.95	0.95	0.95	0.82	0.82	0.82	0.94	0.94	0.94	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	4%	3%
Adj. Flow (vph)	261	37	25	72	54	279	17	661	48	195	1242	487
Shared Lane Traffic (%)	38%											
Lane Group Flow (vph)	162	161	0	72	333	0	17	709	0	195	1242	487
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	pt+ov
Protected Phases	3	3		4	4		5	2		1	6	6 3
Permitted Phases							2			6		

Lanes, Volumes, Timings

Existing (2022)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3		4	4		5	2		1	6	6 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	12.0		6.0	12.0	
Minimum Split (s)	25.0	25.0		11.0	11.0		13.0	20.0		13.0	24.0	
Total Split (s)	28.0	28.0		20.0	20.0		13.0	33.0		22.0	42.0	
Total Split (%)	27.2%	27.2%		19.4%	19.4%		12.6%	32.0%		21.4%	40.8%	
Maximum Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	1.0		3.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		7.0	5.0		7.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	2.0		3.0	2.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	13.0	13.0						8.0			12.0	
Pedestrian Calls (#/hr)	6	6						1			5	
Act Effect Green (s)	15.6	15.6		11.7	11.7		28.1	24.0		40.3	38.0	58.8
Actuated g/C Ratio	0.18	0.18		0.14	0.14		0.33	0.28		0.47	0.45	0.69
v/c Ratio	0.52	0.51		0.29	0.81		0.09	0.72		0.54	0.80	0.39
Control Delay	39.5	37.3		39.8	31.8		16.4	33.7		20.7	28.8	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.5	37.3		39.8	31.8		16.4	33.7		20.7	28.8	1.8
LOS	D	D		D	C		B	C		C	C	A
Approach Delay		38.4			33.2			33.3			21.1	
Approach LOS		D			C			C			C	
90th %ile Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
90th %ile Term Code	Max	Max		Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	20.6	20.6		15.0	15.0		6.0	29.6		13.4	37.0	
70th %ile Term Code	Gap	Gap		Max	Max		Max	Hold		Gap	Max	
50th %ile Green (s)	16.5	16.5		13.6	13.6		0.0	22.9		11.4	41.3	
50th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Gap		Gap	Hold	
30th %ile Green (s)	12.7	12.7		9.7	9.7		0.0	20.7		9.3	37.0	
30th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Hold		Gap	Max	
10th %ile Green (s)	7.9	7.9		6.3	6.3		0.0	18.4		7.1	32.5	
10th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Hold		Gap	Gap	
Queue Length 50th (ft)	83	78		35	61		5	185		63	276	0
Queue Length 95th (ft)	164	157		78	146		18	291		121	#582	36
Internal Link Dist (ft)		767			550			3534			434	
Turn Bay Length (ft)												
Base Capacity (vph)	475	480		329	475		199	1198		436	1598	1335
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.34	0.34		0.22	0.70		0.09	0.59		0.45	0.78	0.36

Intersection Summary

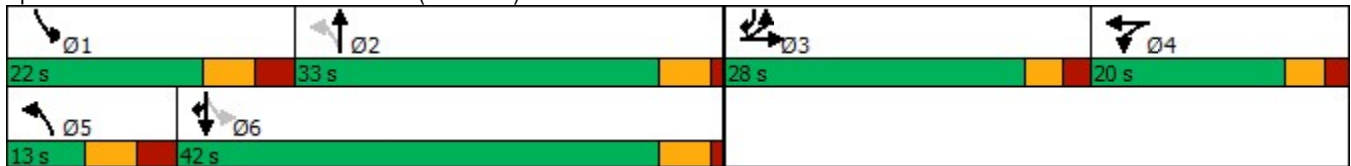
Area Type: Other

Lanes, Volumes, Timings
 8: North Main Street (Route 28) & Scanlon Drive/Russ Street

Existing (2022)
 PM Peak

Cycle Length: 103
 Actuated Cycle Length: 85.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 26.9 Intersection LOS: C
 Intersection Capacity Utilization 81.7% ICU Level of Service D
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 103
 70th %ile Actuated Cycle: 100.6
 50th %ile Actuated Cycle: 86.4
 30th %ile Actuated Cycle: 74.4
 10th %ile Actuated Cycle: 61.7
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: North Main Street (Route 28) & Scanlon Drive/Russ Street



Lanes, Volumes, Timings

No Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	266	38	26	64	48	246	18	666	49	195	1239	486
Future Volume (vph)	266	38	26	64	48	246	18	666	49	195	1239	486
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.977			0.874			0.990				0.850
Flt Protected	0.950	0.970		0.950			0.950			0.950		
Satd. Flow (prot)	1698	1695	0	1805	1661	0	1805	3471	0	1805	3471	1568
Flt Permitted	0.950	0.970		0.950			0.133			0.163		
Satd. Flow (perm)	1698	1695	0	1805	1661	0	253	3471	0	310	3471	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			210			7				528
Link Speed (mph)		30			30			30				30
Link Distance (ft)		847			630			3614				514
Travel Time (s)		19.3			14.3			82.1				11.7
Confl. Peds. (#/hr)			6						1			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	4%	3%
Adj. Flow (vph)	289	41	28	70	52	267	20	724	53	212	1347	528
Shared Lane Traffic (%)	38%											
Lane Group Flow (vph)	179	179	0	70	319	0	20	777	0	212	1347	528
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	pt+ov
Protected Phases	3	3		4	4		5	2		1	6	6 3
Permitted Phases							2			6		

Lanes, Volumes, Timings

No Build (2029)

8: North Main Street (Route 28) & Scanlon Drive/Russ Street

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3		4	4		5	2		1	6	6 3
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	12.0		6.0	12.0	
Minimum Split (s)	25.0	25.0		11.0	11.0		13.0	20.0		13.0	24.0	
Total Split (s)	28.0	28.0		20.0	20.0		13.0	33.0		22.0	42.0	
Total Split (%)	27.2%	27.2%		19.4%	19.4%		12.6%	32.0%		21.4%	40.8%	
Maximum Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	1.0		3.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		7.0	5.0		7.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	2.0		3.0	2.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	13.0	13.0						8.0			12.0	
Pedestrian Calls (#/hr)	6	6						1			5	
Act Effect Green (s)	16.9	16.9		11.3	11.3		29.3	25.1		41.9	39.6	61.6
Actuated g/C Ratio	0.19	0.19		0.13	0.13		0.33	0.29		0.48	0.45	0.70
v/c Ratio	0.55	0.54		0.30	0.81		0.10	0.78		0.61	0.86	0.42
Control Delay	40.1	38.1		41.0	30.9		16.9	36.4		23.3	32.0	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.1	38.1		41.0	30.9		16.9	36.4		23.3	32.0	1.8
LOS	D	D		D	C		B	D		C	C	A
Approach Delay		39.1			32.7			36.0			23.5	
Approach LOS		D			C			D			C	
90th %ile Green (s)	23.0	23.0		15.0	15.0		6.0	28.0		15.0	37.0	
90th %ile Term Code	Max	Max		Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	22.8	22.8		15.0	15.0		6.0	28.0		15.0	37.0	
70th %ile Term Code	Gap	Gap		Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	17.7	17.7		12.9	12.9		0.0	25.5		11.9	44.4	
50th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Gap		Gap	Hold	
30th %ile Green (s)	13.6	13.6		9.0	9.0		0.0	20.5		9.7	37.2	
30th %ile Term Code	Gap	Gap		Gap	Gap		Skip	Gap		Gap	Hold	
10th %ile Green (s)	9.4	9.4		6.0	6.0		0.0	22.5		7.5	37.0	
10th %ile Term Code	Gap	Gap		Min	Min		Skip	Hold		Gap	Max	
Queue Length 50th (ft)	96	92		36	58		6	212		69	319	0
Queue Length 95th (ft)	180	174		84	#193		20	324		134	#659	36
Internal Link Dist (ft)		767			550			3534			434	
Turn Bay Length (ft)												
Base Capacity (vph)	458	463		317	465		194	1146		411	1568	1339
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.39	0.39		0.22	0.69		0.10	0.68		0.52	0.86	0.39

Intersection Summary

Area Type: Other

Lanes, Volumes, Timings
 8: North Main Street (Route 28) & Scanlon Drive/Russ Street

No Build (2029)
 PM Peak

Cycle Length: 103
 Actuated Cycle Length: 87.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 28.7 Intersection LOS: C
 Intersection Capacity Utilization 85.8% ICU Level of Service E
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 103
 70th %ile Actuated Cycle: 102.8
 50th %ile Actuated Cycle: 90
 30th %ile Actuated Cycle: 74.8
 10th %ile Actuated Cycle: 67.4
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: North Main Street (Route 28) & Scanlon Drive/Russ Street



HCM 6th TWSC
12: Bus Exit Driveway & Scanlon Drive

Build (2029)
AM Peak

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	658	0	0	307	0	15
Future Vol, veh/h	658	0	0	307	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	0	100
Mvmt Flow	715	0	0	334	0	16
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	-	-	-	1049	715
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	334	-
Critical Hdwy	-	-	-	-	6.4	7.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	4.2
Pot Cap-1 Maneuver	-	0	0	-	254	302
Stage 1	-	0	0	-	488	-
Stage 2	-	0	0	-	730	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	254	302
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	730	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0		17.6		
HCM LOS				C		
Minor Lane/Major Mvmt	NBLn1	EBT	WBT			
Capacity (veh/h)	302	-	-			
HCM Lane V/C Ratio	0.054	-	-			
HCM Control Delay (s)	17.6	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.2	-	-			

HCM 6th TWSC
14: Bus Entrance Driveway & Scanlon Drive

Build (2029)
AM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	658	0	15	292	0	0
Future Vol, veh/h	658	0	15	292	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, %	0	0	100	0	0	0
Mvmt Flow	715	0	16	317	0	0
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	715	0	1064	715
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	-	-	5.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	3.1	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	565	-	249	434
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	565	-	241	434
Mov Cap-2 Maneuver	-	-	-	-	241	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	695	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	565	-	
HCM Lane V/C Ratio	-	-	-	0.029	-	
HCM Control Delay (s)	0	-	-	11.6	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0.1	-	

HCM 6th TWSC
16: Auto Driveway & Scanlon Drive

Build (2029)
AM Peak

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	648	25	10	302	5	10
Future Vol, veh/h	648	25	10	302	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	704	27	11	328	5	11
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	731	0	1068	718
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	883	-	248	432
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	883	-	244	432
Mov Cap-2 Maneuver	-	-	-	-	244	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	707	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		16	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	344	-	-	883	-	
HCM Lane V/C Ratio	0.047	-	-	0.012	-	
HCM Control Delay (s)	16	-	-	9.1	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
12: Bus Entrance Driveway & Scanlon Drive

Build (2029)
PM Peak

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	335	0	15	573	0	0
Future Vol, veh/h	335	0	15	573	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, %	0	0	100	0	0	0
Mvmt Flow	364	0	16	623	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	364	0	1019	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	5.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	3.1	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	808	-	265	685
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	808	-	257	685
Mov Cap-2 Maneuver	-	-	-	-	257	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	505	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	808	-	
HCM Lane V/C Ratio	-	-	-	0.02	-	
HCM Control Delay (s)	0	-	-	9.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	-	-	-	0.1	-	

HCM 6th TWSC
14: Bus Exit Driveway & Scanlon Drive

Build (2029)
PM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↕	
Traffic Vol, veh/h	335	0	0	588	0	15
Future Vol, veh/h	335	0	0	588	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	3	0	100
Mvmt Flow	364	0	0	639	0	16
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	1003	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	639	-
Critical Hdwy	-	-	-	-	6.4	7.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	4.2
Pot Cap-1 Maneuver	-	0	0	-	271	508
Stage 1	-	0	0	-	707	-
Stage 2	-	0	0	-	530	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	271	508
Mov Cap-2 Maneuver	-	-	-	-	271	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	530	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		12.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1		EBT	WBT		
Capacity (veh/h)	508		-	-		
HCM Lane V/C Ratio	0.032		-	-		
HCM Control Delay (s)	12.3		-	-		
HCM Lane LOS	B		-	-		
HCM 95th %tile Q(veh)	0.1		-	-		

HCM 6th TWSC
15: Auto Driveway & Scanlon Drive

Build (2029)
PM Peak

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	345	5	10	567	21	14
Future Vol, veh/h	345	5	10	567	21	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	0	0	3	0	0
Mvmt Flow	375	5	11	616	23	15

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	380	0	1016
Stage 1	-	-	-	-	378
Stage 2	-	-	-	-	638
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1190	-	266
Stage 1	-	-	-	-	697
Stage 2	-	-	-	-	530
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1190	-	262
Mov Cap-2 Maneuver	-	-	-	-	262
Stage 1	-	-	-	-	697
Stage 2	-	-	-	-	523

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	347	-	-	1190	-
HCM Lane V/C Ratio	0.11	-	-	0.009	-
HCM Control Delay (s)	16.6	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-