Vanasse & Associates inc
Transportation Engineers & Planners

35 New England Business Center Drive
Suite 140
Andover, MA 01810

Ref: 8890

October 12, 2021

Zoning Board of Appeals
Town of Norwell
345 Main Street
Norwell, Massachusetts 02061

Re: Responses to Peer Review Traffic Comments
Proposed Residential Development - 15 High Street
Norwell, Massachusetts

To the Members of the Norwell Zoning Board of Appeals:

Vanasse & Associates, Inc. (VAI) is in receipt of the peer review comments dated July 26, 2021, prepared by CHA Consulting Inc. (CHA). For ease of review, we have provided their comments followed by our responses:

Comment 1: ***The TIA is generally consistent with MassDOT's Transportation Impact Assessment (TIA) Guidelines for the preparations for preparing a Traffic Impact Assessment and standard traffic engineering practice. The study includes an impact analysis of the weekday morning (7am-9am) and weekday evening (4pm- 6pm) peak periods. The time periods chosen for detailed analysis are appropriate for the proposed residential use. The TIA utilized a seven-year planning horizon from the baseline year of analysis and the crash analysis was proposed for the study area network based upon a 5-year data period.***

Response: No response required.

Comment 2: ***Project Study Area: The TIA evaluated four existing intersections and the two proposed site driveway intersections. The study area is appropriate for a project of this size and land use.***

Response: No response required.

Comment 3: ***Roadway Discussion: The discussion of Washington Street states that within the study area, sidewalk is provided along the northbound sides of the roadway and partially provided along the southbound side, with painted crosswalks provided across the corridor at the signalized intersection of High Street and Grove Street.***

Response: No response required.

Comment 4: ***Traffic Volumes: The turning movement counts (TMCs) and automatic traffic recorder (ATR) counts were conducted on Thursday, October 8, 2020 and Thursday, April 1, 2021 at the study intersections. Regional traffic volumes were generally reduced due to the ongoing COVID-19 pandemic. The traffic volumes were adjusted by 9 and 6 percent to adjust for the reduced traffic volumes resulting from the phased "Reopening Massachusetts Plan". In addition, the April 2021 volumes were adjusted upward by 1% to account for seasonality (April was determined to be a below-average traffic month)***

while there was no seasonality adjustment for the October counts since this was determined to be a 1% higher average month. Therefore, the October counts reflect a slightly more conservative assessment. We generally concur with this methodology.

Response: No response required.

Comment 5: ***Future No-Build Volumes: A one percent annual growth rate was applied for seven years from the 2021 Baseline peak hour traffic volumes to estimate peak hour traffic volumes in the planning year 2028. This growth rate was based on the same MassDOT continuous count station data used to calculate the seasonal adjustment factors which is appropriate.***

Response: No response required.

Comment 6: ***Trip Generation: We concur with the use of the ITE Trip Generation Manual, 10th Edition, Land Use Code 220 for the proposed use and the resulting daily, AM peak hour and PM peak hour volumes.***

Response: No response required.

Comment 7: ***Level of Service: The Level of Service Methodology used the 2000 Highway Capacity Manual for signalized intersections and 2010 Highway Capacity Manual for unsignalized intersections. The Highway Capacity Manual, 6th Edition, is the latest version of the HCM.***

Response: The accepted Synchro version 11 analysis program was used for all capacity analyses. The analysis for signalized intersections results utilized concepts and procedures of the 2000 version of the Highway Capacity Manual (HCM) rather than the more recent HCM 6th Edition because neither the HCM 6th nor the 2010 HCM edition procedures can analyze intersections with exclusive pedestrian phases such as that in place at the Washington Street at High Street and Grove Street. The (HCM) 2000 methodology is accepted by the Massachusetts Department of Transportation (MassDOT) when HCM 2010 and 6th edition results cannot be provided. The analysis for unsignalized intersection results utilized concepts and procedures of the HCM 2010 version. An updated capacity analysis table is provided in the appendix. The differences between the HCM 2010 and HCM 6th Edition in the analysis of unsignalized intersections are negligible and do not affect the results or conclusions of the TIA.

Comment 8: ***Crash Analysis: The Crash Rate Worksheet for Washington Street at High Street & Grove Street shows the eastbound volumes as 583 but a review of the Existing PM peak hour volumes shown on Figure 3 show that the eastbound approach volumes total 385 vehicles. The volumes should be revised, and the analysis updated which may result in the intersection crash rate exceeding the District 5 and the statewide crash rate.***

Response: The Crash Rate Worksheet for Washington Street at High Street & Grove Street was updated and is provided on the appendix of this letter. The updated analysis shows that the calculated crash rate for this intersection (number of reported motor vehicle crashes per million vehicles entering the intersection) was found to be above the MassDOT average for the District in which the Project is located (District 5). None of the study area

intersections are shown as a high crash cluster on the MassDOT Top Crash Locations database.

Comment 9: ***Crash Analysis: The Crash Rate Worksheet for High Street & Oak Street does not match the geometry or for the Existing PM peak hour volumes shown on Figure 3. The volumes should be revised, and the analysis and discussion updated.***

Response: The Crash Rate worksheet for this location was updated and is provided in the appendix of this letter. This update did not change the result that the intersection was found to have a motor vehicle crash rate below the MassDOT average for District 5 and statewide.

Comment 10: ***Sight Distance: The sight distance evaluation should identify the object height, driver's eye height and the decision point on the minor road (vehicle exiting the site driveway).***

Response: The available sight distance presented in the *April 2021 Traffic Impact Report* (TIA)[1] was measured from the perspective of a driver exiting the site access roads looking in both directions along High Street. In addition, the left-turn and right-turn sight distance for vehicles traveling along High Street making a turn into the site was also measured. See response to comment 11.

Comment 11: ***Sight Distance: The sight distance table does not include the sight distance for a vehicle exiting the site driveway (minor road) making a right turn looking to the left (AASHTO Table 9-9) nor does it include the sight distance for a vehicle on High Street (major road) making a left turn on to the minor road (site driveway) (AASHTO Table 9-17). These Intersection Sight Distances should be included in the table – showing both the AASHTO Required Design Values and the measured distances and the sight distance discussion updated.***

Response: A sight distance analysis has been performed for the proposed site driveways following *American Association of State Highway and Transportation Officials (AASHTO)*[2] standards. Results of this analysis were provided in the *April 2021 TIA* and are summarized in detail below, as requested by CHA.

As identified in the *April 2021 TIA,* the posted speed limit on High Street in the vicinity of the site is 35 mph in the southbound direction and 30 mph in the northbound direction. Based on the speed data collected by VAI, the 85th percentile speed on High Street was measured to be approximately 35 mph in the northbound direction and 33 mph in the southbound direction. The available sight distance presented in the April 2021 TIA was measured from the perspective of a driver exiting the site access roads looking in both directions along High Street.

Additional measurements were conducted of the sight distance for vehicles traveling along High Street approaching the site to turn left into the site roadways. These distances were compared to the guidelines presented in the AASHTO for the applicable measured operating speed on High Street. The results of the sight distance analysis are summarized

[1] Transportation Impact Assessment - Proposed Residential Development – 15 High Street– Norwell, Massachusetts; VAI.; April 2021.
[2] A Policy on Geometric Design of Highway and Streets (*"Green Book*"), 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

in Table 1.

Table 1
SIGHT DISTANCE MEASUREMENTS[a]

Intersection/Sight Distance Measurement	Measured	Recommended[b]
High Street at Site Driveway A		
Intersection Sight Distance:		
Right Turn from Site Driveway (looking left)	341	335
Left Turn from Major Road (looking straight)	370	285
High Street at Site Driveway B		
Intersection Sight Distance:		
Right Turn from Site Driveway (looking left)	138/400	335
Left Turn from Major Road (looking straight)	500	285

[a]Recommended minimum values obtained from *Green Book,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018.
[b]Based on posted speed of 35 mph (85th percentile speed is 33 mph in NB direction and 35 mph in the SB direction).
[c]Existing sight distance/sight distance with removal of existing bush (to be eliminated).

Driveway A at High Street

As can be seen on Table 1, the results of the sight distance evaluation on High Street at the proposed Site Driveway A indicates that the available intersection sight distance looking left for vehicles to make a right turn exiting the site and also for vehicles turning left into the site exceeds AASHTO requirements for the applicable operating speed as shown in Photograph No. 1 and No. 2.

Photograph No. 1 – Sight Distance at Site Driveway A Looking Left

Photograph No. 2 – Sight Distance at Site Driveway A Looking Straight

Driveway B at High Street

As can be seen on Table 1, the results of the sight distance evaluation on High Street at the proposed Site Driveway B indicates that the available intersection sight for vehicles turning left into the site exceeds AASHTO requirements for the applicable operating speed as shown in Photograph No. 3.

Photograph No. 3 – Sight Distance at Site Driveway B Looking Straight

The evaluation also indicated that available intersection sight distance looking left for

vehicles to make a right turn exiting the site does not currently meet standards; however, this can be easily remedied by removal of several bushes, which are proposed to be removed through site development activities. This is shown in Photograph No. 4.

Photograph No. 4 – Sight Distance at Site Driveway B Looking Left

Comment 12: ***Capacity Analysis: The Washington Street & High Street/ Grove Street intersection's peak hour factor (PHF) and percent heavy vehicle (% HV) should be reviewed and updated accordingly for the AM peak hour. The Washington Street & High Street/ Grove Street intersection's PHF's should be reviewed and updated accordingly for the PM peak hour. Some of these factors shown on the capacity analyses sheets that don't match what is showing on the count data sheets. Review the other intersections and revise as necessary. Update the LOS tables and discussions accordingly.***

Response: The capacity analysis report was review and is provided in the appendix of this letter. Overall, the changes in the PHF and truck percentage were minimal. Changes on the results were negligible and do not affect the results or conclusions of the TIA.

Comment 13: ***Capacity Analysis: Table 11 summarizes the signalized intersection LOS and vehicle queue summary for the Washington Street & High Street/ Grove Street intersection. A review of the results indicates that the eastbound approach currently queues to the proposed driveway and will continue to queue beyond the proposed northerly site driveway during both peak hours. Therefore, vehicles exiting the site's northerly site driveway will be impeded by the signalized intersection. Consider eliminating this northern driveway or making it a right turn in/ right turn out only driveway.***

Response: Changing the driveway to right-turn in/right-turn out only operation is not necessary, as the southern driveway is available if the northern driveway is temporarily blocked. The northern driveway is approximately 220 feet from the STOP bar and analysis indicates it would not be blocked by the average queue which would occur during approximately 30

minutes of the evening peak hour. Analysis indicates the driveway to be blocked by the 95th percentile queue during the weekday evening and the weekday morning queue; however, this queue represents a theoretical maximum and represents the vehicle queue during 3 minutes of the peak hours. This condition does not, in our opinion, require the elimination or restriction of the driveway to right-in/right-out only access, because of the negative impacts such a change would present to the remainder of the development. Restricting exiting movements to this type of operation would permanently direct all left turns during all hours of the day and night to be made from the southern driveway, which would in turn unnecessarily increase travel through the development. This would be a drastic action to restrict left-turn movements from the north driveway, which are expected to result in less than 1 vehicle turning left every 6-7 minutes during the highest-volume condition (of the driveway) morning time period. During this same peak hour, the queue from the Washington Street intersection extends on average half the distance to this driveway.

Comments on the Site Plans:

Comment 1: ***Parking Spaces Size: The site plan proposes 9' x 18' parking spaces and a 20' wide two-way access aisle. However, according to the Town of Norwell Zoning Code Section 201-12.4, a parking space shall not be less than nine feet in width by 20 feet in length together with an aisle of at least 24 feet. The site plan should be modified to conform to the Town of Norwell Zoning Code.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 2: ***Driveway Width: The site plan shows two 20' wide two-way driveways at the street line. According to the Town of Norwell Zoning Code, Section 201-12.7, the minimum width of a driveway used for two-way traffic shall be 24 feet and no driveway opening shall exceed 24 feet in width at the street line. The site plan should be modified to meet these minimum standards.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 3: ***Residential Driveway Length: We recommend that a minimum distance of 25 feet be provided between the face of the garage and edge of the sidewalk to accommodate sufficient space for a vehicle to park in the driveway without obstructing pedestrian movements in the sidewalk.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 4: ***Parking Space Number: Based upon the proposed number and type of residential units, the total number of parking spaces required is 84 as shown on the site plan. However, 122 parking spaces are proposed, including the garage and driveway spaces. The ITE Parking Generation, 5th Edition shows that the calculated parking demand for 56 dwelling units based upon Land Use Code 220- Multifamily Housing (Low Rise) is 68.***

Providing additional parking spaces can sufficiently accommodate the proposed development but increases impervious area, reduces green space and affects the layout and conformance to the Town Standards.

Response: It is anticipated that the residents will rely primarily on personal vehicles for commuting and personal travel, since the Project is not in an area of significant public transit. In addition, the proposed parking supply allows for approximately 10 visitor parking spaces located in various areas throughout the site.

Comment 5: ***Sight Lines: The site plan should include a delineation of the clear sight triangle at the intersection of the proposed driveways. Vision obstructing objects or landscaping within the clear sight triangle should be removed to allow for a clear sight line.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 6: ***Emergency Access: A site plan showing an Autoturn analysis of the turning movements at the site driveways and on-site circulation of the Town's Fire Trucks should be provided. The Applicant should confirm that the fire truck used for analysis is the largest anticipated emergency apparatus used by the Town of Norwell Fire Department. It is also recommended that the Applicant review the site access and circulation with the Fire Department.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 7: ***Site Access Loading: A site plan showing an Autoturn analysis of the turning movements at the site driveways and on-site circulation of the trash vehicle to access the recycling areas should be provided. The size of the vehicle used should also be identified.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 8: ***Southern site access crosswalk: The plan appears to show two crosswalks at this site access which should be revised.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 9: ***Stop Sign: The Stop Sign Detail shows a 24" x 24" R1-1 sign. In accordance with the FHWA MUTCD, the R1-1 Stop Sign for a signal lane conventional road is 30" x 30". The detail should be modified.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

Comment 10: ***Crosswalk: Details of the proposed crosswalks should be provided.***

Response: Please refer to updated site plans to be provided by the site engineer, Merrill Engineers and Land Surveyors.

We trust that the above satisfactorily addresses the comments and if you should have any questions or require additional information, please feel free to contact me at sthornton@rdva.com to discuss any aspects of this letter.

Sincerely,

VANASSE & ASSOCIATES, INC.

Scott W. Thornton, P.E.,
Principal

Enclosure:
Technical Appendix

Cc: S. Gallagher, P. Crabtree – Northland Residential

APPENDIX

MOTOR VEHICLE CRASH DATA
STOP SIGHT DISTANCE
CAPACITY ANALYSIS

MOTOR VEHICLE CRASH DATA

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Norwell COUNT DATE : 2020/2021

DISTRICT : 5 UNSIGNALIZED : SIGNALIZED : X

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Washington St (Route 53) ST #

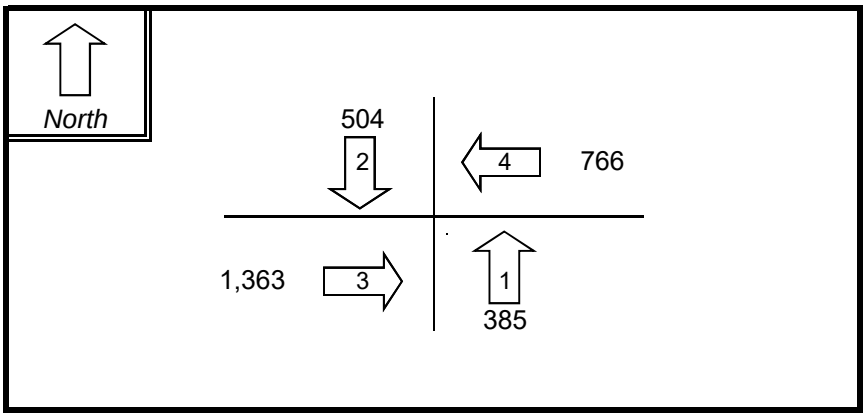
MINOR STREET(S) : High Street ST #

Grove Street ST #

ST #

ST #

INTERSECTION DIAGRAM
(Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4		Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (PM) :	385	504	1,363	766		3,018

" K " FACTOR : 0.090 APPROACH ADT : 33,533 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 54 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (**A**) : 10.80

CRASH RATE CALCULATION : 0.88 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments : Accident Rate for District 5 signalized intersections = 0.75

Accident Rate for District 5 unsignalized intersections = 0.57

Statewide = Signalized Intersection - 0.78 Unsignalized - 0.57

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Norwell COUNT DATE : 2020/2021

DISTRICT : 5 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : High Street ST #

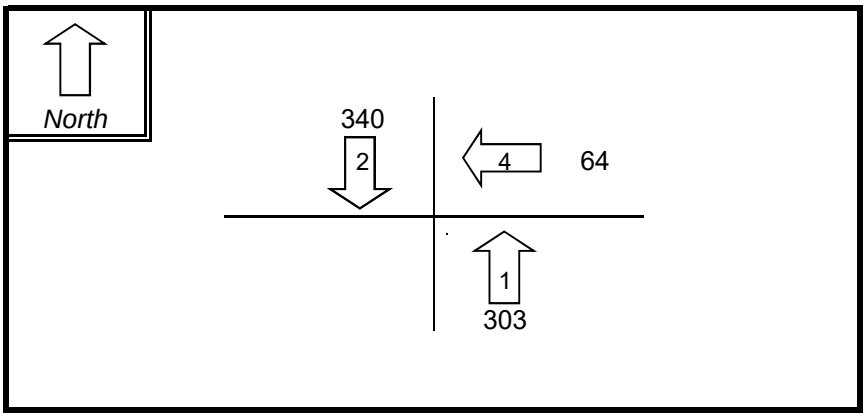
MINOR STREET(S) : Oak Street ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM
(Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB		WB		
VOLUMES (PM) :	303	340		64		**707**

" K " FACTOR : **0.090** APPROACH ADT : **7,856** **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 2 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (**A**) : **0.40**

CRASH RATE CALCULATION : **0.14** RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments : Accident Rate for District 5 signalized intersections = 0.75

Accident Rate for District 5 unsignalized intersections = 0.57

Statewide = Signalized Intersection - 0.78 Unsignalized - 0.57

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Norwell COUNT DATE : 2020/2021

DISTRICT : 5 UNSIGNALIZED : x SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Washington St (Route 53) ST #

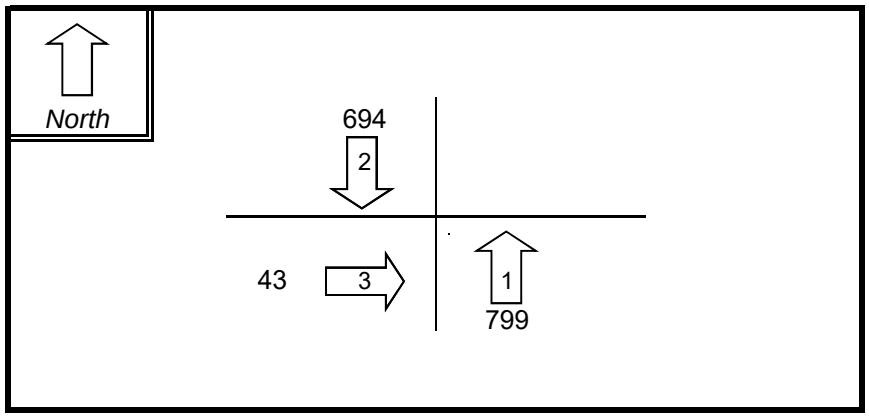
MINOR STREET(S) : Oak Street ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM
(Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3			Total Entering Vehicles
DIRECTION :	NB	SB	EB			
VOLUMES (PM) :	799	694	43			1,536

" K " FACTOR : 0.090 APPROACH ADT : 17,067 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 5 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (**A**) : 1.00

CRASH RATE CALCULATION : 0.16 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments : Accident Rate for District 5 signalized intersections = 0.75

Accident Rate for District 5 unsignalized intersections = 0.57

Statewide = Signalized Intersection - 0.78 Unsignalized - 0.57

Route 53 Corridor Study in Norwell

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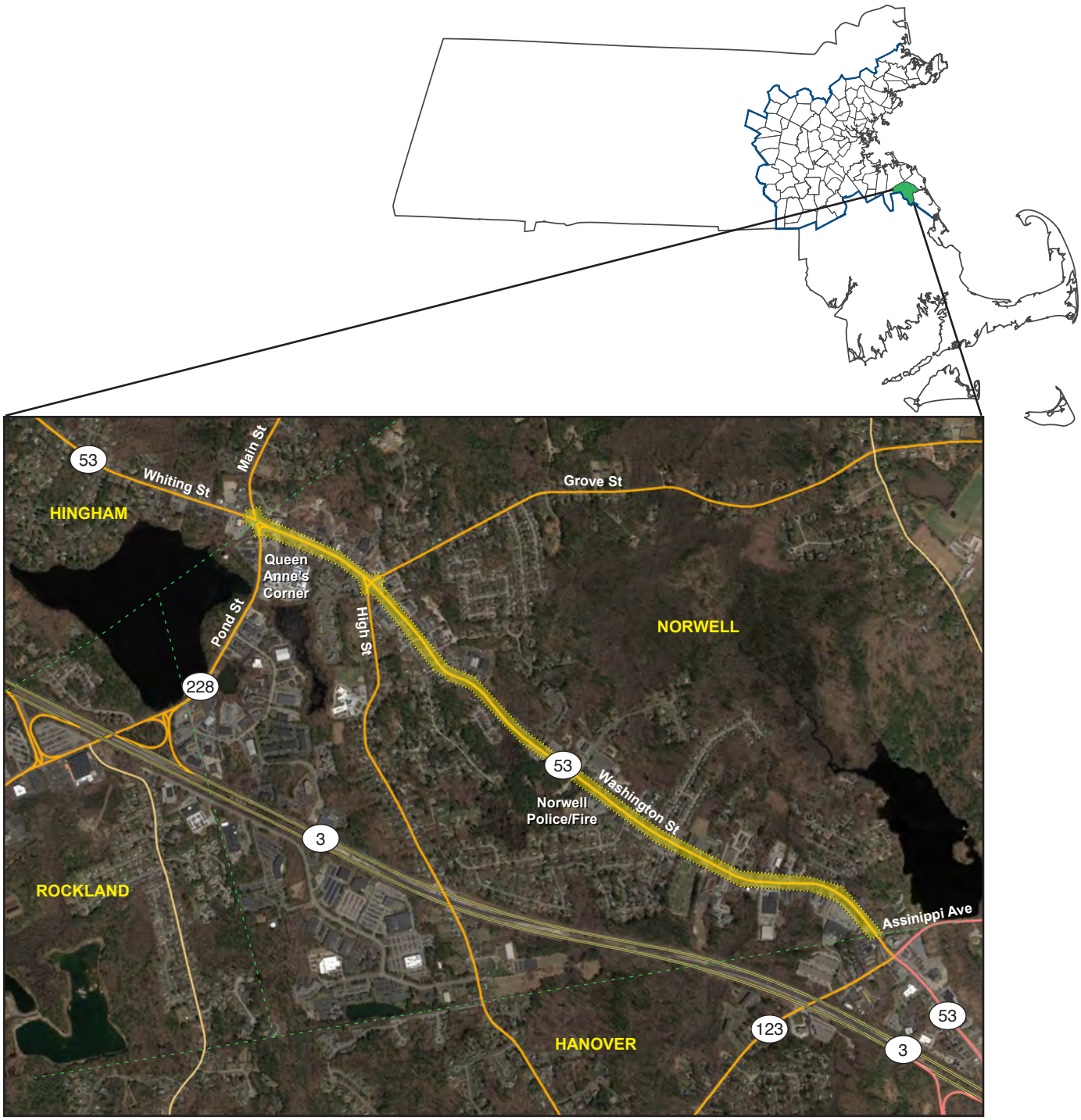
The preparation of this document was supported
by the Federal Highway Administration through
MPO Planning Contract #105757 and MPO §5303 Contract #102694.

Central Transportation Planning Staff is
directed by the Boston Region Metropolitan
Planning Organization (MPO). The MPO is composed of
state and regional agencies and authorities, and
local governments.

June 2021



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SYMBOLS

- Moving Vehicle
- Backing Vehicle
- Non-Involved Vehicle
- Pedestrian
- Parked Vehicle
- Fixed Object
- Bicycle

TYPES OF CRASH

- Head On
- Angle
- Rear End
- Sideswipe
- Out of Control

CRASH INDEX AND SEVERITY

#, (#), (#)

- # Property Damage Only Crash Index Number
- (#) Injury Crash Index Number
- (#) Fatal Crash Index Number

BOSTON REGION MPO

North

Figure K-3
Collision Diagram: Route 53 at High Street and Grove Street
Norwell Police Crash Reports 2015–19

Addressing Safety, Mobility, and Access on Subregional Priority Roadways

Table K-3
Summary of Crashes: Route 53 at High Street and Grove Street
Norwell Police Crash Reports 2015–19

Index	Crash Date	Day	Time	Crash Severity	Manner of Collision	Road Surface Condition	Ambient Light Condition	Weather Condition	Vehicle Action Veh #1	Vehicle Action Veh #2	Most Harmful Event	Driver Contribution
1	1/21/2015	Wednesday	20:14	PDO	Rear-end	Dry	Dark - lighted roadway	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Other improper action
2	2/25/2015	Wednesday	13:39	PDO	Angle	Dry	Daylight	Clear	Travelling straight ahead	Turning right	Collision with motor vehicle in transport	No improper driving
3	3/13/2015	Friday	7:47	PDO	Angle	Dry	Daylight	Clear	Travelling straight ahead	Turning left	Collision with motor vehicle in transport	Other improper action
4	3/17/2015	Tuesday	11:29	Non Fatal Injury	Rear-end	Wet	Daylight	Rain	Slowing or stopped	Turning right	Collision with motor vehicle in transport	No improper driving
5	3/29/2015	Sunday	19:37	PDO	Angle	Dry	Dark - lighted roadway	Clear	Travelling straight ahead	Turning left	Collision with motor vehicle in transport	Failed to yield right of way
6	6/12/2015	Friday	13:24	PDO	Sideswipe, same direction	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	Other improper action
7	7/8/2015	Wednesday	11:42	Non Fatal Injury	Angle	Dry	Daylight	Clear	Turning left	Travelling straight ahead	Collision with motor vehicle in transport	Unknown
8	11/2/2015	Monday	14:59	Non Fatal Injury	Rear-end	Dry	Daylight	Rain	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Inattention
9	11/21/2015	Saturday	13:29	PDO	Sideswipe, opposite direction	Dry	Daylight	Clear	Travelling straight ahead	Entering traffic lane	Collision with motor vehicle in transport	Operating defective equipment
10	12/4/2015	Friday	17:01	PDO	Angle	Dry	Dark - lighted roadway	Clear	Turning left	Travelling straight ahead	Collision with motor vehicle in transport	Failed to yield right of way
11	3/26/2016	Saturday	13:28	Non Fatal Injury	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	Other improper action
12	6/28/2016	Tuesday	16:54	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	No improper driving
13	7/8/2016	Friday	12:31	PDO	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Slowing or stopped	Collision with motor vehicle in transport	Other improper action
14	7/21/2016	Thursday	15:30	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Unknown
15	9/6/2016	Tuesday	11:01	PDO	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	Other improper action
16	9/16/2016	Friday	16:32	PDO	Rear-end	Dry	Daylight	Cloudy	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Followed too closely
17	10/24/2016	Monday	15:42	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Inattention
18	10/28/2016	Friday	13:35	Non Fatal Injury	Rear-end	Dry	Daylight	Cloudy	Slowing or stopped	Parked	Collision with motor vehicle in transport	Unknown
19	10/30/2016	Sunday	18:28	PDO	Rear-end	Wet	Dark - lighted roadway	Rain	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	No improper driving
20	11/4/2016	Friday	16:41	PDO	Head on	Dry	Daylight	Clear	Turning left	Slowing or stopped	Collision with motor vehicle in transport	No improper driving
21	11/8/2016	Tuesday	16:10	Non Fatal Injury	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	No improper driving
22	2/7/2017	Tuesday	9:19	PDO	Angle	Wet	Daylight	Snow	Turning right	Making U-turn	Collision with motor vehicle in transport	No improper driving
23	4/30/2017	Sunday	17:44	PDO	Angle	Dry	Daylight	Clear	Travelling straight ahead	Turning left	Collision with motor vehicle in transport	Visibility obstructed
24	6/8/2017	Thursday	8:17	PDO	Angle	Dry	Daylight	Clear	Turning left	Travelling straight ahead	Collision with motor vehicle in transport	Other improper action
25	7/24/2017	Monday	15:04	PDO	Rear-end	Wet	Daylight	Rain	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	Inattention
26	8/1/2017	Tuesday	13:57	Non Fatal Injury	Angle	Dry	Daylight	Clear	Turning left	Travelling straight ahead	Collision with motor vehicle in transport	Unknown
27	8/1/2017	Tuesday	14:45	PDO	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	Unknown
28	8/15/2017	Tuesday	13:34	PDO	Rear-end	Dry	Daylight	Cloudy	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	No improper driving
29	11/26/2017	Sunday	10:52	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	Unknown
30	12/5/2017	Tuesday	12:02	Non Fatal Injury	Rear-end	Dry	Daylight	Cloudy	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	No improper driving
31	1/5/2018	Friday	15:19	Non Fatal Injury	Rear-end	Snow	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Distracted
32	3/29/2018	Thursday	11:59	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	Other improper action
33	5/5/2018	Saturday	13:15	PDO	Sideswipe, same direction	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	No improper driving
34	5/18/2018	Friday	9:59	PDO	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	Other improper action
35	7/20/2018	Friday	14:36	PDO	Angle	Dry	Daylight	Clear	Travelling straight ahead	Turning left	Collision with motor vehicle in transport	Visibility obstructed
36	10/17/2018	Wednesday	15:41	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Unknown
37	12/5/2018	Wednesday	7:40	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Slowing or stopped	Collision with motor vehicle in transport	No improper driving
38	12/11/2018	Tuesday	17:53	Non Fatal Injury	Angle	Dry	Dark - lighted roadway	Clear	Travelling straight ahead	Travelling straight ahead	Collision with motor vehicle in transport	Operating vehicle in erratic, rackless, careless, negligent or aggressive manner
39	1/23/2019	Wednesday	9:20	PDO	Rear-end	Dry	Daylight	Cloudy	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Followed too closely
40	3/30/2019	Saturday	14:43	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Followed too closely
41	4/3/2019	Wednesday	14:30	PDO	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Followed too closely
42	9/5/2019	Thursday	19:02	PDO	Rear-end	Dry	Daylight	Clear	Travelling straight ahead	Slowing or stopped	Collision with motor vehicle in transport	Unknown
43	9/25/2019	Wednesday	12:26	Non Fatal Injury	Rear-end	Dry	Daylight	Clear	Slowing or stopped	Travelling straight ahead	Collision with motor vehicle in transport	Followed too closely
44	12/5/2019	Thursday	15:13	PDO	Angle	Dry	Daylight	Clear	Travelling straight ahead	Turning left	Collision with motor vehicle in transport	Unknown
45	12/12/2019	Thursday	7:59	PDO	Sideswipe, same direction	Dry	Daylight	Clear	Entering traffic lane	Entering traffic lane	Collision with motor vehicle in transport	Failed to yield right of way

Note: PDO = Property Damage Only

STOP SIGHT DISTANCE

CAPACITY ANALYSIS

Washington Street (Route 53) at High Street/Grove Street
High Street at Private driveway (Washington square Condominium Complex)
High Street at Oak Street
Washington Street (Route 53) at Oak Street
High Street at Site Drive A
High Street at Site Drive B

Table 11
SIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

	2021 Existing				2028 No-Build				2028 Build			
Signalized Intersection/Peak Hour/Movement	V/C[a]	Delay[b]	LOS[c]	Queue[d] Avg/95th	V/C	Delay	LOS	Queue Avg/95th	V/C	Delay	LOS	Queue Avg/95th
Route 53 at High Street and Grove Street												
Weekday Morning:												
High Street EB LT	0.57	31.9	C	104/223	0.61	33.1	C	112/240	0.64	34.2	C	120/253
High Street EB TH RT	0.14	19.9	B	30/84	0.15	19.8	B	32/89	0.15	19.6	B	34/91
Grove Street WB LT	0.56	57.9	E	50/112	0.6	59.8	E	55/121	0.60	60.0	E	55/121
Grove Street WB TH	0.58	53.8	D	76/153	0.61	54.6	D	82/162	0.61	55.0	E	84/164
Grove Street WB RT	0.3	0.40	A	0/0	0.32	0.50	A	0/0	0.32	0.50	A	0/0
Route 53 SB LT	0.76	56.2	E	134/287	0.77	55.9	E	144/321	0.76	55.9	E	144/321
Route 53 SB TH	0.78	46.7	D	231/554	0.86	52.9	D	258/614	0.86	53.4	D	259/614
Route 53 SB RT	0.13	0.20	A	0/0	0.14	0.20	A	0/0	0.14	0.20	A	0/0
Route 53 NB LT	0.06	39.7	D	10/38	0.06	39.8	D	11/40	0.07	39.8	D	11/41
Route 53 NB TH RT	0.49	33.7	C	130/264	0.56	36.0	D	146/305	0.56	36.2	D	147/305
Overall	--	**29.2**	**C**	--	--	**31.0**	C	--	--	**31.3**	**C**	--
Weekday Evening:												
High Street EB LT	0.68	45.9	D	176/323	0.72	47.5	D	192/373	0.74	48.5	D	197/394
High Street EB TH RT	0.24	32.8	C	79/162	0.26	32.9	C	87/176	0.27	33.0	C	88/179
Grove Street WB LT	0.69	78.2	E	73/171	0.73	80.9	F	82/199	0.73	81.0	F	82/199
Grove Street WB TH	0.36	56.5	E	54/120	0.36	56.2	E	58/128	0.37	56.4	E	59/130
Grove Street WB RT	0.21	0.30	A	0/0	0.22	0.3	A	0/0	0.22	0.30	A	0/0
Route 53 SB LT	0.88	63.9	E	310/648	0.95	76.2	E	348/712	0.95	76.3	E	348/712
Route 53 SB TH	0.91	53.7	D	464/932	0.99	70.3	E	541/1045	0.99	70.4	E	541/1045
Route 53 SB RT	0.18	0.20	A	0/0	0.19	0.2	A	0/0	0.20	0.20	A	0/0
Route 53 NB LT	0.06	50.6	D	11/38	0.06	50.7	D	12/40	0.08	50.8	D	14/44
Route 53 NB TH RT	0.84	51.3	D	306/550	0.92	59.7	E	350/628	0.92	59.7	E	350/628
Overall	--	**42.4**	**D**	--	--	**50.0**	D	--	--	**50.0**	D	--

[a]Volume-to-capacity ratio.
[b]Control (signal) delay per vehicle in seconds.
[c]Level of service.
[d]Queue length in feet.
NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

Table 12
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2021 Existing				2028 No-Build				2028 Build			
	Demand[a]	Delay[b]	LOS[c]	Queue 95th Percentile	Demand	Delay	LOS	Queue 95th Percentile	Demand	Delay	LOS	Queue 95th Percentile
High Street at Private Driveway												
Weekday Morning:												
Private Driveway EB LT TH	9	12.4	B	0.1	9	12.8	B	0.1	9	13.1	B	0.1
High Street NB LT	22	8.0	A	0.1	22	8.1	A	0.1	22	8.0	A	0.1
Weekday Evening:												
Private Driveway EB LT TH	85	18.1	C	1.0	85	19.9	C	1.1	85	20.8	C	1.2
High Street NB LT	6	8.2	A	0.0	6	8.3	A	0.0	6	8.4	A	0.0
High Street at Oak Street												
Weekday Morning:												
Oak Street WB LT RT	123	29.5	D	3.4	132	41.6	E	4.9	132	42.2	E	5.0
High Street SB LT	4	9.1	A	0.3	4	9.3	A	0.4	5	9.3	A	0.4
Weekday Evening:												
Oak Street WB LT RT	54	25.9	D	1.2	58	33.9	D	1.8	59	34.1	D	1.9
High Street SB LT	21	9.5	A	0.2	21	9.8	A	0.2	23	9.8	A	0.2
Route 53 at Oak Street												
Weekday Morning:												
Oak Street EB LT TH	93	27.7	D	3.5	100	35.1	E	4.6	101	36.1	E	4.7
Route 53 NB LT	83	9.4	A	0.0	89	9.6	A	0.0	89	9.6	A	0.0
Weekday Evening:												
Oak Street EB LT TH	43	16.9	C	0.8	47	18.5	C	1.0	48	18.7	C	1.0
Route 53 NB LT	44	8.1	A	0.1	47	8.2	A	0.1	48	8.2	A	0.1
High Street at Site Drive A												
Weekday Morning:												
Site Driveway EB LT/RT	--	--	--	--	--	--	--	--	11	13.7	B	0.1
High Street NB LT	--	--	--	--	--	--	--	--	1	8.0	A	0.0
Weekday Evening:												
Site Driveway EB LT/RT	--	--	--	--	--	--	--	--	7	15.0	C	0.1
High Street NB LT	--	--	--	--	--	--	--	--	2	8.3	A	0.0

See notes at end of table.

Table 12 (Continued)
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2021 Existing				2028 No-Build				2028 Build			
	Demand[a]	Delay[b]	LOS[c]	Queue 95th Percentile	Demand	Delay	LOS	Queue 95th Percentile	Demand	Delay	LOS	Queue 95th Percentile
High Street at Site Drive B												
Weekday Morning:												
Site Driveway B EB LT/RT	--	--	--	--	--	--	--	--	10	13.6	B	0.1
High Street NB LT	--	--	--	--	--	--	--	--	1	8.0	A	0.0
Weekday Evening:												
Site Driveway B EB LT/RT	--	--	--	--	--	--	--	--	6	14.6	B	0.1
High Street NB LT	--	--	--	--	--	--	--	--	2	8.3	A	0.0

[a]Demand in vehicles per hour.
[b]Control (signal) delay per vehicle in seconds.
[c]Level of service.
[d]Queue length in vehicles.
NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

Washington Street (Route 53) at High Street/Grove Street

AM Peak Class Breakdown

Leg	Washington Street (Route 53)							Washington Street (Route 53)							High Street							Grove Street							
Direction	Northbound							Southbound							Eastbound							Westbound							
Start Time	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
2020-10-08 08:15:00	6	88	11	0	**105**	0	0	40	71	51	0	**162**	0	0	56	9	6	0	**71**	0	0	15	24	126	0	**165**	0	1	**503**
2020-10-08 08:30:00	4	92	10	0	**106**	3	0	48	80	47	0	**175**	0	0	47	8	6	0	**61**	0	0	16	35	81	0	**132**	0	0	**474**
2020-10-08 08:45:00	6	88	12	0	**106**	0	1	51	100	34	0	**185**	0	0	48	22	5	0	**75**	0	0	20	29	85	0	**134**	0	0	**500**
2020-10-08 09:00:00	0	99	20	0	**119**	0	0	57	100	36	0	**193**	0	0	43	15	7	0	**65**	0	0	14	5	108	0	**127**	0	0	**504**
Grand Total	16	367	53	0	**436**	3	1	196	351	168	0	**715**	0	0	194	54	24	0	**272**	0	0	65	93	400	0	**558**	0	1	**1981**
% Approach	3.7%	84.2%	12.2%	0.0%				27.4%	49.1%	23.5%	0.0%				71.3%	19.9%	8.8%	0.0%				11.6%	16.7%	71.7%	0.0%				
% Total	0.8%	18.5%	2.7%	0.0%	**22.0%**			9.9%	17.7%	8.5%	0.0%	**36.1%**			9.8%	2.7%	1.2%	0.0%	**13.7%**			3.3%	4.7%	20.2%	0.0%	**28.2%**			
PHF (Oct 08 2020 8:15AM - 9:15 AM)	0.667	0.927	0.663	0	**0.916**			0.86	0.878	0.824	0	**0.926**			0.866	0.614	0.857	0	**0.907**			0.813	0.664	0.794	0	**0.845**			**0.983**
Motorcycles	0	0	0	0	**0**			0	0	0	0	**0**			0	0	0	0	**0**			0	0	0	0	**0**			**0**
% Motorcycles	0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.0%**
Lights	16	353	49	0	**418**			186	338	162	0	**686**			189	54	23	0	**266**			62	92	393	0	**547**			**1917**
% Lights	100.0%	96.2%	92.5%	0.0%	**95.9%**			94.9%	96.3%	96.4%	0.0%	**95.9%**			97.4%	100.0%	95.8%	0.0%	**97.8%**			95.4%	98.9%	98.3%	0.0%	**98.0%**			**96.8%**
Single-Unit Trucks	0	13	2	0	**15**			9	10	6	0	**25**			5	0	0	0	**5**			2	1	6	0	**9**			**54**
% Single-Unit Trucks	0.0%	3.5%	3.8%	0.0%	**3.4%**			4.6%	2.8%	3.6%	0.0%	**3.5%**			2.6%	0.0%	0.0%	0.0%	**1.8%**			3.1%	1.1%	1.5%	0.0%	**1.6%**			**2.7%**
Articulated Trucks	0	1	1	0	**2**			1	2	0	0	**3**			0	0	0	0	**0**			0	0	0	0	**0**			**5**
% Articulated Trucks	0.0%	0.3%	1.9%	0.0%	**0.5%**			0.5%	0.6%	0.0%	0.0%	**0.4%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.3%**
Buses	0	0	1	0	**1**			0	1	0	0	**1**			0	0	1	0	**1**			1	0	1	0	**2**			**5**
% Buses	0.0%	0.0%	1.9%	0.0%	**0.2%**			0.0%	0.3%	0.0%	0.0%	**0.1%**			0.0%	0.0%	4.2%	0.0%	**0.4%**			1.5%	0.0%	0.3%	0.0%	**0.4%**			**0.3%**
Bicycles on Road	0	0	0	0	**0**			0	0	0	0	**0**			0	0	0	0	**0**			0	0	0	0	**0**			**0**
% Bicycles on Road	0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.0%**
Pedestrians						3	1						0	0						0	0						0	1	
% Pedestrians						100.0%	100.0%						0.0%	0.0%						0.0%	0.0%						0.0%	100.0%	
Bicycles on Crosswalk						0	0						0	0						0	0						0	0	
% Bicycles on Crosswalk						0.0%	0.0%						0.0%	0.0%						0.0%	0.0%						0.0%	0.0%	

PM Peak Class Breakdown

Leg	Washington Street (Route 53)							Washington Street (Route 53)							High Street							Grove Street							
Direction	Northbound							Southbound							Eastbound							Westbound							
Start Time	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	**App Total**	Peds CW	Peds CCW	**Int Total**
2020-10-08 16:45:00	4	140	28	0	**172**	0	0	85	155	73	0	**313**	0	0	58	18	2	0	**78**	0	0	27	12	81	0	**120**	0	0	**683**
2020-10-08 17:00:00	1	135	18	0	**154**	0	3	95	143	69	0	**307**	0	0	49	32	9	0	**90**	0	0	22	21	76	0	**119**	0	0	**670**
2020-10-08 17:15:00	6	164	12	0	**182**	2	0	93	145	77	0	**315**	0	0	60	18	6	0	**84**	0	0	21	19	72	0	**112**	0	0	**693**
2020-10-08 17:30:00	3	167	18	0	**188**	0	0	105	143	55	0	**303**	0	0	64	31	3	0	**98**	0	0	15	13	78	0	**106**	0	0	**695**
Grand Total	14	606	76	0	**696**	2	3	378	586	274	0	**1238**	0	0	231	99	20	0	**350**	0	0	85	65	307	0	**457**	0	0	**2741**
% Approach	2.0%	87.1%	10.9%	0.0%				30.5%	47.3%	22.1%	0.0%				66.0%	28.3%	5.7%	0.0%				18.6%	14.2%	67.2%	0.0%				
% Total	0.5%	22.1%	2.8%	0.0%	**25.4%**			13.8%	21.4%	10.0%	0.0%	**45.2%**			8.4%	3.6%	0.7%	0.0%	**12.8%**			3.1%	2.4%	11.2%	0.0%	**16.7%**			
PHF (Oct 08 2020 4:45PM - 5:45 PM)	0.583	0.906	0.679	0	**0.924**			0.9	0.945	0.89	0	**0.983**			0.902	0.773	0.556	0	**0.893**			0.787	0.774	0.948	0	**0.952**			**0.986**
Motorcycles	0	0	0	0	**0**			1	2	2	0	**5**			0	0	0	0	**0**			0	0	0	0	**0**			**5**
% Motorcycles	0.0%	0.0%	0.0%	0.0%	**0.0%**			0.3%	0.3%	0.7%	0.0%	**0.4%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.2%**
Lights	14	600	76	0	**690**			374	568	269	0	**1211**			230	99	20	0	**349**			85	64	299	0	**448**			**2698**
% Lights	100.0%	99.0%	100.0%	0.0%	**99.1%**			98.9%	96.9%	98.2%	0.0%	**97.8%**			99.6%	100.0%	100.0%	0.0%	**99.7%**			100.0%	98.5%	97.4%	0.0%	**98.0%**			**98.4%**
Single-Unit Trucks	0	4	0	0	**4**			3	14	2	0	**19**			1	0	0	0	**1**			0	1	8	0	**9**			**33**
% Single-Unit Trucks	0.0%	0.7%	0.0%	0.0%	**0.6%**			0.8%	2.4%	0.7%	0.0%	**1.5%**			0.4%	0.0%	0.0%	0.0%	**0.3%**			0.0%	1.5%	2.6%	0.0%	**2.0%**			**1.2%**
Articulated Trucks	0	0	0	0	**0**			0	2	1	0	**3**			0	0	0	0	**0**			0	0	0	0	**0**			**3**
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.3%	0.4%	0.0%	**0.2%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.1%**
Buses	0	1	0	0	**1**			0	0	0	0	**0**			0	0	0	0	**0**			0	0	0	0	**0**			**1**
% Buses	0.0%	0.2%	0.0%	0.0%	**0.1%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.0%**
Bicycles on Road	0	1	0	0	**1**			0	0	0	0	**0**			0	0	0	0	**0**			0	0	0	0	**0**			**1**
% Bicycles on Road	0.0%	0.2%	0.0%	0.0%	**0.1%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			0.0%	0.0%	0.0%	0.0%	**0.0%**			**0.0%**
Pedestrians						2	3						0	0						0	0						0	0	
% Pedestrians						100.0%	100.0%						0.0%	0.0%						0.0%	0.0%						0.0%	0.0%	
Bicycles on Crosswalk						0	0						0	0						0	0						0	0	
% Bicycles on Crosswalk						0.0%	0.0%						0.0%	0.0%						0.0%	0.0%						0.0%	0.0%	

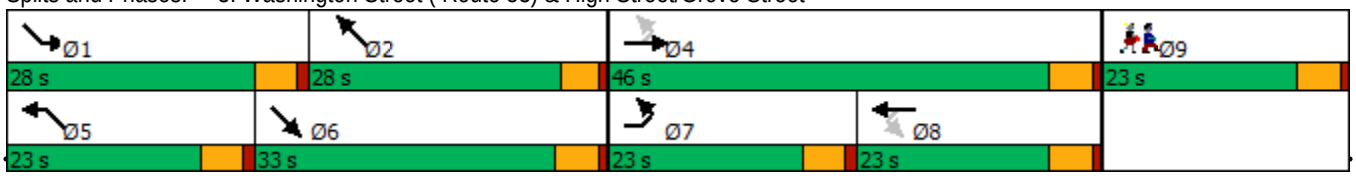
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	214	59	26	72	110	440	216	386	201	18	404	58
Future Volume (vph)	214	59	26	72	110	440	216	386	201	18	404	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	11	11	15	12	12	15	12	12	12
Storage Length (ft)	150		0	140		140	280		280	200		200
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.954				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1933	0	1694	1818	1742	1719	1845	1708	1805	3397	0
Flt Permitted	0.397			0.696			0.950			0.950		
Satd. Flow (perm)	732	1933	0	1241	1818	1742	1719	1845	1708	1805	3397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				524			192		11	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		383			551			440			365	
Travel Time (s)		6.5			9.4			7.5			6.2	
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	0%	3%	1%	2%	5%	3%	4%	0%	4%	6%
Adj. Flow (vph)	235	65	29	86	131	524	232	415	216	20	439	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	94	0	86	131	524	232	415	216	20	502	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	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	pm+pt	NA		Perm	NA	Free	Prot	NA	Free	Prot	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8		Free			Free			
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	23.0		23.0	22.5	
Total Split (s)	23.0	46.0		23.0	23.0		28.0	33.0		23.0	28.0	
Total Split (%)	18.4%	36.8%		18.4%	18.4%		22.4%	26.4%		18.4%	22.4%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Maximum Green (s)	18.0	41.0		18.0	18.0		23.0	28.0		18.0	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	4.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	33.6	33.6		12.3	12.3	99.2	17.8	28.5	99.2	18.3	29.5	
Actuated g/C Ratio	0.34	0.34		0.12	0.12	1.00	0.18	0.29	1.00	0.18	0.30	
v/c Ratio	0.57	0.14		0.56	0.58	0.30	0.76	0.78	0.13	0.06	0.49	
Control Delay	31.9	19.9		57.9	53.8	0.4	56.2	46.7	0.2	39.7	33.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.9	19.9		57.9	53.8	0.4	56.2	46.7	0.2	39.7	33.7	
LOS	C	B		E	D	A	E	D	A	D	C	
Approach Delay		28.5			16.6			37.6			33.9	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)	104	30		50	76	0	134	231	0	10	130	
Queue Length 95th (ft)	223	84		112	153	0	#287	#554	0	38	264	
Internal Link Dist (ft)		303			471			360			285	
Turn Bay Length (ft)	150			140		140	280		280	200		
Base Capacity (vph)	435	822		228	335	1742	404	529	1708	332	1017	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.54	0.11		0.38	0.39	0.30	0.57	0.78	0.13	0.06	0.49	

Intersection Summary

Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 99.2
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 55.6% 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.

Splits and Phases: 3: Washington Street (Route 53) & High Street/Grove Street



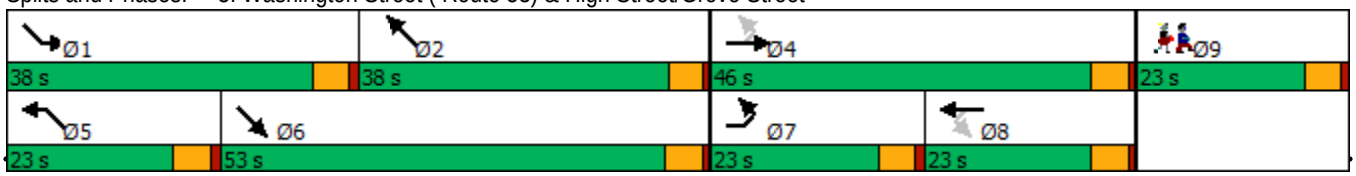
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	254	109	22	94	72	338	416	645	302	15	667	84
Future Volume (vph)	254	109	22	94	72	338	416	645	302	15	667	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	11	11	15	12	12	15	12	12	12
Storage Length (ft)	150		0	140		140	280		280	200		200
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.974				0.850			0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1974	0	1745	1801	1725	1787	1845	1759	1805	3517	0
Flt Permitted	0.526			0.663			0.950			0.950		
Satd. Flow (perm)	999	1974	0	1218	1801	1725	1787	1845	1759	1805	3517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				356			203		9	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		383			551			440			365	
Travel Time (s)		6.5			9.4			7.5			6.2	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	3%	1%	3%	1%	0%	1%	0%
Adj. Flow (vph)	285	122	25	99	76	356	424	658	308	16	725	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	147	0	99	76	356	424	658	308	16	816	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	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	pm+pt	NA		Perm	NA	Free	Prot	NA	Free	Prot	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8		Free			Free			
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	23.0		23.0	22.5	
Total Split (s)	23.0	46.0		23.0	23.0		38.0	53.0		23.0	38.0	
Total Split (%)	15.9%	31.7%		15.9%	15.9%		26.2%	36.6%		15.9%	26.2%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Maximum Green (s)	18.0	41.0		18.0	18.0		33.0	48.0		18.0	33.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	4.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	37.3	37.3		14.4	14.4	122.8	33.3	48.4	122.8	18.1	33.8	
Actuated g/C Ratio	0.30	0.30		0.12	0.12	1.00	0.27	0.39	1.00	0.15	0.28	
v/c Ratio	0.68	0.24		0.69	0.36	0.21	0.88	0.91	0.18	0.06	0.84	
Control Delay	45.9	32.8		78.2	56.5	0.3	63.9	53.7	0.2	50.6	51.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.9	32.8		78.2	56.5	0.3	63.9	53.7	0.2	50.6	51.3	
LOS	D	C		E	E	A	E	D	A	D	D	
Approach Delay		41.4			22.8			45.0			51.3	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	176	79		73	54	0	310	464	0	11	306	
Queue Length 95th (ft)	323	162		#171	120	0	#648	#932	0	38	#550	
Internal Link Dist (ft)		303			471			360			285	
Turn Bay Length (ft)	150			140		140	280		280	200		
Base Capacity (vph)	422	669		180	266	1725	484	726	1759	266	973	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.68	0.22		0.55	0.29	0.21	0.88	0.91	0.18	0.06	0.84	

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 122.8
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 42.4 Intersection LOS: D
Intersection Capacity Utilization 78.6% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Washington Street (Route 53) & High Street/Grove Street



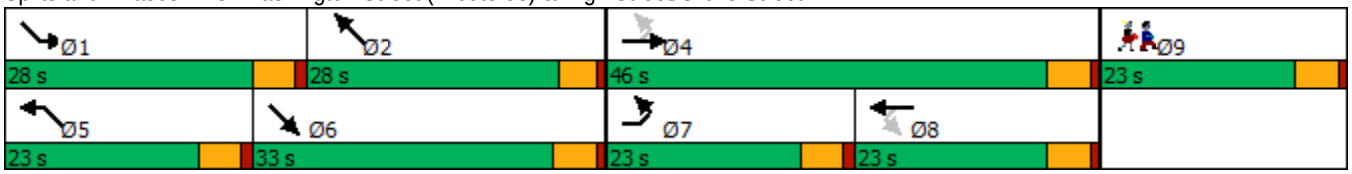
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	229	63	29	79	118	472	232	418	215	19	436	63
Future Volume (vph)	229	63	29	79	118	472	232	418	215	19	436	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	11	11	15	12	12	15	12	12	12
Storage Length (ft)	150		0	140		140	280		280	200		200
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.952				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1929	0	1694	1818	1742	1719	1845	1708	1805	3397	0
Flt Permitted	0.379			0.692			0.950			0.950		
Satd. Flow (perm)	699	1929	0	1234	1818	1742	1719	1845	1708	1805	3397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				562			192		11	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		383			551			440			365	
Travel Time (s)		6.5			9.4			7.5			6.2	
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	0%	3%	1%	2%	5%	3%	4%	0%	4%	6%
Adj. Flow (vph)	252	69	32	94	140	562	249	449	231	21	474	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	252	101	0	94	140	562	249	449	231	21	542	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.92	1.00	1.04	1.04	0.88	1.00	1.00	0.88	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		Perm	NA	Free	Prot	NA	Free	Prot	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8		Free			Free			
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	23.0		23.0	22.5	
Total Split (s)	23.0	46.0		23.0	23.0		28.0	33.0		23.0	28.0	
Total Split (%)	18.4%	36.8%		18.4%	18.4%		22.4%	26.4%		18.4%	22.4%	
Maximum Green (s)	18.0	41.0		18.0	18.0		23.0	28.0		18.0	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	4.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	34.4	34.4		12.7	12.7	100.0	19.0	28.4	100.0	18.3	28.2	
Actuated g/C Ratio	0.34	0.34		0.13	0.13	1.00	0.19	0.28	1.00	0.18	0.28	
v/c Ratio	0.61	0.15		0.60	0.61	0.32	0.77	0.86	0.14	0.06	0.56	
Control Delay	33.1	19.8		59.8	54.6	0.5	55.9	52.9	0.2	39.8	36.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	33.1	19.8		59.8	54.6	0.5	55.9	52.9	0.2	39.8	36.0	
LOS	C	B		E	D	A	E	D	A	D	D	
Approach Delay		29.3			17.0			40.6			36.1	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	112	32		55	82	0	144	258	0	11	146	
Queue Length 95th (ft)	240	89		121	162	0	#321	#614	0	40	#305	
Internal Link Dist (ft)		303			471			360			285	
Turn Bay Length (ft)	150			140		140	280		280	200		
Base Capacity (vph)	432	814		225	332	1742	401	524	1708	329	967	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.58	0.12		0.42	0.42	0.32	0.62	0.86	0.14	0.06	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 100
Natural Cycle: 125
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 31.0 Intersection LOS: C
Intersection Capacity Utilization 58.4% 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.

Splits and Phases: 3: Washington Street (Route 53) & High Street/Grove Street



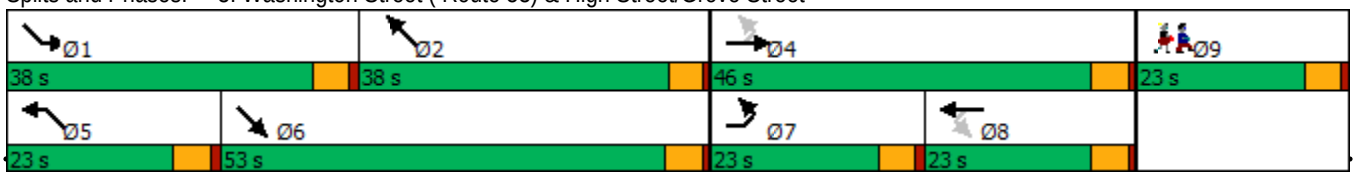
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	272	117	27	104	77	362	446	699	324	16	725	93
Future Volume (vph)	272	117	27	104	77	362	446	699	324	16	725	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	11	11	15	12	12	15	12	12	12
Storage Length (ft)	150		0	140		140	280		280	200		200
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.972				0.850			0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1970	0	1745	1801	1725	1787	1845	1759	1805	3517	0
Flt Permitted	0.521			0.655			0.950			0.950		
Satd. Flow (perm)	990	1970	0	1203	1801	1725	1787	1845	1759	1805	3517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				381			203		9	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		383			551			440			365	
Travel Time (s)		6.5			9.4			7.5			6.2	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	3%	1%	3%	1%	0%	1%	0%
Adj. Flow (vph)	306	131	30	109	81	381	455	713	331	17	788	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	306	161	0	109	81	381	455	713	331	17	889	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	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	pm+pt	NA		Perm	NA	Free	Prot	NA	Free	Prot	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8		Free			Free			
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	23.0		23.0	22.5	
Total Split (s)	23.0	46.0		23.0	23.0		38.0	53.0		23.0	38.0	
Total Split (%)	15.9%	31.7%		15.9%	15.9%		26.2%	36.6%		15.9%	26.2%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Maximum Green (s)	18.0	41.0		18.0	18.0		33.0	48.0		18.0	33.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	4.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	38.5	38.5		15.4	15.4	124.0	33.2	48.3	124.0	18.1	33.7	
Actuated g/C Ratio	0.31	0.31		0.12	0.12	1.00	0.27	0.39	1.00	0.15	0.27	
v/c Ratio	0.72	0.26		0.73	0.36	0.22	0.95	0.99	0.19	0.06	0.92	
Control Delay	47.5	32.9		80.9	56.2	0.3	76.2	70.3	0.2	50.7	59.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.5	32.9		80.9	56.2	0.3	76.2	70.3	0.2	50.7	59.7	
LOS	D	C		F	E	A	E	E	A	D	E	
Approach Delay		42.4			23.6			56.6			59.5	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	192	87		82	58	0	348	541	0	12	350	
Queue Length 95th (ft)	#373	176		#199	128	0	#712	#1045	0	40	#628	
Internal Link Dist (ft)		303			471			360			285	
Turn Bay Length (ft)	150			140		140	280		280	200		
Base Capacity (vph)	426	661		175	263	1725	478	718	1759	263	963	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.72	0.24		0.62	0.31	0.22	0.95	0.99	0.19	0.06	0.92	

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 124
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 50.0 Intersection LOS: D
Intersection Capacity Utilization 83.2% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Washington Street (Route 53) & High Street/Grove Street



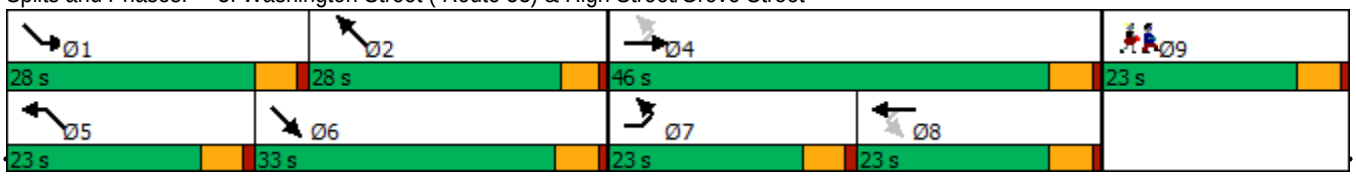
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	242	65	31	79	119	472	232	418	217	20	436	63
Future Volume (vph)	242	65	31	79	119	472	232	418	217	20	436	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	11	11	15	12	12	15	12	12	12
Storage Length (ft)	150		0	140		140	280		280	200		200
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.951				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1927	0	1694	1818	1742	1719	1845	1708	1805	3397	0
Flt Permitted	0.375			0.689			0.950			0.950		
Satd. Flow (perm)	692	1927	0	1229	1818	1742	1719	1845	1708	1805	3397	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				562			192		11	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		383			551			440			365	
Travel Time (s)		6.5			9.4			7.5			6.2	
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	0%	3%	1%	2%	5%	3%	4%	0%	4%	6%
Adj. Flow (vph)	266	71	34	94	142	562	249	449	233	22	474	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	266	105	0	94	142	562	249	449	233	22	542	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	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	pm+pt	NA		Perm	NA	Free	Prot	NA	Free	Prot	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8		Free			Free			
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	23.0		23.0	22.5	
Total Split (s)	23.0	46.0		23.0	23.0		28.0	33.0		23.0	28.0	
Total Split (%)	18.4%	36.8%		18.4%	18.4%		22.4%	26.4%		18.4%	22.4%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Maximum Green (s)	18.0	41.0		18.0	18.0		23.0	28.0		18.0	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	4.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	34.8	34.8		12.8	12.8	100.4	19.0	28.4	100.4	18.3	28.2	
Actuated g/C Ratio	0.35	0.35		0.13	0.13	1.00	0.19	0.28	1.00	0.18	0.28	
v/c Ratio	0.64	0.15		0.60	0.61	0.32	0.76	0.86	0.14	0.07	0.56	
Control Delay	34.2	19.6		60.0	55.0	0.5	55.9	53.4	0.2	39.8	36.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.2	19.6		60.0	55.0	0.5	55.9	53.4	0.2	39.8	36.2	
LOS	C	B		E	E	A	E	D	A	D	D	
Approach Delay		30.1			17.2			40.8			36.3	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	120	34		55	84	0	144	259	0	11	147	
Queue Length 95th (ft)	253	91		121	164	0	#321	#614	0	41	#305	
Internal Link Dist (ft)		303			471			360			285	
Turn Bay Length (ft)	150			140		140	280		280	200		
Base Capacity (vph)	432	811		223	330	1742	399	522	1708	328	961	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.62	0.13		0.42	0.43	0.32	0.62	0.86	0.14	0.07	0.56	

Intersection Summary

Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 100.4
Natural Cycle: 125
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 31.3 Intersection LOS: C
Intersection Capacity Utilization 59.1% 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.

Splits and Phases: 3: Washington Street (Route 53) & High Street/Grove Street



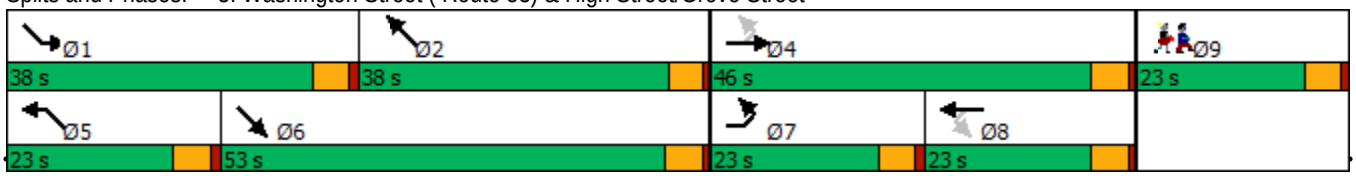
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	279	118	28	104	79	362	446	699	338	18	725	93
Future Volume (vph)	279	118	28	104	79	362	446	699	338	18	725	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	11	11	15	12	12	15	12	12	12
Storage Length (ft)	150		0	140		140	280		280	200		200
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.972				0.850			0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1970	0	1745	1801	1725	1787	1845	1759	1805	3517	0
Flt Permitted	0.516			0.653			0.950			0.950		
Satd. Flow (perm)	980	1970	0	1199	1801	1725	1787	1845	1759	1805	3517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				381			203		9	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		383			551			440			365	
Travel Time (s)		6.5			9.4			7.5			6.2	
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.98	0.98	0.98	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	3%	1%	3%	1%	0%	1%	0%
Adj. Flow (vph)	313	133	31	109	83	381	455	713	345	20	788	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	164	0	109	83	381	455	713	345	20	889	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	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	pm+pt	NA		Perm	NA	Free	Prot	NA	Free	Prot	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8		Free			Free			
Detector Phase	7	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	23.0		23.0	22.5	
Total Split (s)	23.0	46.0		23.0	23.0		38.0	53.0		23.0	38.0	
Total Split (%)	15.9%	31.7%		15.9%	15.9%		26.2%	36.6%		15.9%	26.2%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Maximum Green (s)	18.0	41.0		18.0	18.0		33.0	48.0		18.0	33.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	4.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	38.6	38.6		15.4	15.4	124.1	33.2	48.3	124.1	18.1	33.7	
Actuated g/C Ratio	0.31	0.31		0.12	0.12	1.00	0.27	0.39	1.00	0.15	0.27	
v/c Ratio	0.74	0.27		0.73	0.37	0.22	0.95	0.99	0.20	0.08	0.92	
Control Delay	48.5	33.0		81.0	56.4	0.3	76.3	70.4	0.2	50.8	59.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.5	33.0		81.0	56.4	0.3	76.3	70.4	0.2	50.8	59.7	
LOS	D	C		F	E	A	E	E	A	D	E	
Approach Delay		43.2			23.8			56.2			59.5	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	197	88		82	59	0	348	541	0	14	350	
Queue Length 95th (ft)	#394	179		#199	130	0	#712	#1045	0	44	#628	
Internal Link Dist (ft)		303			471			360			285	
Turn Bay Length (ft)	150			140		140	280		280	200		
Base Capacity (vph)	425	660		174	262	1725	478	718	1759	263	962	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.74	0.25		0.63	0.32	0.22	0.95	0.99	0.20	0.08	0.92	

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 124.1
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 49.9 Intersection LOS: D
Intersection Capacity Utilization 83.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Washington Street (Route 53) & High Street/Grove Street



High Street at Private driveway (Washington square Condominium Complex)

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	22	295	292	37
Future Vol, veh/h	4	5	22	295	292	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	82	82	93	94
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	9	11	27	360	314	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	748	334	353	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	383	712	1217	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	372	712	1217	-	-	-
Mov Cap-2 Maneuver	372	-	-	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1217	-	506	-	-
HCM Lane V/C Ratio	0.022	-	0.04	-	-
HCM Control Delay (s)	8	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	24	6	324	371	18
Future Vol, veh/h	61	24	6	324	371	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	76	76	87	87
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	69	27	8	426	426	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	879	437	447	0	-	0
Stage 1	437	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	321	624	1124	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	318	624	1124	-	-	-
Mov Cap-2 Maneuver	318	-	-	-	-	-
Stage 1	649	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1124	-	369	-	-
HCM Lane V/C Ratio	0.007	-	0.259	-	-
HCM Control Delay (s)	8.2	0	18.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	22	317	314	38
Future Vol, veh/h	4	5	22	317	314	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	82	82	93	94
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	9	11	27	387	338	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	799	358	378	0	-	0
Stage 1	358	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	357	691	1192	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	347	691	1192	-	-	-
Mov Cap-2 Maneuver	347	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1192	-	480	-	-
HCM Lane V/C Ratio	0.023	-	0.042	-	-
HCM Control Delay (s)	8.1	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	24	6	355	399	18
Future Vol, veh/h	61	24	6	355	399	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	76	76	87	87
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	69	27	8	467	459	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	953	470	480	0	-	0
Stage 1	470	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	290	598	1093	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	287	598	1093	-	-	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	625	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1093	-	336	-	-
HCM Lane V/C Ratio	0.007	-	0.284	-	-
HCM Control Delay (s)	8.3	0	19.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	22	334	318	38
Future Vol, veh/h	4	5	22	334	318	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	45	45	82	82	93	94
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	9	11	27	407	342	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	823	362	382	0	-	0
Stage 1	362	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	346	687	1188	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	336	687	1188	-	-	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	639	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1188	-	469	-	-
HCM Lane V/C Ratio	0.023	-	0.043	-	-
HCM Control Delay (s)	8.1	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	24	6	364	417	18
Future Vol, veh/h	61	24	6	364	417	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	76	76	87	87
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	69	27	8	479	479	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	985	490	500	0	-	0
Stage 1	490	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	277	582	1075	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	274	582	1075	-	-	-
Mov Cap-2 Maneuver	274	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	617	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1075	-	322	-	-
HCM Lane V/C Ratio	0.007	-	0.297	-	-
HCM Control Delay (s)	8.4	0	20.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

High Street at Oak Street

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	23	70	452	21	83	467
Future Vol, veh/h	23	70	452	21	83	467
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	48	48	87	87	89	89
Heavy Vehicles, %	17	5	5	0	12	4
Mvmt Flow	48	146	520	24	93	525

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1243	532	0	0	544	0
Stage 1	532	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Critical Hdwy	6.57	6.25	-	-	4.22	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.345	-	-	2.308	-
Pot Cap-1 Maneuver	179	542	-	-	976	-
Stage 1	560	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	542	-	-	976	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	398	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	29.5	0	1.4
HCM LOS	D		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	976	-	335	-	-
HCM Lane V/C Ratio	0.096	-	0.578	-	-
HCM Control Delay (s)	9.1	0	29.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.3	-	3.4	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	8	35	651	43	44	755
Future Vol, veh/h	8	35	651	43	44	755
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	91	91	86	86
Heavy Vehicles, %	0	0	2	5	0	0
Mvmt Flow	14	61	715	47	51	878

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1719	739	0	0	762	0
Stage 1	739	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	100	421	-	-	859	-
Stage 1	476	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	421	-	-	859	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	324	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	25.9	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	859	-	247	-	-
HCM Lane V/C Ratio	0.06	-	0.305	-	-
HCM Control Delay (s)	9.5	0	25.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	25	75	489	23	89	507
Future Vol, veh/h	25	75	489	23	89	507
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	48	48	87	87	89	89
Heavy Vehicles, %	17	5	5	0	12	4
Mvmt Flow	52	156	562	26	100	570

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1345	575	0	0	588	0
Stage 1	575	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Critical Hdwy	6.57	6.25	-	-	4.22	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.345	-	-	2.308	-
Pot Cap-1 Maneuver	155	512	-	-	940	-
Stage 1	534	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	131	512	-	-	940	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	364	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	41.6	0	1.4
HCM LOS	E		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	940	-	296	-	-
HCM Lane V/C Ratio	0.106	-	0.704	-	-
HCM Control Delay (s)	9.3	0	41.6	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.4	-	4.9	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	9	38	708	46	47	819
Future Vol, veh/h	9	38	708	46	47	819
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	91	91	86	86
Heavy Vehicles, %	0	0	2	5	0	0
Mvmt Flow	16	67	778	51	55	952

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1866	804	0	0	829	0
Stage 1	804	-	-	-	-	-
Stage 2	1062	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	81	386	-	-	811	-
Stage 1	444	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	69	386	-	-	811	-
Mov Cap-2 Maneuver	69	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	287	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	33.9	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	811	-	205	-	-
HCM Lane V/C Ratio	0.067	-	0.402	-	-
HCM Control Delay (s)	9.8	0	33.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.8	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	25	76	491	23	89	508
Future Vol, veh/h	25	76	491	23	89	508
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	48	48	87	87	89	89
Heavy Vehicles, %	17	5	5	0	12	4
Mvmt Flow	52	158	564	26	100	571

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1348	577	0	0	590	0
Stage 1	577	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Critical Hdwy	6.57	6.25	-	-	4.22	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.345	-	-	2.308	-
Pot Cap-1 Maneuver	154	511	-	-	938	-
Stage 1	533	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	130	511	-	-	938	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	364	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	42.2	0	1.4
HCM LOS	E		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	938	-	296	-	-
HCM Lane V/C Ratio	0.107	-	0.711	-	-
HCM Control Delay (s)	9.3	0	42.2	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.4	-	5	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Vol, veh/h	9	39	709	46	48	821
Future Vol, veh/h	9	39	709	46	48	821
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	91	91	86	86
Heavy Vehicles, %	0	0	2	5	0	0
Mvmt Flow	16	68	779	51	56	955

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1872	805	0	0	830	0
Stage 1	805	-	-	-	-	-
Stage 2	1067	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	80	386	-	-	811	-
Stage 1	443	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	68	386	-	-	811	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	285	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s	34.1	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	811	-	206	-	-
HCM Lane V/C Ratio	0.069	-	0.409	-	-
HCM Control Delay (s)	9.8	0	34.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-

Washington Street (Route 53) at Oak Street

Intersection	
Int Delay, s/veh	5.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	13	282	68	4	274
Future Vol, veh/h	110	13	282	68	4	274
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	63	63	94	94
Heavy Vehicles, %	6	0	1	3	50	1
Mvmt Flow	186	22	448	108	4	291

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	801	502	0	0	556	0
Stage 1	502	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.6	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.65	-
Pot Cap-1 Maneuver	348	573	-	-	814	-
Stage 1	600	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	346	573	-	-	814	-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.7	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	361	814	-
HCM Lane V/C Ratio	-	-	0.577	0.005	-
HCM Control Delay (s)	-	-	27.7	9.4	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	3.5	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	11	282	21	21	319
Future Vol, veh/h	43	11	282	21	21	319
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	66	66	80	80	82	82
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	65	17	353	26	26	389

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	807	366	0	0	379	0
Stage 1	366	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	354	684	-	-	1191	-
Stage 1	706	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	344	684	-	-	1191	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	635	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	383	1191	-
HCM Lane V/C Ratio	-	-	0.214	0.022	-
HCM Control Delay (s)	-	-	16.9	8.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	118	14	303	73	4	294
Future Vol, veh/h	118	14	303	73	4	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	63	63	94	94
Heavy Vehicles, %	6	0	1	3	50	1
Mvmt Flow	200	24	481	116	4	313

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	860	539	0	0	597	0
Stage 1	539	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.6	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.65	-
Pot Cap-1 Maneuver	321	546	-	-	783	-
Stage 1	577	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	319	546	-	-	783	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.1	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	334	783	-
HCM Lane V/C Ratio	-	-	0.67	0.005	-
HCM Control Delay (s)	-	-	35.1	9.6	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	4.6	0	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	12	305	23	23	342
Future Vol, veh/h	46	12	305	23	23	342
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	66	66	80	80	82	82
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	70	18	381	29	28	417

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	869	396	0	0	410	0
Stage 1	396	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	325	658	-	-	1160	-
Stage 1	684	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	658	-	-	1160	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	353	1160	-
HCM Lane V/C Ratio	-	-	0.249	0.024	-
HCM Control Delay (s)	-	-	18.5	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1	0.1	-

Intersection	
Int Delay, s/veh	7.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	118	14	305	73	5	297
Future Vol, veh/h	118	14	305	73	5	297
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	63	63	94	94
Heavy Vehicles, %	6	0	1	3	50	1
Mvmt Flow	200	24	484	116	5	316

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	868	542	0	0	600	0
Stage 1	542	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.6	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.65	-
Pot Cap-1 Maneuver	318	544	-	-	781	-
Stage 1	575	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	544	-	-	781	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.1	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	781	-
HCM Lane V/C Ratio	-	-	0.678	0.007	-
HCM Control Delay (s)	-	-	36.1	9.6	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	4.7	0	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	13	308	23	24	345
Future Vol, veh/h	46	13	308	23	24	345
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	66	66	80	80	82	82
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	70	20	385	29	29	421

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	879	400	0	0	414	0
Stage 1	400	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	321	654	-	-	1156	-
Stage 1	681	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	310	654	-	-	1156	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	606	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	351	1156	-
HCM Lane V/C Ratio	-	-	0.255	0.025	-
HCM Control Delay (s)	-	-	18.7	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1	0.1	-

High Street at Site Drive A

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	2	1	347	321	2
Future Vol, veh/h	9	2	1	347	321	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	2	1	377	349	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	729	350	351	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	390	693	1208	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	390	693	1208	-	-	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1208	-	424	-	-
HCM Lane V/C Ratio	0.001	-	0.028	-	-
HCM Control Delay (s)	8	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	2	365	432	9
Future Vol, veh/h	5	2	2	365	432	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2	2	397	470	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	876	475	480	0	-	0
Stage 1	475	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	319	590	1082	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	318	590	1082	-	-	-
Mov Cap-2 Maneuver	318	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1082	-	366	-	-
HCM Lane V/C Ratio	0.002	-	0.021	-	-
HCM Control Delay (s)	8.3	0	15	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

High Street at Site Drive B

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	2	1	340	321	2
Future Vol, veh/h	8	2	1	340	321	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	2	1	370	349	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	722	350	351	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	394	693	1208	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	394	693	1208	-	-	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	697	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1208	-	431	-	-
HCM Lane V/C Ratio	0.001	-	0.025	-	-
HCM Control Delay (s)	8	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	2	363	425	9
Future Vol, veh/h	4	2	2	363	425	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	2	395	462	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	866	467	472	0	-	0
Stage 1	467	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	324	596	1090	-	-	-
Stage 1	631	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	323	596	1090	-	-	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	678	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1090	-	381	-	-
HCM Lane V/C Ratio	0.002	-	0.017	-	-
HCM Control Delay (s)	8.3	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-