July 21, 2022

Mr. Jason Schlesinger
Walton Place, LLC and 80 Prospect Street Partners, LLC
80 Prospect Street
Stamford, CT 06901

Re: Traffic Impact Study
Proposed Walton Place Residential Development
1 Walton Place and 80 Prospect Street
Stamford, Connecticut
SLR #141.15093.00003

Dear Mr. Schlesinger,

At your request, SLR International Corporation (SLR) is prepared this study to assess the traffic implications of the proposed redevelopment of the properties at 1 Walton Place and 80 Prospect Street in Stamford, Connecticut. **Figure 1** shows the site location and surrounding area. This development is expected to contain 224 apartment units.

The work comprising the study consisted of a number of tasks, including field reconnaissance, an inventory of present roadway conditions, review of vehicular traffic and pedestrian volumes on the area streets and sidewalks, estimation of site-generated traffic volumes, and analysis of future intersection operations at and near the site.

Site Environs

The site located at 1 Walton Place and 80 Prospect Street in Stamford currently contains a 6,883-square-foot retail building and the First Congregational Church with an Annex. The retail building will be razed upon development, and the main church building will remain. The key intersections surrounding the site that have been analyzed as part of this study are the following:

- Bedford Street and North Street (signalized)
- Bedford Street and Walton Place (stop-sign controlled on Walton Place)
- Bedford Street and Forest Street (signalized)
- Bedford Street and Spring Street (signalized)
- Prospect Street and North Street (stop-sign controlled on North Street)
- Prospect Street and Walton Place (all-way-stop controlled)
- Prospect Street and Forest Street (stop-sign controlled on Prospect Street)
- Forest Street and the Bedford Street Annex (stop-sign controlled on the Bedford Street Annex)

Bedford Street is one way northbound, contains two travel lanes with a shared bike lane south of Walton place, and then it opens up to two travel lanes and a protected bike lane north of Walton Place. It has a posted speed limit of 25 miles per hour (mph).

Prospect Street is one way northbound between Bedford Street and Forest Street, and it is two way north of Forest Street. It has a single lane of travel in each direction in the vicinity of the site and a posted speed limit of 25 mph. The vehicles turning right or left from Forest Street onto Prospect Street are restricted, and only vehicles coming out of Prospect Street are allowed at this intersection.

Forest Street is a two-way street with a single lane of travel in each direction and a posted speed limit of 25 mph. The intersections of Bedford Street at Spring Street and Bedford Street at Forest Street are controlled by one signal controller.

Walton Place is a two-way street, approximately 150 feet long, and connects Bedford Street and Prospect Street with one lane of travel in each direction. There is no posted speed limit on Walton Place, but it is assumed to be 25 mph.

North Street contains one eastbound travel lane and one westbound travel lane and dedicated turning lanes at Summer Street and Bedford Street. North Street has a posted speed limit of 25 mph in both directions.

The Stamford Metro-North Railroad Station is less than 1 mile south of the site.

Crash History

Information on crash statistics for streets within the study area was obtained from the University of Connecticut's (UConn) Connecticut Crash Data Repository for the latest 3-year period on record, January 1, 2019, through January 31, 2022. The data collected for this period is shown in **Table 1**, summarized by location, collision type, and crash severity.

A total of 65 reported crashes occurred at or between the study intersections during the recent 3-year period. During this 3-year period, 20 of the crashes involved injury, 45 involved property damage only, and none involved a fatality. Twenty-two of the crashes were angle collisions, 15 were sideswipe collisions, 13 involved pedestrians, nine were rear-end collisions, three were fixed-object collisions, two were head-on collisions, and one involved a cyclist.

In the vicinity of site driveway, there were only two crashes that occurred, one of which was an angle collision, and the other was a sideswipe of vehicles travelling in the same direction.

Most of the pedestrian crashes (69 percent) in our study occurred at the intersection of Prospect Street and Forest Street, despite the traffic-calming measures implemented at this intersection. In most of the cases, the vehicles turning left onto Forest Street coming south from Prospect Street had a crash incident with people crossing Forest Street on a crosswalk.

Table 1 Crash Summary

LOCATION	TYPE OF COLLISION									CRASH SEVERITY				
	ANGLE	REAR-END	HEAD-ON	SIDESWIPE, OPPOSITE DIRECTION	SIDESWIPE, SAME DIRECTION	PEDESTRIAN	FIXED-OBJECT	BICYCLE	TOTAL	PROPERTY DAMAGE ONLY	POSSIBLE INJURY	SUSPECTED MINOR INJURY	SUSPECTED SERIOUS INJURY	TOTAL
Bedford Street at Spring Street		1			2	1	1		**5**	4		1		**5**
Bedford Street between Spring Street and Forest Street	1			1	1				**3**	3				**3**
Bedford Street at Forest Street	1	1			2		1		**5**	5				**5**
Bedford Street between Forest Street and Walton Place	3	1			2				**6**	5		1		**6**
Bedford Street at Walton Place	2				1				**3**	3				**3**
Bedford Street between Walton Place and North Street	1				1				**2**	2				**2**
Bedford Street at North Street	3	2			2		1		**8**	8				**8**
Forest Street between Bedford Street and Prospect Street	1								**1**			1		**1**
North Street between Bedford Street and Prospect Street	2	3				1			**6**	3		2	1	**6**
Prospect Street between Forest Street and Bedford Street					1				**1**	1				**1**
Prospect Street at Forest Street	2					10		1	**13**	1	1	9	2	**13**
Prospect Street between Forest Street and Walton Place	2		1		1				**4**	4				**4**
Prospect Street at Walton Place	1					1			**2**	1		1		**2**
Prospect Street between Walton Place and North Street	3	1	1		1				**6**	5	1			**6**
Grand Total	**22**	**9**	**2**	**1**	**14**	**13**	**3**	**1**	**65**	**45**	**2**	**15**	**3**	**65**

The cyclist collision occurred at the intersection of Prospect Street and Forest Street on the night of January 31, 2020, when a cyclist heading southbound was struck by a vehicle heading eastbound on Forest Street.

The City of Stamford (City) intends to restrict right-turning traffic for vehicles going south on Prospect street onto Forest Street. In the future, only left turns will be permitted. The City is also looking into the possibility of creating a textured surface zone between Bedford and Prospect Streets at Forest Street and removing the existing grass strip median to help lower the speeds of the vehicles and for a better visibility of pedestrians for the vehicles turning onto Forest Street. The City also intends to block off the access to Prospect Street going south of Forest Street to avoid vehicle-pedestrian conflicts in the future and to reduce the complexity of movements at that intersection. These changes will all have a positive impact on pedestrian and bicycle safety in the area.

Existing Traffic Volumes

The traffic and pedestrian counts used in this study were those counted for the City on Wednesday, May 3, 2017, during the morning and afternoon commuter peak periods for the following intersections:

- Bedford Street and North Street
- Bedford Street and Forest Street
- Bedford Street and Spring Street

The turning movements and pedestrian counts were manually counted on February 26, 2019, at the following intersections:

- Bedford Street and Walton Place
- Prospect Street and North Street
- Prospect Street and Walton Place
- Prospect Street and Forest Street
- Forest Street and the Bedford Street Garage driveway

In addition to the manual turning movement counts, automatic traffic recorders (ATR) were placed on Bedford Street between Walton Place and North Street and on Forest Street between Prospect Street and the Bedford Street Garage driveway for 24 hours on Tuesday, February 26, 2019, to capture weekday volume and speed data.

On Bedford Street, the ATR data indicated an 85th percentile speed of 32.8 mph for northbound vehicles. The average speed of vehicles traveling northbound on Bedford Street was recorded to be 27.2 mph. On Bedford Street, the ATR recorded 6,707 total vehicles.

On Forest Street, the ATR data indicated 85th percentile speeds of 24.5 mph for eastbound vehicles and 24.7 mph for westbound vehicles. The average speeds of vehicles traveling on Forest Street were 19.0 mph for eastbound vehicles and 18.5 mph for westbound vehicles. On Forest Street, the ATR recorded a total of 7,495 vehicles (4,619 eastbound and 2,876 westbound).

The existing peak-hour traffic volumes can be seen in **Figures 2 and 3** for the weekday morning and weekday afternoon peak hours, respectively.

The City indicated to us that the Atlantic Street bridge had closed for 7 months starting on February 19, 2019, which affected the counts in the study area. To account for the Atlantic Street bridge closure, the traffic volumes counted on February 26, 2019, were adjusted and balanced with the City's counts from May 3, 2017, to better reflect conditions before the Atlantic Street bridge closure.

Additionally, the City reached out to the Downtown Special Services District (DSSD) with more recent pedestrian volumes in the vicinity of our study area. The pedestrian volumes in the vicinity of the intersection of Bedford Street and Spring Street were adjusted based on this information.

The existing peak-hour traffic volumes were adjusted based on the Atlantic Street bridge closure and information received from the DSSD and can be seen in **Figures 4 and 5** for the weekday morning and weekday afternoon peak hours, respectively.

Proposed Development and Sight Lines

The proposed residential development will include 224 apartment units in place of an existing retail building and the northerly First Congregational Church building and the Annex. Access to the proposed parking garage will be provided via a full-access driveway on Bedford Street. The Bedford Street driveway will be approximately in the same location as the current entrance-only driveway to the First Congregational Church. The Prospect Street driveway will be just south of the existing building at 86 Prospect Street. Additionally, a full-access drop-off circle for the First Congregational Church will be constructed on Walton Place. All other existing curb cuts on Bedford Street, Walton Place, and Prospect Street along the site frontage will be removed. The site egress to Bedford Street and Prospect Street will be stop-sign controlled; it should be noted that Bedford Street is one way northbound, and Prospect Street is a two-way street near the site driveways.

Visibility was reviewed in the field from the point of view of a motorist looking from the new site egress. Intersection sight distance (ISD) is the desirable distance for a motorist stopped at the site egress to see approaching traffic and be able to turn from the site into the flow of traffic adequately. The speed limit along Prospect Street and Bedford Street near the site egresses is 25 mph. Per state guidelines, a motorist of a passenger car exiting the site driveway 15 feet from Bedford and Prospect Streets should have 276 feet of ISD looking to the left and 276 feet of ISD in both directions, respectively. Review of the sight lines indicated that the available sight distance is expected to be sufficient for both the site egresses.

Site Traffic and Distribution

The site traffic for the proposed office development was estimated based on review of statistical data published by the Institute of Transportation Engineers (ITE). Based on ITE land use code #221, Multifamily Housing (Mid-Rise), Close to Rail Transit and Dense Multi-Use Urban setting, **Table 2** below summarizes the peak-hour traffic that is estimated to be generated by the development.

Table 2 Trip Generation Estimate

LAND USE	NUMBER OF VEHICLE TRIPS					
	WEEKDAY MORNING PEAK HOUR			WEEKDAY AFTERNOON PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Multifamily Housing (Mid-Rise), 224 Units	12	44	56	41	19	60

Trip Generation, 11*th Edition.* Institute of Transportation Engineers, 2021 (ITE #221)

The distribution of the vehicular site-generated traffic through the study area has been estimated based on a review of the latest available Census Journey-to-Work vehicle commuting data. A distribution pattern was developed and can be seen in **Figure 6**. In general, approximately 35 percent of the site traffic is expected to be oriented to/from points north of the site and the Merritt Parkway, 30 percent to/from points west of the site, and 35 percent oriented to/from points east of the site and south of the site toward Interstate 95 and Downtown Stamford. **Figures 7 and 8** show the anticipated vehicular site traffic through the study area applied to the distribution for the weekday morning and afternoon peak hours, respectively.

Future Traffic Volumes

Future roadway traffic estimates along the study area were developed without and with the site traffic volumes, background and combined, respectively. This was to facilitate determination of the traffic impact of the proposed development. A future horizon year of **2024** was assumed when this development will be open and operational.

It should be noted that there are plans to replace the signal equipment at the intersection of Bedford Street and North Street. Additionally, the City has recently restriped Bedford Street to include two through lanes and a bike lane between Walton Place and Hoyt Street. The City also intends on restricting right-turning traffic for vehicles going south on Prospect Street onto Forest Street. In the future, only left turns will be permitted.

Background (no-build) traffic is reflective of future roadway conditions prior to the proposed development. Based on conversations with the Connecticut Department of Transportation (CTDOT), a **0.7 percent** ambient growth factor was applied to the 2019 balanced volumes. Based on conversations with both CTDOT and the City, traffic volumes were added through our study area from the Silverback Mixed-Use Development, which was approved but not yet fully built and opened.

The future background (no-build) traffic volumes can be seen in **Figures 9 and 10** for the weekday morning and weekday afternoon peak hours, respectively. The estimated site-generated traffic volumes were then added to the background traffic to form the future combined (build) traffic volumes. Combined traffic volumes are reflective of roadway traffic conditions with the proposed development in place and can be seen in **Figures 11 and 12** for the weekday morning and weekday afternoon peak hours, respectively.

Traffic Capacity Analyses

The future traffic volumes at the study intersections were evaluated by means of the *Synchro* software package, which uses the methodologies of the *Highway Capacity Manual*. The signal phasing used in our analysis was based on the latest signal plans for the signalized study intersections.

Levels of Service (LOS) are determined through the analysis, which are qualitative measures of the efficiency of operations in terms of delay and inconvenience to motorists. A description of the various LOS designations, A through F, is provided in the Appendix. The *Synchro* worksheets are also attached in the Appendix. **Table 3** summarizes the findings at the study intersections without (background conditions) and with (combined conditions) the estimated site traffic associated with the proposed development.

As can be seen, it is expected that the site driveway intersections will operate at LOS B or better. It is also expected that the LOS at the signalized study intersections will remain mostly unchanged between background and combined conditions, thus indicating a relatively minor amount of traffic impact caused by the proposed development. The LOS of Bedford Street and Forest Street changes from B to C during the afternoon peak hour, which is still acceptable. We also understand the intersection may be configured by the City in the future. It should be noted that according to this analysis, the southbound approach at the intersection of Prospect Street and Forest Street is expected to operate at LOS F during both background and combined conditions during the afternoon peak hour. However, it should be noted that only three vehicles generated by the proposed development are expected to make this southbound left during the weekday afternoon peak hour. We therefore feel that the added delay to this movement is negligible.

Table 3 Intersection Capacity Analysis Summary

INTERSECTION / MOVEMENT	LEVELS OF SERVICE			
	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	BACKGROUND CONDITIONS	COMBINED CONDITIONS	BACKGROUND CONDITIONS	COMBINED CONDITIONS
Signalized Intersections				
Bedford Street at Spring Street and Prospect Street				
Eastbound Left/Through	D	D	C	C
Northbound Left/Through/Right	A	A	B	B
OVERALL	**A**	**A**	**B**	**B**
Bedford Street at Forest Street				
Westbound Right	A	A	D	D
Northbound Through/Right	A	A	A	A
OVERALL	**A**	**A**	**B**	**C**

Table 3 Intersection Capacity Analysis Summary (Continued)

INTERSECTION / MOVEMENT	LEVELS OF SERVICE			
	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	BACKGROUND CONDITIONS	COMBINED CONDITIONS	BACKGROUND CONDITIONS	COMBINED CONDITIONS
Bedford Street at North Street				
Eastbound Left	C	C	C	C
Eastbound Through	C	C	C	D
Westbound Through	D	D	C	D
Westbound Right	A	A	A	A
Northbound Left/Through/Right	B	B	C	C
OVERALL	**C**	**C**	**C**	**C**
Unsignalized Intersections				
Prospect Street at Forest Street				
Northbound Approach	A	A	A	A
Southbound Approach	E	E	F	F
Forest Street at Bedford Street Annex				
Westbound Left	A	A	A	A
Northbound Left/Right	B	B	C	C
Bedford Street at Walton Place and Private Driveway				
Eastbound Approach	B	B	C	C
Westbound Approach	B	B	C	C
Prospect Street at Walton Place				
Eastbound Approach	A	A	A	A
Northbound Approach	A	B	A	A
Southbound Approach	A	A	A	A
Prospect Street at North Street				
Eastbound Approach	C	C	C	C
Westbound Approach	B	B	B	B
Northbound Left	A	A	A	A
Southbound Left	A	A	A	A
Bedford Street at Site Driveway				
Westbound Approach	--	B	--	B
Prospect Street at Site Driveway				
Eastbound Approach	--	A	--	A
Northbound Left	--	A	--	A

Conclusion

This study was conducted to assess the traffic implications of a proposed development to contain 224 apartment units at 1 Walton Place and 80 Prospect Street in Stamford, Connecticut. Site-traffic generated by the proposed development was estimated, and capacity analyses of intersections at and near the site were conducted. It is expected that the City will incorporate its planned Advanced Traffic Management System (ATMS), which would optimize the operations of the signalized intersections in the future and would potentially improve the LOS conditions. Only minor changes in LOS are expected to be caused by the proposed development.

If you have any questions or need any further information, please do not hesitate to contact me.

Sincerely,

SLR International Corporation

David G. Sullivan, PE
US Manager of Traffic & Transportation Planning

Figures

- Figure 1 – Site Location Map
- Figure 2 – Baseline Traffic Volumes Weekday Morning Peak Hour
- Figure 3 – Baseline Traffic Volumes Weekday Afternoon Peak Hour
- Figure 4 – Baseline Traffic Volumes (Balanced) Weekday Morning Peak Hour
- Figure 5 – Baseline Traffic Volumes (Balanced) Weekday Afternoon Peak Hour
- Figure 6 – Anticipated Site Traffic Distribution
- Figure 7 – Anticipated Site Traffic Volumes Weekday Morning Peak Hour
- Figure 8 – Anticipated Site Traffic Volumes Weekday Afternoon Peak Hour
- Figure 9 – No-Build Traffic Volumes Weekday Morning Peak Hour (2024)
- Figure 10 – No-Build Traffic Volumes Weekday Afternoon Peak Hour (2024)
- Figure 11 – Build Traffic Volumes Weekday Morning Peak Hour (2024)
- Figure 12 – Build Traffic Volumes Weekday Afternoon Peak Hour (2024)

Appendix

- LOS Designation Descriptions
- *Synchro* Analysis Worksheets

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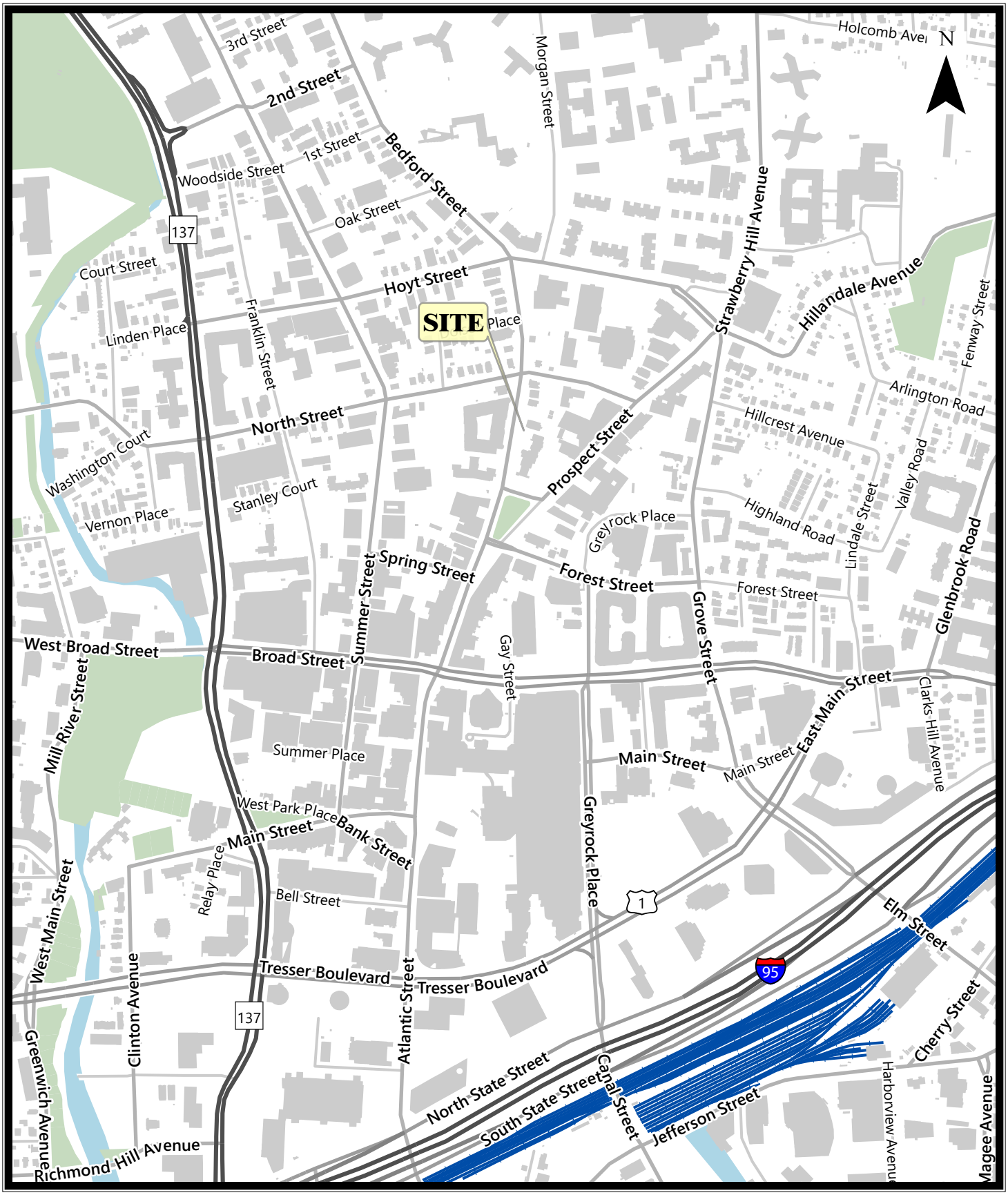
APPENDIX



SITE LOCATION MAP

0 500 1,000 Feet

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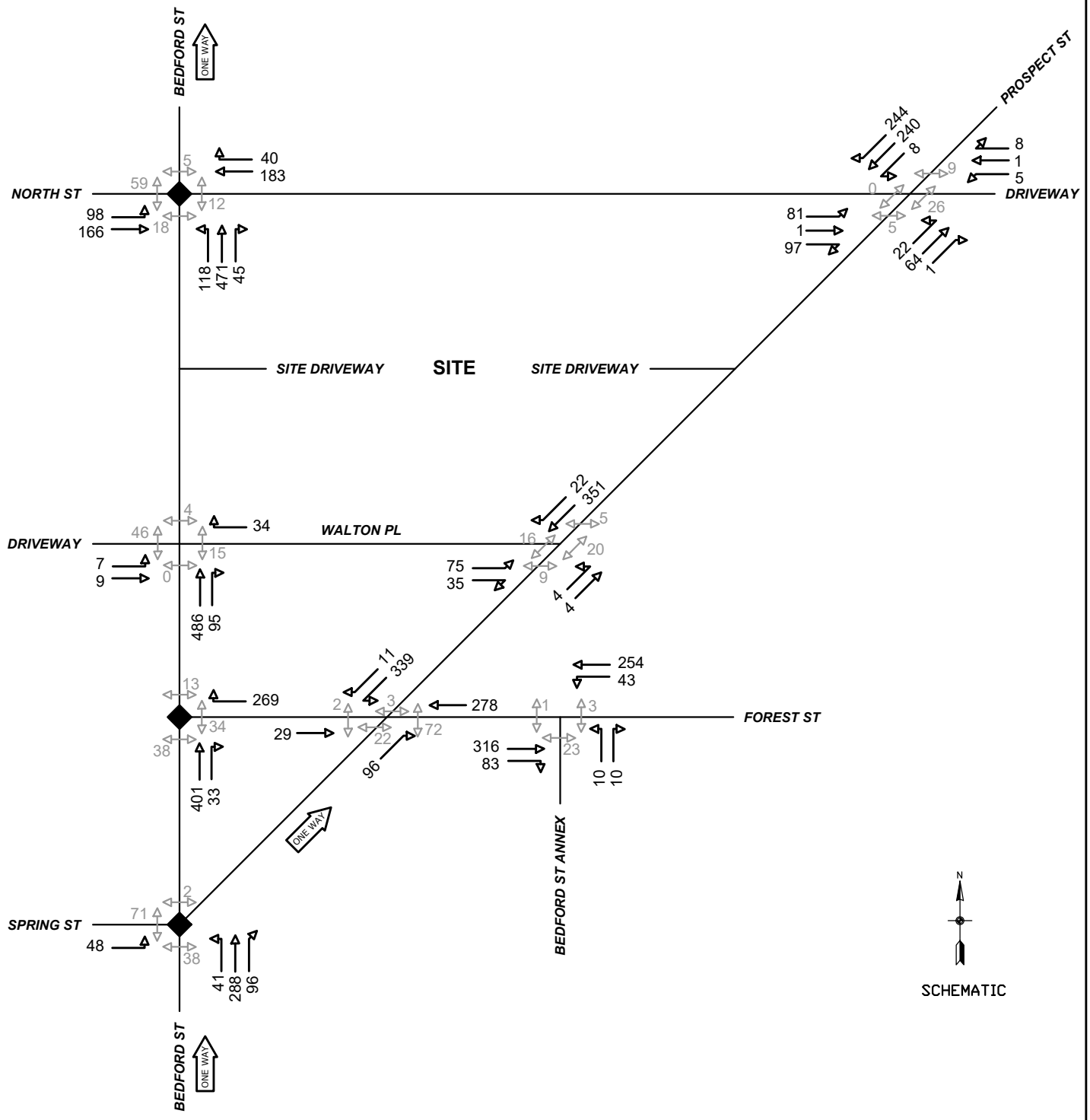
Proposed Residential Development
Walton Place
Stamford, Connecticut

FIGURE 1



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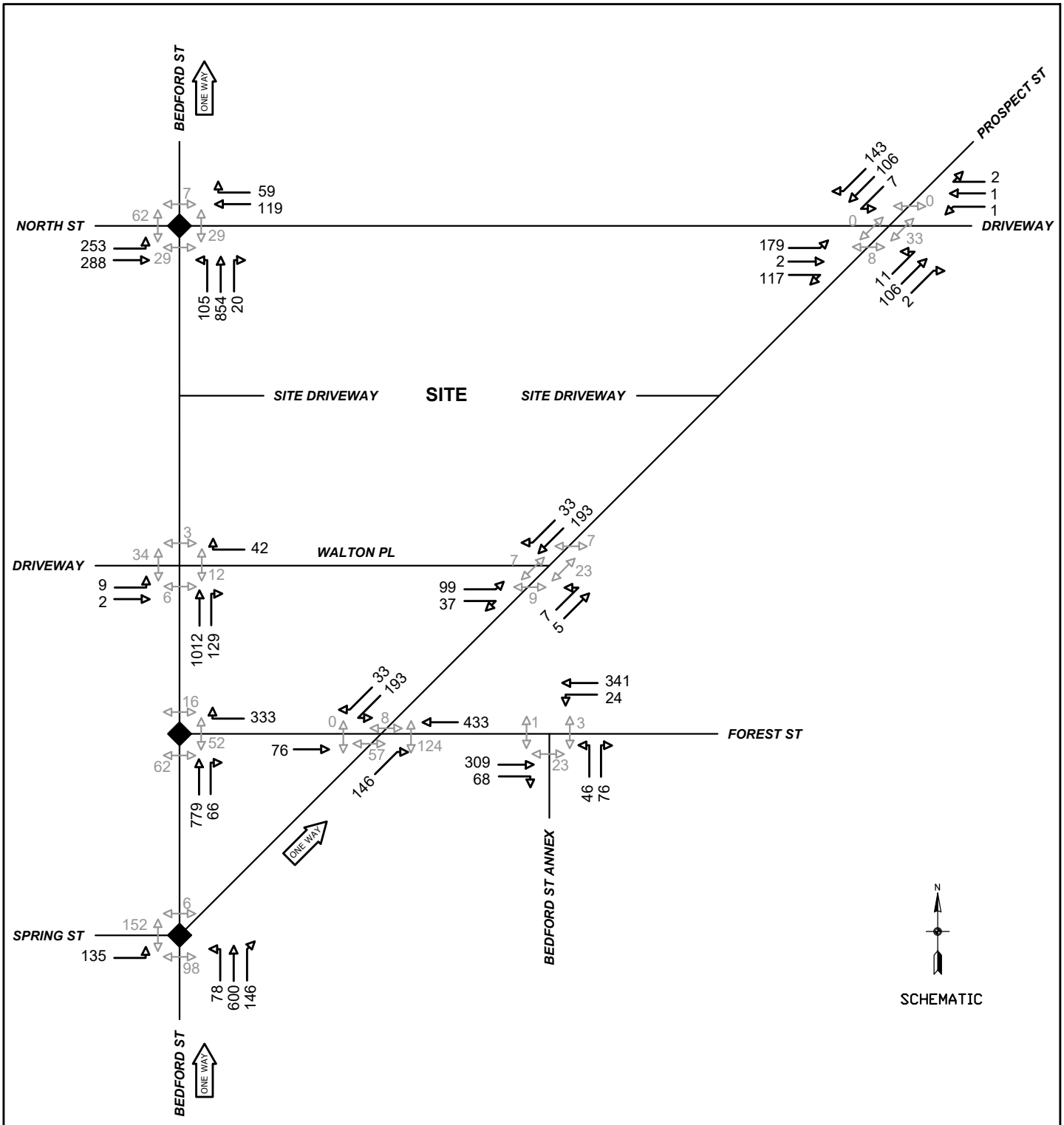
BASELINE TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

FIGURE 2

◆ **Traffic volumes were counted for the City of Stamford on Wednesday, May 3, 2017.**
All other traffic volumes were counted by Milone & MacBroom, Inc. (now part of SLR) on Tuesday, February 26, 2019.

Pedestrian volumes were obtained from Downtown Special Services District (DSSD) for Wednesday, May 3, 2017 and also for Tuesday, February 26, 2019 to stay consistent with the vehicle counts



BASELINE TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

FIGURE 3

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◆ **Traffic volumes were counted for the City of Stamford on Wednesday, May 3, 2017. All other traffic volumes were counted by Milone & MacBroom, Inc. (now part of SLR) on Tuesday, February 26, 2019.**

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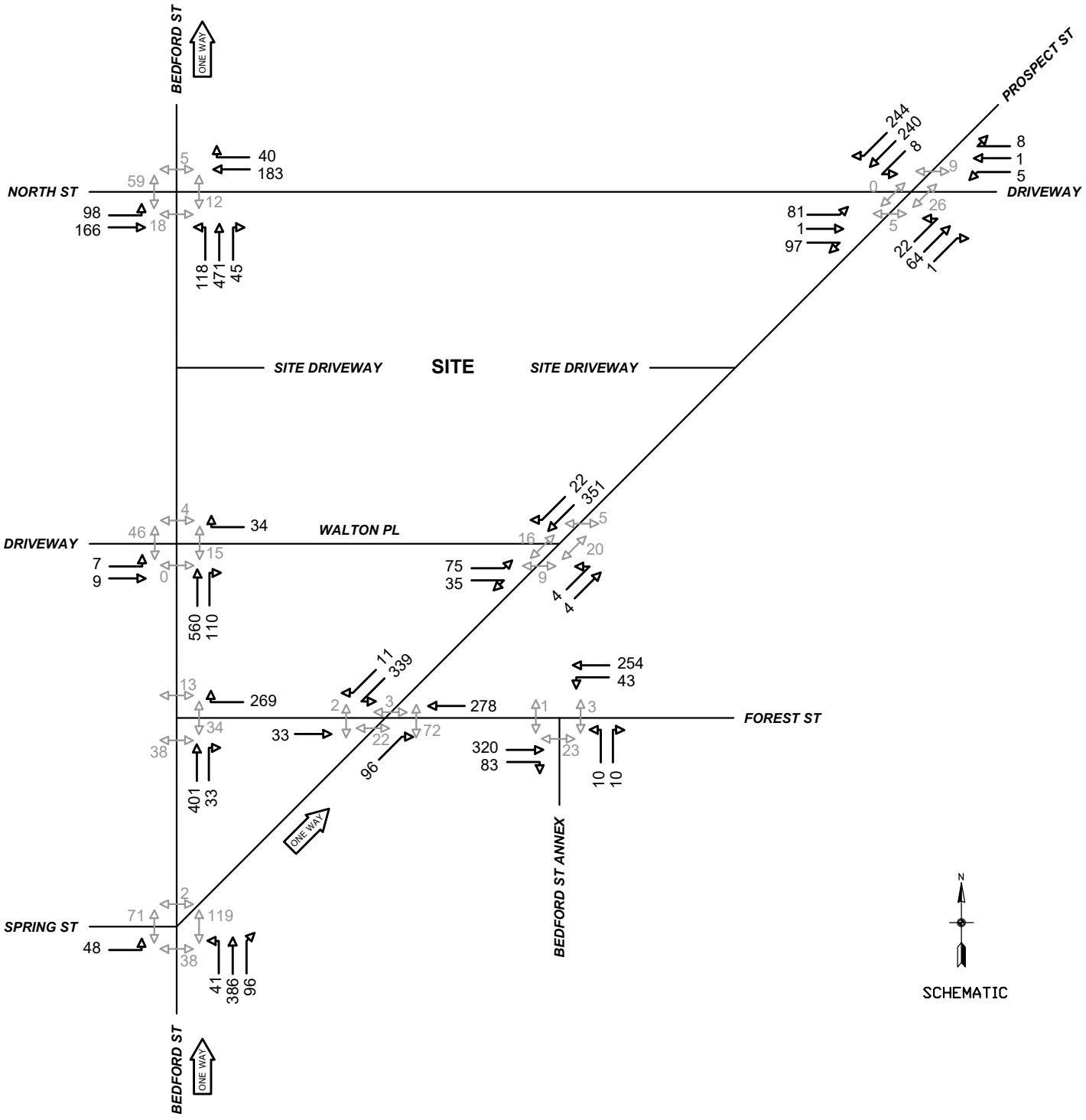

BASELINE TRAFFIC VOLUMES (BALANCED)
WEEKDAY MORNING PEAK HOUR

Walton Place Residential Development
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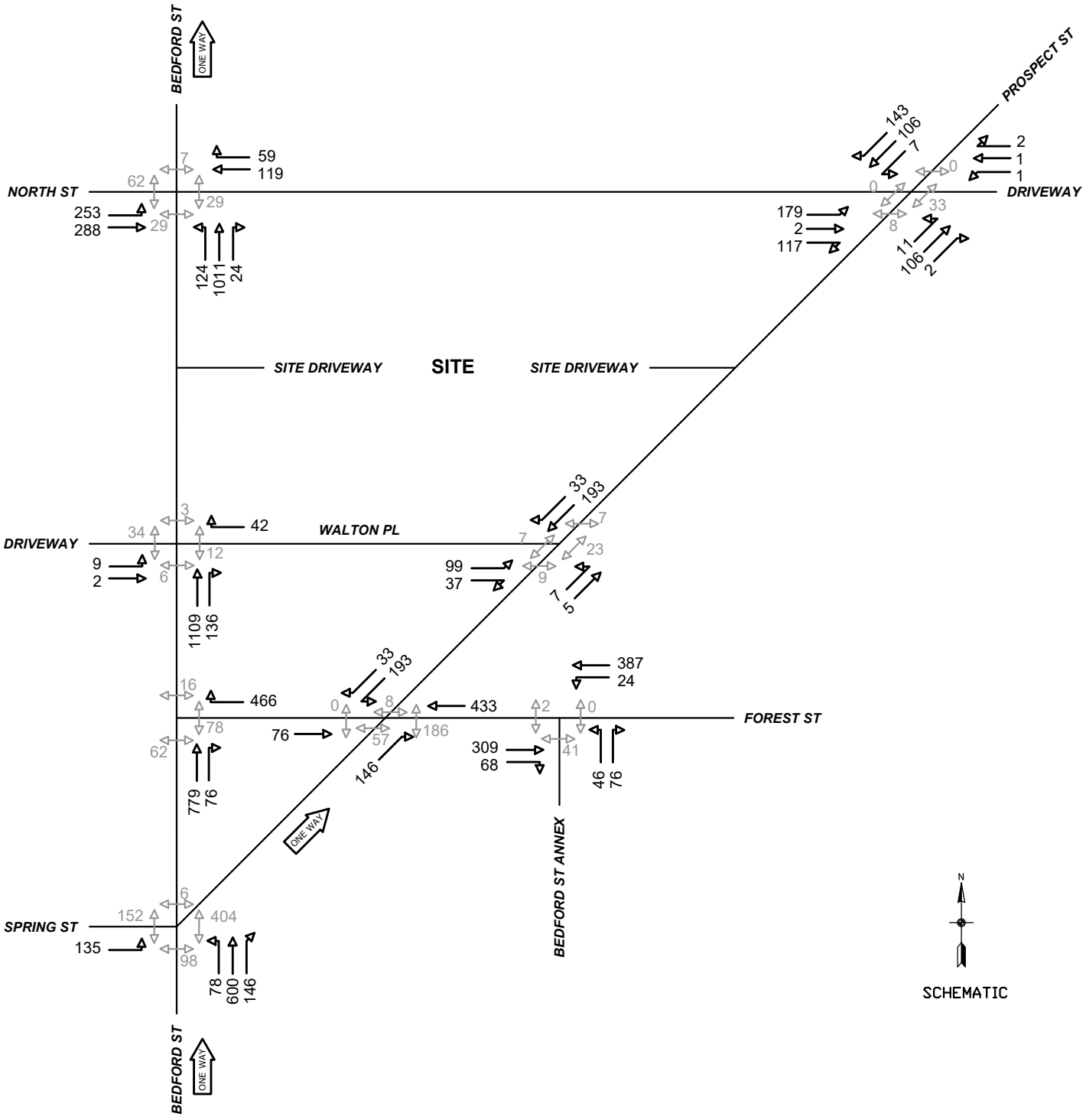
FIGURE 4



BASELINE TRAFFIC VOLUMES (BALANCED)
WEEKDAY AFTERNOON PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

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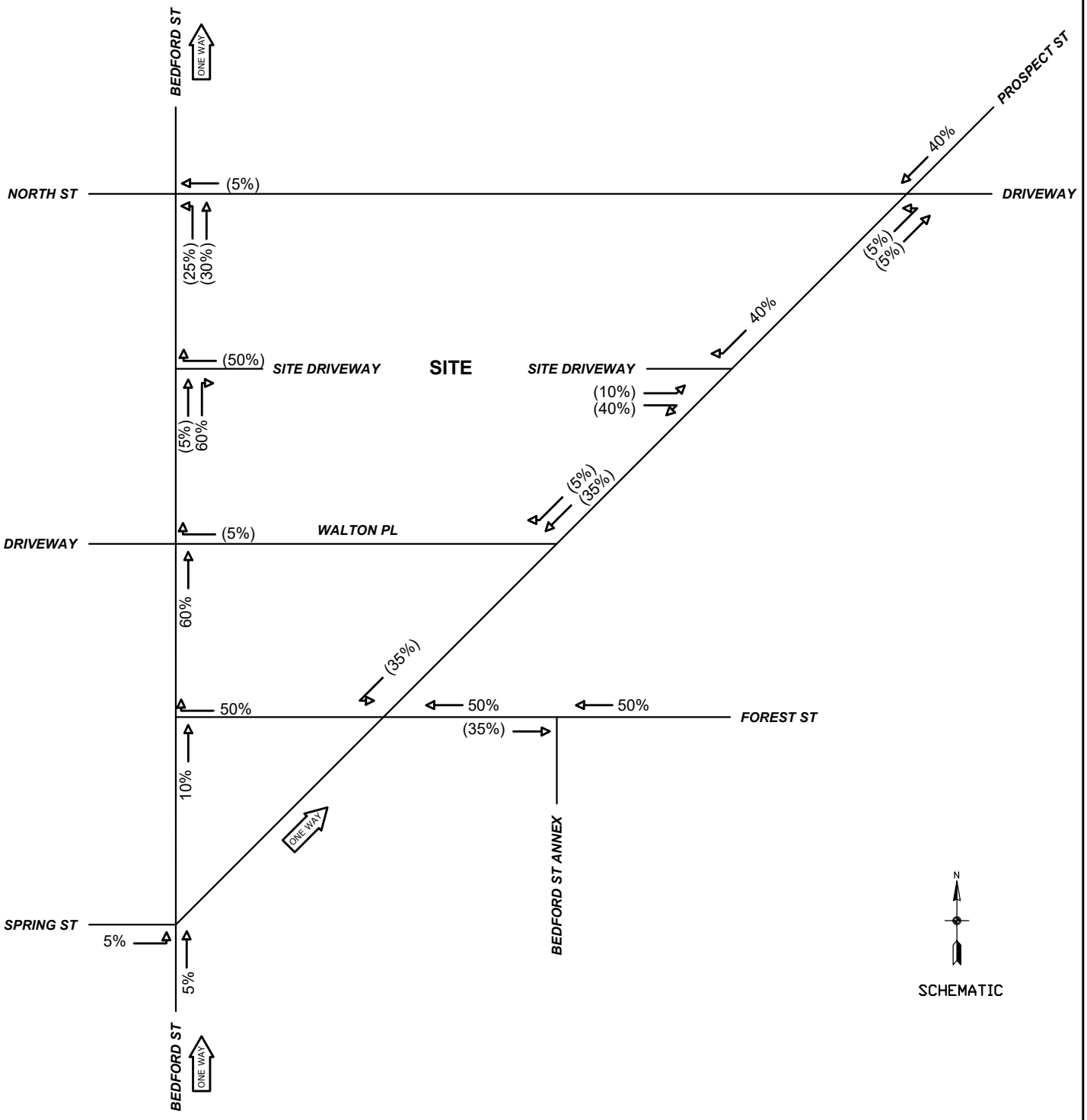
FIGURE 5



ANTICIPATED SITE TRAFFIC DISTRIBUTION

LEGEND
00: ENTERING
(00): EXITING

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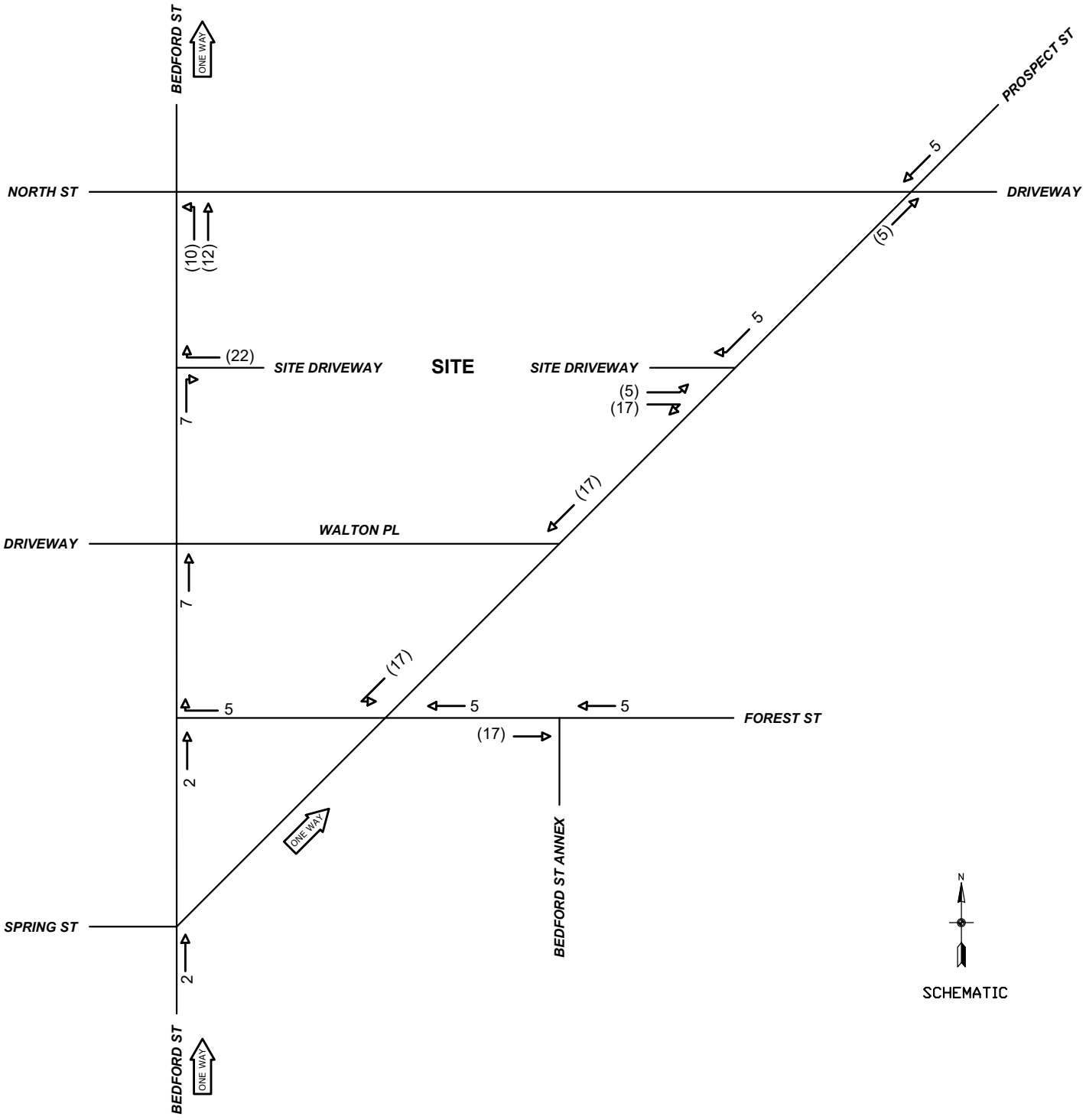
FIGURE 6



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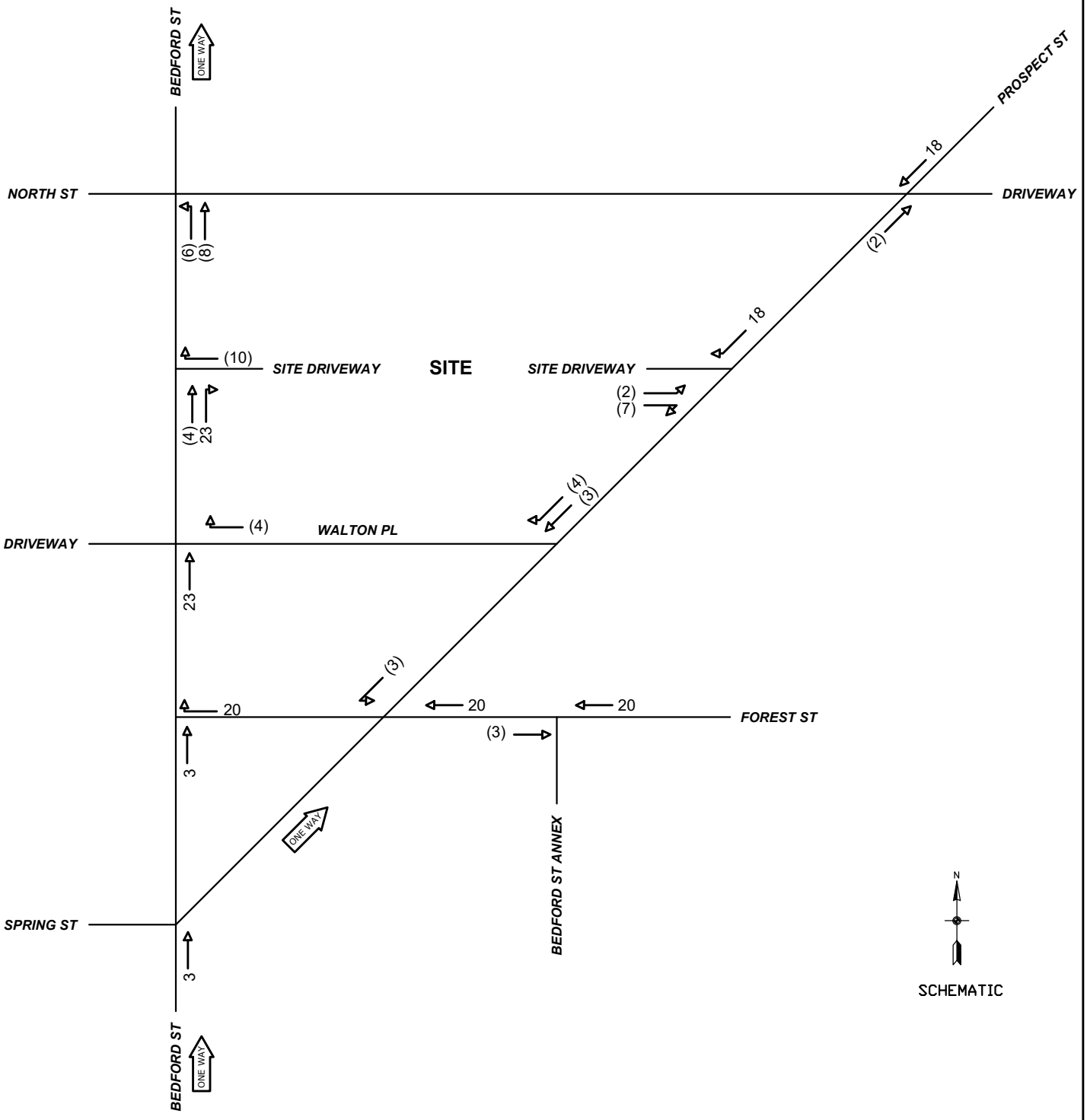
ANTICIPATED SITE TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

LEGEND
00: ENTERING
(00): EXITING

FIGURE 7



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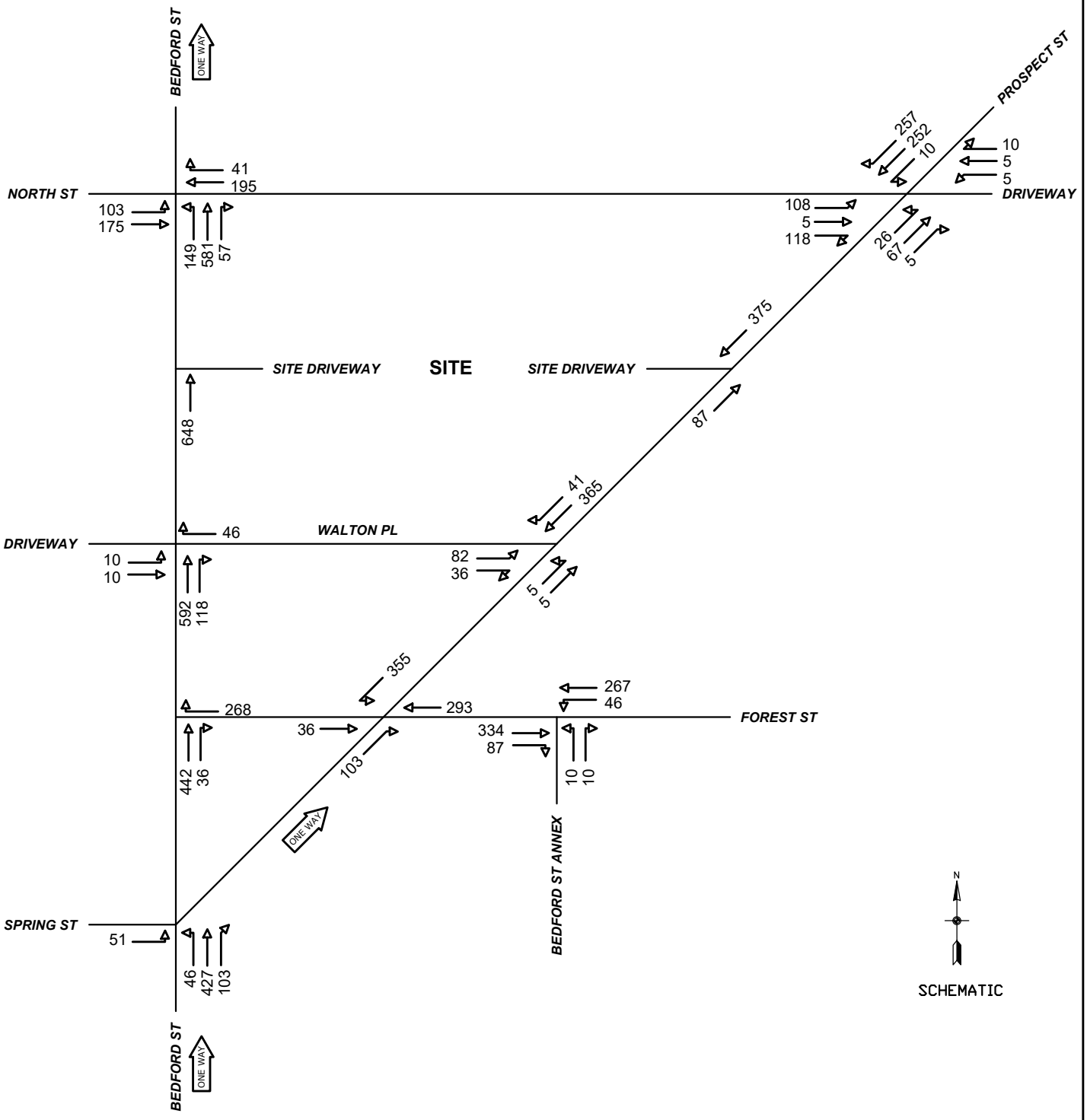
ANTICIPATED SITE TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

LEGEND
00: ENTERING
(00): EXITING

FIGURE 8



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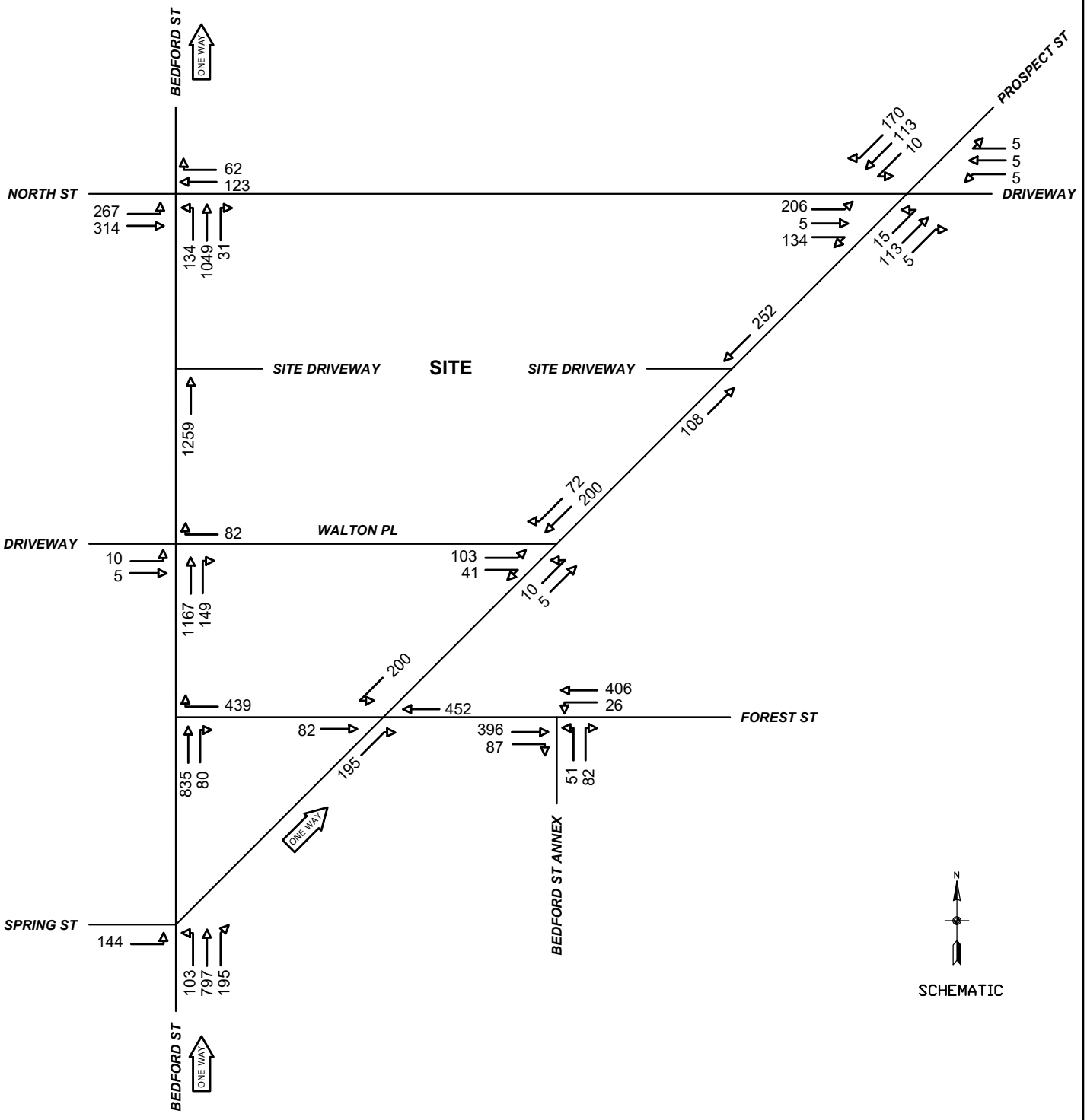
FUTURE BACKGROUND (NO BUILD) TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

FIGURE 9



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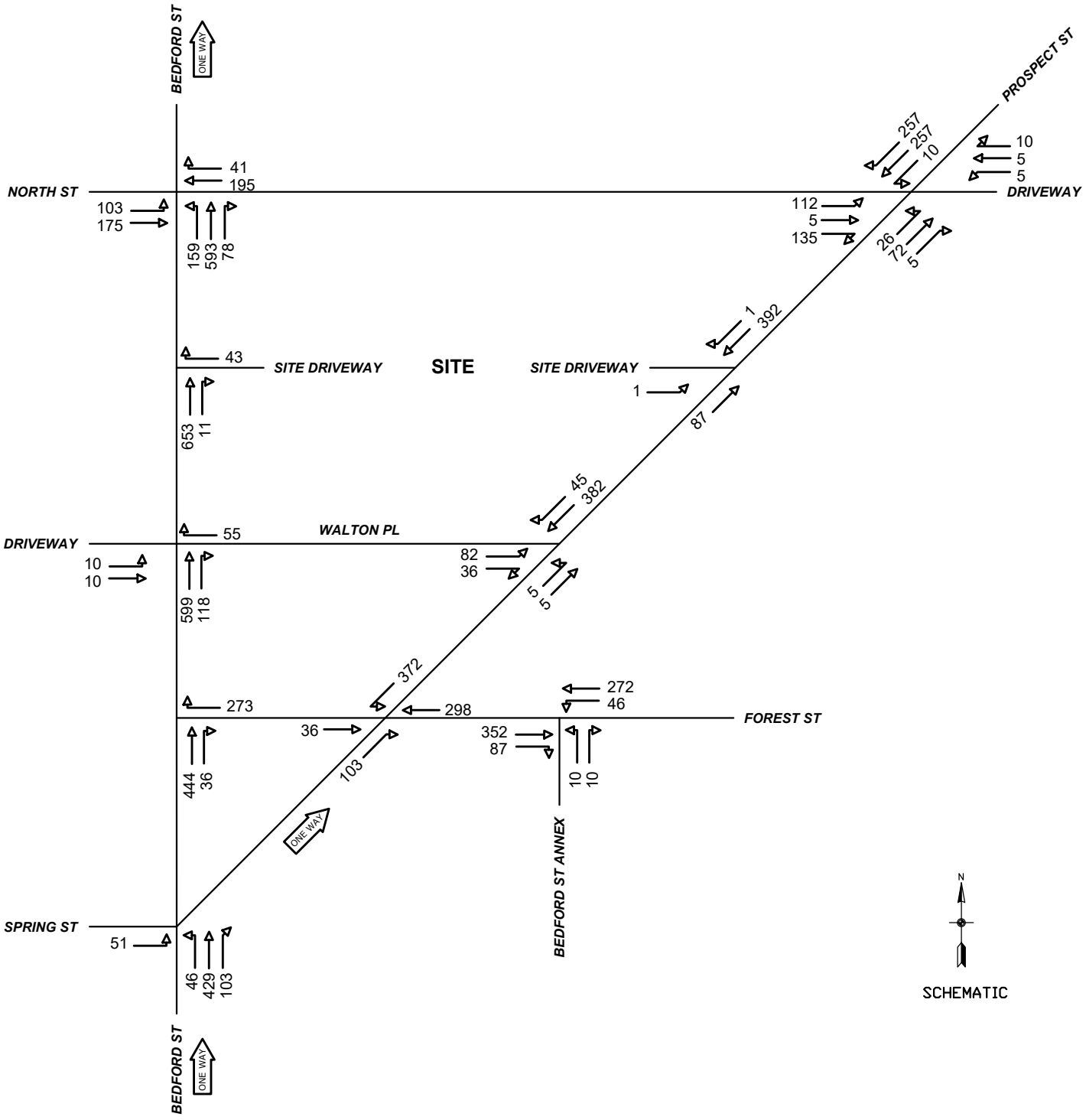
FUTURE BACKGROUND (NO BUILD) TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

FIGURE 10



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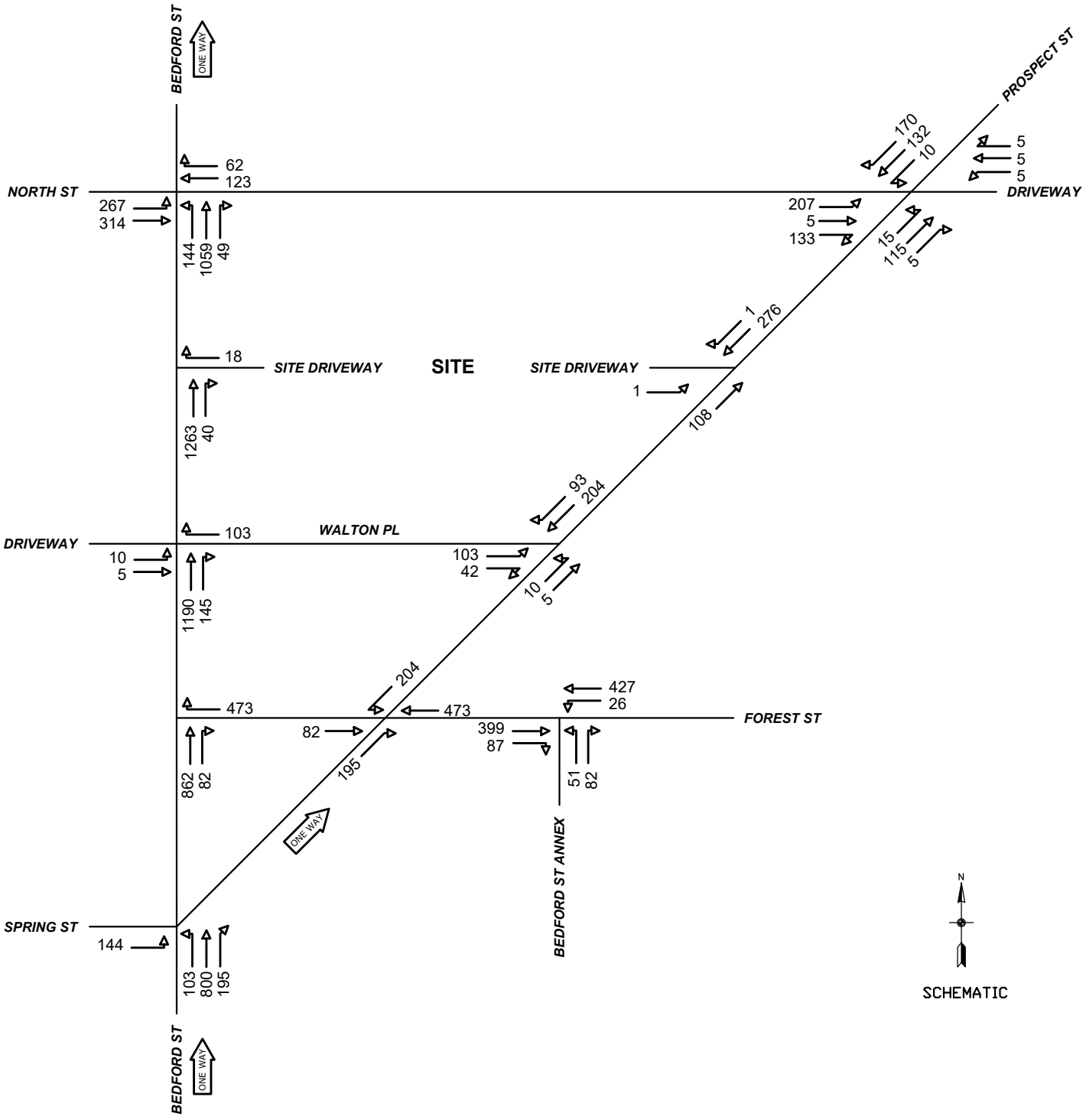
FUTURE COMBINED (BUILD) TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

FIGURE 11



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FUTURE COMBINED (BUILD) TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

Walton Place Residential Development
Stamford, Connecticut

FIGURE 12

LEVEL OF SERVICE
FOR TWO-WAY
STOP SIGN CONTROLLED INTERSECTIONS

The level of service for a TWSC (two-way stop controlled) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS criteria are given in the Table**.** LOS criteria are given below:

LEVEL-OF SERVICE CRITERIA FOR AWSC INTERSECTIONS	
LOS[1]	**CONTROL DELAY (s/veh)**
A	**≤ 10**
B	**> 10 AND ≤ 15**
C	**> 15 AND ≤ 25**
D	**> 25 AND ≤ 35**
E	**> 35 AND ≤ 50**
F	**> 50**

Note: LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.
LOS F is assigned to a movement if the volume-to-capacity ratio exceeds 1.0, regardless of the control delay

Reference: Highway Capacity Manual Version 6.0, Transportation Research Board, 2016.

LEVEL OF SERVICE
FOR
SIGNALIZED INTERSECTIONS
(MOTORIZED VEHICLE MODE)

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. The criteria are given below.

LEVEL-OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS
MOTORIZED VEHICLE MODE

LOS By Volume-to-Capacity Ratio[1]		CONTROL DELAY (s/veh)
v/c ≤ 1.0	v/c > 1.0	
A	F	≤ 10
B	F	> 10 AND ≤ 20
C	F	> 20 AND ≤ 35
D	F	> 35 AND ≤ 55
E	F	> 55 AND ≤ 80
F	F	> 80

[1] For approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Specific descriptions of each LOS for signalized intersections are provided below:

Level of Service A describes operations with a control delay of 10 s/veh and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

Level of Service B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

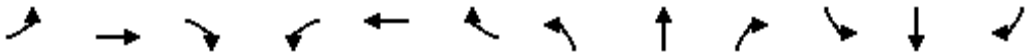
Level of Service C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

Level of Service D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

Level of Service E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

Level of Service F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Reference: Highway Capacity Manual 6, Transportation Research Board, 2016.

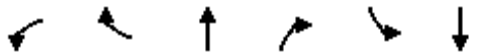


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	0	0	0	0	0	46	427	103	0	0	0
Future Volume (vph)	51	0	0	0	0	0	46	427	103	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt								0.973				
Flt Protected		0.950						0.996				
Satd. Flow (prot)	0	1770	0	0	0	0	0	3430	0	0	0	0
Flt Permitted		0.950						0.996				
Satd. Flow (perm)	0	1770	0	0	0	0	0	3430	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								49				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		278			249			441			210	
Travel Time (s)		6.3			5.7			10.0			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	0	0	0	0	0	50	464	112	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	0	0	0	626	0	0	0	0
Turn Type	Split	NA					Split	NA				
Protected Phases	4	4					2	2				
Permitted Phases												
Detector Phase	4	4					2	2				
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0				
Minimum Split (s)	21.0	21.0					24.6	24.6				
Total Split (s)	33.0	33.0					57.0	57.0				
Total Split (%)	36.7%	36.7%					63.3%	63.3%				
Maximum Green (s)	29.0	29.0					52.4	52.4				
Yellow Time (s)	3.0	3.0					3.3	3.3				
All-Red Time (s)	1.0	1.0					1.3	1.3				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		4.0						4.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0				
Recall Mode	None	None					C-Min	C-Min				
Walk Time (s)	7.0	7.0					7.0	7.0				
Flash Dont Walk (s)	10.0	10.0					13.0	13.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)		8.8						72.6				
Actuated g/C Ratio		0.10						0.81				
v/c Ratio		0.32						0.23				
Control Delay		42.2						2.2				
Queue Delay		0.0						0.0				
Total Delay		42.2						2.2				
LOS		D						A				
Approach Delay		42.2						2.2				
Approach LOS		D						A				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stops (vph)		46						109				
Fuel Used(gal)		1						3				
CO Emissions (g/hr)		56						199				
NOx Emissions (g/hr)		11						39				
VOC Emissions (g/hr)		13						46				
Dilemma Vehicles (#)		0						0				
Queue Length 50th (ft)		30						28				
Queue Length 95th (ft)		64						49				
Internal Link Dist (ft)		198			169			361			130	
Turn Bay Length (ft)												
Base Capacity (vph)		570						2776				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.10						0.23				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 70 (78%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 29.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Bedford St & Spring St/Prospect St

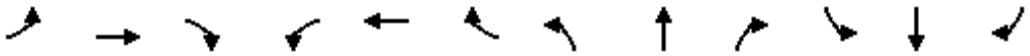


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	283	442	36	0	0
Future Volume (vph)	0	283	442	36	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.865	0.989			
Flt Protected						
Satd. Flow (prot)	0	1611	3500	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3500	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		376	16			
Link Speed (mph)	30		30			30
Link Distance (ft)	129		210			287
Travel Time (s)	2.9		4.8			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	308	480	39	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	308	519	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases						
Detector Phase		4	2			
Switch Phase						
Minimum Initial (s)		7.0	15.0			
Minimum Split (s)		21.0	24.6			
Total Split (s)		33.0	57.0			
Total Split (%)		36.7%	63.3%			
Maximum Green (s)		29.0	52.4			
Yellow Time (s)		3.0	3.3			
All-Red Time (s)		1.0	1.3			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	4.6			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0			
Recall Mode		None	C-Min			
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	13.0			
Pedestrian Calls (#/hr)		0	0			
Act Effct Green (s)		8.8	72.6			
Actuated g/C Ratio		0.10	0.81			
v/c Ratio		0.62	0.18			
Control Delay		7.5	1.7			
Queue Delay		0.0	0.3			
Total Delay		7.5	2.0			
LOS		A	A			
Approach Delay	7.5		2.0			
Approach LOS	A		A			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Stops (vph)		15	67			
Fuel Used(gal)		1	1			
CO Emissions (g/hr)		56	92			
NOx Emissions (g/hr)		11	18			
VOC Emissions (g/hr)		13	21			
Dilemma Vehicles (#)		0	0			
Queue Length 50th (ft)		0	25			
Queue Length 95th (ft)		35	34			
Internal Link Dist (ft)	49		130			207
Turn Bay Length (ft)						
Base Capacity (vph)		773	2827			
Starvation Cap Reductn		0	1597			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.40	0.42			

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 70 (78%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 4.0		Intersection LOS: A	
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Bedford St & Forest St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	36	0	0	293	0	0	0	103	355	0	15
Future Volume (vph)	0	36	0	0	293	0	0	0	103	355	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt									0.865		0.995	
Flt Protected											0.954	
Satd. Flow (prot)	0	1863	0	0	1863	0	0	0	1611	0	1768	0
Flt Permitted											0.954	
Satd. Flow (perm)	0	1863	0	0	1863	0	0	0	1611	0	1768	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		129			225			249			306	
Travel Time (s)		2.9			5.1			5.7			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	39	0	0	318	0	0	0	112	386	0	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	318	0	0	0	112	0	402	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

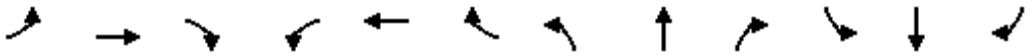
Intersection	
Int Delay, s/veh	18

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑				↱		↕	
Traffic Vol, veh/h	0	36	0	0	293	0	0	0	103	355	0	15
Future Vol, veh/h	0	36	0	0	293	0	0	0	103	355	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	39	0	0	318	0	0	0	112	386	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	-	-	0	-	-	39	413	357	318
Stage 1	-	-	-	-	-	-	-	-	-	318	318	-
Stage 2	-	-	-	-	-	-	-	-	-	95	39	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	0	1033	549	569	723
Stage 1	0	-	0	0	-	0	0	0	-	693	654	-
Stage 2	0	-	0	0	-	0	0	0	-	912	862	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	1033	490	569	723
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	490	569	-
Stage 1	-	-	-	-	-	-	-	-	-	693	654	-
Stage 2	-	-	-	-	-	-	-	-	-	813	862	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.9	36.5
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	1033	-	-	496
HCM Lane V/C Ratio	0.108	-	-	0.811
HCM Control Delay (s)	8.9	-	-	36.5
HCM Lane LOS	A	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	7.7

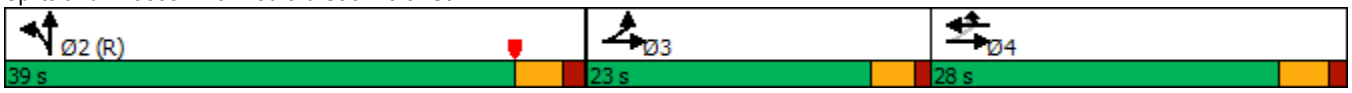


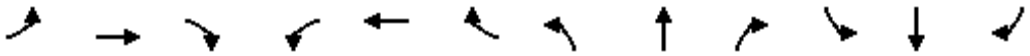
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	175	0	0	195	41	149	581	57	0	0	0
Future Volume (vph)	103	175	0	0	195	41	149	581	57	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		50	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	50			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.989				
Flt Protected	0.950							0.991				
Satd. Flow (prot)	1770	1863	0	0	1863	1583	0	3469	0	0	0	0
Flt Permitted	0.400							0.991				
Satd. Flow (perm)	745	1863	0	0	1863	1583	0	3469	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						72		10				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			634			599			351	
Travel Time (s)		7.4			14.4			13.6			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	190	0	0	212	45	162	632	62	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	190	0	0	212	45	0	856	0	0	0	0
Turn Type	D.P+P	NA			NA	Prot	Split	NA				
Protected Phases	3	3 4			4	4	2	2				
Permitted Phases	4											
Detector Phase	3 4	3 4			4	4	2	2				
Switch Phase												
Minimum Initial (s)	3.0				7.0	7.0	15.0	15.0				
Minimum Split (s)	7.0				27.7	27.7	26.9	26.9				
Total Split (s)	23.0				28.0	28.0	39.0	39.0				
Total Split (%)	25.6%				31.1%	31.1%	43.3%	43.3%				
Maximum Green (s)	19.0				23.3	23.3	34.1	34.1				
Yellow Time (s)	3.0				3.3	3.3	3.3	3.3				
All-Red Time (s)	1.0				1.4	1.4	1.6	1.6				
Lost Time Adjust (s)	0.0				0.0	0.0		0.0				
Total Lost Time (s)	4.0				4.7	4.7		4.9				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0				2.0	2.0	3.0	3.0				
Recall Mode	None				None	None	C-Min	C-Min				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					16.0	16.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)	26.4	30.4			14.8	14.8		50.7				
Actuated g/C Ratio	0.29	0.34			0.16	0.16		0.56				
v/c Ratio	0.33	0.30			0.69	0.14		0.44				
Control Delay	21.9	21.8			46.7	4.0		14.1				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	21.9	21.8			46.7	4.0		14.1				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C			D	A		B				
Approach Delay		21.9			39.2			14.1				
Approach LOS		C			D			B				
Stops (vph)	67	120			177	4		445				
Fuel Used(gal)	1	2			4	0		8				
CO Emissions (g/hr)	76	132			265	18		587				
NOx Emissions (g/hr)	15	26			52	4		114				
VOC Emissions (g/hr)	18	31			61	4		136				
Dilemma Vehicles (#)	0	0			0	0		0				
Queue Length 50th (ft)	45	79			115	0		154				
Queue Length 95th (ft)	70	110			173	14		197				
Internal Link Dist (ft)		247			554			519			271	
Turn Bay Length (ft)	90					50						
Base Capacity (vph)	537	804			482	463		1959				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.21	0.24			0.44	0.10		0.44				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Bedford St & North St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	5	118	5	5	10	26	67	5	10	252	257
Future Volume (vph)	108	5	118	5	5	10	26	67	5	10	252	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.931			0.929			0.994			0.933	
Flt Protected		0.977			0.988			0.987			0.999	
Satd. Flow (prot)	0	1694	0	0	1710	0	0	1827	0	0	1736	0
Flt Permitted		0.977			0.988			0.987			0.999	
Satd. Flow (perm)	0	1694	0	0	1710	0	0	1827	0	0	1736	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		634			240			699			202	
Travel Time (s)		14.4			5.5			15.9			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	5	128	5	5	11	28	73	5	11	274	279
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	0	0	21	0	0	106	0	0	564	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

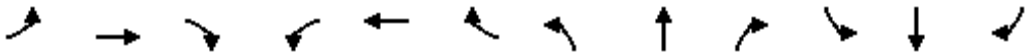
Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	108	5	118	5	5	10	26	67	5	10	252	257
Future Vol, veh/h	108	5	118	5	5	10	26	67	5	10	252	257
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	5	128	5	5	11	28	73	5	11	274	279

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	576	570	414	634	707	76	553	0	0	78	0	0
Stage 1	436	436	-	132	132	-	-	-	-	-	-	-
Stage 2	140	134	-	502	575	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	428	431	638	392	360	985	1017	-	-	1520	-	-
Stage 1	599	580	-	871	787	-	-	-	-	-	-	-
Stage 2	863	785	-	552	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	406	414	638	301	346	985	1017	-	-	1520	-	-
Mov Cap-2 Maneuver	406	414	-	301	346	-	-	-	-	-	-	-
Stage 1	582	574	-	846	764	-	-	-	-	-	-	-
Stage 2	823	762	-	432	497	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.3	12.8	2.3	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1017	-	-	499	485	1520	-	-
HCM Lane V/C Ratio	0.028	-	-	0.503	0.045	0.007	-	-
HCM Control Delay (s)	8.6	0	-	19.3	12.8	7.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	0	0	0	36	0	607	118	0	0	0
Future Volume (vph)	10	10	0	0	0	36	0	607	118	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.865	0.865		0.976				
Flt Protected		0.976										
Satd. Flow (prot)	0	1818	0	0	0	1611	0	3454	0	0	0	0
Flt Permitted		0.976										
Satd. Flow (perm)	0	1818	0	0	0	1611	0	3454	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		151			262			287			599	
Travel Time (s)		3.4			6.0			6.5			13.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	0	0	0	39	0	660	128	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	0	22	0	0	4	35	0	788	0	0	0	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	0	0	0	36	0	607	118	0	0	0
Future Vol, veh/h	10	10	0	0	0	36	0	607	118	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	108	120	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	0	0	0	39	0	660	128	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	330	788	-	-	-	394	0	0	0
Stage 1	0	0	-	-	-	-	-	-	-
Stage 2	330	788	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	-	-	-	6.94	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	-	-	-	3.32	2.22	-	-
Pot Cap-1 Maneuver	599	322	0	0	0	605	-	-	-
Stage 1	-	-	0	0	0	-	-	-	-
Stage 2	657	400	0	0	0	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	560	322	-	-	-	605	-	-	-
Mov Cap-2 Maneuver	560	322	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	615	400	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	14.3	11.4	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	409	605
HCM Lane V/C Ratio	-	-	-	0.053	0.065
HCM Control Delay (s)	0	-	-	14.3	11.4
HCM Lane LOS	A	-	-	B	B
HCM 95th %tile Q(veh)	-	-	-	0.2	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	36	82	5	5	26	365
Future Volume (vph)	36	82	5	5	26	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.906				0.874	
Flt Protected				0.976	0.997	
Satd. Flow (prot)	1688	0	0	1818	1623	0
Flt Permitted				0.976	0.997	
Satd. Flow (perm)	1688	0	0	1818	1623	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			306	699	
Travel Time (s)	6.0			7.0	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	89	5	5	28	397
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	0	0	10	425	0
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	334	87	46	267	10	10
Future Volume (vph)	334	87	46	267	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.972				0.932	
Flt Protected				0.993	0.976	
Satd. Flow (prot)	1811	0	0	1850	1694	0
Flt Permitted				0.993	0.976	
Satd. Flow (perm)	1811	0	0	1850	1694	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	225			181	171	
Travel Time (s)	5.1			4.1	3.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	363	95	50	290	11	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	458	0	0	340	22	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

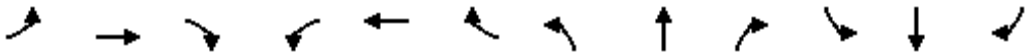
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	334	87	46	267	10	10
Future Vol, veh/h	334	87	46	267	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	363	95	50	290	11	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	458	0	801	411
Stage 1	-	-	-	-	411	-
Stage 2	-	-	-	-	390	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1103	-	354	641
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1103	-	335	641
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	440	-	-	1103	-
HCM Lane V/C Ratio	0.049	-	-	0.045	-
HCM Control Delay (s)	13.6	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

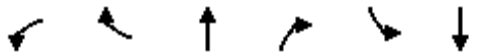


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	0	0	0	0	0	46	429	103	0	0	0
Future Volume (vph)	51	0	0	0	0	0	46	429	103	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt								0.973				
Flt Protected		0.950						0.996				
Satd. Flow (prot)	0	1770	0	0	0	0	0	3430	0	0	0	0
Flt Permitted		0.950						0.996				
Satd. Flow (perm)	0	1770	0	0	0	0	0	3430	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								49				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		278			249			441			210	
Travel Time (s)		6.3			5.7			10.0			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	0	0	0	0	0	50	466	112	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	0	0	0	628	0	0	0	0
Turn Type	Split	NA					Split	NA				
Protected Phases	4	4					2	2				
Permitted Phases												
Detector Phase	4	4					2	2				
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0				
Minimum Split (s)	21.0	21.0					25.0	25.0				
Total Split (s)	33.0	33.0					57.0	57.0				
Total Split (%)	36.7%	36.7%					63.3%	63.3%				
Maximum Green (s)	29.0	29.0					52.4	52.4				
Yellow Time (s)	3.0	3.0					3.3	3.3				
All-Red Time (s)	1.0	1.0					1.3	1.3				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		4.0						4.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0				
Recall Mode	None	None					C-Min	C-Min				
Walk Time (s)	7.0	7.0					7.0	7.0				
Flash Dont Walk (s)	10.0	10.0					13.0	13.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)		8.8						72.6				
Actuated g/C Ratio		0.10						0.81				
v/c Ratio		0.32						0.23				
Control Delay		42.1						2.2				
Queue Delay		0.0						0.0				
Total Delay		42.1						2.2				
LOS		D						A				
Approach Delay		42.1						2.2				
Approach LOS		D						A				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stops (vph)		46						110				
Fuel Used(gal)		1						3				
CO Emissions (g/hr)		56						200				
NOx Emissions (g/hr)		11						39				
VOC Emissions (g/hr)		13						46				
Dilemma Vehicles (#)		0						0				
Queue Length 50th (ft)		30						28				
Queue Length 95th (ft)		64						50				
Internal Link Dist (ft)		198			169			361			130	
Turn Bay Length (ft)												
Base Capacity (vph)		570						2775				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.10						0.23				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 70 (78%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 29.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Bedford St & Spring St/Prospect St

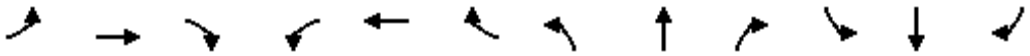


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	288	446	36	0	0
Future Volume (vph)	0	288	446	36	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.865	0.989			
Flt Protected						
Satd. Flow (prot)	0	1611	3500	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3500	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		372	16			
Link Speed (mph)	30		30			30
Link Distance (ft)	129		210			287
Travel Time (s)	2.9		4.8			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	313	485	39	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	313	524	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases						
Detector Phase		4	2			
Switch Phase						
Minimum Initial (s)		7.0	15.0			
Minimum Split (s)		21.0	25.0			
Total Split (s)		33.0	57.0			
Total Split (%)		36.7%	63.3%			
Maximum Green (s)		29.0	52.4			
Yellow Time (s)		3.0	3.3			
All-Red Time (s)		1.0	1.3			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	4.6			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0			
Recall Mode		None	C-Min			
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	13.0			
Pedestrian Calls (#/hr)		0	0			
Act Effct Green (s)		8.8	72.6			
Actuated g/C Ratio		0.10	0.81			
v/c Ratio		0.63	0.19			
Control Delay		8.1	1.7			
Queue Delay		0.0	0.3			
Total Delay		8.1	2.0			
LOS		A	A			
Approach Delay	8.1		2.0			
Approach LOS	A		A			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Stops (vph)		17	67			
Fuel Used(gal)		1	1			
CO Emissions (g/hr)		60	93			
NOx Emissions (g/hr)		12	18			
VOC Emissions (g/hr)		14	21			
Dilemma Vehicles (#)		0	0			
Queue Length 50th (ft)		0	26			
Queue Length 95th (ft)		40	34			
Internal Link Dist (ft)	49		130			207
Turn Bay Length (ft)						
Base Capacity (vph)		771	2825			
Starvation Cap Reductn		0	1589			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.41	0.42			

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 70 (78%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 4.3		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Bedford St & Forest St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	36	0	0	298	0	0	0	103	372	0	15
Future Volume (vph)	0	36	0	0	298	0	0	0	103	372	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt									0.865		0.995	
Flt Protected											0.954	
Satd. Flow (prot)	0	1863	0	0	1863	0	0	0	1611	0	1768	0
Flt Permitted											0.954	
Satd. Flow (perm)	0	1863	0	0	1863	0	0	0	1611	0	1768	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		129			225			249			306	
Travel Time (s)		2.9			5.1			5.7			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	39	0	0	324	0	0	0	112	404	0	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	324	0	0	0	112	0	420	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

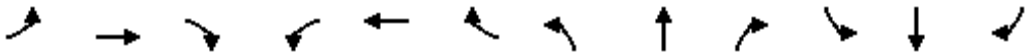
Intersection	
Int Delay, s/veh	21

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑				↱		↕	
Traffic Vol, veh/h	0	36	0	0	298	0	0	0	103	372	0	15
Future Vol, veh/h	0	36	0	0	298	0	0	0	103	372	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	39	0	0	324	0	0	0	112	404	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	-	-	0	-	-	39	419	363	324
Stage 1	-	-	-	-	-	-	-	-	-	324	324	-
Stage 2	-	-	-	-	-	-	-	-	-	95	39	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	0	1033	544	565	717
Stage 1	0	-	0	0	-	0	0	0	-	688	650	-
Stage 2	0	-	0	0	-	0	0	0	-	912	862	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	1033	485	565	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	485	565	-
Stage 1	-	-	-	-	-	-	-	-	-	688	650	-
Stage 2	-	-	-	-	-	-	-	-	-	813	862	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.9	42.3
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	1033	-	-	491
HCM Lane V/C Ratio	0.108	-	-	0.857
HCM Control Delay (s)	8.9	-	-	42.3
HCM Lane LOS	A	-	-	E
HCM 95th %tile Q(veh)	0.4	-	-	8.9

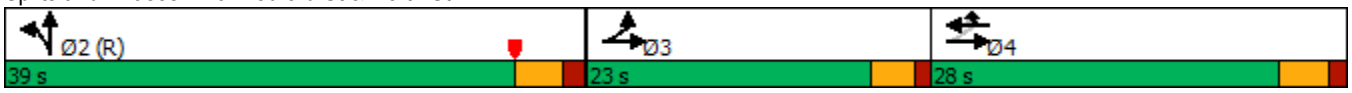


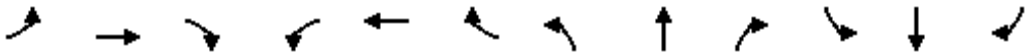
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	175	0	0	195	41	159	593	57	0	0	0
Future Volume (vph)	103	175	0	0	195	41	159	593	57	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		50	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	50			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.989				
Flt Protected	0.950							0.990				
Satd. Flow (prot)	1770	1863	0	0	1863	1583	0	3465	0	0	0	0
Flt Permitted	0.400							0.990				
Satd. Flow (perm)	745	1863	0	0	1863	1583	0	3465	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						72		10				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			634			329			351	
Travel Time (s)		7.4			14.4			7.5			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	190	0	0	212	45	173	645	62	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	190	0	0	212	45	0	880	0	0	0	0
Turn Type	D.P+P	NA			NA	Prot	Split	NA				
Protected Phases	3	3 4			4	4	2	2				
Permitted Phases	4											
Detector Phase	3 4	3 4			4	4	2	2				
Switch Phase												
Minimum Initial (s)	3.0				7.0	7.0	15.0	15.0				
Minimum Split (s)	7.0				27.7	27.7	26.9	26.9				
Total Split (s)	23.0				28.0	28.0	39.0	39.0				
Total Split (%)	25.6%				31.1%	31.1%	43.3%	43.3%				
Maximum Green (s)	19.0				23.3	23.3	34.1	34.1				
Yellow Time (s)	3.0				3.3	3.3	3.3	3.3				
All-Red Time (s)	1.0				1.4	1.4	1.6	1.6				
Lost Time Adjust (s)	0.0				0.0	0.0		0.0				
Total Lost Time (s)	4.0				4.7	4.7		4.9				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0				2.0	2.0	3.0	3.0				
Recall Mode	None				None	None	C-Min	C-Min				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					16.0	16.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)	26.4	30.4			14.8	14.8		50.7				
Actuated g/C Ratio	0.29	0.34			0.16	0.16		0.56				
v/c Ratio	0.33	0.30			0.69	0.14		0.45				
Control Delay	21.9	21.9			46.7	4.0		13.4				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	21.9	21.9			46.7	4.0		13.4				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C			D	A		B				
Approach Delay		21.9			39.2			13.4				
Approach LOS		C			D			B				
Stops (vph)	67	120			177	4		446				
Fuel Used(gal)	1	2			4	0		7				
CO Emissions (g/hr)	76	132			265	18		472				
NOx Emissions (g/hr)	15	26			52	4		92				
VOC Emissions (g/hr)	18	31			61	4		109				
Dilemma Vehicles (#)	0	0			0	0		0				
Queue Length 50th (ft)	45	79			115	0		141				
Queue Length 95th (ft)	70	110			173	14		197				
Internal Link Dist (ft)		247			554			249			271	
Turn Bay Length (ft)	90					50						
Base Capacity (vph)	537	803			482	463		1957				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.21	0.24			0.44	0.10		0.45				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 2 (2%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 50.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Bedford St & North St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	5	118	5	5	10	26	72	5	10	257	257
Future Volume (vph)	108	5	118	5	5	10	26	72	5	10	257	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.931			0.929			0.994			0.934	
Flt Protected		0.977			0.988			0.988			0.999	
Satd. Flow (prot)	0	1694	0	0	1710	0	0	1829	0	0	1738	0
Flt Permitted		0.977			0.988			0.988			0.999	
Satd. Flow (perm)	0	1694	0	0	1710	0	0	1829	0	0	1738	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		634			240			431			202	
Travel Time (s)		14.4			5.5			9.8			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	5	128	5	5	11	28	78	5	11	279	279
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	0	0	21	0	0	111	0	0	569	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

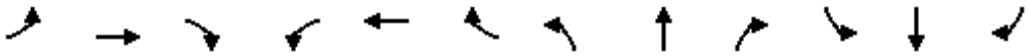
Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	108	5	118	5	5	10	26	72	5	10	257	257
Future Vol, veh/h	108	5	118	5	5	10	26	72	5	10	257	257
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	5	128	5	5	11	28	78	5	11	279	279

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	586	580	419	644	717	81	558	0	0	83	0	0
Stage 1	441	441	-	137	137	-	-	-	-	-	-	-
Stage 2	145	139	-	507	580	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	422	426	634	386	355	979	1013	-	-	1514	-	-
Stage 1	595	577	-	866	783	-	-	-	-	-	-	-
Stage 2	858	782	-	548	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	400	409	634	296	341	979	1013	-	-	1514	-	-
Mov Cap-2 Maneuver	400	409	-	296	341	-	-	-	-	-	-	-
Stage 1	578	571	-	841	760	-	-	-	-	-	-	-
Stage 2	818	759	-	428	495	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	12.9	2.2	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1013	-	-	493	479	1514	-	-
HCM Lane V/C Ratio	0.028	-	-	0.509	0.045	0.007	-	-
HCM Control Delay (s)	8.7	0	-	19.6	12.9	7.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	0	0	0	36	0	614	118	0	0	0
Future Volume (vph)	10	10	0	0	0	36	0	614	118	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.865	0.865		0.976				
Flt Protected		0.976										
Satd. Flow (prot)	0	1818	0	0	0	1611	0	3454	0	0	0	0
Flt Permitted		0.976										
Satd. Flow (perm)	0	1818	0	0	0	1611	0	3454	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		151			262			287			272	
Travel Time (s)		3.4			6.0			6.5			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	0	0	0	39	0	667	128	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	0	22	0	0	4	35	0	795	0	0	0	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	0	0	0	36	0	614	118	0	0	0
Future Vol, veh/h	10	10	0	0	0	36	0	614	118	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	1081	208832	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	0	0	0	39	0	667	128	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	334	795	-	-	-	398	0	0	0
Stage 1	0	0	-	-	-	-	-	-	-
Stage 2	334	795	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	-	-	-	6.94	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	-	-	-	3.32	2.22	-	-
Pot Cap-1 Maneuver	596	319	0	0	0	601	-	-	-
Stage 1	-	-	0	0	0	-	-	-	-
Stage 2	653	398	0	0	0	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	557	319	-	-	-	601	-	-	-
Mov Cap-2 Maneuver	557	319	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	610	398	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	14.4	11.4	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	406	601
HCM Lane V/C Ratio	-	-	-	0.054	0.065
HCM Control Delay (s)	0	-	-	14.4	11.4
HCM Lane LOS	A	-	-	B	B
HCM 95th %tile Q(veh)	-	-	-	0.2	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	82	36	382	26	5	5
Future Volume (vph)	82	36	382	26	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.959				0.932	
Flt Protected				0.955	0.976	
Satd. Flow (prot)	1786	0	0	1779	1694	0
Flt Permitted				0.955	0.976	
Satd. Flow (perm)	1786	0	0	1779	1694	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			269	306	
Travel Time (s)	6.0			6.1	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	39	415	28	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	0	0	443	10	0
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	352	87	46	272	10	10
Future Volume (vph)	352	87	46	272	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.973				0.932	
Flt Protected				0.993	0.976	
Satd. Flow (prot)	1812	0	0	1850	1694	0
Flt Permitted				0.993	0.976	
Satd. Flow (perm)	1812	0	0	1850	1694	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	225			181	171	
Travel Time (s)	5.1			4.1	3.9	
Confl. Peds. (#/hr)			45			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	95	50	296	11	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	478	0	0	346	22	0
Sign Control	Free			Free	Stop	

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

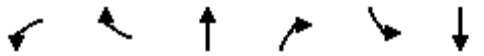
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	352	87	46	272	10	10
Future Vol, veh/h	352	87	46	272	10	10
Conflicting Peds, #/hr	0	0	45	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	383	95	50	296	11	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	523	0	872	476
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1043	-	321	589
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	998	-	289	564
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	639	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	382	-	-	998	-
HCM Lane V/C Ratio	0.057	-	-	0.05	-
HCM Control Delay (s)	15	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	22	653	7	0	0
Future Volume (vph)	0	22	653	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1611	3532	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3532	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	153		272			329
Travel Time (s)	3.5		6.2			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	24	710	8	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	718	0	0	0
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.3%		ICU Level of Service A	
Analysis Period (min) 15			

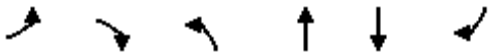
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	22	653	7	0	0
Future Vol, veh/h	0	22	653	7	0	0
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	-	1082390528	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	710	8	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	359	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	638	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	638	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	10.9	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	638
HCM Lane V/C Ratio	-	-	0.037
HCM Control Delay (s)	-	-	10.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	17	0	87	375	5
Future Volume (vph)	5	17	0	87	375	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.894				0.998	
Flt Protected	0.989					
Satd. Flow (prot)	1647	0	0	1863	1859	0
Flt Permitted	0.989					
Satd. Flow (perm)	1647	0	0	1863	1859	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	136			269	431	
Travel Time (s)	3.1			6.1	9.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	18	0	95	408	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	0	0	95	413	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.0%		ICU Level of Service A	
Analysis Period (min) 15			

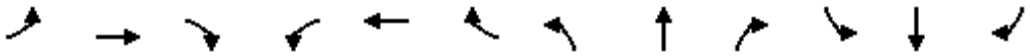
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	17	0	87	375	5
Future Vol, veh/h	5	17	0	87	375	5
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	18	0	95	408	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	506	411	413	0	-	0
Stage 1	411	-	-	-	-	-
Stage 2	95	-	-	-	-	-
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	526	641	1146	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	526	641	1146	-	-	-
Mov Cap-2 Maneuver	526	-	-	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1146	-	611	-	-
HCM Lane V/C Ratio	-	-	0.039	-	-
HCM Control Delay (s)	0	-	11.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

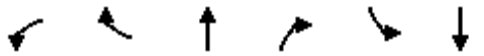


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	0	0	0	0	0	103	797	195	0	0	0
Future Volume (vph)	144	0	0	0	0	0	103	797	195	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt								0.973				
Flt Protected		0.950						0.995				
Satd. Flow (prot)	0	1770	0	0	0	0	0	3426	0	0	0	0
Flt Permitted		0.950						0.995				
Satd. Flow (perm)	0	1770	0	0	0	0	0	3426	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								49				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		278			249			441			210	
Travel Time (s)		6.3			5.7			10.0			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	157	0	0	0	0	0	112	866	212	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	0	0	0	1190	0	0	0	0
Turn Type	Split	NA					Split	NA				
Protected Phases	4	4					2	2				
Permitted Phases												
Detector Phase	4	4					2	2				
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0				
Minimum Split (s)	21.0	21.0					24.6	24.6				
Total Split (s)	33.0	33.0					57.0	57.0				
Total Split (%)	36.7%	36.7%					63.3%	63.3%				
Maximum Green (s)	29.0	29.0					52.4	52.4				
Yellow Time (s)	3.0	3.0					3.3	3.3				
All-Red Time (s)	1.0	1.0					1.3	1.3				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		4.0						4.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0				
Recall Mode	None	None					C-Min	C-Min				
Walk Time (s)	7.0	7.0					7.0	7.0				
Flash Dont Walk (s)	10.0	10.0					13.0	13.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)		26.1						55.3				
Actuated g/C Ratio		0.29						0.61				
v/c Ratio		0.31						0.56				
Control Delay		25.7						11.6				
Queue Delay		0.0						0.0				
Total Delay		25.7						11.6				
LOS		C						B				
Approach Delay		25.7						11.6				
Approach LOS		C						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stops (vph)		106						595				
Fuel Used(gal)		2						10				
CO Emissions (g/hr)		115						674				
NOx Emissions (g/hr)		22						131				
VOC Emissions (g/hr)		27						156				
Dilemma Vehicles (#)		0						0				
Queue Length 50th (ft)		66						200				
Queue Length 95th (ft)		115						260				
Internal Link Dist (ft)		198			169			361			130	
Turn Bay Length (ft)												
Base Capacity (vph)		570						2122				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						2				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.28						0.56				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 70 (78%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 46.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Bedford St & Spring St/Prospect St

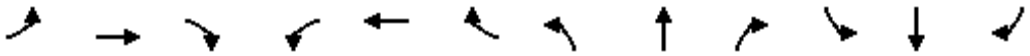


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	475	835	80	0	0
Future Volume (vph)	0	475	835	80	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.865	0.987			
Flt Protected						
Satd. Flow (prot)	0	1611	3493	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3493	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		140	19			
Link Speed (mph)	30		30			30
Link Distance (ft)	129		210			287
Travel Time (s)	2.9		4.8			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	516	908	87	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	516	995	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases						
Detector Phase		4	2			
Switch Phase						
Minimum Initial (s)		7.0	15.0			
Minimum Split (s)		21.0	24.6			
Total Split (s)		33.0	57.0			
Total Split (%)		36.7%	63.3%			
Maximum Green (s)		29.0	52.4			
Yellow Time (s)		3.0	3.3			
All-Red Time (s)		1.0	1.3			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	4.6			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0			
Recall Mode		None	C-Min			
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	13.0			
Pedestrian Calls (#/hr)		0	0			
Act Effct Green (s)		26.1	55.3			
Actuated g/C Ratio		0.29	0.61			
v/c Ratio		0.91	0.46			
Control Delay		43.9	5.8			
Queue Delay		0.0	0.3			
Total Delay		43.9	6.0			
LOS		D	A			
Approach Delay	43.9		6.0			
Approach LOS	D		A			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Stops (vph)		326	193			
Fuel Used(gal)		7	4			
CO Emissions (g/hr)		456	254			
NOx Emissions (g/hr)		89	49			
VOC Emissions (g/hr)		106	59			
Dilemma Vehicles (#)		0	0			
Queue Length 50th (ft)		203	65			
Queue Length 95th (ft)		#385	78			
Internal Link Dist (ft)	49		130			207
Turn Bay Length (ft)						
Base Capacity (vph)		613	2152			
Starvation Cap Reductn		0	492			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.84	0.60			

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 70 (78%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 62.2%		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: 5: Bedford St & Forest St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	82	0	0	452	0	0	0	195	200	0	36
Future Volume (vph)	0	82	0	0	452	0	0	0	195	200	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt									0.865		0.979	
Flt Protected											0.959	
Satd. Flow (prot)	0	1863	0	0	1863	0	0	0	1611	0	1749	0
Flt Permitted											0.959	
Satd. Flow (perm)	0	1863	0	0	1863	0	0	0	1611	0	1749	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		129			221			249			306	
Travel Time (s)		2.9			5.0			5.7			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	89	0	0	491	0	0	0	212	217	0	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	491	0	0	0	212	0	256	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.7%		ICU Level of Service A	
Analysis Period (min) 15			

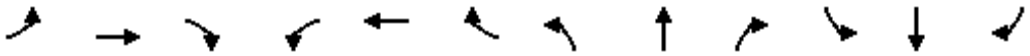
Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑				↱		↕	
Traffic Vol, veh/h	0	82	0	0	452	0	0	0	195	200	0	36
Future Vol, veh/h	0	82	0	0	452	0	0	0	195	200	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	89	0	0	491	0	0	0	212	217	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	-	-	0	-	-	89	686	580	491
Stage 1	-	-	-	-	-	-	-	-	-	491	491	-
Stage 2	-	-	-	-	-	-	-	-	-	195	89	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	0	969	362	426	578
Stage 1	0	-	0	0	-	0	0	0	-	559	548	-
Stage 2	0	-	0	0	-	0	0	0	-	807	821	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	969	283	426	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	283	426	-
Stage 1	-	-	-	-	-	-	-	-	-	559	548	-
Stage 2	-	-	-	-	-	-	-	-	-	630	821	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.8	55.7
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	969	-	-	307
HCM Lane V/C Ratio	0.219	-	-	0.836
HCM Control Delay (s)	9.8	-	-	55.7
HCM Lane LOS	A	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	7.1

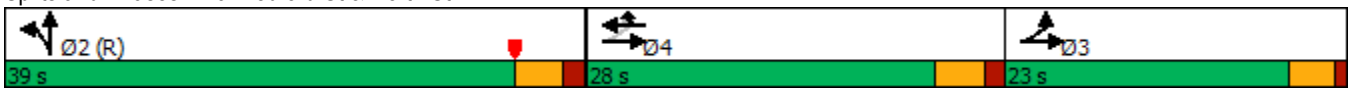


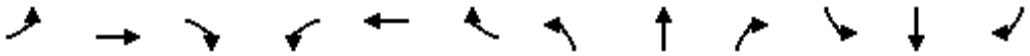
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	314	0	0	123	62	134	1049	31	0	0	0
Future Volume (vph)	267	314	0	0	123	62	134	1049	31	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		50	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	50			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.996				
Flt Protected	0.950							0.995				
Satd. Flow (prot)	1770	1863	0	0	1863	1583	0	3507	0	0	0	0
Flt Permitted	0.643							0.995				
Satd. Flow (perm)	1198	1863	0	0	1863	1583	0	3507	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						72		3				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			634			599			351	
Travel Time (s)		7.4			14.4			13.6			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	341	0	0	134	67	146	1140	34	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	341	0	0	134	67	0	1320	0	0	0	0
Turn Type	D.P+P	NA			NA	Prot	Split	NA				
Protected Phases	3	3 4			4	4	2	2				
Permitted Phases	4											
Detector Phase	3 4	3 4			4	4	2	2				
Switch Phase												
Minimum Initial (s)	3.0				7.0	7.0	15.0	15.0				
Minimum Split (s)	7.0				27.7	27.7	26.9	26.9				
Total Split (s)	23.0				28.0	28.0	39.0	39.0				
Total Split (%)	25.6%				31.1%	31.1%	43.3%	43.3%				
Maximum Green (s)	19.0				23.3	23.3	34.1	34.1				
Yellow Time (s)	3.0				3.3	3.3	3.3	3.3				
All-Red Time (s)	1.0				1.4	1.4	1.6	1.6				
Lost Time Adjust (s)	0.0				0.0	0.0		0.0				
Total Lost Time (s)	4.0				4.7	4.7		4.9				
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0				2.0	2.0	3.0	3.0				
Recall Mode	None				None	None	C-Min	C-Min				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					16.0	16.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)	27.9	31.9			20.7	20.7		49.2				
Actuated g/C Ratio	0.31	0.35			0.23	0.23		0.55				
v/c Ratio	0.70	0.52			0.31	0.16		0.69				
Control Delay	34.1	25.1			29.9	7.1		21.4				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	34.1	25.1			29.9	7.1		21.4				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C			C	A		C				
Approach Delay		29.2			22.3			21.4				
Approach LOS		C			C			C				
Stops (vph)	204	234			97	11		912				
Fuel Used(gal)	4	4			2	0		16				
CO Emissions (g/hr)	256	258			132	32		1119				
NOx Emissions (g/hr)	50	50			26	6		218				
VOC Emissions (g/hr)	59	60			31	7		259				
Dilemma Vehicles (#)	0	0			0	0		0				
Queue Length 50th (ft)	122	147			61	0		303				
Queue Length 95th (ft)	172	202			110	29		460				
Internal Link Dist (ft)		247			554			519			271	
Turn Bay Length (ft)	90					50						
Base Capacity (vph)	678	916			482	463		1917				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.43	0.37			0.28	0.14		0.69				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 4 (4%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 9: Bedford St & North St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	5	134	5	5	5	15	113	5	10	113	170
Future Volume (vph)	206	5	134	5	5	5	15	113	5	10	113	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.947			0.955			0.995			0.922	
Flt Protected		0.971			0.984			0.994			0.998	
Satd. Flow (prot)	0	1713	0	0	1750	0	0	1842	0	0	1714	0
Flt Permitted		0.971			0.984			0.994			0.998	
Satd. Flow (perm)	0	1713	0	0	1750	0	0	1842	0	0	1714	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		634			240			699			202	
Travel Time (s)		14.4			5.5			15.9			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	224	5	146	5	5	5	16	123	5	11	123	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	0	15	0	0	144	0	0	319	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

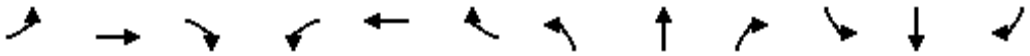
Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	206	5	134	5	5	5	15	113	5	10	113	170
Future Vol, veh/h	206	5	134	5	5	5	15	113	5	10	113	170
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	224	5	146	5	5	5	16	123	5	11	123	185

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	401	398	216	471	488	126	308	0	0	128	0	0
Stage 1	238	238	-	158	158	-	-	-	-	-	-	-
Stage 2	163	160	-	313	330	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	560	540	824	503	480	924	1253	-	-	1458	-	-
Stage 1	765	708	-	844	767	-	-	-	-	-	-	-
Stage 2	839	766	-	698	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	542	528	824	404	469	924	1253	-	-	1458	-	-
Mov Cap-2 Maneuver	542	528	-	404	469	-	-	-	-	-	-	-
Stage 1	754	702	-	832	756	-	-	-	-	-	-	-
Stage 2	816	755	-	565	640	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	12	0.9	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1253	-	-	625	527	1458	-	-
HCM Lane V/C Ratio	0.013	-	-	0.6	0.031	0.007	-	-
HCM Control Delay (s)	7.9	0	-	19	12	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	4	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	5	0	0	0	46	0	1203	149	0	0	0
Future Volume (vph)	10	5	0	0	0	46	0	1203	149	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.865	0.865		0.983				
Flt Protected		0.967										
Satd. Flow (prot)	0	1801	0	0	0	1611	0	3479	0	0	0	0
Flt Permitted		0.967										
Satd. Flow (perm)	0	1801	0	0	0	1611	0	3479	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		151			262			287			599	
Travel Time (s)		3.4			6.0			6.5			13.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	5	0	0	0	50	0	1308	162	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	0	16	0	0	5	45	0	1470	0	0	0	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	0	0	0	46	0	1203	149	0	0	0
Future Vol, veh/h	10	5	0	0	0	46	0	1203	149	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	1081	208832	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	0	0	0	50	0	1308	162	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	654	1470	-	-	-	735	0	0	0
Stage 1	0	0	-	-	-	-	-	-	-
Stage 2	654	1470	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	-	-	-	6.94	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	-	-	-	3.32	2.22	-	-
Pot Cap-1 Maneuver	352	126	0	0	0	362	-	-	-
Stage 1	-	-	0	0	0	-	-	-	-
Stage 2	422	190	0	0	0	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	303	126	-	-	-	362	-	-	-
Mov Cap-2 Maneuver	303	126	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	364	190	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	24	16.5	0
HCM LOS	C	C	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	206	362
HCM Lane V/C Ratio	-	-	-	0.079	0.138
HCM Control Delay (s)	0	-	-	24	16.5
HCM Lane LOS	A	-	-	C	C
HCM 95th %tile Q(veh)	-	-	-	0.3	0.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	103	41	200	36	10	5
Future Volume (vph)	103	41	200	36	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961				0.958	
Flt Protected				0.959	0.967	
Satd. Flow (prot)	1790	0	0	1786	1726	0
Flt Permitted				0.959	0.967	
Satd. Flow (perm)	1790	0	0	1786	1726	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			699	306	
Travel Time (s)	6.0			15.9	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	45	217	39	11	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	157	0	0	256	16	0
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	396	87	26	406	51	82
Future Volume (vph)	396	87	26	406	51	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976				0.917	
Flt Protected				0.997	0.981	
Satd. Flow (prot)	1818	0	0	1857	1676	0
Flt Permitted				0.997	0.981	
Satd. Flow (perm)	1818	0	0	1857	1676	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	221			184	207	
Travel Time (s)	5.0			4.2	4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	430	95	28	441	55	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	525	0	0	469	144	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.2%		ICU Level of Service B	
Analysis Period (min) 15			

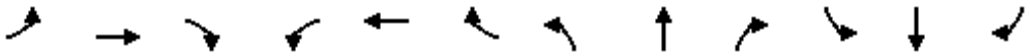
Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	396	87	26	406	51	82
Future Vol, veh/h	396	87	26	406	51	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	430	95	28	441	55	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	525	0	975	478
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	497	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1042	-	279	587
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1042	-	269	587
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	589	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	18.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	404	-	-	1042	-
HCM Lane V/C Ratio	0.358	-	-	0.027	-
HCM Control Delay (s)	18.8	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-

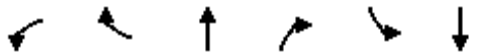


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	0	0	0	0	0	103	800	195	0	0	0
Future Volume (vph)	144	0	0	0	0	0	103	800	195	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt								0.973				
Flt Protected		0.950						0.995				
Satd. Flow (prot)	0	1770	0	0	0	0	0	3426	0	0	0	0
Flt Permitted		0.950						0.995				
Satd. Flow (perm)	0	1770	0	0	0	0	0	3426	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								49				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		278			249			441			210	
Travel Time (s)		6.3			5.7			10.0			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	157	0	0	0	0	0	112	870	212	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	0	0	0	1194	0	0	0	0
Turn Type	Split	NA					Split	NA				
Protected Phases	4	4					2	2				
Permitted Phases												
Detector Phase	4	4					2	2				
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0				
Minimum Split (s)	21.0	21.0					24.6	24.6				
Total Split (s)	33.0	33.0					57.0	57.0				
Total Split (%)	36.7%	36.7%					63.3%	63.3%				
Maximum Green (s)	29.0	29.0					52.4	52.4				
Yellow Time (s)	3.0	3.0					3.3	3.3				
All-Red Time (s)	1.0	1.0					1.3	1.3				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		4.0						4.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0				
Recall Mode	None	None					C-Min	C-Min				
Walk Time (s)	7.0	7.0					7.0	7.0				
Flash Dont Walk (s)	10.0	10.0					13.0	13.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)		27.8						53.6				
Actuated g/C Ratio		0.31						0.60				
v/c Ratio		0.29						0.58				
Control Delay		24.8						12.4				
Queue Delay		0.0						0.0				
Total Delay		24.8						12.4				
LOS		C						B				
Approach Delay		24.8						12.4				
Approach LOS		C						B				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stops (vph)		105						621				
Fuel Used(gal)		2						10				
CO Emissions (g/hr)		113						697				
NOx Emissions (g/hr)		22						136				
VOC Emissions (g/hr)		26						162				
Dilemma Vehicles (#)		0						0				
Queue Length 50th (ft)		66						201				
Queue Length 95th (ft)		115						261				
Internal Link Dist (ft)		198			169			361			130	
Turn Bay Length (ft)												
Base Capacity (vph)		570						2061				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						7				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.28						0.58				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 75 (83%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Bedford St & Spring St/Prospect St

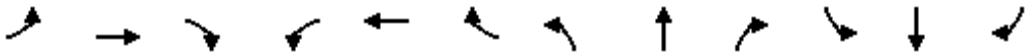


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	509	862	82	0	0
Future Volume (vph)	0	509	862	82	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.865	0.987			
Flt Protected						
Satd. Flow (prot)	0	1611	3493	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3493	0	0	0
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		130	19			
Link Speed (mph)	30		30			30
Link Distance (ft)	129		210			287
Travel Time (s)	2.9		4.8			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	553	937	89	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	553	1026	0	0	0
Turn Type		Prot	NA			
Protected Phases		4	2			
Permitted Phases						
Detector Phase		4	2			
Switch Phase						
Minimum Initial (s)		7.0	15.0			
Minimum Split (s)		21.0	24.6			
Total Split (s)		33.0	57.0			
Total Split (%)		36.7%	63.3%			
Maximum Green (s)		29.0	52.4			
Yellow Time (s)		3.0	3.3			
All-Red Time (s)		1.0	1.3			
Lost Time Adjust (s)		0.0	0.0			
Total Lost Time (s)		4.0	4.6			
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0			
Recall Mode		None	C-Min			
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	13.0			
Pedestrian Calls (#/hr)		0	0			
Act Effct Green (s)		27.8	53.6			
Actuated g/C Ratio		0.31	0.60			
v/c Ratio		0.94	0.49			
Control Delay		49.7	6.1			
Queue Delay		0.0	0.3			
Total Delay		49.7	6.4			
LOS		D	A			
Approach Delay	49.7		6.4			
Approach LOS	D		A			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Stops (vph)		357	202			
Fuel Used(gal)		8	4			
CO Emissions (g/hr)		534	268			
NOx Emissions (g/hr)		104	52			
VOC Emissions (g/hr)		124	62			
Dilemma Vehicles (#)		0	0			
Queue Length 50th (ft)		238	67			
Queue Length 95th (ft)		#443	81			
Internal Link Dist (ft)	49		130			207
Turn Bay Length (ft)						
Base Capacity (vph)		607	2089			
Starvation Cap Reductn		0	461			
Spillback Cap Reductn		0	0			
Storage Cap Reductn		0	0			
Reduced v/c Ratio		0.91	0.63			

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 75 (83%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Bedford St & Forest St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	82	0	0	473	0	0	0	195	204	0	36
Future Volume (vph)	0	82	0	0	473	0	0	0	195	204	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt									0.865		0.980	
Flt Protected											0.959	
Satd. Flow (prot)	0	1863	0	0	1863	0	0	0	1611	0	1751	0
Flt Permitted											0.959	
Satd. Flow (perm)	0	1863	0	0	1863	0	0	0	1611	0	1751	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		129			221			249			306	
Travel Time (s)		2.9			5.0			5.7			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	89	0	0	514	0	0	0	212	222	0	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	514	0	0	0	212	0	261	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

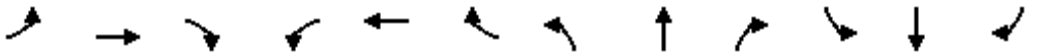
Intersection	
Int Delay, s/veh	17.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑				↱		↕	
Traffic Vol, veh/h	0	82	0	0	473	0	0	0	195	204	0	36
Future Vol, veh/h	0	82	0	0	473	0	0	0	195	204	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	89	0	0	514	0	0	0	212	222	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	-	-	-	0	-	-	89	709	603	514
Stage 1	-	-	-	-	-	-	-	-	-	514	514	-
Stage 2	-	-	-	-	-	-	-	-	-	195	89	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	0	969	349	413	560
Stage 1	0	-	0	0	-	0	0	0	-	543	535	-
Stage 2	0	-	0	0	-	0	0	0	-	807	821	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	969	273	413	560
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	273	413	-
Stage 1	-	-	-	-	-	-	-	-	-	543	535	-
Stage 2	-	-	-	-	-	-	-	-	-	630	821	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.8	64.9
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	969	-	-	296
HCM Lane V/C Ratio	0.219	-	-	0.881
HCM Control Delay (s)	9.8	-	-	64.9
HCM Lane LOS	A	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	7.9



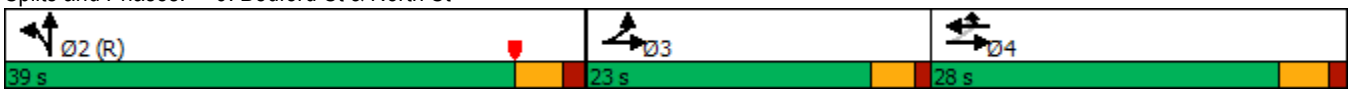
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	314	0	0	123	62	144	1059	31	0	0	0
Future Volume (vph)	267	314	0	0	123	62	144	1059	31	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		50	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	50			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.996				
Flt Protected	0.950							0.994				
Satd. Flow (prot)	1770	1863	0	0	1863	1583	0	3504	0	0	0	0
Flt Permitted	0.578							0.994				
Satd. Flow (perm)	1077	1863	0	0	1863	1583	0	3504	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						72		3				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			634			360			351	
Travel Time (s)		7.4			14.4			8.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	341	0	0	134	67	157	1151	34	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	341	0	0	134	67	0	1342	0	0	0	0
Turn Type	D.P+P	NA			NA	Prot	Split	NA				
Protected Phases	3	3 4			4	4	2	2				
Permitted Phases	4											
Detector Phase	3 4	3 4			4	4	2	2				
Switch Phase												
Minimum Initial (s)	3.0				7.0	7.0	15.0	15.0				
Minimum Split (s)	7.0				27.7	27.7	26.9	26.9				
Total Split (s)	23.0				28.0	28.0	39.0	39.0				
Total Split (%)	25.6%				31.1%	31.1%	43.3%	43.3%				
Maximum Green (s)	19.0				23.3	23.3	34.1	34.1				
Yellow Time (s)	3.0				3.3	3.3	3.3	3.3				
All-Red Time (s)	1.0				1.4	1.4	1.6	1.6				
Lost Time Adjust (s)	0.0				0.0	0.0		0.0				
Total Lost Time (s)	4.0				4.7	4.7		4.9				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0				2.0	2.0	3.0	3.0				
Recall Mode	None				None	None	C-Min	C-Min				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					16.0	16.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)	29.2	33.2			11.6	11.6		47.9				
Actuated g/C Ratio	0.32	0.37			0.13	0.13		0.53				
v/c Ratio	0.61	0.50			0.56	0.25		0.72				
Control Delay	26.2	23.6			45.0	10.0		22.4				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	26.2	23.6			45.0	10.0		22.4				

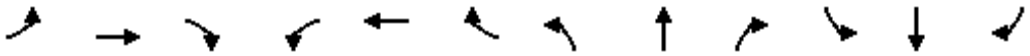
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C			D	A		C				
Approach Delay		24.8			33.3			22.4				
Approach LOS		C			C			C				
Stops (vph)	194	227			111	13		998				
Fuel Used(gal)	3	4			2	1		15				
CO Emissions (g/hr)	222	249			164	35		1022				
NOx Emissions (g/hr)	43	48			32	7		199				
VOC Emissions (g/hr)	51	58			38	8		237				
Dilemma Vehicles (#)	0	0			0	0		0				
Queue Length 50th (ft)	120	145			73	0		350				
Queue Length 95th (ft)	165	194			121	31		m468				
Internal Link Dist (ft)		247			554			280			271	
Turn Bay Length (ft)	90					50						
Base Capacity (vph)	654	912			482	463		1865				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.44	0.37			0.28	0.14		0.72				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 24.1		Intersection LOS: C	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 9: Bedford St & North St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	5	133	5	5	5	15	115	5	10	132	170
Future Volume (vph)	206	5	133	5	5	5	15	115	5	10	132	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.955			0.995			0.926	
Flt Protected		0.971			0.984			0.995			0.998	
Satd. Flow (prot)	0	1715	0	0	1750	0	0	1844	0	0	1721	0
Flt Permitted		0.971			0.984			0.995			0.998	
Satd. Flow (perm)	0	1715	0	0	1750	0	0	1844	0	0	1721	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		634			240			424			202	
Travel Time (s)		14.4			5.5			9.6			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	224	5	145	5	5	5	16	125	5	11	143	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	374	0	0	15	0	0	146	0	0	339	0
Sign Control		Stop			Stop			Free			Free	

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

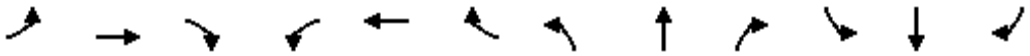
Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	206	5	133	5	5	5	15	115	5	10	132	170
Future Vol, veh/h	206	5	133	5	5	5	15	115	5	10	132	170
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	224	5	145	5	5	5	16	125	5	11	143	185

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	423	420	236	493	510	128	328	0	0	130	0	0
Stage 1	258	258	-	160	160	-	-	-	-	-	-	-
Stage 2	165	162	-	333	350	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	541	525	803	486	467	922	1232	-	-	1455	-	-
Stage 1	747	694	-	842	766	-	-	-	-	-	-	-
Stage 2	837	764	-	681	633	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	524	513	803	388	456	922	1232	-	-	1455	-	-
Mov Cap-2 Maneuver	524	513	-	388	456	-	-	-	-	-	-	-
Stage 1	737	688	-	830	755	-	-	-	-	-	-	-
Stage 2	815	753	-	549	627	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	12.3	0.9	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1232	-	-	605	512	1455	-	-
HCM Lane V/C Ratio	0.013	-	-	0.618	0.032	0.007	-	-
HCM Control Delay (s)	8	0	-	20.1	12.3	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	4.2	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	5	0	0	0	50	0	1226	145	0	0	0
Future Volume (vph)	10	5	0	0	0	50	0	1226	145	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt					0.865	0.865		0.984				
Flt Protected		0.967										
Satd. Flow (prot)	0	1801	0	0	0	1611	0	3483	0	0	0	0
Flt Permitted		0.967										
Satd. Flow (perm)	0	1801	0	0	0	1611	0	3483	0	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		151			262			287			240	
Travel Time (s)		3.4			6.0			6.5			5.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	5	0	0	0	54	0	1333	158	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	0	16	0	0	5	49	0	1491	0	0	0	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.2%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	0	0	0	50	0	1226	145	0	0	0
Future Vol, veh/h	10	5	0	0	0	50	0	1226	145	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	108	120	883	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	0	0	0	54	0	1333	158	0	0	0

Major/Minor	Minor2			Minor1			Major1			
Conflicting Flow All	667	1491	-	-	-	746	0	0	0	
Stage 1	0	0	-	-	-	-	-	-	-	
Stage 2	667	1491	-	-	-	-	-	-	-	
Critical Hdwy	7.54	6.54	-	-	-	6.94	4.14	-	-	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.54	5.54	-	-	-	-	-	-	-	
Follow-up Hdwy	3.52	4.02	-	-	-	3.32	2.22	-	-	
Pot Cap-1 Maneuver	344	123	0	0	0	356	-	-	-	
Stage 1	-	-	0	0	0	-	-	-	-	
Stage 2	414	185	0	0	0	-	-	-	-	
Platoon blocked, %								-	-	
Mov Cap-1 Maneuver	291	123	-	-	-	356	-	-	-	
Mov Cap-2 Maneuver	291	123	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	-	
Stage 2	351	185	-	-	-	-	-	-	-	

Approach	EB	WB	NB
HCM Control Delay, s	24.6	16.9	0
HCM LOS	C	C	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	-	-	-	200	356
HCM Lane V/C Ratio	-	-	-	0.082	0.153
HCM Control Delay (s)	0	-	-	24.6	16.9
HCM Lane LOS	A	-	-	C	C
HCM 95th %tile Q(veh)	-	-	-	0.3	0.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	103	42	204	40	10	5
Future Volume (vph)	103	42	204	40	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961				0.958	
Flt Protected				0.960	0.967	
Satd. Flow (prot)	1790	0	0	1788	1726	0
Flt Permitted				0.960	0.967	
Satd. Flow (perm)	1790	0	0	1788	1726	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			276	306	
Travel Time (s)	6.0			6.3	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	46	222	43	11	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	0	0	265	16	0
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	399	87	26	427	51	82
Future Volume (vph)	399	87	26	427	51	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976				0.917	
Flt Protected				0.997	0.981	
Satd. Flow (prot)	1818	0	0	1857	1676	0
Flt Permitted				0.997	0.981	
Satd. Flow (perm)	1818	0	0	1857	1676	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	221			184	207	
Travel Time (s)	5.0			4.2	4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	95	28	464	55	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	529	0	0	492	144	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.3%		ICU Level of Service B	
Analysis Period (min) 15			

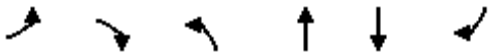
Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	399	87	26	427	51	82
Future Vol, veh/h	399	87	26	427	51	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	95	28	464	55	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	529	0	1002	482
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	520	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1038	-	269	584
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1038	-	259	584
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	576	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	19.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	1038	-
HCM Lane V/C Ratio	0.367	-	-	0.027	-
HCM Control Delay (s)	19.3	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	7	0	108	252	18
Future Volume (vph)	2	7	0	108	252	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.892				0.991	
Flt Protected	0.990					
Satd. Flow (prot)	1645	0	0	1863	1846	0
Flt Permitted	0.990					
Satd. Flow (perm)	1645	0	0	1863	1846	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	140			276	424	
Travel Time (s)	3.2			6.3	9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	8	0	117	274	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	117	294	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.4%		ICU Level of Service A	
Analysis Period (min) 15			

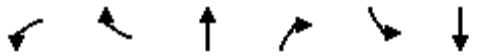
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	7	0	108	252	18
Future Vol, veh/h	2	7	0	108	252	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	8	0	117	274	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	401	284	294	0	-	0
Stage 1	284	-	-	-	-	-
Stage 2	117	-	-	-	-	-
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	605	755	1268	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	605	755	1268	-	-	-
Mov Cap-2 Maneuver	605	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1268	-	716	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	10	1263	23	0	0
Future Volume (vph)	0	10	1263	23	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.865	0.997			
Flt Protected						
Satd. Flow (prot)	0	1611	3529	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3529	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	138		240			360
Travel Time (s)	3.1		5.5			8.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	1373	25	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	11	1398	0	0	0
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	1263	23	0	0
Future Vol, veh/h	0	10	1263	23	0	0
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	-	1082	324992
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1373	25	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	699	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	382	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	382	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	14.7	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	382
HCM Lane V/C Ratio	-	-	0.028
HCM Control Delay (s)	-	-	14.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1