Traffic Impact Study

Proposed Senior Living
Community
Newton, Massachusetts

Prepared for:
2Life Communities
30 Wallingford Rd
Brighton, MA 02135

Prepared by:
Stantec Consulting Services Inc.

April 30, 2021

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 Introduction

2Life Communities is proposing to build a new senior living community on the campus of the Jewish Community Center (JCC) located off Nahanton Street in Newton, Massachusetts. This traffic study describes existing roadway and traffic conditions in the site vicinity and provides forecasts of future traffic conditions with and without the proposed development. Traffic operations analyses were performed to assess the adequacy of the roadway system to safely accommodate the expected new vehicle trips associated with the proposed development.

Overall, the proposed project will have a minimal impact on area traffic operations adding approximately one percent to the peak hour traffic demands. Independent of the proposed development, the roadway system operates at capacity during peak hours. The City of Newton is in the process of developing plans to upgrade the roadway system.

1.1 Project Description

The proposed project will include up to 175 dwelling units for seniors in a new building to be constructed on the JCC campus in Newton adjacent to Coleman House, an existing 146-unit senior community owned and operated by 2Life. The new building will be connected to a proposed parking garage which will serve project-generated parking demands and may also be used by residents of Coleman House. It will also provide parking to the JCC to replace existing surface parking on the site. Vehicular access to the site and garage will be by way of the JCC driveway (also known as Ryna Greenbaum Drive). The driveway enters Nahanton Street from the north opposite Wells Avenue at a signalized intersection. The project site and its location relative to the area roadway system are shown in Figure 1.

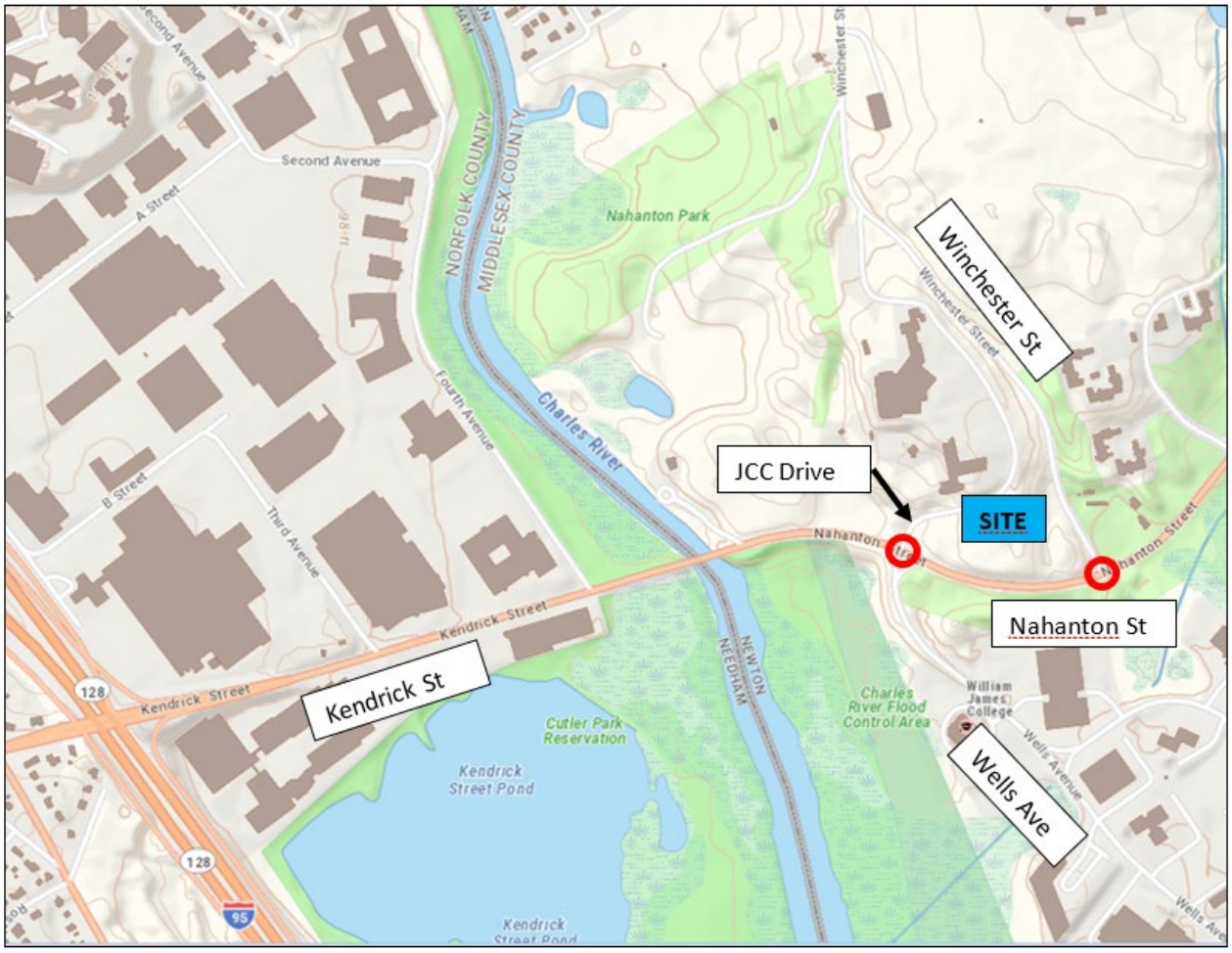
1.2 Study Area

The traffic study area includes two intersections located proximate to the project site. These are:

- Wells Avenue/JCC Drive/Nahanton Street; and,
- Winchester Street/Nahanton Street.

The study area intersections are located relative to the project site in Figure 1.

Figure 1 Site Locus Map and Study Area Intersections



2.0 Existing Conditions

Existing transportation conditions for the study area were established based on field visits, a review of available roadway plans and prior studies, and the collection of new traffic data. Presented below are existing roadway, traffic, safety, and public transportation conditions.

2.1 Roadways

2.1.1 Nahanton Street

Nahanton Street is functionally classified by MassDOT as an urban minor arterial under local jurisdiction. It is a two-lane, two-way roadway with auxiliary lanes at the study area intersections. Its orientation is generally east/west and the posted speed limit is 35 mph eastbound. No speed limit postings were observed in the westbound direction. There is a narrow shoulder marked as a bike lane in each direction. A paved sidewalk is provided on the south side of the roadway heading west from Wells Avenue for approximately 230 feet. Further west the roadway widens to four lanes and becomes Kendrick Street in Needham. Kendrick Street has an interchange with Interstate Route 95 (Route 128) approximately 3800 feet west of Wells Avenue.

2.2 Intersections

The two study intersections on Nahanton Street are at Wells Avenue and the JCC Driveway and at Winchester Street. The Winchester Street intersection is located approximately 1000 feet east of Wells Avenue. Traffic control and geometric conditions at the study area intersections are described below.

2.2.1 Wells Avenue/JCC Drive/Nahanton Street

- Intersection type: four-way signalized; protected left-turn phasing provided eastbound and westbound; no pedestrian interval provided
- Northbound approach (Wells Avenue): left-turn lane and shared through/right-turn lane
- Southbound approach (JCC Driveway): left-turn lane and shared through/right-turn lane
- Eastbound approach (Nahanton Street): left-turn lane, through lane, and right-turn lane
- Westbound approach (Nahanton Street): left-turn lane and shared through/right-turn lane
- Sidewalks: east side of JCC Driveway; both sides of Wells Avenue; south side of Nahanton Street west of Wells Avenue

2.2.2 Winchester Street/Nahanton Street

- Intersection type: three-way, T-type, signalized; protected left-turn phasing provided eastbound; pedestrian interval provided crossing Winchester Street
- Southbound approach (Winchester Street): left-turn lane and right-turn lane
- Eastbound approach (Nahanton Street): left-turn lane and through lane
- Westbound approach (Nahanton Street): shared through/right-turn lane
- Sidewalks: both sides of Winchester Street

2.3 Traffic Volumes

Commuter peak period traffic volume data was collected for the study area roadways in January 2020. Vehicle turning movement and classification counts (TMC's) were conducted during the morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak commuter periods on Wednesday, January 15, 2020. The peak hours occur from 7:45 to 8:45 AM and from 4:45 to 5:45 PM. Truck volumes comprise from 0.5 to 2.0 percent of the traffic. There were no pedestrians counted during either peak hour at either intersection. Approximately five bicycles passed through each intersection during each peak hour. The collected traffic volume data are included in the appendix.

Minor adjustments were made to the vehicular volumes to create the balanced AM and PM existing peak hour traffic volume networks shown in Figures 2 and 3, respectively. As shown, Nahanton Street at Winchester Street is more heavily used traveling westbound toward Route 128 during the AM peak hour and eastbound away from Route 128 during the PM peak hour. Businesses along Wells Avenue generate significant volumes with nearly 800 vehicles entering Wells Avenue from Nahanton Street during the AM peak hour and approximately 1000 vehicles exiting Wells Avenue to Nahanton Street during the PM peak hour.

Figure 2 Existing AM Peak Hour Traffic Volumes

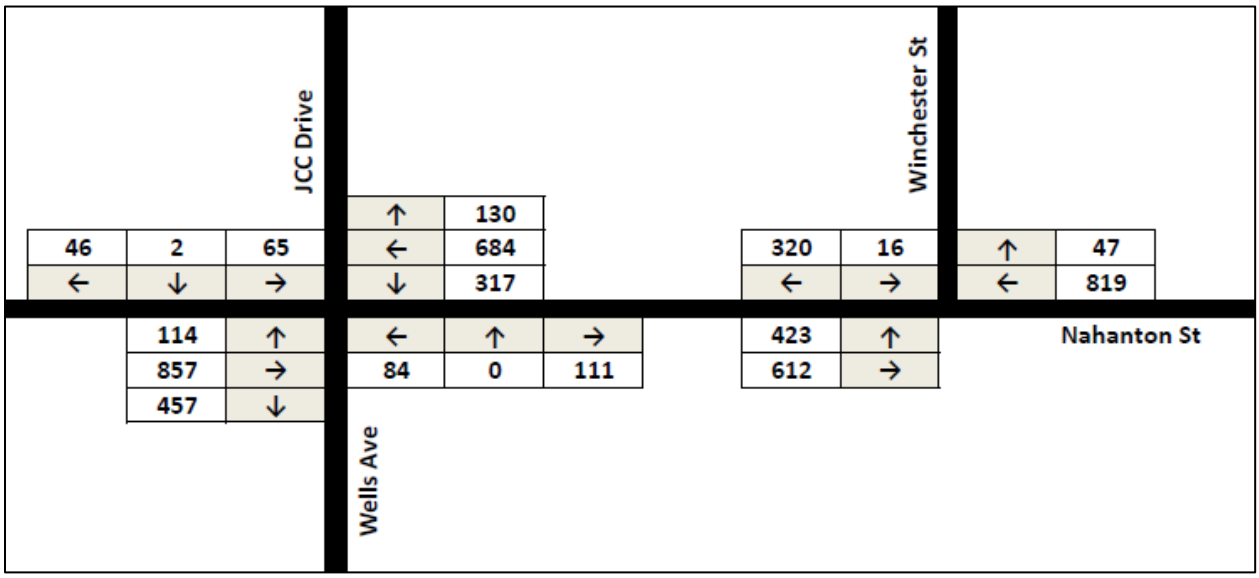
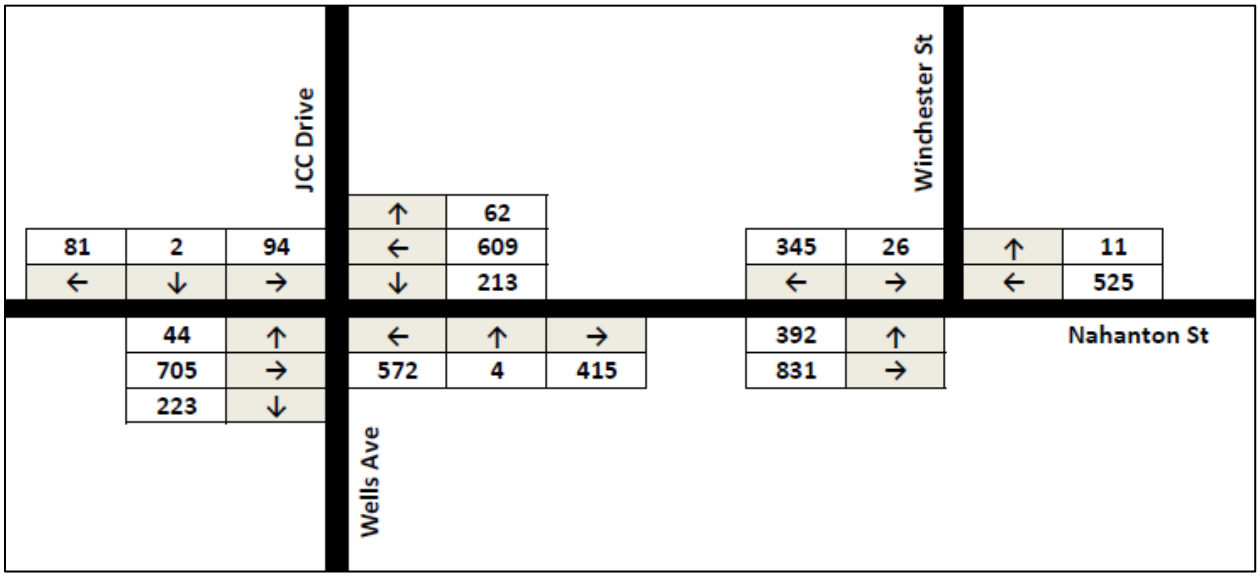


Figure 3 Existing PM Peak Hour Traffic Volumes



2.4 Traffic Operations

Traffic operations analyses were conducted to determine existing intersection operating levels of service.

2.4.1 Level of Service

Level of service (LOS) is a term used to describe the quality of traffic flow on a roadway facility at a point in time. It is an aggregate measure of travel delay, travel speed, congestion, driver discomfort, convenience, and safety based on a comparison of roadway system capacity to roadway system travel demand. Operating levels of service are reported on a scale of A to F with A representing the best operating conditions with little or no delay to motorists and F representing the worst operating conditions with long delays and traffic demands sometimes exceeding roadway capacity. Procedures for calculating intersection operating levels of service are defined in the *Highway Capacity Manual*, published by the Transportation Research Board.

The level of service for an intersection or a lane group is based on delay. Delays can be measured in the field or calculated as a function of a number of factors including traffic volume; peaking characteristic of the traffic flow; percentage of heavy vehicles in the traffic stream; the number of travel lanes and lane use; intersection approach grades; and, pedestrian activity. The calculations also yield volume-to-capacity ratios for lane groups and the intersection overall. A volume-to-capacity ratio of 1.0 indicates that the lane group or the critical movements at the intersection are operating at theoretical capacity. The specific delay criteria applied per the *2010 Highway Capacity Manual* to determine operating levels of service are summarized in Table 1.

Table 1 Signalized Intersection Level of Service Criteria

Level of Service	Average Delay per Vehicle (Seconds)
A	≤10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F[1]	>80.0

[1]Level of Service F is also assigned to individual lane groups if the volume-to-capacity ratio exceeds 1.0.

2.4.2 Existing Intersection Operations

Capacity analysis results for the study area intersections are presented in Table 2 below. As shown, the Wells Avenue/JCC Drive intersection experiences travel demands in excess of its theoretical capacity during the evening peak hour. The Winchester Street intersection operates at near capacity conditions during the morning peak hour. Travel delays are in the Level of Service C range except during the PM peak hour at the

Wells Avenue/JCC Drive intersection. Supporting level of service calculations are attached.

Table 2 Existing Intersection Operating Levels of Service

Intersection	Peak Hour	LOS[1]	Delay[2]	V/C[3]
Signalized Locations:				
Wells Avenue/JCC Drive/Nahanton Street	AM	C	24.4	0.81
	PM	E	66.1	1.15
Winchester Street/Nahanton Street	AM	C	31.6	0.98
	PM	C	22.4	0.72

[1] LOS= Level of Service, [2] Delay = Average delay expressed in seconds per vehicle, [3] V/C = Volume-to-capacity ratio for the intersection overall

The operations analysis worksheets provided in the appendix show operating levels of service by intersection approach and lane group. At the JCC Driveway and Wells Avenue intersection, through volumes eastbound and westbound on Nahanton Street operate with shorter delays than the left turns into or out of Wells Avenue. These left-turns operate at LOS F during the PM peak hour. The JCC Driveway is the lowest volume intersection approach and operates at LOS D during the AM peak hour and LOS C during the PM peak hour. The longer delays during the AM peak hour are reflective of the high proportion of signal green time allocated to Nahanton Street. Vehicles on the JCC Driveway generally clear in one signal cycle during both peak hours.

2.5 Safety

Traffic safety conditions were documented by reviewing the crash history for the study area intersections using the MassDOT crash database. Reports for 2017 through 2019, the latest three years available, were reviewed. MassDOT reported 34 crashes at the two intersections. Table 3 provides a summary of the reported crashes by year, type, severity, and location. As shown, the higher number of crashes occurred at the Winchester Street/Nahanton Street intersection even though it experiences lower traffic volumes than the Wells Avenue/Nahanton Street intersection. There were no fatal crashes at either intersection.

Table 3 Nahanton Street Intersection Crashes – 2017 through 2019

	At Wells Avenue	At Winchester Street	Combined
Year			
2017	7	6	13
2018	5	7	12
2019	3	6	9
Total	**15**	**19**	**34**
Type			
Angle	0	6	6
Rear-end	5	3	8
Head-on	1	2	3
Single Vehicle Crash	5	7	12
Sideswipe	4	1	5
Other/Not Reported	0	0	0
Total	**15**	**19**	**34**
Severity			
Property Damage	11	16	27
Personal Injury	4	0	4
Fatality	0	0	0
Not Reported	0	3	3
Total	**15**	**19**	**34**
Crash Rate*			
MassDOT District 6	0.71	0.71	
MassDOT Statewide	0.78	0.78	
Intersection	0.45	0.82	

*Crashes Per Million Entering Vehicles (MEV)

Also shown are calculated crash rates for the Nahanton Street intersections. These rates are compared to the statewide and districtwide average crash rates for signalized intersections. Crash rates are reported in units of crashes per one million vehicles entering the intersection (MEV). The crash rate experienced at the Wells Avenue/JCC Drive intersection is well below both average rates. The Winchester Street crash rate is slightly higher than the statewide average rate for signalized intersections. The differences between the observed crash rate and MassDOT crash rates for this location

are not statistically significant. The intersection crash data, as well as the crash rate worksheets, are attached.

2.6 Alternative/Public Transportation

2Life recently provided transportation services to residents of its Coleman House senior living community on the JCC Campus. The services were provided as a convenience to residents and as a means to reduce site traffic generation and parking demands. They included:

- Free transportation (van) services for residents to access shopping, recreation, and cultural destinations;
- Assistance in accessing the MBTA's "The Ride" and City-operated para-transit service for medical visits;
- Assistance accessing ride-hailing services such as Uber, Lyft, and NewMo, a new on-demand ride service for seniors established by the City of Newton; and,
- Assistance in accessing delivery services for food, medicine, and retail items.

Most services have been suspended in response to the COVID pandemic in order to limit the spread of infections and will be reevaluated as the COVID situation evolves. Transportation programs for Coleman House will also be made available to residents of the proposed community.

Public transportation serving the project site and site vicinity have also been adjusted, suspended, or canceled due to COVID. These include "The Ride" service and various bus routes operated by the Massachusetts Bay Transportation Authority (MBTA). (The nearest bus stop to the subject site is at the Nahanton Street/Dedham Street intersection located approximately one mile to the east. This route is served by Route 52 operating between the Dedham Mall and Watertown Square.) Plans to introduce a shuttle service connecting Wells Avenue business to regional transit hubs have also been suspended. 2Life will monitor future changes in public transportation offerings and facilitate access to these services, as practical and appropriate, for project residents, employees and visitors.

3.0 Assessment of Impacts

Traffic and roadway conditions in the study area were projected to a future design year. Future traffic forecasts were developed for two scenarios:

- 2025 without the proposed development (referred to as the No Build condition)
- 2025 with the proposed development (referred to as the Build condition)

The No Build traffic condition considers anticipated future background traffic growth exclusive of the proposed senior housing development. The Build traffic condition superimposes anticipated traffic associated with the proposed development on the No Build traffic volumes. Details of the assumptions made to define future conditions are described below as are the expected future peak-hour intersection operations.

3.1 No Build Conditions

No Build traffic flow networks were developed by considering the anticipated traffic impacts of planned new development in the site vicinity and by application of an overall traffic growth rate to reflect impacts of potential land-use changes outside of the project area and other factors.

Historic traffic volume data can typically be used to identify past traffic growth trends and past trends are often referenced to project future traffic demands. The recent construction of the Kendrick Street interchange at Route 128 just east of the study area, however, has had a significant impact on traffic volumes that will not likely be repeated in the near future. A “before/after” study of the interchange construction indicates that peak hour traffic volumes on Kendrick Street east of Route 128 grew by 23 to 26 percent between 2012 and 2019. With the completion of the interchange, future traffic growth is assumed to be more modest. A 0.5 percent per year growth rate was assumed consistent with the rate used in recent studies for development projects along Wells Avenue. Data from the interchange study is included in the appendix.

City staff was contacted to identify development projects in the site vicinity that may also directly and significantly impact area traffic volumes. Two projects were identified as described below.

- #180 Wells Avenue-There is a proposed office expansion at 180 Wells Avenue. The office floor space will increase from 55,776 square feet by 60,565 square feet to an overall 116,341 square feet. An August 6, 2015 traffic memorandum for this project prepared by MDM Transportation Consultants, Inc. indicates that the expansion will generate 94 new AM peak hour vehicle trips and 90 new PM peak hour vehicle trips at the site.

- #2 Wells Avenue-An office expansion has recently been completed at 2 Wells Avenue adding 66,510 square feet to the original structure resulting in 132,598 square feet overall. When traffic counts were conducted for this study the building was essentially vacant. A May 7, 2015 traffic memorandum for this project prepared by MDM Transportation Consultants, Inc. indicates that the fully occupied building will generate 170 new AM peak hour vehicle trips and 153 new PM peak hour vehicle trips at the site.

The 2025 No Build traffic flow networks are shown in Figures 4 and 5 for the AM and PM peak hours, respectively. The No Build networks include existing traffic volumes increased by 2.5 percent plus anticipated new traffic associated with the two new developments on Wells Avenue described above. Overall, No Build traffic volume levels are ten to 12 percent higher than existing volumes at the JCC Drive/Wells Avenue intersection and approximately eight percent higher than existing volumes at the Winchester Street intersection.

Figure 4 2025 No Build AM Peak Hour Traffic Volumes

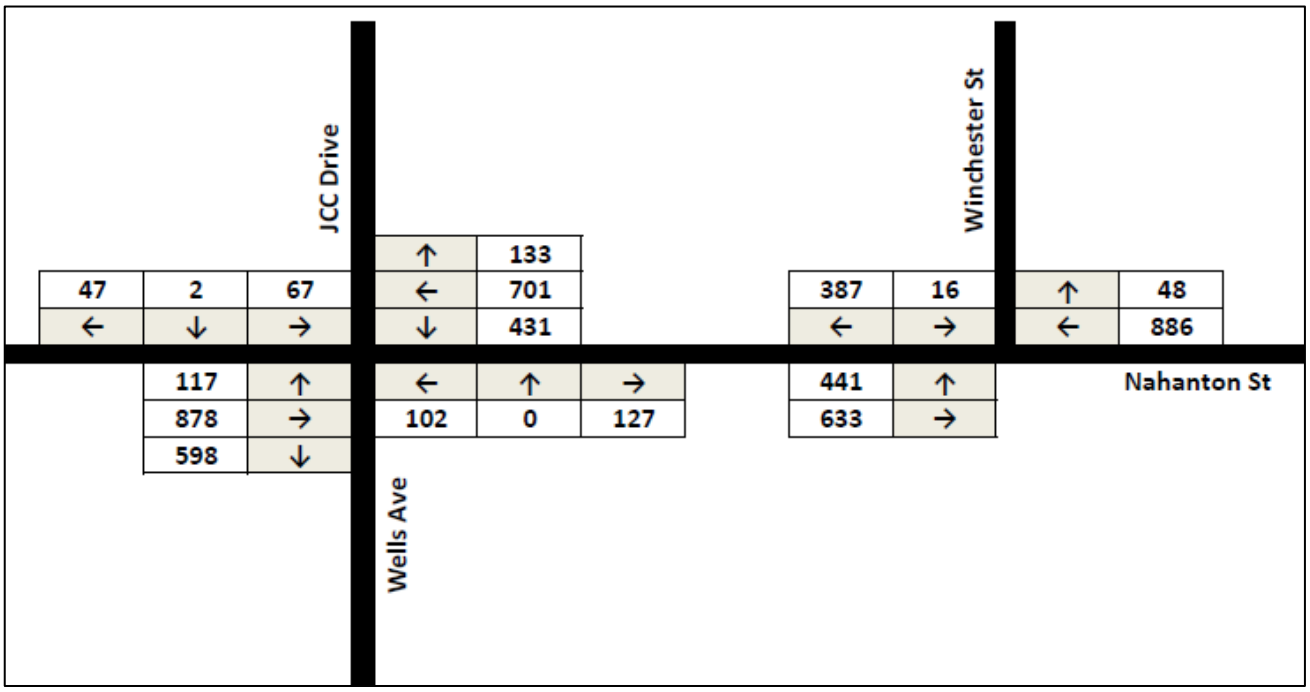
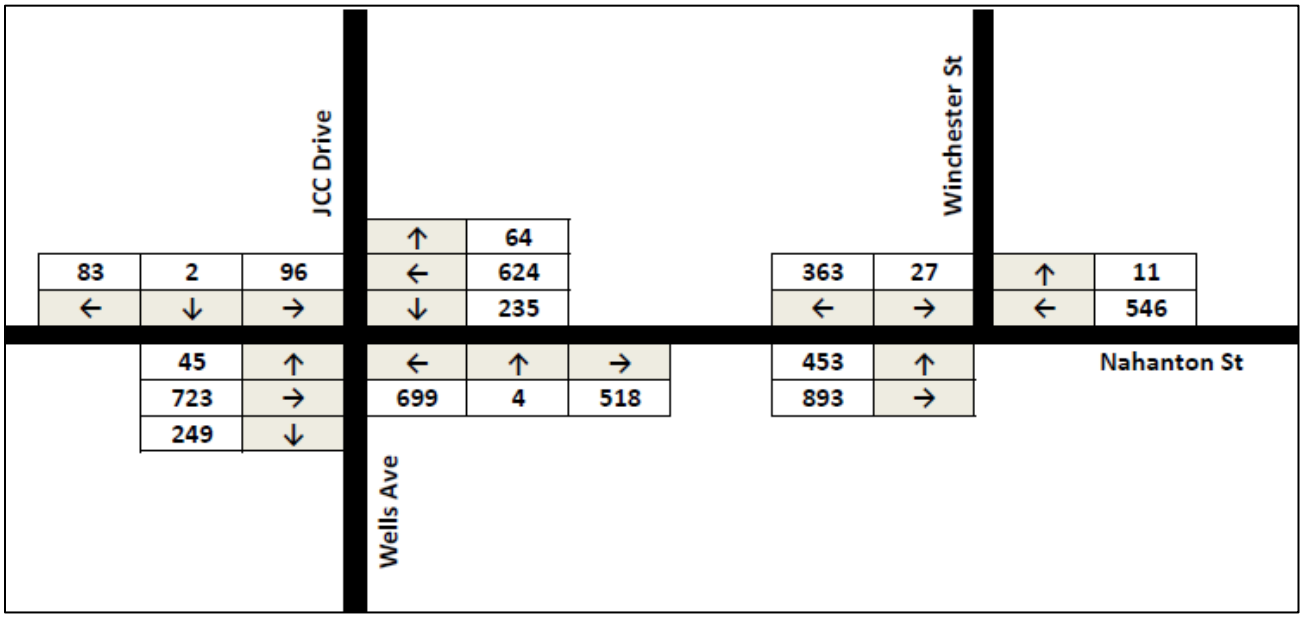


Figure 5 2025 No Build PM Peak Hour Traffic Volumes



3.2 Future Build Conditions

Potential traffic generation for the proposed senior housing development was determined and then assigned to the roadway network. The 2025 No Build volumes were then compared to 2025 Build roadway traffic volumes. Traffic operations for the Existing, No Build and Build scenarios were also compared.

3.2.1 Trip Generation

Daily and peak-hour vehicle trip generation estimates for the proposed development were determined using trip generation rates available from the most recent edition of *Trip Generation* published by the Institute of Transportation Engineers (ITE). The ITE provides vehicle trip rates for various land uses based on data collected at existing facilities. Trip rates applied for this project relate to Senior Adult Housing – ITE Land Use Code #252. As shown in Table 4, the proposed project is expected to generate approximately 648 vehicle trips on a typical weekday, including 35 trips during the morning peak hour and 46 trips during the afternoon peak hour. These estimates are for the peak hours of adjacent street traffic which are 7:45-8:45 AM and 4:45-5:45 PM.

Table 4 Project Vehicle Trip Generation

Trip Direction	AM Peak Hour	PM Peak Hour	Daily
Entering	12	25	324
Exiting	23	21	324
Total	35	46	648
Assumes 175 dwelling units.			

3.2.2 Trip Distribution and Assignment

The trip distribution assumed for the proposed senior housing development is based on the existing traffic patterns in the study area. The vehicle trip distribution assumed for this project is:

- To/from the West via Nahanton Street: 45%
- To/from the East via Nahanton Street: 35%
- To/from the North via Winchester Street: 20%

Based on this trip distribution 55% of the project traffic will use Nahanton Street just east of Wells Avenue.

3.2.3 Build Traffic Volumes

Build traffic volumes are comprised of the 2025 No Build volumes plus the proposed development trips. The 2025 Build traffic volumes are shown in Figures 6 and 7 for the AM and PM commuter peak hours, respectively.

Figure 6 2025 Build AM Peak Hour Traffic Volumes

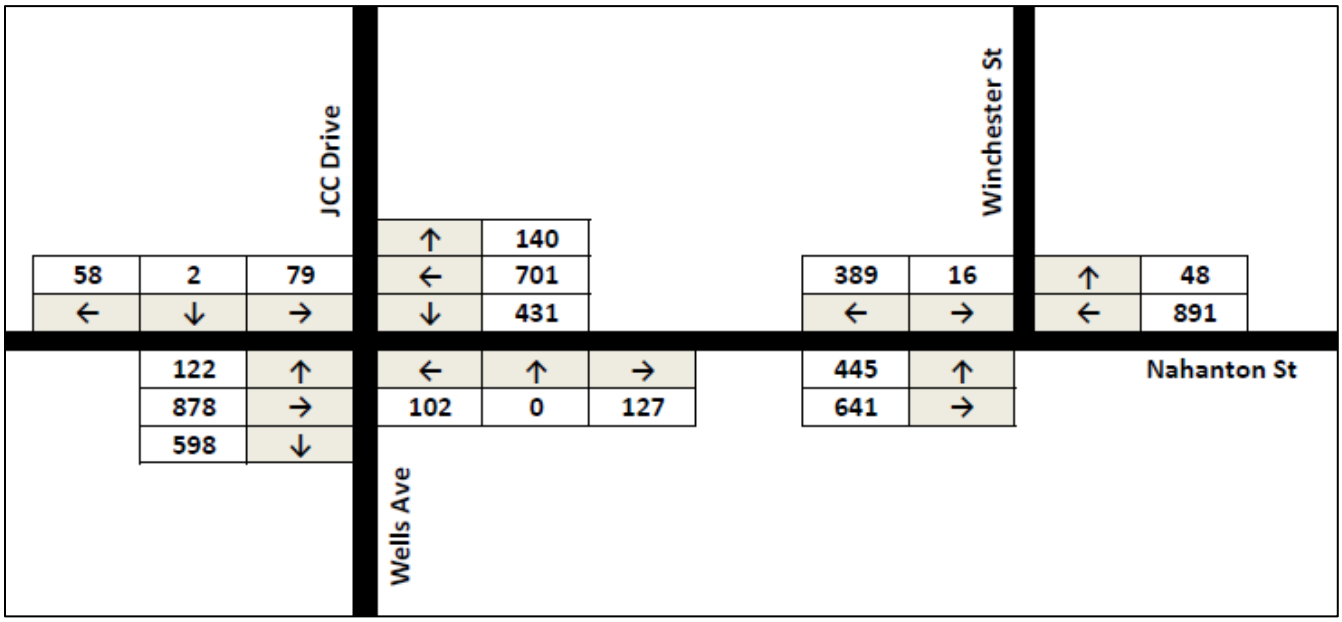
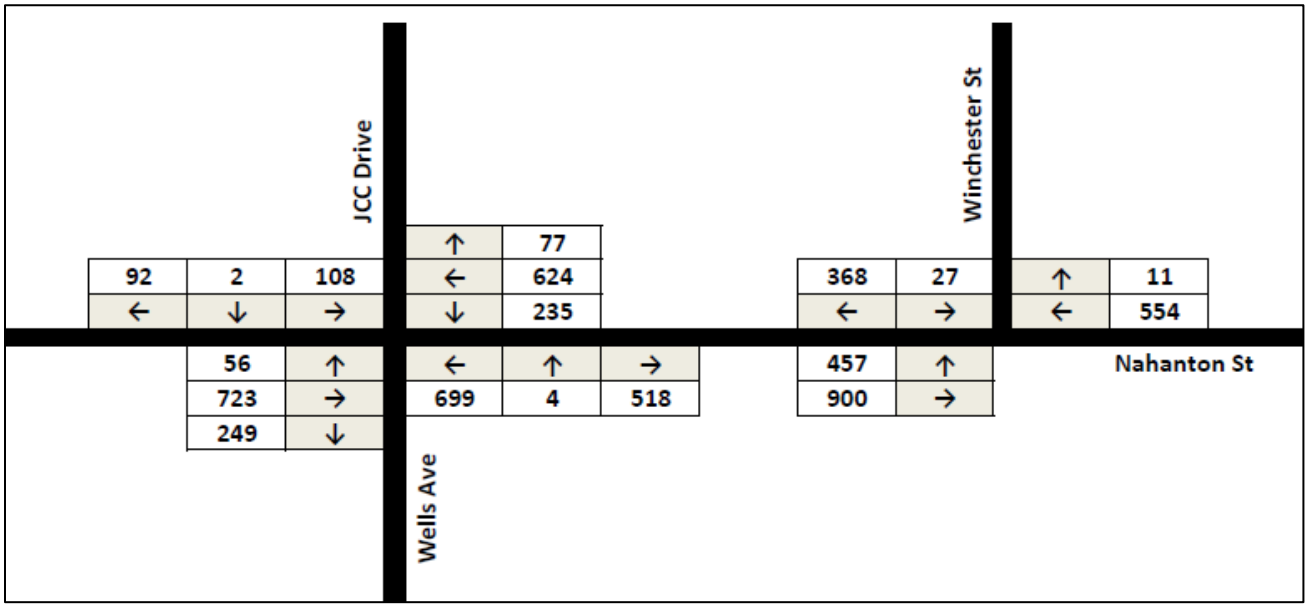


Figure 7 2025 Build PM Peak Hour Traffic Volumes



3.2.4 Traffic Increases

The No Build and Build traffic volume networks were compared to quantify the project-related traffic increases on the roadway system. Traffic increases due to the proposed project represent approximately one percent of the No Build AM and PM peak hour traffic volumes entering the two study area intersections as shown in Table 5.

Table 5 Project Related Traffic Increases

Intersection	Peak Hour	Entering Volume		
		No Build	Project Trips	% Increase
Wells Avenue/JCC Drive/Nahanton Street	AM	3,203	35	1.1%
	PM	3,342	45	1.3%
Winchester Street/Nahanton Street	AM	2,411	19	0.8%
	PM	2,293	24	1.0%

3.3 Future Traffic Operating Conditions

Traffic operations analyses were completed for the study area intersections under future conditions following the procedures used to assess existing operating conditions. Capacity analysis results for the study area intersections are compared in Table 6. As shown, traffic delays under No Build conditions are notably longer than calculated for Existing conditions at the Wells Avenue/JCC Drive intersection. The added delays are principally attributable to anticipated new development and related traffic along Wells Avenue. Delay increases under No Build conditions for the Winchester Street intersection are much less as this intersection has some reserve capacity under Existing conditions to accommodate added volumes. **The proposed senior community will have relatively nominal impacts using only one percent or less (<1%) of the overall intersection capacity at the Wells Avenue/JCC Drive intersection and adding less than one second per vehicle to the calculated delay at either intersection.**

Table 6 Intersection Level of Service Comparison

Intersection	Peak Hour	Existing			2025 No-Build			2025 Build		
		LOS[1]	Delay[2]	V/C[3]	LOS	Delay	V/C	LOS	Delay	V/C
Wells Avenue/JCC Drive/Nahanton Street	AM	C	24.4	0.81	D	35.9	0.93	D	36.2	0.93
	PM	E	66.1	1.15	F	94.5	1.22	F	95.4	1.23
Winchester Street/Nahanton Street	AM	C	31.6	0.98	C	34.8	1.03	D	35.7	1.05
	PM	C	22.4	0.72	C	22.8	0.81	C	22.9	0.82

[1] LOS= Level of Service, [2] Delay = Average delay expressed in seconds per vehicle, [3] V/C = Volume-to-capacity ratio for critical movements

4.0 Findings and Recommendations

As explained above, the proposed development will not have a significant impact on traffic operations at the two study area intersections. However, these intersections currently operate at or near capacity during peak hours. In response, the City is making plans to upgrade the Wells Avenue/JCC Drive/Nahanton Street intersection by 2023.

2Life is committed to offering on-site conveniences and shared travel services to residents. While these services are key components to attracting residents and defining the community, they have the secondary effect of reducing site vehicular traffic generation. Many of the proposed programs and services that will be offered have been in place at Coleman House and will be expanded to the proposed new facility. Elements of the travel demand management plan include but are not limited to the following:

- Assistance in accessing the MBTA's "The Ride" and City-operated para-transit service for medical visits;
- Assistance accessing ride-hailing services such as Uber, Lyft, and Newton in Motion (NewMo);
- Assistance in accessing delivery services for food, medicine, and retail items, and,
- Coordination with other regional shuttle services, such as the initiative being explored by the Newton Needham Chamber of Commerce.

Further the project intends to have the following conveniences available on-site:

- Café and grab-and-go market available every day;
- Social and educational events; and,
- On-site fitness and wellness programs supplemented by the JCC fitness center, programs, and café.

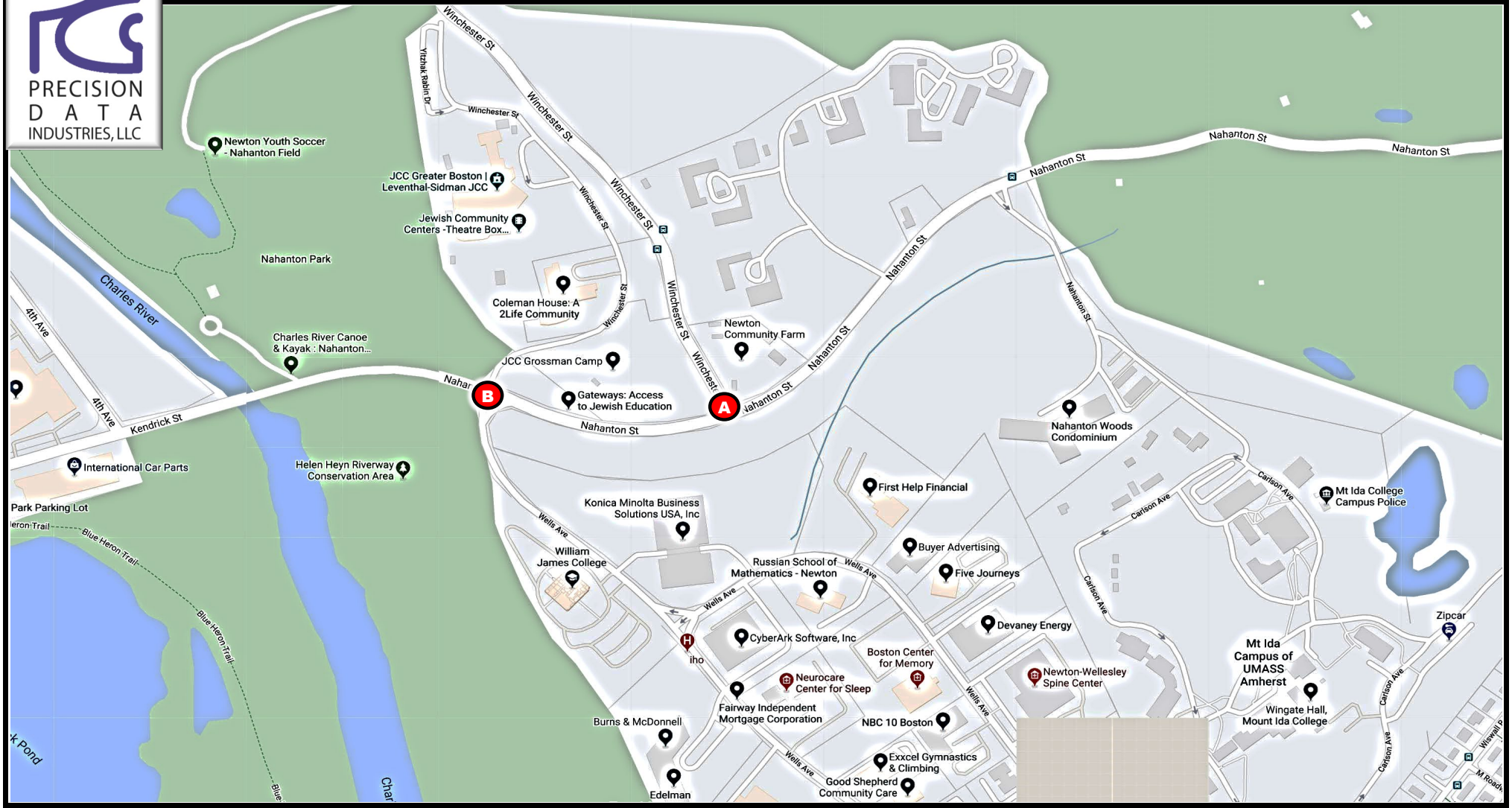
These services offered by 2Life provide conveniences to residents while reducing site traffic generation.

APPENDICES

Appendix A Traffic Count Data

Location Map: 207397 Newton, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
Stantec	R.Bryant	TBD	Wed 1/15/20	207397	Newton, MA

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Cars and Heavy Vehicles (Combined)**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	31	3	0	34	2	172	0	174	192	79	0	271	479
7:15 AM	41	1	0	42	3	211	0	214	180	100	0	280	536
7:30 AM	58	1	0	59	3	193	0	196	172	114	0	286	541
7:45 AM	79	4	0	83	3	198	0	201	172	100	0	272	556
Total	209	9	0	218	11	774	0	785	716	393	0	1109	2112
8:00 AM	77	8	1	86	4	215	0	219	154	94	0	248	553
8:15 AM	82	2	0	84	15	200	0	215	142	118	0	260	559
8:30 AM	82	2	0	84	25	206	0	231	144	111	0	255	570
8:45 AM	93	1	0	94	5	184	0	189	132	100	0	232	515
Total	334	13	1	348	49	805	0	854	572	423	0	995	2197
Grand Total	543	22	1	566	60	1579	0	1639	1288	816	0	2104	4309
Approach %	95.9	3.9	0.2		3.7	96.3	0.0		61.2	38.8	0.0		
Total %	12.6	0.5	0.0	13.1	1.4	36.6	0.0	38.0	29.9	18.9	0.0	48.8	
Exiting Leg Total				877				1310				2122	4309
Cars	541	17	1	559	57	1553	0	1610	1241	795	0	2036	4205
% Cars	99.6	77.3	100.0	98.8	95.0	98.4	0.0	98.2	96.4	97.4	0.0	96.8	97.6
Exiting Leg Total				853				1258				2094	4205
Heavy Vehicles	2	5	0	7	3	26	0	29	47	21	0	68	104
% Heavy Vehicles	0.4	22.7	0.0	1.2	5.0	1.6	0.0	1.8	3.6	2.6	0.0	3.2	2.4
Exiting Leg Total				24				52				28	104

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	79	4	0	83	3	198	0	201	172	100	0	272	556
8:00 AM	77	8	1	86	4	215	0	219	154	94	0	248	553
8:15 AM	82	2	0	84	15	200	0	215	142	118	0	260	559
8:30 AM	82	2	0	84	25	206	0	231	144	111	0	255	570
Total Volume	320	16	1	337	47	819	0	866	612	423	0	1035	2238
% Approach Total	95.0	4.7	0.3		5.4	94.6	0.0		59.1	40.9	0.0		
PHF	0.976	0.500	0.250	0.980	0.470	0.952	0.000	0.937	0.890	0.896	0.000	0.951	0.982
Cars	320	15	1	336	46	807	0	853	591	413	0	1004	2193
Cars %	100.0	93.8	100.0	99.7	97.9	98.5	0.0	98.5	96.6	97.6	0.0	97.0	98.0
Heavy Vehicles	0	1	0	1	1	12	0	13	21	10	0	31	45
Heavy Vehicles %	0.0	6.3	0.0	0.3	2.1	1.5	0.0	1.5	3.4	2.4	0.0	3.0	2.0
Cars Enter Leg	320	15	1	336	46	807	0	853	591	413	0	1004	2193
Heavy Enter Leg	0	1	0	1	1	12	0	13	21	10	0	31	45
Total Entering Leg	320	16	1	337	47	819	0	866	612	423	0	1035	2238
Cars Exiting Leg				460				606				1127	2193
Heavy Exiting Leg				11				22				12	45
Total Exiting Leg				471				628				1139	2238

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	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	31	1	0	32	2	172	0	174	187	77	0	264	470
7:15 AM	40	0	0	40	2	206	0	208	176	99	0	275	523
7:30 AM	57	0	0	57	2	187	0	189	160	113	0	273	519
7:45 AM	79	4	0	83	2	195	0	197	164	98	0	262	542
Total	207	5	0	212	8	760	0	768	687	387	0	1074	2054
8:00 AM	77	7	1	85	4	210	0	214	151	92	0	243	542
8:15 AM	82	2	0	84	15	197	0	212	137	114	0	251	547
8:30 AM	82	2	0	84	25	205	0	230	139	109	0	248	562
8:45 AM	93	1	0	94	5	181	0	186	127	93	0	220	500
Total	334	12	1	347	49	793	0	842	554	408	0	962	2151
Grand Total	541	17	1	559	57	1553	0	1610	1241	795	0	2036	4205
Approach %	96.8	3.0	0.2		3.5	96.5	0.0		61.0	39.0	0.0		
Total %	12.9	0.4	0.0	13.3	1.4	36.9	0.0	38.3	29.5	18.9	0.0	48.4	
Exiting Leg Total				853				1258				2094	4205

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	79	4	0	83	2	195	0	197	164	98	0	262	542
8:00 AM	77	7	1	85	4	210	0	214	151	92	0	243	542
8:15 AM	82	2	0	84	15	197	0	212	137	114	0	251	547
8:30 AM	82	2	0	84	25	205	0	230	139	109	0	248	562
Total Volume	320	15	1	336	46	807	0	853	591	413	0	1004	2193
% Approach Total	95.2	4.5	0.3		5.4	94.6	0.0		58.9	41.1	0.0		
PHF	0.976	0.536	0.250	0.988	0.460	0.961	0.000	0.927	0.901	0.906	0.000	0.958	0.976
Entering Leg	320	15	1	336	46	807	0	853	591	413	0	1004	2193
Exiting Leg				460				606				1127	2193
Total				796				1459				2131	4386

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	2	0	2	0	0	0	0	5	2	0	7	9
7:15 AM	1	1	0	2	1	5	0	6	4	1	0	5	13
7:30 AM	1	1	0	2	1	6	0	7	12	1	0	13	22
7:45 AM	0	0	0	0	1	3	0	4	8	2	0	10	14
Total	2	4	0	6	3	14	0	17	29	6	0	35	58
8:00 AM	0	1	0	1	0	5	0	5	3	2	0	5	11
8:15 AM	0	0	0	0	0	3	0	3	5	4	0	9	12
8:30 AM	0	0	0	0	0	1	0	1	5	2	0	7	8
8:45 AM	0	0	0	0	0	3	0	3	5	7	0	12	15
Total	0	1	0	1	0	12	0	12	18	15	0	33	46
Grand Total	2	5	0	7	3	26	0	29	47	21	0	68	104
Approach %	28.6	71.4	0.0		10.3	89.7	0.0		69.1	30.9	0.0		
Total %	1.9	4.8	0.0	6.7	2.9	25.0	0.0	27.9	45.2	20.2	0.0	65.4	
Exiting Leg Total				24				52				28	104
Buses	2	1	0	3	2	11	0	13	8	3	0	11	27
% Buses	100.0	20.0	0.0	42.9	66.7	42.3	0.0	44.8	17.0	14.3	0.0	16.2	26.0
Exiting Leg Total				5				9				13	27
Single-Unit Trucks	0	4	0	4	1	12	0	13	33	18	0	51	68
% Single-Unit	0.0	80.0	0.0	57.1	33.3	46.2	0.0	44.8	70.2	85.7	0.0	75.0	65.4
Exiting Leg Total				19				37				12	68
Articulated Trucks	0	0	0	0	0	3	0	3	6	0	0	6	9
% Articulated	0.0	0.0	0.0	0.0	0.0	11.5	0.0	10.3	12.8	0.0	0.0	8.8	8.7
Exiting Leg Total				0				6				3	9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	1	1	0	2	1	5	0	6	4	1	0	5	13
7:30 AM	1	1	0	2	1	6	0	7	12	1	0	13	22
7:45 AM	0	0	0	0	1	3	0	4	8	2	0	10	14
8:00 AM	0	1	0	1	0	5	0	5	3	2	0	5	11
Total Volume	2	3	0	5	3	19	0	22	27	6	0	33	60
% Approach Total	40.0	60.0	0.0		13.6	86.4	0.0		81.8	18.2	0.0		
PHF	0.500	0.750	0.000	0.625	0.750	0.792	0.000	0.786	0.563	0.750	0.000	0.635	0.682
Buses	2	1	0	3	2	10	0	12	7	3	0	10	25
Buses %	100.0	33.3	0.0	60.0	66.7	52.6	0.0	54.5	25.9	50.0	0.0	30.3	41.7
Single-Unit Trucks	0	2	0	2	1	6	0	7	17	3	0	20	29
Single-Unit %	0.0	66.7	0.0	40.0	33.3	31.6	0.0	31.8	63.0	50.0	0.0	60.6	48.3
Articulated Trucks	0	0	0	0	0	3	0	3	3	0	0	3	6
Articulated %	0.0	0.0	0.0	0.0	0.0	15.8	0.0	13.6	11.1	0.0	0.0	9.1	10.0
Buses	2	1	0	3	2	10	0	12	7	3	0	10	25
Single-Unit Trucks	0	2	0	2	1	6	0	7	17	3	0	20	29
Articulated Trucks	0	0	0	0	0	3	0	3	3	0	0	3	6
Total Entering Leg	2	3	0	5	3	19	0	22	27	6	0	33	60
Buses				5				8				12	25
Single-Unit Trucks				4				19				6	29
Articulated Trucks				0				3				3	6
Total Exiting Leg				9				30				21	60

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Buses**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	1	1	0	2	0	2	0	2	0	0	0	0	4
7:30 AM	1	0	0	1	1	4	0	5	5	0	0	5	11
7:45 AM	0	0	0	0	1	2	0	3	2	2	0	4	7
Total	2	1	0	3	2	8	0	10	8	2	0	10	23
8:00 AM	0	0	0	0	0	2	0	2	0	1	0	1	3
8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	0	3	0	1	0	1	4
Grand Total	2	1	0	3	2	11	0	13	8	3	0	11	27
Approach %	66.7	33.3	0.0		15.4	84.6	0.0		72.7	27.3	0.0		
Total %	7.4	3.7	0.0	11.1	7.4	40.7	0.0	48.1	29.6	11.1	0.0	40.7	
Exiting Leg Total				5				9				13	27

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	1	1	0	2	0	2	0	2	0	0	0	0	4
7:30 AM	1	0	0	1	1	4	0	5	5	0	0	5	11
7:45 AM	0	0	0	0	1	2	0	3	2	2	0	4	7
8:00 AM	0	0	0	0	0	2	0	2	0	1	0	1	3
Total Volume	2	1	0	3	2	10	0	12	7	3	0	10	25
% Approach Total	66.7	33.3	0.0		16.7	83.3	0.0		70.0	30.0	0.0		
PHF	0.500	0.250	0.000	0.375	0.500	0.625	0.000	0.600	0.350	0.375	0.000	0.500	0.568
Entering Leg	2	1	0	3	2	10	0	12	7	3	0	10	25
Exiting Leg				5				8				12	25
Total				8				20				22	50

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Single-Unit Trucks**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	2	0	2	0	0	0	0	3	2	0	5	7
7:15 AM	0	0	0	0	1	2	0	3	3	1	0	4	7
7:30 AM	0	1	0	1	0	2	0	2	6	1	0	7	10
7:45 AM	0	0	0	0	0	0	0	0	5	0	0	5	5
Total	0	3	0	3	1	4	0	5	17	4	0	21	29
8:00 AM	0	1	0	1	0	2	0	2	3	1	0	4	7
8:15 AM	0	0	0	0	0	2	0	2	4	4	0	8	10
8:30 AM	0	0	0	0	0	1	0	1	4	2	0	6	7
8:45 AM	0	0	0	0	0	3	0	3	5	7	0	12	15
Total	0	1	0	1	0	8	0	8	16	14	0	30	39
Grand Total	0	4	0	4	1	12	0	13	33	18	0	51	68
Approach %	0.0	100.0	0.0		7.7	92.3	0.0		64.7	35.3	0.0		
Total %	0.0	5.9	0.0	5.9	1.5	17.6	0.0	19.1	48.5	26.5	0.0	75.0	
Exiting Leg Total				19				37				12	68

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	0	1	0	1	0	2	0	2	3	1	0	4	7
8:15 AM	0	0	0	0	0	2	0	2	4	4	0	8	10
8:30 AM	0	0	0	0	0	1	0	1	4	2	0	6	7
8:45 AM	0	0	0	0	0	3	0	3	5	7	0	12	15
Total Volume	0	1	0	1	0	8	0	8	16	14	0	30	39
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		53.3	46.7	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.667	0.000	0.667	0.800	0.500	0.000	0.625	0.650
Entering Leg	0	1	0	1	0	8	0	8	16	14	0	30	39
Exiting Leg				14				17				8	39
Total				15				25				38	78

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Articulated Trucks**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	2	0	2	4	0	0	4	6
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	2	0	0	2	3
Grand Total	0	0	0	0	0	3	0	3	6	0	0	6	9
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	33.3	0.0	33.3	66.7	0.0	0.0	66.7	
Exiting Leg Total				0				6				3	9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total Volume	0	0	0	0	0	2	0	2	4	0	0	4	6
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	1.000	0.000	0.000	1.000	0.750
Entering Leg	0	0	0	0	0	2	0	2	4	0	0	4	6
Exiting Leg				0				4				2	6
Total				0				6				6	12

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Bicycles (on Roadway and Crosswalks)**

	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	1	0	0	0	0	1	0	3	0	0	0	3	0	0	0	0	0	0	4
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	25.0	0.0	0.0	0.0	0.0	25.0	0.0	75.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						4	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	0	0	1	0	3	0	0	0	3	0	0	0	0	0	0	4
% Approach Total	100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	1	0	0	0	0	1	0	3	0	0	0	3	0	0	0	0	0	0	4
Exiting Leg						0						0						4	4
Total						1						3						4	8

PDI File #: **207397 A**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Pedestrians**

	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

Class: **Cars and Heavy Vehicles (Combined)**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	104	7	0	111	6	122	0	128	196	83	0	279	518
4:15 PM	80	6	0	86	6	145	0	151	188	66	0	254	491
4:30 PM	106	9	0	115	5	110	0	115	207	73	0	280	510
4:45 PM	84	9	0	93	6	141	0	147	205	85	0	290	530
Total	374	31	0	405	23	518	0	541	796	307	0	1103	2049
5:00 PM	90	8	0	98	1	131	0	132	218	109	0	327	557
5:15 PM	71	2	0	73	5	141	0	146	205	95	0	300	519
5:30 PM	89	7	0	96	3	140	0	143	188	97	0	285	524
5:45 PM	77	10	0	87	2	101	0	103	220	91	0	311	501
Total	327	27	0	354	11	513	0	524	831	392	0	1223	2101
Grand Total	701	58	0	759	34	1031	0	1065	1627	699	0	2326	4150
Approach %	92.4	7.6	0.0		3.2	96.8	0.0		69.9	30.1	0.0		
Total %	16.9	1.4	0.0	18.3	0.8	24.8	0.0	25.7	39.2	16.8	0.0	56.0	
Exiting Leg Total				733				1685				1732	4150
Cars	696	56	0	752	34	1015	0	1049	1616	698	0	2314	4115
% Cars	99.3	96.6	0.0	99.1	100.0	98.4	0.0	98.5	99.3	99.9	0.0	99.5	99.2
Exiting Leg Total				732				1672				1711	4115
Heavy Vehicles	5	2	0	7	0	16	0	16	11	1	0	12	35
% Heavy Vehicles	0.7	3.4	0.0	0.9	0.0	1.6	0.0	1.5	0.7	0.1	0.0	0.5	0.8
Exiting Leg Total				1				13				21	35

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	84	9	0	93	6	141	0	147	205	85	0	290	530
5:00 PM	90	8	0	98	1	131	0	132	218	109	0	327	557
5:15 PM	71	2	0	73	5	141	0	146	205	95	0	300	519
5:30 PM	89	7	0	96	3	140	0	143	188	97	0	285	524
Total Volume	334	26	0	360	15	553	0	568	816	386	0	1202	2130
% Approach Total	92.8	7.2	0.0		2.6	97.4	0.0		67.9	32.1	0.0		
PHF	0.928	0.722	0.000	0.918	0.625	0.980	0.000	0.966	0.936	0.885	0.000	0.919	0.956
Cars	333	24	0	357	15	545	0	560	811	386	0	1197	2114
Cars %	99.7	92.3	0.0	99.2	100.0	98.6	0.0	98.6	99.4	100.0	0.0	99.6	99.2
Heavy Vehicles	1	2	0	3	0	8	0	8	5	0	0	5	16
Heavy Vehicles %	0.3	7.7	0.0	0.8	0.0	1.4	0.0	1.4	0.6	0.0	0.0	0.4	0.8
Cars Enter Leg	333	24	0	357	15	545	0	560	811	386	0	1197	2114
Heavy Enter Leg	1	2	0	3	0	8	0	8	5	0	0	5	16
Total Entering Leg	334	26	0	360	15	553	0	568	816	386	0	1202	2130
Cars Exiting Leg				401				835				878	2114
Heavy Exiting Leg				0				7				9	16
Total Exiting Leg				401				842				887	2130

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Cars**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	100	7	0	107	6	120	0	126	196	83	0	279	512
4:15 PM	80	6	0	86	6	143	0	149	184	65	0	249	484
4:30 PM	106	9	0	115	5	109	0	114	207	73	0	280	509
4:45 PM	84	9	0	93	6	140	0	146	203	85	0	288	527
Total	370	31	0	401	23	512	0	535	790	306	0	1096	2032
5:00 PM	89	8	0	97	1	126	0	127	216	109	0	325	549
5:15 PM	71	0	0	71	5	141	0	146	205	95	0	300	517
5:30 PM	89	7	0	96	3	138	0	141	187	97	0	284	521
5:45 PM	77	10	0	87	2	98	0	100	218	91	0	309	496
Total	326	25	0	351	11	503	0	514	826	392	0	1218	2083
Grand Total	696	56	0	752	34	1015	0	1049	1616	698	0	2314	4115
Approach %	92.6	7.4	0.0		3.2	96.8	0.0		69.8	30.2	0.0		
Total %	16.9	1.4	0.0	18.3	0.8	24.7	0.0	25.5	39.3	17.0	0.0	56.2	
Exiting Leg Total				732				1672				1711	4115

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	84	9	0	93	6	140	0	146	203	85	0	288	527
5:00 PM	89	8	0	97	1	126	0	127	216	109	0	325	549
5:15 PM	71	0	0	71	5	141	0	146	205	95	0	300	517
5:30 PM	89	7	0	96	3	138	0	141	187	97	0	284	521
Total Volume	333	24	0	357	15	545	0	560	811	386	0	1197	2114
% Approach Total	93.3	6.7	0.0		2.7	97.3	0.0		67.8	32.2	0.0		
PHF	0.935	0.667	0.000	0.920	0.625	0.966	0.000	0.959	0.939	0.885	0.000	0.921	0.963
Entering Leg	333	24	0	357	15	545	0	560	811	386	0	1197	2114
Exiting Leg				401				835				878	2114
Total				758				1395				2075	4228

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	0	4	0	2	0	2	0	0	0	0	6
4:15 PM	0	0	0	0	0	2	0	2	4	1	0	5	7
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	1	2	0	0	2	3
Total	4	0	0	4	0	6	0	6	6	1	0	7	17
5:00 PM	1	0	0	1	0	5	0	5	2	0	0	2	8
5:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
5:45 PM	0	0	0	0	0	3	0	3	2	0	0	2	5
Total	1	2	0	3	0	10	0	10	5	0	0	5	18
Grand Total	5	2	0	7	0	16	0	16	11	1	0	12	35
Approach %	71.4	28.6	0.0		0.0	100.0	0.0		91.7	8.3	0.0		
Total %	14.3	5.7	0.0	20.0	0.0	45.7	0.0	45.7	31.4	2.9	0.0	34.3	
Exiting Leg Total				1				13				21	35
Buses	4	0	0	4	0	5	0	5	9	1	0	10	19
% Buses	80.0	0.0	0.0	57.1	0.0	31.3	0.0	31.3	81.8	100.0	0.0	83.3	54.3
Exiting Leg Total				1				9				9	19
Single-Unit Trucks	1	2	0	3	0	10	0	10	2	0	0	2	15
% Single-Unit	20.0	100.0	0.0	42.9	0.0	62.5	0.0	62.5	18.2	0.0	0.0	16.7	42.9
Exiting Leg Total				0				4				11	15
Articulated Trucks	0	0	0	0	0	1	0	1	0	0	0	0	1
% Articulated	0.0	0.0	0.0	0.0	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	2.9
Exiting Leg Total				0				0				1	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	0	0	0	2	0	2	4	1	0	5	7
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	1	2	0	0	2	3
5:00 PM	1	0	0	1	0	5	0	5	2	0	0	2	8
Total Volume	1	0	0	1	0	9	0	9	8	1	0	9	19
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		88.9	11.1	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.450	0.000	0.450	0.500	0.250	0.000	0.450	0.594
Buses	0	0	0	0	0	3	0	3	6	1	0	7	10
Buses %	0.0	0.0	0.0	0.0	0.0	33.3	0.0	33.3	75.0	100.0	0.0	77.8	52.6
Single-Unit Trucks	1	0	0	1	0	5	0	5	2	0	0	2	8
Single-Unit %	100.0	0.0	0.0	100.0	0.0	55.6	0.0	55.6	25.0	0.0	0.0	22.2	42.1
Articulated Trucks	0	0	0	0	0	1	0	1	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	11.1	0.0	11.1	0.0	0.0	0.0	0.0	5.3
Buses	0	0	0	0	0	3	0	3	6	1	0	7	10
Single-Unit Trucks	1	0	0	1	0	5	0	5	2	0	0	2	8
Articulated Trucks	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Entering Leg	1	0	0	1	0	9	0	9	8	1	0	9	19
Buses				1				6				3	10
Single-Unit Trucks				0				2				6	8
Articulated Trucks				0				0				1	1
Total Exiting Leg				1				8				10	19

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Buses**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	0	4	0	2	0	2	0	0	0	0	6
4:15 PM	0	0	0	0	0	1	0	1	4	1	0	5	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	4	0	0	4	0	3	0	3	5	1	0	6	13
5:00 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	2	0	2	4	0	0	4	6
Grand Total	4	0	0	4	0	5	0	5	9	1	0	10	19
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		90.0	10.0	0.0		
Total %	21.1	0.0	0.0	21.1	0.0	26.3	0.0	26.3	47.4	5.3	0.0	52.6	
Exiting Leg Total				1				9				9	19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	4	0	0	4	0	2	0	2	0	0	0	0	6
4:15 PM	0	0	0	0	0	1	0	1	4	1	0	5	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	4	0	0	4	0	3	0	3	5	1	0	6	13
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		83.3	16.7	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.375	0.000	0.375	0.313	0.250	0.000	0.300	0.542
Entering Leg	4	0	0	4	0	3	0	3	5	1	0	6	13
Exiting Leg				1				5				7	13
Total				5				8				13	26

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Single-Unit Trucks**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	2	0	2	1	0	0	1	3
5:00 PM	1	0	0	1	0	3	0	3	1	0	0	1	5
5:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	3
Total	1	2	0	3	0	8	0	8	1	0	0	1	12
Grand Total	1	2	0	3	0	10	0	10	2	0	0	2	15
Approach %	33.3	66.7	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	6.7	13.3	0.0	20.0	0.0	66.7	0.0	66.7	13.3	0.0	0.0	13.3	
Exiting Leg Total				0				4				11	15

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
5:00 PM	1	0	0	1	0	3	0	3	1	0	0	1	5
5:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	3
Total Volume	1	2	0	3	0	8	0	8	1	0	0	1	12
% Approach Total	33.3	66.7	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.375	0.000	0.667	0.000	0.667	0.250	0.000	0.000	0.250	0.600
Entering Leg	1	2	0	3	0	8	0	8	1	0	0	1	12
Exiting Leg				0				3				9	12
Total				3				11				10	24

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Articulated Trucks**

	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				1	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Winchester Street				Nahanton Street				Nahanton Street				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	1
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	1	0	1	0	0	0	0	1
Exiting Leg				0				0				1	1
Total				0				1				1	2

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Bicycles (on Roadway and Crosswalks)**

	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	7	7
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		85.7	14.3	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.7	14.3	0.0	0.0	0.0	100.0	
Exiting Leg Total						1						6						0	7

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313	0.000	0.000	0.000	0.000	0.313	0.313
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
Exiting Leg						0						5						0	5
Total						0						5						5	10

PDI File #: **207397 AA**
Location: **N: Winchester Street**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Pedestrians**

	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Winchester Street						Nahanton Street						Nahanton Street						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

Cars and Heavy Vehicles (Combined)

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	0	3	0	9	16	157	29	0	202	16	0	11	0	27	59	254	8	0	321	559
7:15 AM	7	0	1	0	8	22	180	38	0	240	14	0	16	0	30	86	264	11	0	361	639
7:30 AM	7	0	9	0	16	17	176	61	0	254	36	0	14	0	50	87	233	13	0	333	653
7:45 AM	8	1	8	0	17	23	161	88	0	272	48	0	25	0	73	110	217	32	0	359	721
Total	28	1	21	0	50	78	674	216	0	968	114	0	66	0	180	342	968	64	0	1374	2572
8:00 AM	14	0	14	0	28	27	191	63	0	281	26	0	20	0	46	134	214	29	0	377	732
8:15 AM	12	1	22	0	35	47	169	78	0	294	12	0	20	0	32	97	224	30	1	352	713
8:30 AM	12	0	21	0	33	33	163	88	0	284	25	0	19	0	44	116	202	23	0	341	702
8:45 AM	13	0	22	0	35	26	138	108	0	272	17	0	23	0	40	146	188	25	0	359	706
Total	51	1	79	0	131	133	661	337	0	1131	80	0	82	0	162	493	828	107	1	1429	2853
Grand Total	79	2	100	0	181	211	1335	553	0	2099	194	0	148	0	342	835	1796	171	1	2803	5425
Approach %	43.6	1.1	55.2	0.0		10.1	63.6	26.3	0.0		56.7	0.0	43.3	0.0		29.8	64.1	6.1	0.0		
Total %	1.5	0.0	1.8	0.0	3.3	3.9	24.6	10.2	0.0	38.7	3.6	0.0	2.7	0.0	6.3	15.4	33.1	3.2	0.0	51.7	
Exiting Leg Total					382					2090					1390					1563	5425
Cars	78	2	99	0	179	210	1310	549	0	2069	183	0	147	0	330	828	1734	170	1	2733	5311
% Cars	98.7	100.0	99.0	0.0	98.9	99.5	98.1	99.3	0.0	98.6	94.3	0.0	99.3	0.0	96.5	99.2	96.5	99.4	100.0	97.5	97.9
Exiting Leg Total					380					2016					1379					1536	5311
Heavy Vehicles	1	0	1	0	2	1	25	4	0	30	11	0	1	0	12	7	62	1	0	70	114
% Heavy Vehicles	1.3	0.0	1.0	0.0	1.1	0.5	1.9	0.7	0.0	1.4	5.7	0.0	0.7	0.0	3.5	0.8	3.5	0.6	0.0	2.5	2.1
Exiting Leg Total					2					74					11					27	114

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	8	1	8	0	17	23	161	88	0	272	48	0	25	0	73	110	217	32	0	359	721
8:00 AM	14	0	14	0	28	27	191	63	0	281	26	0	20	0	46	134	214	29	0	377	732
8:15 AM	12	1	22	0	35	47	169	78	0	294	12	0	20	0	32	97	224	30	1	352	713
8:30 AM	12	0	21	0	33	33	163	88	0	284	25	0	19	0	44	116	202	23	0	341	702
Total Volume	46	2	65	0	113	130	684	317	0	1131	111	0	84	0	195	457	857	114	1	1429	2868
% Approach Total	40.7	1.8	57.5	0.0		11.5	60.5	28.0	0.0		56.9	0.0	43.1	0.0		32.0	60.0	8.0	0.1		
PHF	0.821	0.500	0.739	0.000	0.807	0.691	0.895	0.901	0.000	0.962	0.578	0.000	0.840	0.000	0.668	0.853	0.956	0.891	0.250	0.948	0.980
Cars	46	2	64	0	112	130	671	317	0	1118	106	0	84	0	190	455	827	113	1	1396	2816
Cars %	100.0	100.0	98.5	0.0	99.1	100.0	98.1	100.0	0.0	98.9	95.5	0.0	100.0	0.0	97.4	99.6	96.5	99.1	100.0	97.7	98.2
Heavy Vehicles	0	0	1	0	1	0	13	0	0	13	5	0	0	0	5	2	30	1	0	33	52
Heavy Vehicles %	0.0	0.0	1.5	0.0	0.9	0.0	1.9	0.0	0.0	1.1	4.5	0.0	0.0	0.0	2.6	0.4	3.5	0.9	0.0	2.3	1.8
Cars Enter Leg	46	2	64	0	112	130	671	317	0	1118	106	0	84	0	190	455	827	113	1	1396	2816
Heavy Enter Leg	0	0	1	0	1	0	13	0	0	13	5	0	0	0	5	2	30	1	0	33	52
Total Entering Leg	46	2	65	0	113	130	684	317	0	1131	111	0	84	0	195	457	857	114	1	1429	2868
Cars Exiting Leg					243					997					774					802	2816
Heavy Exiting Leg					1					36					2					13	52
Total Exiting Leg					244					1033					776					815	2868

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

Class: **Cars**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	0	3	0	9	16	157	29	0	202	15	0	11	0	26	58	247	8	0	313	550
7:15 AM	7	0	1	0	8	22	175	37	0	234	14	0	16	0	30	85	258	11	0	354	626
7:30 AM	6	0	9	0	15	16	173	58	0	247	31	0	13	0	44	85	224	13	0	322	628
7:45 AM	8	1	7	0	16	23	158	88	0	269	45	0	25	0	70	109	212	31	0	352	707
Total	27	1	20	0	48	77	663	212	0	952	105	0	65	0	170	337	941	63	0	1341	2511
8:00 AM	14	0	14	0	28	27	186	63	0	276	25	0	20	0	45	133	210	29	0	372	721
8:15 AM	12	1	22	0	35	47	166	78	0	291	11	0	20	0	31	97	214	30	1	342	699
8:30 AM	12	0	21	0	33	33	161	88	0	282	25	0	19	0	44	116	191	23	0	330	689
8:45 AM	13	0	22	0	35	26	134	108	0	268	17	0	23	0	40	145	178	25	0	348	691
Total	51	1	79	0	131	133	647	337	0	1117	78	0	82	0	160	491	793	107	1	1392	2800
Grand Total	78	2	99	0	179	210	1310	549	0	2069	183	0	147	0	330	828	1734	170	1	2733	5311
Approach %	43.6	1.1	55.3	0.0		10.1	63.3	26.5	0.0		55.5	0.0	44.5	0.0		30.3	63.4	6.2	0.0		
Total %	1.5	0.0	1.9	0.0	3.4	4.0	24.7	10.3	0.0	39.0	3.4	0.0	2.8	0.0	6.2	15.6	32.6	3.2	0.0	51.5	
Exiting Leg Total					380					2016					1379					1536	5311

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	8	1	7	0	16	23	158	88	0	269	45	0	25	0	70	109	212	31	0	352	707
8:00 AM	14	0	14	0	28	27	186	63	0	276	25	0	20	0	45	133	210	29	0	372	721
8:15 AM	12	1	22	0	35	47	166	78	0	291	11	0	20	0	31	97	214	30	1	342	699
8:30 AM	12	0	21	0	33	33	161	88	0	282	25	0	19	0	44	116	191	23	0	330	689
Total Volume	46	2	64	0	112	130	671	317	0	1118	106	0	84	0	190	455	827	113	1	1396	2816
% Approach Total	41.1	1.8	57.1	0.0		11.6	60.0	28.4	0.0		55.8	0.0	44.2	0.0		32.6	59.2	8.1	0.1		
PHF	0.821	0.500	0.727	0.000	0.800	0.691	0.902	0.901	0.000	0.960	0.589	0.000	0.840	0.000	0.679	0.855	0.966	0.911	0.250	0.938	0.976
Entering Leg	46	2	64	0	112	130	671	317	0	1118	106	0	84	0	190	455	827	113	1	1396	2816
Exiting Leg					243					997					774					802	2816
Total					355					2115					964					2198	5632

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	7	0	0	8	9
7:15 AM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	1	6	0	0	7	13
7:30 AM	1	0	0	0	1	1	3	3	0	7	5	0	1	0	6	2	9	0	0	11	25
7:45 AM	0	0	1	0	1	0	3	0	0	3	3	0	0	0	3	1	5	1	0	7	14
Total	1	0	1	0	2	1	11	4	0	16	9	0	1	0	10	5	27	1	0	33	61
8:00 AM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	1	4	0	0	5	11
8:15 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	10	0	0	10	14
8:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	11	0	0	11	13
8:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	10	0	0	11	15
Total	0	0	0	0	0	0	14	0	0	14	2	0	0	0	2	2	35	0	0	37	53
Grand Total	1	0	1	0	2	1	25	4	0	30	11	0	1	0	12	7	62	1	0	70	114
Approach %	50.0	0.0	50.0	0.0		3.3	83.3	13.3	0.0		91.7	0.0	8.3	0.0		10.0	88.6	1.4	0.0		
Total %	0.9	0.0	0.9	0.0	1.8	0.9	21.9	3.5	0.0	26.3	9.6	0.0	0.9	0.0	10.5	6.1	54.4	0.9	0.0	61.4	
Exiting Leg Total					2					74					11					27	114
Buses	1	0	1	0	2	1	9	4	0	14	6	0	0	0	6	2	4	1	0	7	29
% Buses	100.0	0.0	100.0	0.0	100.0	100.0	36.0	100.0	0.0	46.7	54.5	0.0	0.0	0.0	50.0	28.6	6.5	100.0	0.0	10.0	25.4
Exiting Leg Total					2					11					6					10	29
Single-Unit Trucks	0	0	0	0	0	0	13	0	0	13	5	0	1	0	6	5	53	0	0	58	77
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	52.0	0.0	0.0	43.3	45.5	0.0	100.0	0.0	50.0	71.4	85.5	0.0	0.0	82.9	67.5
Exiting Leg Total					0					58					5					14	77
Articulated Trucks	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	7.1	7.0
Exiting Leg Total					0					5					0					3	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	1	0	0	0	1	1	3	3	0	7	5	0	1	0	6	2	9	0	0	11	25
7:45 AM	0	0	1	0	1	0	3	0	0	3	3	0	0	0	3	1	5	1	0	7	14
8:00 AM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	1	4	0	0	5	11
8:15 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	10	0	0	10	14
Total Volume	1	0	1	0	2	1	14	3	0	18	10	0	1	0	11	4	28	1	0	33	64
% Approach Total	50.0	0.0	50.0	0.0		5.6	77.8	16.7	0.0		90.9	0.0	9.1	0.0		12.1	84.8	3.0	0.0		
PHF	0.250	0.000	0.250	0.000	0.500	0.250	0.700	0.250	0.000	0.643	0.500	0.000	0.250	0.000	0.458	0.500	0.700	0.250	0.000	0.750	0.640
Buses	1	0	1	0	2	1	6	3	0	10	6	0	0	0	6	2	2	1	0	5	23
Buses %	100.0	0.0	100.0	0.0	100.0	100.0	42.9	100.0	0.0	55.6	60.0	0.0	0.0	0.0	54.5	50.0	7.1	100.0	0.0	15.2	35.9
Single-Unit Trucks	0	0	0	0	0	0	6	0	0	6	4	0	1	0	5	2	24	0	0	26	37
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	33.3	40.0	0.0	100.0	0.0	45.5	50.0	85.7	0.0	0.0	78.8	57.8
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	6.1	6.3
Buses	1	0	1	0	2	1	6	3	0	10	6	0	0	0	6	2	2	1	0	5	23
Single-Unit Trucks	0	0	0	0	0	0	6	0	0	6	4	0	1	0	5	2	24	0	0	26	37
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total Entering Leg	1	0	1	0	2	1	14	3	0	18	10	0	1	0	11	4	28	1	0	33	64
Buses					2					9					5					7	23
Single-Unit Trucks					0					28					2					7	37
Articulated Trucks					0					2					0					2	4
Total Exiting Leg					2					39					7					16	64

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Buses**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	1	0	0	1	4
7:30 AM	1	0	0	0	1	1	1	3	0	5	4	0	0	0	4	1	1	0	0	2	12
7:45 AM	0	0	1	0	1	0	2	0	0	2	2	0	0	0	2	1	1	1	0	3	8
Total	1	0	1	0	2	1	5	4	0	10	6	0	0	0	6	2	4	1	0	7	25
8:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Grand Total	1	0	1	0	2	1	9	4	0	14	6	0	0	0	6	2	4	1	0	7	29
Approach %	50.0	0.0	50.0	0.0		7.1	64.3	28.6	0.0		100.0	0.0	0.0	0.0		28.6	57.1	14.3	0.0		
Total %	3.4	0.0	3.4	0.0	6.9	3.4	31.0	13.8	0.0	48.3	20.7	0.0	0.0	0.0	20.7	6.9	13.8	3.4	0.0	24.1	
Exiting Leg Total					2					11					6					10	29

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	1	0	0	1	4
7:30 AM	1	0	0	0	1	1	1	3	0	5	4	0	0	0	4	1	1	0	0	2	12
7:45 AM	0	0	1	0	1	0	2	0	0	2	2	0	0	0	2	1	1	1	0	3	8
8:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	1	0	1	0	2	1	7	4	0	12	6	0	0	0	6	2	3	1	0	6	26
% Approach Total	50.0	0.0	50.0	0.0		8.3	58.3	33.3	0.0		100.0	0.0	0.0	0.0		33.3	50.0	16.7	0.0		
PHF	0.250	0.000	0.250	0.000	0.500	0.250	0.875	0.333	0.000	0.600	0.375	0.000	0.000	0.000	0.375	0.500	0.750	0.250	0.000	0.500	0.542
Entering Leg	1	0	1	0	2	1	7	4	0	12	6	0	0	0	6	2	3	1	0	6	26
Exiting Leg					2					10					6					8	26
Total					4					22					12					14	52

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Single-Unit Trucks**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	5	0	0	6	7
7:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	4	0	0	5	7
7:30 AM	0	0	0	0	0	0	2	0	0	2	1	0	1	0	2	1	7	0	0	8	12
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	4
Total	0	0	0	0	0	0	4	0	0	4	3	0	1	0	4	3	19	0	0	22	30
8:00 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	1	4	0	0	5	8
8:15 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	10	0	0	10	13
8:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	10	0	0	10	12
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	10	0	0	11	14
Total	0	0	0	0	0	0	9	0	0	9	2	0	0	0	2	2	34	0	0	36	47
Grand Total	0	0	0	0	0	0	13	0	0	13	5	0	1	0	6	5	53	0	0	58	77
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		83.3	0.0	16.7	0.0		8.6	91.4	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	16.9	0.0	0.0	16.9	6.5	0.0	1.3	0.0	7.8	6.5	68.8	0.0	0.0	75.3	
Exiting Leg Total					0					58					5					14	77

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	1	4	0	0	5	8
8:15 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	10	0	0	10	13
8:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	10	0	0	10	12
8:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	10	0	0	11	14
Total Volume	0	0	0	0	0	0	9	0	0	9	2	0	0	0	2	2	34	0	0	36	47
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		5.6	94.4	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.500	0.000	0.000	0.000	0.500	0.500	0.850	0.000	0.000	0.818	0.839
Entering Leg	0	0	0	0	0	0	9	0	0	9	2	0	0	0	2	2	34	0	0	36	47
Exiting Leg					0					36					2					9	47
Total					0					45					4					45	94

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Articulated Trucks**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	37.5	0.0	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0	62.5	
Exiting Leg Total					0					5					0					3	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	1.000	0.750
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
Exiting Leg					0					4					0					2	6
Total					0					6					0					6	12

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Bicycles (on Roadway and Crosswalks)**

	JCC Drive from North							Nahanton Street from East							Wells Avenue from South							Nahanton Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Grand Total	0	0	0	0	0	0	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	2	1	0	0	0	0	3	7
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		66.7	33.3	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	14.3	0.0	0.0	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6	14.3	0.0	0.0	0.0	0.0	42.9	
Exiting Leg Total							0							1							3							3	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	JCC Drive from North							Nahanton Street from East							Wells Avenue from South							Nahanton Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	2	5
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.625
Entering Leg	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	2	5
Exiting Leg							0							0							3							2	5
Total							0							3							3							4	10

PDI File #: **207397 B**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class: **Pedestrians**

	JCC Drive							Nahanton Street							Wells Avenue							Nahanton Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	JCC Drive							Nahanton Street							Wells Avenue							Nahanton Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

Cars and Heavy Vehicles (Combined)

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	32	1	36	0	69	19	152	40	0	211	77	1	117	0	195	44	158	11	0	213	688
4:15 PM	23	1	17	0	41	7	180	52	0	239	70	3	106	0	179	59	177	3	0	239	698
4:30 PM	14	0	15	0	29	11	160	30	0	201	88	0	141	0	229	44	176	5	0	225	684
4:45 PM	18	0	23	0	41	23	166	48	0	237	76	0	132	0	208	57	196	9	0	262	748
Total	87	2	91	0	180	60	658	170	0	888	311	4	496	0	811	204	707	28	0	939	2818
5:00 PM	24	0	33	0	57	13	149	47	0	209	116	0	159	0	275	57	176	7	0	240	781
5:15 PM	23	1	21	0	45	10	160	63	0	233	107	1	140	0	248	49	174	13	0	236	762
5:30 PM	16	1	17	0	34	16	134	55	0	205	112	3	141	0	256	60	150	15	0	225	720
5:45 PM	28	3	16	0	47	13	98	72	0	183	124	2	140	0	266	58	177	10	0	245	741
Total	91	5	87	0	183	52	541	237	0	830	459	6	580	0	1045	224	677	45	0	946	3004
Grand Total	178	7	178	0	363	112	1199	407	0	1718	770	10	1076	0	1856	428	1384	73	0	1885	5822
Approach %	49.0	1.9	49.0	0.0		6.5	69.8	23.7	0.0		41.5	0.5	58.0	0.0		22.7	73.4	3.9	0.0		
Total %	3.1	0.1	3.1	0.0	6.2	1.9	20.6	7.0	0.0	29.5	13.2	0.2	18.5	0.0	31.9	7.4	23.8	1.3	0.0	32.4	
Exiting Leg Total					195					2332					842					2453	5822
Cars	177	7	176	0	360	111	1184	401	0	1696	767	10	1074	0	1851	428	1376	73	0	1877	5784
% Cars	99.4	100.0	98.9	0.0	99.2	99.1	98.7	98.5	0.0	98.7	99.6	100.0	99.8	0.0	99.7	100.0	99.4	100.0	0.0	99.6	99.3
Exiting Leg Total					194					2319					836					2435	5784
Heavy Vehicles	1	0	2	0	3	1	15	6	0	22	3	0	2	0	5	0	8	0	0	8	38
% Heavy Vehicles	0.6	0.0	1.1	0.0	0.8	0.9	1.3	1.5	0.0	1.3	0.4	0.0	0.2	0.0	0.3	0.0	0.6	0.0	0.0	0.4	0.7
Exiting Leg Total					1					13					6					18	38

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	18	0	23	0	41	23	166	48	0	237	76	0	132	0	208	57	196	9	0	262	748
5:00 PM	24	0	33	0	57	13	149	47	0	209	116	0	159	0	275	57	176	7	0	240	781
5:15 PM	23	1	21	0	45	10	160	63	0	233	107	1	140	0	248	49	174	13	0	236	762
5:30 PM	16	1	17	0	34	16	134	55	0	205	112	3	141	0	256	60	150	15	0	225	720
Total Volume	81	2	94	0	177	62	609	213	0	884	411	4	572	0	987	223	696	44	0	963	3011
% Approach Total	45.8	1.1	53.1	0.0		7.0	68.9	24.1	0.0		41.6	0.4	58.0	0.0		23.2	72.3	4.6	0.0		
PHF	0.844	0.500	0.712	0.000	0.776	0.674	0.917	0.845	0.000	0.932	0.886	0.333	0.899	0.000	0.897	0.929	0.888	0.733	0.000	0.919	0.964
Cars	81	2	94	0	177	62	601	212	0	875	411	4	572	0	987	223	690	44	0	957	2996
Cars %	100.0	100.0	100.0	0.0	100.0	100.0	98.7	99.5	0.0	99.0	100.0	100.0	100.0	0.0	100.0	100.0	99.1	100.0	0.0	99.4	99.5
Heavy Vehicles	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	6	0	0	6	15
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.6	0.5
Cars Enter Leg	81	2	94	0	177	62	601	212	0	875	411	4	572	0	987	223	690	44	0	957	2996
Heavy Enter Leg	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	6	0	0	6	15
Total Entering Leg	81	2	94	0	177	62	609	213	0	884	411	4	572	0	987	223	696	44	0	963	3011
Cars Exiting Leg					110					1195					437					1254	2996
Heavy Exiting Leg					0					6					1					8	15
Total Exiting Leg					110					1201					438					1262	3011

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Cars**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	31	1	35	0	67	18	151	37	0	206	77	1	117	0	195	44	158	11	0	213	681
4:15 PM	23	1	16	0	40	7	179	50	0	236	67	3	104	0	174	59	177	3	0	239	689
4:30 PM	14	0	15	0	29	11	159	30	0	200	88	0	141	0	229	44	176	5	0	225	683
4:45 PM	18	0	23	0	41	23	165	48	0	236	76	0	132	0	208	57	194	9	0	260	745
Total	86	2	89	0	177	59	654	165	0	878	308	4	494	0	806	204	705	28	0	937	2798
5:00 PM	24	0	33	0	57	13	143	47	0	203	116	0	159	0	275	57	174	7	0	238	773
5:15 PM	23	1	21	0	45	10	160	63	0	233	107	1	140	0	248	49	174	13	0	236	762
5:30 PM	16	1	17	0	34	16	133	54	0	203	112	3	141	0	256	60	148	15	0	223	716
5:45 PM	28	3	16	0	47	13	94	72	0	179	124	2	140	0	266	58	175	10	0	243	735
Total	91	5	87	0	183	52	530	236	0	818	459	6	580	0	1045	224	671	45	0	940	2986
Grand Total	177	7	176	0	360	111	1184	401	0	1696	767	10	1074	0	1851	428	1376	73	0	1877	5784
Approach %	49.2	1.9	48.9	0.0		6.5	69.8	23.6	0.0		41.4	0.5	58.0	0.0		22.8	73.3	3.9	0.0		
Total %	3.1	0.1	3.0	0.0	6.2	1.9	20.5	6.9	0.0	29.3	13.3	0.2	18.6	0.0	32.0	7.4	23.8	1.3	0.0	32.5	
Exiting Leg Total					194					2319					836					2435	5784

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:45 PM	18	0	23	0	41	23	165	48	0	236	76	0	132	0	208	57	194	9	0	260	745
5:00 PM	24	0	33	0	57	13	143	47	0	203	116	0	159	0	275	57	174	7	0	238	773
5:15 PM	23	1	21	0	45	10	160	63	0	233	107	1	140	0	248	49	174	13	0	236	762
5:30 PM	16	1	17	0	34	16	133	54	0	203	112	3	141	0	256	60	148	15	0	223	716
Total Volume	81	2	94	0	177	62	601	212	0	875	411	4	572	0	987	223	690	44	0	957	2996
% Approach Total	45.8	1.1	53.1	0.0		7.1	68.7	24.2	0.0		41.6	0.4	58.0	0.0		23.3	72.1	4.6	0.0		
PHF	0.844	0.500	0.712	0.000	0.776	0.674	0.911	0.841	0.000	0.927	0.886	0.333	0.899	0.000	0.897	0.929	0.889	0.733	0.000	0.920	0.969
Entering Leg	81	2	94	0	177	62	601	212	0	875	411	4	572	0	987	223	690	44	0	957	2996
Exiting Leg					110					1195					437					1254	2996
Total					287					2070					1424					2211	5992

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	1	1	3	0	5	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	1	0	1	0	1	2	0	3	3	0	2	0	5	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	1	0	2	0	3	1	4	5	0	10	3	0	2	0	5	0	2	0	0	2	20
5:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	4
5:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	0	6	0	0	6	18
Grand Total	1	0	2	0	3	1	15	6	0	22	3	0	2	0	5	0	8	0	0	8	38
Approach %	33.3	0.0	66.7	0.0		4.5	68.2	27.3	0.0		60.0	0.0	40.0	0.0		0.0	100.0	0.0	0.0		
Total %	2.6	0.0	5.3	0.0	7.9	2.6	39.5	15.8	0.0	57.9	7.9	0.0	5.3	0.0	13.2	0.0	21.1	0.0	0.0	21.1	
Exiting Leg Total					1					13					6					18	38
Buses	1	0	2	0	3	1	3	5	0	9	3	0	2	0	5	0	6	0	0	6	23
% Buses	100.0	0.0	100.0	0.0	100.0	100.0	20.0	83.3	0.0	40.9	100.0	0.0	100.0	0.0	100.0	0.0	75.0	0.0	0.0	75.0	60.5
Exiting Leg Total					1					11					5					6	23
Single-Unit Trucks	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	0	2	0	0	2	14
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	73.3	16.7	0.0	54.5	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	36.8
Exiting Leg Total					0					2					1					11	14
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	0	1	0	1	0	1	2	0	3	3	0	2	0	5	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
5:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	8
Total Volume	0	0	1	0	1	0	9	2	0	11	3	0	2	0	5	0	4	0	0	4	21
% Approach Total	0.0	0.0	100.0	0.0		0.0	81.8	18.2	0.0		60.0	0.0	40.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.375	0.250	0.000	0.458	0.250	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.583
Buses	0	0	1	0	1	0	2	2	0	4	3	0	2	0	5	0	2	0	0	2	12
Buses %	0.0	0.0	100.0	0.0	100.0	0.0	22.2	100.0	0.0	36.4	100.0	0.0	100.0	0.0	100.0	0.0	50.0	0.0	0.0	50.0	57.1
Single-Unit Trucks	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	8
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	54.5	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	38.1
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8
Buses	0	0	1	0	1	0	2	2	0	4	3	0	2	0	5	0	2	0	0	2	12
Single-Unit Trucks	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	8
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	0	0	1	0	1	0	9	2	0	11	3	0	2	0	5	0	4	0	0	4	21
Buses					0					6					2					4	12
Single-Unit Trucks					0					2					0					6	8
Articulated Trucks					0					0					0					1	1
Total Exiting Leg					0					8					2					11	21

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Buses**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	1	1	3	0	5	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	1	0	1	0	0	2	0	2	3	0	2	0	5	0	0	0	0	0	8
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	0	2	0	3	1	1	5	0	7	3	0	2	0	5	0	1	0	0	1	16
5:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
Grand Total	1	0	2	0	3	1	3	5	0	9	3	0	2	0	5	0	6	0	0	6	23
Approach %	33.3	0.0	66.7	0.0		11.1	33.3	55.6	0.0		60.0	0.0	40.0	0.0		0.0	100.0	0.0	0.0		
Total %	4.3	0.0	8.7	0.0	13.0	4.3	13.0	21.7	0.0	39.1	13.0	0.0	8.7	0.0	21.7	0.0	26.1	0.0	0.0	26.1	
Exiting Leg Total					1					11					5					6	23

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	0	1	0	2	1	1	3	0	5	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	1	0	1	0	0	2	0	2	3	0	2	0	5	0	0	0	0	0	8
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	1	0	2	0	3	1	1	5	0	7	3	0	2	0	5	0	1	0	0	1	16
% Approach Total	33.3	0.0	66.7	0.0		14.3	14.3	71.4	0.0		60.0	0.0	40.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.500	0.000	0.375	0.250	0.250	0.417	0.000	0.350	0.250	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	1	0	2	0	3	1	1	5	0	7	3	0	2	0	5	0	1	0	0	1	16
Exiting Leg					1					6					5					4	16
Total					4					13					10					5	32

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Single-Unit Trucks**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	1	0	0	1	11
Grand Total	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	0	2	0	0	2	14
Approach %	0.0	0.0	0.0	0.0		0.0	91.7	8.3	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	78.6	7.1	0.0	85.7	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	14.3	
Exiting Leg Total					0					2					1					11	14

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	1	0	0	1	11
% Approach Total	0.0	0.0	0.0	0.0		0.0	90.0	10.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.250	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.550
Entering Leg	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	1	0	0	1	11
Exiting Leg					0					1					1					9	11
Total					0					11					1					10	22

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Articulated Trucks**

	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	JCC Drive					Nahanton Street					Wells Avenue					Nahanton Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					0					0					0					1	1
Total					0					1					0					1	2

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Bicycles (on Roadway and Crosswalks)**

	JCC Drive from North							Nahanton Street from East							Wells Avenue from South							Nahanton Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	7	0	0	0	0	7	8
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	12.5	0.0	87.5	0.0	0.0	0.0	0.0	87.5	
Exiting Leg Total							0							7							0							1	8

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	JCC Drive from North							Nahanton Street from East							Wells Avenue from South							Nahanton Street from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	6
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.375	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	6
Exiting Leg							0							6							0							0	6
Total							0							6							0							6	12

PDI File #: **207397 BB**
Location: **N: JCC Drive S: Wells Avenue**
Location: **E: Nahanton Street W: Nahanton Street**
City, State: **Newton, MA**
Client: **Stantec/R.Bryant**
Site Code: **TBD**
Count Date: **Wednesday, January 15, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class: **Pedestrians**

	JCC Drive							Nahanton Street							Wells Avenue							Nahanton Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	JCC Drive							Nahanton Street							Wells Avenue							Nahanton Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

Appendix B Capacity Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	857	457	317	684	130	84	0	111	65	2	46
Future Volume (vph)	114	857	457	317	684	130	84	0	111	65	2	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		6.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1787	1827	1599	1805	1824		1805		1538	1787	1626	
Flt Permitted	0.28	1.00	1.00	0.10	1.00		0.72		1.00	0.76	1.00	
Satd. Flow (perm)	521	1827	1599	191	1824		1376		1538	1424	1626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	120	902	481	334	720	137	88	0	117	68	2	48
RTOR Reduction (vph)	0	0	109	0	5	0	0	0	104	0	43	0
Lane Group Flow (vph)	120	902	372	334	852	0	88	0	13	68	7	0
Heavy Vehicles (%)	1%	4%	1%	0%	2%	0%	0%	0%	5%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm		Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	72.6	65.9	65.9	91.6	79.9		12.4		12.4	12.4	12.4	
Effective Green, g (s)	72.6	65.9	65.9	91.6	79.9		12.4		12.4	12.4	12.4	
Actuated g/C Ratio	0.63	0.57	0.57	0.80	0.69		0.11		0.11	0.11	0.11	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	402	1046	916	442	1267		148		165	153	175	
v/s Ratio Prot	0.02	c0.49		c0.14	0.47						0.00	
v/s Ratio Perm	0.17		0.23	0.47			c0.06		0.01	0.05		
v/c Ratio	0.30	0.86	0.41	0.76	0.67		0.59		0.08	0.44	0.04	
Uniform Delay, d1	9.3	20.7	13.7	29.5	10.0		48.9		46.1	48.1	46.0	
Progression Factor	1.00	1.00	1.00	1.34	0.67		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.4	9.4	1.3	4.9	1.9		6.3		0.2	2.1	0.1	
Delay (s)	9.7	30.1	15.0	44.2	8.6		55.2		46.3	50.1	46.1	
Level of Service	A	C	B	D	A		E		D	D	D	
Approach Delay (s)		23.6			18.6			50.1			48.4	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	120	902	481	334	857	88	117	68	50
v/c Ratio	0.30	0.86	0.47	0.75	0.67	0.59	0.23	0.44	0.23
Control Delay	7.9	33.3	9.1	34.8	9.3	64.4	1.1	56.0	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.9	33.3	9.1	34.8	9.3	64.4	1.1	56.0	16.0
Queue Length 50th (ft)	16	542	83	161	226	63	0	48	1
Queue Length 95th (ft)	34	#961	202	m236	355	113	0	91	37
Internal Link Dist (ft)		336			900				507
Turn Bay Length (ft)	175		175	250				75	
Base Capacity (vph)	402	1045	1024	531	1272	203	546	210	281
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.86	0.47	0.63	0.67	0.43	0.21	0.32	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	878	598	431	701	133	102	0	127	67	2	47
Future Volume (vph)	117	878	598	431	701	133	102	0	127	67	2	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		6.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1787	1827	1599	1805	1824		1805		1538	1787	1626	
Flt Permitted	0.29	1.00	1.00	0.06	1.00		0.72		1.00	0.76	1.00	
Satd. Flow (perm)	540	1827	1599	120	1824		1375		1538	1424	1626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	123	924	629	454	738	140	107	0	134	71	2	49
RTOR Reduction (vph)	0	0	161	0	6	0	0	0	118	0	43	0
Lane Group Flow (vph)	123	924	468	454	872	0	107	0	16	71	8	0
Heavy Vehicles (%)	1%	4%	1%	0%	2%	0%	0%	0%	5%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm		Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	65.0	58.5	58.5	90.5	79.0		13.5		13.5	13.5	13.5	
Effective Green, g (s)	65.0	58.5	58.5	90.5	79.0		13.5		13.5	13.5	13.5	
Actuated g/C Ratio	0.57	0.51	0.51	0.79	0.69		0.12		0.12	0.12	0.12	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	375	929	813	490	1253		161		180	167	190	
v/s Ratio Prot	0.02	c0.51		c0.22	0.48						0.00	
v/s Ratio Perm	0.17		0.29	0.51			c0.08		0.01	0.05		
v/c Ratio	0.33	0.99	0.58	0.93	0.70		0.66		0.09	0.43	0.04	
Uniform Delay, d1	18.6	28.1	19.6	37.2	10.8		48.6		45.3	47.1	45.0	
Progression Factor	1.00	1.00	1.00	1.10	0.75		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.5	28.3	3.0	15.4	1.8		9.9		0.2	1.7	0.1	
Delay (s)	19.1	56.4	22.6	56.2	10.0		58.5		45.5	48.9	45.1	
Level of Service	B	E	C	E	A		E		D	D	D	
Approach Delay (s)		41.0			25.7			51.2			47.3	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	123	924	629	454	878	107	134	71	51
v/c Ratio	0.33	1.00	0.65	0.93	0.70	0.66	0.26	0.43	0.22
Control Delay	9.7	58.3	13.4	53.5	10.7	67.6	1.3	54.0	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	58.3	13.4	53.5	10.7	67.6	1.3	54.0	15.3
Queue Length 50th (ft)	20	~751	165	296	258	76	0	49	1
Queue Length 95th (ft)	35	#998	299	m#414	m375	134	0	95	37
Internal Link Dist (ft)		336			900				507
Turn Bay Length (ft)	175		175	250				75	
Base Capacity (vph)	375	928	973	503	1258	203	543	210	282
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	1.00	0.65	0.90	0.70	0.53	0.25	0.34	0.18

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	878	598	431	701	140	102	0	127	79	2	58
Future Volume (vph)	122	878	598	431	701	140	102	0	127	79	2	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		6.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00		0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1787	1827	1599	1805	1822		1805		1538	1787	1624	
Flt Permitted	0.28	1.00	1.00	0.06	1.00		0.72		1.00	0.76	1.00	
Satd. Flow (perm)	530	1827	1599	120	1822		1360		1538	1424	1624	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	128	924	629	454	738	147	107	0	134	83	2	61
RTOR Reduction (vph)	0	0	161	0	6	0	0	0	118	0	54	0
Lane Group Flow (vph)	128	924	468	454	879	0	107	0	16	83	9	0
Heavy Vehicles (%)	1%	4%	1%	0%	2%	0%	0%	0%	5%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm		Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	64.9	58.4	58.4	90.4	78.9		13.6		13.6	13.6	13.6	
Effective Green, g (s)	64.9	58.4	58.4	90.4	78.9		13.6		13.6	13.6	13.6	
Actuated g/C Ratio	0.56	0.51	0.51	0.79	0.69		0.12		0.12	0.12	0.12	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	370	927	812	489	1250		160		181	168	192	
v/s Ratio Prot	0.02	c0.51		c0.22	0.48						0.01	
v/s Ratio Perm	0.18		0.29	0.51			c0.08		0.01	0.06		
v/c Ratio	0.35	1.00	0.58	0.93	0.70		0.67		0.09	0.49	0.05	
Uniform Delay, d1	19.3	28.2	19.7	37.2	11.0		48.5		45.2	47.5	45.0	
Progression Factor	1.00	1.00	1.00	1.09	0.75		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.6	28.8	3.0	15.5	1.9		10.1		0.2	2.3	0.1	
Delay (s)	19.9	57.0	22.7	56.1	10.1		58.7		45.4	49.8	45.1	
Level of Service	B	E	C	E	B		E		D	D	D	
Approach Delay (s)		41.3			25.7			51.3			47.7	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	128	924	629	454	885	107	134	83	63
v/c Ratio	0.35	1.00	0.65	0.93	0.70	0.67	0.26	0.49	0.26
Control Delay	10.0	58.6	13.4	53.3	10.8	67.9	1.3	56.7	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	10.0	58.6	13.4	53.3	10.9	67.9	1.3	56.7	14.3
Queue Length 50th (ft)	20	~751	165	295	262	76	0	58	1
Queue Length 95th (ft)	36	#998	299	m#413	m376	134	0	107	41
Internal Link Dist (ft)		336			900				507
Turn Bay Length (ft)	175		175	250				75	
Base Capacity (vph)	369	927	973	503	1256	201	543	210	292
Starvation Cap Reductn	0	0	0	0	30	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.00	0.65	0.90	0.72	0.53	0.25	0.40	0.22

Intersection Summary

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

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	705	223	213	609	62	572	4	415	94	2	81
Future Volume (vph)	44	705	223	213	609	62	572	4	415	94	2	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1881	1615	1805	1855		1805	1900	1615	1805	1622	
Flt Permitted	0.09	1.00	1.00	0.08	1.00		0.70	1.00	1.00	0.76	1.00	
Satd. Flow (perm)	180	1881	1615	150	1855		1331	1900	1615	1435	1622	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	742	235	224	641	65	602	4	437	99	2	85
RTOR Reduction (vph)	0	0	76	0	3	0	0	0	120	0	51	0
Lane Group Flow (vph)	46	742	159	224	703	0	602	4	317	99	36	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	51.4	46.6	46.6	59.8	50.8		48.4	48.4	48.4	48.4	48.4	
Effective Green, g (s)	51.4	46.6	46.6	59.8	50.8		48.4	48.4	48.4	48.4	48.4	
Actuated g/C Ratio	0.43	0.39	0.39	0.50	0.42		0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	142	730	627	198	785		536	766	651	578	654	
v/s Ratio Prot	0.01	0.39		c0.08	0.38			0.00			0.02	
v/s Ratio Perm	0.13		0.10	c0.48			c0.45		0.20	0.07		
v/c Ratio	0.32	1.02	0.25	1.13	0.90		1.12	0.01	0.49	0.17	0.06	
Uniform Delay, d1	25.7	36.7	24.9	34.1	32.1		35.8	21.4	26.6	22.9	21.8	
Progression Factor	1.00	1.00	1.00	1.20	0.99		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	37.5	1.0	99.8	13.5		77.4	0.0	0.6	0.1	0.0	
Delay (s)	27.0	74.2	25.9	141.0	45.4		113.2	21.4	27.2	23.1	21.9	
Level of Service	C	E	C	F	D		F	C	C	C	C	
Approach Delay (s)		61.0			68.4			76.8			22.5	
Approach LOS		E			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	66.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	46	742	235	224	706	602	4	437	99	87
v/c Ratio	0.29	1.02	0.33	1.14	0.88	1.12	0.01	0.57	0.17	0.12
Control Delay	20.2	74.4	13.2	133.4	44.3	111.0	21.5	17.5	24.0	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	74.4	13.2	133.4	44.3	111.0	21.5	17.5	24.0	5.3
Queue Length 50th (ft)	18	~589	56	~144	549	~537	2	136	49	1
Queue Length 95th (ft)	38	#843	119	#319	#763	#761	9	240	88	33
Internal Link Dist (ft)		336			900		460			507
Turn Bay Length (ft)	175		175	250					75	
Base Capacity (vph)	160	730	703	197	803	537	766	771	578	704
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	1.02	0.33	1.14	0.88	1.12	0.01	0.57	0.17	0.12

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	723	249	235	624	64	699	4	518	96	2	83
Future Volume (vph)	45	723	249	235	624	64	699	4	518	96	2	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1881	1615	1805	1855		1805	1900	1615	1805	1621	
Flt Permitted	0.10	1.00	1.00	0.08	1.00		0.70	1.00	1.00	0.76	1.00	
Satd. Flow (perm)	191	1881	1615	152	1855		1329	1900	1615	1435	1621	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	761	262	247	657	67	736	4	545	101	2	87
RTOR Reduction (vph)	0	0	83	0	3	0	0	0	128	0	53	0
Lane Group Flow (vph)	47	761	180	247	721	0	736	4	417	101	36	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	49.8	45.0	45.0	62.0	52.2		47.0	47.0	47.0	47.0	47.0	
Effective Green, g (s)	49.8	45.0	45.0	62.0	52.2		47.0	47.0	47.0	47.0	47.0	
Actuated g/C Ratio	0.41	0.38	0.38	0.52	0.44		0.39	0.39	0.39	0.39	0.39	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	143	705	605	243	806		520	744	632	562	634	
v/s Ratio Prot	0.01	c0.40		c0.10	0.39			0.00			0.02	
v/s Ratio Perm	0.12		0.11	0.42			c0.55		0.26	0.07		
v/c Ratio	0.33	1.08	0.30	1.02	0.89		1.42	0.01	0.66	0.18	0.06	
Uniform Delay, d1	26.1	37.5	26.4	36.8	31.4		36.5	22.3	29.9	23.9	22.7	
Progression Factor	1.00	1.00	1.00	1.22	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	57.4	1.3	57.8	12.8		198.1	0.0	2.6	0.2	0.0	
Delay (s)	27.4	94.9	27.6	102.6	43.1		234.6	22.3	32.5	24.0	22.7	
Level of Service	C	F	C	F	D		F	C	C	C	C	
Approach Delay (s)		75.4			58.3			148.2			23.4	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	94.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	761	262	247	724	736	4	545	101	89
v/c Ratio	0.30	1.08	0.38	1.02	0.88	1.42	0.01	0.72	0.18	0.13
Control Delay	20.1	93.8	14.8	94.5	42.1	228.7	22.2	24.5	25.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	93.8	14.8	94.5	42.1	228.7	22.2	24.5	25.0	5.5
Queue Length 50th (ft)	17	~658	68	~133	561	~767	2	222	51	1
Queue Length 95th (ft)	37	#897	139	#324	#755	#1002	9	363	92	34
Internal Link Dist (ft)		336			900		460			507
Turn Bay Length (ft)	175		175	250					75	
Base Capacity (vph)	161	705	688	243	825	520	744	760	561	687
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	1.08	0.38	1.02	0.88	1.42	0.01	0.72	0.18	0.13

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	723	249	235	624	77	699	4	518	108	2	92
Future Volume (vph)	56	723	249	235	624	77	699	4	518	108	2	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1881	1615	1805	1850		1805	1900	1615	1805	1621	
Flt Permitted	0.09	1.00	1.00	0.08	1.00		0.69	1.00	1.00	0.76	1.00	
Satd. Flow (perm)	169	1881	1615	152	1850		1317	1900	1615	1435	1621	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	59	761	262	247	657	81	736	4	545	114	2	97
RTOR Reduction (vph)	0	0	83	0	3	0	0	0	128	0	59	0
Lane Group Flow (vph)	59	761	180	247	735	0	736	4	417	114	40	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	49.8	45.0	45.0	62.0	52.2		47.0	47.0	47.0	47.0	47.0	
Effective Green, g (s)	49.8	45.0	45.0	62.0	52.2		47.0	47.0	47.0	47.0	47.0	
Actuated g/C Ratio	0.41	0.38	0.38	0.52	0.44		0.39	0.39	0.39	0.39	0.39	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	135	705	605	243	804		515	744	632	562	634	
v/s Ratio Prot	0.02	c0.40		c0.10	0.40			0.00			0.02	
v/s Ratio Perm	0.16		0.11	0.42			c0.56		0.26	0.08		
v/c Ratio	0.44	1.08	0.30	1.02	0.91		1.43	0.01	0.66	0.20	0.06	
Uniform Delay, d1	26.7	37.5	26.4	36.8	31.8		36.5	22.3	29.9	24.1	22.8	
Progression Factor	1.00	1.00	1.00	1.21	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	57.4	1.3	57.6	14.7		204.1	0.0	2.6	0.2	0.0	
Delay (s)	29.0	94.9	27.6	102.3	45.5		240.6	22.3	32.5	24.3	22.8	
Level of Service	C	F	C	F	D		F	C	C	C	C	
Approach Delay (s)		75.0			59.8			151.7			23.6	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	95.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	59	761	262	247	738	736	4	545	114	99
v/c Ratio	0.39	1.08	0.38	1.02	0.90	1.43	0.01	0.72	0.20	0.14
Control Delay	23.0	93.8	14.8	94.2	44.0	234.6	22.2	24.5	25.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	93.8	14.8	94.2	44.0	234.6	22.2	24.5	25.4	5.3
Queue Length 50th (ft)	22	~658	68	~136	575	~771	2	222	58	1
Queue Length 95th (ft)	44	#897	139	#323	#779	#1006	9	363	101	36
Internal Link Dist (ft)		336			900		460			507
Turn Bay Length (ft)	175		175	250					75	
Base Capacity (vph)	153	705	688	243	824	515	744	760	561	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	1.08	0.38	1.02	0.90	1.43	0.01	0.72	0.20	0.14

Intersection Summary

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

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	423	612	819	47	16	320
Future Volume (vph)	423	612	819	47	16	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12
Total Lost time (s)	5.0	5.0	5.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1845	1973		1703	1615
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	124	1845	1973		1703	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	445	644	862	49	17	337
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	445	644	909	0	17	337
Heavy Vehicles (%)	2%	3%	2%	2%	6%	0%
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		8	8 5
Permitted Phases	2					
Actuated Green, G (s)	91.5	91.5	62.5		14.5	42.5
Effective Green, g (s)	91.5	91.5	62.5		14.5	42.5
Actuated g/C Ratio	0.80	0.80	0.54		0.13	0.37
Clearance Time (s)	5.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	442	1467	1072		214	596
v/s Ratio Prot	c0.21	0.35	0.46		0.01	c0.21
v/s Ratio Perm	c0.59					
v/c Ratio	1.01	0.44	0.85		0.08	0.57
Uniform Delay, d1	38.5	3.7	22.2		44.4	28.9
Progression Factor	0.85	2.00	1.00		1.00	1.00
Incremental Delay, d2	35.7	0.6	8.4		0.2	1.2
Delay (s)	68.5	8.0	30.6		44.5	30.1
Level of Service	E	A	C		D	C
Approach Delay (s)		32.7	30.6		30.8	
Approach LOS		C	C		C	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	445	644	911	17	337
v/c Ratio	1.01	0.44	0.85	0.08	0.55
Control Delay	66.4	7.8	31.0	48.0	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	7.8	31.0	48.0	33.1
Queue Length 50th (ft)	~314	180	524	11	199
Queue Length 95th (ft)	m#413	m298	696	35	304
Internal Link Dist (ft)		900	195	113	
Turn Bay Length (ft)	400			100	
Base Capacity (vph)	451	1524	1134	214	620
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	0.99	0.42	0.80	0.08	0.54

Intersection Summary

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

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

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	441	633	886	48	16	387
Future Volume (vph)	441	633	886	48	16	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12
Total Lost time (s)	5.0	5.0	5.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1845	1973		1703	1615
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	109	1845	1973		1703	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	464	666	933	51	17	407
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	464	666	982	0	17	407
Heavy Vehicles (%)	2%	3%	2%	2%	6%	0%
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		8	8 5
Permitted Phases	2					
Actuated Green, G (s)	93.0	93.0	63.1		13.0	41.9
Effective Green, g (s)	93.0	93.0	63.1		13.0	41.9
Actuated g/C Ratio	0.81	0.81	0.55		0.11	0.36
Clearance Time (s)	5.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	447	1492	1082		192	588
v/s Ratio Prot	c0.22	0.36	0.50		0.01	c0.25
v/s Ratio Perm	c0.61					
v/c Ratio	1.04	0.45	0.91		0.09	0.69
Uniform Delay, d1	39.6	3.3	23.3		45.7	31.1
Progression Factor	0.78	2.32	1.00		1.00	1.00
Incremental Delay, d2	39.7	0.5	12.6		0.2	3.5
Delay (s)	70.5	8.1	35.9		45.9	34.6
Level of Service	E	A	D		D	C
Approach Delay (s)		33.8	35.9		35.0	
Approach LOS		C	D		D	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

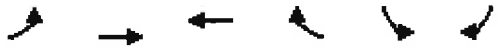
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	464	666	984	17	407
v/c Ratio	1.04	0.45	0.91	0.09	0.68
Control Delay	68.1	8.0	36.0	48.8	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	8.0	36.0	48.8	38.1
Queue Length 50th (ft)	~336	252	585	12	260
Queue Length 95th (ft)	m#369	m264	#837	35	383
Internal Link Dist (ft)		900	195	113	
Turn Bay Length (ft)	400			100	
Base Capacity (vph)	448	1524	1134	192	602
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	1.04	0.44	0.87	0.09	0.68

Intersection Summary

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

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

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	445	641	891	48	16	389
Future Volume (vph)	445	641	891	48	16	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12
Total Lost time (s)	5.0	5.0	5.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1845	1973		1703	1615
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	109	1845	1973		1703	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	468	675	938	51	17	409
RTOR Reduction (vph)	0	0	2	0	0	0
Lane Group Flow (vph)	468	675	987	0	17	409
Heavy Vehicles (%)	2%	3%	2%	2%	6%	0%
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		8	8 5
Permitted Phases	2					
Actuated Green, G (s)	93.1	93.1	63.6		12.9	41.4
Effective Green, g (s)	93.1	93.1	63.6		12.9	41.4
Actuated g/C Ratio	0.81	0.81	0.55		0.11	0.36
Clearance Time (s)	5.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	442	1493	1091		191	581
v/s Ratio Prot	c0.23	0.37	0.50		0.01	c0.25
v/s Ratio Perm	c0.63					
v/c Ratio	1.06	0.45	0.90		0.09	0.70
Uniform Delay, d1	39.8	3.3	23.0		45.8	31.5
Progression Factor	0.77	2.26	1.00		1.00	1.00
Incremental Delay, d2	46.4	0.5	12.2		0.2	3.9
Delay (s)	76.9	7.9	35.2		46.0	35.4
Level of Service	E	A	D		D	D
Approach Delay (s)		36.2	35.2		35.8	
Approach LOS		D	D		D	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	468	675	989	17	409
v/c Ratio	1.06	0.45	0.91	0.09	0.69
Control Delay	75.4	7.8	35.5	48.8	38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	75.4	7.8	35.5	48.8	38.8
Queue Length 50th (ft)	~343	251	590	12	263
Queue Length 95th (ft)	m#378	m264	#852	35	385
Internal Link Dist (ft)		900	195	113	
Turn Bay Length (ft)	400			100	
Base Capacity (vph)	442	1524	1134	190	595
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	1.06	0.44	0.87	0.09	0.69

Intersection Summary

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

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

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	392	831	525	11	26	345
Future Volume (vph)	392	831	525	11	26	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1881	1876		1671	1615
Flt Permitted	0.30	1.00	1.00		0.95	1.00
Satd. Flow (perm)	567	1881	1876		1671	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	413	875	553	12	27	363
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	413	875	565	0	27	363
Heavy Vehicles (%)	0%	1%	1%	0%	8%	0%
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		8	8 5
Permitted Phases	2					8
Actuated Green, G (s)	87.8	87.8	66.7		23.2	43.3
Effective Green, g (s)	87.8	87.8	66.7		23.2	43.3
Actuated g/C Ratio	0.73	0.73	0.56		0.19	0.36
Clearance Time (s)	5.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	580	1376	1042		323	582
v/s Ratio Prot	c0.10	0.47	0.30		0.02	c0.22
v/s Ratio Perm	c0.42					
v/c Ratio	0.71	0.64	0.54		0.08	0.62
Uniform Delay, d1	10.4	8.1	16.9		39.7	31.6
Progression Factor	2.35	1.97	1.00		1.00	1.00
Incremental Delay, d2	2.4	1.3	2.0		0.1	2.1
Delay (s)	26.8	17.3	19.0		39.8	33.7
Level of Service	C	B	B		D	C
Approach Delay (s)		20.3	19.0		34.1	
Approach LOS		C	B		C	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	413	875	565	27	363
v/c Ratio	0.71	0.64	0.54	0.08	0.61
Control Delay	18.1	18.3	20.3	40.3	35.2
Queue Delay	0.0	0.2	0.0	0.0	0.0
Total Delay	18.1	18.5	20.3	40.3	35.2
Queue Length 50th (ft)	214	641	281	17	218
Queue Length 95th (ft)	m204	m461	377	46	327
Internal Link Dist (ft)		900	195	113	
Turn Bay Length (ft)	400			100	
Base Capacity (vph)	703	1551	1076	322	756
Starvation Cap Reductn	0	179	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.64	0.53	0.08	0.48

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	453	893	546	11	27	363
Future Volume (vph)	453	893	546	11	27	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1881	1876		1671	1615
Flt Permitted	0.27	1.00	1.00		0.95	1.00
Satd. Flow (perm)	505	1881	1876		1671	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	477	940	575	12	28	382
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	477	940	587	0	28	382
Heavy Vehicles (%)	0%	1%	1%	0%	8%	0%
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		8	8 5
Permitted Phases	2					8
Actuated Green, G (s)	87.8	87.8	63.4		23.2	46.6
Effective Green, g (s)	87.8	87.8	63.4		23.2	46.6
Actuated g/C Ratio	0.73	0.73	0.53		0.19	0.39
Clearance Time (s)	5.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	579	1376	991		323	627
v/s Ratio Prot	c0.13	0.50	0.31		0.02	c0.24
v/s Ratio Perm	c0.47					
v/c Ratio	0.82	0.68	0.59		0.09	0.61
Uniform Delay, d1	13.1	8.6	19.4		39.7	29.4
Progression Factor	1.74	1.84	1.00		1.00	1.00
Incremental Delay, d2	4.6	1.3	2.6		0.1	1.7
Delay (s)	27.3	17.2	22.0		39.8	31.1
Level of Service	C	B	C		D	C
Approach Delay (s)		20.6	22.0		31.7	
Approach LOS		C	C		C	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	477	940	587	28	382
v/c Ratio	0.82	0.68	0.59	0.09	0.60
Control Delay	21.7	18.0	23.7	41.0	32.3
Queue Delay	0.0	0.3	0.0	0.0	0.0
Total Delay	21.7	18.3	23.7	41.0	32.3
Queue Length 50th (ft)	242	694	317	17	221
Queue Length 95th (ft)	m238	m457	445	47	317
Internal Link Dist (ft)		900	195	113	
Turn Bay Length (ft)	400			100	
Base Capacity (vph)	672	1551	1057	322	756
Starvation Cap Reductn	0	163	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.68	0.56	0.09	0.51

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	457	900	554	11	27	368
Future Volume (vph)	457	900	554	11	27	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1881	1876		1671	1615
Flt Permitted	0.26	1.00	1.00		0.95	1.00
Satd. Flow (perm)	495	1881	1876		1671	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	481	947	583	12	28	387
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	481	947	595	0	28	387
Heavy Vehicles (%)	0%	1%	1%	0%	8%	0%
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	5	2	6		8	8 5
Permitted Phases	2					8
Actuated Green, G (s)	88.2	88.2	63.5		22.8	46.5
Effective Green, g (s)	88.2	88.2	63.5		22.8	46.5
Actuated g/C Ratio	0.74	0.74	0.53		0.19	0.39
Clearance Time (s)	5.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	578	1382	992		317	625
v/s Ratio Prot	c0.14	0.50	0.32		0.02	c0.24
v/s Ratio Perm	c0.47					
v/c Ratio	0.83	0.69	0.60		0.09	0.62
Uniform Delay, d1	13.4	8.5	19.5		40.0	29.6
Progression Factor	1.68	1.85	1.00		1.00	1.00
Incremental Delay, d2	5.0	1.3	2.7		0.1	1.8
Delay (s)	27.5	17.1	22.2		40.2	31.5
Level of Service	C	B	C		D	C
Approach Delay (s)		20.6	22.2		32.0	
Approach LOS		C	C		C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	481	947	595	28	387
v/c Ratio	0.83	0.69	0.60	0.09	0.61
Control Delay	22.0	17.7	23.7	41.7	32.6
Queue Delay	0.0	0.3	0.0	0.0	0.0
Total Delay	22.0	18.0	23.7	41.7	32.6
Queue Length 50th (ft)	255	692	326	17	223
Queue Length 95th (ft)	m242	m458	453	47	324
Internal Link Dist (ft)		900	195	113	
Turn Bay Length (ft)	400			100	
Base Capacity (vph)	670	1551	1056	317	750
Starvation Cap Reductn	0	155	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.68	0.56	0.09	0.52

Intersection Summary

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

Appendix C Crash Data

Crash Number	Crash Severity	Crash Year	Crash Hour	Light Conditions	Manner of Collision	Weather Conditions	Roadway	Near Intersection Roadway	Count
4645754	Non-fatal injury	2018	04:00PM to 04:59PM	Dark - lighted roadway	Head-on	Cloudy	NAHANTON ST / WELLS AVE	WELLS AVE	1
					Head-on Total				**1**
4784990	Non-fatal injury	2019	08:00AM to 08:59AM	Daylight	Rear-end	Cloudy	NAHANTON ST / WELLS AVE	WELLS AVE	1
4409152	Property damage only (	2017	07:00AM to 07:59AM	Daylight	Rear-end	Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
4450743	Property damage only (	2017	11:00AM to 11:59AM	Daylight	Rear-end	Clear/Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
4776725	Property damage only (	2019	04:00PM to 04:59PM	Daylight	Rear-end	Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
4784991	Property damage only (	2019	09:00AM to 09:59AM	Daylight	Rear-end	Cloudy	NAHANTON STREET / WELLS AV	WELLS AVE	1
					Rear-end Total				**5**
4499329	Property damage only (	2018	08:00AM to 08:59AM	Daylight	Sideswipe, opposite directi	Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
					Sideswipe, opposite direction Total				**1**
4463113	Property damage only (	2017	05:00PM to 05:59PM	Dusk	Sideswipe, same direction	Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
4579640	Property damage only (	2018	05:00PM to 05:59PM	Daylight	Sideswipe, same direction	Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
4524677	Property damage only (	2018	09:00AM to 09:59AM	Daylight	Sideswipe, same direction	Clear/Clear	WELLS AVE	WELLS AVE	1
					Sideswipe, same direction Total				**3**
4457396	Non-fatal injury	2017	08:00PM to 08:59PM	Dark - unknown roadway li	Single vehicle crash	Clear	NAHANTON ST / WELLS AVE	WELLS AVE	1
4634455	Non-fatal injury	2018	02:00PM to 02:59PM	Daylight	Single vehicle crash	Rain	NAHANTON STREET	WELLS AVE	1
4408458	Property damage only (	2017	09:00PM to 09:59PM	Dark - roadway not lighted	Single vehicle crash	Clear	NAHANTON ST	WELLS AVE	1
4442935	Property damage only (	2017	09:00AM to 09:59AM	Daylight	Single vehicle crash	Cloudy	NAHANTON STREET	WELLS AVE	1
4409189	Property damage only (	2017	05:00PM to 05:59PM	Daylight	Single vehicle crash	Clear	NAHANTON STREET	WELLS AVE	1
					Single vehicle crash Total				**5**
4659993	Not Reported	2019	10:00AM to 10:59AM	Daylight	Angle	Clear	NAHANTON ST	Winchester St	1
4702021	Not Reported	2019	05:00PM to 05:59PM	Daylight	Angle	Rain	NAHANTON ST	Winchester St	1
4402751	Property damage only (	2017	05:00PM to 05:59PM	Daylight	Angle	Clear	NAHANTON ST	Winchester St	1
4408761	Property damage only (	2017	10:00AM to 10:59AM	Daylight	Angle	Clear/Clear	NAHANTON ST	Winchester St	1
4402724	Property damage only (	2017	03:00PM to 03:59PM	Daylight	Angle	Clear	NAHANTON ST / WINCHESTER S	Winchester St	1
4568186	Property damage only (	2018	12:00PM to 12:59PM	Daylight	Angle	Clear	NAHANTON ST	Winchester St	1
					Angle Total				**6**
4634476	Property damage only (	2018	08:00PM to 08:59PM	Dark - lighted roadway	Head-on	Snow	NAHANTON ST	Winchester St	1
4702151	Property damage only (	2019	12:00AM to 12:59AM	Dark - lighted roadway	Head-on	Clear	NAHANTON ST / WINCHESTER S	Winchester St	1
					Head-on Total				**2**
4408709	Property damage only (	2017	07:00AM to 07:59AM	Daylight	Rear-end	Clear/Clear	NAHANTON ST	Winchester St	1
4504082	Property damage only (	2018	08:00AM to 08:59AM	Daylight	Rear-end	Snow	NAHANTON ST / WINCHESTER S	Winchester St	1
4628409	Property damage only (	2018	04:00PM to 04:59PM	Daylight	Rear-end	Clear	NAHANTON ST	Winchester St	1
					Rear-end Total				**3**
4445824	Property damage only (	2017	07:00PM to 07:59PM	Dusk	Sideswipe, same direction	Clear	NAHANTON ST / WINCHESTER S	Winchester St	1
					Sideswipe, same direction Total				**1**
4409254	Property damage only (	2017	08:00AM to 08:59AM	Daylight	Single vehicle crash	Clear	NAHANTON ST / WINCHESTER S	Winchester St	1
4484933	Property damage only (	2018	04:00PM to 04:59PM	Dark - lighted roadway	Single vehicle crash	Snow/Severe	NAHANTON ST	Winchester St	1
4621111	Property damage only (	2018	08:00AM to 08:59AM	Daylight	Single vehicle crash	Clear	NAHANTON ST	Winchester St	1
4548267	Property damage only (	2018	10:00PM to 10:59PM	Dark - lighted roadway	Single vehicle crash	Rain	NAHANTON ST / WINCHESTER S	Winchester St	1
4724262	Property damage only (	2019	09:00AM to 09:59AM	Daylight	Single vehicle crash	Clear/Clear	NAHANTON STREET	Winchester St	1
4702229	Property damage only (	2019	03:00PM to 03:59PM	Daylight	Single vehicle crash	Clear	NAHANTON ST / WINCHESTER S	Winchester St	1
4714919	Unknown	2019	08:00AM to 08:59AM	Daylight	Single vehicle crash	Rain/Rain	NAHANTON ST	Winchester St	1
					Single vehicle crash Total				**7**
					Grand Total				**34**

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newton, MA COUNT DATE : 1/15/2020

DISTRICT : 6 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Nahanton Street

MINOR STREET(S) : Winchester Street

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	SB	EB	WB			
PEAK HOURLY VOLUMES (PM) :	360	1,223	524			**2,107**

" K " FACTOR : **0.100**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **21,070**

TOTAL # OF CRASHES : 19

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **6.33**

CRASH RATE CALCULATION : **0.82**

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

Comments : Approximately state average.

Project Title & Date: 2Life, Nahanton Street, Newton, MA

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newton COUNT DATE : 1/15/2020

DISTRICT : 6 UNSIGNALIZED : SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Nahanton Street

MINOR STREET(S) : Wells Avenue

INTERSECTION DIAGRAM (Label Approaches)

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :						
PEAK HOURLY VOLUMES (PM) :	0					3,011

" K " FACTOR : **0.100**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **30,110**

TOTAL # OF CRASHES : 15

OF YEARS : 3

AVERAGE # OF CRASHES PER YEAR (**A**) : **5.00**

CRASH RATE CALCULATION : **0.45**

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

Comments : Well below district average.

Project Title & Date: 2Life, Nahanton Street, Newton, MA

Appendix D Kendrick Street Interchange Data

McMAHON ASSOCIATES
120 Water Street, 4th Floor
Boston, MA 02109
p 617-556-0020 | f 617-556-0025

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FOUNDER
Joseph W. McMahon, P.E.

November 25, 2019

Mr. Lawrence Cash, P.E.
Project Manager
Massachusetts Department of Transportation
Ten Park Plaza
Boston, MA 02116

RE: **Route 128 Add-a-Lane Post Construction Study**
Project File No. 603711
Contract #77875

Dear Mr. Cash,

As requested, McMahon Associates has completed a post-construction traffic study for the Route 128 Add-a-Lane Bridge V project, which completed construction at the end of the 2018 calendar year. The post construction traffic assessment included the collection of current traffic volumes along arterial roadways in the vicinity of the project, and an analysis of the current traffic volumes throughout the roadway network. The current operations of the study area intersections were then compared to the projected volumes and operations included in the Functional Design Report (FDR) completed for the project and dated October 2008. The findings for the post construction study and recommendations for potential improvements to current operations are summarized below.

Table 3: 2012/2013 Pre-Construction Volume Comparison

Cooridor	Location	Direction	2012/2013 Pre-Construction[1]		2019 Post-Construction[2]		Average % Change[3]	
			Morning Peak (vph)	Afternoon Peak (vph)	Morning Peak (vph)	Afternoon Peak (vph)	Morning Peak	Afternoon Peak
Route 9	East of I-95/ Route 128	Eastbound	2,800	2,400	2,300	2,400	-21.74%	0.00%
		Westbound	3,100	2,400	2,500	3,200	-24.00%	25.00%
		TOTAL	5,900	4,800	4,800	5,600	-22.92%	14.29%
	West of I-95/ Route 128	Eastbound	2,300	2,800	2,200	2,300	-4.55%	-21.74%
		Westbound	2,740	2,300	2,500	2,250	-9.60%	-2.22%
		TOTAL	5,040	5,100	4,700	4,550	-7.23%	-12.09%
Highland Avenue	East of I-95/ Route 128	Eastbound	1,200	870	1,110	760	-8.11%	-14.47%
		Westbound	1,050	1,630	760	1,260	-38.16%	-29.37%
		TOTAL	2,250	2,500	1,870	2,020	-20.32%	-23.76%
	West of I-95/ Route 128	Eastbound	1,350	1,280	1,130	740	-19.47%	-72.97%
		Westbound	1,250	970	1,000	1,000	-25.00%	3.00%
		TOTAL	2,600	2,250	2,130	1,740	-22.07%	-29.31%
Kendrick Street	East of I-95/ Route 128	Eastbound	1,780	490	2,100	870	15.24%	43.68%
		Westbound	430	1,330	740	1,600	41.89%	16.88%
		TOTAL	2,210	1,820	2,840	2,470	22.18%	26.32%
	West of I-95/ Route 128	Eastbound	1,330	540	1,000	390	-33.00%	-38.46%
		Westbound	330	1,360	300	770	-10.00%	-76.62%
		TOTAL	1,660	1,900	1,300	1,160	-27.69%	-63.79%

(1) Calculated through movements from 2012/2013 Pre-Construction Tunring Movement Counts

(2) Calculated through movements from 2019 Post-Construction Turning Movement Counts

(3) Differential between 2012/2013 Pre-Construction volumes and 2019 Post-Construction Volumes