

Stop Sign Safety Study

Northampton, MA

Finn Street at Prospect Street
Dimock Street at Main Street/Spring Street
Prospect Avenue at Warburton Way/Blackberry Lane
Pine Street at Corticelli Street
Park Street at Pine Street
Audubon Road/Mulberry Street at Reservoir Road/River Road

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Sources:

Manual on Uniform Traffic Control Devices (MUTCD) -
<https://mutcd.fhwa.dot.gov/htm/2009/part2/part2b.htm#section2B06>

MassDOT Project Development and Design Guide (PDDG)-
<https://www.mass.gov/info-details/pddg-chapter-3-basic-design-controls>

Northampton Zoning -
https://northamptonma.gov/DocumentCenter/View/21386/coverpage2023_zoning

Massachusetts Road Inventory -
<https://gis.massdot.state.ma.us/roadinventory/?page=Interactive-Map>

1. Study Introduction

Fuss & O'Neill has completed a stop sign study within the City of Northampton, MA. The purpose of this study was to analyze stop-control conditions to determine recommendations that improve intersection safety at the following intersections.

- Finn Street at Prospect Street
- Dimock Street at Main Street/Spring Street
- Blackberry Lane/Warburton Way at Prospect Avenue
- Pine Street at Corticelli Street
- Pine Street at Park Street
- Audubon Road/Mulberry Street at Reservoir Road/River Road

For each intersection, the following data was collected:

- Crash history for 3 years between January 2021 and December 2023 from the Northampton Police Department and MassDOT Impact Portal.
- Weekday morning and afternoon peak period intersection turning movement counts (TMCs) of vehicles, bicycles, and pedestrians taken on Tuesday December 3, 2024, between 6:30AM to 9:30AM and 3:00PM to 6:00PM.
- Field measurements of intersection sight distance and stopping sight distance.
- Field observations on travel speed, posted speed limits and site characteristics.

The 2023 Manual on Uniform Traffic Control Devices (MUTCD) contains five warrants that evaluate a variety of factors at intersections, such as crash history, sight distance, and vehicle volumes, to justify the establishment of all-way stop control (AWSC) at an intersection. The following AWSC warrant analyses were evaluated for each intersection:

- Warrant A: Crash Experience
- Warrant B: Sight Distance
- Warrant D: 8-Hour Volume

The Massachusetts Department of Transportation Project Development Design Guide (MassDOT PDDG) Section 3 was used as a guideline for sight distance analysis. Sight distance is measured in two ways. First, stopping sight distance (SSD) measures the ability for a driver to see an object or car stopped in the road and subsequently stop in time. SSD is measured on approaches without a stop sign to measure if a stop condition would be safe and to estimate if an approaching vehicle can see a vehicle turning from the major street. Second, intersection sight distance (ISD) is measured at existing stop signs to determine if an oncoming vehicle in the opposing direction, without stop control, is visible to the car at the stop sign for sufficient distance that vehicles on the main street can reduce their speed to avoid speed differential conflicts with entering minor street vehicles.

Representatives of Fuss & O'Neill conducted morning and afternoon peak hour manual turning movement counts on December 3, 2024 at the study intersections as part of this effort. In addition to the warrant

analysis, a traffic analysis was conducted using the Capacity Analysis for Planning of Junctions (CAP-X) Tool designed by the Federal Highway Administration (FHWA).

The Northampton zoning map was used to determine land use surrounding the intersections. The MassDOT Road Inventory Database was used to determine the roadway classification, roadway ownership, and posted speed limit.

2. Intersection Analysis

2.1. Finn Street at Prospect Street

The intersection of Finn Street and Prospect Street is a T-style intersection with Prospect Street providing the northbound and southbound approaches and Finn Street providing the westbound approach. The northbound approach is stop-controlled, and the southbound and westbound approaches are free-moving. Both streets are City owned. The intersection is in an urban residential area.

A streetlight is mounted to a utility pole on the northeast corner of the intersection on Finn Street. Dedicated bicycle lanes are provided on the northern leg of the intersection, but not along the southern or eastern legs. A sign instructing vehicles to share the road is posted on the southbound approach. Pedestrian facilities include a sidewalk along the eastern side of Prospect Street and both sides of Finn Street. A marked crosswalk is located across the westbound approach leg to the intersection with pedestrian crossing signs on both sides of the crosswalk.

Finn Street and Prospect Street are both classified as local roads. A posted speed limit of 35 MPH was listed for both roadways in the MassDOT Road Inventory Viewer. Speed observations indicate general compliance with the design speeds.



Prospect Street looking south



Finn Street looking west

2.1.1. Warrant A: Crash Experience

MassDOT Crash Data and local police reports indicate that between January 1, 2021 and December 31, 2023, one crash was reported at the intersection. The crash resulted in a non-fatal injury, involved multiple vehicles, and is not indicative of a crash pattern.

Based on the number of collisions and the MUTCD guidelines, this intersection does not meet AWSC Warrant A.

2.1.2. Warrant B: Sight Distance

The southbound and westbound approaches on Prospect Street and Finn Street, respectively, were analyzed for SSD. The calculations assume the roadway does not have a significant grade. In both directions, the SSD measurements exceed the recommended SSD for an intersection with a design speed of 35 MPH according to MassDOT PDDG. The results of the SSD calculations are noted in Table 1 below.

The northbound approach was analyzed for ISD. The ISD for the northbound approach looking northwest is 114 feet. For the northbound approach looking east, the ISD is 420 feet. Therefore, the northbound approach does not meet the recommended intersection sight distance of 390 feet for left turns onto Prospect Street. The results of the ISD calculations are noted in Table 1 below.

TABLE 1 SIGHT DISTANCE MEASUREMENTS Prospect St at Finn St, Northampton, MA						
Location	Direction of Travel	Observed Speed	Stopping Sight Distance		Intersection Sight Distance	
			Recommended ¹	Existing	Recommended ²	Existing
Prospect St at Finn St						
	Southbound	35 mph	250	656	-	-
	Westbound	35 mph	250	533	-	-
	Northbound looking northwest	35 mph	-	-	390	114
	Northbound looking east	35 mph	-	-	335	420

Notes:

^{1,2} Source: American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design of Highways and Streets*

Notes: ² Source 2006 MassDOT Project Development and Design Guide, Exhibit 3-8

Based on measured SSD and ISD and MUTCD guidelines, this intersection meets AWSC Warrant B.

2.1.3. Warrant D: 8-Hour Volume

Table 2 below summarizes the count data collected and ranks it per hour from highest volume of traffic to the lowest recorded volume on the major street approach. The minor street volumes correspond to the hours listed.

TABLE 2 8-Hour Volume Warrant Prospect St at Finn St, Northampton, MA			
	Hour	Major (both app.)	Minor (higher app.)
1st	16:00	406	406
2nd	15:00	405	376
3rd	17:00	326	354
4th	7:30	136	267
5th	8:30	102	283
6th	6:30	76	118
7th	-	-	-
8th	-	-	-

Based on collected count data and MUTCD guidelines, this intersection does not meet AWSC Warrant D.

2.1.4. Traffic Analysis

The Capacity Analysis for Planning of Junctions (Cap-X) Tool was used to analyze the volume to capacity ratio (V/C) to determine if an all-way stop control intersection would result in significant delay or if a traffic signal or roundabout would facilitate traffic at an acceptable level. A V/C ratio of greater than one (1) is considered an unacceptable amount of delay and an acceptable amount of delay is considered under 0.85.

The results showed that all four alternatives would operate with an acceptable amount of delay. The all-way stop control received a V/C ratio of 0.41. The traffic signal and roundabout V/C ratio results showed that these types of intersection control would produce acceptable results as well. The Cap-X results are shown Table 3 below and the summary is included in the Appendix.

TABLE 3 INTERSECTION DISTANCE MEASUREMENTS Finn Street at Prospect Street, Northampton, MA	
Intersection Control Type	Vehicle to Capacity Ratio (V/C)
Two-way stop control	--
All-way stop control	0.41
Traffic signal (single lane approaches)	0.20
Roundabout (single lane approaches, 75 ICD*)	0.40

*ICD refers to Inscribed Circulatory Diameter which defines the size and design vehicle for the intersection

2.1.5. Recommendations

It is recommended that the intersection control at Prospect Street and Finn Street is changed to an all-way stop.

Additionally, stop sign ahead signs should be installed in advance of the intersection on the southbound and westbound approaches. The crosswalk on the westbound approach leg and the stop bar on the northbound approach should be refreshed.

2.2. Dimock Street at Main Street/Spring Street

The intersection of Dimock Street at Main Street/Spring Street is a T-style intersection with Dimock Street providing the northbound approach, Main Street providing the southbound approach, and Spring Street providing the westbound approach. The northbound approach is stop-controlled, and the southbound and westbound approach are free-moving. All three roads are City owned. This location is an urban area with surrounding residential and commercial land use.

A streetlight is mounted to a utility pole on the northeastern and southwestern corners of the intersection. Dedicated bicycle lanes are not provided at the intersection. Pedestrian facilities are not provided in the vicinity of the intersection.

Main Street/Spring Street are classified as urban minor arterials, and Dimock Street is classified as a local road. A posted speed limit of 30 MPH was listed for all three roadways in the MassDOT Road Inventory Viewer. Speeds were observed to generally comply with design speed estimates and occasional excess speeds were observed on Main Street/Spring Street.



Dimock Street looking north



Main Street looking south

2.2.1. Warrant A: Crash Experience

MassDOT Crash Data and the local police reports indicate that from January 1, 2021 to December 31, 2023, one crash was reported at the intersection. The collision was documented as a single vehicle collision. The vehicle was traveling westbound while impaired and resulted in a non-fatal injury.

Based on the number of collisions and the MUTCD guidelines, this intersection does not meet AWSC Warrant A.

2.2.2. Warrant B: Sight Distance

The southbound and westbound approaches on Main Street/Spring Street were analyzed for SSD. The calculations assume the roadway does not have a significant grade. In both directions the measured SSD exceeds the recommended SSD for the assumed design speed. The results of the SSD calculations are noted in Table 4 below.

The northbound approach on Dimock Street was analyzed for ISD. The measured ISD is 240 feet for the northbound approach looking northwest and 1509 feet looking east. The measured ISD does not exceed the recommended ISD on the northbound approach for drivers looking left. The results of the ISD calculations are noted in Table 4 below.

TABLE 4 SIGHT DISTANCE MEASUREMENTS Spring St at Dimock St/Main St, Northampton, MA						
Location	Direction of Travel	Observed Speed	Stopping Sight Distance		Intersection Sight Distance	
			Recommended ¹	Existing	Recommended ²	Existing
Main St and Spring St at Dimock St						
	Southbound	30 mph	200	276	-	-
	Westbound	30 mph	200	445	-	-
	Northbound looking northwest	30 mph	-	-	335	240
	Northbound looking east	30 mph	-	-	290	1509

Notes:

^{1,2} Source: American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design of Highways and Streets*

Notes: ² Source 2006 MassDOT Project Development and Design Guide, Exhibit 3-8

Based on measured SSD and ISD and MUTCD guidelines, this intersection meets AWSC Warrant B.

2.2.3. Warrant D: 8-Hour Volume

Table 5 below summarizes the count data collected and ranks it per hour from highest volume of traffic to the lowest recorded volume on the major street approach. The minor street volumes correspond to the hours listed.

TABLE 5 8-Hour Volume Warrant Spring St at Dimock St/Main St, Northampton, MA			
	Hour	Major (both app.)	Minor (higher app.)
1st	16:00	80	55
2nd	15:00	78	82
3rd	17:00	70	58
4th	7:30	58	65
5th	8:30	57	37
6th	6:30	27	20
7th	-	-	-
8th	-	-	-

Based on collected count data and MUTCD guidelines, this intersection does not meet AWSC Warrant D.

2.2.4. Traffic Analysis

The Capacity Analysis for Planning of Junctions (Cap-X) Tool was used to analyze the volume to capacity ratio (V/C) to determine if an all-way stop control intersection would result in significant delay or if a traffic signal or roundabout would facilitate traffic at an acceptable level. A V/C ratio of greater than one (1) is considered an unacceptable amount of delay and an acceptable amount of delay is considered under 0.85.

The results showed that all four alternatives would operate with an acceptable amount of delay. The all-way stop control receiving a V/C ratio of 0.12. The traffic signal and roundabout V/C ratio results showed that these types of intersection control would produce acceptable results as well. The Cap-X results are shown Table 6 below and the summary is included in the Appendix.

TABLE 6 INTERSECTION DISTANCE MEASUREMENTS Spring Street at Dimock Street/Main Street, Northampton, MA	
Intersection Control Type	Vehicle to Capacity Ratio (V/C)
Two-way stop control	--
All-way stop control	0.12
Traffic signal (single lane approaches)	0.05
Roundabout (single lane approaches, 75 ICD*)	0.06

*ICD refers to Inscribed Circulatory Diameter which defines the size and design vehicle for the intersection

2.2.5. Recommendations

It is recommended that the existing intersection control at Dimock Street at Main Street/Spring Street is maintained. Although this intersection meets AWSC Warrant B due to the measured ISD on the northbound approach being less than the recommended ISD for drivers taking a left turn onto Main Street, the number of

vehicles making this maneuver are low and the SSD measurements on Main Street/Spring Street meet the MassDOT PDDG threshold for a 30 MPH design speed.

Additionally, it is recommended that a stop bar is painted on Dimock Street adjacent to the existing stop sign.

2.3. Warburton Way/Blackberry Lane at Prospect Avenue

The intersection of Warburton Way/Blackberry Lane at Prospect Avenue is a four-legged intersection with Warburton Way providing the eastbound approach, Blackberry Lane providing the westbound approach, and Prospect Avenue providing the northbound and southbound approaches.

The eastbound approach is stop controlled and the northbound, southbound and westbound approaches are free-moving. A stop sign and a stop bar are not currently located on the westbound approach; therefore, this leg has been analyzed as a yield condition. All three roads are City owned. This location is an urban residential area.

A streetlight is mounted to a utility pole on the southwest corner of the intersection. There are no marked bicycle lanes or pedestrian facilities within the vicinity of the intersection.

Prospect Avenue is considered the major approach and is classified as a local road. Blackberry Lane and Warburton Way are considered the minor approaches and are classified as local roads. A posted speed limit of 30 MPH was listed for Prospect Street in the MassDOT Road Inventory Viewer; posted speed limits were not observed in the field. Posted speed limits for Warburton Way and Blackberry Lane were not listed in the MassDOT Road Inventory nor observed in the field. The speed limits on Blackberry Lane and Warburton Way are estimated to be 30 MPH based on the road classification. Speed observations were observed to generally comply and occasional excess speeds were observed on Prospect Avenue.



Prospect Street looking north



Blackberry Lane looking west

2.3.1. Warrant A: Crash Experience

MassDOT Crash Data and local police reports indicate that from January 1, 2021, to December 31, 2023, two crashes were reported at the intersection that took place in 2021. Both crashes were reported as rear-to-side

collisions. Both collisions involved a westbound vehicle backing into incoming traffic, one striking a parked vehicle and the other striking a vehicle traveling southbound. Both crashes resulted in property damage only.

Based on the reported crashes and the MUTCD guidelines, this intersection does not meet AWSC Warrant A.

2.3.2. Warrant B: Sight Distance

The northbound and southbound approaches on Prospect Avenue were analyzed for SSD. The calculations assume the roadway does not have a significant grade. In both directions, the measured SSDs exceed the recommended SSDs for an intersection with a design speed of 30 MPH according to MassDOT PDDG. Table 7 shows the results of the SSD calculations.

The eastbound approach on Warburton Way and westbound approach on Blackberry Lane were analyzed for ISD. The eastbound ISD looking north is 82 feet due to sight lines being blocked by a stonewall and bushes on the northwest corner of the intersection. The eastbound ISD looking south is 347 feet. The westbound ISD looking north is approximately 109 feet. The westbound ISD looking south is 506 feet. Sight distance in this direction is blocked by three large trees along 179 Prospect Avenue. The results of the ISD calculations are noted in Table 7 below.

TABLE 7 SIGHT DISTANCE MEASUREMENTS Blackberry Lane/Warburton Way at Prospect Avenue, Northampton, MA						
Location	Direction of Travel	Observed Speed	Stopping Sight Distance		Intersection Sight Distance	
			Recommended ¹	Existing	Recommended ²	Existing
Prospect Ave at Warburton Way						
	Northbound	30 mph	200	>1000	-	-
	Southbound	30 mph	200	740	-	-
	Eastbound looking north	30 mph	-	-	245	82
	Eastbound looking south	30 mph	-	-	245	347
	Westbound looking north	30 mph	-	-	245	109
	Westbound looking south	30 mph	-	-	245	506

Notes:

^{1,2} Source: American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design of Highways and Streets*

Notes: ² Source 2006 MassDOT Project Development and Design Guide, Exhibit 3-8

Based on measured SSD and ISD and MUTCD guidelines, this intersection meets AWSC Warrant D.

2.3.3. Warrant D: 8-Hour Volume

Table 8 below summarizes the count data collected and ranks it per hour from highest volume of traffic to the lowest recorded volume on the major street approach. The minor street volumes correspond to the hours listed.

TABLE 8 8-Hour Volume Warrant Blackberry Lane/Warburton Way at Prospect Avenue, Northampton, MA			
	Hour	Major (both app.)	Minor (higher app.)
1st	7:30	149	7
2nd	15:00	132	5
3rd	6:30	119	1
4th	8:30	118	3
5th	16:00	109	7
6th	17:00	95	7
7th	-	-	-
8th	-	-	-

Based on collected count data and MUTCD guidelines, this intersection does not meet AWSC Warrant D.

2.3.4. Traffic Analysis

The Capacity Analysis for Planning of Junctions (Cap-X) Tool was used to analyze the volume to capacity ratio (V/C) to determine if an all-way stop control intersection would result in significant delay or if a traffic signal or roundabout would facilitate traffic at an acceptable level. A V/C ratio of greater than one (1) is considered an unacceptable amount of delay and an acceptable amount of delay is considered under 0.85.

The results showed that all four alternatives would operate with an acceptable amount of delay. The all-way stop control receiving a V/C ratio of 0.14. The traffic signal and roundabout V/C ratio results showed that these types of intersection control would produce acceptable results as well. The Cap-X results are shown Table 9 below and the summary is included in the Appendix.

TABLE 9 INTERSECTION DISTANCE MEASUREMENTS Blackberry Lane/Warburton Way at Prospect Avenue, Northampton, MA	
Intersection Control Type	Vehicle to Capacity Ratio (V/C)
Two-way stop control	0.06
All-way stop control	0.14
Traffic signal (single lane approaches)	0.07
Roundabout (single lane approaches, 75 ICD*)	0.11

*ICD refers to Inscribed Circulatory Diameter which defines the size and design vehicle for the intersection

2.3.5. Recommendations

It is recommended that the intersection control at Warburton Way/Blackberry Lane at Prospect Avenue is changed to an all-way stop. Stop signs and stop bars should be added to the northbound, southbound, and westbound legs of the intersection.

Additionally, a stop bar should be painted on the eastbound approach to the intersection adjacent to the existing stop sign.

2.4. Pine Street at Corticelli Street

Pine Street at Corticelli Street is a four-legged intersection with Pine Street providing the eastbound and westbound approaches and Corticelli Street providing the northbound and southbound approaches. The southbound approach is stop-controlled, and the westbound, eastbound, and northbound approaches are free-moving. A stop sign and stop bar are not currently located on the northbound approach to the intersection; therefore, this approach has been analyzed as a yield condition. All three roads are City owned. This location is an urban residential area.

A streetlight is mounted on a utility pole on the southeast and southwest corner of the intersection. There are no marked bicycle lanes within the intersection limits. Pedestrian facilities include sidewalks along both sides of Pine Street and Corticelli Street.

Pine Street is considered the major street and is classified as a local road. Corticelli Street is classified as a local road and is considered the minor street. The speed limit on both roads is estimated to be 30 MPH based on the roadway classification; a posted speed limit was not listed in the MassDOT Road Inventory nor observed in the field.



Corticelli Street looking south



Pine Street looking east

2.4.1. Warrant A: Crash Experience

MassDOT Crash Data and local police reports indicate that from January 1, 2021, to December 31, 2023, two crashes were reported at the intersection 2021 and 2022. The crashes include one head on collision with dry road conditions and one rear end collision with wet road conditions both during the day. One crash resulted in a non-fatal injury, and one resulted in property damage only.

Based on the number of crashes and the MUTCD guidelines, this intersection does not meet AWSC Warrant A.

2.4.2. Warrant B: Sight Distance

The eastbound and westbound approaches were analyzed for SSD. The calculations assume the roadway does not have a significant grade. In all directions the SSD measurement exceeds the recommended SSD according to the MassDOT PDDG for an intersection with a design speed of 30 MPH. The results of the SSD calculations can be found in Table 10 below.

The northbound and southbound approaches were analyzed for ISD. ISD for northbound left turns is 709 feet and the ISD for the northbound right turns is 488 feet. The ISD for southbound left turns is 406 feet and the ISD for southbound right turns is 433 feet. This calculation assumes a yield condition on the southern leg of Corticelli Street. The results of the ISD calculations are noted in Table 10 below.

TABLE 10 SIGHT DISTANCE MEASUREMENTS Pine Street at Corticelli Street, Northampton, MA						
Location	Direction of Travel	Observed Speed	Stopping Sight Distance		Intersection Sight Distance	
			Recommended ¹	Existing	Recommended ²	Existing
Pine St at Corticelli St						
	Eastbound	30 mph	200	645	-	-
	Westbound	30 mph	200	527	-	-
	Northbound looking west	30 mph	-	-	245	709
	Northbound looking east	30 mph	-	-	245	488
	Southbound looking east	30 mph	-	-	245	406
	Southbound looking west	30 mph	-	-	245	433

Notes:

^{1,2} Source: American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design of Highways and Streets*

Notes: ² Source 2006 MassDOT Project Development and Design Guide, Exhibit 3-8

Based on measured SSD and ISD and MUTCD guidelines, this intersection does not meet AWSC Warrant B.

2.4.3. Warrant D: 8-Hour Volume

Table 11 below summarizes the count data collected and ranks it per hour from highest volume of traffic to the lowest recorded volume on the major street approach. The minor street volumes correspond to the hours listed.

TABLE 11 8-Hour Volume Warrant Pine Street at Corticelli Street, Northampton, MA			
	Hour	Minor (higher app.)	Major (higher app.)
1st	7:30	18	214
2nd	15:00	18	438
3rd	6:30	12	104
4th	8:30	21	202
5th	16:00	23	424
6th	17:00	31	342
7th	-	-	-
8th	-	-	-

Based on collected count data and MUTCD guidelines, this intersection does not meet AWSC Warrant D.

2.4.4. Traffic Analysis

The Capacity Analysis for Planning of Junctions (Cap-X) Tool was used to analyze the volume to capacity ratio (V/C) to determine if an all-way stop control intersection would result in significant delay or if a traffic signal or roundabout would facilitate traffic at an acceptable level. A V/C ratio of greater than one (1) is considered an unacceptable amount of delay and an acceptable amount of delay is considered under 0.85.

The results showed that all four alternatives would operate with an acceptable amount of delay. The all-way stop control receiving a V/C ratio of 0.59. The traffic signal and roundabout V/C ratio results showed that these types of intersection control would produce acceptable results as well. The Cap-X results are shown Table 10 below and the summary is included in the Appendix.

TABLE 12 INTERSECTION DISTANCE MEASUREMENTS Pine Street at Corticelli Street, Northampton, MA	
Intersection Control Type	Vehicle to Capacity Ratio (V/C)
Two-way stop control	--
All-way stop control	0.59
Traffic signal (single lane approaches)	0.14
Roundabout (single lane approaches, 75 ICD*)	0.44

*ICD refers to Inscribed Circulatory Diameter which defines the size and design vehicle for the intersection

2.4.5. Recommendations

It is recommended that the intersection control at Pine Street at Corticelli Street is formally changed to a two-way stop, with stop controls on both Corticelli Street approaches. A stop sign and stop bar should be added to the northbound leg of the intersection.

It is also recommended that a stop bar is painted on the southbound leg of the intersection adjacent to the existing stop sign. The existing crosswalks on the northbound and westbound approach legs should be refreshed. Additionally, an RRFB should be considered for installation on the westbound approach leg.

2.5. Pine Street at Park Street

Pine Street at Park Street is a T-style intersection with Pine Street providing eastbound and westbound approaches and Park Street providing the southbound approach. The westbound approach is stop-controlled, and the eastbound and southbound approaches are free-moving. Both roads are city owned. This intersection is located in an urban residential area with some nearby commercial uses.

A streetlight is mounted on a utility pole on the eastern corner of the intersection. There are no marked bicycle lanes within the intersection limits. Pedestrian facilities include sidewalks on the eastern side of Park Street, the eastern side of the eastern leg of the intersection on Pine Street and both sides of the western leg of the intersection on Pine Street.

Park Street and Pine Street are both classified as local roads. The eastbound Pine Street approach and Park Street are considered the major streets, and the westbound Pine Street approach is considered the minor street. The speed limit on both roads is estimated to be 30 MPH based on the roadway classification; a posted speed limit was not listed in the MassDOT Road Inventory nor observed during site visits.



Pine Street looking west



Park Street looking south

2.5.1. Warrant A: Crash Experience

MassDOT Crash Data and local police reports indicate that from January 1, 2021, to December 31, 2023, three crashes were reported at the intersection. The crashes include two angled collisions and one rear end collision. The two angled collisions resulted in non-fatal injuries and the rear end collision resulted in property damage only.

Based on the number of crashes and the MUTCD guidelines, this intersection does not meet AWSC Warrant A.

2.5.2. Warrant B: Sight Distance

The eastbound and southbound approaches on Pine Street and Park Street, respectively, were analyzed for SSD. The calculations assume the roadway does not have a significant grade. In the eastbound and southbound directions, the SSD measurement exceeds the recommended SSD according to the MassDOT PDDG. The results of the SSD calculations can be found in Table 13 below.

The westbound approach on Pine Street was analyzed for ISD. The ISD for westbound left turns is 781 feet. The recommended ISD for westbound left turns is 335 feet. The ISD for westbound right turns is 468 feet. The recommended ISD for westbound right turns is 290 feet. The westbound approach meets the minimum required sight distance outlined in the MassDOT PDDG. The results of the ISD calculations are noted in Table 13 below.

TABLE 13 SIGHT DISTANCE MEASUREMENTS Pine St at Park St, Northampton, MA						
Location	Direction of Travel	Observed Speed	Stopping Sight Distance		Intersection Sight Distance	
			Recommended ¹	Existing	Recommended ²	Existing
Pine St at Park St						
	Eastbound	30 mph	200	491	-	-
	Southbound	30 mph	200	781	-	-
	Westbound looking southwest	30 mph	-	-	335	781
	Westbound looking northeast	30 mph	-	-	290	468

Notes:

^{1,2} Source: American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design of Highways and Streets*

Notes: ² Source 2006 MassDOT Project Development and Design Guide, Exhibit 3-8

Based on measured SSD and ISD and MUTCD guidelines, this intersection does not meet AWSC Warrant B.

2.5.3. Warrant D: 8-Hour Volume

Table 14 below summarizes the count data collected and ranks it per hour from highest volume of traffic to the lowest recorded volume on the major street approach. The minor street volumes correspond to the hours listed.

TABLE 14 8-Hour Volume Warrant Pine Street at Park Street, Northampton, MA			
	Hour	Minor (higher app.)	Major (higher app.)
1st	7:30	154	67
2nd	15:00	281	309
3rd	6:30	92	34
4th	8:30	154	65
5th	16:00	303	297
6th	17:00	223	253
7th	-	-	-
8th	-	-	-

Based on collected count data and MUTCD guidelines, this intersection does not meet AWSC Warrant D.

2.5.4. Traffic Analysis

The Capacity Analysis for Planning of Junctions (Cap-X) Tool was used to analyze the volume to capacity ratio (V/C) to determine if an all-way stop control intersection would result in significant delay or if a traffic signal or roundabout would facilitate traffic at an acceptable level. A V/C ratio of greater than one (1) is considered an unacceptable amount of delay and an acceptable amount of delay is considered under 0.85.

The results showed that all four alternatives would operate with an acceptable amount of delay. The all-way stop control receiving a V/C ration of 0.60 which could indicate the intersection would operate at normal capacity. The traffic signal and roundabout V/C ratio results showed that these types of intersection control would produce acceptable results as well. The Cap-X results are shown Table 15 below and the summary is included in the Appendix.

TABLE 15 INTERSECTION DISTANCE MEASUREMENTS Pine Street at Corticelli Street, Northampton, MA	
Intersection Control Type	Vehicle to Capacity Ratio (V/C)
Two-way stop control	--
All-way stop control	0.60
Traffic signal (single lane approaches)	0.24
Roundabout (single lane approaches, 75 ICD*)	0.47

*ICD refers to Inscribed Circulatory Diameter which defines the size and design vehicle for the intersection

2.5.5. Recommendations

It is recommended that the existing intersection control at Park Street and Pine Street is maintained.

Additionally, it is recommended that a crosswalk ahead sign is installed on the southbound approach to the intersection in advance of the existing crosswalk.

2.6. Audubon Road/Mulberry Street at Reservoir Road/River Road

The intersection of Audubon Road/Mulberry Street at Reservoir Road/River Road is a four-legged intersection, with Reservoir Road providing the northbound approach, River Road providing the southbound approach, Audubon Road providing the eastbound approach, and Mulberry Street providing the westbound approach. The northbound and southbound approaches are stop-controlled, and the eastbound and westbound approaches are free-moving. All four roadways are City owned. This intersection is located in an urban area with surrounding residential and commercial land uses.

A streetlight is mounted to a utility pole on the eastern corner of the intersection. Dedicated bicycle lanes are not provided at the intersection. Pedestrian facilities are located only on the eastern corner of the intersection.

All four roadways at this intersection are classified as urban minor arterials. The design speed on Audubon Road, Reservoir Road, and River Road is 30 MPH, and the design speed on Mulberry Street is 25 MPH. These design speeds are based on the posted speed limits found in the MassDOT Road Inventory Viewer. Speeds were observed to generally comply with design speed estimates, and occasional excess speeds were observed on Audubon Road/Mulberry Street.



Audubon Road looking east



Reservoir Road looking north

2.6.1. Warrant A: Crash Experience

MassDOT Crash Data and the local police reports indicate that from January 1, 2021 to December 31, 2023, five crashes were reported at the intersection.

Of the five collisions, two were angle crashes, two were single vehicle crashes, and one was a rear-end crash. Three of the collisions resulted in property damage only and two resulted in non-fatal injuries.

Based on the number of collisions and the MUTCD guidelines, this intersection does not meet AWSC Warrant A.

2.6.2. Warrant B: Sight Distance

The eastbound and westbound approaches on Audubon Road/Mulberry Street were analyzed for SSD. The calculations assume the roadway does not have a significant grade. In both directions, the measured SSD exceeds the recommended SSD for the assumed design speed. The results of the SSD calculations are noted in Table 16 below.

The northbound and southbound approaches on Reservoir Road/River Road were analyzed for ISD. For the northbound approach, the existing ISD is 213 feet looking west and 295 feet looking east. For the southbound approach, the existing ISD is 373 feet for the southbound approach looking east and 365 feet looking west. The northbound approach looking both directions and the southbound approach looking east do not meet minimum recommended ISD requirements for turns onto Audubon Road/Mulberry Street. The results of ISD calculations are noted in Table 16 below.

TABLE 16 SIGHT DISTANCE MEASUREMENTS Audubon Road/Mulberry Street/Reservoir Road/River Road, Northampton, MA						
Location	Direction of Travel	Observed Speed	Stopping Sight Distance		Intersection Sight Distance	
			Recommended ¹	Existing	Recommended ²	Existing
Audubon Road and Mulberry Street at Reservoir Road/River Road						
	Eastbound	30 mph	200	355	-	-
	Westbound	25 mph	152	475	-	-
	Northbound looking west	30 mph	-	-	331	213
	Northbound looking east	30 mph	-	-	375	295
	Southbound looking east	30 mph	-	-	375	373
	Southbound looking west	30 mph	-	-	331	365

Notes:

^{1,2} Source: American Association of State Highway and Transportation Officials (AASHTO). 2011. *A Policy on Geometric Design of Highways and Streets*

Notes: ² Source 2006 MassDOT Project Development and Design Guide, Exhibit 3-8

Based on measured SSD, ISD and MUTCD guidelines, this intersection meets AWSC Warrant B.

2.6.3. Warrant D: 8-Hour Volume

Table 2 below summarizes the count data collected and ranks it per hour from highest volume of traffic to the lowest recorded volume on the major street approach. The minor street volumes correspond to the hours listed.

TABLE 17 8-Hour Volume Warrant Audubon Road/Mulberry Street/Reservoir Road/River Road, Northampton, MA			
	Hour	Major (both app.)	Minor (both app.)
1st	15:00	205	96
2nd	16:00	195	105
3rd	17:00	138	75
4th	7:30	126	125
5th	8:30	99	92
6th	6:30	68	109
7th	-	-	-
8th	-	-	-

Based on the collected count data and MUTCD guidelines, this intersection does not meet AWSC Warrant D.

2.6.4. Traffic Analysis

The Capacity Analysis for Planning of Junctions (Cap-X) Tool was used to analyze the volume to capacity ratio (V/C) to determine if an all-way stop control intersection would result in significant delay or if a traffic signal or roundabout would facilitate traffic at an acceptable level. A V/C ratio of greater than one (1) is considered an unacceptable amount of delay and an acceptable amount of delay is considered under 0.85.

The results showed that all four alternatives would operate with an acceptable amount of delay. The all-way stop control received a V/C ratio of 0.16. The traffic signal and roundabout V/C ratio results showed that these types of intersection control would produce acceptable results as well. The Cap-X results are shown Table 18 below and the summary is included in the Appendix.

TABLE 18 INTERSECTION DISTANCE MEASUREMENTS Audubon Road/Mulberry Street/Reservoir Road/River Road, Northampton, MA	
Intersection Control Type	Vehicle to Capacity Ratio (V/C)
Two-way stop control	0.06
All-way stop control	0.16
Traffic signal (single lane approaches)	0.07
Roundabout (single lane approaches, 75 ICD*)	0.17

*ICD refers to Inscribed Circulatory Diameter which defines the size and design vehicle for the intersection

2.6.5. Recommendations

It is recommended that the existing two-way stop control at Audubon Road/Mulberry Street and Reservoir Road/River Road is changed to an all-way stop. The measured ISDs do not meet the MassDOT PDDG threshold for a 30 MPH design speed looking both directions on the northbound approach and looking east

on the southbound approach. It is recommended to add stop signs and paint stop bars on the eastbound and westbound approaches to the intersection.

3. Summary Recommendations

Fuss and O’Neill reviewed the six intersections in Northampton, MA and developed the following recommendations as summarized in Table 19 below:

TABLE 19 Summary Recommendations Various Locations, Northampton, MA				
Location	Existing Intersection Control	Recommended Intersection Control	Additional Recommendations	Justification
Finn Street at Prospect Street	One-Way Stop Control	All-Way Stop Control	Install Stop Sign Ahead signs on the southbound and westbound approaches in advance of the intersection. Refresh the crosswalk on the westbound approach and stop bar on the northbound approach.	Deficient ISD on the existing stop-controlled approach.
Dimock Street at Main Street/ Spring Street	One-Way Stop Control	No Change	Paint stop bar on Dimock Street adjacent to the existing stop sign.	Although AWSC Warrant B is met due to deficient ISD for drivers looking left from Dimock Street, the vehicle volumes on Dimock Street are low and the measured SSDs on Main Street/Spring Street meet the recommended minimum SSDs.
Warburton Way/Blackberry Lane at Prospect Avenue	One-Way Stop Control (with assumed yield condition on Blackberry Lane)	All-Way Stop Control	Install stop signs and stop bars on the northbound, southbound, and westbound approaches. Paint stop bar on Warburton Way adjacent to the existing stop sign.	Deficient ISDs on the existing stop-controlled approaches.

Location	Existing Intersection Control	Recommended Intersection Control	Additional Recommendations	Justification
Pine Street at Corticelli Street	One-Way Stop Control (with assumed yield condition on Corticelli Street)	Two-Way Stop Control	Install a stop sign and stop bar on the northbound approach. Refresh existing crosswalks. Paint stop bar on the southbound approach adjacent to the existing stop sign. Consider installing an RRFB at the crosswalk on the westbound approach.	AWSC Warrants are not met at this intersection. Proposing to add stop control on the northbound approach to align with driver expectation.
Pine Street at Park Street	One-Way Stop Control	No Change	Install a crosswalk ahead sign on the southbound approach to the intersection in advance of the existing crosswalk.	Conditions for all-way stop control not met.
Audubon Road/Mulberry Street at Reservoir Road/River Road	Two-Way Stop Control	All-Way Stop Control	Add stop signs and paint stop bars on the eastbound and westbound approaches to the intersection.	Deficient ISDs on the existing stop-controlled approaches.

Appendix

Traffic Analysis

Including Traffic Counts & Cap-X Analysis

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	1

STREET 1	Prospect Street
STREET 2	Finn Street
DATE	12/03/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
6:30 AM	0	1	1	0	9	2	0	1	14
6:45 AM	0	0	0	0	23	1	0	1	23
7:00 AM	0	2	0	0	39	3	0	0	37
7:15 AM	0	4	1	0	50	2	0	1	41
7:30 AM	0	4	1	0	52	4	0	0	50
7:45 AM	0	4	1	0	74	8	0	2	73
8:00 AM	0	5	2	0	94	16	0	1	81
8:15 AM	0	10	3	0	83	10	0	6	54
8:30 AM	0	7	1	0	81	8	0	6	64
8:45 AM	0	6	2	0	95	9	0	3	80
9:00 AM	0	4	3	0	67	5	0	6	64
9:15 AM	0	3	1	0	60	5	0	6	54
3:00 PM	0	9	3	0	69	6	0	1	74
3:15 PM	0	6	1	0	74	13	0	3	92
3:30 PM	0	4	0	0	86	9	0	5	88
3:45 PM	0	11	5	0	94	15	0	5	108
4:00 PM	0	5	2	0	97	10	0	1	84
4:15 PM	0	9	1	0	77	12	0	4	87
4:30 PM	0	11	5	0	69	8	0	5	106
4:45 PM	0	10	5	0	78	7	0	2	117
5:00 PM	0	7	2	0	72	9	0	6	88
5:15 PM	0	7	3	0	81	9	0	5	103
5:30 PM	0	5	5	0	64	7	0	2	75
5:45 PM	0	4	0	0	47	4	0	6	69

AM PEAK HOURS	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
8:00 AM	0	28	8	0	353	43	0	16	279
PHF	0.69			0.90			0.89		
HV%	0.0%	3.6%	0.0%	0.0%	0.6%	2.3%	0.0%	0.0%	1.4%

PM PEAK HOURS	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
3:45 PM	0	36	13	0	337	45	0	15	385
PHF	0.77			0.88			0.88		
HV%	0.0%	11.1%	0.0%	0.0%	1.2%	2.2%	0.0%	0.0%	0.3%

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	1

STREET 1	Prospect Street
STREET 2	Finn Street
DATE	12/03/2024

Heavy Vehicles

Start Time	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	1
7:45 AM	0	0	0	0	1	0	0	0	3
8:00 AM	0	1	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	2	0	0	0	1
9:00 AM	0	0	0	0	1	0	0	1	3
9:15 AM	0	1	0	0	0	0	0	0	0
3:00 PM	0	1	1	0	1	0	0	0	0
3:15 PM	0	0	0	0	1	2	0	0	0
3:30 PM	0	0	0	0	1	0	0	0	0
3:45 PM	0	4	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	2	1	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	2	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	1

AM PEAK HOURS 8:00 AM	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	1	0	0	2	1	0	0	4

PM PEAK HOURS 3:45 PM	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	4	0	0	4	1	0	0	1

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	1

STREET 1	Prospect Street
STREET 2	Finn Street
DATE	12/03/2024

Pedestrians and Bicycles

Start Time	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	Peds	Thru	Right	Peds	Left	Thru	Peds	Left	Right
6:30 AM	0	0	0	0	0	0	1	0	0
6:45 AM	0	0	0	1	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	2	0	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	2	0	0	0
8:00 AM	0	0	0	0	0	0	2	0	0
8:15 AM	0	0	0	0	0	0	2	0	0
8:30 AM	0	0	0	0	0	0	1	1	0
8:45 AM	0	0	0	0	0	1	2	0	0
9:00 AM	0	0	0	0	0	0	1	0	0
9:15 AM	0	0	1	0	0	2	0	0	0
3:00 PM	0	0	1	0	0	0	1	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	1	0	0	1	0	1	0	0
3:45 PM	1	0	0	1	0	0	2	0	1
4:00 PM	0	0	0	0	1	0	3	0	0
4:15 PM	0	0	1	0	0	0	2	1	0
4:30 PM	0	0	1	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	3	0	0
5:00 PM	0	0	0	0	1	0	2	0	0
5:15 PM	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	0	0	0	4	0	0
5:45 PM	0	0	0	0	0	0	1	0	0

AM PEAK HOURS	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	Peds	Thru	Right	Peds	Left	Thru	Peds	Left	Right
	8:00 AM	0	0	0	0	0	1	7	1

PM PEAK HOURS	Prospect Street - Northbound			Prospect Street - Southbound			Finn Street - Westbound		
	Peds	Thru	Right	Peds	Left	Thru	Peds	Left	Right
	3:45 PM	1	0	2	1	1	0	8	1



Fuss_088

12/03/2024



FUSS_088

12/03/2024



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CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	3

STREET 1	Prospect Avenue
STREET 2	Blackberry Lane/Warburton Way
DATE	12/03/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	Prospect Avenue - Northbound				Prospect Avenue - Southbound				Warburton Way - Eastbound				Blackberry Lane - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:30 AM	0	0	4	0	0	0	16	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	1	0	0	0	28	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	5	0	0	0	24	1	0	0	0	1	0	0	0	0
7:15 AM	0	0	9	0	0	0	31	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	7	0	0	0	22	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	12	0	0	0	25	0	0	2	1	0	0	0	0	2
8:00 AM	0	1	12	0	0	0	26	1	0	0	0	1	0	2	0	0
8:15 AM	0	0	9	0	0	0	33	0	0	0	0	0	0	1	0	2
8:30 AM	0	0	12	0	0	1	19	0	0	1	0	0	0	0	0	0
8:45 AM	0	0	13	0	0	1	27	0	0	1	0	0	0	0	0	1
9:00 AM	0	0	13	0	0	1	14	0	0	0	1	0	0	1	0	0
9:15 AM	0	1	6	0	0	1	8	1	0	1	0	3	0	0	0	0
3:00 PM	0	0	17	1	0	2	13	1	0	0	0	0	0	2	0	1
3:15 PM	0	0	9	1	0	0	15	0	0	0	0	2	0	1	0	0
3:30 PM	0	0	21	1	0	2	17	0	0	0	0	1	0	0	1	0
3:45 PM	0	0	19	0	0	0	12	1	0	0	0	0	0	0	0	0
4:00 PM	0	0	18	0	0	1	11	1	0	0	0	0	0	0	0	2
4:15 PM	0	1	11	0	0	2	12	0	0	0	0	0	0	1	0	2
4:30 PM	0	1	20	0	0	1	10	2	0	0	0	1	0	0	0	0
4:45 PM	0	2	7	0	0	0	9	0	0	0	0	2	0	0	0	2
5:00 PM	0	0	10	0	0	1	15	0	0	0	0	0	0	1	1	1
5:15 PM	0	1	14	0	0	1	5	1	0	0	0	1	0	0	0	1
5:30 PM	0	0	12	0	0	0	8	2	0	0	0	0	0	0	0	1
5:45 PM	0	0	5	0	0	0	18	2	0	2	0	0	0	0	0	2

AM PEAK HOURS	Prospect Avenue - Northbound				Prospect Avenue - Southbound				Warburton Way - Eastbound				Blackberry Lane - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	0	1	46	0	0	2	105	1	0	2	0	1	0	3	0	3
PHF	0.90				0.82				0.75				0.50			
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PM PEAK HOURS	Prospect Avenue - Northbound				Prospect Avenue - Southbound				Warburton Way - Eastbound				Blackberry Lane - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	0	0	66	3	0	4	57	2	0	0	0	3	0	3	1	1
PHF	0.78				0.83				0.38				0.42			
HV%	0.0%	0.0%	6.1%	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%



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CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	3

STREET 1	Prospect Avenue
STREET 2	Blackberry Lane/Warburton Way
DATE	12/03/2024

Heavy Vehicles

Start Time	Prospect Avenue - Northbound				Prospect Avenue - Southbound				Warburton Way - Eastbound				Blackberry Lane - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	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
7:30 AM	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	1	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
8:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	2	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
9:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
3:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	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
5:30 PM	0	0	1	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

AM PEAK HOURS	Prospect Avenue - Northbound				Prospect Avenue - Southbound				Warburton Way - Eastbound				Blackberry Lane - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0

PM PEAK HOURS	Prospect Avenue - Northbound				Prospect Avenue - Southbound				Warburton Way - Eastbound				Blackberry Lane - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	1	0	0





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CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	4

STREET 1	Pine Street
STREET 2	Corticelli Street
DATE	12/03/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:30 AM	0	0	0	3	0	0	0	0	0	0	48	0	0	0	18	0
6:45 AM	1	0	0	2	0	0	0	1	0	1	62	0	0	2	25	0
7:00 AM	0	0	0	0	0	0	1	1	0	0	78	1	0	1	22	0
7:15 AM	0	0	0	2	0	0	1	0	0	0	101	0	0	3	31	2
7:30 AM	0	0	0	0	0	0	0	1	0	0	93	0	0	1	47	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	141	1	0	2	49	0
8:00 AM	0	1	0	7	0	0	0	2	0	0	109	0	0	2	46	0
8:15 AM	0	0	1	5	0	0	1	0	0	1	96	2	0	5	62	0
8:30 AM	1	0	0	3	0	0	0	0	0	0	74	0	0	4	45	0
8:45 AM	0	1	0	3	0	1	2	1	0	0	94	0	0	5	52	0
9:00 AM	2	0	1	1	0	2	0	0	0	1	64	2	0	4	51	0
9:15 AM	0	0	0	3	0	0	0	0	0	0	82	0	0	0	41	0
3:00 PM	0	0	1	1	0	1	0	1	0	0	70	1	0	7	106	1
3:15 PM	0	1	1	0	0	0	0	0	0	1	75	0	0	6	103	2
3:30 PM	0	0	0	3	0	1	0	0	0	1	81	2	0	4	94	0
3:45 PM	0	3	2	2	0	0	0	1	0	0	74	0	1	3	111	0
4:00 PM	0	1	0	2	0	1	0	0	0	2	60	0	0	8	104	0
4:15 PM	0	1	0	5	0	1	1	0	0	0	71	0	0	9	101	0
4:30 PM	1	0	0	4	0	0	0	0	0	0	59	0	0	3	106	0
4:45 PM	0	0	0	6	0	0	0	0	0	0	76	0	0	6	87	0
5:00 PM	0	1	0	3	0	1	0	0	0	1	60	0	0	4	98	0
5:15 PM	1	0	0	3	0	0	0	1	0	0	63	1	0	1	80	0
5:30 PM	0	1	0	5	0	0	0	0	0	0	63	1	0	4	82	1
5:45 PM	1	2	1	10	0	0	1	0	0	0	49	3	0	5	66	1

AM PEAK HOURS 7:30 AM	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	1	1	12	0	0	1	3	0	1	439	3	0	10	204	0
PHF	0.44				0.50				0.78				0.80			
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	10.0%	8.8%	0.0%

PM PEAK HOURS 3:00 PM	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	4	4	6	0	2	0	2	0	2	300	3	1	20	414	3
PHF	0.50				0.50				0.91				0.95			
HV%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	0.0%	0.0%	5.0%	2.9%	0.0%



New England Traffic Counts

(413) 579-8366

emayboroda@netrafficcounts.com

www.netrafficcounts.com

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	4

STREET 1	Pine Street
STREET 2	Corticelli Street
DATE	12/03/2024

Heavy Vehicles

Start Time	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	11
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	4
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
3:45 PM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	3	3
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:45 PM	0	0	0	0	0	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	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOURS 7:30 AM	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	0	12	0	0	1	18

PM PEAK HOURS 3:00 PM	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	1	0	0	0	0	0	0	0	0	0	9	0	0	1	12



New England Traffic Counts

(413) 579-8366

emayboroda@netrafficcounts.com

www.netrafficcounts.com

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	4

STREET 1	Pine Street
STREET 2	Corticelli Street
DATE	12/03/2024

Pedestrians and Bicycles

Start Time	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
6:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	3	0	1	0
8:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
8:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	1	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0
9:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
3:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0
4:00 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	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
5:15 PM	1	0	0	0	1	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	1	0
5:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOURS 7:30 AM	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	3	0	0	0	0	1	0	0	0	0	1	0	5	0	2	0

PM PEAK HOURS 3:00 PM	Corticelli Street - Northbound				Corticelli Street - Southbound				Pine Street - Eastbound				Pine Street - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	4	0	0	0	0	0	0	0	0	0	1	0	3	0	3	0



CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	5

STREET 1	Park Street
STREET 2	Pine Street
DATE	12/03/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	U-Turn	Left	Right	U-Turn	Left	Thru	U-Turn	Thru	Right
6:30 AM	0	1	16	0	30	20	0	4	0
6:45 AM	0	1	27	0	32	31	0	14	0
7:00 AM	0	0	21	0	43	34	0	5	0
7:15 AM	0	0	26	0	62	42	0	11	0
7:30 AM	0	0	30	0	46	47	0	19	0
7:45 AM	0	0	34	0	74	69	0	17	1
8:00 AM	0	3	33	0	70	53	0	16	0
8:15 AM	0	2	52	0	53	50	0	13	1
8:30 AM	0	3	37	0	33	43	0	17	0
8:45 AM	0	1	39	0	38	64	0	19	0
9:00 AM	0	1	43	0	36	36	0	13	0
9:15 AM	0	0	30	0	38	46	0	16	0
3:00 PM	0	1	79	0	39	35	0	38	0
3:15 PM	0	1	72	0	27	48	0	38	0
3:30 PM	0	0	57	0	40	41	0	41	0
3:45 PM	0	0	71	0	40	39	0	44	1
4:00 PM	0	0	85	0	34	30	0	30	3
4:15 PM	0	1	80	0	40	40	0	31	0
4:30 PM	0	0	69	0	30	36	0	39	0
4:45 PM	0	0	68	0	50	37	0	29	1
5:00 PM	0	1	60	0	34	32	0	45	0
5:15 PM	0	0	48	0	41	23	0	32	0
5:30 PM	0	1	58	0	39	28	0	35	0
5:45 PM	0	2	53	0	31	25	0	28	1

AM PEAK HOURS	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	U-Turn	Left	Right	U-Turn	Left	Thru	U-Turn	Thru	Right
7:30 AM	0	5	149	0	243	219	0	65	2
PHF	0.71			0.81			0.88		
HV%	0.0%	0.0%	10.7%	0.0%	2.5%	2.3%	0.0%	0.0%	0.0%

PM PEAK HOURS	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	U-Turn	Left	Right	U-Turn	Left	Thru	U-Turn	Thru	Right
3:00 PM	0	2	279	0	146	163	0	161	1
PHF	0.88			0.95			0.90		
HV%	0.0%	0.0%	3.2%	0.0%	3.4%	1.2%	0.0%	1.9%	0.0%

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	5

STREET 1	Park Street
STREET 2	Pine Street
DATE	12/03/2024

Heavy Vehicles

Start Time	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	U-Turn	Left	Right	U-Turn	Left	Thru	U-Turn	Thru	Right
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	1	0	0	0	0
7:00 AM	0	0	1	0	3	0	0	0	0
7:15 AM	0	0	2	0	4	0	0	0	0
7:30 AM	0	0	3	0	0	1	0	0	0
7:45 AM	0	0	3	0	0	4	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	10	0	5	0	0	0	0
8:30 AM	0	0	2	0	1	0	0	0	0
8:45 AM	0	0	0	0	2	1	0	0	0
9:00 AM	0	0	2	0	1	0	0	0	0
9:15 AM	0	0	2	0	3	0	0	1	0
3:00 PM	0	0	6	0	2	1	0	1	0
3:15 PM	0	0	0	0	2	0	0	1	0
3:30 PM	0	0	2	0	0	0	0	0	0
3:45 PM	0	0	1	0	1	1	0	1	0
4:00 PM	0	0	6	0	3	1	0	1	0
4:15 PM	0	0	2	0	0	0	0	0	0
4:30 PM	0	0	1	0	2	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	1	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0

AM PEAK HOURS 7:30 AM	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	U-Turn	Left	Right	U-Turn	Left	Thru	U-Turn	Thru	Right
	0	0	16	0	6	5	0	0	0

PM PEAK HOURS 3:00 PM	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	U-Turn	Left	Right	U-Turn	Left	Thru	U-Turn	Thru	Right
	0	0	9	0	5	2	0	3	0

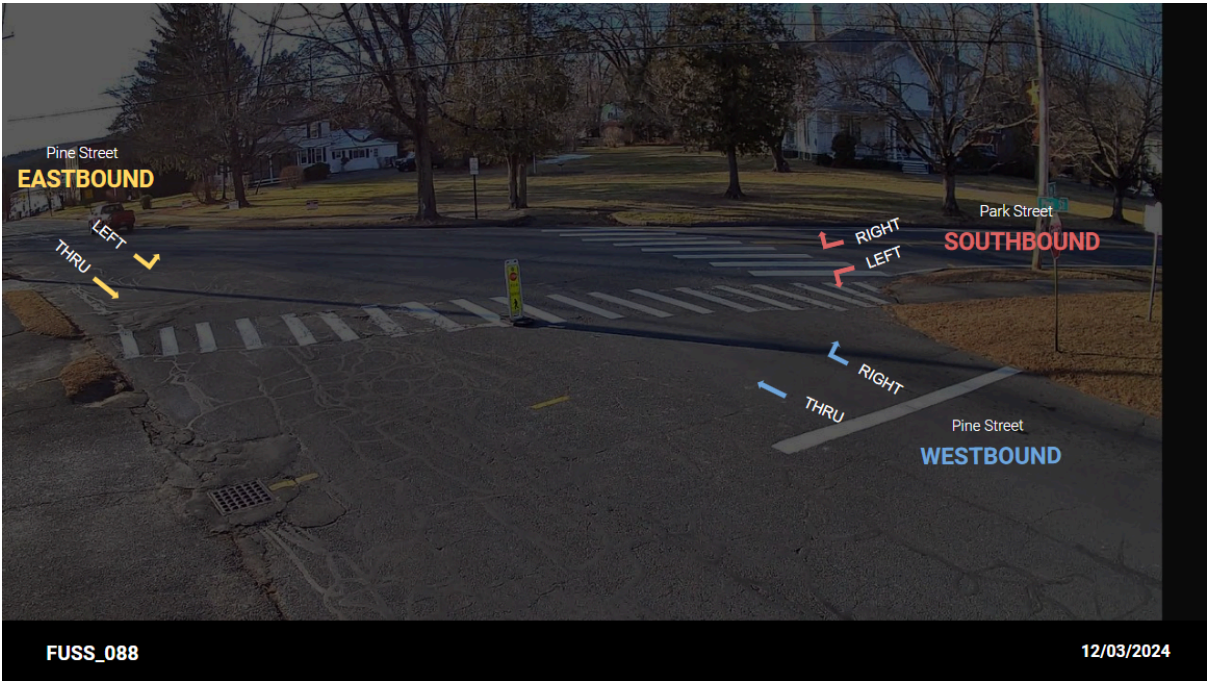
CLIENT	Fuss & O'Neill	STREET 1	Park Street
CITY/TOWN	Northampton, MA	STREET 2	Pine Street
WEATHER	Sunny	DATE	12/03/2024
INTERSECTION #	5		

Pedestrians and Bicycles

Start Time	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	Peds	Left	Right	Peds	Left	Thru	Peds	Thru	Right
6:30 AM	0	0	0	0	0	0	1	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	2	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0
8:00 AM	0	0	1	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	2	0	0
8:45 AM	0	0	0	0	0	0	1	0	0
9:00 AM	1	0	1	0	1	0	0	0	0
9:15 AM	2	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	1	0	0	0	0
3:15 PM	1	0	0	0	0	0	3	0	0
3:30 PM	0	0	0	0	1	0	3	0	0
3:45 PM	0	0	0	0	0	0	2	3	0
4:00 PM	1	0	1	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0
5:15 PM	3	0	0	0	0	0	1	0	0
5:30 PM	2	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0

AM PEAK HOURS	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	Peds	Left	Right	Peds	Left	Thru	Peds	Thru	Right
	7:30 AM	0	0	1	0	1	1	1	0

PM PEAK HOURS	Park Street - Southbound			Pine Street - Eastbound			Pine Street - Westbound		
	Peds	Left	Right	Peds	Left	Thru	Peds	Thru	Right
	3:00 PM	1	0	0	0	2	0	8	3



FUSS_088

12/03/2024



New England Traffic Counts

(413) 579-8366

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www.netrafficcunts.com

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	6

STREET 1	Reservoir Road/River Road
STREET 2	Audubon Road/Mulberry Street
DATE	12/03/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:30 AM	0	0	4	11	0	1	3	0	0	1	5	0	0	3	1	0
6:45 AM	0	0	7	19	0	7	3	0	0	2	2	0	0	7	1	3
7:00 AM	0	0	3	11	0	8	3	0	0	0	7	1	0	5	0	7
7:15 AM	0	0	2	18	0	3	5	0	0	0	9	0	0	11	1	2
7:30 AM	0	0	6	17	0	5	1	0	0	2	5	0	0	4	2	7
7:45 AM	0	0	6	23	0	9	2	0	0	2	17	0	0	11	5	8
8:00 AM	0	0	3	14	0	4	6	1	0	0	8	0	0	7	4	10
8:15 AM	0	0	6	10	0	7	5	0	0	1	7	3	0	7	5	10
8:30 AM	0	1	5	10	0	3	5	0	0	0	9	1	0	8	8	5
8:45 AM	0	0	7	12	0	5	2	0	0	0	7	2	0	8	6	2
9:00 AM	0	0	7	9	0	4	3	0	0	0	3	1	0	3	6	7
9:15 AM	0	0	2	8	0	3	5	0	0	0	6	1	0	7	2	7
3:00 PM	0	0	1	3	0	9	5	1	0	0	8	1	0	25	4	6
3:15 PM	0	0	6	10	0	9	6	0	0	1	6	1	0	25	12	14
3:30 PM	0	0	2	11	0	3	7	0	0	0	9	3	0	22	8	7
3:45 PM	0	0	2	8	0	8	5	0	0	0	7	0	0	22	11	11
4:00 PM	0	1	5	12	0	6	7	0	0	0	6	3	0	23	10	4
4:15 PM	0	0	3	8	0	10	5	0	0	0	4	0	0	21	15	13
4:30 PM	0	1	2	5	0	7	10	0	0	0	7	1	0	21	8	7
4:45 PM	0	0	3	6	0	6	6	0	0	0	5	0	0	22	13	9
5:00 PM	0	1	0	10	0	8	6	2	0	0	5	1	0	15	8	3
5:15 PM	0	0	2	5	0	8	1	1	0	0	6	0	0	16	6	6
5:30 PM	0	0	5	5	0	4	1	1	0	1	9	0	0	11	15	5
5:45 PM	0	0	3	4	0	3	4	1	0	0	4	0	0	12	7	6

AM PEAK HOURS 7:45 AM	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	1	20	57	0	23	18	1	0	3	41	4	0	33	22	33
PHF	0.67				0.88				0.63				0.92			
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	9.1%	3.0%

PM PEAK HOURS 3:15 PM	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	1	15	41	0	26	25	0	0	1	28	7	0	92	41	36
PHF	0.79				0.85				0.75				0.83			
HV%	0.0%	0.0%	0.0%	4.9%	0.0%	7.7%	4.0%	0.0%	0.0%	0.0%	7.1%	14.3%	0.0%	2.2%	2.4%	2.8%



New England Traffic Counts

(413) 579-8366

emayboroda@netrafficcounts.com

www.netrafficcounts.com

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	6

STREET 1	Reservoir Road/River Road
STREET 2	Audubon Road/Mulberry Street
DATE	12/03/2024

Heavy Vehicles

Start Time	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00 AM	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	1	0	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1
3:30 PM	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
4:15 PM	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	1
4:45 PM	0	0	0	0	0	1	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
5:15 PM	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
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOURS 7:45 AM	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2	1

PM PEAK HOURS 3:15 PM	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	2	0	2	1	0	0	0	2	1	0	2	1	1



New England Traffic Counts

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www.netrafficcounts.com

CLIENT	Fuss & O'Neill
CITY/TOWN	Northampton, MA
WEATHER	Sunny
INTERSECTION #	6

STREET 1	Reservoir Road/River Road
STREET 2	Audubon Road/Mulberry Street
DATE	12/03/2024

Pedestrians and Bicycles

Start Time	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
6:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	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
7:30 AM	0	0	0	0	0	0	0	0	1	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
8:00 AM	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
8:30 AM	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
9:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:45 PM	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	1	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOURS	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





PM PEAK HOURS	Reservoir Road - Northbound				River Road - Southbound				Audubon Road - Eastbound				Mulberry Street - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0



Capacity Analysis for Planning of Junctions

Step 1

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location	Finn Street at Prospect Street
Date	December 3, 2024
Number of Intersection Legs	3
Which leg is the minor street?	S

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	0	0	0	0.00%	0.00%
Westbound	0	16	0	279	1.40%	0.00%
Southbound	0	353	43	0	2.90%	0.00%
Northbound	0	0	28	8	3.60%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00	2.00	
Multimodal Activity Level		Low		<u>Multimodal Ped</u>	<u>Multimodal Bike</u>	
Critical Lane Volume Sum Limit	2-phase signal	Suggested = 1800 (Urban), 1650 (Rural)			1800	
	3-phase signal	Suggested = 1750 (Urban), 1600 (Rural)			1750	
	4-phase signal	Suggested = 1700 (Urban), 1550 (Rural)			1700	

Capacity Analysis for Planning of Junctions

Step 2A: Base Conditions Analysis

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Finn Street at Prospect Street
Date:	December 3, 2024
Which leg is the minor street?	S

Existing Intersection Configuration

Two-Way Stop Control

Number of Lanes for Existing Configuration

(Can be edited in "3- Alt Num Lanes Input" as needed)

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	2	0	/	1	2	0

Results for Existing Configuration

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)			
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
Two-Way Stop Control	<u>E-W</u>	--	--	--	--	--	--	--	--	--	####	--	--

Existing Configuration Results

Overall v/c Ratio	#DIV/0!	Pedestrian Accommodation	Fair	Bicycle Accommodation	Poor
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Capacity Analysis for Planning of Junctions

Step 3

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Finn Street at Prospect Street
Date:	December 3, 2024
Analysis Type:	Intersections Only

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	<u>FULL</u>	/	0	2	0	/	0	2	0	/	0	2	0	/	0	2	0
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	2	0	/	1	2	0
All-Way Stop Control	<u>FULL</u>	/	1	1	1	/	1	1	1	/	1	1	1	/	1	1	1

For shared lanes, enter "0" in L or R
 For AWSC enter number of approach lanes (1 or 2) for each approach.

Capacity Analysis for Planning of Junctions

Step 3 (Cont.)

Number of Lanes for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R





Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Step 1

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location	Spring Street at Dimock Street/Main Street
Date	December 3, 2024
Number of Intersection Legs	3
Which leg is the minor street?	S

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	0	0	0	0.00%	0.00%
Westbound	0	3	0	55	3.60%	0.00%
Southbound	0	59	5	0	0.00%	0.00%
Northbound	0	0	19	3	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00	2.00	
Multimodal Activity Level		Low		Multimodal Ped	Multimodal Bike	
Critical Lane Volume Sum Limit	2-phase signal	Suggested = 1800 (Urban), 1650 (Rural)			1800	
	3-phase signal	Suggested = 1750 (Urban), 1600 (Rural)			1750	
	4-phase signal	Suggested = 1700 (Urban), 1550 (Rural)			1700	

Capacity Analysis for Planning of Junctions

Step 2A: Base Conditions Analysis

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Spring Street at Dimock Street/Main Street
Date:	December 3, 2024
Which leg is the minor street?	S

Existing Intersection Configuration

Two-Way Stop Control

Number of Lanes for Existing Configuration

(Can be edited in "3- Alt Num Lanes Input" as needed)

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	1	0	/	1	1	0

Results for Existing Configuration

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)			
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
Two-Way Stop Control	<u>E-W</u>	--	--	--	--	--	--	--	--	--	####	--	--

Existing Configuration Results

Overall v/c Ratio	#DIV/0!	Pedestrian Accommodation	#DIV/0!	Bicycle Accommodation	Fair
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Capacity Analysis for Planning of Junctions

Step 3

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Spring Street at Dimock Street/Main Street
Date:	December 3, 2024
Analysis Type:	Intersections Only

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	2	0	/	0	2	0
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	1	0	/	1	1	0
All-Way Stop Control	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	1	0	/	0	1	0

For shared lanes, enter "0" in L or R

For AWSC enter number of approach lanes (1 or 2) for each approach.

Capacity Analysis for Planning of Junctions

Step 3 (Cont.)

Number of Lanes for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R





Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Step 1

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location	Prospect Avenue at Blackberry Lane/Warburton Way
Date	December 3, 2024
Number of Intersection Legs	4
Major Street Direction	North-South

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	2	0	1	0.00%	0.00%
Westbound	0	3	0	3	0.00%	0.00%
Southbound	0	2	105	1	3.80%	0.00%
Northbound	0	1	46	0	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00	2.00	
Multimodal Activity Level		Low		Multimodal Ped	Multimodal Bike	
Critical Lane Volume Sum Limit	2-phase signal	Suggested = 1800 (Urban), 1650 (Rural)			1800	
	3-phase signal	Suggested = 1750 (Urban), 1600 (Rural)			1750	
	4-phase signal	Suggested = 1700 (Urban), 1550 (Rural)			1700	

Capacity Analysis for Planning of Junctions

Step 2A: Base Conditions Analysis

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Prospect Avenue at Blackberry Lane/Warburton Way
Date:	December 3, 2024
Major Street Direction:	North-South

Existing Intersection Configuration

Two-Way Stop Control

Number of Lanes for Existing Configuration

(Can be edited in "3- Alt Num Lanes Input" as needed)

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Two-Way Stop Control	<u>N-S</u>	/	1	1	1	/	1	1	0	/	0	1	0	/	0	1	0

Results for Existing Configuration

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)			
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
Two-Way Stop Control	<u>N-S</u>	--	--	--	--	--	--	--	--	--	<u>0.06</u>	--	--

Existing Configuration Results

Overall v/c Ratio	0.06	Pedestrian Accommodation	#DIV/0!	Bicycle Accommodation	Fair
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Capacity Analysis for Planning of Junctions

Step 3

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Prospect Avenue at Blackberry Lane/Warburton Way
Date:	December 3, 2024
Analysis Type:	Intersections Only

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	2	0	/	0	2	0
Two-Way Stop Control	<u>N-S</u>	/	1	1	1	/	1	1	0	/	0	1	0	/	0	1	0
All-Way Stop Control	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	1	0	/	0	1	0

For shared lanes, enter "0" in L or R

For AWSC enter number of approach lanes (1 or 2) for each approach.

Capacity Analysis for Planning of Junctions

Step 3 (Cont.)

Number of Lanes for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R





Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Step 1

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location	Pine Street at Corticelli Street
Date	December 3, 2024
Number of Intersection Legs	4
Major Street Direction	East-West

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	10	204	0	18.80%	0.00%
Westbound	0	1	439	3	1.90%	0.00%
Southbound	0	0	1	3	0.00%	0.00%
Northbound	0	1	1	12	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00	2.00	
Multimodal Activity Level		Low		Multimodal Ped	Multimodal Bike	
Critical Lane Volume Sum Limit	2-phase signal	Suggested = 1800 (Urban), 1650 (Rural)			1800	
	3-phase signal	Suggested = 1750 (Urban), 1600 (Rural)			1750	
	4-phase signal	Suggested = 1700 (Urban), 1550 (Rural)			1700	

Capacity Analysis for Planning of Junctions

Step 2A: Base Conditions Analysis

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Pine Street at Corticelli Street
Date:	December 3, 2024
Major Street Direction:	East-West

Existing Intersection Configuration

Two-Way Stop Control

Number of Lanes for Existing Configuration

(Can be edited in "3- Alt Num Lanes Input" as needed)

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	1	0	/	1	1	0

Results for Existing Configuration

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)			
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
Two-Way Stop Control	<u>E-W</u>	--	--	--	--	--	--	--	--	--	<u>0.25</u>	--	--

Existing Configuration Results

Overall v/c Ratio	0.25	Pedestrian Accommodation	Excellent	Bicycle Accommodation	Fair
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Capacity Analysis for Planning of Junctions

Step 3

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Pine Street at Corticelli Street
Date:	December 3, 2024
Analysis Type:	Intersections Only

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	2	0	/	0	2	0
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	1	0	/	1	1	0
All-Way Stop Control	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	1	0	/	0	1	0

For shared lanes, enter "0" in L or R
 For AWSC enter number of approach lanes (1 or 2) for each approach.

Capacity Analysis for Planning of Junctions

Step 3 (Cont.)

Number of Lanes for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R





Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Step 1

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location	Pine Street at Park Street
Date	December 3, 2024
Number of Intersection Legs	3
Which leg is the minor street?	E

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	243	219	0	4.80%	0.00%
Westbound	0	0	65	2	0.00%	0.00%
Southbound	0	5	0	149	10.70%	0.00%
Northbound	0	0	0	0	0.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00	2.00	
Multimodal Activity Level		Low		<u>Multimodal Ped</u>	<u>Multimodal Bike</u>	
Critical Lane Volume Sum Limit	2-phase signal	Suggested = 1800 (Urban), 1650 (Rural)			1800	
	3-phase signal	Suggested = 1750 (Urban), 1600 (Rural)			1750	
	4-phase signal	Suggested = 1700 (Urban), 1550 (Rural)			1700	

Capacity Analysis for Planning of Junctions

Step 2A: Base Conditions Analysis

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Pine Street at Park Street
Date:	December 3, 2024
Which leg is the minor street?	E

Existing Intersection Configuration

Two-Way Stop Control

Number of Lanes for Existing Configuration

(Can be edited in "3- Alt Num Lanes Input" as needed)

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Two-Way Stop Control	<u>N-S</u>	/	1	1	1	/	1	1	1	/	0	1	0	/	0	1	0

Results for Existing Configuration

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)			
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
Two-Way Stop Control	<u>N-S</u>	--	--	--	--	--	--	--	--	--	####	--	--

Existing Configuration Results

Overall v/c Ratio	#DIV/0!	Pedestrian Accommodation	Excellent	Bicycle Accommodation	Fair
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Capacity Analysis for Planning of Junctions

Step 3

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Pine Street at Park Street
Date:	December 3, 2024
Analysis Type:	Intersections Only

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	2	0	/	0	2	0
Two-Way Stop Control	<u>N-S</u>	/	1	1	1	/	1	1	1	/	0	1	0	/	0	1	0
All-Way Stop Control	<u>FULL</u>	/	0	1	0	/	0	1	0	/	0	1	0	/	0	1	0

For shared lanes, enter "0" in L or R
 For AWSC enter number of approach lanes (1 or 2) for each approach.

Capacity Analysis for Planning of Junctions

Step 3 (Cont.)

Number of Lanes for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R





Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Capacity Analysis for Planning of Junctions

Step 1

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location	Audubon Road/Reservoir Road/River Road/Mulberry Street
Date	December 3, 2024
Number of Intersection Legs	4
Major Street Direction	East-West

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Heavy Vehicles	Volume Growth
Eastbound	0	1	28	7	8.33%	0.00%
Westbound	0	92	41	36	2.37%	0.00%
Southbound	0	26	25	0	5.88%	0.00%
Northbound	0	1	15	41	3.51%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00	2.00	
Multimodal Activity Level		Low		Multimodal Ped	Multimodal Bike	
Critical Lane Volume Sum Limit	2-phase signal	Suggested = 1800 (Urban), 1650 (Rural)			1800	
	3-phase signal	Suggested = 1750 (Urban), 1600 (Rural)			1750	
	4-phase signal	Suggested = 1700 (Urban), 1550 (Rural)			1700	

Capacity Analysis for Planning of Junctions

Step 2A: Base Conditions Analysis

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Audubon Road/Reservoir Road/River Road/Mulberry Street
Date:	December 3, 2024
Major Street Direction:	East-West

Existing Intersection Configuration

Two-Way Stop Control

Number of Lanes for Existing Configuration

(Can be edited in "3- Alt Num Lanes Input" as needed)

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	2	0	/	1	2	0

Results for Existing Configuration

TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)			
		CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
Two-Way Stop Control	<u>E-W</u>	--	--	--	--	--	--	--	--	--	<u>0.06</u>	--	--

Existing Configuration Results

Overall v/c Ratio	0.06	Pedestrian Accommodation	#DIV/0!	Bicycle Accommodation	Fair
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Capacity Analysis for Planning of Junctions

Step 3

Project Name:	Northampton Stop Sign Study
Project Number:	20091145-B70
Location:	Audubon Road/Reservoir Road/River Road/Mulberry Street
Date:	December 3, 2024
Analysis Type:	Intersections Only

Number of Lanes for Non-roundabout Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Traffic Signal	<u>FULL</u>	/	0	2	0	/	0	2	0	/	0	2	0	/	0	2	0
Two-Way Stop Control	<u>E-W</u>	/	0	1	0	/	0	1	0	/	1	2	0	/	1	2	0
All-Way Stop Control	<u>FULL</u>	/	1	1	1	/	1	1	1	/	1	1	1	/	1	1	1

For shared lanes, enter "0" in L or R

For AWSC enter number of approach lanes (1 or 2) for each approach.

Capacity Analysis for Planning of Junctions

Step 3 (Cont.)

Number of Lanes for Grade Separated Intersections

TYPE OF INTERSECTION	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

Number of Lanes for Interchanges

TYPE OF INTERCHANGE	Sheet	Northbound				Southbound				Eastbound				Westbound			
		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R

