

MEMORANDUM

TO: Donna LaScaleia
Director of Public Works, Northampton
FROM: Nicholas Lapointe, PE
Katherine O'Shea, PE
DATE: December 2, 2025
RE: Stop Sign Safety Study (July 2025) Follow Up

This memorandum has been prepared as supplemental documentation to the Stop Sign Safety Study (July 2025) in order to provide additional justification for the implementation of additional stop signs at the intersection of Finn Street and Prospect Street.

Sight Distance Measurements

Under existing conditions, the sight distance for westbound vehicles looking right (north) to make a left turn is deficient. Additionally, sight distance looking right (east) from the existing stop bar on the northbound approach of Prospect Street is also deficient. These deficiencies are outlined in Table 1 below and depicted in Image 1 and Image 2.

Table 1 – Measured Sight Distance (Finn Street at Prospect Street)

Table with 4 columns: Approach, Minimum SSD, Desirable ISD, Measured Sight Distance. Rows include Westbound Approach (Looking Right/Left) and Northbound Approach (Looking Right/Straight).

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Image 1 - Sight Distance on Finn Street Looking Right



Image 2 - Sight Distance on Prospect Street (Northbound Approach) Looking East

The measured sight distances support the implementation of a stop sign on the southbound approach in order to safely facilitate the westbound left turn, and on the northbound approach to facilitate the northbound through movement. Additionally, the implementation of all stop control improves the experience for pedestrians crossing Finn Street.

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Pedestrian Safety Deficiencies

Under existing conditions, it is challenging for pedestrians to identify a safe gap in vehicle traffic to cross, because it is difficult for pedestrians to determine if southbound vehicles are continuing straight or turning left onto Finn Street. This challenge was experienced by Fuss & O'Neill staff during the field visit.

Additionally, vehicles were observed utilizing the entire curb radius to make the westbound right turn without slowing down, which makes it difficult for pedestrians to identify a gap to cross. Further, the sidewalk in the vicinity of the intersection is minimum width, and no lateral separation is provided between the sidewalk and the roadway. This creates a particularly uncomfortable condition for pedestrians on the northeastern corner of the intersection that are waiting to cross when vehicles traverse the corner at high speeds.

Alternate Solutions

During field observations, northbound motorists were observed pulling past the painted stop bar to achieve a clear sight line looking east. Shifting the stop bar approximately ten feet north would resolve the sight distance deficiency looking east. Additionally, pedestrian safety and comfort concerns could be alleviated in the long term with traffic calming measures, such as speed humps, speed tables, curb extensions, or a raised intersection. Implementation of these changes may eliminate the need for a stop sign on the eastbound approach.

Conclusion

Based on the existing intersection configuration, implementation of all way stop control is appropriate to mitigate sight distance and pedestrian safety deficiencies.

Capacity analysis indicates that the implementation of stop control will have no substantial impact on intersection operations, and 95th percentile queues are comfortably contained within available storage. Capacity analysis worksheets have been included as an attachment to this memorandum.

Therefore, Fuss & O'Neill recommends the implementation of stop signs on the southbound and eastbound approaches.

Attachments: Capacity Analysis Worksheets

Lanes, Volumes, Timings
 1: Prospect St/Propsect St & Finn St

2025 AM Peak
 AWSC






Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	279	28	8	353	43
Future Volume (vph)	16	279	28	8	353	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.872		0.969			
Flt Protected	0.997					0.957
Satd. Flow (prot)	1636	0	1786	0	0	1798
Flt Permitted	0.997					0.957
Satd. Flow (perm)	1636	0	1786	0	0	1798
Link Speed (mph)	30		30			30
Link Distance (ft)	498		177			199
Travel Time (s)	11.3		4.0			4.5
Peak Hour Factor	0.89	0.89	0.69	0.69	0.90	0.90
Heavy Vehicles (%)	0%	1%	4%	0%	1%	2%
Adj. Flow (vph)	18	313	41	12	392	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	331	0	53	0	0	440
Sign Control	Stop		Stop			Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.3%
ICU Level of Service	A
Analysis Period (min)	15

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	279	28	8	353	43
Future Vol, veh/h	16	279	28	8	353	43
Peak Hour Factor	0.89	0.89	0.69	0.69	0.90	0.90
Heavy Vehicles, %	0	1	4	0	1	2
Mvmt Flow	18	313	41	12	392	48
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	11	8.7	15.3
HCM LOS	B	A	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	5%	89%
Vol Thru, %	78%	0%	11%
Vol Right, %	22%	95%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	36	295	396
LT Vol	0	16	353
Through Vol	28	0	43
RT Vol	8	279	0
Lane Flow Rate	52	331	440
Geometry Grp	1	1	1
Degree of Util (X)	0.076	0.421	0.602
Departure Headway (Hd)	5.273	4.572	4.925
Convergence, Y/N	Yes	Yes	Yes
Cap	683	782	726
Service Time	3.273	2.63	3.004
HCM Lane V/C Ratio	0.076	0.423	0.606
HCM Control Delay	8.7	11	15.3
HCM Lane LOS	A	B	C
HCM 95th-tile Q	0.2	2.1	4.1

Lanes, Volumes, Timings
 1: Prospect St/Propsect St & Finn St

2025 PM Peak
 AWSC






Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	385	36	13	337	45
Future Volume (vph)	15	385	36	13	337	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.870		0.964			
Flt Protected	0.998					0.958
Satd. Flow (prot)	1650	0	1695	0	0	1800
Flt Permitted	0.998					0.958
Satd. Flow (perm)	1650	0	1695	0	0	1800
Link Speed (mph)	30		30			30
Link Distance (ft)	498		177			199
Travel Time (s)	11.3		4.0			4.5
Peak Hour Factor	0.88	0.88	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	0%	0%	11%	0%	1%	2%
Adj. Flow (vph)	17	438	47	17	383	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	0	64	0	0	434
Sign Control	Stop		Stop			Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.0%
ICU Level of Service	B
Analysis Period (min)	15

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	385	36	13	337	45
Future Vol, veh/h	15	385	36	13	337	45
Peak Hour Factor	0.88	0.88	0.77	0.77	0.88	0.88
Heavy Vehicles, %	0	0	11	0	1	2
Mvmt Flow	17	438	47	17	383	51
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	14.5	9.5	17.7
HCM LOS	B	A	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	4%	88%
Vol Thru, %	73%	0%	12%
Vol Right, %	27%	96%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	49	400	382
LT Vol	0	15	337
Through Vol	36	0	45
RT Vol	13	385	0
Lane Flow Rate	64	455	434
Geometry Grp	1	1	1
Degree of Util (X)	0.102	0.598	0.646
Departure Headway (Hd)	5.763	4.739	5.355
Convergence, Y/N	Yes	Yes	Yes
Cap	620	768	673
Service Time	3.81	2.739	3.386
HCM Lane V/C Ratio	0.103	0.592	0.645
HCM Control Delay	9.5	14.5	17.7
HCM Lane LOS	A	B	C
HCM 95th-tile Q	0.3	4	4.7