

**PRIORITY INVESTIGATION
LOCATION (PIL) STUDY**

**HUNTINGTON STATION
GATEWAY DEVELOPMENT**

Huntington Station

Town of Huntington

July 2015

N & P JOB NO. 12019

NELSON & POPE
ENGINEERS & SURVEYORS



572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2188 . (631)427-5665 . FAX(631)427-5620 . www.nelsonpoppe.com

Accident Analysis

Accident data (MV 104 reports) within the study area was provided to us by the New York State Department of Transportation. This data was reviewed and analyzed. Within the study area, there were a total of 135 accidents during a three year period from January, 2011, through December, 2013. There were no fatal accidents experienced during the study period. Accident rates were calculated for each of the ten intersections and the NYS Route 110 roadway segments between these intersections. These rates were then compared with average statewide accident rates for similarly configured intersections and roadway segments. The following table summarizes the accident data by location, severity and accident rates. Detailed calculations by location are included in the appendix of this report. Statistical reports are also included in the appendix of the report, which show each intersection's statistics, such as number of accidents per accident type, severity, season, time of day, and weather. Also appended are collision diagrams for each intersection, which illustrates the number of accidents per accident type and show whether an injury occurred.

TABLE 1: ACCIDENT SUMMARY BY SEVERITY AND ACCIDENT RATE

Location	Accident Severity					Intersection /Linear Section Accident Rate	
	Fatality	Injury	Property Damage	TOTAL (3 years)	Average (per year)	Calculated Accident Rate	NYSDOT Accident Rate
NYS Route 110 between Pulaski Rd and W 4 th St	0	2	1	3	1	2.10	1.38
NYS Route 110 at W 4 th St	0	0	0	0	0	0	0.10
NYS Route 110 between W 4 th St and Depot Rd	0	2	2	4	1.3	1.81	1.38
NYS Route 110 at Depot Rd	0	7	14	21	7	0.82	0.15
NYS Route 110 between Depot Road and E 2 nd St	0	0	0	0	0	0	1.38
NYS Route 110 at E 2 nd St	0	9	18	27	9	1.34	0.10
NYS Route 110 between E 2 nd St and Broadway/Railroad St	0	4	4	8	2.7	3.06	1.38
NYS Route 110 at Broadway/Railroad St	0	15	23	38	12.7	1.19	0.23
NYS Route 110 between Broadway/Railroad St and May St	0	2	3	5	1.7	2.26	1.38
NYS Route 110 at May St	0	0	0	0	0	0	0.06
NYS Route 110 between May St and Northridge St	0	2	1	3	1	1.86	1.38
NYS Route 110 at Northridge St	0	2	4	6	2	0.30	0.14
NYS Route 110 between Northridge St and Henry St	0	0	0	0	0	0	1.38
NYS Route 110 at Henry St	0	4	8	12	4	0.60	0.06
NYS Route 110 between Henry St and Church St	0	0	0	0	0	0	1.38
NYS Route 110 at Church St	0	3	1	4	1.3	0.19	0.06
NYS Route 110 between Church St and Olive St	0	0	0	0	0	0	1.38
NYS Route 110 at Olive St	0	0	0	0	0	0	0.15
NYS Route 110 between Olive St and Academy Pl/Nassau Rd	0	0	0	0	0	0	1.38
NYS Route 110 at Academy Pl/Nassau Rd	0	3	1	4	1.3	0.16	0.23
Total	0	55	80	135	45		
	0%	41%	59%	100%	100%		

As can be seen from Table 1, a majority of the accidents, 59% (80), involved property damage and 41% (55 accidents) involved injury. No fatal accidents were experienced during the study period. Table 1 indicates six of the ten analyzed intersections and five of the ten roadway segments exhibit

accident rates above statewide averages. The majority of the NYS Route 110 cross-section within the study area contains a 4-lane cross-section (two through lanes in each travel direction).

Table 2, on the next page, contains the accident data summarized by location and type of collision. Rear-end collisions were the most prevalent and accounted for 31% of the accidents. The second most frequent type of collision consisted of accidents involving cyclists/pedestrians at 15%. The third most frequent type of collision was right angle accidents, accounting for 13% of accidents. Overtaking and left-turn accidents were the fourth most prevalent collision type and each represented 10% of the total accidents. Other/Unknown types of accidents accounted for 7% of total accidents. Fixed Object accidents made up 4% of total accidents. Right-turn accidents, sideswipe accidents and collisions involving parked vehicles each accounted for 3% of accidents. Lastly, head-on collisions represent 1% of total accidents.

TABLE 2: ACCIDENT SUMMARY BY TYPE OF COLLISION

Location	Accident Type												Total
	Right Angle	Rear End	Parked	Left Turn	Right Turn	Head On	Fixed Object	Ped/Bicycle	Side-Swipe	Over-Taking	Backing	Other/Unknown	
NYS Route 110 between Pulaski Rd and W 4 th St	0	1	0	0	0	0	0	1	0	1	0	0	3
NYS Route 110 at W 4 th St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 between W 4 th St and Depot Rd	0	3	0	0	0	0	0	1	0	0	0	0	4
NYS Route 110 at Depot Rd	2	7	0	5	0	0	1	1	0	2	0	3	21
NYS Route 110 between Depot Road and E 2 nd St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 at E 2 nd St	5	4	0	4	2	0	0	4	1	4	0	3	27
NYS Route 110 between E 2 nd St and Broadway/Railroad St	0	4	0	1	0	0	0	1	1	0	0	1	8
NYS Route 110 at Broadway/Railroad St	5	14	2	2	1	1	1	7	2	2	0	1	38
NYS Route 110 between Broadway/Railroad St and May St	0	3	0	0	0	0	1	0	0	1	0	0	5
NYS Route 110 at May St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 between May St and Northridge St	0	2	0	0	0	0	1	0	0	0	0	0	3
NYS Route 110 at Northridge St	2	2	0	0	1	0	0	0	0	1	0	0	6
NYS Route 110 between Northridge St and Henry St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 at Henry St	3	1	2	0	0	0	2	3	0	1	0	0	12
NYS Route 110 between Henry St and Church St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 at Church St	1	0	0	1	0	0	0	0	0	1	0	1	4
NYS Route 110 between Church St and Olive St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 at Olive St	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 between Olive St and Academy Pl/Nassau Rd	0	0	0	0	0	0	0	0	0	0	0	0	0
NYS Route 110 at Academy Pl/Nassau Rd	0	1	0	0	0	0	0	2	0	1	0	0	4
TOTAL	18 <i>13%</i>	42 <i>31%</i>	4 <i>3%</i>	13 <i>10%</i>	4 <i>3%</i>	1 <i>1%</i>	6 <i>4%</i>	20 <i>15%</i>	4 <i>3%</i>	14 <i>10%</i>	0 <i>0%</i>	9 <i>7%</i>	141 <i>100%</i>

In the following sections, each location with an accident rate higher than the statewide average is analyzed to identify the problem(s) and possible causes of the problem(s).

NYS Route 110 between Pulaski Road and W 4th Street – This segment of roadway is approximately 0.07 miles long and experienced an accident rate of 2.1 accidents per million vehicle miles (MVM), compared to the statewide average of 1.38 MVM. During the three year study period a total of 3 accidents occurred on this segment of roadway. All were different types of collisions; bicycle, overtaking and rear end. The bicycle collision involved a cyclist that was struck in the northbound shoulder of Route 110 at 4:40 am. The driver of the vehicle fled the scene and no apparent factors were listed. The overtaking accident involved a motorist turning right into a commercial driveway as he was passed on the right by another vehicle. Passing improperly was cited as a contributing factor. The rear end accident involved 3 vehicles and occurred in the southbound direction. The motorist who caused the collision was following too closely, struck the vehicle in front of them forcing it into the next vehicle in the traffic stream. These accidents were mainly caused by driver behavior and are not correctible by signing or geometric improvements.

NYS Route 110 between W 4th Street and Depot Road – This segment of roadway is approximately 0.11 miles long and experienced an accident rate of 1.81 MVM, compared to the statewide average of 1.38 MVM. During the three year study period a total of 4 accidents occurred on this segment of roadway. Three of the accidents were rear end collisions and one involved a pedestrian. Two of the rear end accidents occurred in the southbound direction and one in the northbound direction. Contributing factors were listed at slippery pavement, driver inattention and following too closely. The pedestrian accident involved a motorist exiting a commercial driveway on the east side of Route 110 to head southbound. The vehicle then struck a pedestrian crossing Route 110 at an unmarked/uncontrolled location. These accidents were mainly the result of driver/pedestrian behavior and are not correctible by signing or geometric improvements.

NYS Route 110 at Depot Road – During the three year study period a total of 21 accidents occurred at this location. This equates to a calculated accident rate of 0.82 per million entering vehicles (MEV) compared to the statewide average of 0.15 MEV for similarly configured intersections. Of the 21 accidents, 33% (7 accidents) are attributed to rear end collisions and nearly 24% (5

accidents) are attributed to left-turn collisions. Other/Unknown type collisions accounted for 14% (3 accidents) of the accidents. Right angle and overtaking accidents each accounted for approximately 10% (2 accidents) of the accidents. Fixed object and pedestrian accidents each accounted for 5% of total accidents (1 accident each). The majority of rear end accidents occurred in the northbound direction, but also occurred in all directions. The most common contributing factor is following too closely. Other factors include driver inattention, slippery pavement and reaction to uninvolved vehicle. The left-turn accidents primarily occurred with vehicles making a southbound left-turn onto Depot Road. One accident involved a vehicle making a northbound left-turn into the LIRR parking lot. The main contributing factor to these accidents was failure to yield right-of-way. Other factors were traffic control disregarded and driver inexperience. Turning improperly was listed as the contributing factor for two of the other/unknown type collisions. Passing or lane usage improper was cited as a contributing factor for one of the overtaking accidents. The pedestrian accident was caused by pedestrian error/confusion. As can be seen by reviewing the contributing factors, these accidents were caused by motorists' actions and are not correctible by additional signage, signal modifications or pavement markings. We have reviewed the traffic signal timings; yellow change interval, all-red clearance interval and pedestrian walk/don't walk intervals based on formulas contained in the ITE Traffic Engineering Manual. We recommend that the State review the all-red clearance intervals at this location to ensure adequacy. All other intervals satisfy current engineering standards.

NYS Route 110 at E 2nd Street – During the three year study period a total of 27 accidents occurred at this location. This equates to a calculated accident rate of 1.34 MEV compared to the statewide average of 0.10 MEV for similarly configured intersections. Of the 27 accidents, 19% (5 accidents) are attributed to right angle collisions. Rear end, left-turn, pedestrian/bicycle and overtaking accidents, each accounted for 15% of the accidents (4 accidents per collision type). Other/unknown type accidents accounted for 11% of accidents (3 accidents). Right-turn accidents accounted for approximately 7% of accidents (2 accidents) and there was one sideswipe collision (4% of accidents). The main contributing factor of the right angle accidents was failure to yield right-of-way. All rear end accidents occurred in the northbound direction and the most common contributing factor was following too closely. All of the pedestrian accidents involved pedestrians crossing the road at an unmarked/uncontrolled location. Contributing factors were pedestrian

error/confusion, however, one accident involved a driver using a cell phone under the influence of alcohol. Most contributing factors of the left-turn accidents were failure to yield right-of-way and turning improperly. As can be seen by reviewing the contributing factors, these accidents were caused by motorists' actions and are not correctible by additional signage or pavement marking modifications. The installation of a traffic signal is not feasible at this location due to its proximity to the signal at Depot Road. E 2nd Street could be converted from a one-way eastbound roadway to one-way westbound operation with a left-turn restriction. However, this change could yield undesirable results at other nearby intersections.

NYS Route 110 between E 2nd Street and Broadway/Railroad Street – This segment of roadway is approximately 0.12 miles long and experienced an accident rate of 3.06 MVM, compared to the statewide average of 1.38 MVM. During the three year study period a total of 8 accidents occurred on this segment of roadway. Four of the accidents were rear end collisions. The remaining four accident types were left-turn, pedestrian, sideswipe and other/unknown. The rear end accidents occurred in both directions, 2 northbound and 2 southbound. The main contributing factors for these collisions was following too closely. The left turn accident was caused by failure to yield right of way. The pedestrian collision occurred because the street crossing was done at an unmarked/uncontrolled location and the pedestrian “ran across the roadway”. The sideswipe accident occurred because a motorist was positioned on the opposite side of the full yellow barrier line, encroaching into the lane of opposing traffic. The other/unknown collision was the result of improper passing or lane usage. These accidents were mainly the result of driver/pedestrian behavior and are not correctible by signing or geometric improvements.

NYS Route 110 at Broadway/Railroad Street – During the three year study period a total of 38 accidents occurred at this location. This equates to a calculated accident rate of 1.19 MEV compared to the statewide average of 0.14 MEV for similarly configured intersections. Of the 38 accidents, 37% (14 accidents) are attributed to rear end collisions. The second most prevalent accident type involved bicyclists/pedestrians and accounted for 18% of accidents (7 accidents). Right angle collisions accounted for 13% of accidents (5 accidents). Collisions involving parked vehicles, left turning vehicles, sideswipes and overtaking accidents each accounted for approximately 5% of accidents (2 accidents per each type). Right-turn, head-on, fixed object and

other/unknown type accidents each accounted for approximately 3% of accidents (1 accident per each type). The main contributing factor of the rear end collisions was following too closely. These accidents could be the result of general congestion, distracted driving and motorists rushing to make a LIRR train. Of the 7 accidents involving bicycles/pedestrians, 4 of the accidents involved bicycles and 3 involved pedestrians. In all but one of the 7 accidents, the cyclists or pedestrians were crossing against a green signal while utilizing the crosswalk or attempting to cross the roadway at an unmarked location. There was one accident where the pedestrian was crossing the eastbound approach (Railroad St) and a motorist making a permitted right turn on red, failed to yield to the pedestrian. Of the 5 right angle accidents, 2 involved motorists running a red light. Another involved a motorist making an illegal U-turn in the intersection. Other contributing factors were traffic control device disregarded and reaction to uninvolved vehicle. We have reviewed the traffic signal timings and found that the yellow change interval and all red clearance intervals to satisfy current engineering standards. The State may wish to review the pedestrian walk/don't walk times to ensure adequacy. These accidents were mainly the result of driver/pedestrian behavior and are not correctible by signing, timing or geometric improvements.

NYS Route 110 between Broadway/Railroad Street and May Street – This segment of roadway is approximately 0.10 miles long and experienced an accident rate of 2.26 MVM, compared to the statewide average of 1.38 MVM. During the three year study period a total of 5 accidents occurred on this segment of roadway. Three of the accidents were rear end collisions, one was a fixed object collision and the other was an overtaking collision. All rear end accidents occurred in the southbound direction. All vehicles involved in these collisions were queued waiting for the signal at Broadway/Railroad Street. The main contributing factors for all of these collisions was following too closely. One motorist also cited slippery pavement as his car skidded on sand. The overtaking accident involved a police vehicle that was responding to an emergency situation and struck another vehicle that was attempting to move from its path. The fixed object collision involved a motorist jumping the curb and striking a street sign, light pole and tree. Motorist then fled the scene. These accidents were mainly the result of driver behavior and are not correctible by signing or geometric improvements.

NYS Route 110 between May Street and Northridge Street – This segment of roadway is approximately 0.08 miles long and experienced an accident rate of 1.86 MVM, compared to the statewide average of 1.38 MVM. During the three year study period a total of 3 accidents occurred on this segment of roadway. Two of the accidents were rear end collisions and one was a fixed object. All rear end accidents occurred in the southbound direction. All vehicles involved in these collisions were queued waiting for the signal at Broadway/Rail Road Street. The main contributing factors for these collisions was following too closely. The fixed object collision involved a motorist jumping the curb and striking a street sign, light pole and tree. Motorist then fled the scene. These accidents were mainly the result of driver behavior and are not correctible by signing or geometric improvements.

NYS Route 110 at Northridge Street – During the three year study period a total of 6 accidents occurred at this location. This equates to a calculated accident rate of 0.30 MEV compared to the statewide average of 0.14 MEV for similarly configured intersections. Of the 6 accidents, 33% (2 accidents) are attributed to right angle and rear end collisions. The remaining two collisions consisted of a right-turn collision and overtaking collision (17% each). The right angle collisions were attributed to failure to yield right-of-way and driver inexperience. The rear end collisions were attributed to unsafe speed, unsafe lane changing and driver inattention. The contributing factor of the right-turn accident was turning improperly. The overtaking accident was caused by a motorist improper passing/lane use. As can be seen by reviewing the contributing factors, these accidents were caused by motorists' actions and are not correctible by additional signage or pavement marking modifications. The installation of a traffic signal is not warranted based on the frequency of collisions that could be corrected by its installation.

NYS Route 110 at Henry Street – During the three year study period a total of 12 accidents occurred at this location. This equates to a calculated accident rate of 0.60 MEV compared to the statewide average of 0.06 MEV for similarly configured intersections. Of the 12 accidents, right angle and bicycle/pedestrian collisions each accounted for 25% of accidents (3 accidents each type). Fixed object and parked vehicle collisions both accounted for 17% of accidents (2 each type). The remaining two collisions consisted of a rear end collision and an overtaking collision

(8% each). Of the 3 bicycle/pedestrian accidents, 2 involved pedestrians and one involved a cyclist. Both pedestrians were crossing Route 110 at an unmarked/uncontrolled location. Contributing factors were listed as pedestrian error/confusion, for both accidents. The contributing factors for the bicycle accident were failure to yield right-of-way and turning improperly. The contributing factor for all right angle accidents was failure to yield right-of-way. As can be seen by reviewing the contributing factors, these accidents were caused by motorists' and pedestrians' actions and are not correctible by additional signage or pavement marking modifications. The installation of a traffic signal is not warranted based on the frequency of collisions that could be corrected by its installation.

NYS Route 110 at Church Street – During the three year study period a total of 4 accidents occurred at this location. This equates to a calculated accident rate of 0.19 MEV compared to the statewide average of 0.06 MEV for similarly configured intersections. The 4 accidents consisted of right angle, left-turn, overtaking and other/unknown type collisions. The common contributing factor for all accidents was failure to yield right-of-way. Turning improperly and view obstructed/limited were also listed. As can be seen by reviewing the contributing factors, these accidents were caused by motorists' and pedestrians' actions and are not correctible by additional signage or pavement marking modifications. The installation of a traffic signal is not warranted based on the frequency of collisions that could be corrected by its installation.

Conclusions

The accident analysis for NYS Route 110 between Pulaski Road (CR11) and Academy Place/Nassau Road indicated that the majority of accidents involved rear end and pedestrian accidents. A review of the MV 104's notes that the contributing factors in the majority of these accidents are driver inattention, following too closely, failing to yield right-of-way and disregarding of signal indications. Almost all of the pedestrian accidents were caused by pedestrians crossing at unmarked/uncontrolled locations or not utilizing provided pedestrian push buttons to activate the pedestrian walk/don't walk timings of the traffic signal controller. The right angle collisions were mostly a result of drivers failing to yield right-of-way. NYS Route 110 is a busy minor arterial roadway which provides access to many commercial properties, institutional uses and mass transit. It may be possible to eliminate some potential conflicts by reconfiguring E

2nd Street and driveway accesses between Broadway/Railroad Street and Depot Road, however, additional analysis would be required to evaluate the effect these changes would have on traffic operations and is outside the scope of this study or related proposed development. Pedestrians should be encouraged to utilize existing marked crossings as well as provided push buttons and signals with countdown timers. This may be achieved through a community outreach program.

Recommendations

Below, listed by location, are general recommendations which should help to improve overall safety within the study area.

NYS Route 110 and Church Street – The existing stop line on Church Street is faded and needs to be refurbished. The sight distance to the north can be improved for motorists exiting Church Street by trimming the trees located on the northwest corner of the intersection.

NYS Route 110 and Henry Street – The existing faded stop sign should be replaced and the faded stop line should be refurbished.

NYS Route 110 and Northridge Street – The stop line on Northridge Street is faded and needs to be refurbished. Opposite Northridge Street is an access to the LIRR commuter lot. This access should have a full yellow barrier line, stop sign and stop line to further advise the motorist as they enter/exit the parking lot via NYS Route 110.

NYS Route 110 and May Street – The stop sign for May Street is blocked by foliage which needs to be trimmed to improve the visibility of the stop sign. The faded stop line needs to be refurbished as well.

NYS Route 110 and Broadway/Railroad Street – The signal display for the eastbound approach of Railroad Street is limited by foliage which needs to be trimmed. Due to the curvature of the eastbound Railroad Street approach an additional signal face should be placed on the strain pole located on the northeast corner to improve the signal visibility. Secondly, for both approaches to

NYS Route 110 (Broadway and Railroad Street) the signal faces should be changed from 8 inch to 12 inch to improve their visibility.

NYS Route 110 and E 2nd Street – The accidents occurring here are tied to the issues listed above. Secondly, motorists that desire to turn left into E 2nd Street create operational issues for those desiring to turn left onto Depot Road. Left-turns should be prohibited into E 2nd Street so that the only movement into this one-way eastbound street will be northbound right-turns.