

ALLWOOD ROAD ROAD SAFETY AUDIT

Clifton, Passaic County, New Jersey

REPORT

>> December 2015

RSA facilitated by the Transportation Safety Resource Center (TSRC) at the Rutgers Center for Advanced Infrastructure and Transportation (CAIT) in partnership with the North Jersey Transportation Planning Authority (NJTPA) and Passaic County, with funding provided by FHWA and NJDOT

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>> INTRODUCTION

WHAT IS A ROAD SAFETY AUDIT (RSA)?

CAIT's Transportation Safety Resource Center (TSRC) offers a statewide Road Safety Audit (RSA) service at no charge to New Jersey towns and counties. Interested parties can request RSA surveys conducted by a team of engineers, planners, and law-enforcement officers to help municipalities and counties make cost-effective safety improvements.

A multidisciplinary team of professionals offers assessments on roadway issues such as pedestrian and bicycle safety, intersection analyses, rural roads, human factors, speed management, and sign visibility and retroreflectivity standards.

RSAs include data-driven considerations and analysis of crashes. To determine the best safety solutions, RSA professionals perform incisive crash data evaluations on the target area using Plan4Safety, TSRC's award-winning crash database and software. The Plan4Safety tool belongs to the New Jersey Department of Transportation and is maintained by the Rutgers Transportation Safety Resource Center.

The RSA team provides a final report that includes long- and short-term countermeasure recommendations that fit within the requestor's budget. Furthermore, RSAs pay off. According to the Federal Highway Administration (FHWA), countermeasures applied after RSAs can reduce crashes by about 60 percent.

For more information, contact Andy Kaplan, Safety Program Manager, at andy.kaplan@rutgers.edu.

DISCLAIMER

A Road Safety Audit report provided by the Center for Advanced Infrastructure and Transportation staff does not constitute an engineering report. The agency responsible for design and construction should consult a professional engineer licensed in the State of New Jersey in preparing construction documents to implement any of the safety countermeasures in the report.

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the New Jersey Department of Transportation or the Rutgers Center for Advanced Infrastructure and Transportation. This report does not constitute a standard, specification, or regulation. This document is disseminated under the sponsorship of the Department of Transportation, University Transportation Centers Program, in the interest of information exchange. The US government assumes no liability for the contents or use thereof.

EXECUTIVE SUMMARY

The Road Safety Audit (RSA) along Allwood Road in Clifton, Passaic County, was chosen as a result of the 2015 NJTPA network screening of crashes on county and municipal roadways. The rankings from the Network Screening were created using the database from the New Jersey Department of Transportation's Plan4Safety, developed and maintained by the Rutgers Transportation Safety Resource Center. The crashes were weighted according to severity. Two of the intersections along Allwood Road ranked high on the Intersection list. The Allwood Road roundabout, the intersection with Bloomfield Avenue, ranked number one in Passaic County, and the intersection with Passaic Avenue ranked number five. Upon detailed review of the individual crashes, it was discovered that some of the crashes had not been properly geocoded. If the intersection were to be re-ranked, it would not be ranked highest in the county. In addition to those two intersections, the county asked that the intersections at Book Court and at Dwasline Road be audited. The RSA process helped to identify safety issues, evaluate risks, and suggest countermeasures. This document is the final report for the RSA conducted in Clifton on October 2, 2015. The result, detailed in this report, is a summary of the intersections' safety history from 2011–2013, looking at the roadway corridor as a whole, and a listing of recommended improvements that were created by the RSA team.

Allwood Road (CR 602) is a heavily traveled east-west roadway, an Urban Minor Arterial. It parallels NJ Route 3 and is greatly affected by NJ Route 3 congestion. It connects CR 509 just west of the Garden State Parkway to CR 601 (Main Avenue), west of NJ 21, on the east. The cross section of the roadway is two lanes in each direction with no shoulders. The speed limit varies between 30–40 mph. There is a reverse curve and vertical curve in the vicinity of Dwasline Road which affects visibility.

There are numerous commercial properties and big box stores, primarily along the south side of the roadway, and cemeteries along the north side of Allwood Road. A heavily traveled roundabout is located at Bloomfield Avenue. The intersections of Book Court and Passaic Avenue are signalized, while Dwasline Road is stop controlled. The area around the Allwood Road roundabout is mostly commercial, with residential properties to the west. Buses from NJ Transit travel along Allwood Road, and navigate the roundabout, but there are no bus stops at any of the RSA intersections.

The biggest safety concern for this RSA is the Allwood Road roundabout. The primary focus for safety improvements is to improve guidance to drivers on how to navigate the roundabout, along with better wayfinding signs and lane delineation. The feasibility of revising the roundabout to one lane is also evaluated. Passaic Avenue and Book Court had a high percentage of left-turn crashes, and recommendations are aimed at improving left-turn movements. Excessive speed is an issue on parts of Allwood Road and with the problem of left turns, a road diet has been recommended for addressing this.

>> 1.0 CORRIDOR DESCRIPTION AND ANALYSIS

1.1 SITE SELECTION

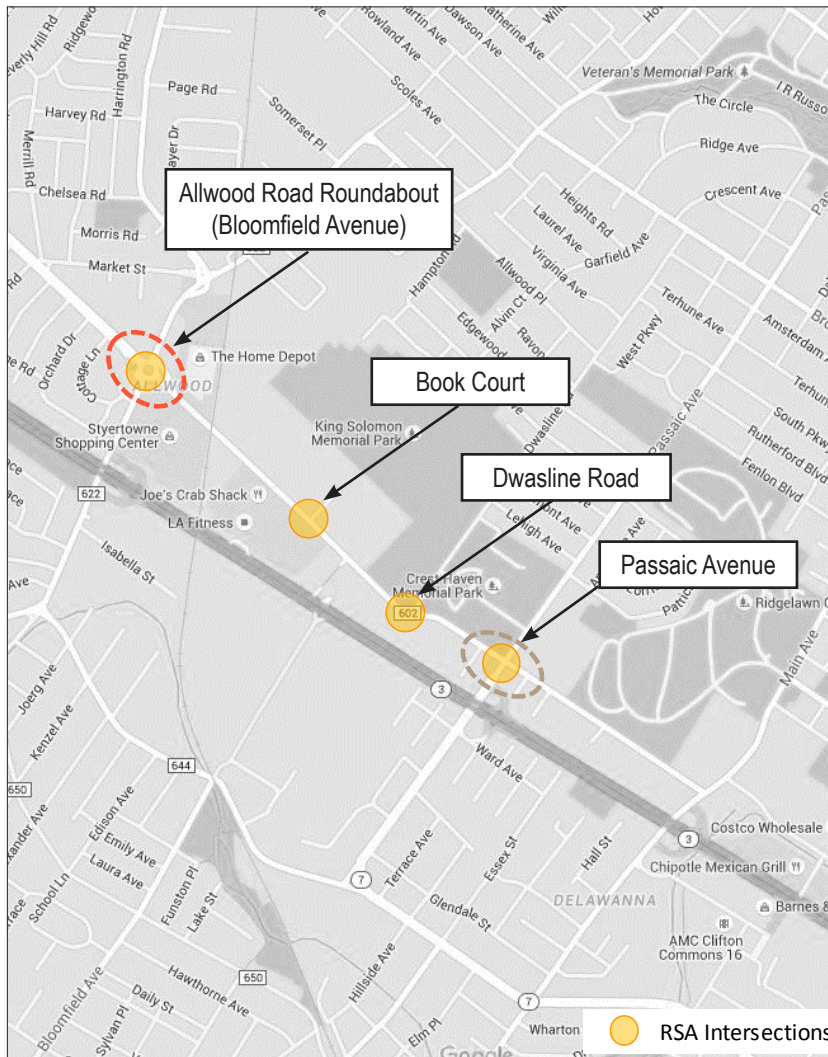


Figure 1 – Identified Priority High Crash Locations

As a result of a network screening analysis completed by Rutgers for NJTPA, Passaic County requested a Road Safety Audit along Allwood Road in Clifton. The local intersection network screening identified the Allwood Road roundabout, at Bloomfield Avenue, as the highest ranked intersection in Passaic County and number four in all the 2015 NJTPA rankings. Additionally, the network screening identified the intersection with Passaic Avenue as the fifth highest crash intersection in Passaic County. In order to maximize the impact of an RSA team reviewing these two intersections, the county also asked that the RSA include the intersections of Book Court and Dwasline Road, located on Allwood Road, between the Allwood Road roundabout and Passaic Avenue, based on the county’s local knowledge of safety concerns at these locations

After the RSA location was identified, Rutgers conducted detailed crash analysis of the individual crash reports at these locations. During the detailed review, it was found that some of the crashes identified at the Allwood Road Roundabout in the network screening were not properly geo-located. Additionally, a severe injury crash identified in the network screening was found to be the result of an incapacitating medical event; the medical condition

was not caused by the crash. If the intersection were to be re-ranked after correcting for data quality issues, the intersection would not be ranked as the highest in the county.

Data quality imperfections are known to be pervasive throughout the crash database, and are known to have an effect on the network screening analysis. Unfortunately, due to the prioritization of limited resources, the data quality cannot be corrected across the entire database of state-wide crashes. As such, network screening tools are developed to carefully analyze the available data to allow for the best data-driven decision to be made.

Although manual data correction revealed that the Allwood Road roundabout was not truly the top crash intersection in Passaic County, a number of injury crashes still occurred there, and the RSA team found good opportunities to improve safety along Allwood Road.

Symbol	Safety Focus	NJTPA Ranking	County Ranking
— — — —	Intersection Spot - Bloomfield Avenue	4	1
— — — —	Intersection Spot - Passaic Avenue	45	5

1.2 TRAFFIC VOLUMES

The 2012 traffic count for Bloomfield Avenue just south of the roundabout was 24,488. The 2012 traffic count on Allwood Road between Dwasline Road and Passaic Avenue was 20,657. (See Appendix B)

1.3 TRANSIT SERVICE

There is one bus route that runs along Allwood Road (as seen in Figure 2). Many buses pass through Allwood Road roundabout (as seen in Figure 3). The only bus stops in the area of the RSA intersections are adjacent to the roundabout to the west and south.

Route 13 (Irvington to Newark) runs along Allwood Road, Passaic Avenue south of Allwood Road, and through the Allwood Road roundabout.

Route 191, 192, 195, 199, 709—these five routes run through the Allwood Road roundabout, along Bloomfield Avenue and/or Allwood Road, west of the circle.

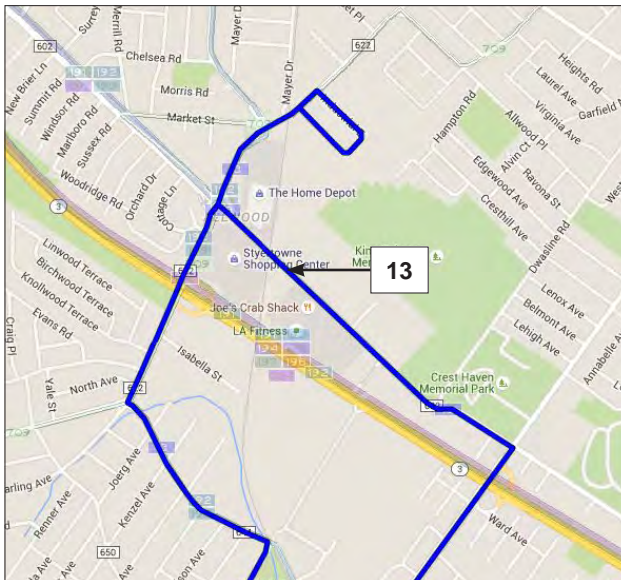


Figure 2 – NJ Transit Route 13

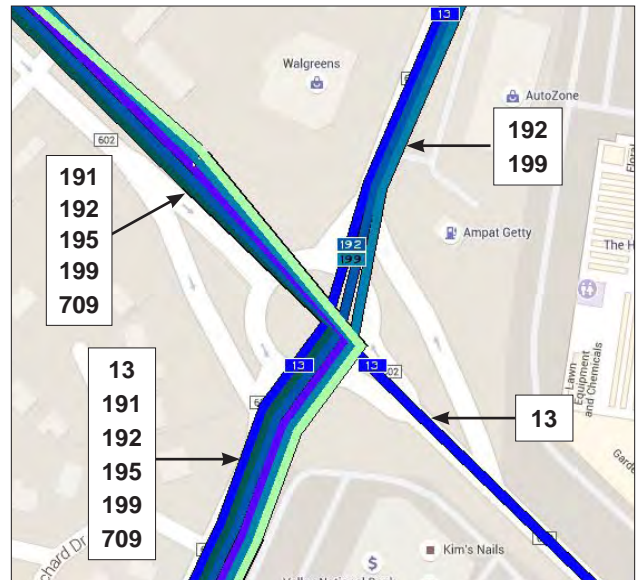
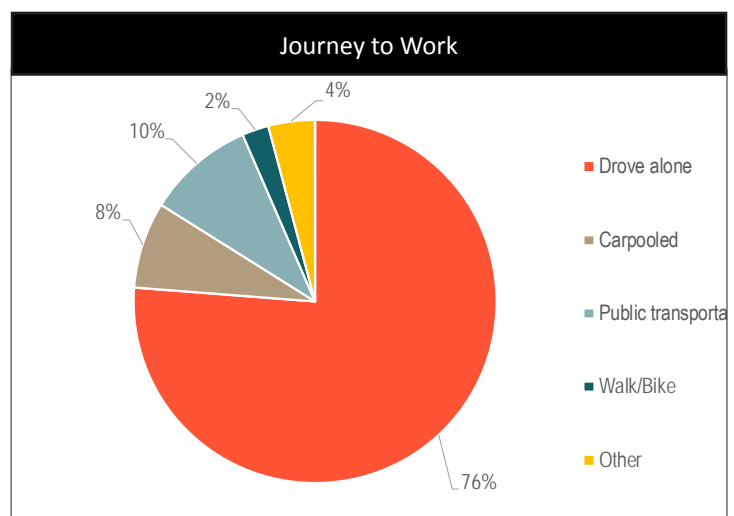


Figure 3 – Various NJ Transit routes through the Allwood Road roundabout

1.4 AREA CHARACTERISTICS

Allwood Road extends 2.5 miles between Broad Street (CR 509) to the west, crosses the Garden State Parkway, and terminates at Main Avenue (CR 601) on the east. Allwood Road is parallel to and directly north of NJ Route 3 and is significantly impacted by NJ Route 3 congestion. NJ Route 21 is located more than a mile to the east of Allwood Road and Main Avenue. (See map on following page –Figure 5.) There are large retail businesses along the corridor with a lot of vehicles accessing them. There are two lanes in each direction, with no parking on either side of the roadway. There is a sidewalk along the south side of Allwood Road, and at the roundabout. There are no facilities for bicycle travel.

As seen in Figure 4, the majority of the population commute by car.



Source: U.S. Census Bureau, ACS 2010 – American Community Survey 3-Year Estimates

Figure 4 – NJ Journey to Work

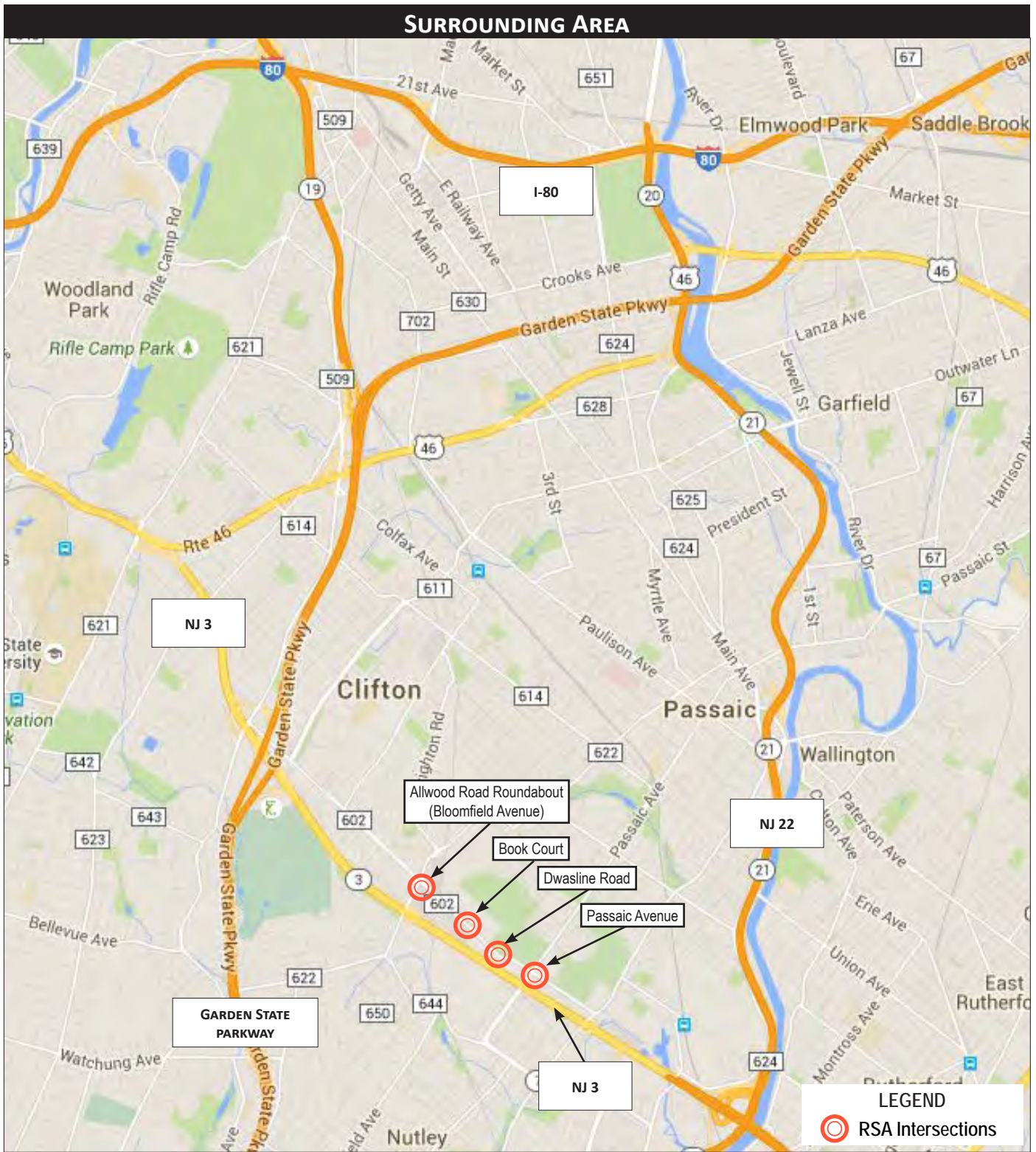


Figure 5 – RSA location within surrounding area

The intersections along Allwood Road are significantly impacted by NJ Route 3 congestion. There is access to NJ Route 3 from both Bloomfield Avenue and Passaic Avenue.

1.5 CROSS SECTION GEOMETRY



Figure 6 – Allwood Road cross section

This cross section is approximately 45 feet wide, with two lanes in each direction. The roadway is curbed with sidewalks on the south side of Allwood Road; parking is not permitted.

The Allwood Road roundabout (Bloomfield Avenue) has two lanes of traffic. The grassy center circle is curbed, as is the entire roundabout. There are sidewalk accommodations for pedestrians.



Figure 7 – Allwood Road roundabout cross section

1.6 INTERSECTION CHARACTERISTICS



Figure 8 – Allwood Road Roundabout

Allwood Road Roundabout (Bloomfield Avenue)

- Two lanes in roundabout
- Two lanes on all four legs into (and out of) the roundabout
- Pedestrian refuge islands on the four legs
- Bypass ramps from Allwood Road to Bloomfield Avenue prior to the roundabout



Figure 9 – Book Court

Book Court & Allwood Road

- Signalized intersection
- No dedicated left-turn lanes
- Shopping mall to the south
- Small businesses to the north
- No sidewalks or ramps on the north
- Sidewalks on south side of Allwood Road
- Two lanes exiting from the mall, dedicated right-turn lane



Figure 10 – Dwasline Road

Dwasline Road & Allwood Road

- Stop controlled at Dwasline Road
- Crest of vertical curve from the west
- Intersection on reverse horizontal curve
- Cemetery on northwest and northeast corners
- Retail businesses on south side of Allwood Road
- Entrance to Trader Joe's approximately 200' south of intersection with a lot of traffic



Figure 11 – Passaic Avenue

Passaic Avenue & Allwood Road

- Signalized intersection
- No dedicated left-turn lanes
- Sidewalks on both sides of roadway east of intersection; on south side, west of intersection
- Northwest corner: cemetery
- Northeast corner: office building
- Southwest corner: gas station; entrances very close to intersection on both Passaic Avenue and Allwood Road
- Southeast corner: parking lot to small office building
- Route 3 Ramp is 200' south of intersection

>> 2.0 CRASH FINDINGS—ALLWOOD ROAD ROUNDABOUT (BLOOMFIELD AVENUE)

2.1 CHRONOLOGY

The crashes in the Allwood Road roundabout increased from 29% in 2012 to 40% in 2013. The comparison to Passaic County crash data during the three year period is shown in “Figure 12 – Crashes by Year”.

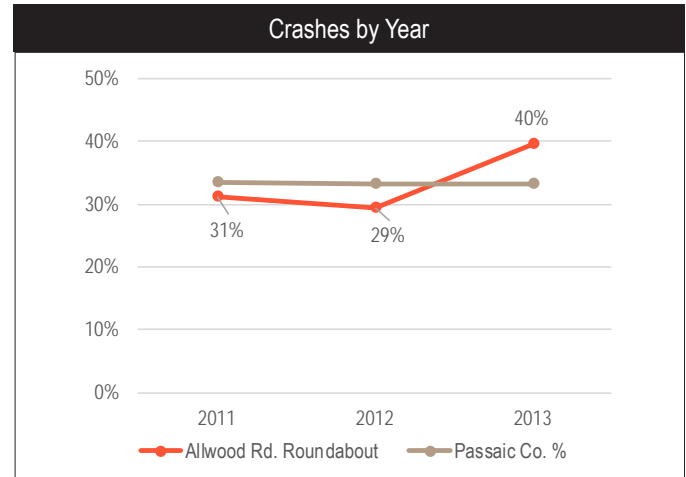


Figure 12 – Crashes by Year Allwood Rd. roundabout

2.2 SEVERITY

Severity	Same Direction Side Swipe	Fixed Object	All other crashes	TOTAL
Fatal	-	-	-	-
Incapacitated	-	1	-	1
Moderate Injury	-	-	-	-
Complaint of Pain	3	2	4	9
Property Damage Only	92	13	52	157
TOTAL	95	16	56	167

Figure 13 – Severity at Allwood Road roundabout

There were no pedestrian crashes during the 2011-2013 period. The majority of the crashes was as a result of Same-Direction crashes in the two lane roundabout. Although the volume of crashes was high, the severity was low.

2.3 COLLISION TYPE

The majority of the crashes, Same Direction—Sideswipe, were significantly over-represented when compared to Passaic County. There appeared to be a lot of confusion between the two lanes in the roundabout. The Right Angle crashes probably should have been coded as Same Direction—Sideswipe crashes.

Crash Type	# at Bloomfield Ave.	% at Bloomfield Ave.	% in Passaic County *
Same Direction - Rear End	15	9%	24%
Same Direction - Side Swipe	95	57%	13%
Right Angle	35	21%	15%
Encroachment	4	2%	0%
Fixed Object	16	10%	11%
Other	2	1%	37%
TOTAL	167	100%	100%

Figure 14 – Crash Type at Allwood Road roundabout vs. Passaic County

Note: The Passaic County numbers include all locations and do not only represent intersections.

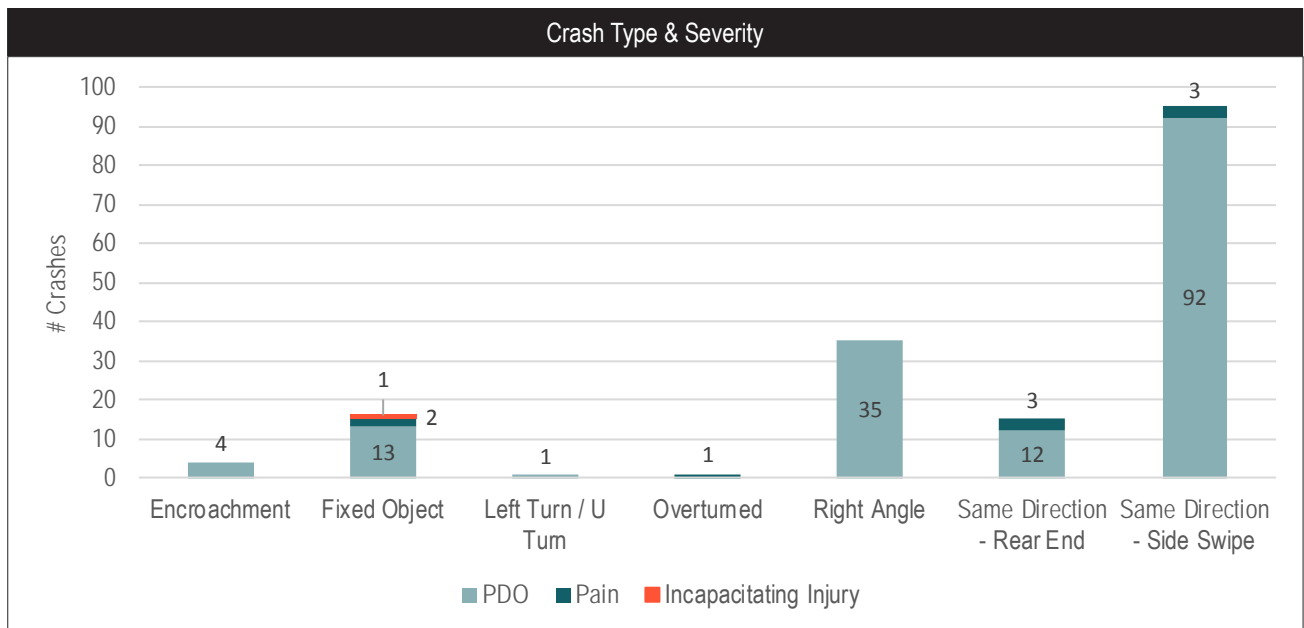


Figure 15 – Crash Type & Severity Allwood Road roundabout

2.4 ROADWAY SURFACE AND LIGHTING CONDITIONS

The roadway surface conditions and the lighting conditions were very similar to the overall findings of Passaic County for the same three year period.

2.5 CRASHES BY TIME

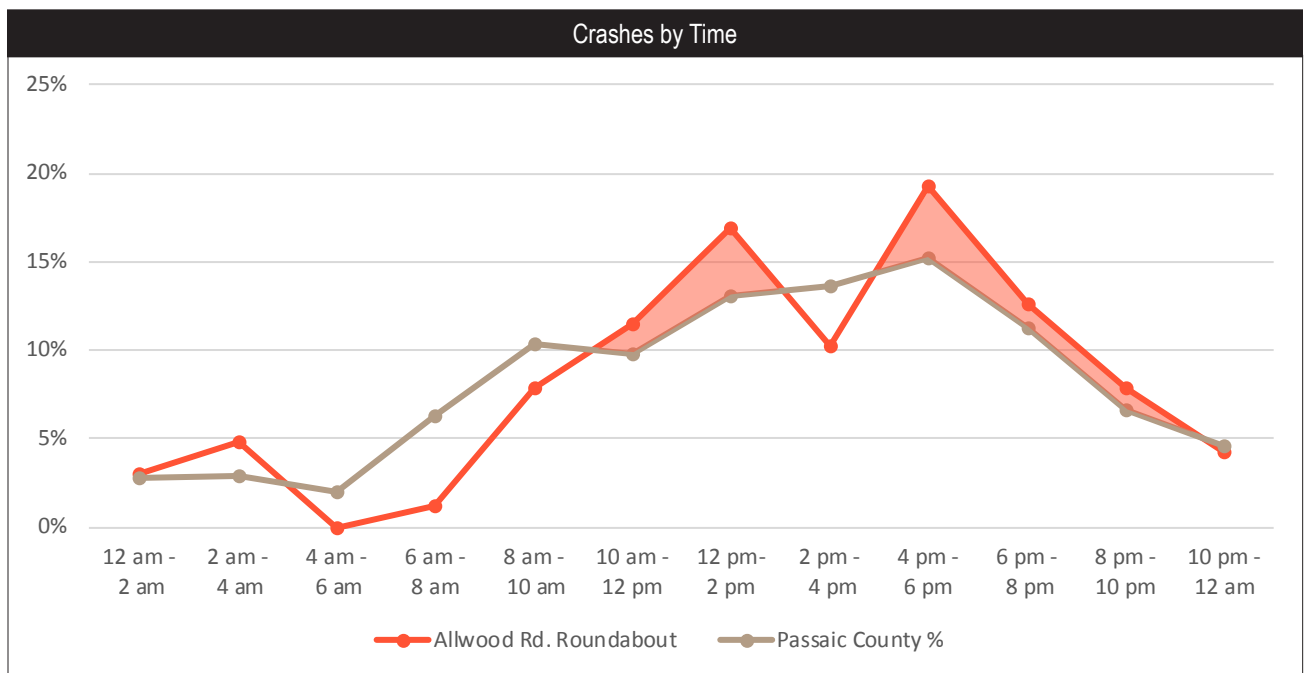


Figure 16 – Crashes by Time Allwood Road roundabout

There was a peak in crashes between noon–2 p.m. and again from 4– 6 p.m.

>> 3.0 CRASH FINDINGS—BOOK COURT

3.1 SEVERITY

Of the 29 crashes, 28 of them were property-damage-only or pain crashes. There was one incapacitating injury crash. This crash involved a motorcycle traveling at excessive speed through the intersection, striking a vehicle making a left turn into the shopping mall. The light was probably amber and the motorcyclist was trying to make it through the intersection. Most of the pain crashes were left-turn crashes.

3.2 COLLISION TYPE

More than half of the crashes were left-turn crashes, and these were significantly overrepresented as compared to Passaic County for the same time period.

Crash Type	# Book Court	% Book Court	% Passaic County *
Same Direction - Rear End	5	17%	24%
Same Direction - Side Swipe	3	10%	13%
Right Angle	1	3%	15%
Opposite Direction - Head On/Angular	2	7%	2%
Struck Parked Vehicle	1	3%	18%
Left Turn / U Turn	15	52%	2%
Pedestrian	1	3%	2%
Other	1	3%	24%
TOTAL	29	100%	100%

Figure 17 – Crash Type at Book Court vs Passaic County

* Note: See note on bottom of p. 11

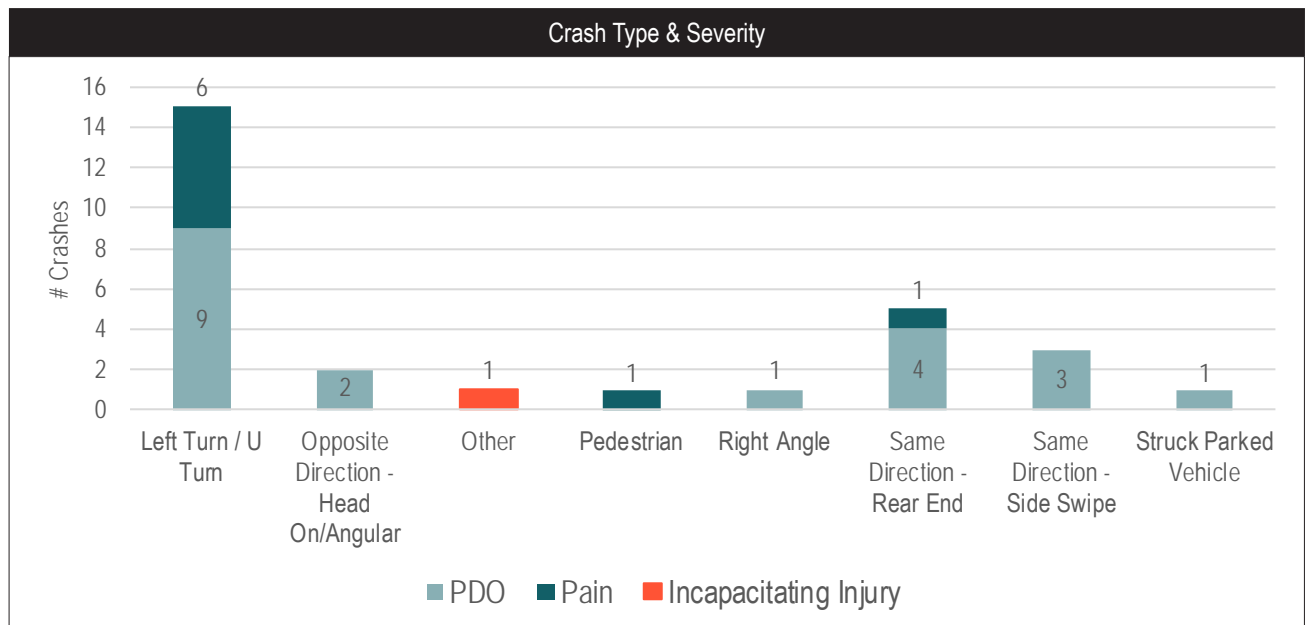


Figure 18 – Crash Type & Severity Book Court

The incapacitating injury crash is described above. Most of the pain crashes were left-turn crashes with one pedestrian crash and one same-direction rear-end crash. In the pedestrian crash, a pedestrian was crossing Book Court as a vehicle was turning right on red from the shopping mall.

>> 4.0 CRASH FINDINGS—Dwasline Road

4.1 SEVERITY

There were two moderate-injury crashes. The fixed-object crash occurred when the westbound driver lost control on the curved hill crest and crossed over to the eastbound side, running off the road; alcohol was a factor in this crash. The opposite-direction/head-on/angular crash occurred when the westbound driver lost control of his vehicle.

4.2 COLLISION TYPE

The pedestrian crash was a result of walking in the roadway as the sidewalk was closed.

Crash Type	# Dwasline Road	% Dwasline Road	% Passaic County *
Same Direction - Rear End	4	15%	24%
Same Direction - Side Swipe	9	33%	13%
Right Angle	3	11%	15%
Opposite Direction - Head On/Angular	2	7%	2%
Left Turn / U Turn	1	4%	2%
Ped/Cyclist	1	4%	3%
Fixed Object	6	22%	11%
Other	1	4%	30%
TOTAL	27	100%	100%

Figure 19 – Crash Type at Dwasline Road intersection and Passaic County

* Note: See note on bottom of p. 11

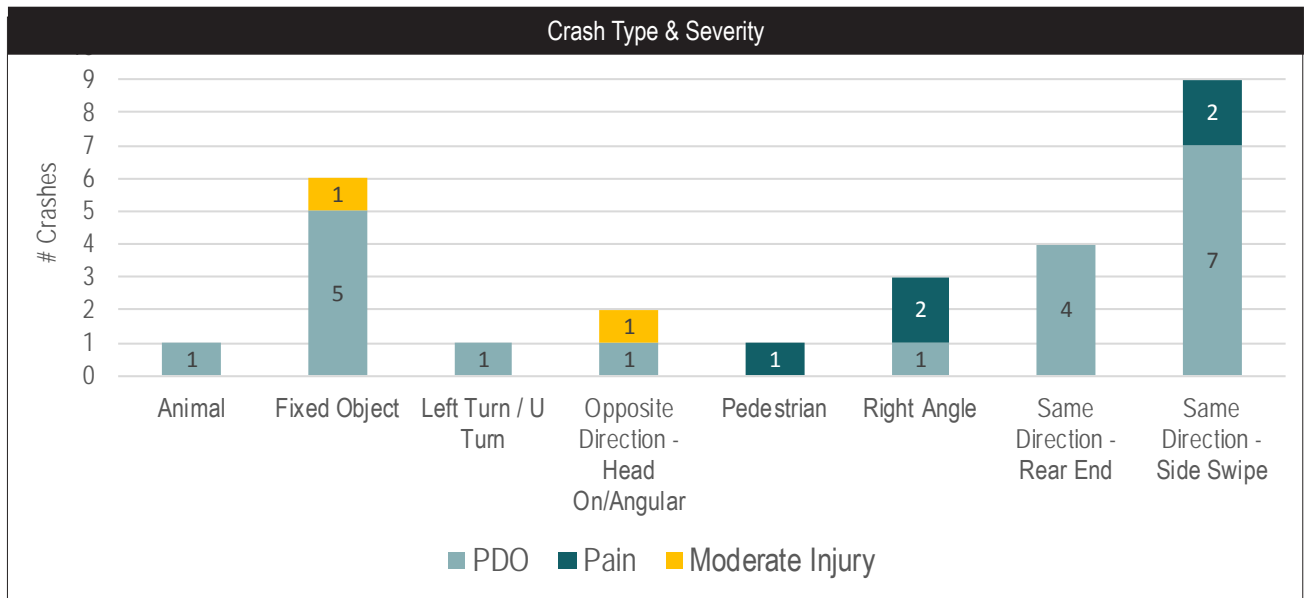


Figure 20 – Crash Type & Severity Dwasline Road

4.3 ROADWAY SURFACE AND LIGHTING CONDITIONS

Lighting may have been a contributing factor in crashes at Dwasline Road as seen in the chart to the right comparing it to Passaic County overall. The surface condition was similar to the overall conditions in Passaic County during the same three-year period.

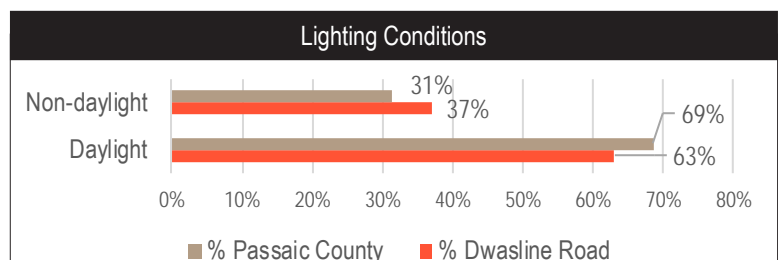


Figure 21 – Lighting Conditions Dwasline Road vs. County

>> 5.0 CRASH FINDINGS—PASSAIC AVENUE

5.1 CHRONOLOGY

The crashes at the Passaic Avenue intersection increased significantly from 2011–2012 and then returned to the 2011 numbers in 2013.

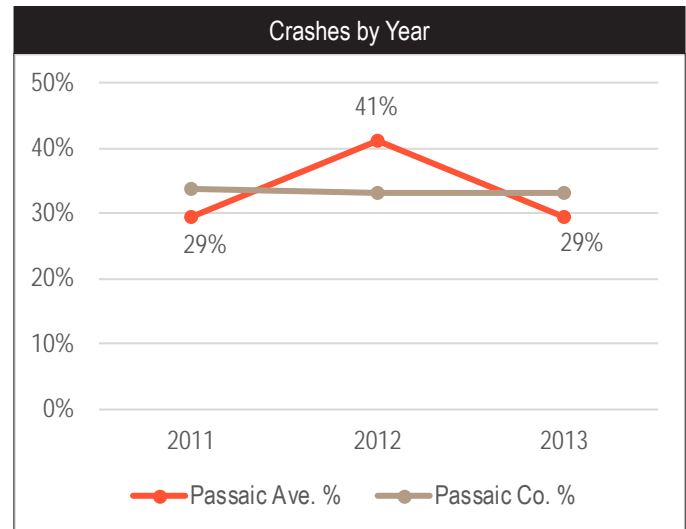


Figure 22 – Crashes by Year Passaic Avenue intersection

5.2 SEVERITY

Severity	Pedestrians	All other crashes	TOTAL
Fatal	1	-	1
Incapacitated	-	-	-
Moderate Injury	1	1	2
Complaint of Pain	-	13	13
Property Damage Only	-	52	52
TOTAL	2	66	68

Figure 23 – Crash Severity at Passaic Avenue intersection

The fatal pedestrian crash occurred at the southern crosswalk across Passaic Avenue. A southbound vehicle struck a pedestrian who was crossing against the red light, late at night. The moderate injury pedestrian crash occurred at the northern crosswalk across Passaic Avenue, when a left-turning vehicle struck the pedestrian. The other moderate injury occurred when a vehicle traveling eastbound on Allwood Road went through a red light.

5.3 COLLISION TYPE

The left-turn crashes are significantly overrepresented as compared to Passaic County overall during the same three-year period.

Crash Type	# Passaic Ave.	% Passaic Ave.	% Passaic County *
Same Direction - Rear End	14	21%	24%
Same Direction - Side Swipe	13	19%	13%
Right Angle	10	15%	15%
Left Turn / U Turn	25	37%	2%
Backing	2	3%	8%
Fixed Object	2	3%	11%
Pedestrian	2	3%	2%
Other	0	0%	25%
TOTAL	68	100%	100%

Figure 24 – Crash Type at Passaic Avenue intersection vs. Passaic County

* Note: See note on bottom of p. 11

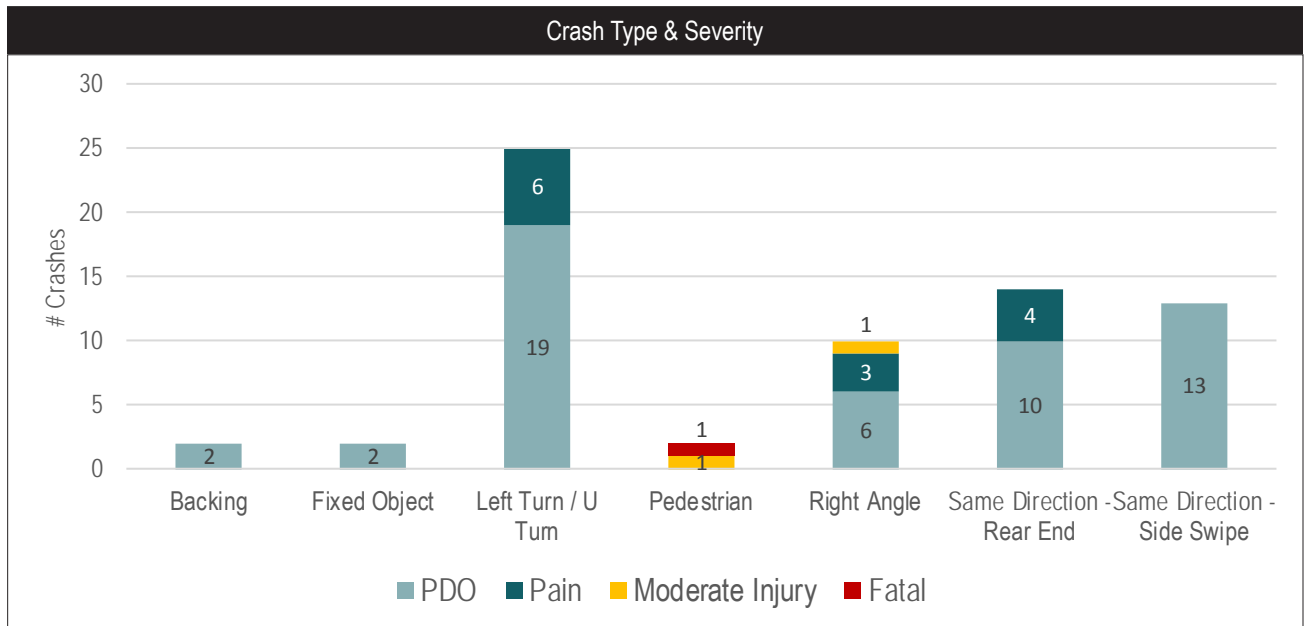


Figure 25 – Crash Type & Severity Passaic Avenue

5.4 ROADWAY SURFACE AND LIGHTING CONDITIONS

Lighting conditions and roadway conditions do not appear to be significant factors in the crashes at the Passaic Avenue intersection. A higher percentage of the crashes occurred during daylight hours and in dry conditions, as compared to Passaic County crashes during the three year period of 2011–2013.

5.5 CRASHES BY TIME

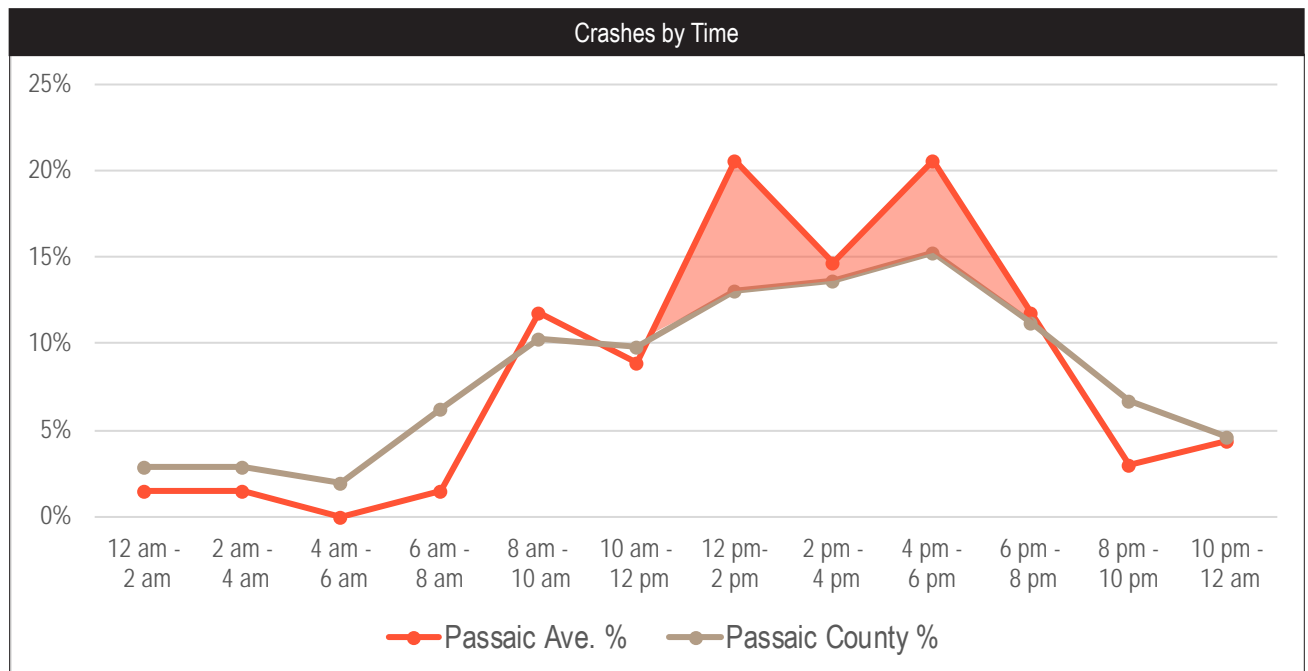


Figure 26 – Crashes by Time Passaic Avenue vs. County

The peak in crashes occurred between noon–2 p.m. and between 4–6 p.m., as compared to Passaic County overall during the same three-year period.

>> 6.0 IDENTIFIED ISSUES

Ref #	Issues List
Corridorwide	
Operations	
1	Left turns are difficult to execute, to and from driveways and intersections.
2	There is a history of left-turn crashes.
3	Excessive speed is an issue in the wide-open four-lane cross section.
Bicycles	
4	There are no accommodations for bicycle travel along the Allwood Road corridor.
Allwood Road Roundabout / Bloomfield Avenue	
Operations	
5	There is a lot of driver confusion in the multi-lane roundabout.
6	Many vehicles do not obey the yield signs.
7	There is a lack of lane delineation.
8	Vehicles are not always in the appropriate lane for their desired destination.
9	Abrupt lane changes in the roundabout occur when vehicles find they are in the wrong lane.
10	The vehicle in the outside lane often hugs the centerline or encroaches into the left lane in order to create space away from cars waiting to merge into the roundabout.
11	There is inadequate advance warning about roundabout movements and lane direction.
Pedestrians	
12	Pedestrian accommodations, such as ramps and detectable warning surfaces, are not fully ADA compliant.
13	There may not be sufficient awareness of pedestrians crossing in the crosswalks.
Signage	
14	Signage does not give clear direction to the drivers.
15	Some of the wayfinding signs are missing.
16	There is an abundance of individual signs with an overload of information the driver needs to absorb.
17	Some of the signs appear to be undersized.
18	Some of the signs lack retroreflectivity.
19	Some drivers do not sufficiently anticipate the presence of the roundabout.
Pavement Markings	
20	The roadway markings, especially the two lane delineation, are faded and not clearly visible to the drivers.
Book Court	
Operations	
21	Left hand turns, specifically into the mall entrance, are difficult to make.
22	Excessive speed is an issue at this intersection.
23	The wide driveway east of the intersection (on the north side of Allwood Road) is directly adjacent to the intersection, and access to it is a safety issue.
Pedestrian Facilities	
24	Pedestrian accommodations, such as ramps and detectable warning surfaces, are not fully ADA compliant.
25	There are no ramps or detectable warning surfaces on the north side of Allwood Road.
26	The pedestrian pushbuttons are not located according to design standards; they are too far away from the crossing.
Visibility	
27	Westbound drivers on Allwood Road have reduced visibility due to the vertical curve.
28	There is poor head-to-head left-turn visibility.

>> 6.0 IDENTIFIED ISSUES (CONTINUED)

Ref #	Issues List
29	Drivers exiting the mall have their visibility reduced by landscaping and mall signs situated at the mall exit.
	Pavement Markings
30	The roadway markings are faded and not clearly visible to drivers.
	Dwasline Road
	Operations
31	Because of the horizontal curves, drivers often cross over lane lines, encroaching on the adjacent lane.
32	The wide cross section and open roadway encourage speeding.
33	There have been some fixed-object crashes as a result of speeding on the curved roadway.
	Visibility
34	The vertical and horizontal curves create poor visibility for drivers.
	Signs
35	Some of the chevrons at the horizontal curves, on both sides of the roadway, are missing.
	Misc.
36	The utility pole on westbound Allwood Road has been struck multiple times.
	Passaic Avenue
	Operations
37	There is a significant volume of traffic at the intersection.
38	There is a history of left-turn crashes at this intersection.
39	There is significant congestion impact from the Route 3 ramp.
40	There are a significant number of left-turn crashes at the Route 3 ramp.
41	Access to the gas station on Passaic Avenue is too close to the intersection.
	Pedestrians
42	Pedestrian accommodations, such as ramps and detectable warning surfaces, are not fully ADA compliant.
43	There was significant ponding adjacent to the crossing, especially in the southeast corner.
44	There is a missing marked crosswalk across Allwood Road.
	Traffic Signal
45	The traffic signal heads were antiquated.
46	The pedestrian heads were not up to current design standards.
47	There is no left-turn phasing.
	Pavement Markings
48	The roadway markings are faded and not clearly visible to vehicles and pedestrians.
	Infrastructure
49	On the south leg of the intersection, on Passaic Avenue, there is a driveway that is blocked off with curb pieces.
50	The radius for eastbound traffic turning southbound on Passaic Avenue is too tight for trucks making the right turn.
	Visibility
51	Lighting may not address the nighttime visibility needs of both pedestrians and vehicles.
52	There was restricted visibility during head-to-head left turns.

VISUALIZING ISSUES—BLOOMFIELD AVENUE /ALLWOOD CIRCLE



Confusing lane use signs



Sign clutter



Faded pavement markings



Driver uncertainty over which lane to use



Poor lane delineation



Inadequate perception of safety when crossing roadway



Signs in poor condition



Vehicles waiting to merge into circle encroach into the lane

VISUALIZING ISSUES—BOOK COURT



Reduced visibility due to vertical curve



No ADA facilities on the north side of Allwood Road



ADA facilities are not fully ADA compliant



Wide open roadway encourages excessive speed



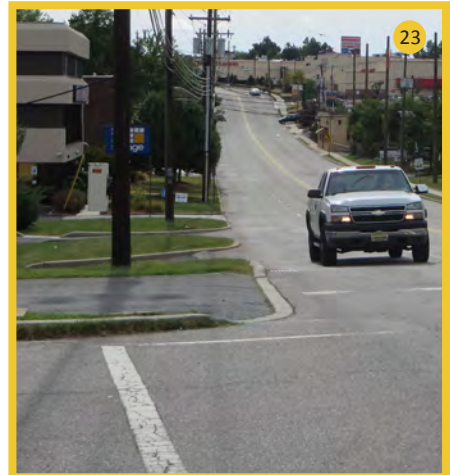
Crash history of left-hand turns



Pedestrian pushbuttons located too far away from crosswalk



Pavement markings are faded



Driveway directly adjacent to the intersection

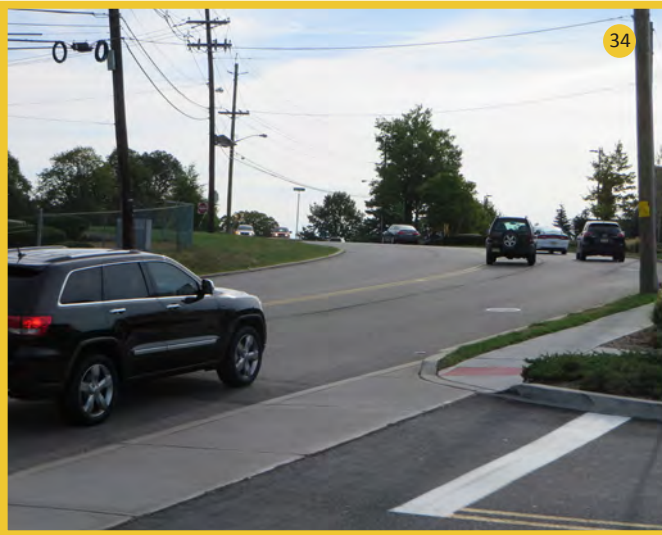
VISUALIZING ISSUES—Dwasline Road



Cars coming around the curve often cross into the adjacent lane



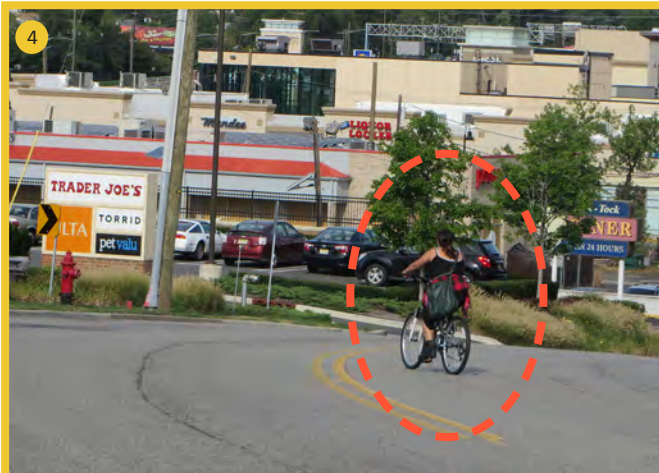
Chevrons and other indicators of the curves are lacking



Reverse horizontal curve and vertical curve at Dwasline Road



Utility pole has been struck numerous times as cars come around the curve

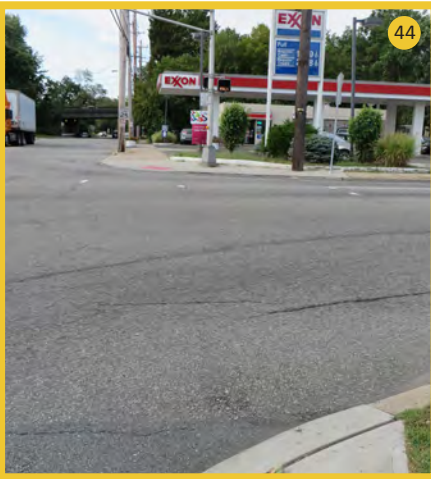


Poor conditions for bicyclists in the entire RSA area

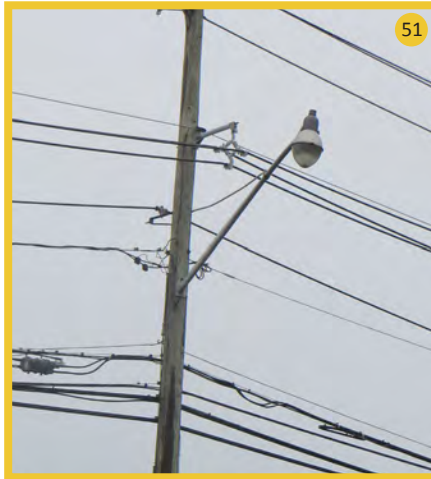


Just west of Dwasline Road is a busy driveway for commercial properties, attracting many left turns

VISUALIZING ISSUES—PASSAIC AVENUE



Lack of marked crosswalks



Poor lighting at the intersection



Antiquated pedestrian countdown signals



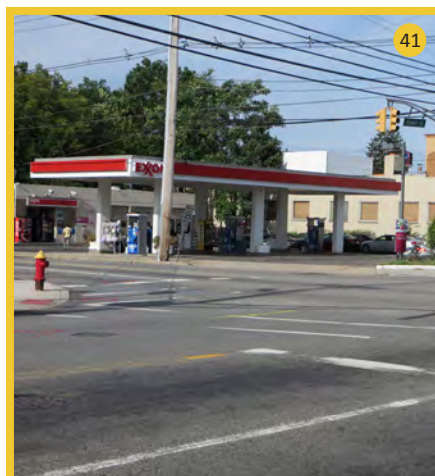
Difficulty making left turns and poor visibility



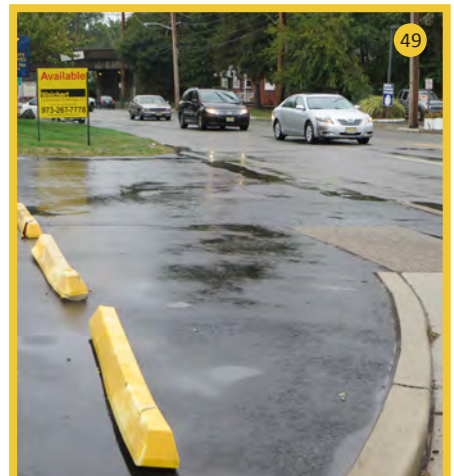
Close proximity of Route 3 ramp to Passaic Avenue intersection



Ponding issue at southeast corner



Access to gas station extremely close to intersection



Depressed curb in area where there should be regular curb and sidewalk

>> 7.0 RECOMMENDATIONS

Rec. #	Recommendations List	Safety Benefit	Time Frame	Cost	Jurisdiction	Issue Ref. #
A	Corridorwide					
	Operations					
1	Implement a road diet with one lane in each direction and a left-turn lane	High	Medium	\$\$	Passaic Co.	1, 2, 3, 32, 33
	Bicycles					
2	Evaluate the addition of bicycle lanes, if a road diet is implemented.	High	Medium	\$\$	Passaic Co.	4

B	Allwood Road Roundabout (Bloomfield Avenue)					
	Operations					
1	Conduct a capacity analysis to evaluate the warranted lanes (one or two)	Med/High	Medium	\$\$	Passaic Co.	5, 8, 9
2	Short Term: signing and striping, better signs	Med/High	Short	\$	Passaic Co.	5, 14, 16
3	Long Term (a): consider making the roundabout one lane instead of two.	High	Medium	\$\$	Passaic Co.	5, 8, 9
4	Long Term (b): improve the current two-lane roundabout.	Med/High	Medium	\$\$	Passaic Co.	5, 7, 8, 9
5	Make the two lanes 11-foot lanes	Med/High	Short	\$	Passaic Co.	5, 7
6	Add a 2-foot-wide hatched median between the 11-foot lanes	Med/High	Medium	\$	Passaic Co.	5, 7, 10
7	Move the Yield signs away from the roundabout lanes	Low	Short	\$	Passaic Co.	10
8	Enhanced enforcement could help educate drivers on proper yielding.	Med/High	Short	\$	Clifton	6, 10
	Pedestrians					
9	Install high-visibility crosswalks	Medium	Medium	\$	Passaic Co.	13
10	Upgrade all pedestrian facilities to current ADA standards	Medium	Medium	\$\$	Passaic Co.	12
11	Install Rectangular Rapid Flash Beacons (RRFB) to increase visibility of pedestrians	Med/High	Medium	\$\$	Passaic Co.	13
	Signage					
12	Review all wayfinding signs including advanced warning signs, and replace missing signs.	High	Medium	\$\$	Passaic Co.	14
13	Consider the installation of larger Yield signs and wayfinding signs.	Med/High	Short	\$	Passaic Co.	17
14	Consider the installation of large signs showing the exits off the roundabout and included lane designations.	High	Med/Long	\$\$	Passaic Co.	14, 16
15	Consider the installation of the large overhead signs, if there isn't enough room for ground-mounted signs.	High	Long	\$\$\$	Passaic Co.	14, 16
16	Install bright sticks on all regulatory and warning sign posts.	Med/High	Short	\$	Passaic Co.	18
	Pavement Markings					
17	New pavement markings need to be applied, preferably of a long-life material.	High	Short	\$	Passaic Co.	20

C	Book Court					
	Operations					
1	Install opposing left-turn lanes along Allwood Road.	High	Short	\$	City of Clifton	21, 28
2	A leading left-turn phase could be added, along Allwood Road, if there were no left-turn lanes.	High	Medium	\$	City of Clifton	21

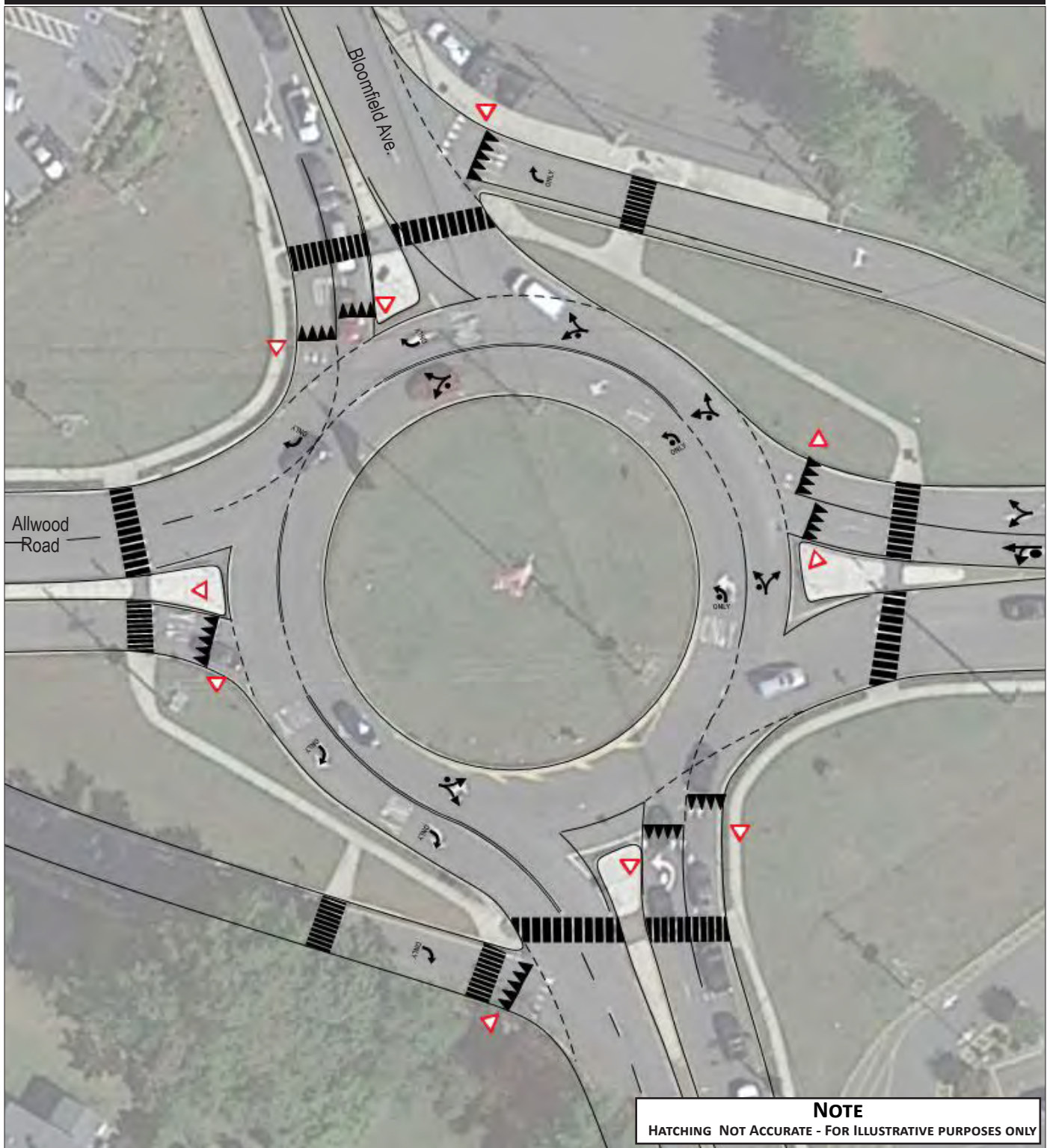
Rec. #	Recommendations List	Safety Benefit	Time Frame	Cost	Jurisdiction	Issue Ref. #
3	Consider "No Turn On Red" for traffic exiting the mall.	Med/High	Short	\$	City of Clifton	22, 27
4	Consider modifying the wide driveway access adjacent to the intersection, on the north side of Allwood Road, east of the intersection.	Medium	Medium	\$\$	Passaic Co. & City of Clifton	23
Pedestrian Facilities						
5	Install pedestrian facilities on all corners, and improve the existing facilities to meet current ADA standards.	Medium	Medium	\$\$	Passaic Co.	24, 25
6	Relocate the pedestrian push buttons to make them more accessible.	Medium	Long	\$\$	Passaic Co.	26
7	Conduct a pedestrian count to evaluate the need for improved pedestrian facilities.	Med/Low	Medium	\$	Passaic Co.	25

D Dwasline Road						
Operations						
1	Consider the installation on centerline rumble strips on Allwood Road.	High	Medium	\$	Passaic Co.	32
2	Consider the installation of transverse rumble strips in advance of the intersection from both directions.	High	Medium	\$	Passaic Co.	32
3	Consider using a "Your speed is....." sign.	Med/High	Short	\$	Clifton PD	32
Pavement Markings						
4	Paint edgeline stripe, or shoulder, along edge of roadway if the road diet is not implemented.	Med/High	Medium	\$	Passaic Co.	32
5	Install raised pavement markers between the two lanes in the same direction.	Med/High	Medium	\$\$	Passaic Co.	31
6	If roadway width allows, a two-foot buffered centerline can be striped.	Med/High	Medium	\$	Passaic Co.	32
Geometry						
7	Consider removing the westbound right-turn ramp.	Med/High	Long	\$\$	Passaic Co.	32
Signs						
8	Replace missing chevrons and oversize them.	High	Short	\$	Passaic Co.	35
9	Delineators along the edge of the roadway would bring attention to the curve.	High	Short	\$	Passaic Co.	34
Misc.						
10	Install guiderail in front of the utility pole on the westbound side of Allwood Road, east of the intersection, if warranted.	High	Med/Long	\$\$	Passaic Co.	36

C E Passaic Avenue						
Operations						
1	Install dedicated left-turn lanes on all four legs of the intersection.	High	Medium	\$	City of Clifton	38, 52
2	Coordinate with the NJDOT for left turns from the Route 3 ramp.	Med/High	Medium	\$	Passaic Co. & NJDOT	39, 40
3	Consider moving the travel lanes toward the north side of the road, in the event of a road diet, which would better accommodate the right-turning trucks from Allwood eastbound.	Medium	Medium	\$	Passaic Co.	50
Pedestrian Facilities						
4	Install ADA facilities that comply with current design standards.	Medium	Medium	\$\$	Passaic Co.	42
5	Upgrade the pedestrian heads.	Medium	Medium	\$\$	City of Clifton	46

Rec. #	Recommendations List	Safety Benefit	Time Frame	Cost	Jurisdiction	Issue Ref. #
6	Consider the installation of mountable bulb-outs (to accommodate turning trucks).	Medium	Medium	\$\$	Passaic Co.	50
	Traffic Signal					
7	Full upgrade to traffic signal	Med/High	Long	\$\$\$	City of Clifton	45
8	Consider an additional traffic signal head on the far side for each traffic lane.	Medium	Medium	\$\$	City of Clifton	45
9	Evaluate the volumes for the optimal signal phasing.	Med/High	Medium	\$	City of Clifton	47
	Pavement Markings					
10	Restripe pavement markings.	Med/High	Medium	\$	Passaic Co. & City of Clifton	48
	Infrastructure					
11	Reconstruct uncurbed section on the south leg of Passaic Avenue. to clearly separate the sidewalk from the roadway, and to improve drainage.	Med/High	Long	\$\$	Passaic Co.	49
12	Consider revising the radius on the southwest corner, and/or using mountable curb extensions, to better accommodate turning trucks.	Medium	Long	\$\$	Passaic Co.	50
	Visibility					
13	Improve pedestrian-level and vehicular-level lighting	Med/High	Long	\$\$\$	Passaic Co.	51
	Maintenance					
14	Improve drainage by performing maintenance, or improve drainage facilities.	Medium	Medium	\$\$	Passaic Co.	43

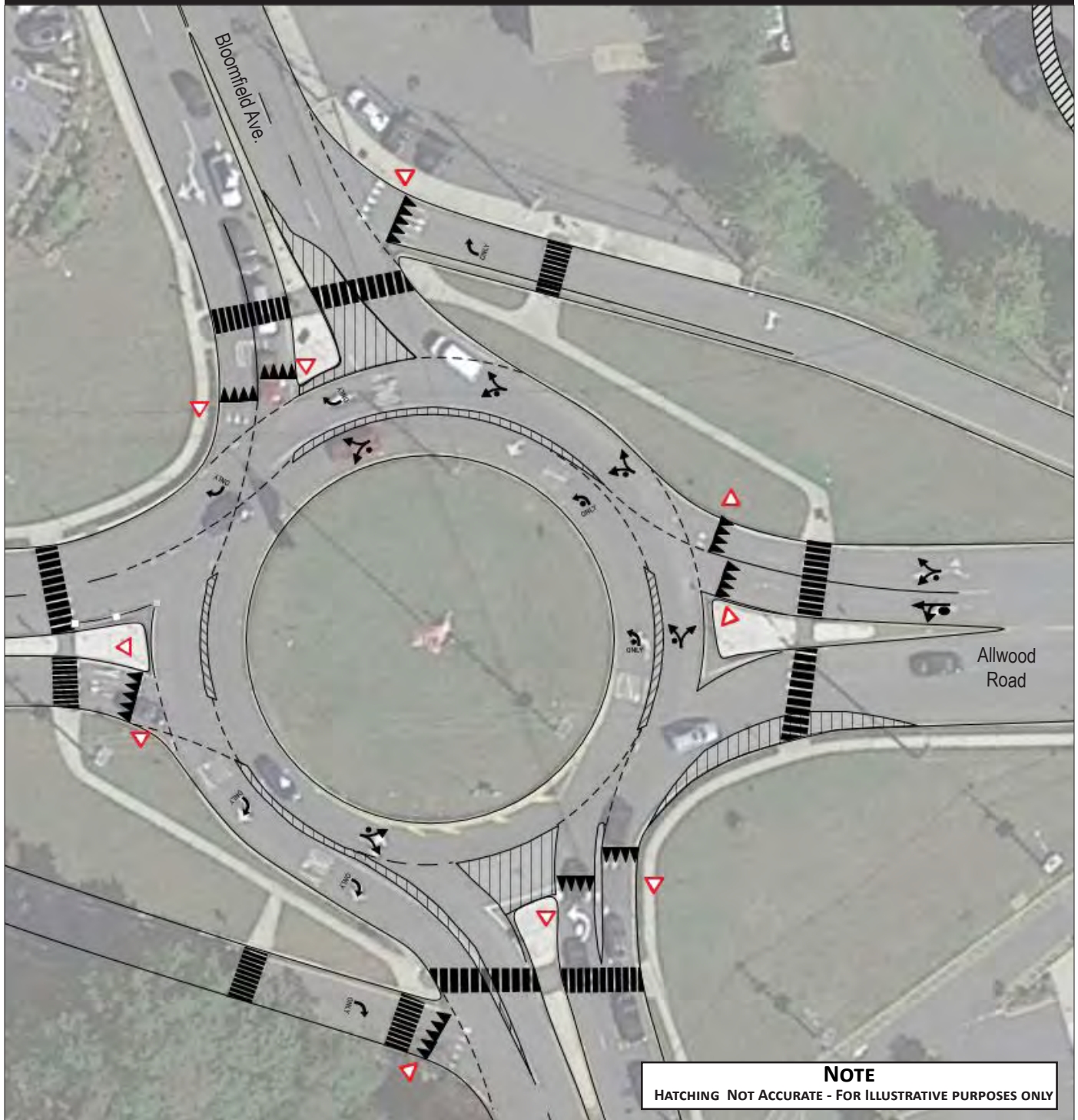
CONCEPT DESIGNS: ALLWOOD ROAD ROUNDABOUT—SHORT TERM



Maintaining existing conditions with improved signs and striping:

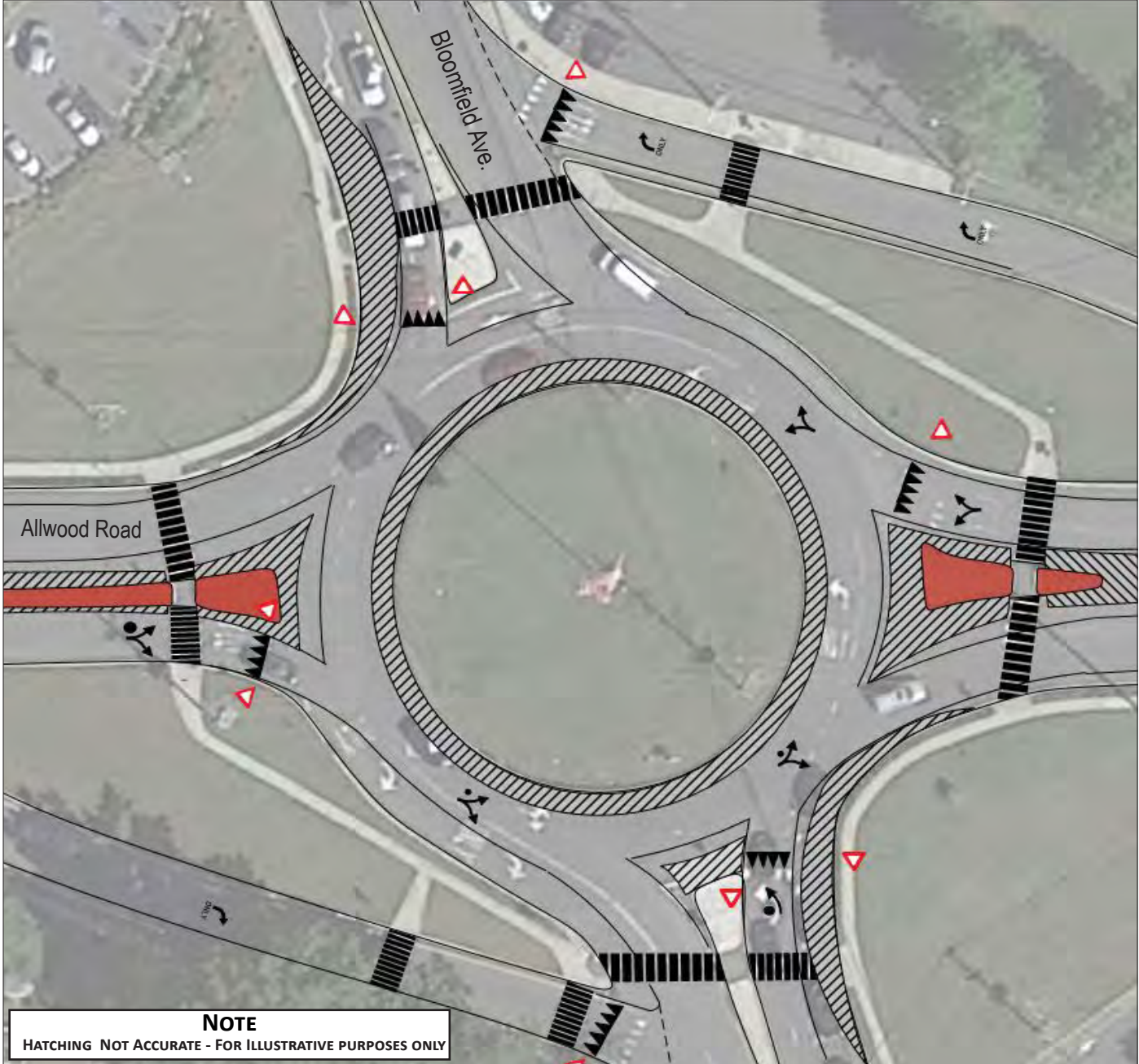
- Clear delineation between the two lanes
- Clear lane guidance for desired destination
- Improved wayfinding signs
- Larger Yield signs
- High-visibility crosswalks

CONCEPT DESIGNS: ALLWOOD ROAD ROUNDABOUT—LONG TERM ALTERNATIVE A



Two-lane roundabout with buffer between lanes:

- Narrow the two lanes slightly
- Buffer between the two lanes
- Clear lane guidance for desired destination
- Improved wayfinding signs
- Larger Yield signs
- High-visibility crosswalks



One-lane roundabout with road diet on Allwood Road:

- Reduce the roundabout to a single lane
- Do this as part of a road diet on Allwood Road
- Clear lane guidance for desired destination
- Improved wayfinding signs
- Larger Yield signs
- High-visibility crosswalks

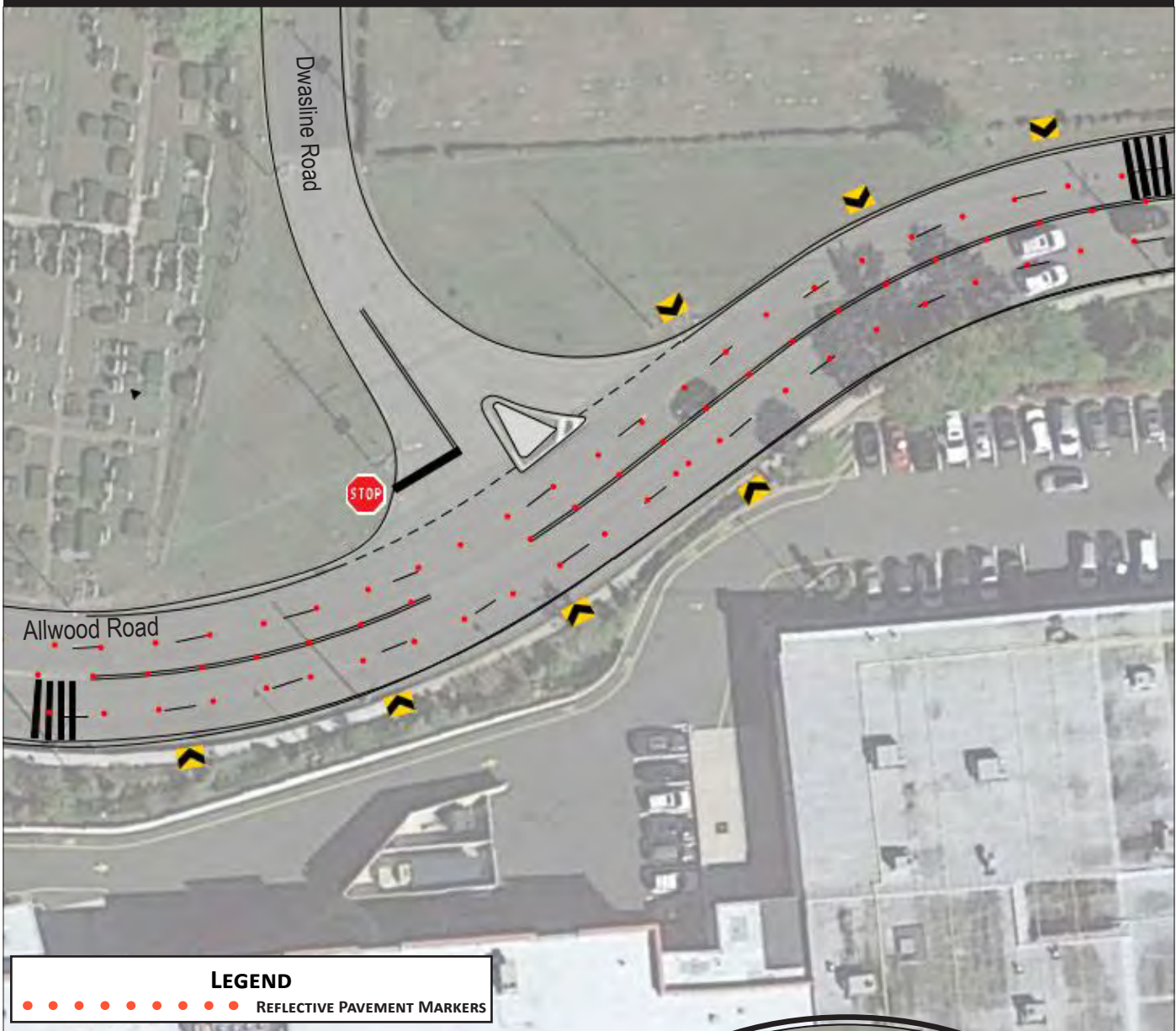
CONCEPT DESIGNS: BOOK COURT



Head-to-head left-turn lanes:

- Head-to-head left turn lanes on Allwood Road.
- Signal phasing: protected or split phasing
- High-visibility marked crosswalks
- Improve the ADA facilities
- Consider “No Turn on Red” from mall

CONCEPT DESIGNS: DWASLINE ROAD



Improve existing roadway:

- Add painted lane edgelines
- Replace chevrons on curves
- Transverse rumble strips to reduce speeding
- Centerline rumble strips
- Raised pavement markers between lanes in each direction
- Place sign: "Your Speed is..."
- Flexible delineators at side of road
- Oversize warning signs
-

Additional Improvement:

- Eliminate slip ramp to Dwasline Road



CONCEPT DESIGNS: DWASLINE ROAD—ROAD DIET



Road Diet and remove slip ramp:

- Road Diet: reduce two lanes in each direction to one lane in each direction with a left-turn lane
- Consider bike lanes in each direction or leave as shoulders
- Replace chevrons on curves
- Place sign: “Your Speed is...”
- Flexible delineators at side of road
- Oversize warning signs
- Optional: Eliminate slip ramp to Dwasline Road

CONCEPT DESIGNS: PASSAIC AVENUE

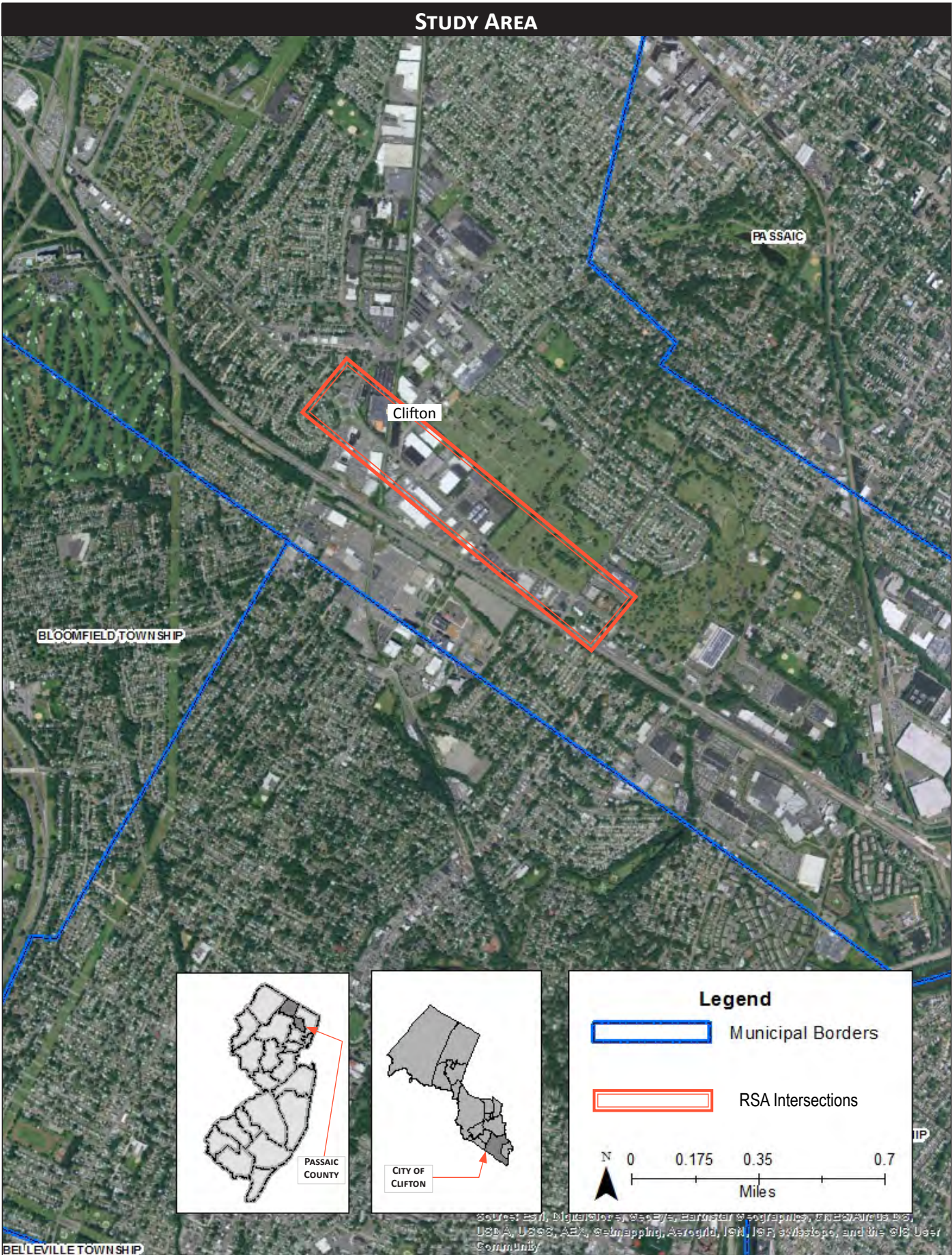


Road Diet and head-to-head left-turn lanes:

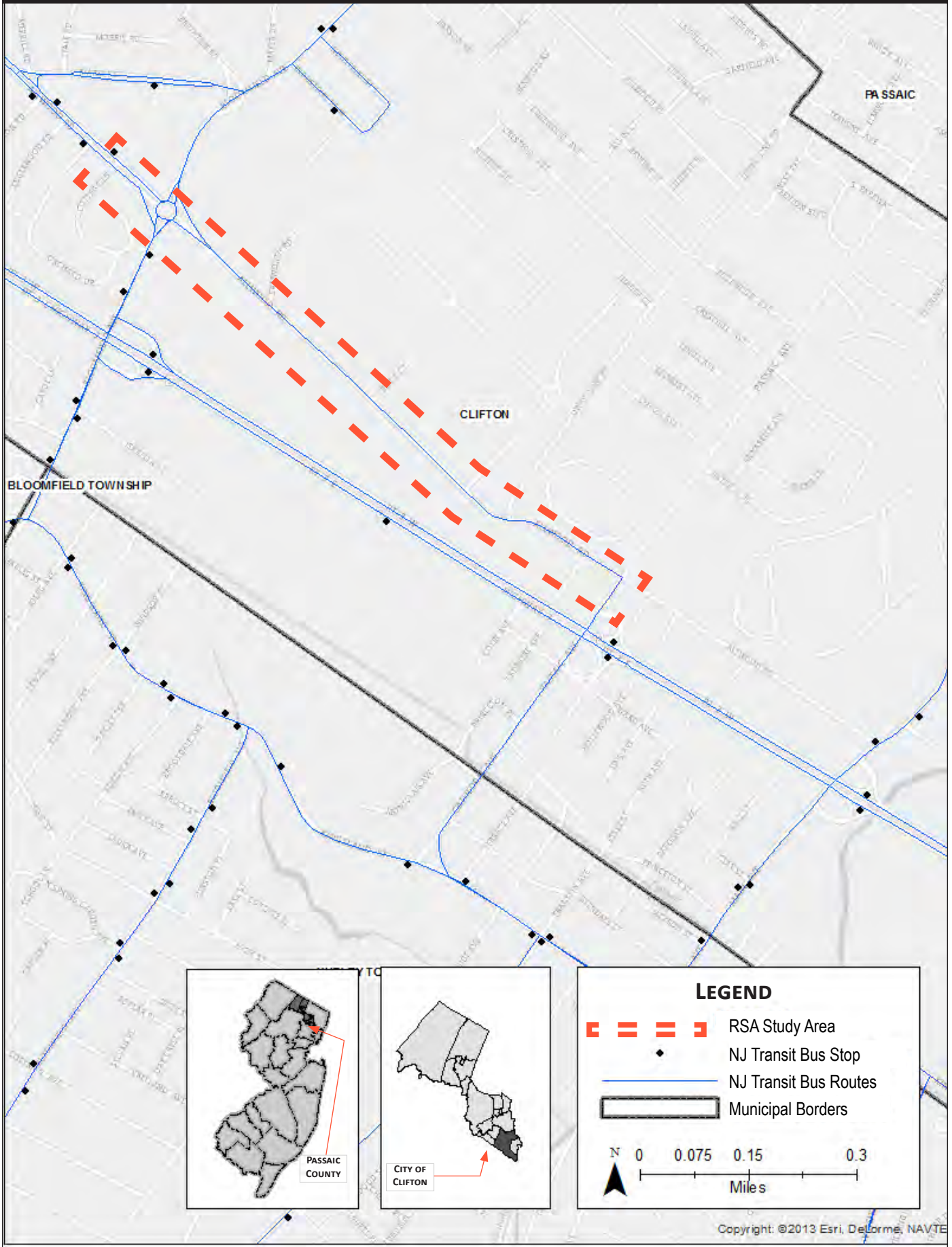
- Road Diet: reduce two lanes in each direction to one lane in each direction with a left-turn lane
- Head-to-head left-turn lanes
- Evaluate signal phasing, depending on traffic counts
- Upgrade traffic signal equipment
- Upgrade depressed curb on southwest corner to regular curb
- Coordinate with NJDOT for left turns to/from ramp to Route 3
- Could shift lanes northward, on the west leg, to improve turning radius on southwest corner

>> APPENDIX A—RSA TEAM

Name	Representing	E-mail
Amon Boucher	New Jersey Department of Transportation	Amon.Boucher@dot.nj.gov
Joseph Birchenough	New Jersey Department of Transportation	joseph.birchenough@dot.state.nj.us
Elizabeth Thompson	North Jersey Transportation Planning Authority	ethompson@njtpa.org
Christine Mittman	North Jersey Transportation Planning Authority	cmittman@njtpa.org
Michael Lysicatos	Passaic County Department of Planning & Economic Development	mlysicatos@passaiccountynj.org
Chuck Silverstein	Passaic County Traffic Engineer	charless@passaiccountynj.org
Andy Kaplan	Rutgers Transportation Safety Resource Center	akaplan1@rutgers.edu
Sally Karasov	Rutgers Transportation Safety Resource Center	sally.karasov@rutgers.edu
Catherine Bull	Voorhees Transportation Center	catherine.bull@ejb.rutgers.edu
Betsy Harvey	Voorhees Transportation Center	ebharvey@ejb.rutgers.edu



AREA TRANSIT



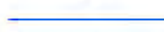



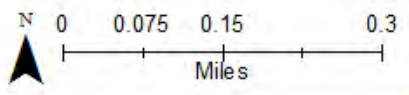
PASSAIC

CLIFTON

BLOOMFIELD TOWNSHIP

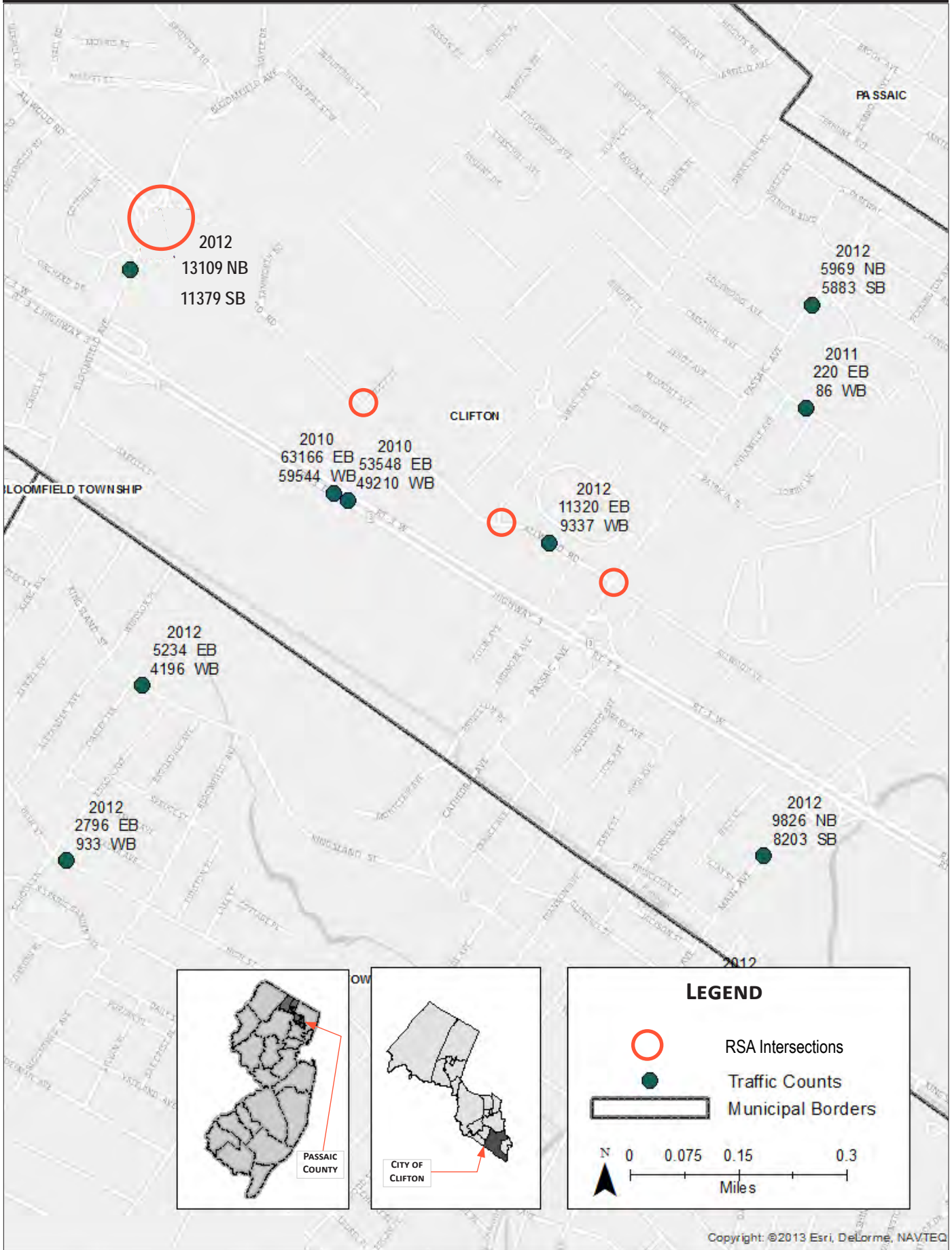
LEGEND

-  RSA Study Area
-  NJ Transit Bus Stop
-  NJ Transit Bus Routes
-  Municipal Borders



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TRAFFIC VOLUMES



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ALLWOOD ROAD ROUNDABOUT—CRASH SUMMARY (2011–2013)

Crash Type	#
Same Direction – Rear End	15
Same Direction – Side Swipe	95
Right Angle	35
Opposite Direction – Head On/ Angular	-
Opposite Direction – Side Swipe	-
Struck Parked Vehicle	-
Left Turn / U-Turn	1
Backing	-
Encroachment	4
Overtuned	1
Fixed Object	16
Animal	-
Pedestrian	-
Pedalcyclist	-
Non-fixed Object	-
Railcar – Vehicle	-
Other	-
Total	167

Month	#
January	10
February	15
March	11
April	16
May	18
June	15
July	12
August	15
September	8
October	16
November	8
December	23
Total	167

Severity	#
Property Damage Only (PDO)	157
Pain	9
Moderate Injury	-
Incapacitating Injury	1
Fatal	-
Total	167

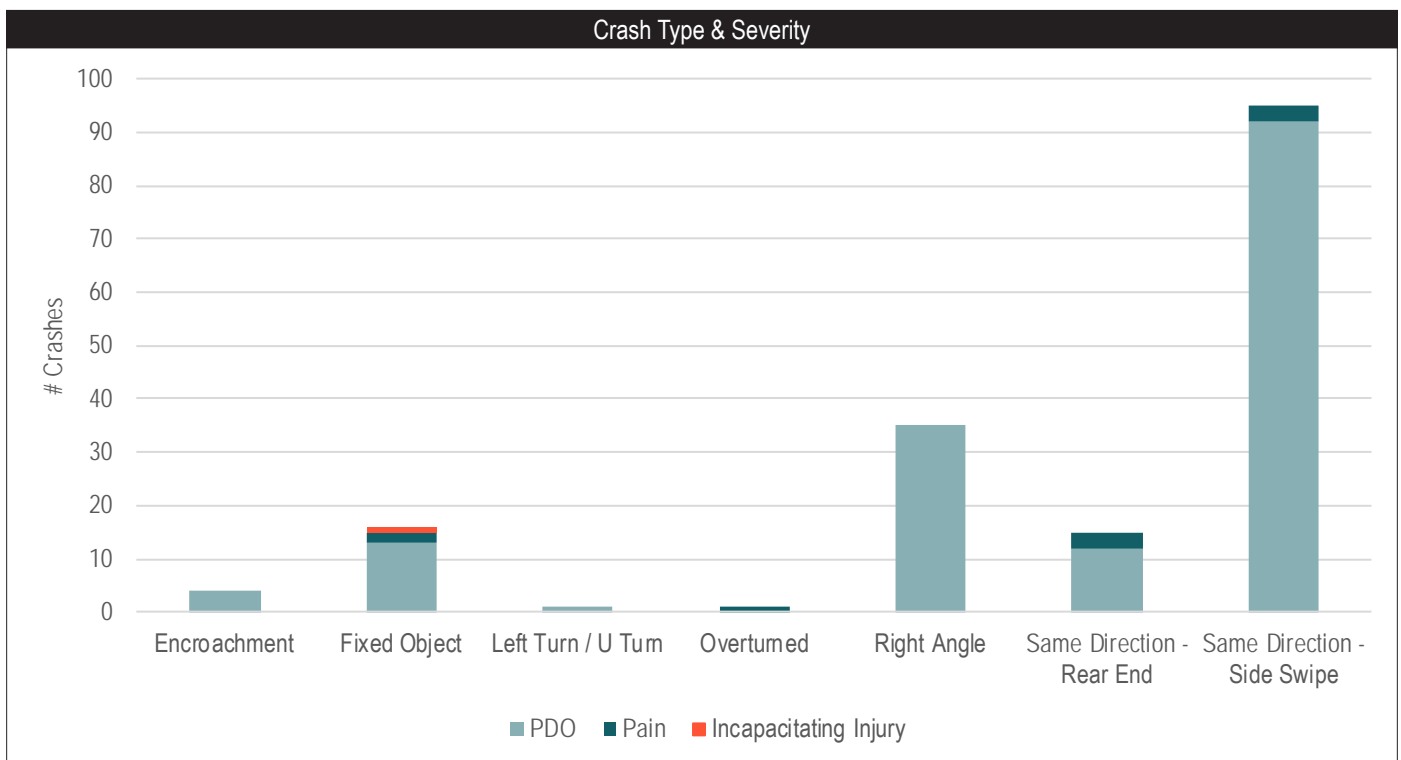
Crash Year	#
2011	52
2012	49
2013	66
Total	167

Intersection	#
At intersection	154
Not at intersection	13
At or Near Railroad	-
Total	167

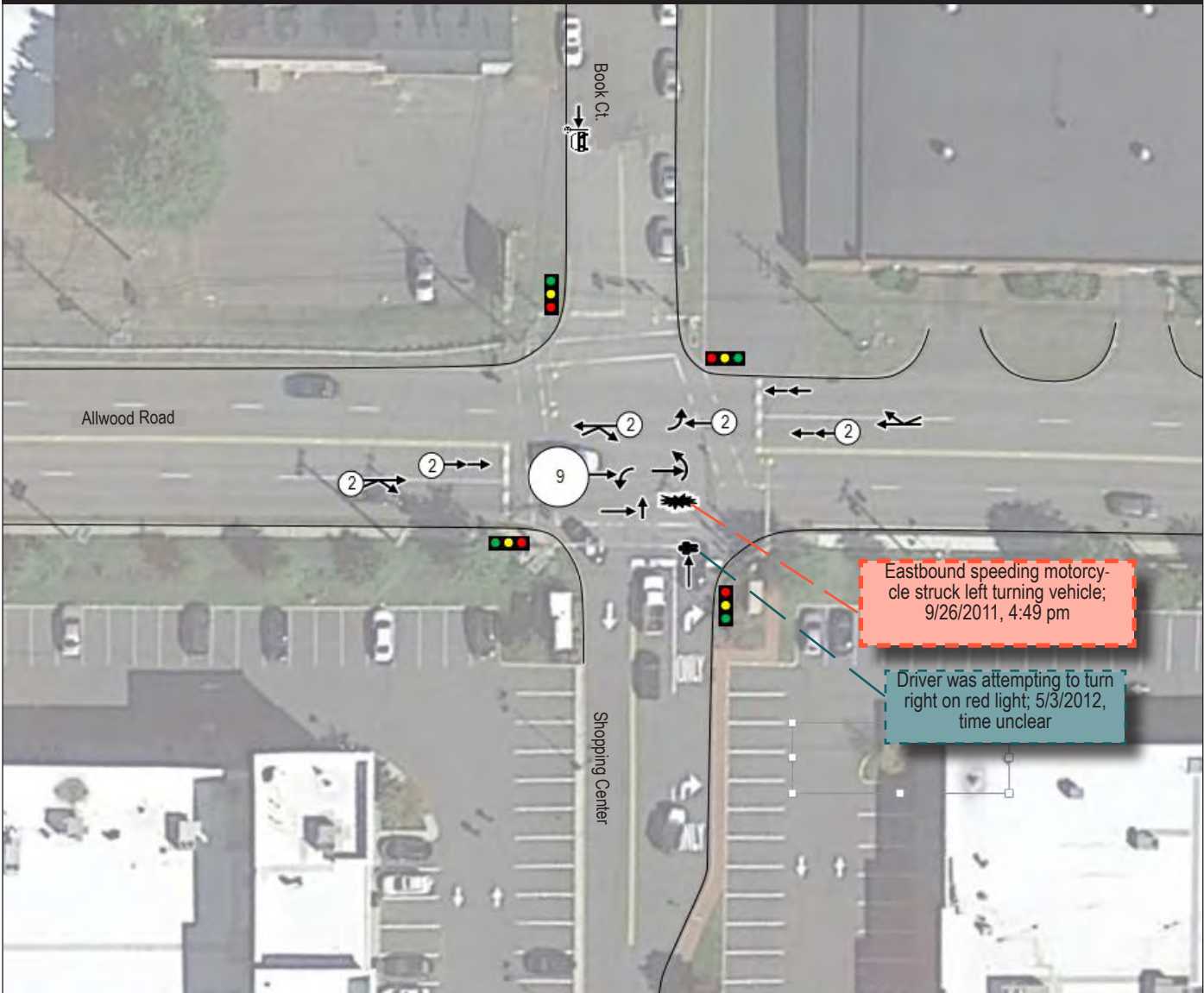
Surface Condition	#
Dry	129
Wet	36
Snowy	2
Icy	-
Slush	-
Water – Standing/ Moving	-
Sand, Mud, Dirt	-
Oil	-
Total	167

Light Condition	#
Daylight	115
Dawn	1
Dusk	5
Dark – No Street Lights	1
Dark – Street Lights On/ Continuous	41
Dark – Street Lights On/ Spot	3
Dark – Street Lights Off	1
Other	-
Total	167

Day	#
Monday	27
Tuesday	27
Wednesday	23
Thursday	24
Friday	27
Saturday	27
Sunday	12
Total	167



BOOK COURT



Eastbound speeding motorcycle struck left turning vehicle; 9/26/2011, 4:49 pm

Driver was attempting to turn right on red light; 5/3/2012, time unclear

All pedestrian and cyclist crashes from 2009–2013 have a brief crash narrative included in the diagram and are color coded by severity.

Additionally, any other crash type having a severity of “moderate injury” or greater has a color-coded narrative.

- = Incapacitating injury
- = Complaint of pain

CRASH DIAGRAM LEGEND

<ul style="list-style-type: none"> Right angle Pedestrians Backing Encroachment Left-turn Other Animal 	<ul style="list-style-type: none"> Same direction - Side swipe Same direction - Rear End Struck parked vehicle Fixed-object Overturned Opposite direction - Head on/angular Opposite direction - Side Swipe
--	---

Google Imagery, 2014
Crash diagrams based on reports retrieved from NJDOT



BOOK COURT—CRASH SUMMARY (2011–2013)

Crash Type	#
Same Direction – Rear End	5
Same Direction – Side Swipe	3
Right Angle	1
Opposite Direction – Head On/ Angular	2
Opposite Direction – Side Swipe	-
Struck Parked Vehicle	1
Left Turn / U-Turn	15
Backing	-
Encroachment	-
Overtuned	-
Fixed Object	-
Animal	-
Pedestrian	1
Pedalcyclist	-
Non-fixed Object	-
Railcar – Vehicle	-
Other	1
Total	29

Month	#
January	4
February	-
March	1
April	-
May	3
June	2
July	3
August	3
September	3
October	3
November	4
December	3
Total	29

Severity	#
Property Damage Only (PDO)	20
Pain	8
Moderate Injury	-
Incapacitating Injury	1
Fatal	-
Total	29

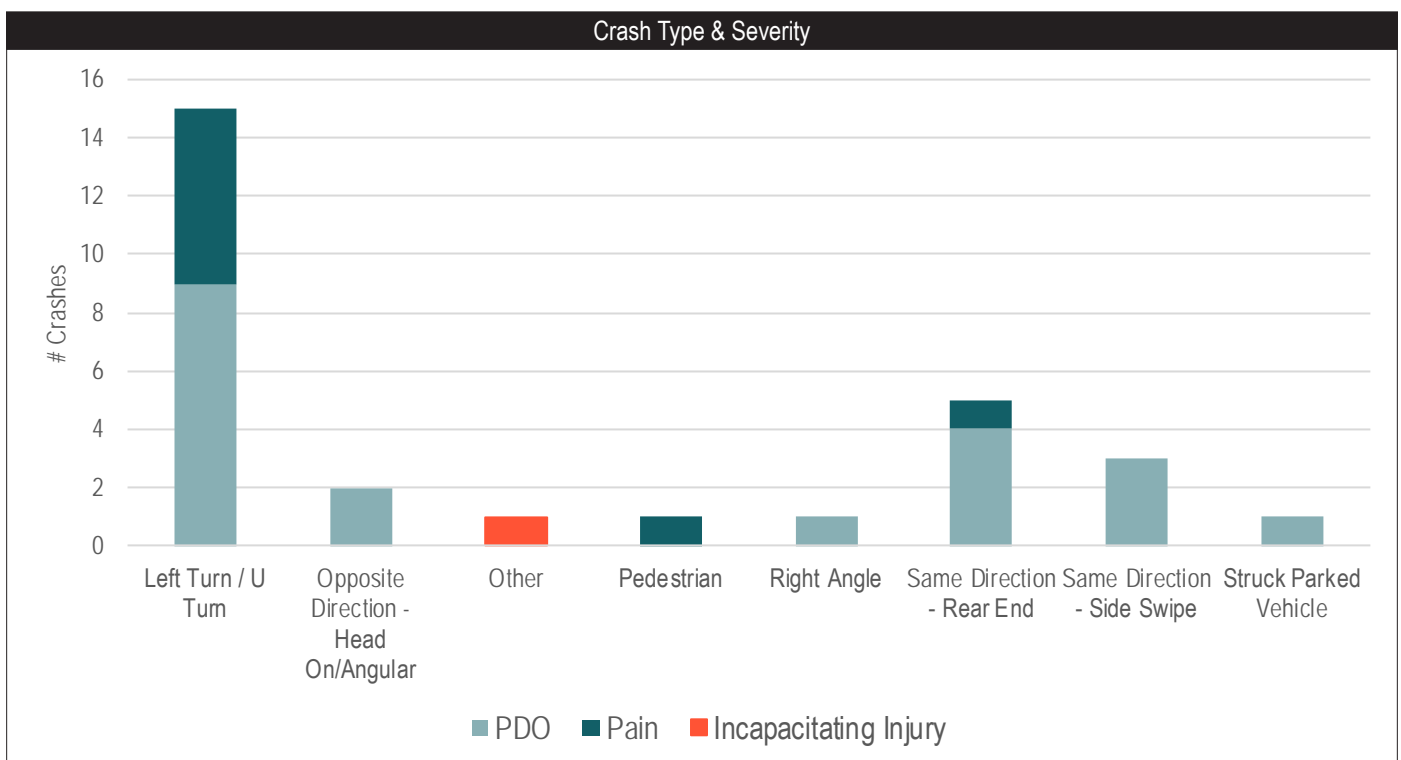
Crash Year	#
2011	7
2012	11
2013	11
Total	29

Intersection	#
At intersection	23
Not at intersection	6
Total	29

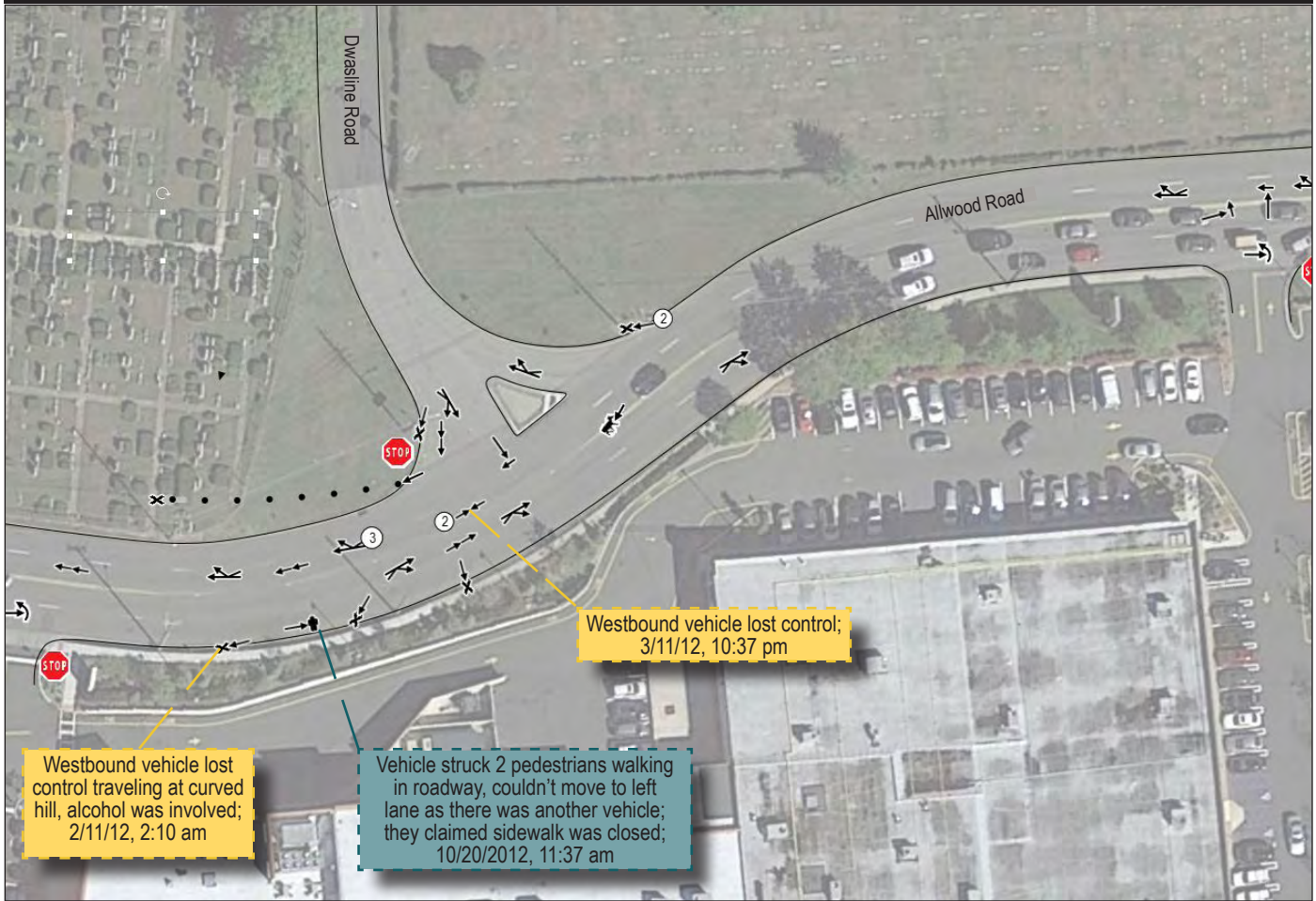
Surface Condition	#
Dry	21
Wet	8
Snowy	-
Icy	-
Slush	-
Water – Standing/ Moving	-
Sand, Mud, Dirt	-
Oil	-
Total	29

Light Condition	#
Daylight	19
Dawn	-
Dusk	2
Dark – No Street Lights	1
Dark – Street Lights On/ Continuous	6
Dark – Street Lights On/ Spot	1
Dark – Street Lights Off	-
Other	-
Total	29

Day	#
Monday	1
Tuesday	4
Wednesday	4
Thursday	6
Friday	6
Saturday	5
Sunday	3
Total	29



DWASLINE ROAD



All pedestrian and cyclist crashes from 2009–2013 have a brief crash narrative included in the diagram and are color coded by severity.

Additionally, any other crash type having a severity of "moderate injury" or greater has a color-coded narrative.

- = Moderate injury
- = Complaint of pain

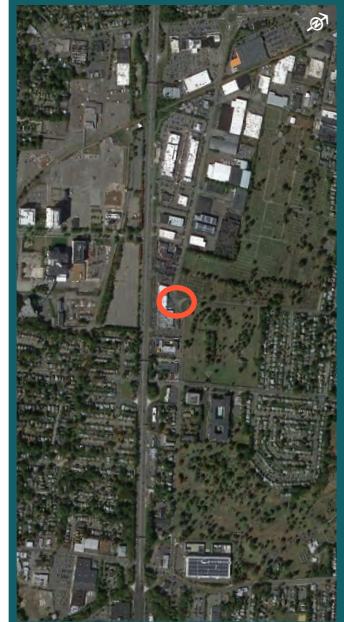
CRASH DIAGRAM LEGEND

	Right angle		Same direction - Side swipe
	Pedestrians		Same direction - Rear End
	Backing		Struck parked vehicle
	Encroachment		Fixed-object
	Left-turn		Overturned
	Other		Opposite direction - Head on/angular
	Animal		Opposite direction - Side Swipe

Google Imagery, 2014

Crash diagrams based on reports retrieved from NJDOT

INTERSECTION LOCATER



Dwasline Road—Crash Summary (2011–2013)

Crash Type	#
Same Direction – Rear End	4
Same Direction – Side Swipe	9
Right Angle	3
Opposite Direction – Head On/ Angular	2
Opposite Direction – Side Swipe	-
Struck Parked Vehicle	-
Left Turn / U-Turn	1
Backing	-
Encroachment	-
Overtaken	-
Fixed Object	6
Animal	1
Pedestrian	1
Pedalcyclist	-
Non-fixed Object	-
Railcar – Vehicle	-
Other	-
Total	27

Month	#
January	2
February	2
March	3
April	-
May	1
June	2
July	2
August	2
September	-
October	7
November	3
December	3
Total	27

Severity	#
Property Damage Only (PDO)	20
Pain	5
Moderate Injury	2
Incapacitating Injury	-
Fatal	-
Total	27

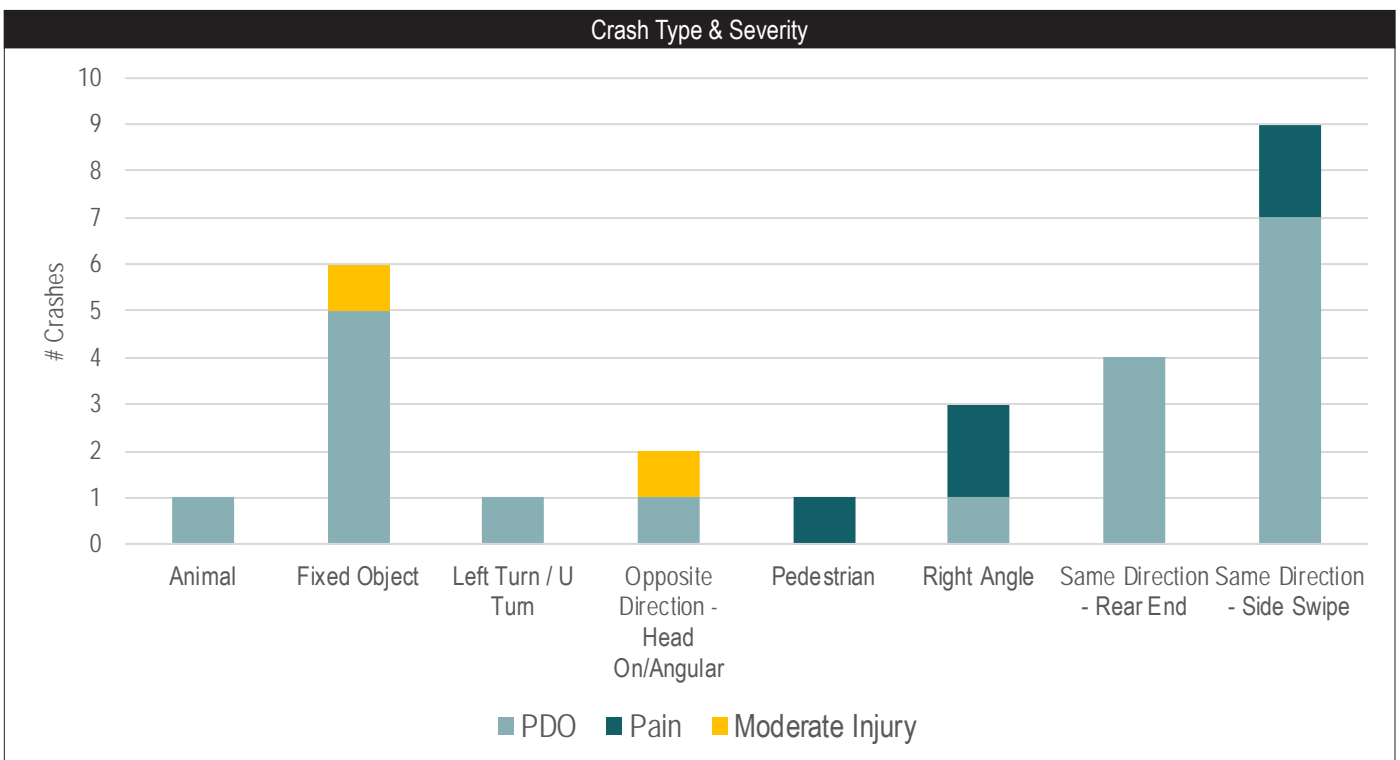
Crash Year	#
2011	7
2012	12
2013	8
Total	27

Intersection	#
At intersection	13
Not at intersection	14
At or Near Railroad	-
Total	27

Surface Condition	#
Dry	20
Wet	5
Snowy	-
Icy	1
Slush	-
Water – Standing/ Moving	1
Sand, Mud, Dirt	-
Oil	-
Total	27

Light Condition	#
Daylight	17
Dawn	-
Dusk	-
Dark – No Street Lights	-
Dark – Street Lights On/ Continuous	10
Dark – Street Lights On/ Spot	-
Dark – Street Lights Off	-
Other	-
Total	27

Day	#
Monday	4
Tuesday	3
Wednesday	4
Thursday	2
Friday	5
Saturday	6
Sunday	3
Total	27



PASSAIC AVENUE



All pedestrian and cyclist crashes from 2009–2013 have a brief crash narrative included in the diagram and are color coded by severity.

Additionally, any other crash type having a severity of "moderate injury" or greater has a color-coded narrative.

■ = Fatal

■ = Moderate injury

CRASH DIAGRAM LEGEND

- | | |
|--------------|--------------------------------------|
| Right angle | Same direction - Side swipe |
| Pedestrians | Same direction - Rear End |
| Backing | Struck parked vehicle |
| Encroachment | Fixed-object |
| Left-turn | Overturned |
| Other | Opposite direction - Head on/angular |
| Animal | Opposite direction - Side Swipe |

Google Imagery, 2014

Crash diagrams based on reports retrieved from NJDOT

INTERSECTION LOCATER



PASSAIC AVENUE—CRASH SUMMARY (2011–2013)

Crash Type	#
Same Direction – Rear End	14
Same Direction – Side Swipe	13
Right Angle	10
Opposite Direction – Head On/ Angular	-
Opposite Direction – Side Swipe	-
Struck Parked Vehicle	-
Left Turn / U-Turn	25
Backing	2
Encroachment	-
Overtuned	-
Fixed Object	2
Animal	-
Pedestrian	2
Pedalcyclist	-
Non-fixed Object	-
Railcar – Vehicle	-
Other	-
Total	68

Month	#
January	2
February	1
March	5
April	6
May	10
June	10
July	2
August	4
September	6
October	7
November	9
December	6
Total	68

Severity	#
Property Damage Only (PDO)	52
Pain	13
Moderate Injury	2
Incapacitating Injury	-
Fatal	1
Total	68

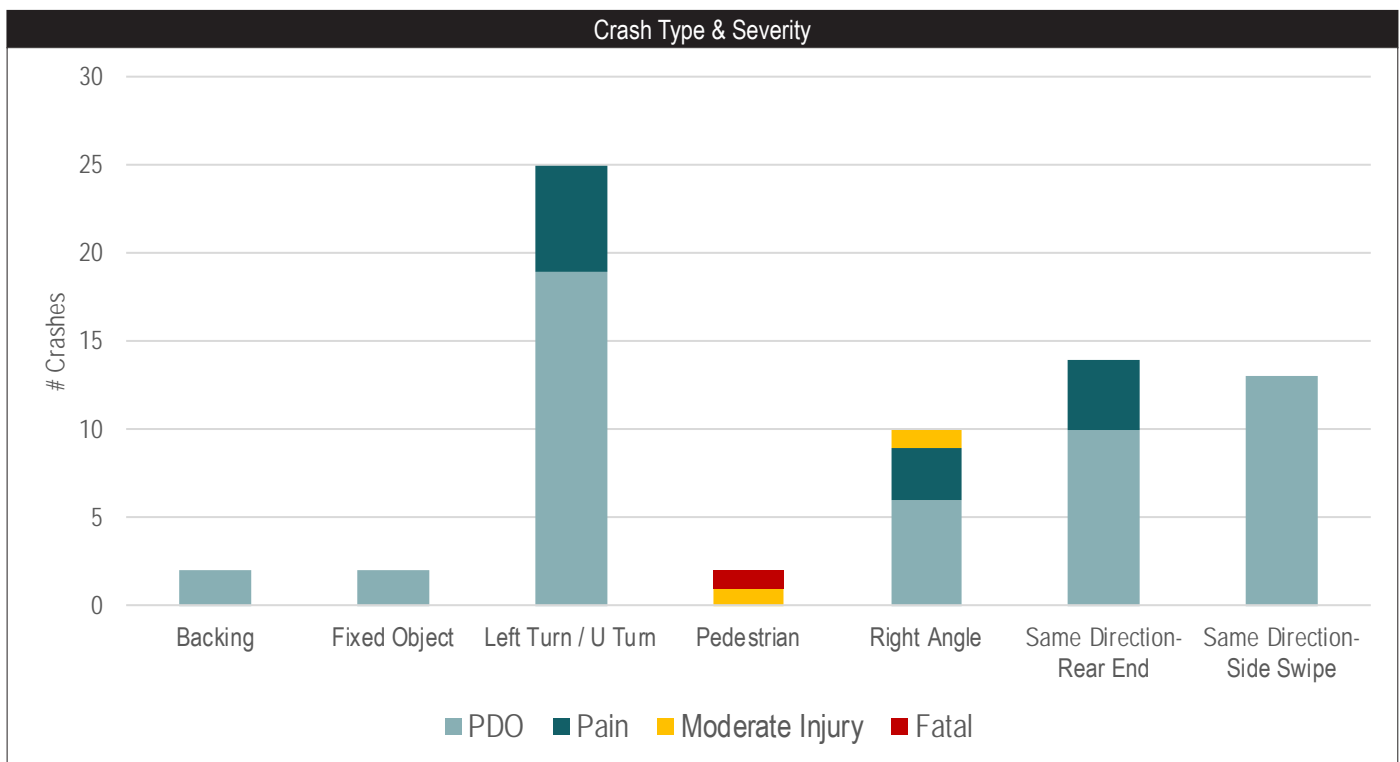
Crash Year	#
2011	20
2012	28
2013	20
Total	68

Intersection	#
At intersection	20
Not at intersection	48
At or Near Railroad	-
Total	68

Surface Condition	#
Dry	54
Wet	-
Snowy	2
Icy	4
Slush	8
Water – Standing/ Moving	-
Sand, Mud, Dirt	-
Oil	-
Total	68

Light Condition	#
Daylight	61
Dawn	7
Dusk	-
Dark – No Street Lights	-
Dark – Street Lights On/ Continuous	-
Dark – Street Lights On/ Spot	-
Dark – Street Lights Off	-
Other	-
Total	68

Day	#
Monday	13
Tuesday	7
Wednesday	12
Thursday	8
Friday	12
Saturday	6
Sunday	10
Total	68



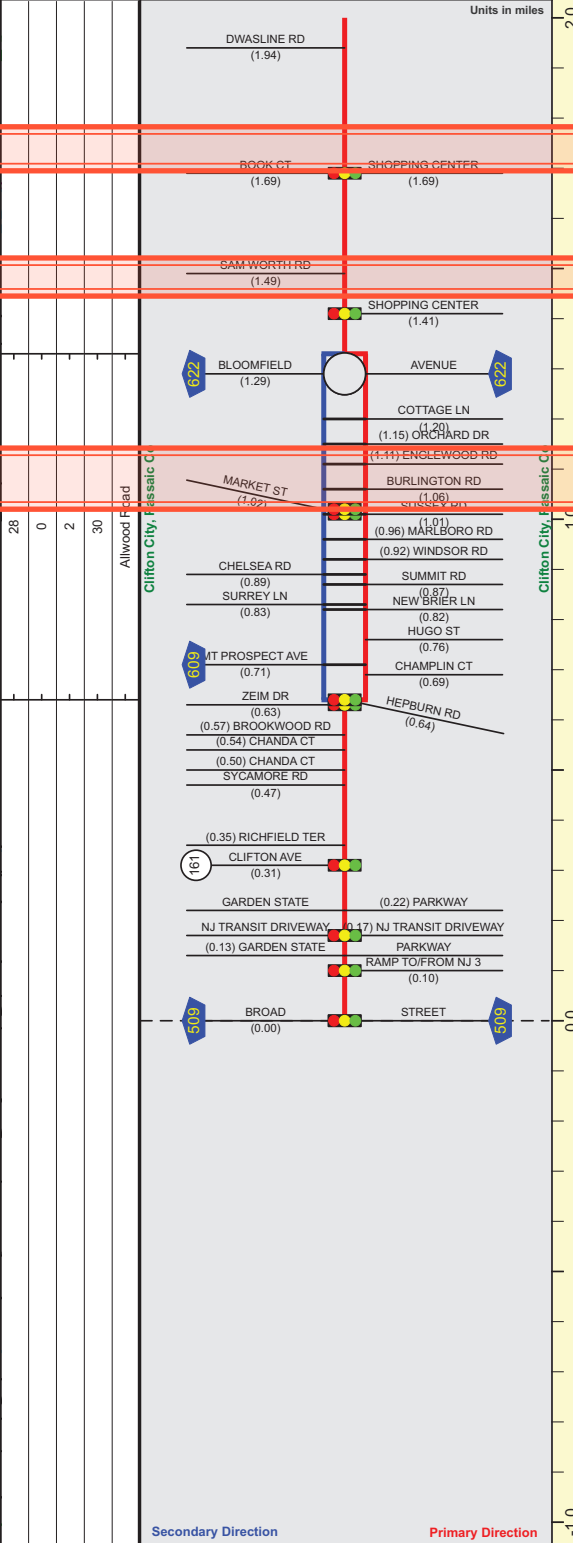
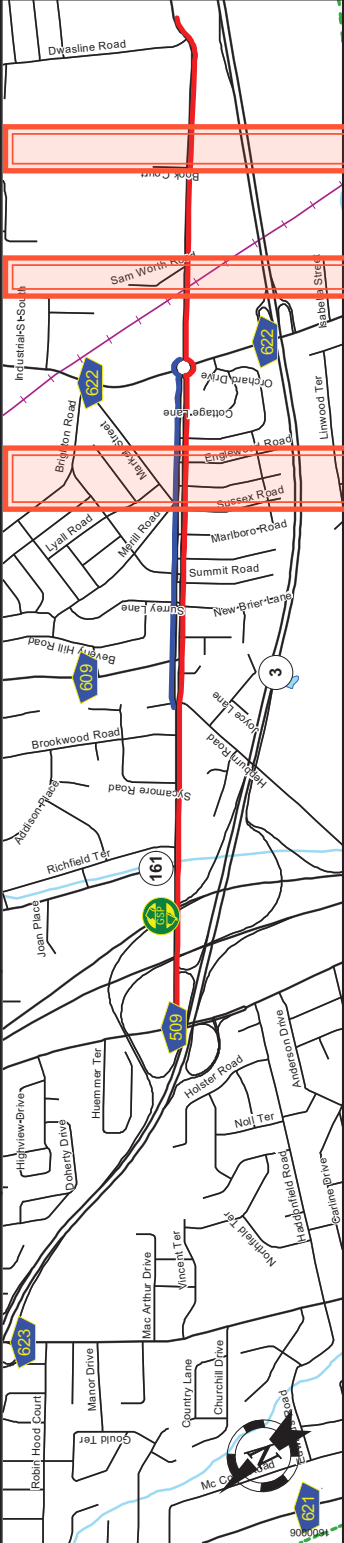
➤➤ APPENDIX D—STRAIGHT LINE DIAGRAMS

ALLWOOD ROAD – CR 602

Page Created: October, 2014

Mile Posts: 0.000 - 2.000

PASSAIC COUNTY 602 (North to South)

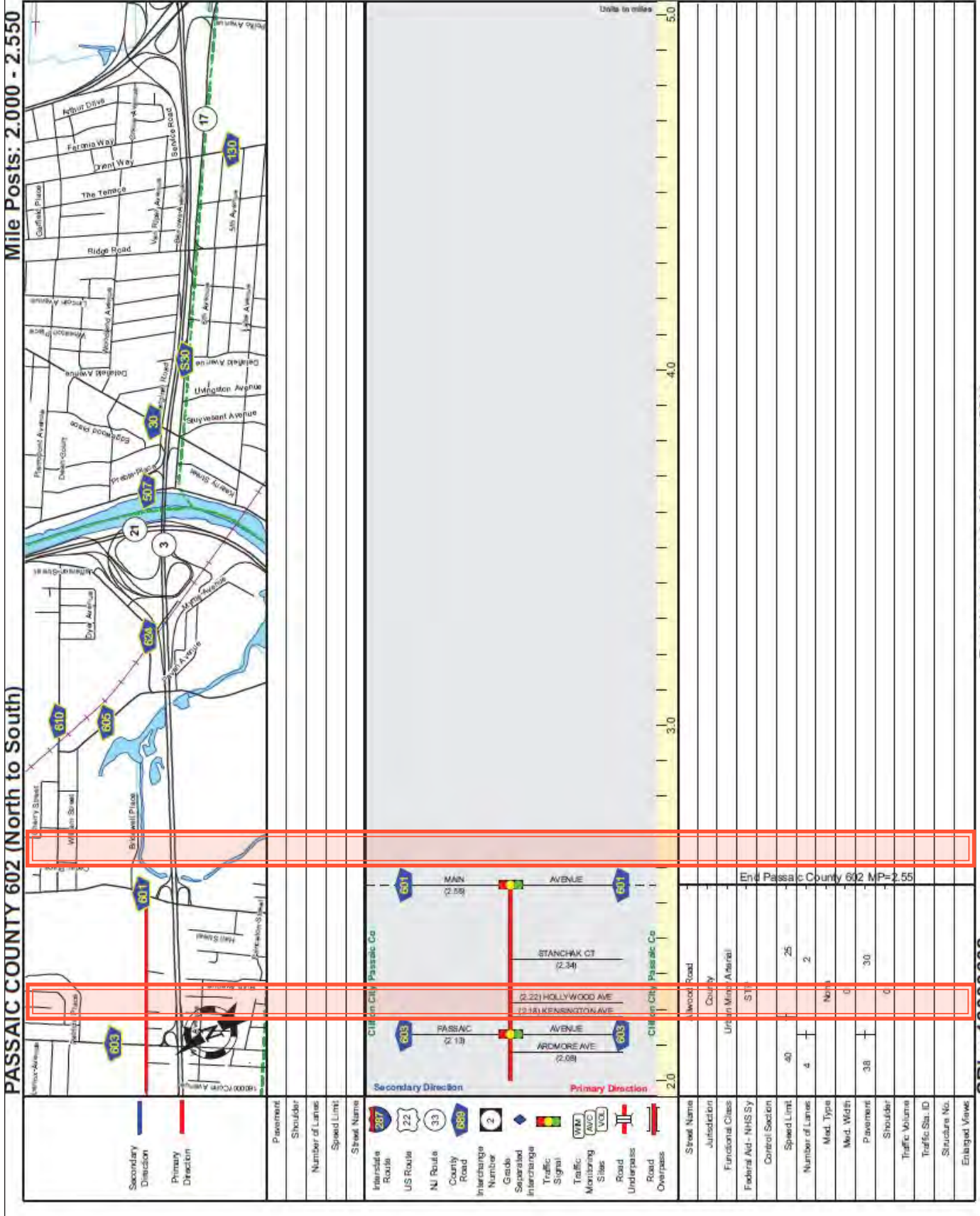


Street Name	Jurisdiction	Functional Class	Federal Aid - NHS Sy	Control Section	Speed Limit	Number of Lanes	Med. Type	Med. Width	Pavement	Shoulder	Traffic Volume	Traffic Sta. ID	Structure No.	Enlarged Views
DWASLINE RD (1.94)	Allwood Road	Urban Minor Arterial			40	4	None	0	Pavement	Shoulder				
ROOK CT (1.69)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
SHOPPING CENTER (1.69)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
SAM WORTH RD (1.49)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
SHOPPING CENTER (1.41)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
BLOOMFIELD (1.29)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
AVENUE (1.20)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
COTTAGE LN (1.15)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
ORCHARD DR (1.11)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
ENGLEWOOD RD (1.06)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
BURLINGTON RD (0.96)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
MARLBORO RD (0.92)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
WINDSOR RD (0.87)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
SUMMIT RD (0.82)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
HUGO ST (0.76)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
CHAMPLIN CT (0.69)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
HEPBURN RD (0.64)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
ZEIM DR (0.63)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
BROOKWOOD RD (0.57)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
CHANDA CT (0.54)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
CHANDA CT (0.50)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
SYCAMORE RD (0.47)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
RICHFIELD TER (0.35)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
CLIFTON AVE (0.31)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
GARDEN STATE (0.22)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
PARKWAY (0.17)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
NJ TRANSIT DRIVEWAY (0.13)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
PARKWAY (0.10)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
RAMP TO/FROM NJ 3 (0.10)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				
BROAD STREET (0.00)	Allwood Road	Urban Minor Arterial				4	None	0	Pavement	Shoulder				

Date last inventoried: November 2011

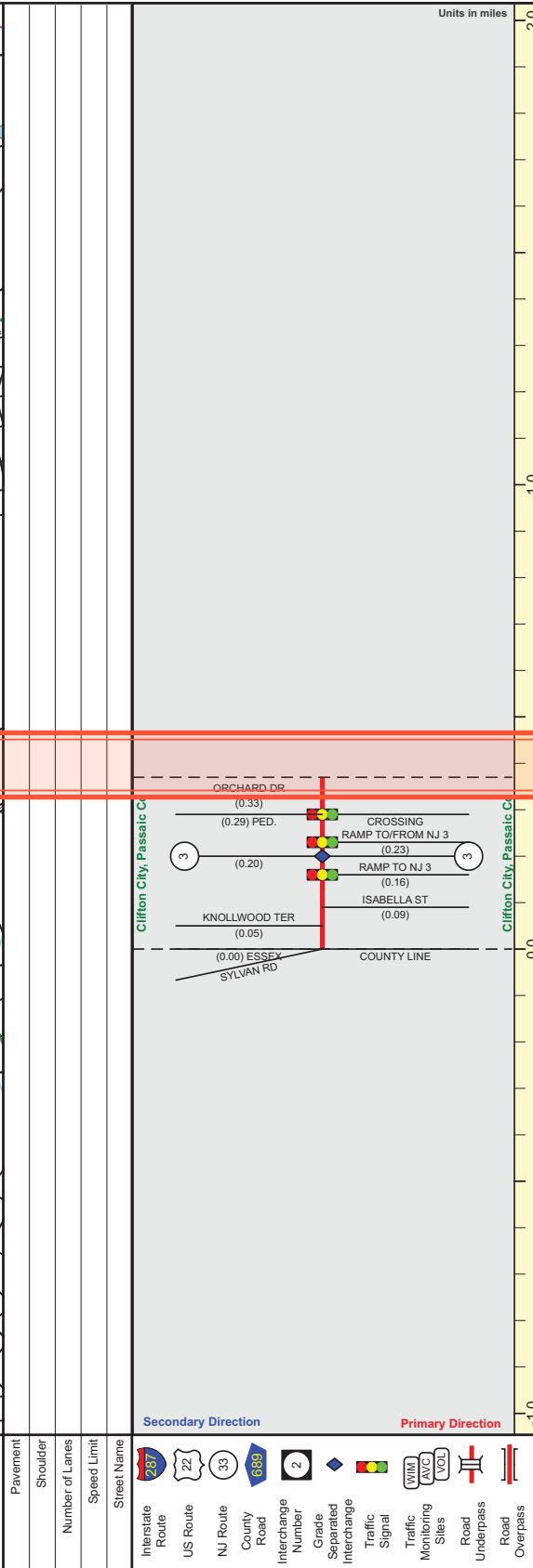
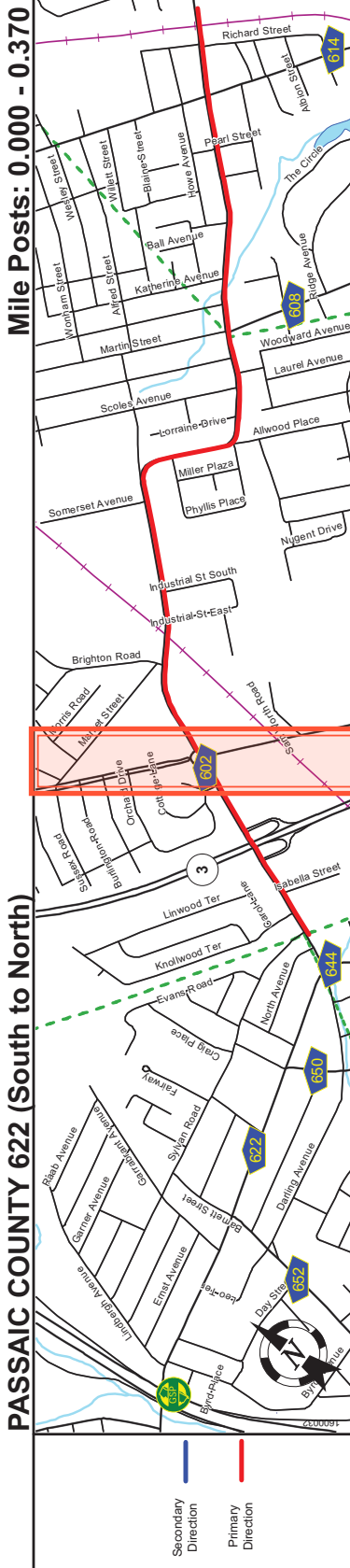
SRI = 16000602

ALLWOOD ROAD—CR 602 (CONTINUED)



Date last inventoried: November 2011

SRI = 16000602

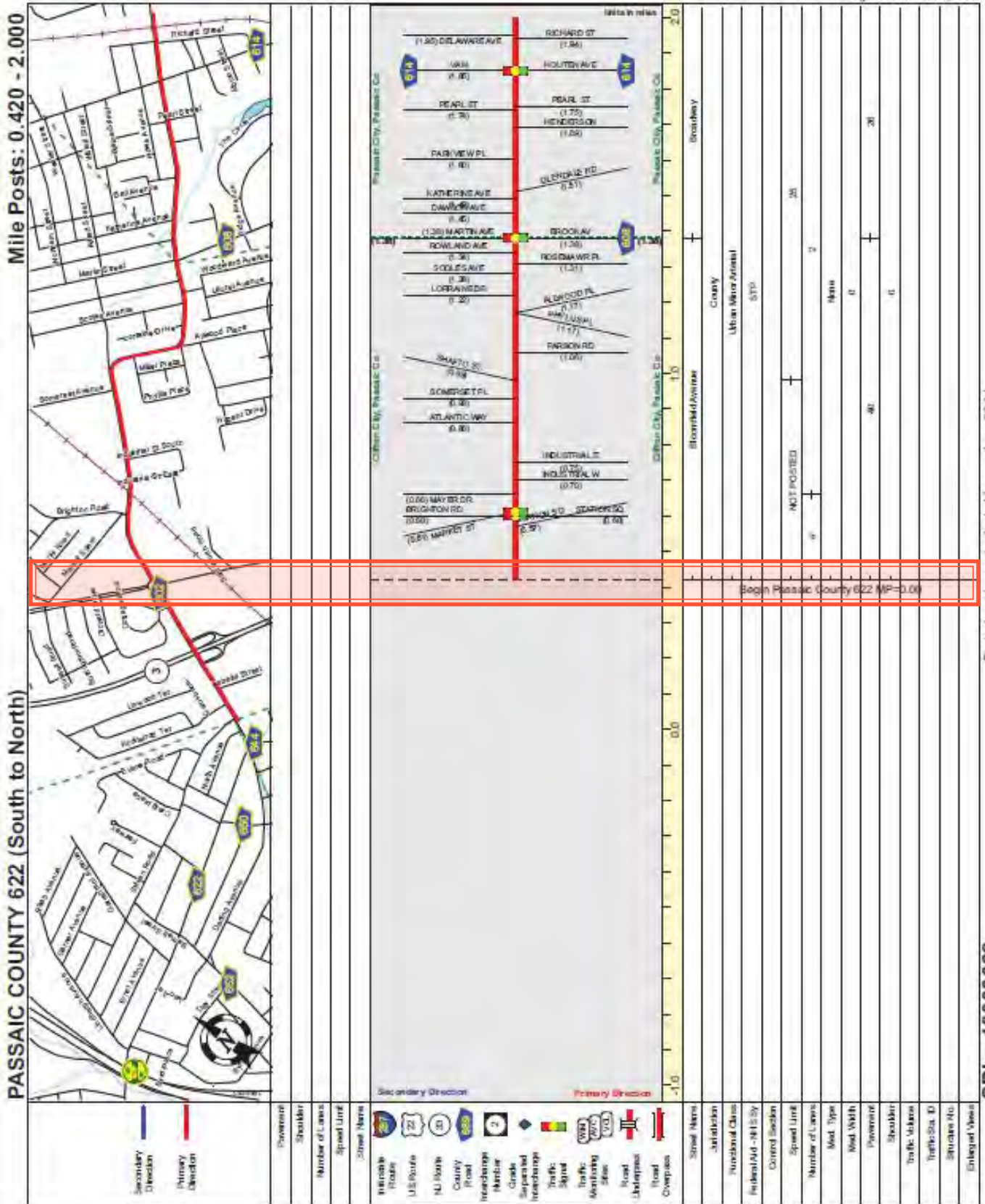


Street Name	Jurisdiction	Functional Class	Federal Aid - NHS Sy	Control Section	Speed Limit	Number of Lanes	Med. Type	Med. Width	Pavement	Shoulder	Traffic Volume	Traffic Sta. ID	Structure No.	Enlarged Views
Bloomfield Avenue	County	Urban Minor Arterial	STP	NOT POSTED	2	None	0	30	0					
End Passaic County 622 MP=2.74														
Begin Passaic County 622 MP=0.00														

Date last inventoried: November 2011

SRI = 16000622

BLOOMFIELD AVENUE—CR 622 (CONTINUED)



Date last inventoried: November 2011

SRI = 16000622