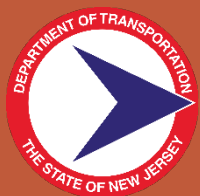




Road Safety Audit:

Bergen Avenue between Montgomery Street and Summit Avenue
Sip Avenue at Van Wagenen, Romaine and Garrison Avenues
Jersey City, Hudson County



APRIL 2018

TABLE OF CONTENTS

Executive Summary.....	iii
I. Introduction	1
A. Site Selection.....	1
B. What is a Road Safety Audit?.....	1
C. The Bergen/Sip Avenue RSA Event	2
II. Corridor Description and Analysis.....	2
A. Study Location.....	2
B. Roadway and Intersection Characteristics.....	2
C. Existing Bicycle/Pedestrian Accommodations	2
D. Traffic Volumes	3
E. Transit Service.....	3
F. Community Profile	3
G. Redevelopment.....	4
III. Crash Findings	4
A. Temporal Trends	4
B. Collision Types.....	5
C. Severity	6
D. Roadway Surface & Light Condition.....	7
E. Location.....	8
IV. Identified Issues	10
V. Findings and Recommendations.....	12
A. Recommendations	13
B. Road Owner Response	21
C. Recommendation Visualizations.....	21
VI. Conclusions	27

LIST OF FIGURES

Figure 1 – Total Crashes by Month and Day of Week.....	4
Figure 2 – Pedestrian/Bicyclist Crashes by Month and Day of Week	5
Figure 3 – Crash Type Breakdown.....	6
Figure 4 – Severity (All Crashes).....	6
Figure 5 – Severity (Pedestrian/Bicycle Crashes).....	7
Figure 6 – Surface Conditions (All Crashes)	7
Figure 7 – Light Conditions (All Crashes).....	8
Figure 8 – Light Conditions (Pedestrian/Bicycle Crashes).....	8
Figure 9 – Total Crash Locations (2014-2016)	9
Figure 10 – Pedestrian Crash Locations (2012-2016)	9
Figure 11 – Pedestrian Facility Examples	22
Figure 12 – Parklet Example (Source: NACTO).....	22

Figure 13 – Bicycle Facility Examples	23
Figure 14 – Example of Bus Pull-Out Stop (1) & Bulb Stop (2), Combined into Tiered Stop	24
Figure 15 – Typical Four-Lane Downtown Typology (Source: NACTO-US)	25
Figure 16 – Road Diet Application Example on a Downtown Typology (Source: NACTO-US)	25
Figure 17 – Typical Four-Lane Main Street Typology (Source: NACTO-US)	26
Figure 18 – Road Diet Application Example on a Main Street Typology (Source: NACTO-US)	26
Figure 19 – Roundabout Example (Source: CSDG).....	27

LIST OF TABLES

Table 1 – Bergen/Sip Avenue NJTPA FY 2017-18 LSP Ranking (Corridor)	1
Table 2 – Bergen/Sip Avenue NJTPA FY 2017-18 LSP Ranking (Intersection)	1
Table 3 – Bergen Avenue/Sip Avenue Area Demographics	3
Table 4 – Overrepresented Crash Types (2014-2016)	5
Table 5 – Corridor-Wide Recommendations	13
Table 6 – Site-Specific Recommendations	16

APPENDICES

- A. RSA Team
- B. Area Map
- C. Traffic Data
- D. Vehicular Crash Diagrams
- E. Pedestrian Crash Diagrams
- F. Photographs
- G. Straight Line Diagrams
- H. Pre-Audit Presentation
- I. Excerpts from Available City and NJTPA Reports
- J. Road Owner Response: Jersey City

Executive Summary

This document is the final report of the Bergen/Sip Avenue Road Safety Audit (RSA). It was conducted along Bergen Avenue from Montgomery Street to Summit Avenue (MP 0.00-0.60) and along Sip Avenue at Van Wagenen, Romaine and Garrison Avenues (MP 0.57-0.67) in Jersey City, Hudson County. An RSA is an effective way of identifying crash-causing trends and appropriate countermeasures utilizing a nontraditional approach that promotes transportation safety while maintaining mobility.

These sections of Bergen/Sip Avenue were identified on NJTPA's Local Safety Program Network Screening list as a high priority location. According to the NJDOT crash database, 229 vehicular crashes occurred during the three-year period between January 1, 2014 and December 31, 2016 along the study area sections of Bergen Avenue and Sip Avenue with 79, 70 and 80 crashes occurring in 2014, 2015 and 2016, respectively. Additionally, 66 pedestrian crashes occurred over the five-year period between January 1, 2012 and December 31, 2016, one of which was fatal.

This one-day RSA was conducted on Tuesday, December 12, 2017 from 9:00 am to 3:30 pm. The pre- and post-audit meetings were held in the Hudson County Office, located at 830 Bergen Avenue, Jersey City, NJ. Representatives from NJDOT, NJTPA, Hudson County, Jersey City and NJ Transit were in attendance with NJDOT serving as the facilitator.

The RSA site and crash history is described in Sections II and III of this report, respectively. Section II also identifies previous and on-going studies conducted by the aforementioned agency representatives. Corridor-wide and site-specific issues and recommendations, organized by location, are discussed in Section IV. The most common recommendations were to consider developing transit access and facilities; traffic signal and ADA ramp upgrades; and investigate curb extensions at signalized intersections.

The recommendations contained herein were developed collaboratively with the roadway owner and local stakeholders from the RSA Team (members listed in Appendix A). The study partners have expressed interest in implementing many of the recommendations as time and funds allow. Many of the maintenance items, which are typically low cost, can be addressed without additional engineering.

Please note this RSA report does not constitute an engineering report. The agency responsible for design and construction should consult a licensed professional engineer in preparing the design and construction documents, to implement any of the safety countermeasures mentioned in this report.

I. Introduction

A. Site Selection

These sections of Bergen Avenue, from Montgomery Street to Summit Avenue (MP 0.00-0.60), and Sip Avenue, from Van Wagenen Avenue to Garrison Avenue (MP 0.57-0.67), were identified on NJTPA's Local Safety Program Network Screening list as a high priority location, as shown in the below FY 2017-2018 ranking. Of note, these rankings are based on 2011-2013 vehicular and 2009-2013 pedestrian crash data.

Table 1 – Bergen/Sip Avenue NJTPA FY 2017-18 LSP Ranking (Corridor)

Location	Ped Corridor	Regional Corridor
Bergen/Sip Avenue	#2 City (MP 0.0-1.0)	#9 County (MP 0.0-1.0)
Sip Avenue	#16 City (MP 0.12-1.12)	#26 County (MP 0.0-1.0)

Table 2 – Bergen/Sip Avenue NJTPA FY 2017-18 LSP Ranking (Intersection)

Location	Intersections	Pedestrian Intersections
Montgomery	#20 City; #23 County	#8 City, #10 County
Newkirk	#22 City; #25 County	#3 City and County
Highland		#246 City; #473 County
Summit	#81 County	#37 City; #48 County
Academy	#91 County	#15 City; # 17 County
Garrison	#113 County	#207 City; #327 County
Sip @ Bergen	#150 County	#141 County
Vroom	#291 County	#13 City; #15 County
Van Wagenen	#247 City	#473 County
Enos		#54 City; #73 County
Jones		#95 City; #141 County

B. What is a Road Safety Audit?

A Road Safety Audit (RSA) is a formal safety performance examination of an existing or future road or intersection by a multi-disciplinary audit team. It qualitatively estimates and reports on existing and potential road safety issues and identifies opportunities for improvements in safety for all road users. RSAs can be used on any size project, from minor maintenance to mega-projects, and can be conducted on facilities with a history of crashes, or during the design phase of a new roadway or planned upgrade. RSAs consider all road users, account for human factors and road user capabilities, are documented in a formal report, and require a formal response from the road owner.

The RSA program is conducted to generate improvement recommendations and countermeasures for roadway segments demonstrating a history of, or potential for, a high frequency of crashes, or an identifiable pattern of crash types. Recommendations range from low-cost, quick-turnaround safety improvements to more complex strategies. Implementation of improvement strategies identified through this process may be eligible for Local Federal Aid Safety Funds. Because the RSA

process is adaptable to local needs and conditions, recommendations can be implemented incrementally as time and resources permit.

The RSA process, one of FHWA's proven safety countermeasures, is shown in the figure below.



C. The Bergen/Sip Avenue RSA Event

This one-day RSA was conducted on Tuesday, December 12, 2017 from 9:00 am to 3:30 pm. The pre- and post-audit meetings were held in the Hudson County Office, located at 830 Bergen Avenue, Jersey City, NJ. Representatives from NJDOT, NJTPA, Hudson County, Jersey City and NJ Transit were in attendance with NJDOT serving as the facilitator. Team members are listed in Appendix A.

II. Corridor Description and Analysis

A. Study Location

The study area consists of approximately 0.6 miles of Bergen Avenue from Montgomery Street to Summit Avenue and 0.1 miles of Sip Avenue from Van Wagenen Avenue to Garrison Avenue. The area lies within Jersey City, Hudson County. This stretch of Bergen Avenue and Sip Avenue largely consists of multi-story commercial/residential buildings. The southern end of the corridor lies within McGinley Square and the northern stretch is part of the Journal Square section of Jersey City. Journal Square is a transportation hub with bus and PATH service and includes the Hudson County Community College campus. McGinley Square is home to St. Peter's University, Hudson Catholic Regional High School and Jersey City Armory. An elementary school, high school and college are along the corridors. Redevelopment efforts are proposed or ongoing in both sections of the City.

Bergen Avenue parallels JFK Boulevard and Route US 1&9 Truck. Bergen Avenue and Sip Avenue provide access to Saint Peter's University and Sip Avenue provides access to Route US 1&9 Truck.

B. Roadway and Intersection Characteristics

Bergen Avenue and Sip Avenue are both classified as urban minor arterials. The corridor study section of Bergen Avenue is four-lanes, undivided with a statutory speed limit of 25 mph. Sip Avenue is two-lanes, undivided, with a posted speed limit of 25 mph. On-street parking is allowed in designated areas along both roads. There are ten (10) signalized intersections, two (2) unsignalized intersections and occasional driveways along this section of Bergen Avenue. There are three (3) unsignalized intersections and some driveways along this section of Sip Avenue. Signalized intersections along Sip Avenue east of Garrison Avenue are excluded from the RSA.

C. Existing Bicycle/Pedestrian Accommodations

Sidewalks are provided on both sides of Bergen and Sip Avenues throughout the study area. Sidewalk conditions vary from newly installed to needing maintenance. Continental style crosswalks

are provided at all intersections except the unsignalized intersections of Bergen Avenue and Smith Street and Sip Avenue and Jones Street. This is also a missing crosswalk at northern end of the Highland Ave intersection. Glenwood Avenue and Academy Street are signed as school crossings. A bus shelter was also identified near Montgomery Street (see Part E for additional information). There are no defined bicycle lanes along Bergen or Sip Avenues and bicyclists were observed traveling either along the roadway or on the sidewalk. There were bicycle lanes identified along Romain and Garrison Avenues, which intersect with Sip Avenue.

D. Traffic Volumes

Based on available data, the ADT along Bergen Avenue, ranges from approximately 10,340 to 15,900 within the study area. A copy of the available data can be found in Appendix C.

E. Transit Service

NJ Transit and A&C Bus Corporation buses serve Bergen Avenue and Sip Avenue (NJ Transit lines 80 and 87). Multiple bus routes are also reported to use Bergen and Sip Avenues to avoid traffic along their designated routes. Additionally, Jitney buses also utilize Bergen and Sip Avenues. One bus shelter was identified near Montgomery Street. Bus headways along the corridor vary from every 3-5 minutes during peak hours to every hour in the late evening.

The Journal Square Transportation Center is located just north of the study area. The Center contains a PATH Station providing service to 3 lines, a retail plaza, a bus terminal servicing NJ Transit and A&C Bus Corporation and a two-level parking facility. There is a dedicated bus lane along Sip Avenue between Journal Square Plaza and for busses to access the same.

F. Community Profile

Population and income characteristics from the 2010 Census (U.S. Census Bureau) were used to identify minority populations and low-income populations. Updates to the 2010 Census were performed by the Census Bureau through the American Community Survey (ACS) estimate. The latest ACS for this study area is a five-year estimate from 2012 through 2016. A summary of the demographics is listed below.

Table 3 – Bergen Avenue/Sip Avenue Area Demographics

Characteristic		Bergen/Sip Area	County Average
Poverty		23.7%	17.4%
Race/ Ethnicity	Black or African American	11.7%	11.0%
	Hispanic/Latino	23.1%	43.1%
	White	26.9%	29.0%
	Asian	36.3%	14.7%
	American Indian/Alaskan	0.3%	0.1%
	Other ¹	1.7%	2.2%
Limited English Proficiency (LEP)		39.3%	25.3%

¹ Percentages may not equal 100% due to rounding. Other includes individuals who identified themselves as ‘Native Hawaiian or Pacific Islander’, ‘Some Other Race Alone’ or ‘Two or More Races’

In addition, approximately 57.6% of the population uses public transportation compared to the County average of 41%.

G. Redevelopment

There is ongoing redevelopment at Journal Square which includes three (3) mixed use towers and potentially 1,500 apartment units, based on available reports and news articles. As aforementioned, Bergen Avenue/Sip Avenue are major components of McGinley Square and Journal Square, both of which have City redevelopment plans.

III. Crash Findings

The analysis used in the RSA was based on reportable crashes that resulted in a fatality, injury and/or property damage as found in the NJDOT crash database. Corridor-wide crash characteristics and overrepresentations were compared to the 2016 statewide average for the county road system as further detailed below. All crashes were plotted onto collision diagrams, which can be found in Appendix D and E.

A. Temporal Trends

According to the NJDOT crash database, there were 229 vehicular crashes from 2014 to 2016 along the study area section of Bergen Avenue and Sip Avenue with 79, 70 and 80 crashes occurring in 2014, 2015 and 2016, respectively. Total crashes were highest in March and lowest in June compared to the county average. Day of week trends were very similar to the county averages.

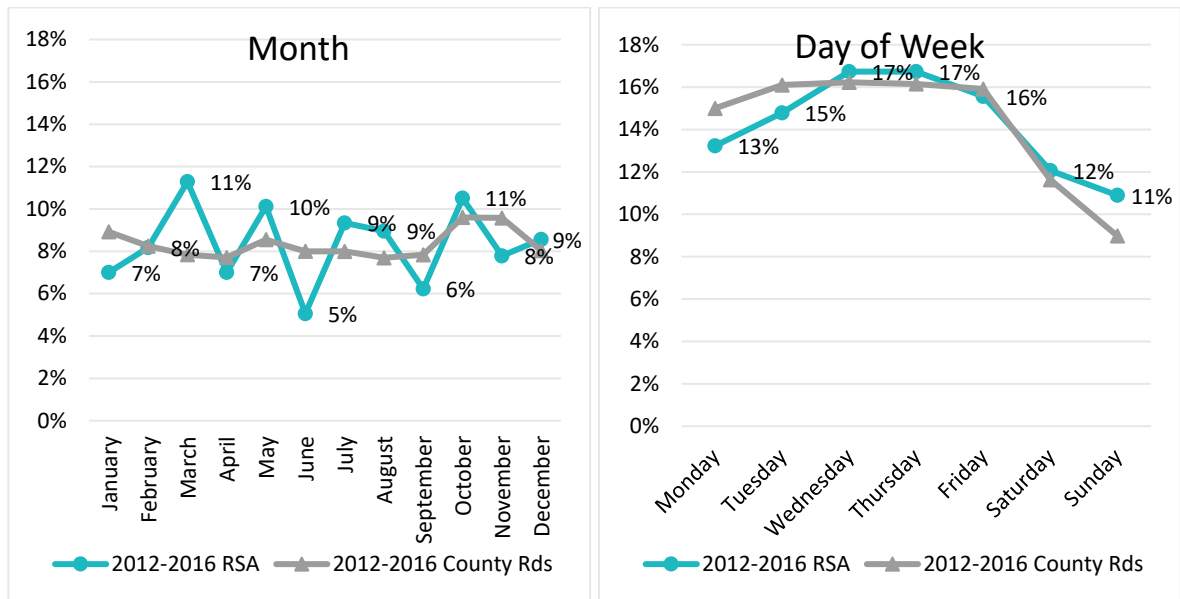


Figure 1 – Total Crashes by Month and Day of Week

Additionally, 66 pedestrian crashes occurred over the five-year period from 2012 to 2016, one of which was fatal. This crash occurred at the intersection of Bergen/Sip Avenue and Journal Square Plaza. The majority of these crashes included minor injury and occurred during the day, midweek (Wednesday and Thursday), and in March. It should be noted that the low number of crashes compared to the county road system may be statistically insignificant, since they could not be correlated with an identified event. For example, while the monthly chart indicates 31% of pedestrian

crashes occurred in May, this equates to a total of 5 crashes versus the county average of 73 crashes (10%) for the same month.

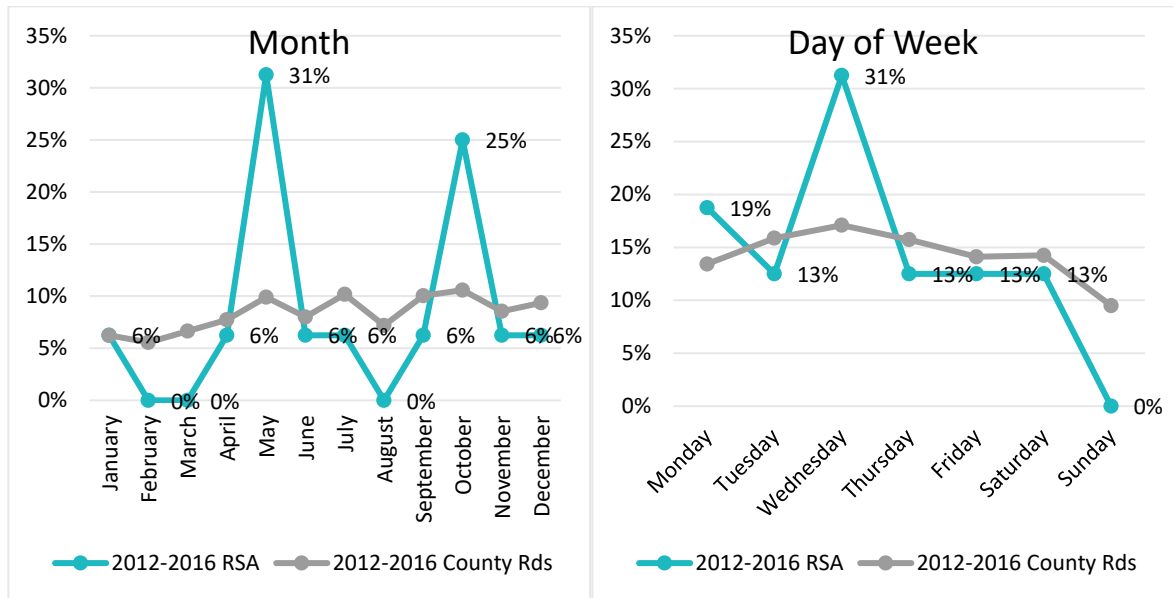


Figure 2 – Pedestrian/Bicyclist Crashes by Month and Day of Week

B. Collision Types

Overrepresented crash types over the three-year period from 2014 to 2016 included sideswipe, parked vehicle, backing, pedestrian/pedacyclist. The availability of on-street parking contributes to the struck parked vehicle crashes. Of the 66 pedestrian/cyclist crashes over the five-year period from 2012 to 2016, six were pedacyclists travelling with traffic and were struck by a vehicle. An additional three pedacyclists were struck by a parked vehicle’s opening door. Sideswipe crashes were scattered throughout the corridor, at intersections as well as between them. Struck parked vehicle crashes had similarly even distribution along the corridor. The backing vehicle collisions were concentrated near the Journal Square Plaza intersection, while pedestrian crashes were clustered near intersections, especially the Montgomery Street and Bergen Avenue intersections.

Table 4 – Overrepresented Crash Types (2014-2016)

Collision Type	Count	% of Total	2016 County Road System Average
Sideswipes	85	30.47%	12.67%
Struck Parked Vehicle	59	21.15%	5.89%
Backing	17	6.09%	2.28%
Pedestrian/Cyclist*	41	16.13%	2.64%

* An additional twenty-five (25) crashes occurred from 2012 to 2013

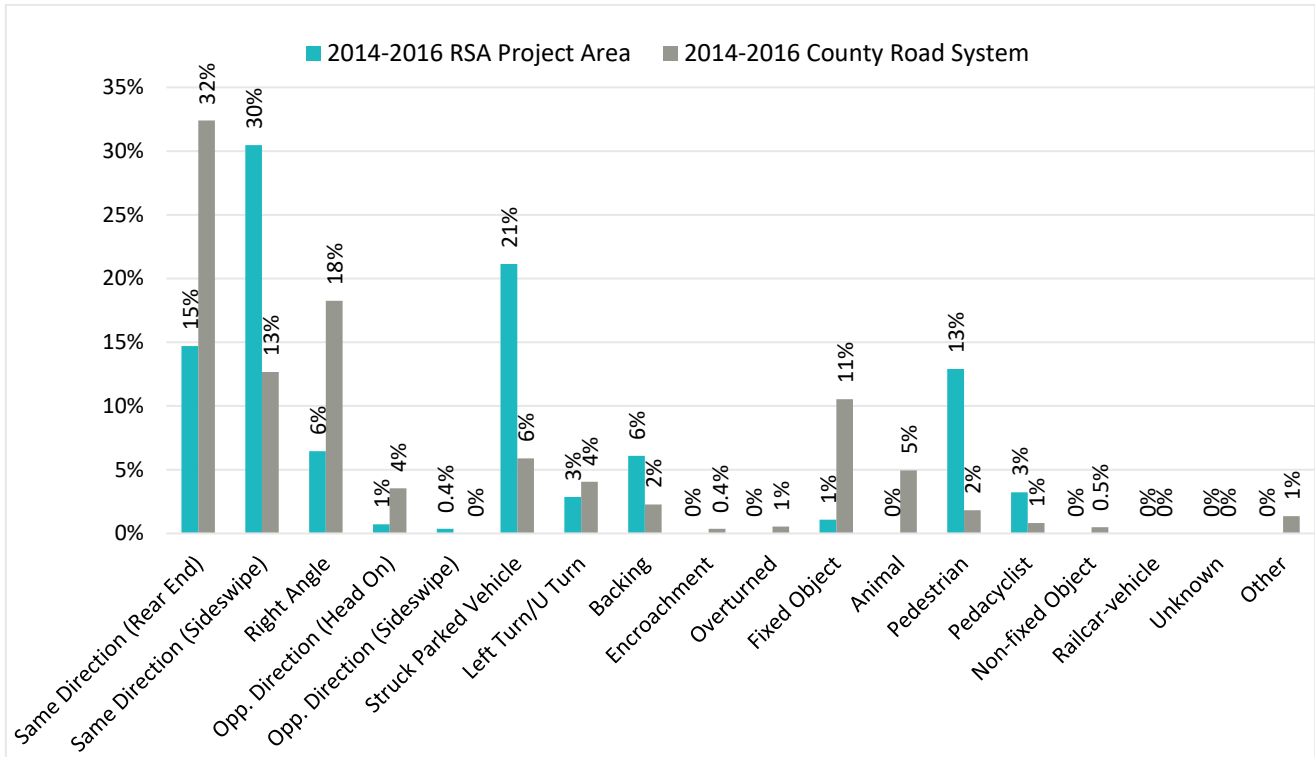


Figure 3 – Crash Type Breakdown

C. Severity

Crashes resulting in property damage were overrepresented compared to the county road system. Sideswipes and backing tend to be less severe crashes while parked vehicle collisions typically involve fewer individuals.

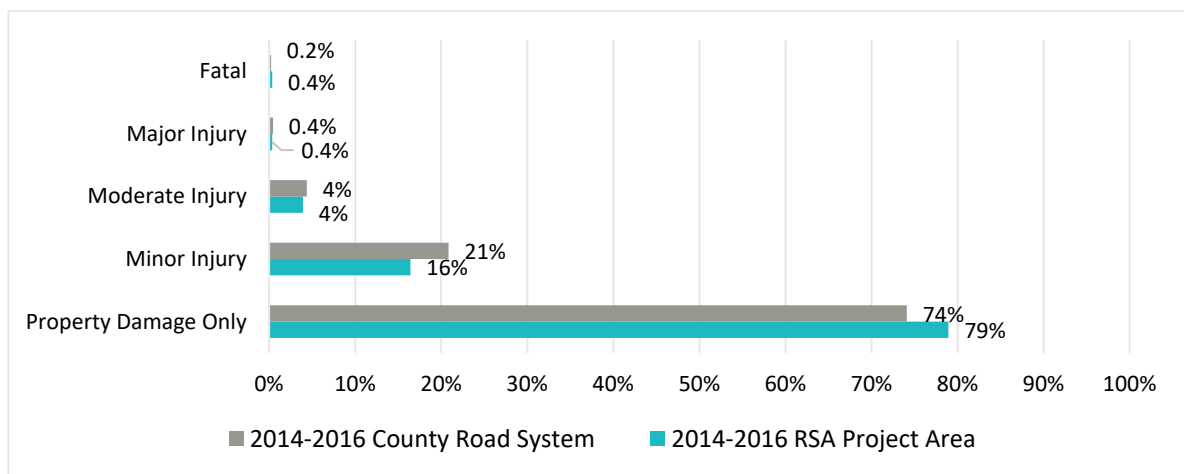


Figure 4 – Severity (All Crashes)

Pedestrian/pedacyclist crashes resulting in injury were overrepresented compared to the county road system. These crash types generally have higher rates of injuries. Minor and moderate injuries were higher than the county road system averages. In addition, one fatal pedestrian crash occurred in 2015.

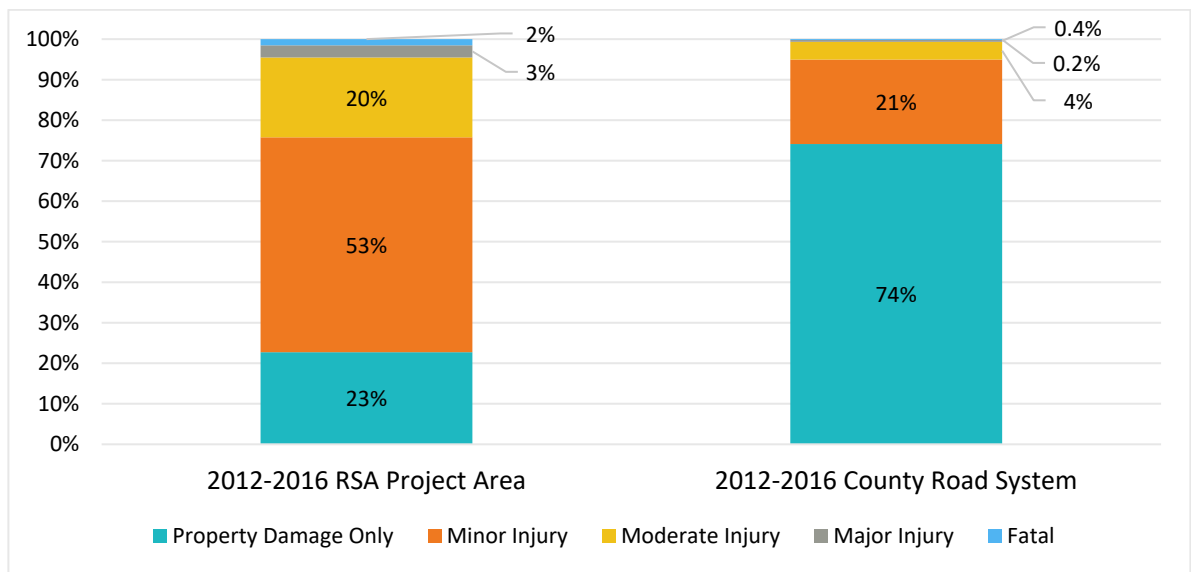


Figure 5 – Severity (Pedestrian/Bicycle Crashes)

D. Roadway Surface & Light Condition

Overrepresented crash types included dry surface and during the day. Dry surface conditions accounted for approximately 85% of total crashes, suggesting that road surface was not a significant contributing factor in most crashes. While 76% of crashes occurred during daylight, approximately 22% occurred at night, which is slightly lower than the county road statewide average of 24% and suggests lighting is not a major issue.

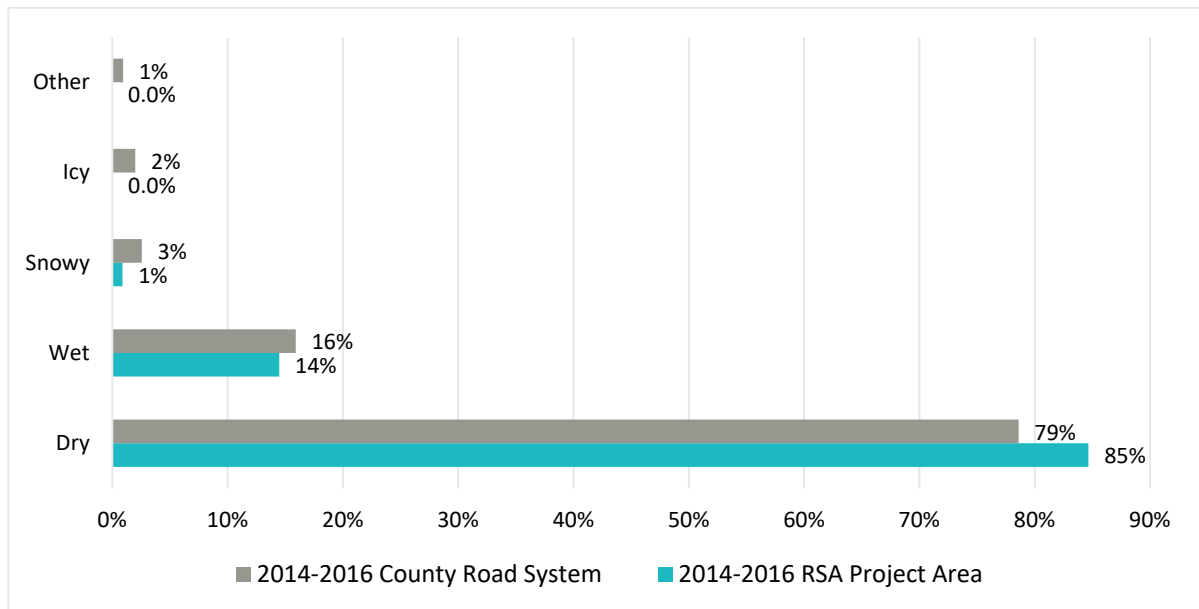


Figure 6 – Surface Conditions (All Crashes)

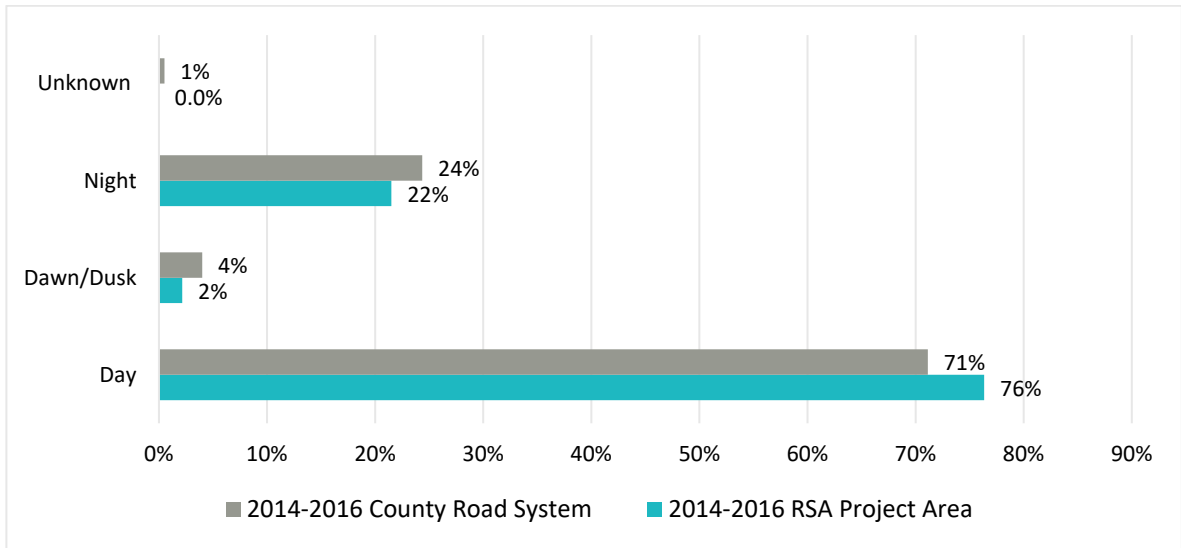


Figure 7 – Light Conditions (All Crashes)

In addition, two (2) or approximately 13% of pedestrian crashes occurred during dawn or dusk, which is more than double the county road statewide average of 40 crashes or 5%. The low number of crashes compared to the county road system may be statistically insignificant.

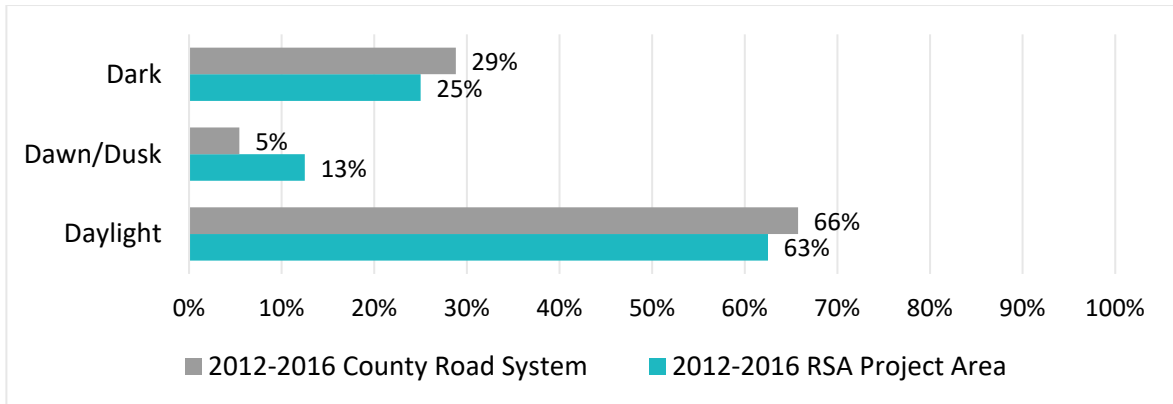


Figure 8 – Light Conditions (Pedestrian/Bicycle Crashes)

E. Location

Most intersections along this high-activity corridor are signalized. Consequently, crashes at signalized intersections were overrepresented while crashes at unsignalized intersections were underrepresented compared to the county road system average. Thirty-two percent (32%) of crashes occurred at signalized intersections compared to 15% on all county roads. Only 7% occurred at unsignalized intersections compared to the county average of 24%. Most crashes along Bergen Avenue occurred at or near Montgomery, Vroom, Academy, and Newkirk Streets. Along Sip Avenue, the majority of crashes occurred at the intersection of Summit Avenue. There were also many collisions at Journal Square Plaza, where Bergen and Sip Avenues meet. Crash frequency for the three-year period, from 2014 through 2016, is as shown in the following figure for vehicular and pedestrian collisions, in 0.1-mile increments.



Figure 9 – Total Crash Locations (2014-2016)

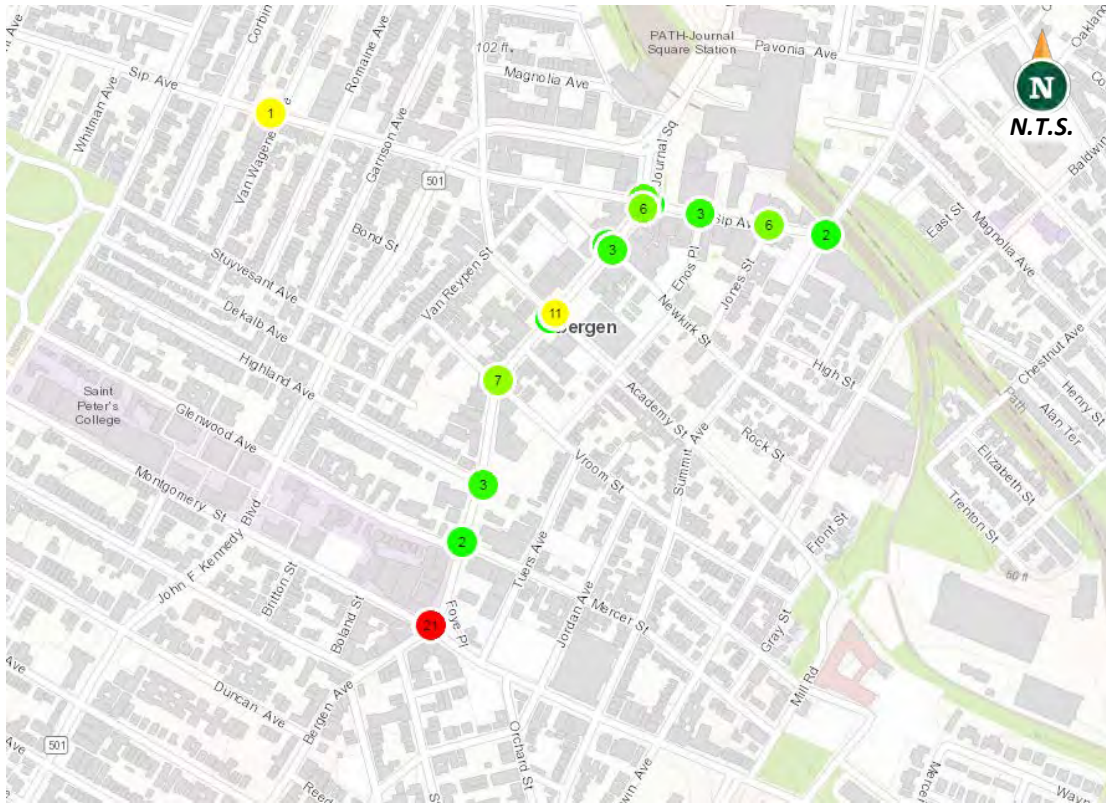








Figure 10 – Pedestrian Crash Locations (2012-2016)

IV. Identified Issues

This section summarizes the site-specific and corridor-wide safety issues identified during the RSA. They are categorized into operations (including visibility), pedestrian, bicyclist, and maintenance. Additional issues and photographs can be found in Appendix F.

Pedestrian	Bicyclist
	
<p>Pedestrian crossing midblock in traffic</p>	<p>Crowded sidewalks and on-street parking force bicyclists on a busy, high-conflict roadway</p>
	
<p>Sidewalk stands, trees, sign and light posts, and traffic signal equipment obstruct pedestrian pathways</p>	<p>Lack of on-street bicycle facilities</p>
	
<p>Some pedestrian heads are not operating correctly</p>	<p>Busy, multimodal intersections put bicyclists at risk</p>

Pedestrian



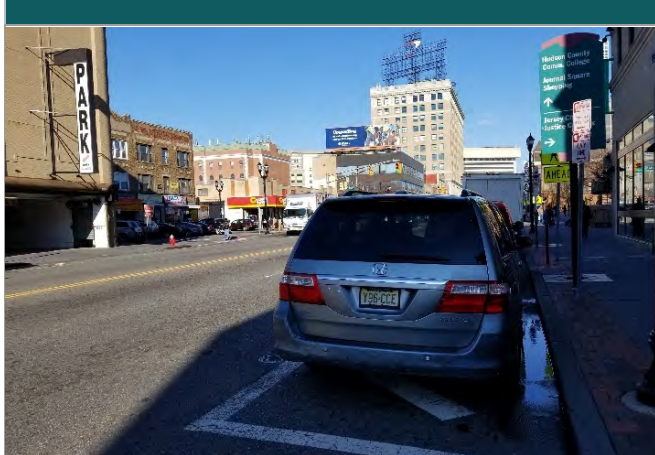
Lack of pedestrian crosswalks at intersections

Bicyclist



Local bike routes are not interconnected

Operations & Visibility



Limited sight distance/visibility due to illegal parking

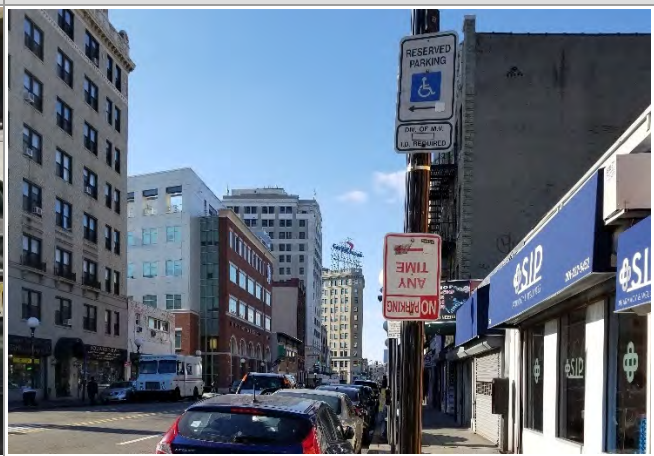
Maintenance



Pavement should be repaired in certain areas



Double parking causes abrupt lane changes



Signage needs to be replaced/updated

Operations & Visibility	Maintenance
	
Pedestrian heads were obstructed by construction	Worn signing and non-breakaway posts

Additional issues, observations and details identified during the RSA include the following, listed from south to north:

- Center line and lane line striping was faded throughout much of the corridor; vehicles may inadvertently drift into the adjacent lane, especially on horizontal curves
- Residents noted that Bergen Avenue is a natural bicycle route for the west side of Jersey City; however, there is no perceived safe space for cyclists in the roadway
- Jitney buses were observed using NJ Transit designated bus stops
- Members of the St. George & St. Shenouda Coptic Orthodox Church (835 Bergen Avenue) typically leave strollers on the sidewalk during services
- The bus stops near Academy Street are the busiest locations besides Journal Square
- Many pedestrians use the bus entrance on Sip Avenue to access the PATH station rather than the designated walkway that can be accessed at the corner of Sip and Summit Avenues

V. Findings and Recommendations

This section summarizes the site-specific and corridor-wide safety issues, potential strategies, and recommendations to improve the same, safety benefit, time frame, cost, and jurisdiction. Ratings used in the recommendation tables are described as follows:

Symbol	Meaning	Definition
✓	Low safety benefit potential	May reduce total crashes by 1-25% ²
✓✓	Low to moderate safety benefit potential	May reduce total crashes by 26-49% ¹
✓✓✓	Moderate safety benefit potential	May reduce total crashes by 50-74% ¹
✓✓✓✓	High safety benefit potential	May reduce total crashes by 75+% ¹
\$	Low cost	Could be accomplished through maintenance

² Based on existing Crash Modification Factors (CMFs), the Highway Safety Manual (HSM), FHWA Proven Safety Countermeasures and current research, where applicable. All safety benefits are approximate.

Symbol	Meaning	Definition
\$\$	Medium cost	May require some engineering or design and funding may be readily available
\$\$\$	High cost	Longer term; may require full engineering, ROW acquisition and new funding
🕒	Short term	Could be accomplished within 1 year
🕒	Medium term	Could be accomplished in 1 to 3 years; may require some engineering
🕒	Long term	Could be accomplished in 3 years or more; may require full engineering

A. Recommendations

The following represents the specific findings and recommendations made by the RSA team.

All recommendations and designs should be thoroughly evaluated with due diligence and designed as appropriate by the roadway owner and/or a professional engineer for conformance to all applicable codes, standards, and best practices.

Table 5 – Corridor-Wide Recommendations

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
Operations					
1	Consider development of an access management plan within the project limits (many sidewalks are disrupted by poorly constructed driveways)	✓	\$\$	🕒	City
2	Investigate on-street parking requirements where business have existing parking lots (parking study) and for conformance with Title 39 (vehicles parking too close to or within intersections, unloading within/blocking intersection area).	✓ ²	\$\$	🕒	City
3	Consider upgrading all ramps for ADA compliance	✓✓✓ ³	\$\$\$	🕒	City
4	Consider addressing ponding issues at street junctions	✓ ²	\$\$	🕒	City
5	Consider corridor-wide signal upgrades (replace 8" traffic signal heads with 12", install backplates with retroreflective border, evaluate clearance intervals, update to countdown pedestrian signal heads, replace push buttons in compliance with ADA, etc.)	✓✓	\$\$\$	🕒	City
6	Study highway and pedestrian scale lighting	✓✓✓	\$\$	🕒	City
7	Investigate converting to a 3-lane section (2 travel lanes, TWLTL and bike lanes; i.e. road diet)	✓✓	\$\$	🕒	City
8	Explore one-way street operation	✓✓	\$	🕒	County/City

³ CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
9	Examine installation of edge lines where there is no parking to help bicyclists and slow vehicular speeds	✓ ²	\$\$	○	City
10	Examine existing cross slope for proper drainage	✓ ²	\$\$	○	City
11	Investigate the location of boxes, poles, and posts to minimize their interference on sight distances	✓✓	\$\$	○	City
12	Investigate parking layout and consider angled parking as part of a roadway reconfiguration option	✓ ²	\$\$	○	City
13	Investigate whether the removal of tree pits would improve pedestrian access	✓ ²	\$\$	○	City
14	Consider enhanced lane delineation	✓ ²	\$\$	○	City
Bicycle/Pedestrian					
15	Inspect and repair sidewalks as needed. Ensure compliance with ADA.	✓✓✓	\$\$	○	City
16	Examine inlets and install bicycle-safe grates	✓ ²	\$\$	○	City
17	Consider installing a bicycle lane and/or sharrow striping per NJ Complete Streets Design Guide	✓	\$	○	City
18	Study corridor-wide implementation of curb extensions (bump-outs) based on the site-specific recommendations to maintain consistency	✓✓ ²	\$\$	●	City
19	Investigate widening sidewalk to 10-12' for a shared use path per NJ Complete Streets Design Guide	✓✓✓	\$\$\$	○	City
20	Consider accommodations for bicyclists stopped at signalized intersections	None ⁴	\$	○	City
21	Consider desire lines for pedestrians and modify crosswalks accordingly	✓✓	\$	○	City
22	Consider leading pedestrian intervals (LPI) at intersections with high pedestrian activity	✓✓✓	\$	○	City
23	Consider pedestrian scramble phases at intersections with high pedestrian activity	✓	\$	○	City
24	Consider installation of bicycle racks/corals	✓ ²	\$	○	City
Maintenance					
25	Consider performing necessary foliage trimming and obstacle removal to improve visibility of signs and pedestrian pathways, respectively	✓✓	\$	○	City
26	Inspect existing crosswalk striping for wear and restripe accordingly	✓✓	\$	○	City

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

³ HSM Table 14A-1 indicates that bicycle lanes at signalized intersections appear to have no crash effect. Clearinghouse CMFs range from 0.8 to 2.03.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
27	Inspect and replace faded, damaged or incorrect/ outdated signage as needed (i.e. signs mounted below 7', back-to-back signs that obscure shapes [e.g. Do Not Enter behind Stop sign] or non-breakaway poles)	✓	\$	🕒	City
Education					
28	Consider sidewalk, crosswalk, multimodal education campaign and code enforcement	✓ ²	\$	🕒	County/City
29	Consider obtaining observations from residents who seem apprehensive to new developments (added traffic may cause safety concerns)	N/A	\$	🕒	City

The following site-specific recommendations are in addition to the corridor-wide improvements, except where noted otherwise. Of note, the improvements listed below were proposed by the County, City, and/or private developer at the time of the RSA. Excerpts from available reports can be found in Appendix I.

- New development in the northeast corner of the Bergen Avenue and Sip Avenue intersection will add 1,500 residential units, in addition to office and retail space, based on available information.
- Jersey City plans to implement a pilot of curb extensions via flexible delineators at the Bergen Avenue and Sip Avenue intersection in Spring 2018.
- The City is developing a Bike Safety Master Plan and is conducting a Pedestrian Enhancement Plan study with anticipated start and completion dates, respectively, in Spring 2018. The Bike Safety Master Plan is anticipated to be a 12-month study.
- Continually flashing pedestrian crossing warning signs were installed along Sip Avenue at Garrison and Romaine Avenues. Of note, drivers become desensitized to the continual flashing and these warning signs may lose effectiveness over time.
- The County and City partnered with NJTPA and Bayonne City to complete a Bus Rapid Transit study for opportunities between the Greenville section of Jersey City, and Journal Square Transportation Center. The final report of the same is dated June 2013.

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

Table 6 – Site-Specific Recommendations

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
Bergen Avenue & Montgomery Street					
30	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing times	✓✓ ²	\$\$	●	City
31	Investigate a roundabout	✓✓✓✓	\$\$\$	●	City
32	Investigate expanding bus facilities within the plaza in the northeast corner	✓ ²	\$	●	City
33	Consider realigning the bus cutout to better facilitate bus parking for pick-ups (NACTO) as buses generally cannot easily utilize the existing cutout	✓ ²	\$	●	City
34	Consider space for two buses and contrast pavers	✓ ²	\$\$	●	City
35	Investigate removal of westbound channelizing island to reduce pedestrian crossing distance	✓ ²	\$\$	●	City
36	Investigate alignment of Bergen Avenue through the intersection	✓ ²	\$\$\$	●	City
37	Consider evaluating signal phasing to improve driver and pedestrian expectancy	✓ ²	\$\$	●	City
38	Consider implementing an eastbound and southbound protected left turn and modify lane use accordingly	✓	\$\$	●	City
39	Consider corridor-wide recommendation 2 regarding parking enforcement (especially within bus stops)	✓ ²	\$\$	●	City
40	Consider corridor-wide recommendation 5 regarding signal upgrades	✓✓	\$\$\$	●	City
41	Consider corridor-wide recommendation 19 regarding sidewalk widening	✓✓✓	\$\$\$	●	City
42	Consider corridor-wide recommendation 23 regarding a pedestrian scramble phase	✓	\$	●	City
43	Consider upgrading southbound approach's parking and bus stop to provide a larger bus stop and clearly designated parking spots	✓ ²	\$\$	●	City
44	Consider reinstalling pavement markings as some are faded or non-existent. Consider installing track line markings for turning movements	✓ ²	\$	●	City
45	Consider restriping eastbound lanes such that there is one lane and a bus stop since the lanes appear narrow	✓	\$\$	●	City

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
46	Consider restricting exiting traffic at the Hudson Catholic High School (790 Bergen Ave) as the existing brick gateway restricts the view of the driver entering a busy sidewalk	✓ ²	\$	🕒	City
47	Consider removing taxi pull out along the westbound approach	✓ ²	\$	🕒	City
48	Consider installation of a bike lane as there is a Citi Bike kiosk in the northeast corner	✓	\$\$	🕒	City
Bergen Avenue & Glenwood Avenue/Mercer Street					
49	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Bergen Avenue	✓✓ ²	\$\$	🕒	City
50	Consider corridor-wide recommendation 19 regarding sidewalk widening	✓✓✓	\$\$\$	🕒	City
51	Investigate corridor-wide recommendation 27 regarding sign inspection and repair (specifically missing one-way signage throughout the corridor)	✓	\$	🕒	City
52	Explore options to make pedestrians more visible during school hours	✓ ²	\$	🕒	City
53	Consider reducing curb radii, particularly in the southeast corner, to reduce pedestrian crossing distances	✓✓ ²	\$\$	🕒	City
Bergen Avenue & Highland Avenue					
54	Consider corridor-wide recommendation 2 regarding parking enforcement	✓ ²	\$\$	🕒	City
55	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Bergen Ave	✓✓ ²	\$\$	🕒	City
56	Investigate corridor-wide recommendation 27 regarding inadequate signage (especially regarding "One-Way" and "Do Not Enter" signage)	✓	\$	🕒	City
57	Explore geometric changes to the Highland Ave approach to make it perpendicular and reduce pedestrian crossing distance	✓✓ ²	\$\$\$	🕒	City
58	Consider installation of a crosswalk on the north side of the intersection	✓✓	\$	🕒	City
Bergen Avenue & Vroom Street					
59	Consider corridor-wide recommendation 5 regarding signal upgrades	✓✓	\$\$\$	🕒	City
60	Consider corridor-wide recommendation 7 regarding road diets	✓✓	\$\$	🕒	City

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
61	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Bergen Ave	✓✓ ²	\$\$	●	City
62	Consider corridor-wide recommendation 19 regarding sidewalk widening	✓✓✓	\$\$\$	●	City
63	Investigate corridor-wide recommendation 27 regarding inadequate and damaged signage	✓	\$	●	City
64	Investigate improving the Bergen Ave horizontal alignment	✓✓ ²	\$\$\$	●	City
65	Consider enhanced delineation of the Bergen Ave centerline, such as skip lines through the intersection	✓ ²	\$	●	City
Bergen Avenue & Smith Street (unsignalized)					
66	Investigate installing a crosswalk across Bergen Ave	✓✓	\$	●	City
67	Explore feasibility of installing HAWK via MUTCD warrant analysis	✓✓✓	\$\$	●	City
Bergen Avenue & Academy Street					
68	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Bergen Ave	✓✓ ²	\$\$	●	City
69	Investigate a roundabout	✓✓✓✓	\$\$\$	●	City
70	Explore options to make pedestrians more visible during school hours	✓ ²	\$	●	City
71	Investigate widening sidewalk on the west side (in front of C-Town) and enhanced bus stop facilities such as a shelter or sitting area.	✓✓✓	\$\$	●	City
72	Consider improvements to the student drop off area along the northbound receiving lanes, including a curb extension	✓ ²	\$	●	City
Bergen Avenue & Newkirk Street					
73	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Bergen and Sip Aves	✓✓ ²	\$\$	●	City
74	Consider evaluating signal phasing to improve driver and pedestrian expectancy	✓ ²	\$\$	●	City
Bergen Avenue & Sip Avenue					
75	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Bergen Ave	✓✓ ²	\$\$	●	City
76	Consider reevaluating the pedestrian crossing time	✓ ²	\$\$	●	City

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
77	Consider extending the Journal Square Plaza SB median to provide a pedestrian refuge	✓✓✓	\$\$	●	City
78	Consider pedestrian scramble phases at intersections with high pedestrian activity	✓	\$	●	City
79	Investigate corridor-wide recommendation 27 regarding sign inspection and replacement	✓	\$	●	City
80	Consider widening sidewalk on the south side	✓✓✓	\$\$	●	City
Sip Avenue & Enos Place					
81	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Sip Ave	✓✓ ²	\$\$	●	City
82	Consider installing a crosswalk on the east side	✓✓	\$	●	City
83	Investigate repairing the sidewalk on the north side (part of developer project)	✓✓✓	\$	●	City
Sip Avenue & Journal Square Station (parking and bus access)					
84	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Sip Ave	✓✓ ²	\$\$	●	City
85	Consider installing a crosswalk between Enos Pl and Jones St	✓✓	\$	●	City
86	Explore a parklet opposite the 'T' leg of the intersection and eliminate parking within the same	✓✓✓	\$\$	●	City
87	Consider implementing a westbound bus lane	✓	\$	●	City
88	Consider corridor-wide recommendation 28 regarding the ponding issues at curb ramps	✓ ²	\$\$	●	City
Sip Avenue & Jones Street (unsignalized)					
89	Explore feasibility of installing HAWK via MUTCD warrant analysis	✓✓✓	\$\$	●	City
90	Consider corridor-wide recommendation 18 regarding a curb extension on the southwest corner to reinforce prohibition of left turns	✓✓ ²	\$\$	●	City
Sip Avenue & Summit Avenue					
91	Consider corridor-wide recommendation 18 regarding the installation of curb extensions to reduce crossing time across Sip Ave	✓✓ ²	\$\$	●	City
92	Consider implementing a westbound bus lane	✓ ²	\$	●	City
93	Consider corridor-wide recommendation 3 regarding the upgrade of all ramps for ADA compliance	✓✓✓ ²	\$\$\$	●	City

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
94	Investigate reducing the curb radius in southwest corner to reduce pedestrian crossing distances	✓✓ ²	\$\$\$	●	City
95	Consider corridor-wide recommendation 5 regarding MUTCD compliance	✓✓	\$\$	●	City
Sip Avenue at Van Wagenen & Romaine Avenues (unsignalized)					
96	Investigate a bicycle lane in both directions or bicycle climbing lane in the eastbound direction along Sip Ave	✓	\$	●	City
97	Study the need for a traffic signal or HAWK by performing a warrant analysis per MUTCD	✓✓✓	\$\$	●	City
98	Consider corridor-wide recommendation 6 regarding lighting	✓✓✓	\$\$	●	City
99	Consider a raised intersection or raised crosswalks	✓✓	\$\$\$	●	City
100	Consider enforcement and mitigating treatment for speeding along Sip Ave (downhill), such as driver feedback signs	✓	\$	●	City
101	Consider full depth pavement reconstruction to address improper curb heights	✓ ²	\$\$\$	●	City
102	Consider providing striping for bus stop	✓	\$	●	City
103	Investigate replacing the continually flashing pedestrian signs with pedestrian activated Rectangular Rapid Flashing Beacons (RRFB)	✓✓	\$\$	●	City
104	Consider corridor-wide recommendations 15 and 18 regarding sidewalk repair and curb extensions	✓✓ ²	\$\$	●	City
105	Consider corridor-wide recommendation 27 regarding sign upgrades and replacement	✓	\$	●	City
Sip Avenue & Garrison Avenue (unsignalized)					
106	Study the need for a traffic signal or HAWK by performing a warrant analysis per MUTCD	✓✓✓	\$\$	●	City
107	Consider a raised intersection or raised crosswalks	✓✓	\$\$\$	●	City
108	Consider enforcement and mitigating treatment for speeding along Sip Ave (downhill), such as driver feedback signs	✓	\$	●	City
109	Explore options to make pedestrians more visible during school hours	✓ ²	\$	●	City
110	Consider implementing school crossing signs as a crossing guard is present during school commuting hours	✓	\$	●	City
111	Consider corridor-wide recommendation 6 regarding lighting	✓✓✓	\$\$	●	City

² CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

No.	Recommendation	Safety Benefit	Cost	Time Frame	Jurisdiction
112	Consider full depth pavement reconstruction to address improper curb heights	✓ ²	\$\$\$	●	City
113	Consider providing striping for bus stop	✓ ²	\$	○	City
114	Investigate replacing the continually flashing pedestrian signs with pedestrian activated RRFB	✓✓	\$\$	●	City
115	Consider accommodations for firehouse	✓ ²	\$	○	City
116	Consider corridor-wide recommendations 15 and 18 regarding sidewalk repair and curb extensions	✓✓ ²	\$\$	●	City
117	Consider corridor-wide recommendation 27 regarding sign upgrades and replacement	✓	\$	○	City

B. Road Owner Response

An important part of the RSA process is the road owner’s response: an acknowledgment of the audit’s findings and recommendations, and their planned follow-up. In responding to the RSA’s findings, the road owner must bear in mind all the competing objectives involved when implementing the recommendations, and foremost among them is available resources. Because the audit process generated a long and wide-ranging list of improvements, the road owner is expected to implement these recommended improvements as time and funds allow in coordination with other projects and priorities.

Jersey City delivered their response following the finalization of the findings and recommendations table, a copy of which can be found in Appendix J.

C. Recommendation Visualizations

Examples of some of the site-specific and corridor-wide safety recommendations identified in Tables 4 and 5 are shown below and are based on current practices and standards. Descriptions and images of each treatment are from the *2017 NJ Complete Street Design Guide (CSDG)* and NACTO’s *Urban Street Design Guide (NACTO-US)* and *Urban Bikeway Design Guide (NACTO-UB)*, including sources contained therein.

1. Pedestrian Facilities

Curb extensions visually and physically narrow the roadway at intersections and midblock locations, creating safer and shorter pedestrian crossings, while increasing the available space for streetscape. They increase the overall visibility of pedestrians by aligning them with the parking lane and help prohibit vehicles from parking in violation of Title 39. Crossing islands, or pedestrian refuge islands, reduce the exposure time of pedestrians to vehicular traffic. They enable pedestrians to make a crossing in two stages — crossing one direction of vehicular travel lanes, pausing at the island, and then completing the crossing. They are recommended where a pedestrian must cross three lanes of traffic in one or both directions but may be implemented on smaller cross sections where space permits.

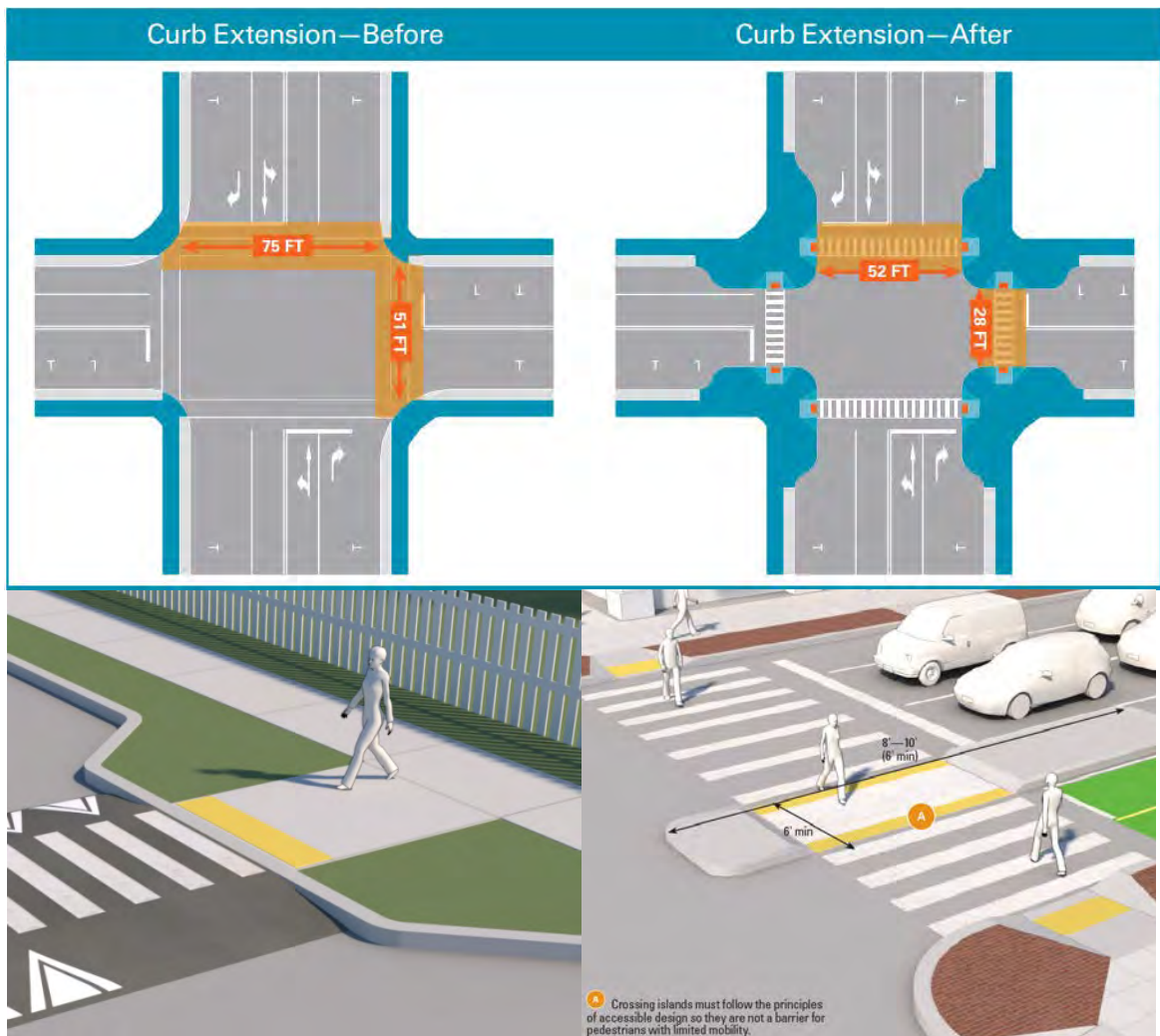


Figure 11 – Pedestrian Facility Examples

Top: Curb Extension. Left: Midblock Curb Extension. Right: Crossing Island (Source: CSDG)

Parklets are typically applied where narrow or congested sidewalks prevent the installation of traditional sidewalk cafes, or where local property owners or residents see a need to expand the seating capacity and public space on a given street. Parklets can be implemented on an interim basis. Heavy planters, granite blocks, moveable seating, and other elements may be incorporated into the interim design.

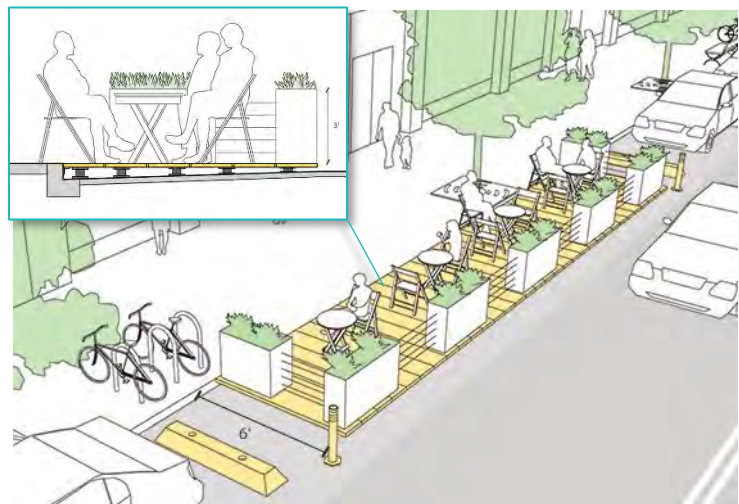


Figure 12 – Parklet Example (Source: NACTO)

A parklet can be considered near the St. George & St. Shenouda Coptic Orthodox Church between Highland Avenue and Vroom Street, as well as near Hudson County Community College and Journal Square Plaza.

2. Bicycle Facilities

Bicycle lanes provide an exclusive space for bicyclists using pavement markings and signage. Intended for one-way travel, they are typically located on both sides of a two-way street. Bicycle lanes enable bicyclists to ride at their preferred speed, free from interference from motorists. Where it is not feasible or appropriate to provide dedicated bicycle facilities, shared-lane markings (e.g. “sharrows”) may be used to indicate a shared environment for bicycles and vehicles, such as the ones implemented along Old Bergen Road in Jersey City.

Bicycle lanes and shared-lane markings should be extended through intersections and major driveways to enhance continuity, guide bicyclists through the intersection, and improve driver awareness of bicycle activity and movement.

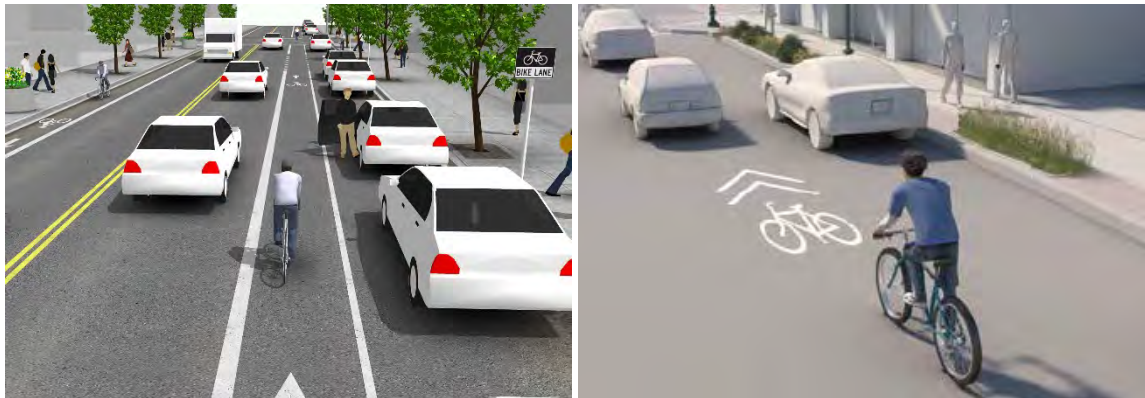


Figure 13 – Bicycle Facility Examples

Left: Bicycle Lane Adjacent to Parking or Curb (Source: NACTO-UB). Right: Sharrows Markings (Source: CSDG)

3. Transit Facilities

While stop location determines to a large extent how transit vehicles approach stops and interact with traffic, the physical configuration of stops and stations impact how riders interact with the transit system. Transit stops play a significant role in the urban street puzzle and can be used not only to provide comfortable and accessible transit access, but also to organize traffic interactions and manage curbside activity.

Curbside pull-out stops (or bus bays) are areas separated from the travel lanes and off the normal section of a roadway that provides for the pickup and discharge of passengers. This design allows through traffic to flow freely without the obstruction of stopped buses and works well for bus stops on streets with curbside parking.

Boarding bulb stops use curb extensions that align the transit stop with the parking lane, creating an in-lane stop. They can become a focal point for improved public space along the street, creating space for waiting passengers, furnishings, bike parking, and other pedestrian amenities and community facilities without encroaching on the pedestrian through zone.

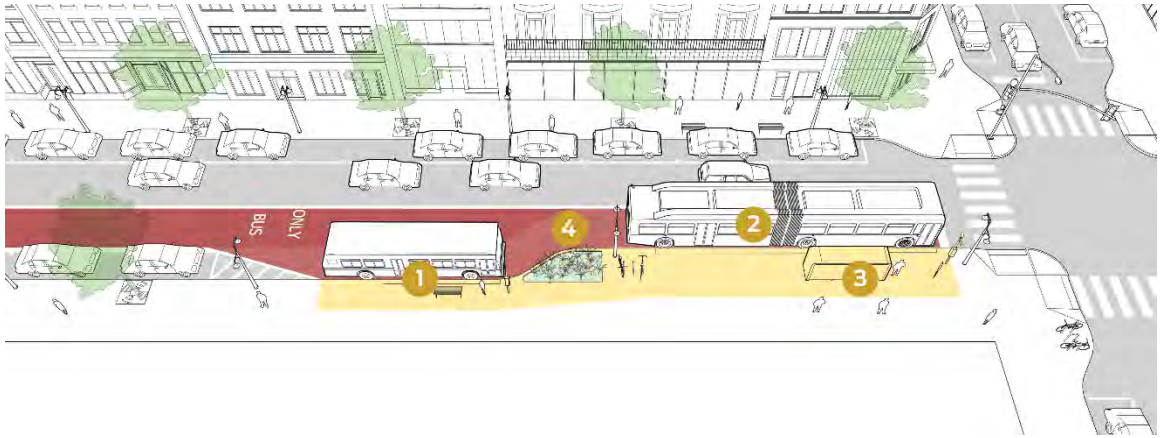


Figure 14 – Example of Bus Pull-Out Stop (1) & Bulb Stop (2), Combined into Tiered Stop

4. Roadway Reconfiguration

This treatment allows reallocation of existing street space (i.e. roadway cross section) to accommodate multi-modal users. Lane configuration and width for travel, turning movements, parking, and bicycle lanes can be adjusted to optimize use for vehicles, pedestrians, bicyclists, and transit. The most common roadway reconfiguration, known as a road diet, involves converting an existing four-lane undivided segment into a three-lane segment with two through lanes and a center two-way left turn lane (TWLTL).

The main goal of a road diet is to improve safety by eliminating conflict points between turning, crossing and through traffic and reducing the speed differential which reduces crash severity when crashes do occur. Road diets also benefit pedestrian and bicyclist safety by reducing the number of lanes to cross at an intersection and reallocating space from the travel lane to non-motorized use, such as bicycle lanes.

FHWA's *Road Diet Informational Guide* advises that roadways with an ADT of 20,000 vehicles per day (vpd) or less may be good candidates for a road diet. If the ADT of the roadway is near the upper limit, further analysis should be conducted, such as review of peak hour volumes by direction, turning volumes at intersections and driveways, and signal spacing.

Of note, if there is a low number of left turn volumes, and therefore all four lanes are used by through traffic, the roadway may not be a good candidate for a road diet. Conversely, a high number of left turn volumes can result in the four-lane roadway operating as a de-facto three-lane roadway and the operational impacts of implementing a road diet may be minimal.

As noted in Section II.D of this report, the ADT along Bergen Avenue, ranges from approximately 10,340 to 15,900 within the study area. This is below the 20,000 vpd threshold advised by FHWA. While left turn and right angle crashes were not overrepresented along the corridor, sideswipe and pedestrian crashes were, both of which may be reduced by implementing a road diet. Again, it is important to perform a thorough analysis of the existing roadway operations, specifically left turn volumes, on-street parking, and bus operations, to determine if a road diet is suitable for Bergen Avenue.

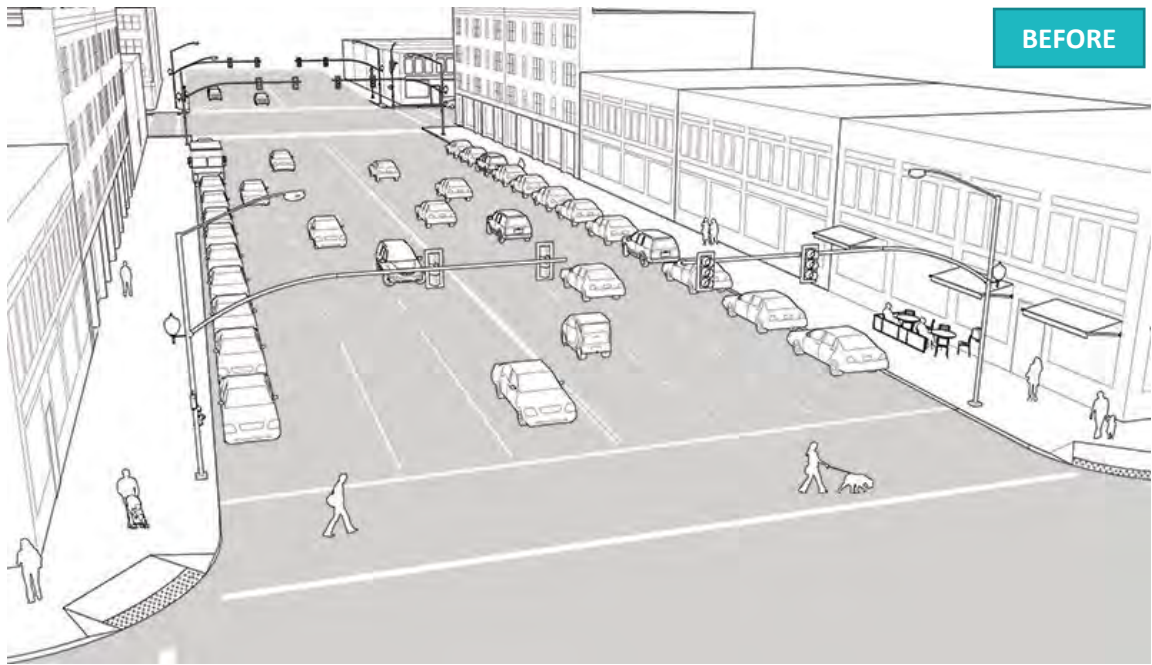


Figure 15 – Typical Four-Lane Downtown Typology (Source: NACTO-US)



Figure 16 – Road Diet Application Example on a Downtown Typology (Source: NACTO-US)

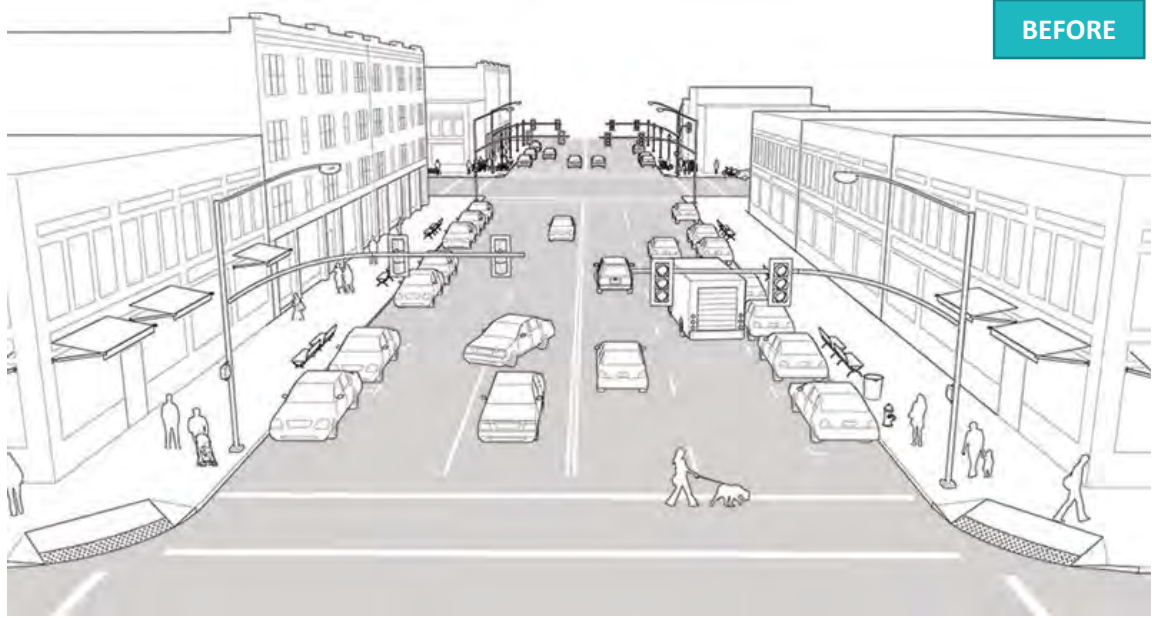


Figure 17 – Typical Four-Lane Main Street Typology (Source: NACTO-US)



Figure 18 – Road Diet Application Example on a Main Street Typology (Source: NACTO-US)

5. Roundabout

Roundabout design, which was recommended at the intersections of Bergen Avenue with Montgomery and Academy Streets, should create conditions that reduce vehicle speed and provide a consistent speed into, through, and out of the roundabout. Lower speeds reduce crash frequency and severity for all roadway users, allow safer and easier merging of traffic, provide more reaction time for drivers, and make the facility more accessible for novice users.

Roundabouts were recommended at Montgomery and Academy Streets.



Figure 19 – Roundabout Example (Source: CSDG)

VI. Conclusions

The Bergen Avenue/Sip Avenue RSA was conducted to identify safety issues and corresponding countermeasures that compromise multimodal use of the roadway. The team identified a long list of issues from the field visit, as well as many practical short-, mid-, and long-term improvements during the post-audit.

The recommendations documented in this report are designed to improve safety for all users of Bergen Avenue and Sip Avenue. Some of the strategies identified can be implemented through routine maintenance; all will be constrained by available time and budgetary priorities. The audit process and the resulting final document highlight the safety issues and present the needed improvements by location organized for systematic implementation by the roadway owner.

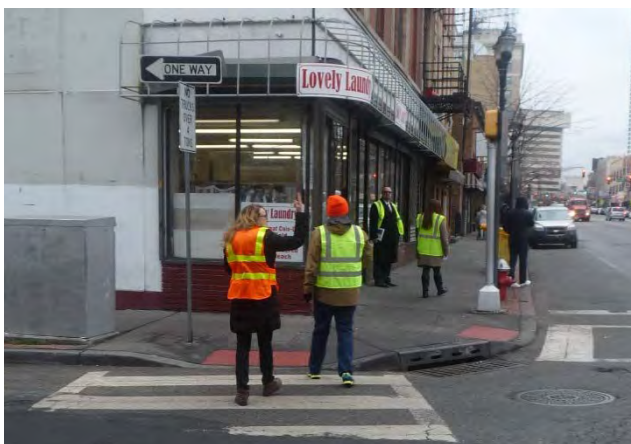
It is important to note that when it comes to improving safety, engineering strategies alone only go so far, especially in areas undergoing redevelopment. Education, with support from a targeted enforcement campaign, is an effective approach for addressing driver and pedestrian behaviors that lead to crashes. Employing a multipronged approach is an effective course of action to advance the goal of improved safety on the corridor.

However, it is noted that specific to Bergen Avenue, behaviors along this corridor are impacted by systems-level design issues and while education and enforcement are supplemental measures, changes to engineering and design will be the major determinants of making this a safe, complete street.

Appendix A - RSA Team


Audit Team

Name	Agency
Andrew Vischio	Jersey City – Traffic and Transportation
Jennifer Cato	Jersey City – Traffic and Transportation
Barkha R Patel	Jersey City – Planning
Tom Malavasi	Hudson County Engineer
Jose Sieira	Hudson County – Traffic and Transportation
Megan Massey	Hudson County Engineering
Francesca Giarratana	Hudson County Planning
Hailey Graf	Hudson County Planning
Elmira Buongiorno	NJ Transit
Scott Torre	St. Peter’s University – Director of Campus Safety
Amon Boucher	NJDOT – Bureau of Transportation Data and Safety
Pavan Sheth	NJDOT – Bureau of Transportation Data and Safety
Kara Hrabosky	Safe Streets JC
Patrick Conlon	Bike JC
Kevin Bing	Bike JC / New JSQ Community Association
Andy Kaplan	Local Resident
Christine Mittman	NJTPA
Aimee Jefferson	NJTPA
Will Yarzab	NJTPA
Bernie Boerchers	Greenman-Pedersen, Inc. (NJDOT Consultant)
Andrew Halloran	Greenman-Pedersen, Inc.
Julia Steponanko	Greenman-Pedersen, Inc.
Alicia Ulmes	Greenman-Pedersen, Inc.



Appendix B - Area Map



NJDOT HSIP ROAD SAFETY AUDIT BERGEN / SIP AVENUE	
JERSEY CITY HUDSON COUNTY	
PROJECT LOCATION	
	GPI Greenman-Pedersen, Inc. Engineering and Construction Services
N.T.S.	

Appendix C - Traffic Data

New Jersey Department of Transportation

Daily Volume from 07/24/2012 through 07/26/2012

Site Names: 3N5H726, , SIP Ave-0.16, 09061561__, JERSEY CITY
 County: HUDSON
 Funct. Class: Urban Minor Arterial
 Location: BET TONNELE AVE & RT 501

Seasonal Factor Group:
 Daily Factor Group:
 Axle Factor Group:
 Growth Factor Group: 2 Urban Other Roadways

	Sun 07/22/2012			Mon 07/23/2012			Tue 07/24/2012			Wed 07/25/2012			Thu 07/26/2012			Fri 07/27/2012			Sat 07/28/2012			
	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	
00:00										157	82	75	164	78	86							
01:00										109	52	57	103	49	54							
02:00										81	34	47	88	39	49							
03:00										70	32	38	76	33	43							
04:00										107	46	61	104	47	57							
05:00										231	111	120	239	99	140							
06:00										568	184	384	561	207	354							
07:00										830	281	549	846	288	558							
08:00										907	308	599	832	249	583							
09:00										626	227	399	595	202	393							
10:00										552	238	314	566	223	343							
11:00										587	283	304	571	271	300							
12:00							651	297	354	663	273	390										
13:00							648	304	344	628	284	344										
14:00							666	309	357	700	332	368										
15:00							678	315	363	713	313	400										
16:00							842	407	435	801	382	419										
17:00							1,049	457	592	896	436	460										
18:00							1,023	403	620	815	377	438										
19:00							703	364	339	636	312	324										
20:00							485	218	267	510	218	292										
21:00							490	212	278	553	252	301										
22:00							360	147	213	384	152	232										
23:00							290	144	146	274	147	127										
Volume							7,885	3,577	4,308	12,398	5,356	7,042	4,174	1,514	2,660							
AM Peak Vol										907	308	599	880	303	588							
AM Peak Fct										0.96	0.94	0.90	0.91	0.91	0.86							
AM Peak Hr										8:00	8:00	8:00	7:30	7:30	7:45							
PM Peak Vol							1,072	457	620	896	437	460										
PM Peak Fct							0.94	0.85	0.95	0.93	0.85	0.90										
PM Peak Hr							17:30	17:00	18:00	17:00	16:45	17:00										
Seasonal Fct							1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
Daily Fct							1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
Axle Fct							0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500							
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000							

New Jersey Department of Transportation

Daily Volume from 08/10/2015 through 08/13/2015

Site Names: 3N5H726, , Sip Avenue-.17, 09061561__, Jersey City
 County: HUDSON
 Funct. Urban Minor Arterial
 Location: BET Freeman Ave and Emerson Ave

Seasonal Factor Group: RG1_FC16
 Daily Factor Group: RG1_FC16
 Axle Factor Group: RG1_FC16
 Growth Factor Group: RG1_FC16

	Sun 08/09/2015			Mon 08/10/2015			Tue 08/11/2015			Wed 08/12/2015			Thu 08/13/2015			Fri 08/14/2015			Sat 08/15/2015		
	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E
00:00							222	60	162	280	74	206	323	87	236						
01:00							101	36	65	148	46	102	163	29	134						
02:00							79	27	52	115	23	92	112	27	85						
03:00							76	24	52	91	19	72	91	31	60						
04:00							100	56	44	126	64	62	111	49	62						
05:00							231	76	155	233	95	138	249	98	151						
06:00							376	120	256	485	165	320	457	136	321						
07:00							604	192	412	661	220	441	621	168	453						
08:00							628	206	422	692	221	471									
09:00							640	177	463	749	200	549									
10:00							604	214	390	547	211	336									
11:00							583	192	391	467	213	254									
12:00							680	235	445	455	172	283									
13:00							567	218	349	556	219	337									
14:00				600	284	316	568	238	330	548	260	288									
15:00				598	263	335	628	254	374	610	277	333									
16:00				669	290	379	634	264	370	632	271	361									
17:00				721	271	450	724	302	422	717	298	419									
18:00				673	280	393	867	299	568	780	253	527									
19:00				562	206	356	568	214	354	536	203	333									
20:00				425	137	288	423	165	258	480	165	315									
21:00				468	143	325	437	146	291	511	149	362									
22:00				333	127	206	423	143	280	408	146	262									
23:00				303	96	207	306	108	198	275	107	168									
Volume				5,352	2,097	3,255	11,069	3,966	7,103	11,102	4,071	7,031	2,127	625	1,502						
AM Peak Vol							671	218	464	777	232	556									
AM Peak Fct							0.96	0.91	0.89	0.98	0.95	0.96									
AM Peak Hr							8:30	8:15	8:45	8:45	7:30	8:45									
PM Peak Vol							897	352	568	787	298	527									
PM Peak Fct							0.94	0.85	0.96	0.91	0.81	0.87									
PM Peak Hr							17:45	17:45	18:00	17:45	17:00	18:00									
Seasonal Fct				1.048	1.048	1.048	1.048	1.048	1.048	1.048	1.048	1.048	1.048	1.048	1.048						
Daily Fct				0.902	0.902	0.902	0.899	0.899	0.899	0.886	0.886	0.886	0.879	0.879	0.879						
Axle Fct				0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498	0.498						
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

New Jersey Department of Transportation

Daily Volume from 05/04/2010 through 05/07/2010

Site Names: 3n5h727, , CO 625 Sip Avenue-0.52, 09000625 __, JERSEY CITY
 County: HUDSON
 Funct. Urban Minor Arterial
 Location: Bet CO 625 and RT 501

Seasonal Factor Type: 2 Urban Other Roadways
 Daily Factor Type: 2 Urban Other Roadways
 Axle Factor Type: 16
 Growth Factor Type: 2 Urban Other Roadways

	05/02/2010			05/03/2010			05/04/2010			05/05/2010			05/06/2010			05/07/2010			05/08/2010		
	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E
00:00										184	114	70	188	147	41	234	178	56			
01:00										124	90	34	131	94	37	154	126	28			
02:00										96	73	23	120	89	31	134	93	41			
03:00										69	45	24	73	55	18	100	60	40			
04:00										87	49	38	77	47	30	83	50	33			
05:00										142	65	77	147	74	73	182	86	96			
06:00										355	161	194	316	176	140	369	173	196			
07:00										686	283	403	409	285	124	683	283	400			
08:00										954	362	592	530	393	137	878	349	529			
09:00										926	324	602	526	375	151	847	388	459			
10:00							869	340	529	908	316	592	398	345	53	697	338	359			
11:00							816	288	528	878	310	568	390	362	28	735	366	369			
12:00							916	385	531	944	398	546	339	293	46	818	413	405			
13:00							853	348	505	946	406	540	736	356	380	781	392	389			
14:00							781	326	455	933	408	525	869	439	430	855	432	423			
15:00							935	396	539	1,027	466	561	835	455	380	900	461	439			
16:00							934	446	488	986	472	514	858	479	379	882	470	412			
17:00							1,124	512	612	1,080	566	514	1,032	545	487	869	478	391			
18:00							858	409	449	874	497	377	946	498	448	885	474	411			
19:00							669	328	341	575	355	220	693	377	316						
20:00							513	244	269	507	298	209	570	303	267						
21:00							455	248	207	385	240	145	480	241	239						
22:00							367	223	144	340	220	120	391	224	167						
23:00							232	151	81	265	201	64	280	182	98						
Volume							10,322	4,644	5,678	14,271	6,719	7,552	11,334	6,834	4,500	11,086	5,610	5,476			
AM Peak Vol										1,054	406	659	588	429	197	964	410	559			
AM Peak Fct										0.86	0.87	0.87	0.93	0.94	0.67	0.93	0.92	0.90			
AM Peak Hr										8:30	8:15	8:30	8:15	8:15	6:15	8:30	8:45	7:45			
PM Peak Vol							1,125	512	615	1,111	568	620	1,041	546	508						
PM Peak Fct							0.93	0.92	0.90	0.95	0.95	0.98	0.88	0.93	0.85						
PM Peak Hr							17:15	17:00	17:15	17:15	17:15	12:30	17:30	17:15	17:45						
Seasonal Fct							0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980			
Daily Fct							0.956	0.956	0.956	0.934	0.934	0.934	0.920	0.920	0.920	0.878	0.878	0.878			
Axle Fct							0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493			
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000			

New Jersey Department of Transportation

Daily Volume from 10/18/2011 through 10/20/2011

Site Names: 110915, , Bergen Ave-.2, 09000625 __, Jersey City
 County: HUDSON
 Funct. Urban Minor Arterial
 Location: Bet Highland Ave and Vroom St

Seasonal Factor Type: 2 Urban Other Roadways
 Daily Factor Type: 2 Urban Other Roadways
 Axle Factor Type: 16
 Growth Factor Type:

	Sun 10/16/2011			Mon 10/17/2011			Tue 10/18/2011			Wed 10/19/2011			Thu 10/20/2011			Fri 10/21/2011			Sat 10/22/2011		
	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N
00:00										184	98	86	196	100	96						
01:00										130	59	71	120	63	57						
02:00										98	46	52	90	35	55						
03:00										90	46	44	81	35	46						
04:00										93	40	53	92	43	49						
05:00										238	90	148	199	63	136						
06:00										507	189	318	491	201	290						
07:00										1,128	448	680	1,221	484	737						
08:00										1,366	414	952	1,422	432	990						
09:00										939	376	563	899	372	527						
10:00										735	328	407	845	376	469						
11:00										791	324	467	651	267	384						
12:00							1,044	459	585	949	408	541									
13:00							923	413	510	978	424	554									
14:00							1,074	466	608	913	407	506									
15:00							1,194	522	672	1,122	499	623									
16:00							1,124	533	591	1,067	464	603									
17:00							1,206	543	663	1,198	546	652									
18:00							1,144	555	589	1,269	621	648									
19:00							861	364	497	716	358	358									
20:00							661	330	331	665	330	335									
21:00							618	308	310	490	242	248									
22:00							399	176	223	428	203	225									
23:00							311	168	143	307	159	148									
Volume							10,559	4,837	5,722	16,401	7,119	9,282	6,307	2,471	3,836						
AM Peak Vol										1,380	481	961	1,446	519	990						
AM Peak Fct										0.97	0.90	0.96	0.93	0.91	0.96						
AM Peak Hr										8:15	7:15	8:15	7:30	7:15	8:00						
PM Peak Vol							1,296	648	677	1,308	621	688									
PM Peak Fct							0.90	0.83	0.88	0.97	0.91	0.93									
PM Peak Hr							17:30	17:30	14:30	17:45	18:00	17:45									
Seasonal Fct							0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990						
Daily Fct							0.955	0.955	0.955	0.950	0.950	0.950	0.922	0.922	0.922						
Axle Fct							0.489	0.489	0.489	0.489	0.489	0.489	0.489	0.489	0.489						
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

New Jersey Department of Transportation

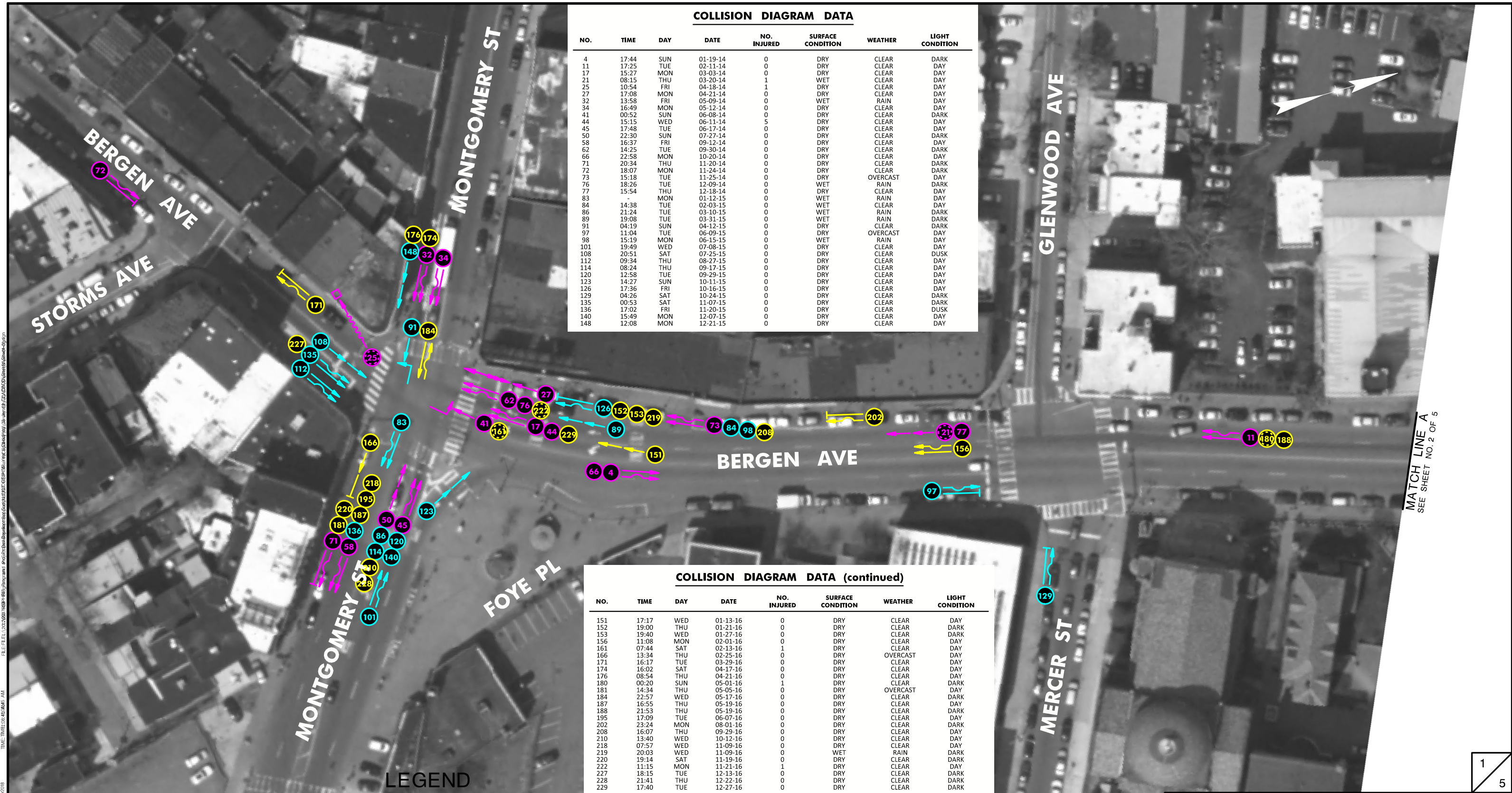
Daily Volume from 11/04/2014 through 11/06/2014

Site Names: 110915, , Bergen Ave-.18, 09061709__, Jersey City
 County: HUDSON
 Funct. Class: Urban Minor Arterial
 Location: Bet Highland Ave and Vroom St

Seasonal Factor Group: RG1_FC16
 Daily Factor Group: RG1_FC16
 Axle Factor Group: RG1_FC16
 Growth Factor Group:

	Sun 11/02/2014			Mon 11/03/2014			Tue 11/04/2014			Wed 11/05/2014			Thu 11/06/2014			Fri 11/07/2014			Sat 11/08/2014		
	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N	ROAD	S	N
00:00										307	168	139	359	191	168						
01:00										196	117	79	215	113	102						
02:00										137	80	57	129	70	59						
03:00										112	60	52	124	65	59						
04:00										97	51	46	101	50	51						
05:00										132	56	76	110	40	70						
06:00										287	119	168	259	98	161						
07:00										629	240	389	586	219	367						
08:00										1,274	500	774	1,087	392	695						
09:00										1,435	499	936	1,199	415	784						
10:00										1,004	384	620	898	364	534						
11:00										890	370	520	771	340	431						
12:00							900	379	521	929	407	522									
13:00							942	367	575	1,009	431	578									
14:00							967	410	557	951	388	563									
15:00							1,074	486	588	1,119	472	647									
16:00							1,094	510	584	1,273	534	739									
17:00							1,167	562	605	1,202	551	651									
18:00							1,228	612	616	1,249	551	698									
19:00							1,071	531	540	1,132	598	534									
20:00							776	373	403	789	403	386									
21:00							631	316	315	682	352	330									
22:00							566	310	256	629	326	303									
23:00							446	224	222	469	224	245									
Volume							10,862	5,080	5,782	17,933	7,881	10,052	5,838	2,357	3,481						
AM Peak Vol										1,487	550	960	1,257	427	838						
AM Peak Fct										0.92	0.92	0.91	0.95	0.84	0.98						
AM Peak Hr										8:30	8:15	8:45	8:45	8:30	8:45						
PM Peak Vol							1,242	612	643	1,285	610	749									
PM Peak Fct							0.94	0.94	0.91	0.97	0.95	0.97									
PM Peak Hr							17:45	18:00	15:15	16:15	18:45	15:45									
Seasonal Fct							1.059	1.059	1.059	1.059	1.059	1.059	1.059	1.059	1.059						
Daily Fct							0.839	0.839	0.839	0.844	0.844	0.844	0.998	0.998	0.998						
Axle Fct							0.499	0.499	0.499	0.499	0.499	0.499	0.499	0.499	0.499						
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

Appendix D - Vehicular Crash Diagrams



COLLISION DIAGRAM DATA							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
4	17:44	SUN	01-19-14	0	DRY	CLEAR	DARK
11	17:25	TUE	02-11-14	0	DRY	CLEAR	DAY
17	15:27	MON	03-03-14	0	DRY	CLEAR	DAY
21	08:15	THU	03-20-14	1	WET	CLEAR	DAY
25	10:54	FRI	04-18-14	1	DRY	CLEAR	DAY
27	17:08	MON	04-21-14	0	DRY	CLEAR	DAY
32	13:58	FRI	05-09-14	0	WET	RAIN	DAY
34	16:49	MON	05-12-14	0	DRY	CLEAR	DAY
41	00:52	SUN	06-08-14	0	DRY	CLEAR	DARK
44	15:15	WED	06-11-14	5	DRY	CLEAR	DAY
45	17:48	TUE	06-17-14	0	DRY	CLEAR	DAY
50	22:30	SUN	07-27-14	0	DRY	CLEAR	DARK
58	16:37	FRI	09-12-14	0	DRY	CLEAR	DAY
62	14:25	TUE	09-30-14	0	DRY	CLEAR	DARK
66	22:58	MON	10-20-14	0	DRY	CLEAR	DAY
71	20:34	THU	11-20-14	0	DRY	CLEAR	DARK
72	18:07	MON	11-24-14	0	DRY	CLEAR	DARK
73	15:18	TUE	11-25-14	0	DRY	OVERCAST	DAY
76	18:26	TUE	12-09-14	0	WET	RAIN	DARK
77	15:54	THU	12-18-14	0	DRY	CLEAR	DAY
83	-	MON	01-12-15	0	WET	RAIN	DAY
84	14:38	TUE	02-03-15	0	WET	CLEAR	DAY
86	21:24	TUE	03-10-15	0	WET	RAIN	DARK
89	19:08	TUE	03-31-15	0	WET	RAIN	DARK
91	04:19	SUN	04-12-15	0	DRY	CLEAR	DARK
97	11:04	TUE	06-09-15	0	DRY	OVERCAST	DAY
98	15:19	MON	06-15-15	0	WET	RAIN	DAY
101	19:49	WED	07-08-15	0	DRY	CLEAR	DAY
108	20:51	SAT	07-25-15	0	DRY	CLEAR	DUSK
112	09:34	THU	08-27-15	0	DRY	CLEAR	DAY
114	08:24	THU	09-17-15	0	DRY	CLEAR	DAY
120	12:58	TUE	09-29-15	0	DRY	CLEAR	DAY
123	14:27	SUN	10-11-15	0	DRY	CLEAR	DAY
126	17:36	FRI	10-16-15	0	DRY	CLEAR	DAY
129	04:26	SAT	10-24-15	0	DRY	CLEAR	DARK
135	00:53	SAT	11-07-15	0	DRY	CLEAR	DARK
136	17:02	FRI	11-20-15	0	DRY	CLEAR	DUSK
140	15:49	MON	12-07-15	0	DRY	CLEAR	DAY
148	12:08	MON	12-21-15	0	DRY	CLEAR	DAY

COLLISION DIAGRAM DATA (continued)							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
151	17:17	WED	01-13-16	0	DRY	CLEAR	DAY
152	19:00	THU	01-21-16	0	DRY	CLEAR	DARK
153	19:40	WED	01-27-16	0	DRY	CLEAR	DARK
156	11:08	MON	02-01-16	0	DRY	CLEAR	DAY
161	07:44	SAT	02-13-16	1	DRY	CLEAR	DAY
166	13:34	THU	02-25-16	0	DRY	OVERCAST	DAY
171	16:17	TUE	03-29-16	0	DRY	CLEAR	DAY
174	16:02	SAT	04-17-16	0	DRY	CLEAR	DAY
176	08:54	THU	04-21-16	0	DRY	CLEAR	DAY
180	00:20	SUN	05-01-16	1	DRY	CLEAR	DARK
181	14:34	THU	05-05-16	0	DRY	OVERCAST	DAY
184	22:57	WED	05-17-16	0	DRY	CLEAR	DARK
187	16:55	THU	05-19-16	0	DRY	CLEAR	DAY
188	21:53	THU	05-19-16	0	DRY	CLEAR	DARK
195	17:09	TUE	06-07-16	0	DRY	CLEAR	DAY
202	23:24	MON	08-01-16	0	DRY	CLEAR	DARK
208	16:07	THU	09-29-16	0	DRY	CLEAR	DAY
210	13:40	WED	10-12-16	0	DRY	CLEAR	DAY
218	07:57	WED	11-09-16	0	DRY	CLEAR	DAY
219	20:03	WED	11-09-16	0	WET	RAIN	DARK
220	19:14	SAT	11-19-16	0	DRY	CLEAR	DARK
222	11:15	MON	11-21-16	1	DRY	CLEAR	DAY
227	18:15	TUE	12-13-16	0	DRY	CLEAR	DARK
228	21:41	THU	12-22-16	0	DRY	CLEAR	DARK
229	17:40	TUE	12-27-16	0	DRY	CLEAR	DARK

LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	58
INJURIES	6
FATALITIES	0
TOTAL NO. OF CRASHES	64

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	2014 CRASHES
	2015 CRASHES
	2016 CRASHES

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2014 - 2016 COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

NOT TO SCALE

DATE: 3/20/18 TIME: 1:05:52 PM FILE: L:\2017\1891 RSRP Program and Project Development Support\VDOT_HSR_year_1\Cadd\wy03_jersey_city\CADD\Drawings\Sheet2.dgn

COLLISION DIAGRAM DATA							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
2	11:27	MON	01-06-14	0	WET	RAIN	DAY
3	16:38	TUE	01-07-14	0	DRY	CLEAR	DAY
5	14:24	TUE	01-21-14	0	SNOWY	BLOWING SNOW	DAY
6	15:43	FRI	01-24-14	0	DRY	CLEAR	DAY
18	15:42	WED	03-12-14	0	DRY	CLEAR	DAY
19	11:59	SAT	03-15-14	0	DRY	CLEAR	DAY
37	08:42	THU	05-21-14	0	DRY	CLEAR	DAY
38	08:47	THU	05-22-14	1	WET	OVERCAST	DAY
46	09:56	WED	06-18-14	0	DRY	CLEAR	DAY
53	09:25	MON	08-18-14	0	DRY	CLEAR	DAY
61	09:10	TUE	09-30-14	0	DRY	OVERCAST	DAY
63	12:51	SAT	10-04-14	0	WET	RAIN	DAY
65	03:05	THU	10-16-14	0	WET	RAIN	DARK
67	11:53	WED	10-22-14	2	WET	RAIN	DAY
68	08:48	SUN	10-26-14	3	DRY	CLEAR	DAY
69	11:00	TUE	11-11-14	0	DRY	CLEAR	DAY
78	17:41	WED	12-24-14	0	WET	RAIN	DARK
81	20:06	MON	01-05-15	0	DRY	CLEAR	DARK
87	15:30	WED	03-11-15	0	DRY	CLEAR	DAY
96	21:24	MON	05-18-15	0	DRY	CLEAR	DARK
100	08:25	TUE	06-30-15	0	DRY	CLEAR	DAY
103	17:29	SAT	07-11-15	0	DRY	CLEAR	DAY
107	15:03	MON	07-20-15	0	DRY	CLEAR	DAY
110	15:17	TUE	08-04-15	0	DRY	CLEAR	DAY
115	21:02	TUE	09-22-15	0	DRY	CLEAR	DARK
121	14:37	SUN	10-04-15	0	DRY	CLEAR	DAY
133	08:28	WED	11-04-15	0	DRY	CLEAR	DAY
138	08:24	TUE	12-01-15	0	WET	RAIN	DAY
145	09:19	TUE	12-15-15	0	DRY	CLEAR	DAY
155	23:16	FRI	01-29-16	0	DRY	CLEAR	DARK
165	08:23	WED	02-24-16	4	WET	RAIN	DAY
167	05:46	FRI	03-04-16	0	SNOWY	SNOW	DARK
173	16:35	THU	04-07-16	0	WET	CLEAR	DAY
183	02:37	SAT	05-14-16	0	DRY	CLEAR	DARK
189	13:00	FRI	05-20-16	0	DRY	CLEAR	DAY
190	16:47	SAT	05-21-16	1	DRY	CLEAR	DAY
196	16:59	THU	06-30-16	0	DRY	CLEAR	DAY
206	17:35	SUN	09-11-16	0	DRY	CLEAR	DAY
209	21:08	THU	10-06-16	2	DRY	CLEAR	DARK
214	13:18	THU	10-27-16	0	WET	RAIN	DAY



LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	34
INJURIES	6
FATALITIES	0
TOTAL NO. OF CRASHES	40

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	2014 CRASHES
	2015 CRASHES
	2016 CRASHES

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2014 - 2016 COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

NOT TO SCALE

COLLISION DIAGRAM DATA

NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
12	16:01	SUN	02-16-14	4	ICY	CLEAR	DAY
15	08:47	THU	02-20-14	0	SNOWY	CLEAR	DAY
16	09:59	SAT	02-22-14	0	DRY	CLEAR	DAY
22	12:52	THU	03-20-14	0	DRY	OVERCAST	DAY
26	14:32	SAT	04-19-14	0	DRY	CLEAR	DAY
28	17:10	TUE	04-29-14	0	WET	RAIN	DAY
29	09:10	FRI	05-02-14	0	DRY	CLEAR	DAY
30	08:29	MON	05-05-14	0	DRY	CLEAR	DAY
31	16:48	THU	05-08-14	0	WET	OVERCAST	DAY
33	10:52	SAT	05-10-14	0	DRY	CLEAR	DAY
35	16:57	TUE	05-13-14	0	DRY	CLEAR	DAY
36	16:56	THU	05-15-14	0	DRY	CLEAR	DAY
39	15:45	FRI	05-30-14	0	DRY	CLEAR	DAY
42	11:50	TUE	06-10-14	1	DRY	CLEAR	DAY
48	11:59	SAT	06-21-14	0	DRY	CLEAR	DAY
49	21:21	TUE	07-22-14	0	DRY	CLEAR	DARK
51	12:37	MON	08-04-14	0	DRY	CLEAR	DAY
52	04:24	SAT	08-16-14	0	DRY	CLEAR	DARK
55	11:35	SUN	08-31-14	0	DRY	CLEAR	DAY
57	10:46	WED	09-10-14	1	DRY	CLEAR	DAY
59	10:29	THU	09-25-14	2	WET	RAIN	DAY
60	14:44	THU	09-25-14	0	WET	RAIN	DAY
64	15:19	TUE	10-14-14	0	DRY	CLEAR	DAY
70	17:25	WED	11-12-14	0	DRY	CLEAR	DARK
74	09:33	WED	11-26-14	0	WET	RAIN	DAY
75	15:37	MON	12-08-14	1	DRY	CLEAR	DAY
80	15:59	SAT	01-03-15	0	WET	RAIN	DAY
82	06:08	FRI	01-09-15	0	DRY	CLEAR	DAWN
85	16:46	MON	03-02-15	0	DRY	CLEAR	DAY
88	15:14	FRI	03-13-15	0	DRY	CLEAR	DAY
90	19:41	TUE	04-07-15	0	WET	RAIN	DARK
93	07:59	THU	04-23-15	0	DRY	CLEAR	DAY
94	18:36	MON	04-27-15	0	DRY	CLEAR	DAY
95	13:46	WED	05-13-15	0	DRY	CLEAR	DAY
99	09:57	FRI	06-26-15	0	DRY	CLEAR	DAY

COLLISION DIAGRAM DATA (continued)

NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
102	14:39	THU	07-09-15	0	DRY	CLEAR	DAY
105	17:05	THU	07-16-15	0	DRY	CLEAR	DARK
106	17:04	FRI	07-17-15	0	DRY	CLEAR	DAY
109	09:15	TUE	08-04-15	0	DRY	CLEAR	DAY
116	14:12	FRI	09-25-15	0	DRY	CLEAR	DAY
117	19:13	FRI	09-25-15	0	DRY	CLEAR	DAY
118	16:19	MON	09-28-15	0	DRY	CLEAR	DAY
124	21:54	SUN	10-11-15	0	DRY	CLEAR	DAY
127	15:40	SAT	10-17-15	0	DRY	CLEAR	DAY
128	07:45	MON	10-19-15	0	DRY	CLEAR	DARK
130	10:02	SAT	10-24-15	0	DRY	CLEAR	DAY
132	11:24	TUE	11-03-15	0	WET	RAIN	DAY
134	13:49	WED	11-04-15	0	WET	RAIN	DARK
141	14:49	THU	12-10-15	0	DRY	OVERCAST	DAY
142	10:46	FRI	12-11-15	0	DRY	CLEAR	DAY
143	22:24	FRI	12-11-15	0	DRY	CLEAR	DAY
144	09:53	SAT	12-12-15	0	DRY	CLEAR	DAY
147	11:09	FRI	12-18-15	0	DRY	CLEAR	DAY
157	16:21	MON	02-01-16	0	DRY	CLEAR	DAY
158	11:06	THU	02-04-16	0	DRY	CLEAR	DAY
160	15:18	THU	02-11-16	0	DRY	CLEAR	DAY
162	11:22	SAT	02-13-16	0	DRY	CLEAR	DARK
164	13:17	TUE	02-16-16	0	WET	SEVERE CROSSWINDS	DAY
168	10:01	THU	03-10-16	0	DRY	CLEAR	DAY

COLLISION DIAGRAM DATA (continued)

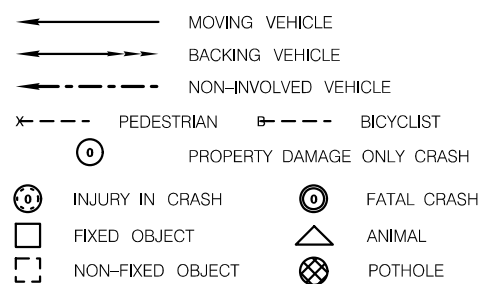
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
169	08:44	FRI	03-11-16	0	DRY	CLEAR	DAY
170	13:09	SUN	03-13-16	0	DRY	CLEAR	DAY
178	09:39	TUE	04-26-16	0	DRY	CLEAR	DAY
179	17:50	TUE	04-26-16	0	WET	RAIN	DAY
185	09:00	WED	05-18-16	0	DRY	CLEAR	DAY
191	15:00	MON	05-23-16	0	DRY	CLEAR	DAY
193	18:33	SUN	06-05-16	0	WET	RAIN	DUSK
194	07:49	TUE	06-07-16	0	DRY	CLEAR	DAY
197	14:00	SAT	07-09-16	0	DRY	CLEAR	DAY
198	16:13	FRI	07-15-16	0	DRY	CLEAR	DAY
199	08:40	MON	07-25-16	0	DRY	CLEAR	DAY
201	20:25	WED	07-27-16	0	DRY	CLEAR	DARK
204	08:33	THU	08-25-16	0	DRY	CLEAR	DAY
205	15:00	TUE	08-30-16	1	DRY	CLEAR	DAY
207	18:16	WED	09-28-16	0	DRY	CLEAR	DAY
212	03:48	WED	10-26-16	0	DRY	CLEAR	DARK
216	11:21	THU	11-03-16	0	DRY	CLEAR	DAY
217	15:21	SUN	11-06-16	0	DRY	CLEAR	DAY
223	14:15	WED	11-30-16	0	WET	RAIN	DAY
224	14:59	FRI	12-02-16	0	DRY	CLEAR	DAY
226	09:15	MON	12-12-16	1	WET	RAIN	DAY

LEGEND

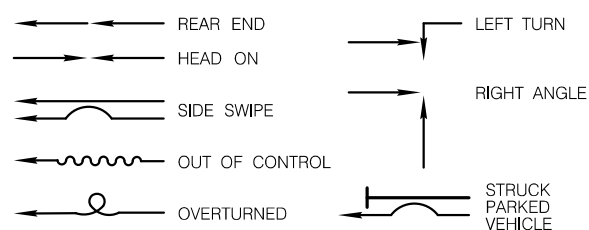
NUMBER OF CRASHES WITH

PROPERTY DAMAGE ONLY	73
INJURIES	7
FATALITIES	0
TOTAL NO. OF CRASHES	80

SYMBOLS



TYPES OF CRASHES



COLORS



NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2014 - 2016 COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

NOT TO SCALE

FILE: C:\2017\1698_1698_PSDP_Program_and_Project_Development_Support\1698_PSDP_year_1\CADD\Drawings\Sheet\303.dwg DATE: 1/23/2016 AM 11:25:06

MATCH LINE B
SEE SHEET NO. 2 OF 5

MATCH LINE C
SEE SHEET NO. 4 OF 5

FILE: L:\2017\1698_HSP_Program_and_Project_Development\Support\VDOT_HSP_year_1\Cadd\wy03_jerj_city_cadd\03_Sheets\Sheet4.dgn
 TIME: 11:28:20 AM
 DATE: 3/26/2018

COLLISION DIAGRAM DATA							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
7	16:15	THU	01-30-14	2	DRY	CLEAR	DAY
9	08:16	MON	02-03-14	0	SNOWY	SNOW	DAY
10	15:57	TUE	02-11-14	0	DRY	CLEAR	DAY
13	16:05	SUN	02-16-14	0	WET	CLEAR	DAY
20	17:54	TUE	03-18-14	0	DRY	CLEAR	DAY
23	15:00	SUN	03-23-14	0	DRY	CLEAR	DAY
24	10:42	SAT	04-05-14	0	DRY	CLEAR	DAY
40	10:58	TUE	06-03-14	0	WET	RAIN	DAY
43	15:14	WED	06-11-14	0	DRY	CLEAR	DAY
47	12:20	THU	06-19-14	0	DRY	CLEAR	DAY
54	12:41	TUE	08-26-14	0	DRY	CLEAR	DAY
79	12:31	FRI	12-26-14	0	DRY	CLEAR	DAY
92	12:01	WED	04-22-15	0	DRY	CLEAR	DAY
104	15:37	SUN	07-11-15	0	DRY	CLEAR	DAY
111	18:09	WED	08-05-15	0	DRY	CLEAR	DAY
113	10:40	MON	09-14-15	0	DRY	CLEAR	DAY
119	16:49	MON	09-28-15	0	DRY	CLEAR	DAY
122	00:03	MON	10-05-15	0	DRY	CLEAR	DARK
125	08:21	FRI	10-16-15	0	DRY	CLEAR	DAY
131	19:04	SAT	10-24-15	0	DRY	CLEAR	DUSK
137	08:29	TUE	11-24-15	0	DRY	CLEAR	DAY
139	13:35	SAT	12-05-15	0	DRY	CLEAR	DAY
146	08:22	WED	12-16-15	0	DRY	CLEAR	DAY
150	00:11	WED	01-13-16	0	DRY	CLEAR	DARK
154	09:31	THU	01-28-16	0	WET	CLEAR	DAY
159	02:21	SAT	02-06-16	1	DRY	CLEAR	DARK
163	17:36	MON	02-15-16	0	SNOWY	SNOW	DARK
172	17:23	TUE	03-29-16	0	DRY	CLEAR	DAY
175	18:04	WED	04-20-16	0	DRY	CLEAR	DAY

COLLISION DIAGRAM DATA (continued)							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
177	09:36	THU	04-21-16	0	DRY	CLEAR	DAY
182	00:21	SAT	05-07-16	0	WET	RAIN	DARK
186	15:51	THU	05-19-16	0	DRY	CLEAR	DAY
192	01:20	FRI	05-27-16	0	DRY	CLEAR	DARK
200	08:53	TUE	07-26-16	0	DRY	CLEAR	DAY
203	23:31	TUE	08-02-16	1	DRY	CLEAR	DARK
213	18:03	WED	10-26-16	0	DRY	CLEAR	DARK
221	10:07	MON	11-21-16	0	DRY	CLEAR	DAY



LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	34
INJURIES	3
FATALITIES	0
TOTAL NO. OF CRASHES	37

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	2014 CRASHES
	2015 CRASHES
	2016 CRASHES

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
 Sip Ave at Van Wagenen, Romaine & Garrison Aves
 Jersey City, Hudson County

2014 - 2016 COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
 Engineering and Construction Services

NOT TO SCALE

COLLISION DIAGRAM DATA							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
1	11:22	MON	01-06-14	0	WET	RAIN	DAY
8	07:45	FRI	01-31-14	0	DRY	CLEAR	DAY
14	12:12	WED	02-17-14	0	SNOWY	RAIN	DAY
56	19:53	TUE	09-02-14	0	DRY	CLEAR	DARK
149	10:40	MON	12-28-15	0	DRY	CLEAR	DAY
211	13:54	SAT	10-15-16	0	DRY	CLEAR	DAY
215	15:15	MON	10-31-16	0	DRY	CLEAR	DAY
225	07:51	MON	12-12-16	0	WET	RAIN	DAY



LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	8
INJURIES	0
FATALITIES	0
TOTAL NO. OF CRASHES	8

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	2014 CRASHES
	2015 CRASHES
	2016 CRASHES

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2014 - 2016 COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

NOT TO SCALE

DATE: 3/20/18 TIME: 10:06 PM FILE: E:\1\20180318\Bergen Ave - Romaine Ave - Sip Ave - Van Wagenen Ave - Garrison Ave - JFK Blvd.dwg

Appendix E - Pedestrian Crash Diagrams

FILE: L:\2017\69 HSP Program and Project Development Support\VDOT_HSP_Year 1\Cadd\wy03 Jersey City\CADD Sheets - Ped\Sheet-01.dgn
 DATE: 3/20/18
 TIME: 12:16 PM



COLLISION DIAGRAM DATA							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
4	13:15	FRI	04-06-12	0	DRY	CLEAR	DAY
5	15:47	SAT	04-28-12	1	DRY	CLEAR	DAY
8	08:22	TUE	07-17-12	1	DRY	CLEAR	DAY
12	07:10	FRI	11-09-12	1	DRY	CLEAR	DAY
13	09:46	MON	01-07-13	1	DRY	CLEAR	DAY
14	07:47	WED	02-06-13	1	DRY	CLEAR	DAY
17	11:15	TUE	07-03-13	0	DRY	CLEAR	DAY
18	17:00	WED	07-17-13	1	DRY	CLEAR	DAY
21	11:40	FRI	09-20-13	1	DRY	CLEAR	DAY
27	15:28	SUN	04-06-14	1	DRY	CLEAR	DAY
32	19:15	WED	06-25-14	1	DRY	CLEAR	DAY
40	15:51	TUE	10-14-14	1	DRY	CLEAR	DAY
43	13:16	SAT	01-31-15	1	DRY	CLEAR	DAY
49	07:39	MON	11-30-15	1	DRY	CLEAR	DAY
52	22:22	SAT	02-27-16	1	DRY	CLEAR	DARK
60	12:32	WED	11-02-16	1	DRY	CLEAR	DAY
61	07:06	MON	11-07-16	1	DRY	CLEAR	DAY
62	16:33	THU	11-10-16	1	DRY	CLEAR	DAY
63	15:11	SAT	11-19-16	1	DRY	CLEAR	DAY
64	21:49	FRI	11-25-16	1	DRY	CLEAR	DARK
66	14:57	TUE	12-20-16	1	DRY	CLEAR	DAY

LEGEND

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	PEDESTRIAN CRASH

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	2
INJURIES	19
FATALITIES	0
TOTAL NO. OF CRASHES	21

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
 Sip Ave at Van Wagenen, Romaine & Garrison Aves
 Jersey City, Hudson County

2012-2016 PEDESTRIAN COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
 Engineering and Construction Services

NOT TO SCALE

COLLISION DIAGRAM DATA

NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
6	16:15	WED	05-09-12	1	DRY	CLEAR	DAY
9	10:47	FRI	08-17-12	1	DRY	CLEAR	DAY
10	08:10	WED	09-19-12	1	DRY	CLEAR	DAY
15	21:25	FRI	03-15-13	1	DRY	CLEAR	DARK
19	11:40	FRI	07-19-13	1	DRY	CLEAR	DAY
24	17:16	SAT	12-14-13	1	SNOWY	SNOW	DARK
25	18:20	TUE	12-31-13	2	DRY	CLEAR	DARK
26	14:45	FRI	02-07-14	1	DRY	CLEAR	DAY
30	13:35	TUE	06-03-14	1	DRY	CLEAR	DAY
36	12:54	MON	07-28-14	1	DRY	CLEAR	DAY
42	16:20	MON	12-22-14	1	WET	CLEAR	DAY
48	16:42	SAT	09-19-15	1	DRY	CLEAR	DAY
57	15:06	FRI	05-20-16	1	DRY	CLEAR	DAY



MATCH LINE A
SEE SHEET NO. 1 OF 5

MATCH LINE B
SEE SHEET NO. 3 OF 5

LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	0
INJURIES	13
FATALITIES	0
TOTAL NO. OF CRASHES	13

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FIXED OBJECT
	NON-FIXED OBJECT
	FATAL CRASH
	ANIMAL
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	PEDESTRIAN CRASH

2 / 5

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2012-2016 PEDESTRIAN COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

NOT TO SCALE

DATE: 3/20/18 TIME: 12:25:56 PM FILE: L:\2017\1891 ISRP Program and Project Development Support\WDOOT ISRP Year 1\Cadd\189103 Jersey City\CADD\Sheets - Ped\189103.dgn

COLLISION DIAGRAM DATA							
NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
2	08:16	THU	01-26-12	1	WET	OVERCAST	DAY
3	13:08	FRI	02-10-12	1	DRY	CLEAR	DAY
11	14:43	WED	09-19-12	0	DRY	CLEAR	DAY
22	14:00	MON	10-07-13	1	WET	RAIN	DAY
23	07:18	MON	12-09-13	0	WET	RAIN	DAY
29	13:07	MON	05-12-14	1	DRY	CLEAR	DAY
31	17:43	TUE	06-24-14	1	DRY	CLEAR	DAY
33	10:43	TUE	07-01-14	1	DRY	CLEAR	DAY
34	08:45	MON	07-21-14	1	DRY	CLEAR	DAY
35	08:20	MON	07-27-14	0	DRY	CLEAR	DAY
38	10:30	MON	08-18-14	1	DRY	CLEAR	DAY
41	16:39	MON	12-08-14	1	DRY	CLEAR	DUSK
44	12:07	THU	03-12-15	1	DRY	CLEAR	DAY
45	12:13	MON	05-04-15	1	DRY	CLEAR	DAY
46	11:06	TUE	06-16-15	1	DRY	CLEAR	DAY
47	13:33	TUE	08-25-15	1	DRY	CLEAR	DAY
49	13:44	WED	09-23-15	1	DRY	CLEAR	DAY
51	00:55	FRI	11-13-15	1*	DRY	CLEAR	DARK
58	11:26	MON	08-01-16	0	DRY	CLEAR	DAY
59	16:32	MON	09-05-16	1	DRY	CLEAR	DAY
65	21:25	THU	12-15-16	1	DRY	CLEAR	DARK



LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	4
INJURIES	16
FATALITIES*	1
TOTAL NO. OF CRASHES	21

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	PEDESTRIAN CRASH

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2012-2016 PEDESTRIAN COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

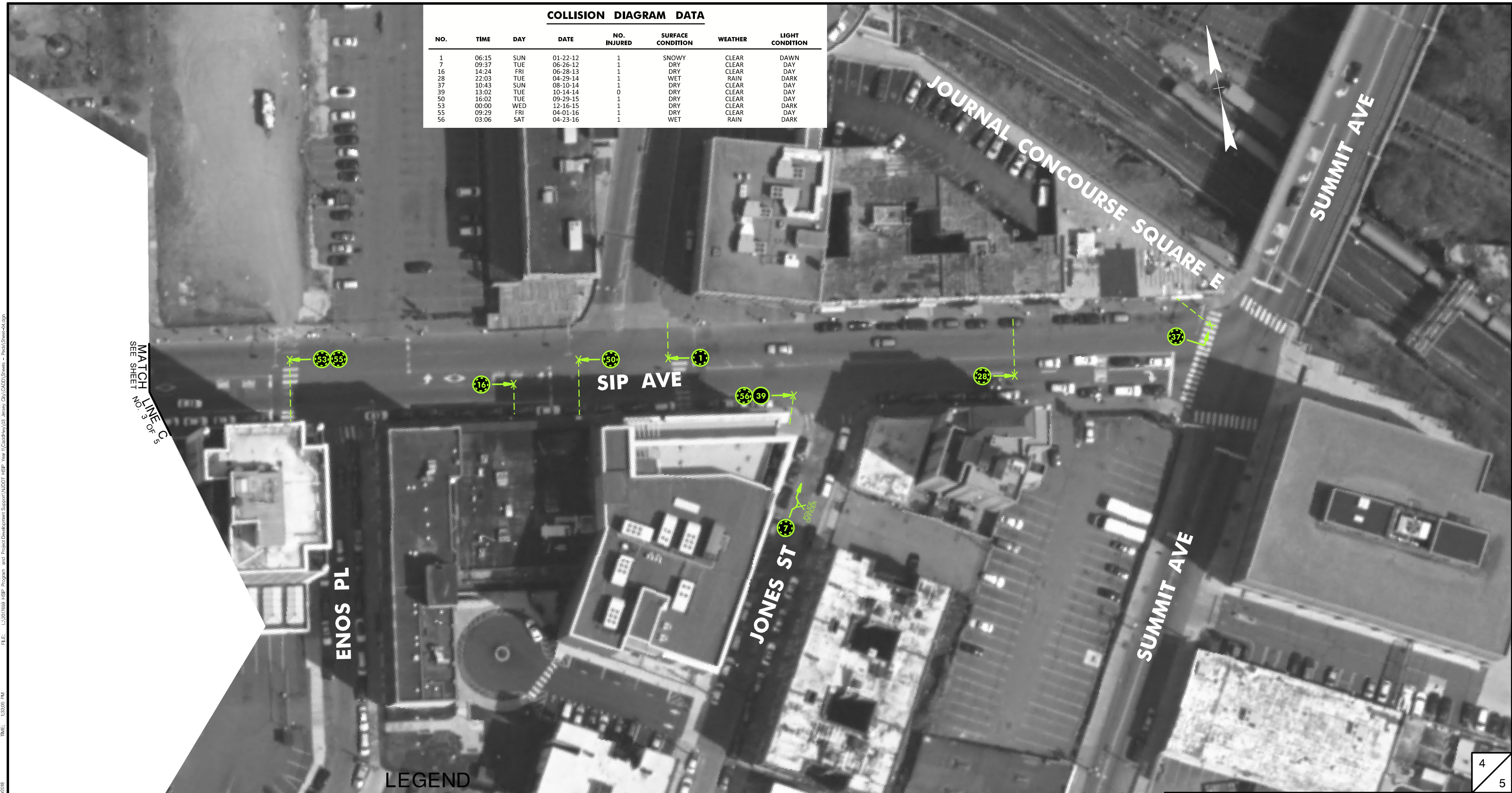
NOT TO SCALE

DATE: 3/20/18
 TIME: 1:29:02 PM
 FILE: L:\2017\18 ISRP Program and Project Development Support\VDOT ISRP Year 1\Cadd\1\03 Jersey City\CADD\Drawings - Ped\Sheet-03.dgn
 MATCH LINE B
 SEE SHEET NO. 2 OF 5
 MATCH LINE C
 SEE SHEET NO. 4 OF 5

DATE: 3/20/2018 TIME: 1:33:05 PM FILE: L:\2017\1698_HSP_Program_and_Project_Development\Support\VDOT_HSP_year_1\Cadd\1698_Jersey_City_CADD\Sheets - Ped\1698-4.dgn

COLLISION DIAGRAM DATA

NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
1	06:15	SUN	01-22-12	1	SNOWY	CLEAR	DAWN
7	09:37	TUE	06-26-12	1	DRY	CLEAR	DAY
16	14:24	FRI	06-28-13	1	DRY	CLEAR	DAY
28	22:03	TUE	04-29-14	1	WET	RAIN	DARK
37	10:43	SUN	08-10-14	1	DRY	CLEAR	DAY
39	13:02	TUE	10-14-14	0	DRY	CLEAR	DAY
50	16:02	TUE	09-29-15	1	DRY	CLEAR	DAY
53	00:00	WED	12-16-15	1	DRY	CLEAR	DARK
55	09:29	FRI	04-01-16	1	DRY	CLEAR	DAY
56	03:06	SAT	04-23-16	1	WET	RAIN	DARK



LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	1
INJURIES	9
FATALITIES	0
TOTAL NO. OF CRASHES	10

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS

PEDESTRIAN CRASH

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
Sip Ave at Van Wagenen, Romaine & Garrison Aves
Jersey City, Hudson County

2012-2016 PEDESTRIAN COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc. Engineering and Construction Services	NOT TO SCALE
---	--------------

COLLISION DIAGRAM DATA

NO.	TIME	DAY	DATE	NO. INJURED	SURFACE CONDITION	WEATHER	LIGHT CONDITION
20	22:09	THU	08-08-13	1	DRY	CLEAR	DARK



LEGEND

NUMBER OF CRASHES WITH	
PROPERTY DAMAGE ONLY	0
INJURIES	1
FATALITIES	0
TOTAL NO. OF CRASHES	1

SYMBOLS	
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH
	FIXED OBJECT
	ANIMAL
	NON-FIXED OBJECT
	POTHOLE

TYPES OF CRASHES	
	REAR END
	HEAD ON
	SIDE SWIPE
	OUT OF CONTROL
	OVERTURNED
	LEFT TURN
	RIGHT ANGLE
	STRUCK PARKED VEHICLE

COLORS	
	PEDESTRIAN CRASH

NEW JERSEY DEPARTMENT OF TRANSPORTATION

Bergen Ave between Montgomery St and Summit Ave
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Jersey City, Hudson County

2012-2016 PEDESTRIAN COLLISION DIAGRAMS

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

NOT TO SCALE

DATE: 3/20/18 TIME: 12:04 PM FILE: L:\2017\18 ISIP Program and Project Development Support\VDOT ISIP Year 1\Cadwork\03 Jersey City\CADD\Sheets - Ped\Sheet-50.dgn

Appendix F - Photographs

The adjacent plaza, formerly Foye Place, is underutilized.



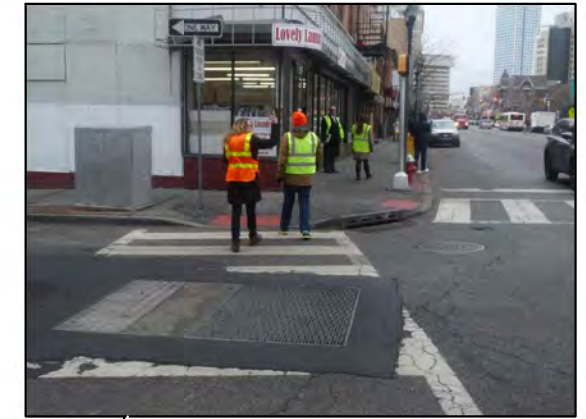
Illegal and double parking persists throughout the corridor.



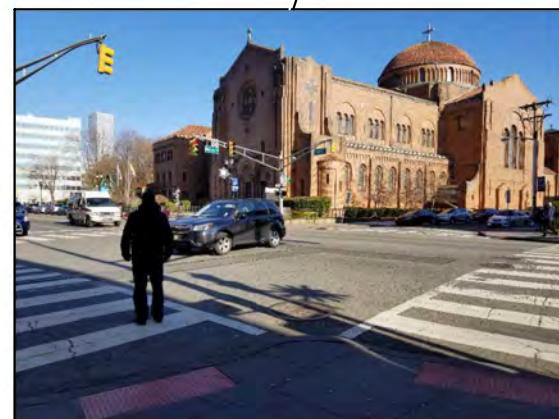
Many signs are partially obstructed by roadside objects along Bergen Avenue.



Multiple crosswalks are in need of restriping.



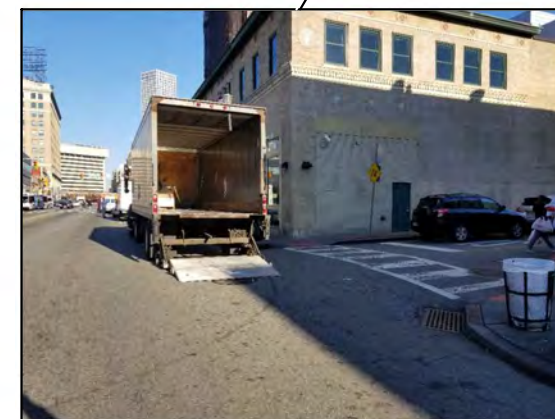
Signs are either improperly mounted or missing from multiple locations.



Wide intersections can be difficult to traverse for disadvantaged populations.



Most pedestrian signal heads are outdated.



Tractor trailer unloads cargo within an intersection.

1
3

**NJDOT HSIP
ROAD SAFETY AUDIT
BERGEN AVENUE/SIP AVENUE
B/W MONTGOMERY ST AND SUMMIT AVE**
JERSEY CITY
HUDSON COUNTY

SITE PHOTOGRAPHS



GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

N.T.S.

Vehicles park within exclusive right turn lane despite parking restriction



Curb extensions are currently being explored (flexible delineators test is to be installed in Spring 2018).



Future transportation infrastructure will need to accommodate the increased levels of traffic due to area redevelopment.



Sibayan, Reina Rose. "Future site of the Journal Square City Center Towers in Jersey City." True Jersey, 25 Sept. 2017. www.nj.com

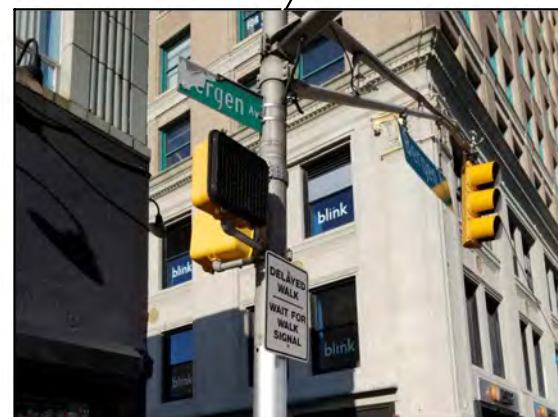
Most one-way roads are missing "Do Not Enter" and/or "One Way" signage.



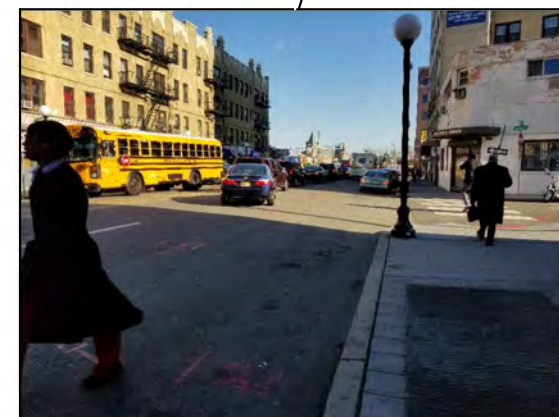
This corridor largely lacks bicycling infrastructure, despite the route designation.



Wayfinding signs are currently being tested throughout the downtown area.



Pedestrians did not obey the unusual signal operations at Newkirk Street.



There is no crosswalk between Enos Place and Jones Street, despite it being a popular path for pedestrians.



Many curb ramps were not ADA compliant.

2	3
<p>NJDOT HSIP ROAD SAFETY AUDIT BERGEN AVENUE/SIP AVENUE B/W MONTGOMERY ST AND SUMMIT AVE JERSEY CITY HUDSON COUNTY</p>	
<p>SITE PHOTOGRAPHS</p>	
	<p>GPI Greenman-Pedersen, Inc. Engineering and Construction Services</p>
<p>N.T.S.</p>	

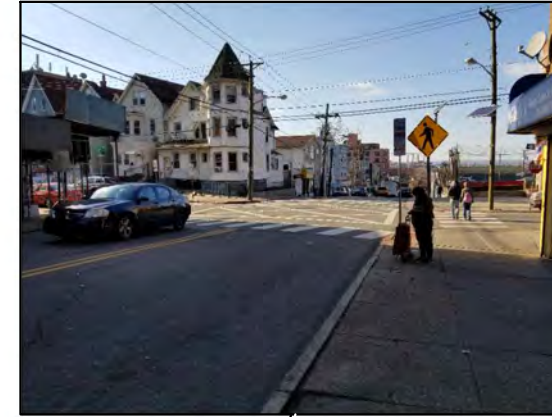
Curb heights along the roadway appear insufficient.



Bike lanes exist on Romaine and Garrison Avenues, but do not appear to connect to a larger bicycle network.



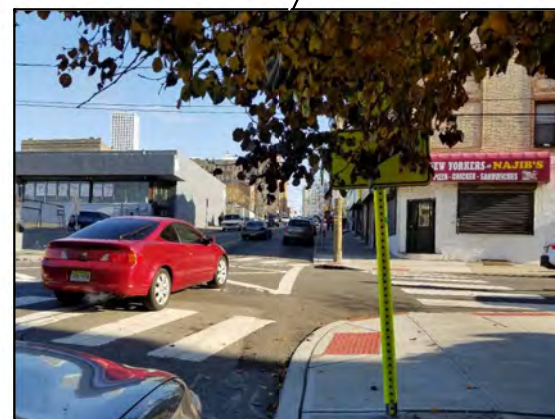
The bus stop lacks pavement markings.



Sun glare during the dusk is very distracting for westbound traffic.



Sidewalks are in poor condition along Sip Avenue.




Pedestrian warning signs (especially eastbound, along Sip Ave) are obstructed by roadside objects.



Irregular striping exists in front of the fire station.

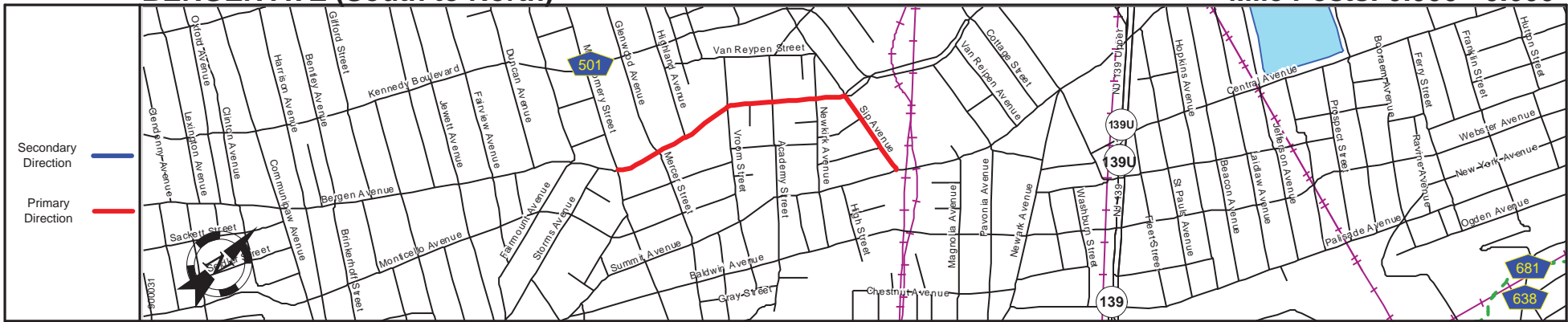
3
3

<p>NJDOT HSIP ROAD SAFETY AUDIT BERGEN AVENUE/SIP AVENUE BW VAN WAGENEN AVE AND GARRISON AVENUE JERSEY CITY HUDSON COUNTY</p>	
<p>SITE PHOTOGRAPHS</p>	
	<p>GPI Greenman-Pedersen, Inc. Engineering and Construction Services</p>
<p>N.T.S.</p>	

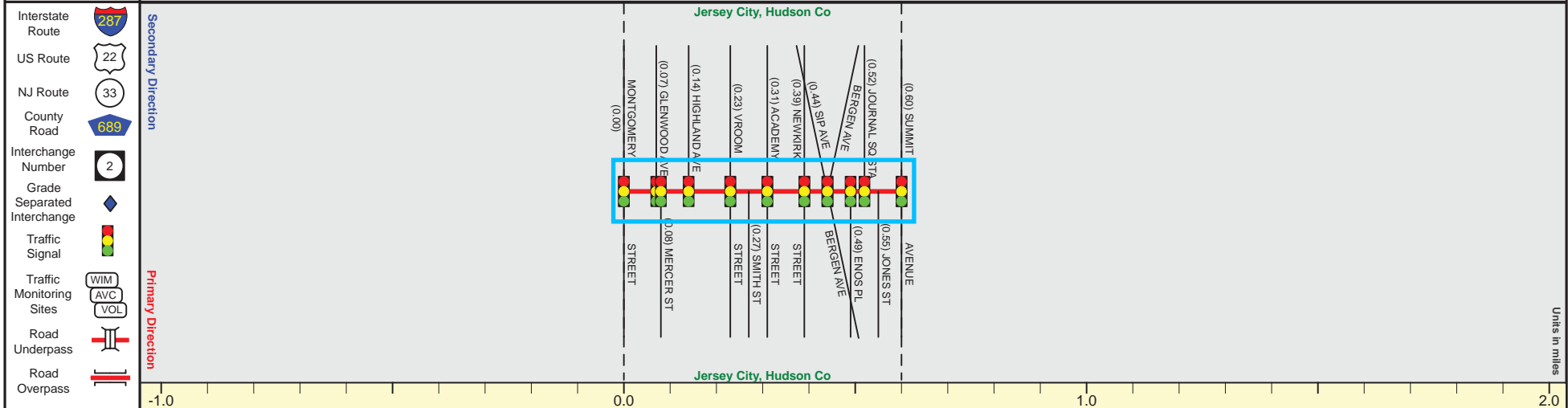
Appendix G - Straight Line Diagrams

BERGEN AVE (South to North)

Mile Posts: 0.000 - 0.600



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



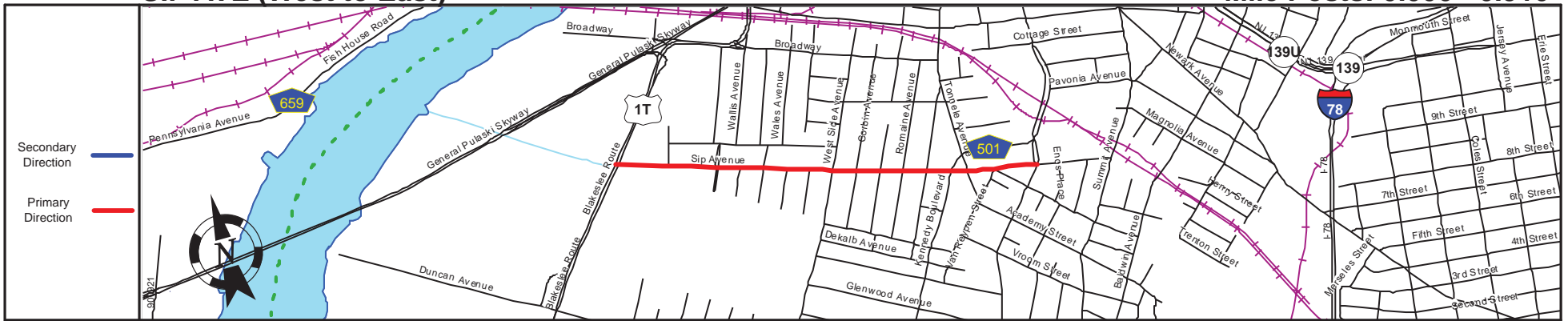
Street Name	Bergen Avenue	Sip Avenue
Jurisdiction	Municipal	
Functional Class	Urban Minor Arterial	
Federal Aid - NHS Sy	STP	IM - Transit Term
Control Section	Begin Bergen Avenue MP=0	
Speed Limit	25	
Number of Lanes	4	
Med. Type	None	
Med. Width	0	
Pavement	48	
Shoulder	0	
Traffic Volume	15,893 (2014)	11,699 (2010)
Traffic Sta. ID	110915	3N5472
Structure No.		
Enlarged Views		

SRI = 09061709__

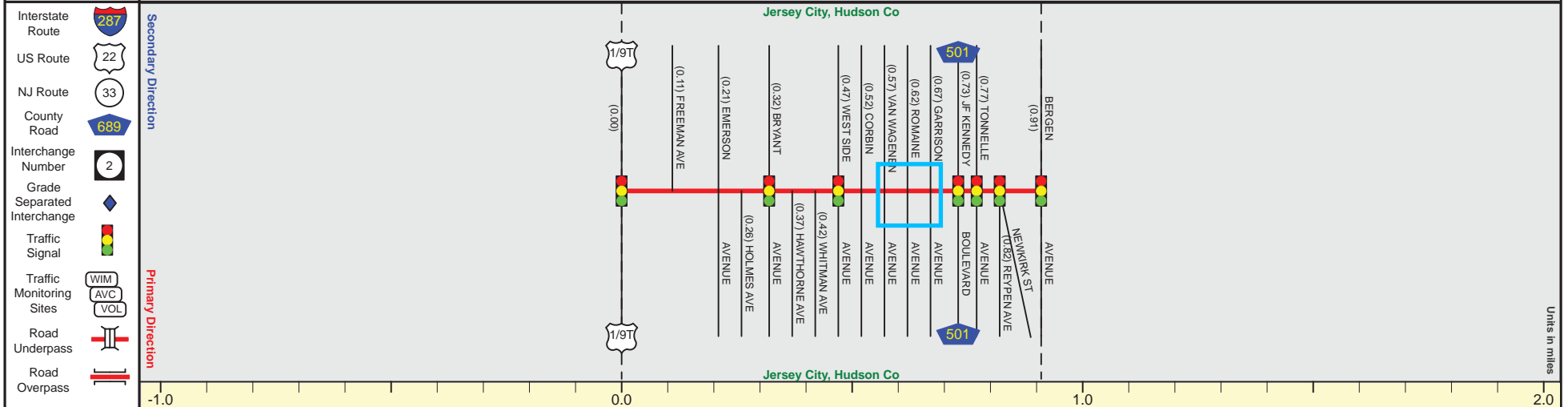
Date last inventoried: September 2011

SIP AVE (West to East)

Mile Posts: 0.000 - 0.910



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	

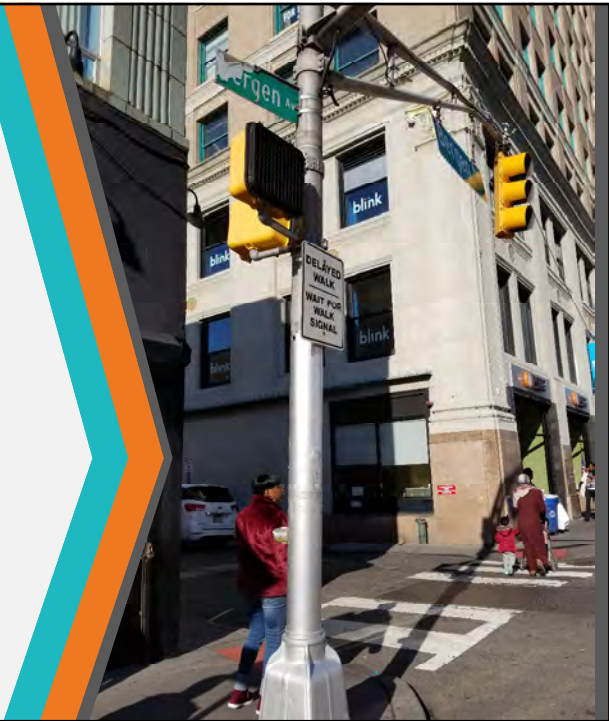


Street Name	Sip Avenue	
Jurisdiction	Municipal	
Functional Class	Urban Minor Arterial	
Federal Aid - NHS Sy	STP	M - Transit Term.
Control Section		
Speed Limit	Begin Sip Ave MP=0 NOT POSTED	End Sip Ave MP=0.91 25
Number of Lanes	2	
Med. Type	None	
Med. Width	0	
Pavement	32	
Shoulder	0	
Traffic Volume	12,514 (2012)	
Traffic Sta. ID	3N54726	
Structure No.		
Enlarged Views		

SRI = 09061561

Date last inventoried: September 2011

Appendix H - Pre-Audit Presentation



Road Safety Audit:
 Bergen/Sip Ave, Montgomery
 St to Summit Ave
 Sip Ave at Van Wagenen,
 Romaine and Garrison Aves

Jersey City, Hudson County
 December 12, 2017

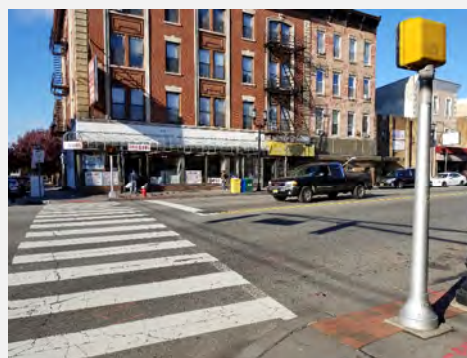
Audit Team Introductions

- *Funded by Federal Highway Administration and NJDOT*
- NJDOT, Bureau of Transportation Data & Safety
 - Bicycle & Pedestrian Programs
- NJTPA
- Hudson County
- Jersey City
- NJ Transit
- Schools & Neighborhood Assoc.
- Greenman-Pedersen, Inc., NJDOT Consultant



Today's Schedule

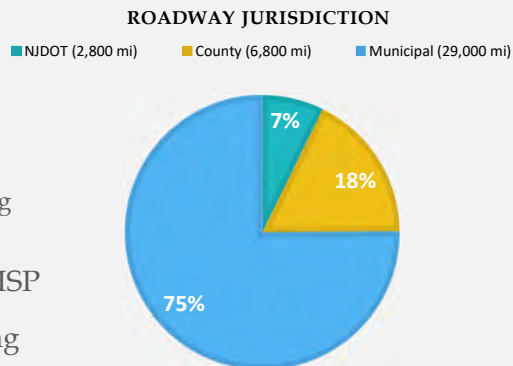
- 9:00a
 - Welcome and Introductions
 - Project Overview Presentation
- 10:30a
 - Field Visit and Observations
- 12:30p
 - Lunch and Regroup at Presentation Location
- 2:00p
 - Discuss Observations
 - Make Recommendations
- 3:30p
 - Adjourn



Bergen Ave at Vroom St

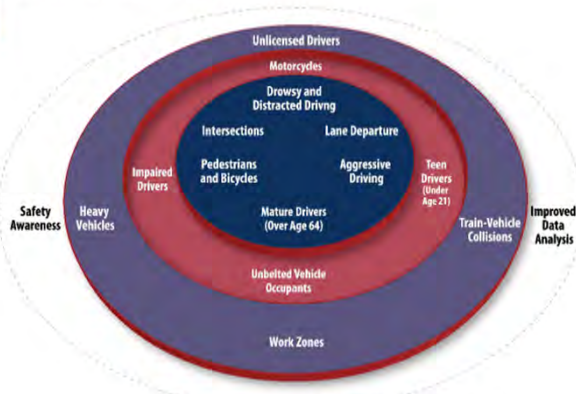
Highway Safety Improvement Program/ Local Safety Program

- GOAL: Reduce serious injury and fatality (K+A) crashes on all of NJ's public roads
 - 40,000 centerline miles of public roads
 - 33% K+A crashes occur on state highways
 - 57% K+A crashes occur on local roads
- Achieve zero deaths on all public roads
 - Established 2.5%/year reduction in 5-year rolling average
- Performance-based goals consistent with SHSP
- Data-driven, strategic approach to improving highway safety



Highway Safety Improvement Program (HSIP)

New Jersey Prioritization of Safety Emphasis Areas



Legend

- 1st Priority (>2,000 fatality and serious injury crashes)
- 2nd Priority (1,000 to 2,000 fatality and serious injury crashes)
- 3rd Priority (<1,000 fatality and serious injury crashes)

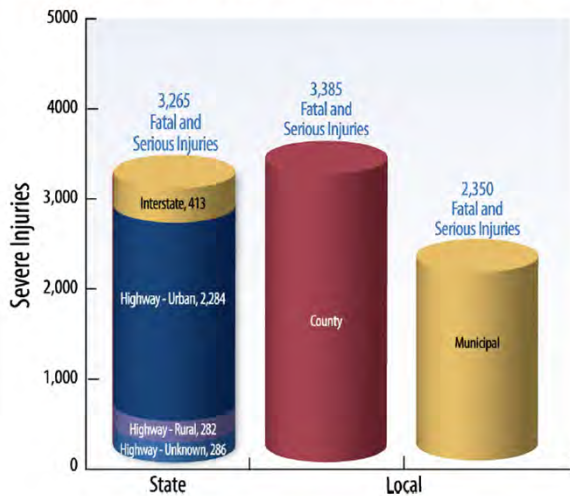
Note: Fatality and serious injury crashes are those crashes that result in one or more fatalities or serious injuries, or both. The exception to this categorization is for Mature Drivers, which are considered a first priority emphasis area due to the increasingly older population in New Jersey.

- 14 Emphasis Areas
- Pedestrian Safety and Intersection Focus State
- Top priority: lane departure, intersections, and pedestrians
- 7 sub-programs including Local Safety Program
- Core Federal Aid Program, NJ receives ~\$57M

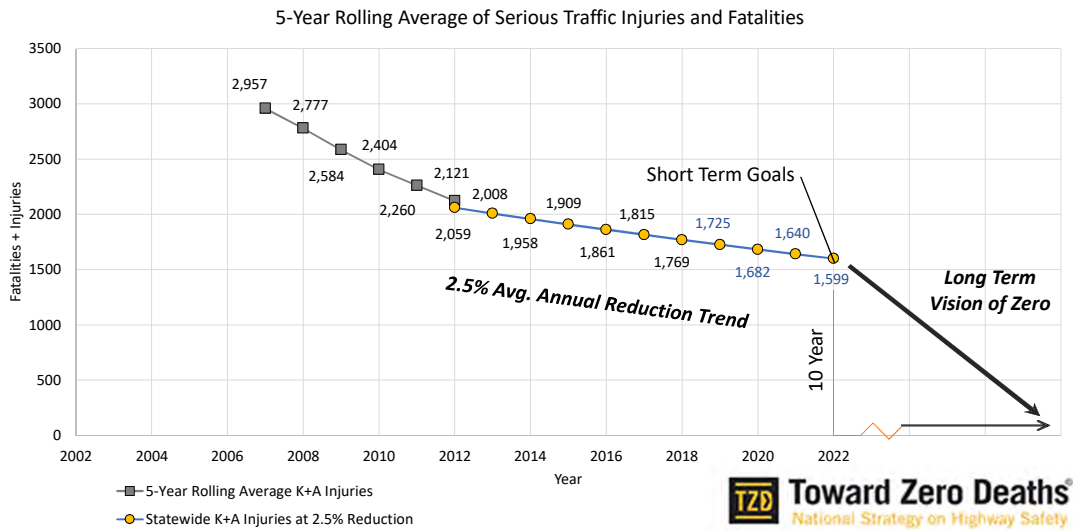
Local Safety Program (LSP)

- NJDOT supports LSP:
 - Dedication of HSIP funds
 - Technical assistance
 - Screening lists for MPOs
 - **Road Safety Audits**
- MPOs support LSP:
 - Local Road Safety/High Risk Rural Roads
 - PE/FD Assistance Program
- Focus annual HSIP funding:
 - 40% on state highways
 - 60% percent on county and municipal network

Fatal and Serious Injuries by Roadway System by Roadway System, 2008 to 2012

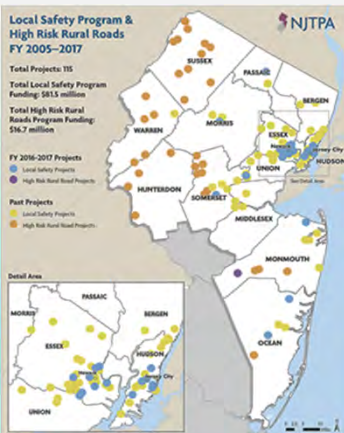


National Strategy – Toward Zero Deaths



Federal Transportation Funding

through the
North Jersey Transportation Planning Authority
 The Metropolitan Planning Organization for Northern New Jersey



Local Safety and High Risk Rural Roads Programs

Over \$98 million in funding since 2005 on County and Local Roadways
 Relatively quick-fix safety improvements

Highway Safety Improvement Program (HSIP) funds

Emphasizes a data-driven, strategic approach to improving highway safety

Network Screening

Identifies locations experiencing:
 High crash frequencies
 Severe crash injuries
 Specific crash types such as right-angle or roadway departures

Community Outreach

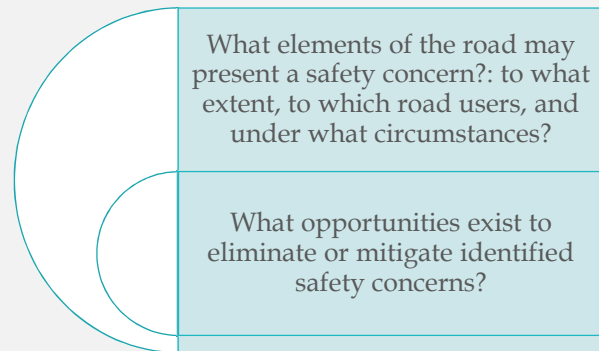
Provides the public, local stakeholders and officials with an opportunities for provide comments and ask questions



RSA Purpose

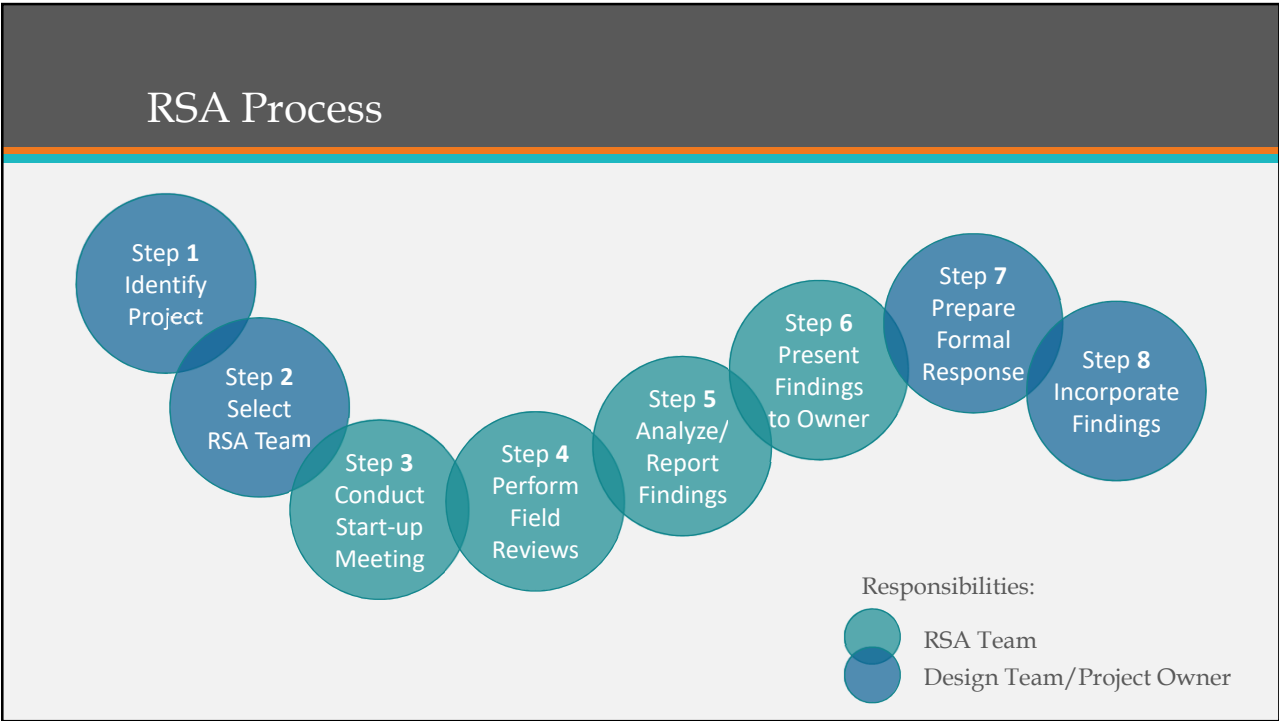
- Formal safety performance examination
- Qualitatively estimates and reports on potential road safety issues
- Identifies safety improvement opportunities for all road users.
- Independent, multidisciplinary audit team
- Third bullet point here

• Goals:



RSA Benefits

- Pro-actively address safety
 - Audited designs should produce fewer, less severe crashes
 - Identify low-cost/high-value improvements
 - Enhance consistency in how safety is considered; promote "safety culture"
 - Provide continuous advancement of safety skills and knowledge
 - Contribute feedback on safety issues for future projects
 - Support optimized savings of lives, money and time
- Not a replacement for:
 - Design quality control
 - Standard compliance
 - Traffic or safety impact studies
 - Safety conscious planning
 - Road safety inventory programs
 - Traffic safety modeling efforts



FHWA Proven Safety Countermeasures

Roadside Design Improvement at Curves	Reduced Left-Turn Conflict Intersections	Systemic Application of Multiple Low Cost Countermeasures at Stop-Controlled Intersections	Leading Pedestrian Interval	Local Road Safety Plan
USLIMITS2	Enhanced Delineation and Friction for Horizontal Curves	Longitudinal Rumble Strips and Stripes on Two-Lane Roads	Median Barrier	Safety Edges
Backplates with Retroreflective Borders	Corridor Access Management	Dedicated Left- and Right-Turn Lanes at Intersections	Roundabouts	Yellow Change Intervals
Medians and Pedestrian Crossing Islands in Urban and Suburban Areas	Pedestrian Hybrid Beacon	Road Diet	Walkways	Road Safety Audit

Descriptions provided in your handouts

FHWA Proven Safety Countermeasures



Road Diet
Maplewood Township, Essex County

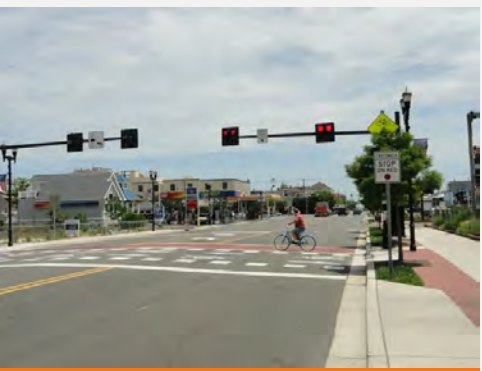


Roundabout
Chesterfield Township, Burlington County

FHWA Proven Safety Countermeasures

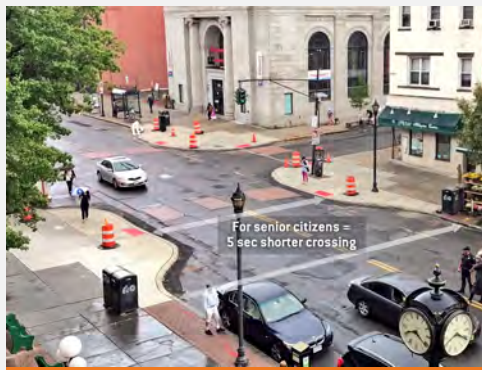


Backplates with Retroreflective Borders



Pedestrian Hybrid Beacon (HAWK)
Ocean City, Cape May County

Additional Considerations



Curb Extensions
Hoboken City, Hudson County

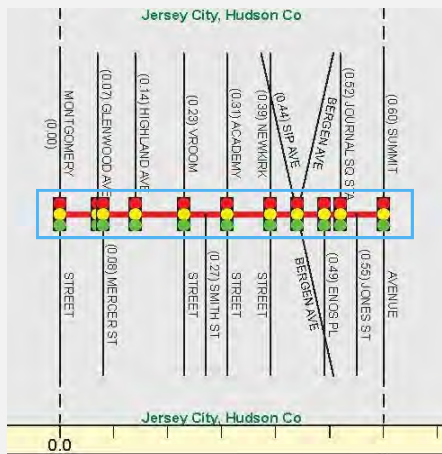


Enhanced signing / pedestrian crossings

15

Project Area – Bergen Ave



- Urban Minor Arterial, undivided 4-lanes
- 25 mph within project limits
- On street parking permitted
- Sidewalk on both sides
- Ladder style crosswalks



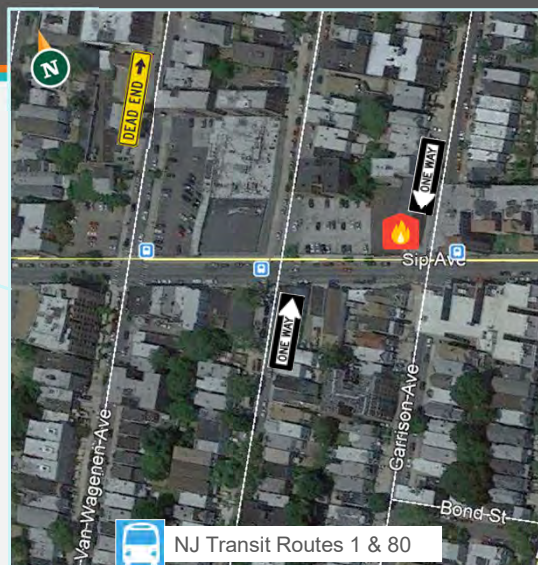
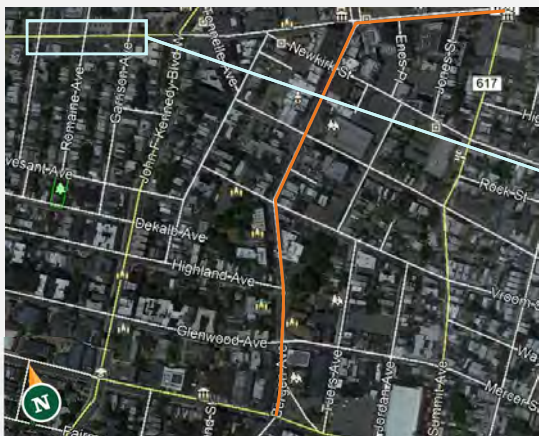


Project Area – Sip Ave

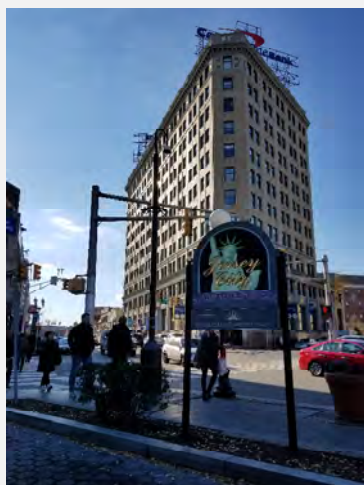
- Urban Minor Arterial, undivided 2-lanes
- 25 mph within project limits
- On street parking permitted
- Sidewalk on both sides
- Continental style crosswalks

Area Map



Project Area



Bergen/Sip Ave at Journal Square

- Land Use
 - Commercial/residential
 - High density
 - Multi-story mixed use
 - Redevelopment near Journal Square
- Demographics
 - 35% Asian American
 - 22% Hispanic/Latino
 - Puerto Rican & Dominican
 - 21% below poverty level
 - 57% use public transportation

Traffic Data (2010-2015)



Crash Data

All Crashes 2014-2016

- Total=318 (incl. ped crashes)
- Overrepresentations:
 - Sideswipe
 - Parked Vehicle
 - Backing
 - Pedestrian/Pedalcyclist
 - At Signalized Intersections
 - Between Intersections
 - Dry/Day

Pedestrian Crashes 2012-2016

- Total=66
- Overrepresentations:
 - Minor Injury
 - Dawn/Dusk
- 74% pedestrians
- 26% bicyclists (pedalcyclists)

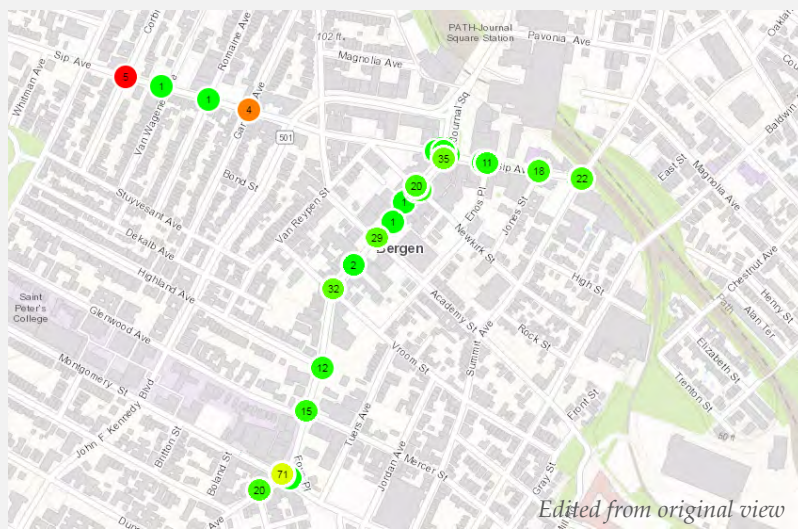
NJTPA's FY 2017-2018 Local Safety Program Network Screening List

Location	Ped Corridor	Regional Corridor
Bergen Ave	#2 City	#83 City; #188 County
Sip Avenue	#16 City	#5 and 15 City; #9, 16, and 25 County

Location	Intersection	Ped Intersection
Academy	#91 County	#15 City; #17 County
Montgomery	#20 City; #23 County	#8 City; #10 County
Newkirk	#22 City; #25 County	#3 City and County
Highland		#246 City; #473 County
Vroom	#291 County	#13 City; #15 County
Garrison	#113 County	#207 City; 327 County
Summit	#81 County	#37 City; #48 County
Van Wagonen	#247 City; #473 County	
Enos		#54 City; #73 County
Jones		#95 City; #141 County

Crash Data (2014-2016)

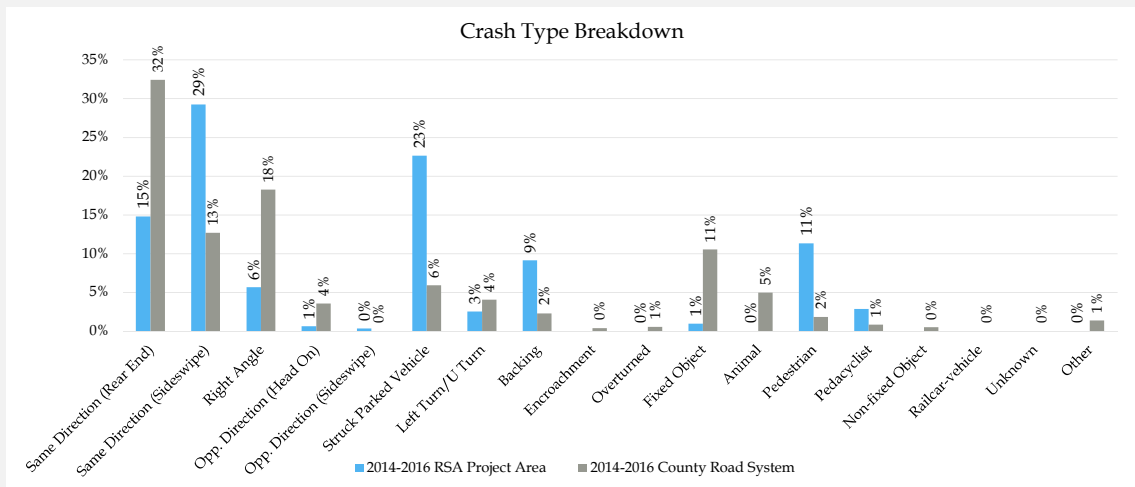
Plan View by 0.01 Mile



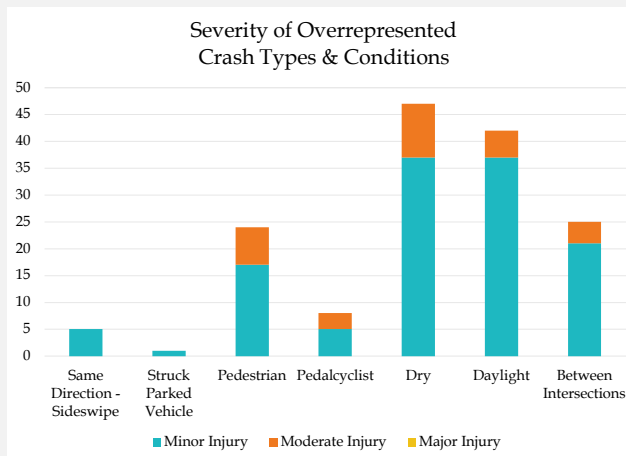
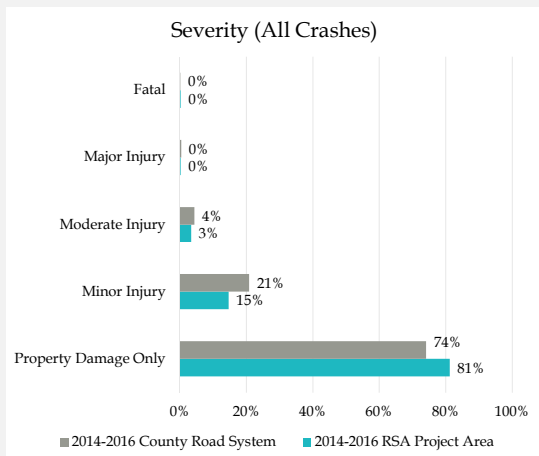
Crash Diagrams (2014-2016)



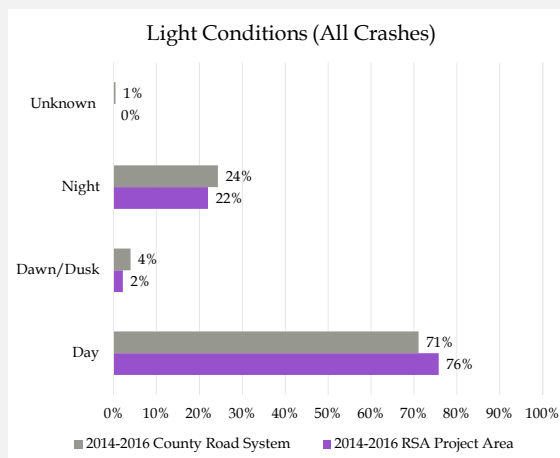
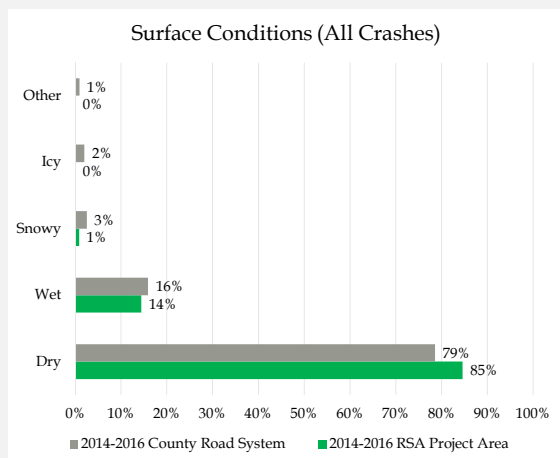
Crashes: RSA Project Area v. County Road System



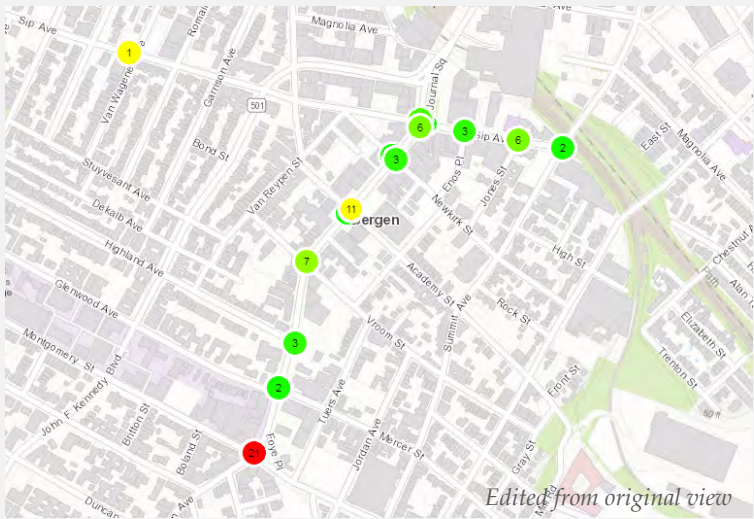
Crashes: Severity



Crashes: Light & Surface Conditions



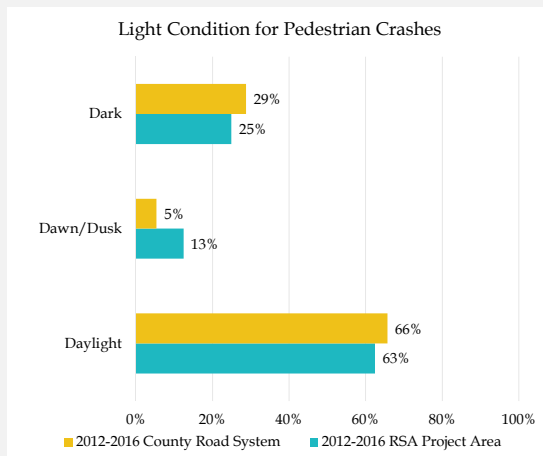
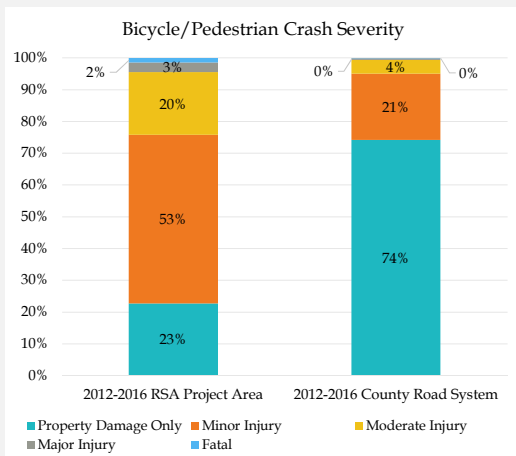
Pedestrian Crash Data (2012-2016)



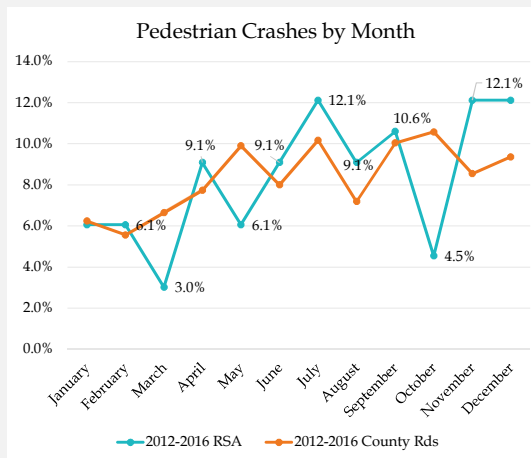
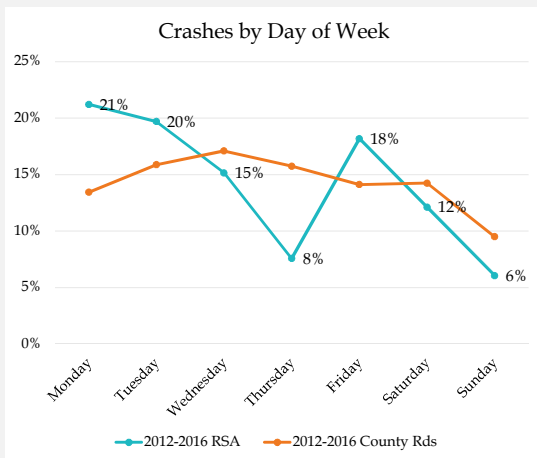
Pedestrian Crash Diagrams (2012-2016)



Pedestrian Crashes

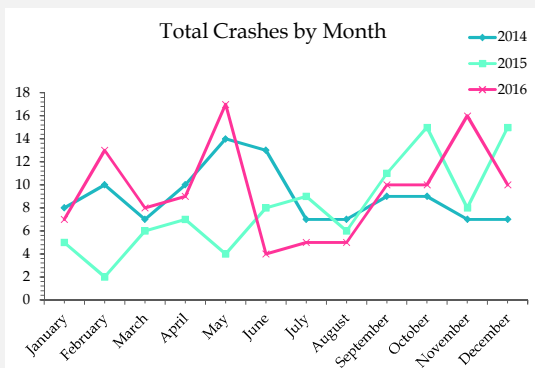


Pedestrian Crashes: Temporal Data

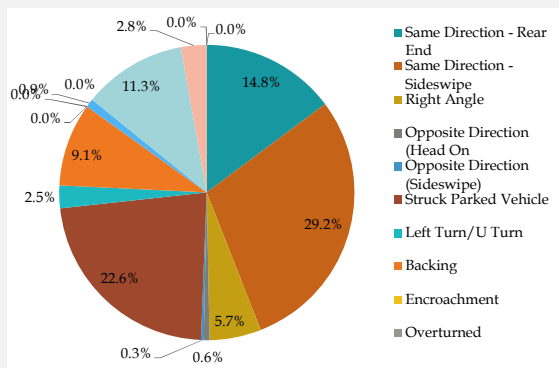


Crash Statistics

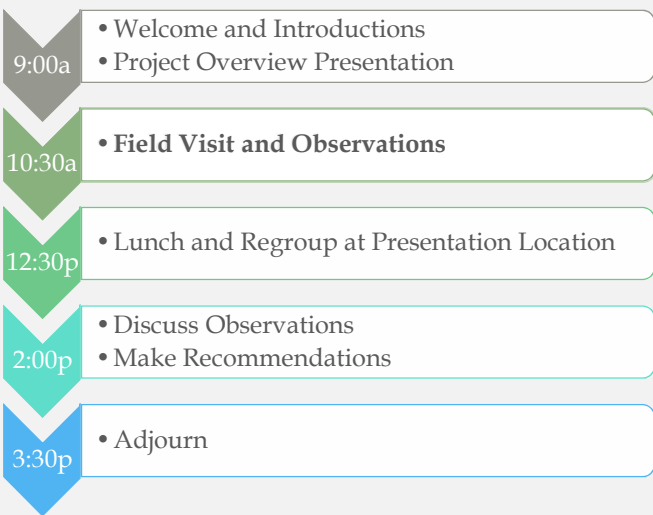
3-Year Temporal



Crash Types (2014-2016)



Field Visit Itinerary



- ✓ Verify Identified Issues
- ✓ Observe Operations
- ✓ Note Other Safety Concerns
- ✓ Document Findings
 - Photographs
 - Checklist
- ✓ Safety First!
 - Use proper safety equipment
 - Stay alert to your surroundings



Field Visit & Observations
(pause presentation)



Post Audit Analysis
(resume presentation)

RSA Schedule

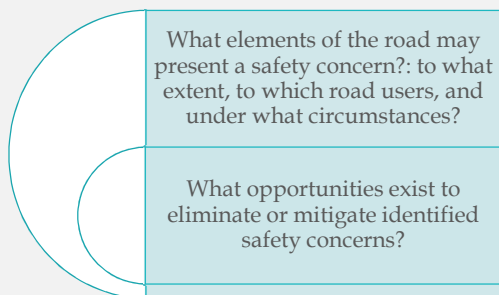
- 9:00a
 - Welcome and Introductions
 - Project Overview Presentation
- 10:30a
 - Field Visit and Observations
- 12:30p
 - Lunch and Regroup at Presentation Location
- 2:00p
 - **Discuss Observations**
 - **Make Recommendations**
- 3:30p
 - Adjourn



Double Parking on Sip Ave

Post Audit Analysis

Observations



Recommendations

- What corridor safety issues did you observe?
- What localized safety issues did you observe?
- What improvements would you make?
- Are any of the FHWA countermeasures beneficial?

Next Steps

- Preparation of RSA Report
- Review/comments from RSA Team
- Preparation of Preliminary Final Report
- NJDOT review
- Preparation of Final Report
- Approximate timeframe: 10 weeks



Thank you!
Questions/Comments



Appendix I - Excerpts from Available City and NJTPA Reports

Journal Square 2060

Redevelopment Plan

Adopted August 25, 2010 – Ordinance 10-103
Amended November 28, 2012 - Ordinance 12-141
Amended September 11, 2013 - Ordinance 13.092
Amended September 10, 2014 - Ordinance 14.097
Amended October 22, 2014 - Ordinance 14.135
Amended February 10, 2016 - Ordinance 16.014
Amended June 15, 2016 - Ordinance 16.097
Amended October 26, 2016 – Ordinance 16.163



I) INTRODUCTION

On November 25, 2008 the Jersey City Municipal Council determined, by Resolution # 08-879, the *Greater Journal Square Study Area* to be an "area in need of rehabilitation," pursuant to the New Jersey Local Housing and Redevelopment Law (N.J.S.A. 40A:12A-1 et seq.). Previously, portions of the Journal Square area were also declared to be an "area in need of redevelopment," called the *Journal Square Redevelopment Plan* originally adopted in 1974 and amended several times since.

This redevelopment plan focuses on Journal Square, the PATH rail station and bus depot, as well as the surrounding neighborhoods within walking distance, comprising an area of approximately 211 acres, 57 city blocks, and approximately 1600 individual parcels.

The purpose of the Journal Square 2060 Plan is to foster the redevelopment of Journal Square, Jersey City's central business district, by providing for transit oriented development of new housing, offices, commercial, and public open spaces within walking distance to the Square and transit facilities, returning Journal Square to a flourishing central business and shopping destination.

Since the mid 1950's, various plans in and around Journal Square were adopted by the Jersey City Municipal Council to address the adjacent air-rights development over the PATH rail cut and various development parcels in the vicinity of the Journal Square Transportation Center. Then in 2007, *Vision Journal Square* was prepared by A. Nelessen Associates, Inc. (ANA) and Dean Marchetto Architects, PC (DMA) in coordination the Jersey City Redevelopment Agency (JCRA) and the City of Jersey City. The process included multiple charrettes and public meetings, producing a comprehensive vision for the greater Journal Square area.

The Jersey City Master Plan lists several specific objectives and recommended actions which guide the standards and requirements for this plan. More specifically, the award winning Jersey City Master Plan Circulation Element, *Jersey City Mobility 2050*, recommends that the City:

Develop and implement smart growth strategies that locate new residential development within walking distance of bus stops and passenger rail stations, with the highest density zones located within walking distance of passenger rail stations; that mixes residential land use with commercial land use;

Create meaningful public spaces that facilitate integration of the built environment with arterials and major transit routes;

Requirements to provide bicycle amenities for building users, such as interior bicycle storage facilities for residential buildings that are accessible without stairs or tight corners, and bicycle racks and employee showers for commercial buildings;

Parking space requirement maximums that reduce the number of permitted parking spaces in development near fixed rail transit stations in proportion to distance and inversely proportional to the intensity of development.

In addition, the NJ Department of Transportation and NJ Transit created the "Transit Village Initiative" to recognize municipalities that have demonstrated a commitment to revitalizing and redeveloping areas within walking distance of rail or bus facilities into compact, mixed-use neighborhoods that are consistent with Smart Growth principles. In 2005, the Journal Square area received designation as a Transit Village by an inter-agency Transit Village Task Force.

It now appears appropriate for the City to take a more pro-active approach to redevelopment in this Area, so as to bring the Area into greater compliance with the recommendations of the Master Plan. The Master Plan calls for "station areas" around Jersey City's mass transit facilities to be up-zoned to include higher density residential, neighborhood retail, restaurants and other uses compatible with a mixed use transit oriented station area. In addition, parking requirements are to be reduced "to capitalize on the availability of high quality mass transit" and to increase building coverage, floor-area-ratios, and residential density, which can be supported near transit facilities.

As Jersey City enters the 21st century, we wish to continue developing in a sustainable direction. This means focusing future development to areas where mass transit is available, reducing parking to limit traffic congestion and effects on air quality, requiring bicycle parking and wider sidewalks to limit automobile use and promote alternative modes, requiring retail uses along pedestrian corridors to create an enjoyable and safe neighborhood environment, concentrating high density high-rise development along the major thoroughfares and immediately adjacent to mass transit facilities, preserving the most distinguished historic structures, and provide for design guidelines so that new development sits comfortably next to the historic fabric of this area.

Journal Square and its surrounding neighborhoods are not a blank slate. The existing physical structure of the Area is extremely varied. Building types range from detached two-family homes with generous front yards, to 4 to 6 story apartment buildings, office buildings, and commercial uses. This variety of uses

and building types are all interwoven at a fine scale. Some streets are quiet and narrow, while others have intensive retail uses. This diversity need not inhibit the City from drafting new development guidelines. This redevelopment plan balances the need for new development at higher densities with the existing context of diverse and varied neighborhoods. To do this, this plan employs an approach to development that requires higher density projects to assemble sufficient development sites to accommodate building designs and forms that can reasonably fit into its surroundings while providing improved infrastructure. The Plan employs the use of building stepbacks, sidewalk widening, open space and plaza provisions, contextual yard requirements, required retail uses, parking limitations and bicycle parking requirements, green building requirements, and design guidelines to assure that future development contributes to the sustainable future of Journal Square.

II) BOUNDARIES

- A) A map of the boundary, entitled, *Map 1: Boundary Map*, dated July 8, 2010 is attached and shall govern the boundaries of this redevelopment plan.
- B) The boundary of the Journal Square 2060 plan omits land on Blocks 6502 (formerly known as 593.1 and 628.1) which was authorized as part of the Greater Journal Square Study Area (Resolution 08-879). As this site has already been redeveloped under the St John's Redevelopment Plan and no substantive change to this site is currently contemplated, this area will not be included as part of the Journal Square 2060 Plan.
- C) The boundary of the Journal Square 2060 plan also omits land on Block 6401 and portions of Block 6701 and 8203 which are part of the Bergen Arches right-of-way and which were authorized as part of the Greater Journal Square Study Area (Resolution 08-879).

III) REDEVELOPMENT PLAN OBJECTIVES

Renewal activities for the Journal Square 2060 plan area will be undertaken in conformity with, and will be designed to meet, the following objectives of the Redevelopment Plan:

- 1) Re-establish Journal Square as a Jersey City's primary central business district and activity center.
- 2) Make sustainability a theme of future development and redevelopment that guides land use and transportation decisions.
- 3) Integrate open space into the Area by incorporating a system of parks, plazas, and natural amenities.
- 4) Promote a pattern of mixed and multiple-use development. New buildings within the Area should appropriately combine residential, commercial, and entertainment uses and encourage a balance of jobs-to-housing.
- 5) Make walking and biking an easy, safe, desirable, and convenient mode of transport.
- 6) Encourage local quality retail within the greater Journal Square area.

under this provision shall include the site plan development improvements for the plaza as part of the same application. Construction of the plaza shall be completed simultaneously with the principal building.

B) ZONE 2: AIR-RIGHTS

- 1) The sole permitted use in this zone is for transportation uses. It is desirable in the future to deck over the existing rail tracks and develop the air rights above for a variety of uses, including office, commercial and residential uses, and to incorporate public open space to create landscaped pedestrian plazas that form a continuous link from the Journal Square PATH station to the surrounding neighborhoods from Baldwin Avenue to Garrison Avenue. Recommended pedestrian corridors are shown on *Map 5: Required Sidewalk Width* and *Map 6: Circulation*. Building heights, forms, and permitted uses are to be determined as a future amendment to this redevelopment plan.

C) ZONE 3: COMMERCIAL CENTER

The purpose of this zone is to provide for an active and intensive use of parcels surrounding the Journal Square Transportation Center. With close proximity and short walking distances to heavy rail and bus transit systems, this zone complements the established commercial center of Jersey City.

- 1) Permitted Uses:
 - (a) Residential: permitted everywhere except on the ground floor of buildings greater than 65 feet in height.
 - (b) Retail Sales of Goods and Services/Financial Services.
 - (c) Offices: permitted everywhere except on the ground floor of buildings greater than 65 feet in height.
 - (d) Art galleries.
 - (e) Live/Work units and home occupations: except on the ground floor of buildings greater than 65 feet in height.
 - (f) Restaurants: category one and two.
 - (g) Structured Parking: provided the design standards of Section IV: D above are met. Structured Parking is not permitted at any street corner location.
 - (h) Hotels/Bed and Breakfast.
 - (i) Medical Offices
 - (j) Child and Adult Day Care Centers.
 - (k) Theatres/Night Clubs/Bars.
 - (l) Schools
 - (m) Museum
 - (n) Government uses.
 - (o) Billboards: as per billboard requirements in Section VII: E above.
 - (p) Any combination of the above.
- 2) Accessory Uses
 - (a) Fences and seating walls.
 - (b) Landscape features.
 - (c) Improved Open Space.
 - (d) Signs.

- (e) Rooftop Recreation.
- (f) Sidewalk Cafe: where sidewalk width permits.
- 3) Prohibited Uses
 - (a) Surface parking as a principal or accessory use.
 - (b) Drive-throughs pertaining to restaurants, banks, pharmacies, and other drive through uses.
 - (c) Gas stations, service stations, auto repair, auto body shops, and other automobile related uses (not including car share programs).
- 4) Lot Size and Dimension Requirements
 - (a) All existing lots at the time of adoption of this plan are conforming lots.
 - (b) Subdivisions must conform to the following minimum standards:
 - (i) Minimum lot area: 7500 square feet.
 - (ii) Minimum lot width: 75 feet.
 - (iii) Minimum Lot Depth: 100 feet.
 - (iv) Shape Factor Maximum: 28
- 5) Density and Height Requirements
 - (a) Density is not regulated by floor area ratio or units per acre in this zone. Instead, a "building envelope" is defined, depending on the size and shape of the site. Minimum room and unit sizes are regulated by building code
- 6) Maximum and minimum building height shall be calculated based on the lot size according to the following table provided the required standards in the table are met:

Approximate Lot Dimension	Lot Area up to: (square feet)	Minimum Building Height (stories)/(feet)	Maximum Building Height (stories)/(feet)
	0 to 2499	3 / 32'	3 / 34'
25x100	2500 to 4999	3 / 32'	5 / 54'
50x100	5000 to 7499	4 / 42'	8 / 85'
75x100	7500 to 9999	5 / 52'	10 / 105'
100x100	10000 to 12499	5 / 52'	18 / 195'
125x100	12500 and up	5 / 52'	25 / 265'

Table 4

- 7) Building Stepbacks: To provide light and air to adjacent lots, buildings taller than 4 stories must provide a "stepback" from the property line at the following intervals:

- (a) Front Yard Requirements:
 - (i) The front yard setback shall be sufficient to provide the minimum sidewalk width as indicated in Map 5: Required Sidewalk Width Map, measured from the ground floor building facade to the existing curb-line at the time of adoption. Example: If the existing sidewalk width is 10 feet, and the required sidewalk is 20 feet, then the front yard setback shall be 10 feet.
 - (ii) Up to 30% of a building façade may be set back up to an additional 10 feet to accommodate outdoor seating areas or public space, but not for front yard car parking and must be designed to be impractical for such use.
- (b) Side Yard Requirements:
 - (i) Side yards are not permitted within 10 feet of a right-of-way except where required by fire or building code to accommodate adjacent windows.
- (c) Rear Yard Requirements:
 - (i) Ground floor level may extend to 100% of the lot.
 - (ii) All floor levels above the ground floor up to 5 levels shall not extend greater than 85 feet from any right-of-way fronting the subject property,
 - (iii) All floor levels above the 5th floor shall not extend greater than 80 feet from any right-of-way fronting the subject property,
 - (iv) All floor levels above the 8th floor shall not extend greater than 75 feet from any right-of-way fronting the subject property,
 - (v) All floor levels above the ground floor where parking is provided shall not extend greater than 95 feet from any right-of-way fronting the subject property.
 - (vi) For through lots, the ground floor level may cover 100% of the lot with no yards provided.

F) ZONE 6: PRESERVATION

Situated with the original palisaded town of Bergen to the south, and Newark Avenue and Five Corners to the north; the Journal Square 2060 Redevelopment Plan Area has been the site of architectural endeavors for some 350 years. Although many early buildings have been razed in the development of the area, much remains to give us an idea of the area's development: socially, economically, architecturally, historically and culturally. Many resources remain that are locally significant and that still possess integrity of location, design, setting, materials, workmanship, feeling, and association. These buildings and streetscapes give the area a unique sense of place different not experienced elsewhere in the city.

During prior waves of development in the twentieth century, when the area's landscape changed from that of a suburban small town to the city's Central Business District, important buildings were demolished, altered, or moved. Development, especially in the first half of the twentieth century, was sometimes undertaken without examination and appreciation of past cultural and

architectural development. This plan seeks to preserve important resources which help to define the unique character of the Journal Square area.

This Zone shall preserve a wide variety of buildings characteristic of the area's varied development encompassing the seventeenth century Newkirk / Summit House, the eighteenth and nineteenth century Apple Tree House, Victorian brick townhouse rows, a Classical Revival Terrace on East Street, late 19th century mixed use developments and large early 20th century apartment buildings as well as churches, theatres and office buildings.

The properties that have been selected for Zone 6: Preservation have, paraphrasing the National Register Criteria for Evaluation:

- A. Been associated with events that have made significant contribution to the broad patterns of our history; or
- B. Are associated with the lives of persons significant in our past; or
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

To respect the special character that the Journal Square area has acquired and retained over the past three and one half centuries, the buildings included in this Preservation Zone shall be rehabilitated in accordance with the *Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties* so that future generations can be delighted by the history and architecture of the Journal Square Neighborhood.

1) Permitted Uses:

- (a) All uses at their existing location at the time of adoption of this Plan are permitted.
- (b) New uses shall be considered by the Planning Board on a case by case basis, guided by adjacent uses only. Because historic buildings in this zone are scattered throughout the Plan Area, and are situated in a variety of land use areas, the permitted uses in this zone must be contextual to the site.
- (c) Adaptive re-use conversions to residential or live/work units is permitted.

2) Lot Size and Dimension Requirements

- (a) All existing lots at the time of adoption of this plan are conforming lots.
- (b) Subdivision is not permitted.

3) Height and Bulk Requirements

- (a) The existing building height, floor area, established setbacks and the exterior building envelope as of the adoption of this Plan shall constitute the development standards of each building. Any change to the above standards shall constitute a deviation from this plan.
- (b) Minor alterations in site plan and façade characteristics may be permitted by the Planning Board provided such alterations are consistent with the above standards for this zone. Any changes not consistent with this Plan

are cognizable under a deviation application, and will be judged on their merits.

- 4) Yard and Coverage Requirements
 - (a) building coverage: existing
 - (b) lot coverage: existing
 - (c) front yard: existing
 - (d) side yard: existing
 - (e) rear yard: existing
- 5) Building Design Requirements
 - (a) All visible façades must retain historic building fabric where practicable. Architectural elements must be fully retained, preserved, restored, or recreated as necessary, based on site, photographic, or period documentation.
 - (b) Any rehabilitation is to be done in compliance with the *Secretary of the Interiors Standards and Guidelines for the Treatment of Historic Properties*
 - (c) All building must comply with all State or national historic register regulations.
 - (d) Parking is not permitted in this zone unless present at the time of adoption of this redevelopment plan.

G) ZONE 7: DECO

The purpose of this zone is to retain and preserve the early twentieth century art-deco facades along Bergen Avenue while providing for vertical additions to these historic facades.

- 1) Permitted Uses:
 - (a) Residential: permitted everywhere except on the ground floor.
 - (b) Retail Sales of Goods and Services/Financial Services.
 - (c) Offices: permitted everywhere except on the ground floor.
 - (d) Art galleries.
 - (e) Live/Work units and home occupations: permitted everywhere except on the ground floor.
 - (f) Restaurants: category one and two.
 - (g) Hotels/Bed and Breakfast.
 - (h) Medical Offices: permitted everywhere except on the ground floor.
 - (i) Child and Adult Day Care Centers: permitted everywhere except on the ground floor.
 - (j) Night Clubs/Bars: on corner lots, provided no more than 60 decibels is measureable outside the establishment. Night clubs and bars are limited to 3000 square feet.
 - (k) Museum.
 - (l) Any combination of the above.
- 2) Lot Size and Dimension Requirements
 - (a) All existing lots at the time of adoption of this plan are conforming lots.
 - (b) Subdivision is not permitted.
- 3) Height Requirements
 - (a) Maximum building height: 8 stories and 85 feet

- (b) Building Stepbacks: a 15 foot front setback is required for any additions above the existing deco buildings along Bergen Avenue. A 5 foot setback is required for any additions on Newkirk Street.
- 4) Yard Requirements
 - (a) The maximum permitted building and lot coverage shall be the existing building and lot coverage at the time of adoption of this Plan.
- 5) Building Design Requirements
 - (a) All visible façades must retain historic building fabric where practicable. Architectural elements must be fully retained, preserved, restored, or recreated as necessary, based on site, photographic, or period documentation.
 - (b) Any facade rehabilitation is to be done in compliance with the *Secretary of the Interiors Standards and Guidelines for the Treatment of Historic Properties*
 - (c) The front façade of any roof top addition must include a minimum of 75 % glazing which will minimize any impact the addition may have on the historic resource.
 - (d) Parking is not permitted in this zone.

H) ZONE 8: BERGEN SQUARE

The purpose of this zone is to demarcate and preserve the footprint, block, and lot lines of the original Dutch settlement of Bergen, established in 1661. This zone provides for mixed use development respecting the established height limits and development context found in Bergen Square.

- 1) Permitted Uses:
 - (a) Residential: permitted everywhere except on the ground floor of buildings utilizing a corner height bonus.
 - (b) Retail Sales of Goods and Services/Financial Services.
 - (c) Offices.
 - (d) Medical Offices
 - (e) Art galleries.
 - (f) Live/Work units and home occupations.
 - (g) Restaurants: category one and two.
 - (h) Bed and Breakfast.
 - (i) Child and Adult Day Care Centers.
 - (j) Night Clubs/Bars: restricted to Bergen Ave, provided no more than 60 decibels is measureable outside the establishment.
 - (k) Schools.
 - (l) Community Centers.
 - (m) Government uses.
 - (n) Museum.
 - (o) Any combination of the above.
- 2) Accessory Uses
 - (a) Fences and seating walls.
 - (b) Landscape features.
 - (c) Improved Open Space.

- (d) Signs.
- (e) Rooftop Recreation.
- (f) Sidewalk Cafe: where sidewalk width permits.
- 3) Prohibited Uses
 - (a) Surface parking as a principal or accessory use.
 - (b) Drive-throughs pertaining to restaurants, banks, pharmacies, and other drive through uses.
 - (c) Gas stations, service stations, auto repair, auto body shops, and other automobile related uses (not including car share programs).
 - (d) Billboards.
- 4) Lot Size and Dimension Requirements
 - (a) All existing lots at the time of adoption of this plan are conforming lots.
 - (b) Subdivisions must conform to the following minimum standards:
 - (i) Minimum lot area: 2500 square feet.
 - (ii) Minimum lot width: 25 feet.
 - (iii) Minimum Lot Depth: 100 feet.
 - (iv) Shape Factor Maximum: 28
- 5) Density and Height Requirements
 - (a) Density is not regulated by floor area ratio or units per acre in this zone. Instead, a "building envelope" is defined, depending on the size and shape of the site. Minimum room and unit sizes are regulated by building code.
 - (b) Maximum and minimum building height shall be calculated based on the lot size according to the following table provided the required standards in the table are met:

Approximate Lot Dimension	Lot Area up to: (square feet)	Minimum Building Height (stories)/(feet)	Maximum Building Height (stories)/(feet)
	0 to 2499	2 / 22'	3 / 34'
25x100	2500 to 4999	2 / 22'	4 / 44'
50x100	5000 and up	3 / 32'	5 / 54'

Table 10

- (c) Building Stepbacks: To provide light and air to adjacent lots, buildings taller than 4 stories must provide a "stepback" from the property line at the following intervals:

Story Level	Front Stepback	Side Stepback	Rear Stepback
1 to 4	none	none	30'
5	10'	none	30'

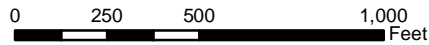
Table 11

JOURNAL SQUARE 2060

MAP 2: ZONE DISTRICTS MAP

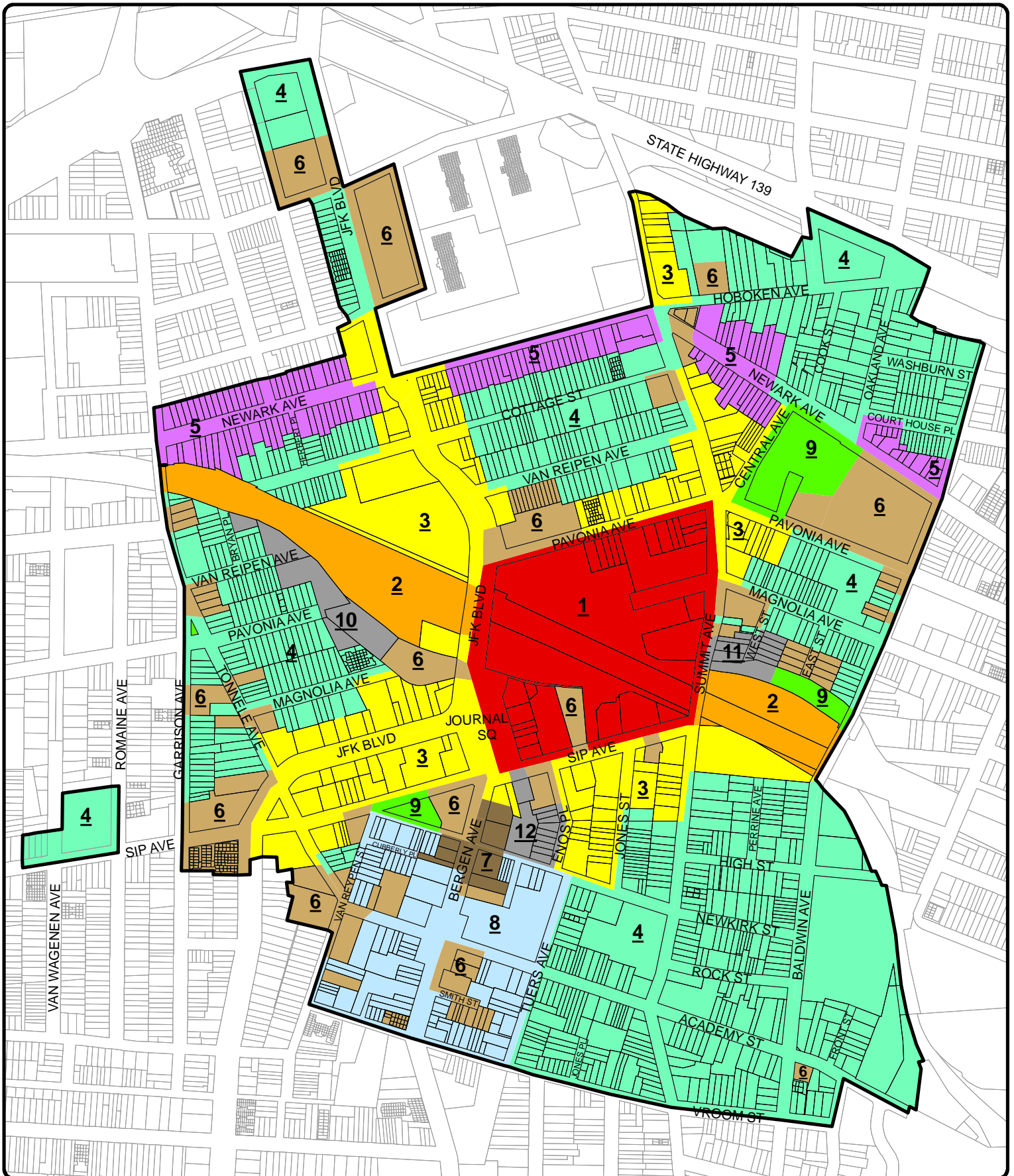
Amendment: SEPTEMBER 20, 2016

1 inch = 520 feet



Zone Districts

- | | | | |
|--|--------------------------------|--|---|
| | Zone 1: Core | | Zone 6: Preservation |
| | Zone 2: Air-Rights | | Zone 7: Deco |
| | Zone 3: Commercial Center | | Zone 8: Bergen Square |
| | Zone 4: Neighborhood Mixed Use | | Zone 9: Parks |
| | Zone 5: Commercial Main Street | | Site Specific Districts:
Zone 10, 11, 12 |

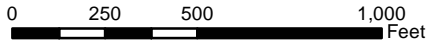


JOURNAL SQUARE 2060

MAP 5: REQUIRED SIDEWALK WIDTH MAP

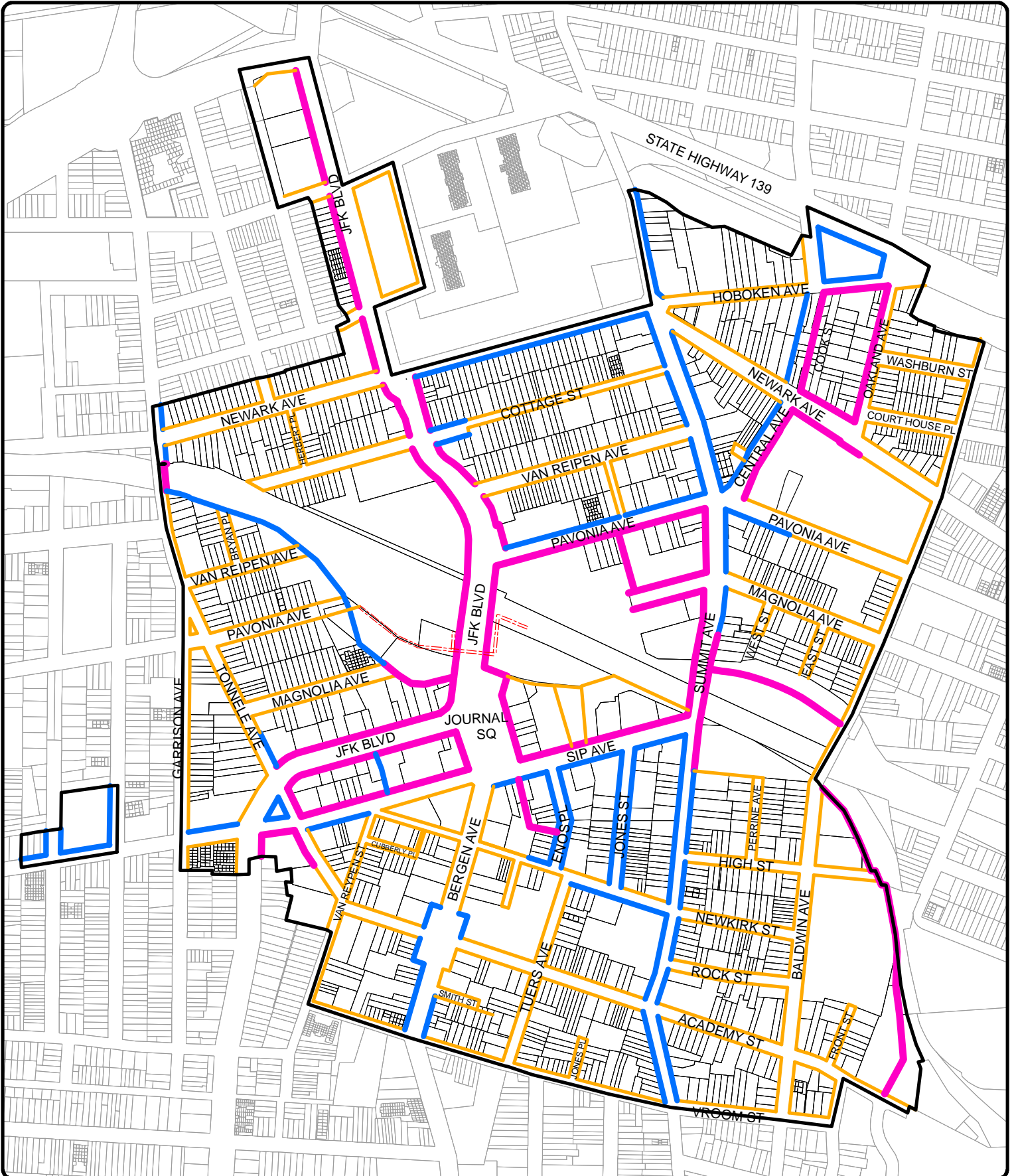
SEPTEMBER 12, 2016

1 inch = 520 feet



Sidewalk Width Requirements

- 20 Foot Minimum Sidewalk Width
- 15 Foot Minimum Sidewalk Width
- Prevailing Width (Minimum of 8')
- PATH Access (Minimum of 10')

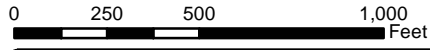


JOURNAL SQUARE 2060

MAP 6: CIRCULATION MAP

SEPTEMBER 12, 2016

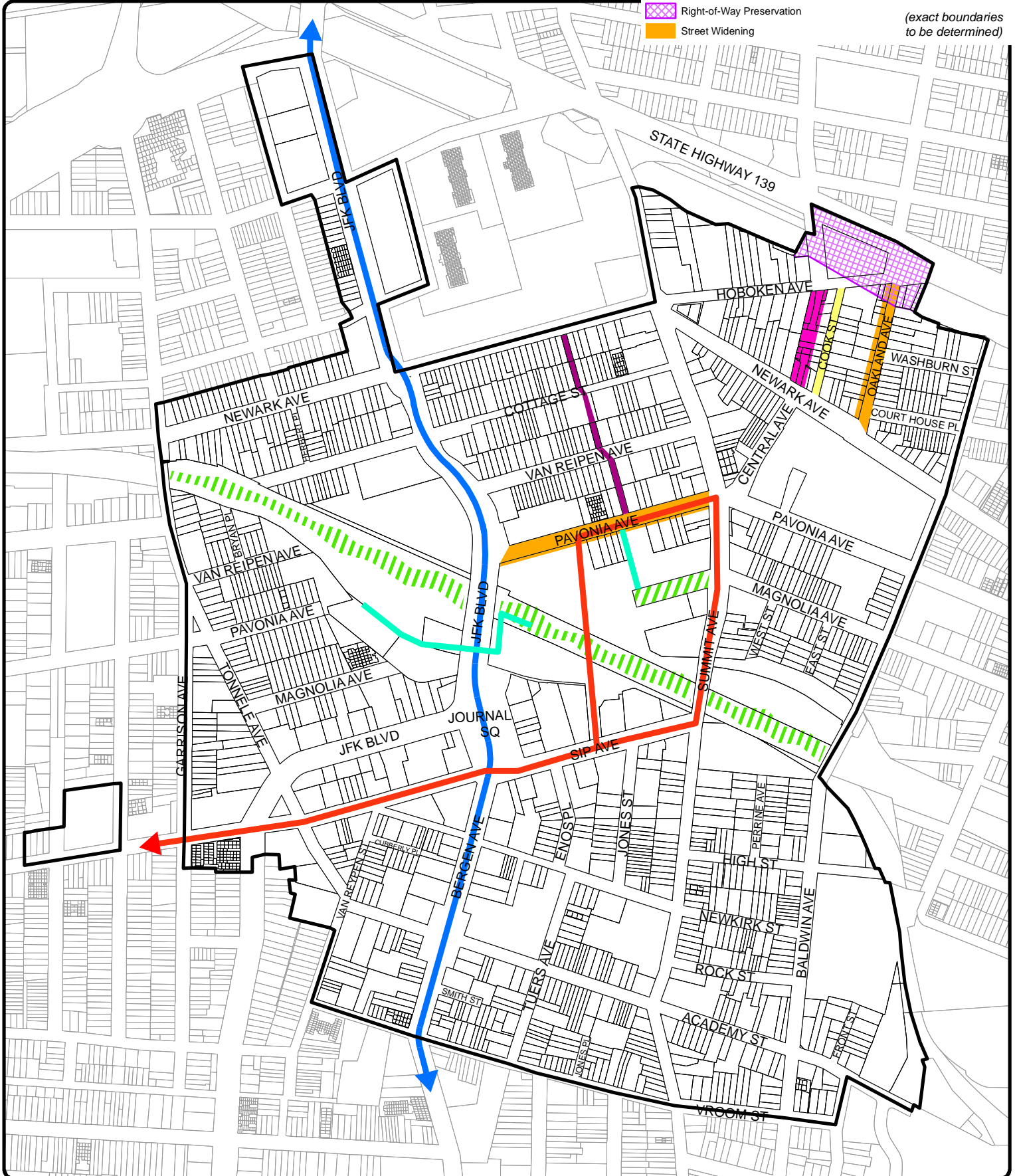
1 inch = 520 feet



New Circulation Elements

- PATH Access
- Proposed Streetcar
- Proposed Bus Rapid Transit
- Street Vacation
- Homestead Extension
- Central Avenue New Street Connector
- Pedestrian Plaza
- Right-of-Way Preservation
- Street Widening

(exact boundaries to be determined)



McGinley Square East Redevelopment Plan

As adopted by the Jersey City Municipal Council

October 12, 2011 - Ordinance # 11-089

Amended May 14, 2014 - Ordinance #14-048

Amended June 11, 2014 - Ordinance #14-060



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I INTRODUCTION

The intent of this Redevelopment Plan is to promote the resurgence of McGinley Square as a center of commerce, education, and entertainment within a revitalized and livable transit oriented neighborhood in the City of Jersey City.

The McGinley Square East Redevelopment Plan area (a.k.a. the Redevelopment Area) is approximately 10.2 acres near the geographic center of Jersey City. The McGinley Square East Study Area was found to be an area in need of rehabilitation pursuant to NJSA 40A:12A-14 on September 27, 2011. A portion of the Redevelopment Area was previously found to be an area in need of redevelopment and included in the Armory Redevelopment Plan by ordinance number 99-106. The Armory Redevelopment Plan included Lot 3 on Block 13504 (700 Montgomery Street) owned by Saint Peter's University and the armory building owned by the State of New Jersey Department of Defense. This Redevelopment Plan will incorporate Lot 3 on Block 13504 into the plan area and replace the Armory Redevelopment Plan as it relates to this particular tax lot. The Armory Redevelopment Plan shall continue to apply to the Armory Building itself.

McGinley Square has good mass transit access and opportunities. It is located little more than ½ mile south of the Journal Square Transportation Center, which is serviced by both the PATH line from Newark to lower Manhattan and the PATH line from Journal Square to midtown Manhattan. The Transportation Center is also serviced by more than a dozen bus lines operated by New Jersey Transit and independent bus companies. McGinley Square itself is crisscrossed by four different bus lines:

- The Bergen Avenue Bus, which runs from the Bayonne-Jersey City municipal boundary line to Journal Square, primarily along Old Bergen Road and Bergen Avenue.
- The Montgomery Westside Bus, which runs from the Greenville section of Jersey City to Downtown Jersey City, primarily along Westside Avenue and Montgomery Street, connecting to two PATH stations.
- The NJ Transit #80 Bus, which connects the Greenville section with Journal Square and Exchange Place in downtown Jersey City; passing through the McGinley Square East Redevelopment Area on Montgomery Street and Bergen Avenue.
- The NJ Transit #87 Bus, which also runs from the Greenville section to Journal Square and then on to Hoboken Station; passing through the McGinley Square East Redevelopment Area along Bergen Avenue.

The mass transit network is a legacy of McGinley Square's history as a crossroads of the Jersey City trolley system. Public Service Electric, which operated the trolley system, had two active trolley storage and repair facilities at 700 and 711 Montgomery Street in the McGinley Square neighborhood. Today, the "Journal Square 2060 Redevelopment Plan" envisions the creation of a street car / light rail link from Journal Square to McGinley Square. This Redevelopment Plan incorporates that long term vision by reference, and in the near term recommends improvements to the existing bus lines and bus stop locations, and bringing "bus rapid transit" to the area,

linking McGinley Square and Journal Square in order to encourage increased mass transit ridership.

Historically, McGinley Square was a thriving business center. Retail stores, restaurants and the Pix movie theater served not only the immediate neighborhood, but the entire city. Over time McGinley Square declined as a center of business and commerce, a victim of suburban malls, business centers and multi-screen cinemas; not unlike many neighborhoods in northeastern cities. More recently, there have been positive signs of revitalization in the area. Saint Peters University is expanding and has undertaken the construction of a new Student Center on Montgomery Street. The former 7th Precinct Building at 769 Montgomery Street has been converted into new housing. Further to the east, the Beacon (the former Jersey City Medical Center) is in the process of being converted into a “city within a city” including luxury apartments, health club facilities, and many more amenities.

It is now time to begin the process of re-planning and redeveloping this former focal point and center of activity within the larger neighborhood so that McGinley Square will once again serve as the center piece of a vibrant mixed-use neighborhood.

This Redevelopment Plan envisions a neighborhood incorporating the best principals of sustainable development, including the combined principals of smart growth, new urbanism and green building design. The intent is to maintain and enhance an open network of streets interconnected within the area, as well as with the surrounding neighborhoods and to create usable open spaces for social interaction. Convenient retail facilities and services are envisioned, along with business offices, a hotel, a movie theater, a range of housing types for various income brackets, education facilities and student housing for Saint Peters University. This Redevelopment Plan also incorporates the recommendations and development actions proposed in the New Jersey Division of Community Affairs approved Neighborhood Plan prepared by Bergen Communities United, a steering committee comprised of local community groups, businesses, and residents.

These enhanced facilities and improved transportation networks are intended to not only revitalize McGinley Square itself, but to promote the revitalization of the surrounding neighborhoods, to bind each of the existing neighborhoods and redevelopment areas surrounding McGinley Square into a cohesive whole, and to once again have McGinley Square become a focal point for commerce, education, entertainment, and social interaction.

II. BOUNDARY DESCRIPTION

The Redevelopment Plan shall include all tax lots on tax blocks 13504, 14902, 14903, 15101, and 15004. The boundary of the Study Area is also depicted on Map 1 - Boundary Map. Block and lot numbers can change over time due to subdivisions and lot consolidations. Therefore, in the event of a discrepancy between the lots listed and the Map, the Map shall take precedence.

III. REDEVELOPMENT PLAN GOALS & OBJECTIVES

- A. To redevelop the McGinley Square East Study Area in a manner that recognizes McGinley Square's traditional position as a neighborhood center of commerce, retail, education, entertainment and culture.
- B. To expand, redesign and rebuild the McGinley Square plaza as the central open space and focal point within the community so as to serve as a location for community activity and social interaction.
- C. To encourage development of buildings with a mixture of uses, high quality building design, and an intensity of development that will fuel commercial activity throughout the McGinley Square commercial district.
- D. To provide a variety of market rate and workforce housing types, both rental and for sale, suitable to meet the need of varying family types and income levels.
- E. To encourage innovative mixed-use development through new construction of low rise, mid-rise and high rise structures, thereby providing for an intensity of development suitable to support the implementation of needed infrastructure improvements and transit.
- F. To provide for urban amenities and activities such as transit, open space, entertainment, retail, education facilities, and housing variety that will attract a range of new residents and employers and encourage a balance of jobs and housing.
- G. To provide for the interconnection of uses, blocks, and streets to create an integrated development and a greater sense of community by respecting and enhancing the traditional urban street grid pattern.
- H. To increase pedestrian capacity and improve the pedestrian environment by providing wider sidewalks, additional street trees, improved lighting, active retail along sidewalks, and other pedestrian amenities.
- I. To reduce automobile dependency by encouraging higher intensity development in proximity to neighborhood services, lower automobile parking ratios, and safe convenient facilities for bicycle storage and parking.
- J. To encourage the greater use of mass transit by improving bus stop locations within the Redevelopment Area, promoting increased bus ridership and by encouraging the "street car" / light rail system as discussed in the Journal Square 2060 Redevelopment Plan to connect to McGinley Square and beyond when feasible.
- K. To preserve the building located on Lot 3 of Block 15101 and require its rehabilitation.
- L. To coordinate redevelopment activities to provide for a uniform and consistent attack on blight and the removal of vacant, deteriorated, dilapidated, and obsolete structures within the Area.
- M. To promote the principles of sustainable development by promoting development that is consistent with the goals of the "Green Guide", as prepared by the Jersey City Redevelopment Agency, March, 2013.
- N. To promote the principles of "New Urbanism," "Smart Growth," and "Transit Village" development through a variety of housing choices, providing pedestrian friendly streets, minimize automobile use, encourage reduced parking and shared use parking solutions, and creating a livable community with convenient access to commercial facilities.
- O. To recognize and incorporate the recommendations and development actions contained within the Bergen Communities United Neighborhood Plan.
- P. Utilize the Bergen Communities United Jobs Bank for employee placement in newly

- developed retail and commercial establishments.
- Q. To develop in a manner that is compatible with other neighboring redevelopment plans.
- R. All housing pursuant to inclusionary housing requirements are recommended to be mixed in with market rate units within each building.
- S. Foye Place is recommended to be renamed McGinley Square.
- T. Parking decks should provide hourly car rental services and be made available to the general public.
- U. Community participation in the design of public plazas, parks, and new buildings.
- V. Redesign public streets in accordance with the NJ Complete Streets manual, and utilize traffic calming design features, and incorporate bike lanes where feasible.

IV. GENERAL ADMINISTRATIVE PROVISIONS

- A. No building or elevated pedestrian walkway shall be constructed over a public right-of-way in the Redevelopment Area.
- B. Underground parking may extend beneath a public right-of-way subject to approval by the Municipal Council.
- C. Prior to commencement of construction, site plans for the construction and/or rehabilitation of improvements to the Redevelopment Area shall be submitted by the developer to the Planning Board of the City of Jersey City for review and approval so that compliance of such plans with the redevelopment objectives and regulations can be determined. Site plan review shall be conducted by the Planning Board pursuant to NJSA 40:55D-1 et. seq. Applications must be submitted for an entire project. Multi-phase projects must include a phasing plan.
- D. Required Community Notice Requirements:
 - 1) A copy of all application documents and site plan drawings must be sent to Bergen Communities United at their address maintained with the City Planning Division simultaneously with application filing with the City Planning Division.
 - 2) All development projects are recommended to conduct pre-application meetings to review architectural and site plan design with the City Planning Division in conjunction with the Bergen Communities United's architectural review committee prior to submission of a development application.
- E. As part of any site plan approval, the Planning Board may require a developer to furnish performance guarantees pursuant to NJSA 40:55D-53 et seq. Such performance guarantees shall be in favor of the City in a form approved by the Jersey City Corporation Counsel. The amount of any such performance guarantees shall be determined by the City Engineer and shall be sufficient to assure completion of on and off site improvements within one (1) year of the issuance of a certificate of occupancy for that portion of the project which is the subject of the final site plan approval.
- F. All proposed adaptive reuse projects shall be exempt from required parking standards..
- G. The Planning Board shall have the discretion to require a phasing plan as part of a development application or approval for a multi-phase development project, and shall have the discretion to require suitable mechanisms to insure the balanced development of the project and the construction of planned open space, infrastructure and other necessary facilities.

MAP 2



MCGINLEY SQUARE EAST REDEVELOPMENT PLAN: LAND USE MAP

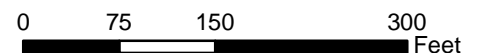


Legend

- Optional Pedestrian Plaza
- Public Open Space
- Zone 1
- Zone 2

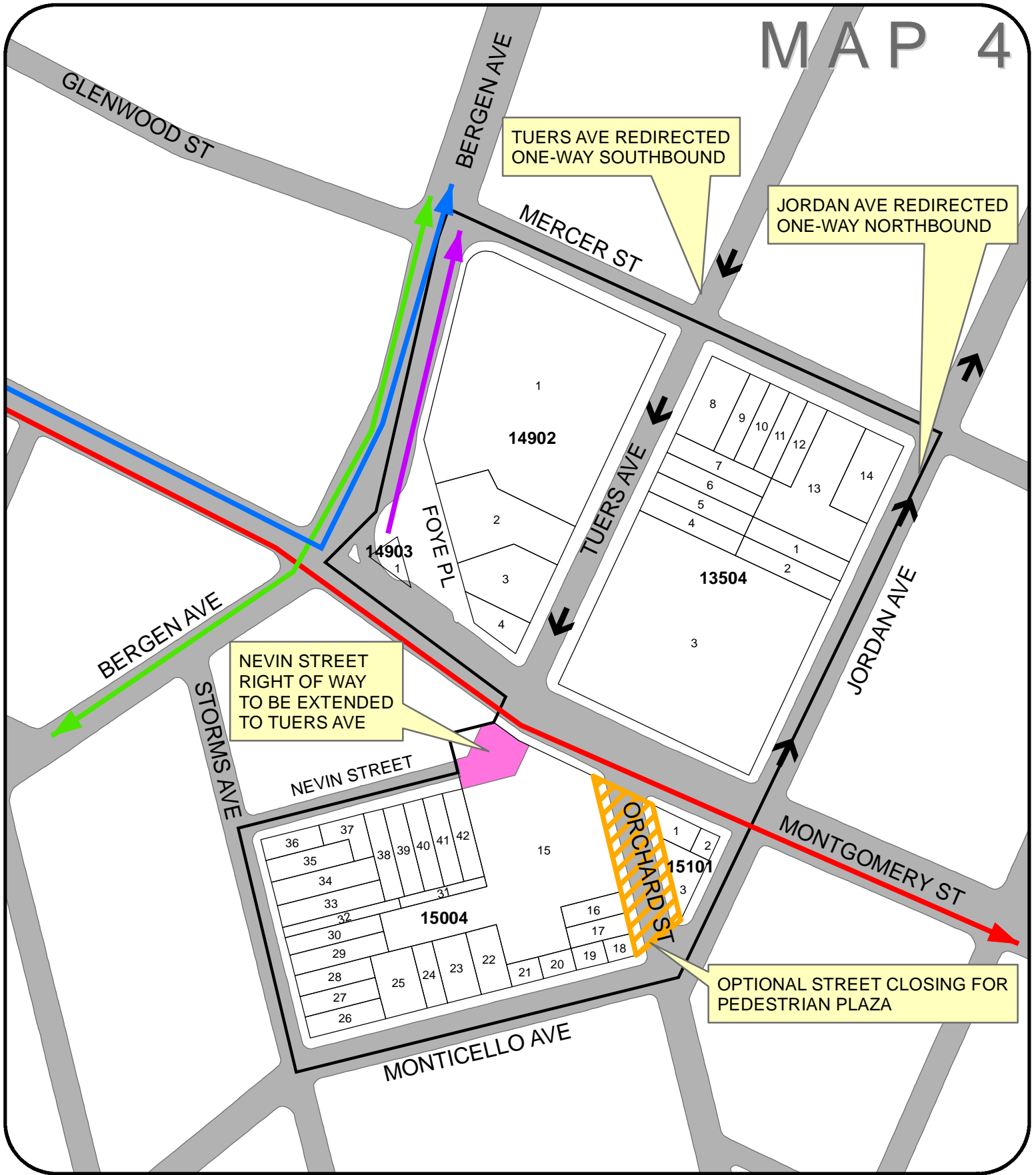


1 inch equals 150 feet



March 24, 2014

MAP 4



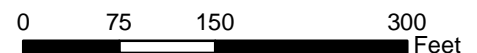
MCGINLEY SQUARE EAST REDEVELOPMENT PLAN: CIRCULATION PLAN



- MONTGOMERY-WEST SIDE BUS
- NJT #80 BUS
- NJT BUS #87 & BERGEN AVE BUS
- PROPOSED STREET CAR



1 inch equals 150 feet



March 24, 2014

Scaled Back One Journal Square Gains Approval

By **Chris Fry** - September 28, 2017



Rendering Credit: Woods Bagot

If you tried to sell the story of One Journal Square to a filmmaker, they might dismiss it as being too far-fetched and perhaps hard to follow. But it looks like new life has been pumped into a project that some assumed was dead, as Jersey City's Planning Board signed off Tuesday on the latest version of the troubled development.

The property in question, directly next to the Journal Square PATH station, is a key piece of a revitalization effort in the neighborhood and was once home to the Hotel on the Square building before it was demolished in 2009. Plans were presented around that time for a complex called [City Centre Towers](#), but no work was ever performed at the property and the land was eventually purchased by KABR Group and Kushner Companies in 2015.



Rendering Credit: Woods Bagot

A 57-story, 744-unit tower was approved for the lot shortly after the purchase, but then came the supersizing. Kushner and KABR won [approvals](#) last year for 1,725 residential units spread out over two towers, one rising 79 stories and the other 46. Both would be built on top of 10-story base that was to include 910 parking spaces, over 88,000 square feet of retail and almost 127,00 square feet of office space.

But problems with the project started showing up earlier this year. Co-working giant WeWork, who were set to operate over 100,000 feet of office space in One Journal Square, [pulled out](#) of the deal, taking \$59 million in tax breaks from the New Jersey Economic Development Authority with them. Controversies surrounding Kushner's [solicitation](#) of Chinese investment under the EB-5 visa program also drew criticism, and the companies later [dropped](#) their request for a 30-year tax abatement they were seeking from the city.



Rendering Credit: Woods Bagot

While some questions might remain about One Journal Square's controversies, the development's new design has been unanimously approved by the Planning Board. While still large, the latest version of the project is definitely scaled back. Designed by Australia-based Woods Bagot, it will still feature a 10-story base and two towers, but they will be 56 stories each. Nonetheless, both buildings will rise 758 feet into the air and essentially be 66-stories tall, sporting 1,512 units of housing between them.



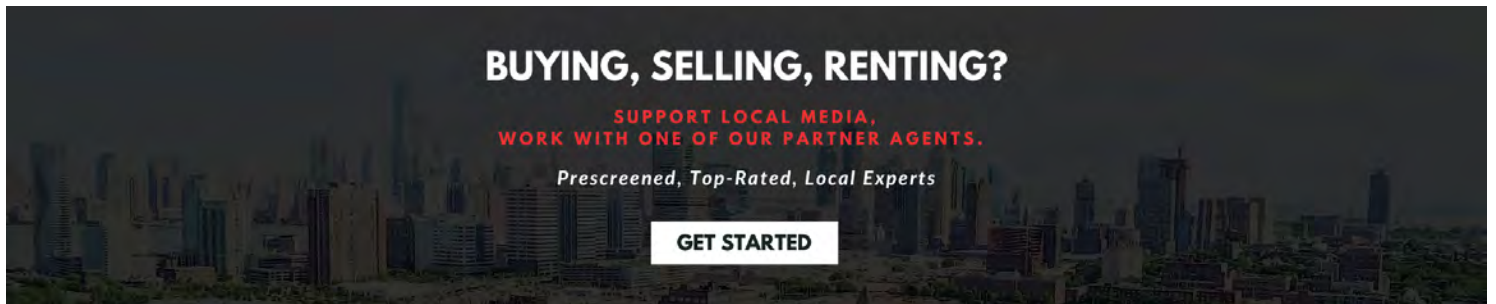
Previous design (left), new design (right) | Rendering Credit: Woods Bagot

While the podium area of the project remains pretty similar to earlier versions, the most obvious difference in the new design of One Journal Square is the towers themselves. Beyond the height, the new rendering features three distinct sections that appear angled from each other. 864 indoor parking spaces will be included in the project's base, and retail units and office space will also be featured in the new version of One Journal Square.

The Journal Square Plaza in front of the building will be revitalized under the plans, taking a dilapidated stretch featuring a fountain that hasn't worked in over half a decade and replacing it with seating areas, a lawn, and planted trees. Both Kushner and KABR haven't responded to inquiries about the project, but it looks like there might be a next chapter to this ongoing saga.

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Bayonne/Greenville/Journal Square Bus Rapid Transit Study



Final Report

June 2013

Executive Summary

Bus Rapid Transit (generally referred to as BRT) is an innovative public transportation mode that seeks to combine the flexibility and low cost of bus service with the greater speed and reliability of rapid transit, to create a system that is attractive to riders and that can bring new customers to public transit. BRT is one of the fastest growing modes of transportation, with successful projects implemented in a variety of locations within the United States and around the world. Within the New Jersey and New York region, there have been a number of studies of potential BRT corridors and services, while multiple corridors with BRT elements have been implemented in both New Jersey—NJ TRANSIT’s GoBus service in Newark—and New York City—MTA New York City Transit’s Select Bus Service. These services have shown consistently positive results in terms of speed, reliability, and ridership growth, and interest in BRT continues to grow around the region.

In 2011, Hudson County, working together with the City of Jersey City and the City of Bayonne, partnered with the North Jersey Transportation Planning Authority (NJTPA) to complete a study of BRT opportunities between Bayonne, the Greenville section of Jersey City, and Journal Square Transportation Center. In early 2012, Hudson County and its partners selected a consultant team to undertake this study, and this report presents the results and conclusions of that study. The Technical Advisory Committee (TAC) made up of representatives from public agencies, created the following goals and objectives for this study:

- Goal: Assess the need and opportunities for and impacts of BRT, including existing gaps in bus services for residents and workers in the study area:
 - Match mobility needs and proposed transit improvements.
 - Evaluate impacts (positive and negative) of BRT options to existing local bus services in Greenville.
 - Quantitatively contrast benefits and costs.
 - Balance short-term and longer-term improvements, and consider phasing of improvements.
 - Document supporting improvements and future steps.
 - Identify where inter-jurisdictional agreements are needed for right-of-way use and maintenance.
- Goal: Explore current and planned transit linkages:
 - Address relationship to Hudson-Bergen Light Rail, including the Route 440 extension.
 - Address relationships to existing bus routes.
 - Address relationships to jitney services.

- Address relationship to PATH services.
- Goal: Address the full range of BRT infrastructure needs.
- Goal: Have a robust, two-way public process.
- Goal: Coordinate with other ongoing studies and be consistent with and/or supportive of existing local land use and transportation plans.

The study effort was divided into several tasks:

- Public outreach
- Data collection and analysis
- Needs and opportunities assessment
- Model development and screening of concepts
- Recommendations

Public outreach for the study was an ongoing effort including a project website, a Facebook page, regular communication with stakeholders, and updates for elected officials, punctuated by four public meetings. The first two public meetings took place at the outset of the study in June 2012 in Jersey City and Bayonne (one meeting in each municipality), and provided participants with an opportunity to learn about the study, provide feedback on potential BRT features, and express a future vision for their communities. In addition, a Technical Advisory Committee (TAC) convened to provide ongoing guidance to the study.

The study focused on analyzing and evaluating the potential for BRT on multiple north-south corridors connecting Bayonne, the Greenville section of Jersey City, and the Journal Square Transportation Center in Jersey City.

Primary Corridors Considered

Bayonne Corridors	Jersey City Corridors
Avenue C	Route 440
Kennedy Boulevard	West Side Avenue
	Kennedy Boulevard
	Bergen Avenue
	MLK Jr. Drive
	Ocean Avenue

Each of these corridors has unique characteristics in terms of existing transit service, traffic operations, land use, and surrounding context. The study team collected existing conditions data on each of the corridors, and carefully considered the potential for BRT on each one.

Characteristics considered included the width and configuration of the roadway, the presence of sidewalks, the quality of the existing transit service on the corridor, traffic volumes and traffic operations, and the surrounding land use, including accessibility employment centers and educational institutions. In addition to looking at these corridors individually, the consultant team also considered hybrid alignments that combined corridors in different locations, as well as the additional street segments required to connect these primary corridors to Journal Square at the northern end. For example, MLK Jr. Drive does not continue all the way to Journal Square, but, rather, requires use of Monticello Avenue and Fairmount Avenue to reach Bergen Avenue, which then continues to Journal Square.

Fairly early in the technical analysis and discussion with stakeholders, it became clear that the highest ranking corridor within Bayonne is Kennedy Boulevard, based on a number of key factors:

- Greater distance from the existing Hudson-Bergen Light Rail rapid transit service;
- Direct connection to the Jersey City street grid;
- Direct connection to two Jersey City institutions: New Jersey City University and St. Peter's University;
- Width and configuration of the roadway and the potential for improvement and adding BRT elements;
- Existing bus connections to Journal Square, as well as other Jersey City destinations; and
- Input from the first public meeting in Bayonne and from the City of Bayonne.

In Jersey City, the decision involved much greater discussion and consultation, including detailed review and analysis of the existing conditions data, collection of boarding and alighting (ridecheck) data, and analysis of origin-destination data provided by NJTPA. Based on this analysis, the consultant team developed a comparative ranking of the different corridors under consideration in Jersey City.

Jersey City Corridor Ratings by Characteristics (1=worst, 5=best)*

Primary Corridor	Characteristics					Potential for Improving or Adding			
	Dist. to Journal Sq.	Traffic Flow	Transit Demand	Ped. Cond.	Major Destin.	Bus Bulb	Queue Jump	Signal Priority	Transit Links
Route 440	2	4	3	1	2	1	3	2	2
West Side Ave	3	2	5	5	3	1	1	3	5
Kennedy Blvd	4	3	4	4	4	4	3	4	3
Bergen Ave	5	2	3	5	5	1	1	3	3
MLK Jr. Dr	4	1	5	5	4	1	1	3	5
Ocean Ave	3	2	4	5	4	1	1	3	3

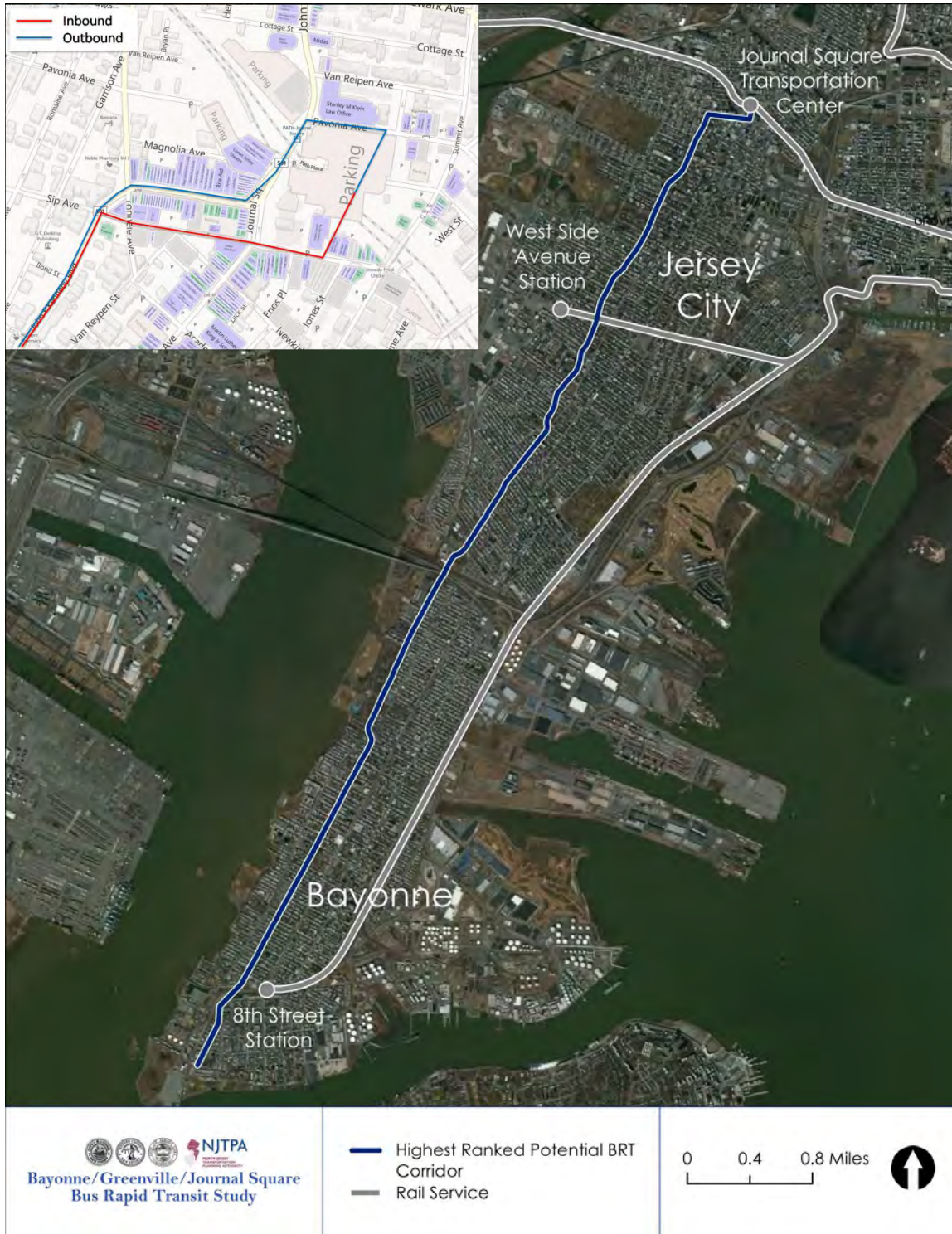
Notes: Distance from 56th St. to Journal Square Estim. current bus speed. Existing bus riders (may not all be in corridor). Sidewalks, crosswalks, & vehicle speed. Number of large institutions. Need width to pass stopped bus at extended curb. Use existing turn lane or create new from parking lane. Works best w/ signals not saturated and queue jumpers. Opport. to connect to other transit services.

** At this level of analysis, the ratings do not consider the impact of a BRT service on existing local bus service, and potential ridership from redevelopment.*

Based on this ranking, the list of corridors was narrowed down to the three corridors with the highest overall scores: Kennedy Boulevard, Bergen Avenue, and MLK Jr. Drive. To provide public and stakeholder input into selecting the single highest-ranked corridor, the third public meeting was held in March 2013 in Jersey City to review study progress to date and gather input on community preferences regarding the location of BRT service. The meeting included both an open house portion and a formal presentation, and a significant amount of input was provided by the public, including their views, which were supportive of the three corridors still under consideration at that point.

Based on the results of the public meeting, as well as additional consultation with the study TAC members and review of the technical analysis, several corridors within Jersey City remained viable alternatives; however, the highest-ranked corridor among these was determined to be Kennedy Boulevard in both Bayonne and Jersey City.

Kennedy Boulevard Corridor



The study then analyzed the Kennedy Boulevard corridor and the existing bus service in greater detail, including looking in more detail at the ridecheck data, conducting time-delay studies that detail the sources of delay along the route, and conducting traffic analysis. Based on the results of this analysis, the study identified a number of options for streamlining existing bus routes along JFK Boulevard to make them more BRT like, and for providing wholly new BRT service to supplement existing local service. All options require further study and feedback from the riding public prior to implementation.

Figure 11: Jersey City Bus Routes



NJ TRANSIT Route 80 (Greenville, Journal Square, and Exchange Place)

Bus route 80 operates between Bayonne and Exchange Place via West Side Avenue and Journal Square. The route currently operates every three to five minutes during the peak period, peak direction, every 10 to 20 minutes in the midday, every 25 to 30 minutes on Saturdays, and every 45 minutes on Sundays. The scheduled peak-period one-way running time is 47 minutes. The fare is \$1.50 (the entire route is within one zone). September 2012 weekday ridership was 7,241. <http://njtransit.com/pdf/bus/T0080.pdf>

NJ TRANSIT Route 81 (Greenville – Exchange Place)

Bus route 81 operates between W. 1st Street and Avenue C in Bayonne and Exchange Place in Jersey City. In Bayonne it runs primarily on Avenue C and in the Greenville section of Jersey City it operates primarily on Ocean Avenue (and Old Bergen Rd in the portion of Ocean Avenue that is eastbound only). In Bayonne, it shares its alignment with bus route 120. The base headway is 30 minutes, Monday to Saturday. Additional peak-period service is provided by bus route 81X, which makes all stops in Bayonne and then enters the NJ Turnpike via E. 53rd Street and operates express to Christopher Columbus Drive in Jersey City, where it rejoins the local route. Sunday service operates every 90 minutes. Bus route 81 had 3,723 riders on a typical weekday in September 2012. The scheduled running time of the regular route is 41-45 minutes. <http://www.njtransit.com/pdf/bus/T0081.pdf>

NJ TRANSIT Route 87 (Jersey City – Hoboken)

Route 87 operates between the NJ TRANSIT Greenville Bus Garage and Journal Square via Old Bergen Road, Rose Street, Long Street, and MLK Jr. Drive. Early morning and supplemental peak-period trips terminate there; all others continue to Hoboken Terminal. The scheduled running time from the Bus Garage to Journal Square is 21-23 minutes in the off-peak and 25-27 minutes in the peak. The headway is two to six minutes in the peak, 12-15 minutes midday, 20 minutes Saturday, 35 minutes Sunday, and 30 to 60 minutes in the late evening. Bus route 6 had 12,435 riders on a typical weekday in September 2012. The route has two zones according to the schedule, but the zone boundary is not shown on map, and only one percent of the reported riders traveled outside of Zone 1 according to NJ TRANSIT statistics. <http://njtransit.com/pdf/bus/T0087.pdf>

NJ TRANSIT Route 119 (Bayonne, Jersey City, Hoboken, PABT)

Route 119 overlaps Route 10 exactly in Bayonne and Jersey City, but continues past Journal Square via Central Avenue, Hoboken, and the Lincoln Tunnel to the Port Authority Bus Terminal. Service is provided every 20-30 minutes in the peak period, peak direction and every 30 minutes in the reverse-peak direction. Off-peak service to New York consists of trips at 9:00 and 10:00 AM and at 3:00, 7:30 and 8:30 PM Off-peak service from New York consists of a trip

A & C Bus Company Bergen Avenue Line (Greenville-Journal Square)

The Bergen Avenue Line operates between 53rd Street in Bayonne and Journal Square via Bergen Avenue. Until March 12, 2011 the route was operated by the Bergen Avenue Bus Owners' Association and since March 16, 2011 has been operated by the A & C Bus Company. Headways are 10-20 minutes during the day and 30 minutes in the late evening, Monday to Sunday. The adult cash fare is \$1.50. NJ TRANSIT bus passes are accepted. Daily ridership on a September 2012 weekday was 4,906. <http://acbuscorp.com/bsced.html>.

Broadway Bus Line (Bayonne)

This route operates between 1st Street and Avenue C and 54th St and Kennedy Boulevard, via Broadway (except for the few blocks near the eastern end of the route). This is the only route operated by the Broadway Bus Owners' Association. Service is generally provided every 12-20 minutes, Monday to Saturday, and every 30-55 minutes on Sundays. The cash adult fare is \$1.65. NJ TRANSIT monthly bus and light rail passes are accepted. No ridership data is available. <http://www.bayonnenj.org/pdf/bus.pdf>

Table 3: Study Area Bus Route Ridership

Route	Operator	Total Daily Ridership		
		Weekday	Saturday	Sunday
1-Jersey City portion	NJ TRANSIT	2,258	1,455	1,089
6	NJ TRANSIT	1,797	583	493
10	NJ TRANSIT /Academy	6,561	3,848	3,249
80	NJ TRANSIT	7,241	2,161	1,405
81	NJ TRANSIT	3,273	1,343	429
87	NJ TRANSIT	12,435	5,342	3,301
88	NJ TRANSIT /Academy	4,574	1,673	1,146
119	NJ TRANSIT /Contractor	1,450	0	0
120	NJ TRANSIT	359	0	0
4	A&C Bus	2,817	1,559	1,244
Bergen	A&C Bus	4,906	2,361	1,088
Society Hill	A&C Bus	4,674	3,651	1,698
M&W-Newport / Exch. Pl.	A&C Bus	2,726	1,184	947
440 Shopper	A&C Bus	1,182	1,566	1,138
Broadway	BBOC	n/a	n/a	n/a
Total		56,252	26,725	17,227

Table 4: Study Area Bus Route Headways

Route	Operator	Weekday		Sat	Sun	Notes
		Peak	Off-Peak			
1	NJ TRANSIT	30	60	60	120	Headways are for Journal Square branch only.
6	NJ TRANSIT	20-30	35-60	60	60	Headways are for Merritt branch only.
10	NJ TRANSIT	7-10	20	20	20	
80	NJ TRANSIT	15	20	25	45	
81	NJ TRANSIT	30	30	30-40	90	
81X	NJ TRANSIT	10-20	-	-	-	
87	NJ TRANSIT	2-6	12-15	20	35	
88	NJ TRANSIT	20				
119	NJ TRANSIT	20	30	-	-	Limited reverse peak and off-peak service.
120	NJ TRANSIT	25-30	-	-	-	No reverse peak service.
4	A&C	15-20	15-20	15-20	35	
Bergen	A&C	10-20	10-20	10-20	10-20	Late evenings 30-minute headway.
Society Hill	A&C	8	13	17	20	
M&W-Newport/ Exch. Pl.	A&C	15	30	25-30	35	
440 Shopper	A&C	20	30	30	30	
Broadway	BBOC	12-20	12-20	12-20	30-55	
Kennedy Blvd South	Jitneys	20	20	-	-	

Bus Travel Time within Study Area

The following six corridors were under consideration for the Jersey City portion of the proposed BRT route (current NJ TRANSIT routes shown in parentheses):

1. Route 440 (none)
2. West Side Avenue (Route 80)
3. Kennedy Boulevard (Routes 10 and 119)
4. Bergen Avenue (none)
5. MLK Jr. Drive (Route 87)
6. Ocean Avenue (Route 6)

Appendix J - Road Owner Response: Jersey City



STEVEN M. FULOP
MAYOR OF JERSEY CITY

CITY OF JERSEY CITY
DEPARTMENT OF ADMINISTRATION
DIVISION OF ENGINEERING, TRAFFIC & TRANSPORTATION

Municipal Services Complex
13-15 Linden Avenue East | Jersey City, NJ 07305
Engineering Desk: 201-547-4411 | Traffic Desk: 201-547-4470



BRIAN D. PLATT
BUSINESS ADMINISTRATOR

DATE: April 20, 2018
TO: Bergen Avenue Road Safety Audit Team
FROM: Andrew Vischio, PE – Director of Traffic & Transportation
SUBJECT: Road Owner Response to Road Safety Audit Recommendations
Bergen Avenue, between Montgomery Street and Summit Avenue
Sip Avenue, at Van Wagenen Avenue, Romaine Avenue, and Garrison Avenue
City of Jersey City, Hudson County, New Jersey

The City of Jersey City thanks the Road Safety Audit team for their participation in this important effort to improve traffic safety along Bergen Avenue and Sip Avenue and make these critical arterials more accommodating to all roadway users. We have reviewed the recommendations within the Draft Report dated February 2018 and while the City cannot commit to specific improvements at this time without further assessment, we generally agree with many of the findings and recommendations with few exceptions, which are detailed below. Please also note that the City is committed to investigating converting Bergen Avenue to a 3-lane section using a road diet to enhance roadway safety and improve pedestrian and cyclist accommodations and plans to initiate a study imminently.

Corridor-Wide Recommendations

12. Investigate parking layout and consider angled parking.
 - a. *There does not appear to be sufficient cartway width for angled parking along Bergen Avenue, even with a conversion of Bergen Avenue to a 3-lane section using a road diet. Additional details are requested.*

Site-Specific Recommendations

Bergen Avenue & Montgomery Street

31. Investigate a roundabout
 - a. *Per FHWA guidance, the inscribed diameter range for an urban single lane roundabout is 100-130 feet. As such, sufficient right-of-way is not available for a roundabout at this location.*

Bergen Avenue & Smith Street

67. Explore feasibility of installing HAWK via MUTCD warrant analysis
 - a. *As signalized crosswalks are available approximately 150 feet to the north and south of Smith Street and Smith Street is not a high generator of pedestrian volume, the City does not anticipate pursuing a HAWK signal or full traffic signal at this location.*

Bergen Avenue & Academy Street

69. Investigate a roundabout
 - a. *Per FHWA guidance, the inscribed diameter range for an urban single lane roundabout is 100-130 feet. As such, sufficient right-of-way is not available for a roundabout at this location.*

Sip Avenue & Jones Street

89. Explore feasibility of installing HAWK via MUTCD warrant analysis

- a. *As a signalized crosswalk is available approximately 75 feet east of Jones Street and Jones Street is not a high generator of pedestrian volume, the City does not anticipate pursuing a HAWK signal or full traffic signal at this location.*