

Dr. Martin Luther King Jr. Boulevard – City of Newark

Road Safety Audit

FINAL REPORT

August 2013

Submitted by

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In cooperation with

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and

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

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

RSAs include data-driven considerations and analysis of crashes. To determine the best safety solutions, RSA professionals perform incisive crash data evaluations on the target area using Plan4Safety, TSRC's award-winning crash database and software.

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

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Introduction

The Rutgers' Transportation Safety Resource Center (TSRC) at the Rutgers' Center for Advanced Infrastructure and Transportation (CAIT) and the North Jersey Transportation Planning Authority (NJTPA) have partnered to provide NJTPA's sub-regions with facilitated Road Safety Audits at locations identified by the sub-regions as having safety concerns. To assist the sub-regions in making this determination, NJTPA and TSRC have prepared a ranking of roadway segments based on crash data.

In 2012, the City of Newark was identified as a Pedestrian Focus City by the Federal Highway Administration. In consideration of this focus, NJPTA selected the City of Newark as a sub-region to obtain an RSA. NJTPA provided the City of Newark with the following suggested crash locations from a TSRC data run. [Note: blue are county routes, yellow are city routes]

County Rank	County	Road Name	Starting Municipality	SRI	Milepost Start	Milepost End	Segment Length	Total Crashes	EPDO	Property	Complaint of Pain	Moderate Injury	Incapacitating Injury	Fatal Injury	Roadway Departure	Young Driver	Older Driver	Motorcycle	Truck	Bus	Bike	Pedestrian
1	Essex	Bergen Street	Newark City	7141895	0.00	4.24	4.24	486	907	278	0	204	3	1	5	42	54	4	27	14	4	40
2	Essex	Broad Street	Newark City	7141865	0.00	2.88	2.88	438	754	282	0	154	0	2	1	29	37	5	35	50	2	34
3	Essex	Franklin Avenue	Newark City	7000645	0.00	4.06	4.06	477	723	356	0	119	0	2	3	83	97	4	36	5	4	28
4	Essex	Broadway	Newark City	7000667	0.00	2.55	2.55	287	545	160	0	124	2	1	1	15	31	4	11	8	5	31
5	Essex	18th Avenue	Newark City	7141885	0.00	3.30	3.30	296	497	196	0	99	1	0	3	25	29	2	13	10	1	17
6	Essex	Irvine Turner Boulevard	Newark City	7141900	0.16	3.47	3.31	262	436	175	0	87	0	0	NULL	21	33	1	18	7	NULL	13
7	Essex	Elizabeth Avenue	Newark City	7141891	0.35	2.51	2.16	218	421	117	0	100	1	0	3	21	24	2	25	5	1	12
8	Essex	Ferry Street	Newark City	7141844	0.00	2.12	2.12	235	361	174	0	58	2	1	NULL	18	14	4	26	9	NULL	18
9	Essex	Dr ML King Jr. Boulevard	Newark City	7141904	0.00	2.72	2.72	192	324	126	0	66	0	0	1	14	18	1	17	1	1	12
10	Essex	14 th Avenue	Newark City	7141235	0.00	1.77	1.77	149	296	76	0	72	1	0	3	17	15	NULL	1	2	2	7

NJTPA Crash Prone Locations 2008 – 2010. City of Newark

After taking into consideration pending projects and known pedestrian issues along the corridors, Rutgers' TSRC subsequently conducted a thorough crash analysis of the selected corridor and identified the city-owned intersections for the audit focus. Additionally, the city noted some intersections that were recently upgraded or precluded from upgrade due to inclusion in the Red Light Running Statewide Pilot Program. The ranked high-crash locations are noted below:

Cross Street	Total Crash	Ped Crash	Jurisdiction	Signal	Additional Note
Clinton Ave	29	0	City of Newark	Signalized	Recommend to Audit
Park Ave/Bloomfield Ave	29	2	County of Essex	Signalized	County Owned
W Kinney St	21	2	City of Newark	Signalized	Recommend to Audit
Market St	20	3	City of Newark	Signalized	Recommend to Audit
Springfield Ave	17	1	County of Essex	Signalized	County Owned
Central Ave/Sussex Ave	17	1	County of Essex	Signalized	County Owned
Court St	16	0	City of Newark	Signalized	RLR Camera
7 th Ave	15	3	City of Newark	Signalized	Recommend to Audit
Spruce St	13	2	City of Newark	Signalized	Recently Upgraded
Crane St	12	1	City of Newark	Unsignalized	Recommend to Audit

Crash Data 2009-2011

In addition to representing the high-total-crash locations, the selected intersections represent some of the highest number of pedestrian crashes at intersections within the corridor.

TSRC, the City of Newark, and NJTPA subsequently confirmed the location of the RSA to be of Dr. Martin Luther King Jr. Boulevard (07141904), at the specific hot-spot intersections of:

1. Clinton Avenue
2. W. Kinney Street
3. Market Street
4. 7th Avenue
5. Crane Street

Background

The audit focused on five intersections on Dr. Martin Luther King Jr. (MLK) Boulevard, as shown in Figure 1 below, located within Essex County, in the City of Newark:

- Clinton Avenue
- W. Kinney Street
- Market Street
- 7th Avenue
- Crane Street

All of the studied intersections are within a two-mile section. The first four of the intersections listed above are signalized, and Crane Street is stop controlled. Dr. Martin Luther King Jr. Boulevard is characterized as urban with a variety of land use: commercial, residential, community organizations, schools, churches, and municipal buildings. All of the intersections except for Crane Street have bus traffic; Clinton Avenue is the most active with seven bus routes. The roadway is designated as an urban collector and its jurisdiction is municipal.

Dr. Martin Luther King Jr. Boulevard runs north-south, beginning at Clinton Avenue in the south and ending at Bloomfield Avenue in the north. It crosses under US Route 280 approximately 0.42 miles west of the Passaic River and 0.31 miles west of McCarter Highway NJ 21.

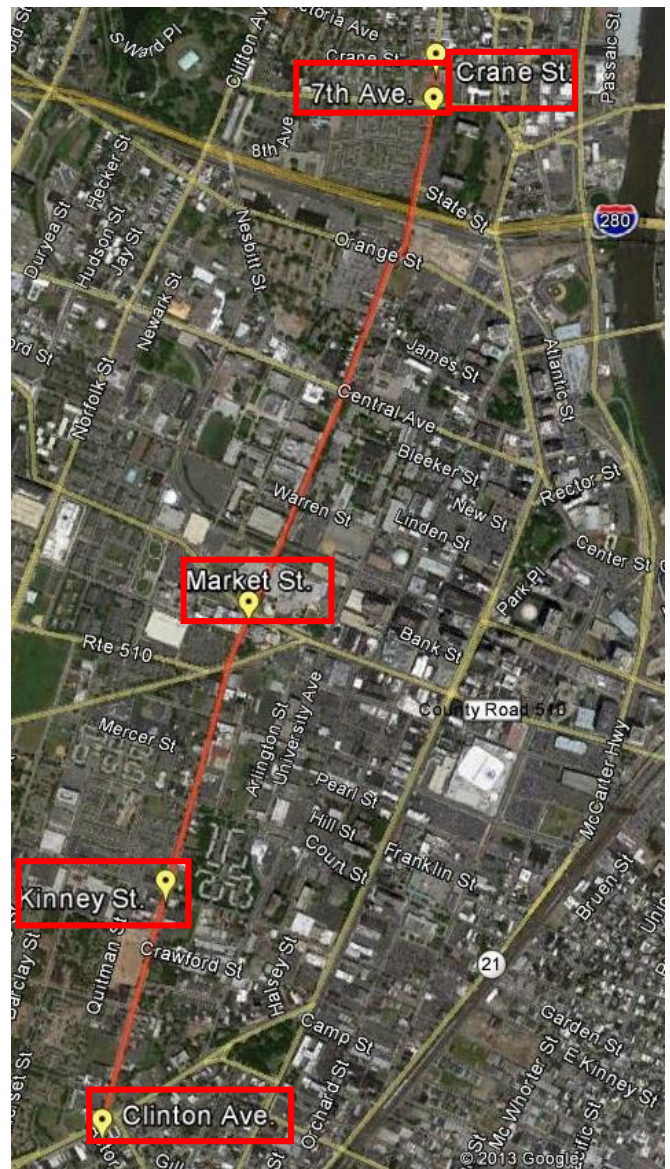


Figure 1 – Map of Intersections in RSA Study



Figure 2 – Clinton Ave. and Dr. Martin Luther King Jr. Blvd.

The intersection of **Clinton Avenue and Dr. Martin Luther King Jr. Boulevard** is a three-legged signalized intersection. Dr. Martin Luther King Jr. Boulevard starts at Clinton Avenue with a significant skew and grade. Dr. Martin Luther King Jr. Boulevard is a two-lane, two-way roadway with parking on both sides. Clinton Avenue has three lanes westbound and two lanes eastbound in the vicinity of the intersection. In addition, there are two roadways that meet Clinton Avenue on the south side: Murray Street is one-way towards the intersection to the east of Dr. Martin Luther King Jr. Boulevard, and Astor Street is one-way away from the intersection, to the west of Dr. Martin Luther King Jr. Boulevard.

The signal operates as a two-phase signal. Both Dr. Martin Luther King Jr. Boulevard and Murray Street are phased together. This causes confusion because, even though the two roadways are opposing, the offset and skew of Dr. Martin Luther King Jr. Boulevard obstructs the right-of-way between vehicles turning left onto Clinton Avenue and other movements. Additionally, Dr. Martin Luther King Jr. Boulevard is opposed to the outward one-way Astor Street, and traffic is directed in a perceived through movement from Dr. Martin Luther King Jr. Boulevard to Astor Street. However, the signal design recognized this as a right-turn/left-turn, and has an opposing pedestrian movement (across Clinton). This complex signal-phasing is not well perceived by roadway users—both pedestrians and drivers—and creates conflicts.

There are seven bus routes travelling on Clinton Avenue making this intersection very busy and with a lot of pedestrian activity.

The **W. Kinney Street and Dr. Martin Luther King Jr. Boulevard** intersection is a four-legged signalized intersection with one lane in each direction. Westbound W. Kinney Street is quite steep approaching the intersection.



Figure 3 – Kinney St. and Dr. Martin Luther King Jr. Blvd.



Figure 4 – Market St. and Dr. Martin Luther King Jr. Blvd.

The intersection of **Market Street and Dr. Martin Luther King Jr. Boulevard** is a very active intersection that includes county buildings and the Essex County Community College. There is a lot of pedestrian activity. Dr. Martin Luther King Jr. Boulevard has dedicated lanes for right, left, and through traffic in both directions and narrows down to one lane in each direction. Market Street is a four-lane roadway with no dedicated left turn lanes. There are two bus lines running down Market Street with frequent service.

The intersection of **7th Avenue and Dr. Martin Luther King Jr. Boulevard** is a four-legged signalized intersection. Dr. Martin Luther King Jr. Boulevard is one way north of 7th Avenue, and both of the roads have parking on both sides of the street and two lanes of traffic.

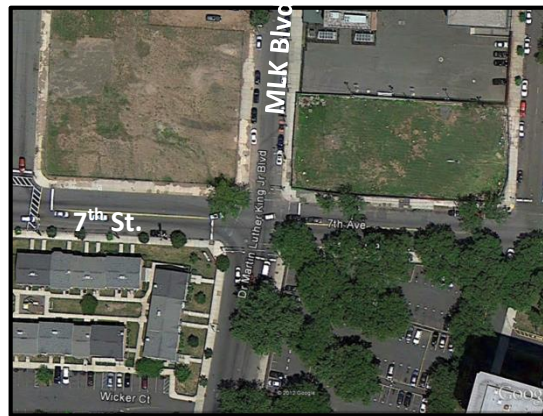


Figure 5 – 7th Ave. and Dr. Martin Luther King Jr. Blvd.



Figure 6 – Crane St. and Dr. Martin Luther King Jr. Blvd.

The intersection of **Crane Street and Dr. Martin Luther King Jr. Boulevard** is a four-legged intersection with STOP-sign control along Crane Street. Dr. Martin Luther King Jr. Boulevard is one way northbound through the intersection. The control is supplemented with flashing yellow beacons at the Dr. Martin Luther King Jr. Boulevard crosswalks and with red flashing beacons at the Crane Street crosswalks. Dr. Martin Luther King Jr. Boulevard at Crane Street is a wide roadway with one lane of traffic in each direction and parking on both sides of the street.

Road Safety Audit Process

The Dr. Martin Luther King Jr. Boulevard RSA followed a process that began with data collection, a crucial task that served as the backbone for recommendations for improvement. At the selected sites, crash data was collected using Plan4Safety, a crash data analysis tool, and consisted of crash types, locations, crash years, road conditions, and contributing circumstances. Using the crash data, a crash diagram, shown in Appendix B, was produced for each intersection that shows crash types and locations.



Figure 7 – RSA team conducting site visit

The Road Safety Audit occurred on Monday, October 1, 2012. The day began with a pre-audit meeting that involved the definition of a road safety audit and an overview of the intersections. A presentation was shown detailing the crash analysis and aerial images of the different sites. Following the presentation, site visits were conducted where all participants were given a chance to inspect the sites and utilize their various backgrounds to brainstorm recommended improvements. After the site visits, the team was brought back together to discuss the issues observed and suggest recommendations for remediation.

Information Sources

Several sources of information were used in the RSA process. For example, crash data from 2009–2011 was examined for trends and patterns. Specific resources used in the analysis include:

- NJDOT Crash Database (2009–2011)
- Plan4Safety Crash Data Analysis Tool
- NJTR-1 Crash Reports
- NJDOT Straight Line Diagrams
- Google Earth

RSA Team

The RSA team consisted of 19 members, including police officers, engineers, and planners from different agencies across the state.

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Crash Data

As of the date of this report, the crash data reported by the NJDOT shows a total of 97 crashes occurring during the three-year period from 2009 to 2011. The following tables show detailed statistics of the crash data analyzed.

The intersections within the City of Newark that were selected for further analyses based on crash data are as follows:

- Clinton Avenue and Dr. Martin Luther King Jr. Boulevard
- W. Kinney Street and Dr. Martin Luther King Jr. Boulevard
- Market Street and Dr. Martin Luther King Jr. Boulevard
- 7th Avenue and Dr. Martin Luther King Jr. Boulevard
- Crane Street and Dr. Martin Luther King Jr. Boulevard

Clinton Avenue and Dr. Martin Luther King Jr. Boulevard:

As can be seen from the tables below, the above intersection has a significant number of same direction–rear end and side swipe crashes with right-angle and left-turn crashes also common. The injuries were predominantly from same direction–rear end and left turn/U-turn crashes. The one fatal crash was a left-turn crash at Astor Street. The prevailing contributing circumstances were driver inattention and unsafe speed. There were also a number of crashes that occurred during wet conditions.

CLINTON & MLK		CRASH TYPE							TOTAL
		Same Direction–Rear End	Same Direction–Side Swipe	Right Angle	Opposite Direction–Head-On / Angular	Opposite Direction–Side Swipe	Struck Parked Vehicle	Left-Turn / U-Turn	
SEVERITY	Property Damage	5	6	5	1		1	1	19
	Injury	4	1			1		3	9
	Fatal							1	1
	TOTAL	9	7	5	1	1	1	5	29

CLINTON & MLK		PRE CRASH VEHICLE ACTION												
		Unknown	Going Straight Ahead	Making Right Turn (not turn on red)	Making Left Turn	Starting from Parking	Starting in Traffic	Slowing or Stopping	Stopped in Traffic	Parked	Changing Lanes	Backing	NULL	TOTAL
		CONTRIBUTING CIRCUMSTANCES	Unknown	1										
	Unsafe Speed		5											5
	Driver Inattention		7		6		1			1	1			16
	None (Driver/Pedcycle)		11	2	3	1	2	1	9					29
	Other Driver/Pedalcyclist Action		2											2
	Sun glare		1											1
	NULL		3		1					1		2		7
TOTAL		1	29	2	10	1	2	2	9	1	1	1	2	

CLINTON & MLK		CRASH TYPE							
		Same Direction–Rear End	Same Direction–Side Swipe	Right Angle	Opposite Direction–Head On / Angular	Opposite Direction–Side Swipe	Struck Parked Vehicle	Left -urn / U-Turn	TOTAL
SURFACE CONDITION	Dry	6	5	4		1	1	3	20
	Wet	2	2	1	1			2	8
	Snowy	1							1
	TOTAL	9	7	5	1	1	1	5	29

W. Kinney Street and Dr. Martin Luther King Jr. Boulevard:

As can be seen from the tables below, the intersection with Kinney Street has a significant amount of same direction–side swipe crashes and right angle crashes. Of the pedestrian crashes, both were crossing Dr. Martin Luther King Jr. Boulevard but one was on a red light. More than a third of the crashes occurred with wet conditions, and almost a half occurred in dark conditions.

W. KINNEY & MLK		CRASH TYPE						
		Same Direction–Rear End	Same Direction–Side Swipe	Right Angle	Left-Turn / U-Turn	Backing	Pedestrian	TOTAL
SEVERITY	Property Damage	3	5	6	2	1		17
	Injury			1	1		2	4
	TOTAL	3	5	7	3	1	2	21

W. KINNEY & MLK		CRASH TYPE						TOTAL
		Same Direction - Rear End	Same Direction - Side Swipe	Right Angle	Left Turn / U Turn	Backing	Pedestrian	
SURFACE CONDITIONS	Dry	2	3	6	2	1	1	15
	Wet	1	2	1	1		1	6
	TOTAL	3	5	7	3	1	2	21

W. KINNEY & MLK		CRASH TYPE						TOTAL
		Same Direction- Rear End	Same Direction- Side Swipe	Right Angle	Left-Turn / U-Turn	Backing	Pedestrian	
LIGHT CONDITION	Daylight	2	4	3	1		1	11
	Dusk	1						1
	Dark (Street Lights Off)				1			1
	Dark (No Street Lights)			2				2
	Dark (Street Lights On / Continuous)		1	2		1	1	5
	Dark (Street Lights On / Spot)				1			1
TOTAL		3	5	7	3	1	2	21

Market Street and Dr. Martin Luther King Jr. Boulevard:

As can be seen from the tables below, the intersection with Market Street has a wide variation in crash types. More than a third of the crashes occurred outside of daylight conditions, and almost half the crashes occurred while going straight ahead. Driver inattention was the predominant contributing circumstance noted.

<u>MARKET & MLK</u>		CRASH TYPE							TOTAL
		Same Direction–Rear End	Same Direction–Side Swipe	Right Angle	Opposite Direction–Head-On / Angular	Struck Parked Vehicle	Left-Turn / U-Turn	Pedestrian	
SEVERITY	Property Damage	3	3	2	1	3	1	1	14
	Injury	1	1	2				2	6
	TOTAL	4	4	4	1	3	1	3	20

<u>MARKET & MLK</u>		LIGHT CONDITION				TOTAL
		Daylight	Dawn	Dark (Street Lights Off)	Dark (Street Lights On / continuous)	
SURFACE CONDITION	Dry	9	1	1	4	15
	Wet	2			1	3
	Snowy	1				1
	NULL	1				1
TOTAL		13	1	1	5	20

MARKET & MLK		PRE CRASH VEHICLE ACTION										
		Going Straight Ahead	Making Right Turn (not turn on red)	Making Left Turn	Starting from Parking	Starting in Traffic	Slowing or Stopping	Stopped in Traffic	Parked	Merging or Entering Lane	Passing	TOTAL
CONTRIBUTING CIRCUMSTANCES	Unknown		1									1
	Driver Inattention	5	1		1	1				1	1	10
	Failed to Yield Right of Way to Vehicle/Pedestrian								1			1
	Following Too Closely	1					1					2
	Improper Parking								1			1
	None (Driver/Pedcycle)	9	2	3	1			2	2			19
	Other Driver/Pedalcyclist Action	1		1								2
	NULL	1		1								2
TOTAL		17	4	5	2	1	1	2	4	1	1	

7th Avenue and Dr. Martin Luther King Jr. Boulevard:

As can be seen from the tables below, the intersection with 7th Avenue has a wide variation in crash types and contributing circumstances. Most of the crashes occurred in dry conditions and more than a third took place during dusk or dark conditions.

<u>7TH & MLK</u>		CRASH TYPE									
		Same Direction –Rear End	Same Direction –Side Swipe	Right Angle	Opposite Direction –Side Swipe	Struck Parked Vehicle	Left-Turn / U-Turn	Fixed Object	Pedes- trian	Pedal- cyclist	TOTAL
SEVERITY	Property Damage	2		3	1	1	1				8
	Injury		1	1				1	3	1	7
	TOTAL	2	1	4	1	1	1	1	3	1	15

<u>7TH & MLK</u>		LIGHT CONDITION			
		Daylight	Dusk	Dark (Street Lights On / continuous)	TOTAL
SURFACE CONDITION	Dry	9	1	2	12
	Wet			2	2
	Icy			1	1
TOTAL		9	1	5	15

7TH & MLK		PRE CRASH VEHICLE ACTION										
		Going Straight Ahead	Making Right Turn (not turn on red)	Making Left Turn	Stopped in Traffic	Parked	Changing Lanes	Merging or Entering Lane	Negotiating Curve	Right Turn on Red	NULL	TOTAL
CONTRIBUTING CIRCUMSTANCES	Unknown							1	1			2
	Unsafe Speed			1								1
	Driver Inattention	1	1	1	1							4
	Failed to Yield Right of Way to Vehicle/Pedestrian			1								1
	None (Driver/Pedcycle)	6	2	1		1	1	1		1		13
	Other Driver/Pedalcyclist Action	1										1
	NULL										2	2
	Other			1								1
TOTAL		8	3	5	1	1	1	2	1	1	2	

Crane Street and Dr. Martin Luther King Jr. Boulevard:

As can be seen from the tables below, the predominant crash types at the intersection with Crane Street are Right Angle and Same Direction-Side Swipe crashes. The contributing circumstances that could be identified were: driver inattention, failure to obey traffic control device, and improper passing. A fourth of the crashes resulted in injuries.

CRANE & MLK		CRASH TYPE				
		Same Direction–Rear End	Same Direction–Side Swipe	Right Angle	Pedestrian	TOTAL
SEVERITY	Property Damage	1	4	4		9
	Injury	1		1	1	3
	TOTAL	2	4	5	1	12

CONTRIBUTING CIRCUMSTANCES					
Unsafe Speed	Driver Inattention	Failed to Obey Traffic Control Device (Driver/Pedcycle)	Improper Passing	None (Driver/Pedcycle)	Other Driver/Pedalcyclist Action
1	1	2	2	16	2

RSA Team Findings

Clinton Avenue & Dr. Martin Luther King Jr. Boulevard

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 codes, standards, and best practices.

Issue: Traffic Operations (from Murray St.)	Safety Risk
Description: The signal timing is confusing between Murray St. and Dr. Martin Luther King Jr. Blvd.	Medium-High
Description: Drivers turning left onto Clinton Ave. from Murray St. can get caught in the intersection.	Medium-High
Description: Lack of lane configuration from Murray St. approaching intersection is confusing.	Medium-High
Description: Crash history indicates a significant number of left turn crashes from Murray St.	Medium-High


Conflicting movements currently on the same signal phase.
 Proposed split phasing to allow for Dr. MLK Blvd. (orange) and Murray St. (blue) to operate separately.


RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider adding split phasing between Murray St. and Dr. Martin Luther King Jr. Blvd. to separate traffic. (1)	Medium	Medium
Defining two lanes on the Murray St. approach to Clinton Ave. would provide better direction. (2)	Medium	Medium


Issue: Traffic Operations (from Clinton Ave.)	Safety Risk	
Description: Crash history indicates a significant number of left turn crashes from Clinton Ave. eastbound to Dr. Martin Luther King Jr. Blvd.	Medium-High	
Clinton Avenue left turn movements, which currently are conflicting		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider the installation of head-to-head left turn lanes on Clinton Ave. (3)	Medium	Medium-High
Consider installing a protected phase for left turn movement from Clinton Ave. eastbound. (4)	Medium	High

Issue: Pedestrians Across Clinton Ave. (Clinton Ave.)	Safety Risk	
Description: It appears that pedestrians don't feel comfortable crossing Clinton Ave. because of the roadway geometry and the wide crossing.	Medium-High	
Description: The electrical box on the northwest corner blocks visibility of pedestrians crossing on Clinton Ave. from southbound drivers on Dr. Martin Luther King Jr. Blvd.	Medium	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Installing lead pedestrian interval timing for crossing Clinton Ave. from the northwest corner of the intersection could better facilitate pedestrian crossing. (5)	Low	High
Consider adding an exclusive pedestrian phase. (6)	Low	High
Evaluate the benefits of adding an audible component to the pedestrian crossing instruction. (7)	Medium	Medium-Low
Evaluate revising the signal timing to allow for the maximum walk time within the existing signal timing. (8)	Low	Medium-High

RSA Team's Recommendation (Continued)	Cost	Potential Safety Benefit
Consider adding signage "TURNING VEHICLES MUST STOP FOR PEDESTRIANS". (9)	Low	Medium
Adding blank out signs for "NO TURN ON RED" on the MLK Blvd. approach could improve the safety of pedestrians crossing MLK Blvd. (10)	Medium	Low
Consider the addition of a crosswalk on Clinton Ave., east of MLK Blvd., and west of Murray St. (11)	Low	Medium
Relocating the signal control box at the northwest corner of the intersection would give unobstructed views of pedestrians. (12)	High	Medium

Issue: Pedestrians across Murray St. and Astor St. (Clinton Ave.)	Safety Risk	
Description: The walk signal across Murray St. and Astor St. are insufficient for pedestrians.	Medium	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Revising the walk signal to include the maximum walk time available within the existing signal timing would facilitate safer crossing. (13)	Low	Medium


Issue: Traffic Signals (Clinton Ave.)	Safety Risk	
Description: Some of the louvers are misaligned.	Medium-Low	
Description: There is no signal head to provide stop bar definition on southbound Dr. Martin Luther King Jr. Blvd.	Medium	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Realigning or replacing louvers on all signal heads would allow for visibility in the appropriate directions. (14)	Low	High
Consider adding a supplemental near traffic signal at MLK Blvd. southbound. (15)	Medium	Medium
Increased visibility of signal heads would be enhanced by installing retro-reflective back plates. (16)	Low	Medium-High

Issue: Geometry (Clinton Ave.)	Safety Risk	
<p>Description: Alignment of the intersection is complex and is not intuitive to drivers and pedestrians.</p>	<p>Medium-High</p>	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
<p>Professional engineering staff should analyze the intersection and suggest geometric improvements that would better align the intersection roadways. (17)</p>	<p>High</p>	<p>High</p>

RSA Team Findings


W. Kinney Street & Dr. Martin Luther King Jr. Boulevard

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 codes, standards, and best practices.

Issue: Traffic Signals (W. Kinney St.)		Safety Risk	
Description: There are no pedestrian heads.		High	
			
RSA Team's Recommendation		Cost	Potential Safety Benefit
A full signal upgrade, including installation of countdown pedestrian heads and near right/far left traffic signals, would be beneficial. (18)		High	High

Issue: Sidewalks (W. Kinney St.)		Safety Risk	
Description: The sidewalks are in poor condition.		Medium-Low	
RSA Team's Recommendation		Cost	Potential Safety Benefit
Consider the replacement of deteriorated sidewalks. (19)		Medium	Medium

Issue: Signs (W. Kinney St.)		Safety Risk	
Description: The pedestrian crossing sign is obstructed by a tree in the southwest corner.		Medium	
Description: The reflective stripe is damaged on school crossing sign in northwest quadrant.		Medium	
			
RSA Team's Recommendation		Cost	Potential Safety Benefit
Regular maintenance will keep vegetation under control and will preserve optimal sight distance and sign visibility. (21)		Low	Medium
Schedule the replacement of the school crossing sign. (22)		Low	Medium-High


Issue: Traffic Operations (W. Kinney St.)	Safety Risk	
Description: The roadway is wide and minimally marked.	Medium	
Description: Vehicle speed is excessive through the intersection.	Medium-High	
Description: Bicycle travel is difficult.	Medium	
Description: Crash history indicates a significant number of right angle crashes.	Medium-High	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider additional roadway striping to narrow the travel lane and delineate the shoulder; if possible, install buffered bike lane adjacent to curb. (23)	Low	Medium-High
Consider the review of crash history and submission of an application for future inclusion of the intersection in Project Red Light as the program permits. (24)	Low	Medium-High
Increased visibility of the signal heads would be enhanced by installing retro-reflective back plates. (16)	Low	Medium-High

Issue: Sight Distance (W. Kinney St.)	Safety Risk	
Description: There is difficulty seeing the upcoming intersection while driving up the hill on W. Kinney St. westbound.	Medium	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider the installation of a "SIGNAL AHEAD" sign. (25)	Low	Medium
Consider the installation of a flashing "RED SIGNAL AHEAD" sign. (26)	High	Medium

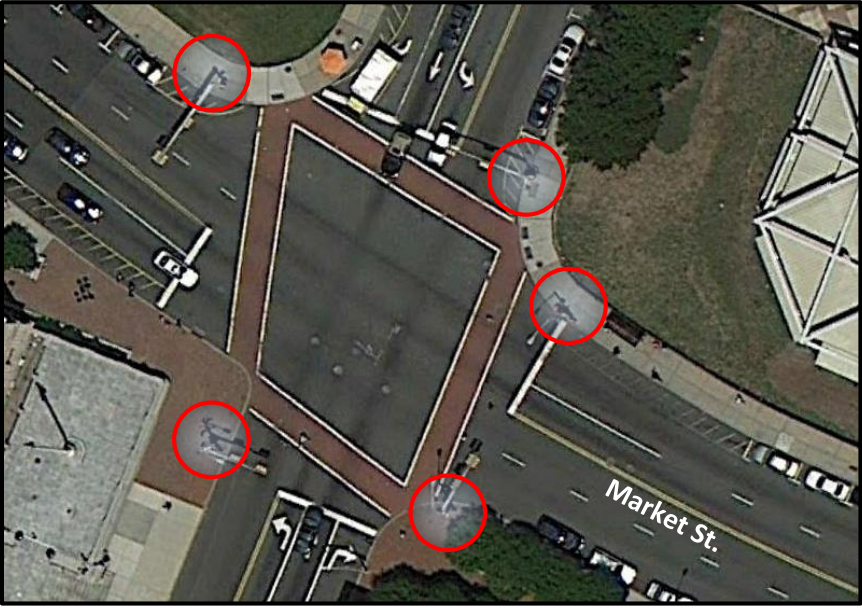
RSA Team Findings


Market Street & Dr. Martin Luther King Jr. Boulevard

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 codes, standards, and best practices.

Issue: Traffic Operations (Market St.)	Safety Risk	
Description: There is a high volume of vehicle, bus, and pedestrian activity with significant right-angle, side-swipe, and left turn crashes.	Medium-High	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Evaluate adding a lead left along Market St. in addition to head-to-head left turns on Market St. (27)	Medium	High
Consider installing split phasing on Market St. (28)	Medium	High
Consider installing head-to-head left turn lanes on Dr. Martin Luther King Jr. Blvd. (29)	Medium	Medium-High
Installation of dotted lane line extension pavement markings delineating the left turn movement would increase awareness. (30)	Low	Medium-High

RSA Team's Recommendation (Continued)	Cost	Potential Safety Benefit
Evaluate the benefit of installing "NO TURN ON RED" at all corners. (31)	Low	Medium-High
Increased visibility of signal heads would be enhanced by installing retro-reflective back plates. (16)	Low	Medium-High

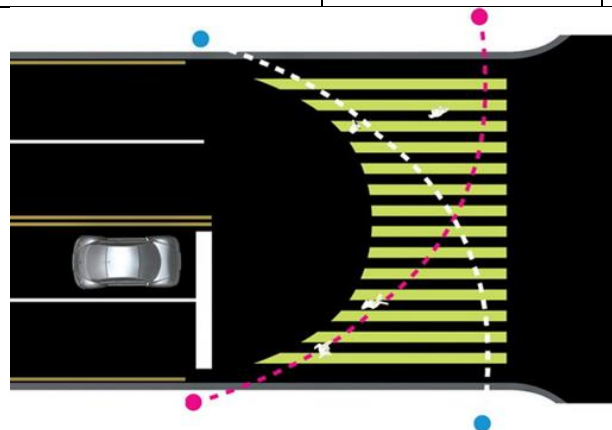
Issue: Pedestrian Signals (Market St.)	Safety Risk	
Description: Pedestrian heads are not conveniently located adjacent to intersection crossings.	Medium-Low	
Description: There is a high volume of pedestrian activity with driver conflict.	Medium-High	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Evaluate revising the locations of pedestrian heads so that they are conveniently located for pedestrian use. (32)	Medium	Medium
Consider adding an exclusive pedestrian phase. (6)	Low	Medium-High
Evaluate the benefit of installing "NO TURN ON RED" at all corners. (31)	Low	Medium-High

Issue: Pedestrians – Mid-Block Crossings (Market St.)	Safety Risk	
Description: There are frequent mid-block pedestrian crossings in the vicinity of Essex County Community College.	High	
		
RSA Team’s Recommendation	Cost	Potential Safety Benefit
Consider extending the painted median at Essex County Community College for pedestrians. (33)	Low	Medium-High
Investigate the installation of a raised island median as a refuge for pedestrians. (34)	High	Medium-High
Adding fencing in the median to force pedestrians to cross at marked cross walks would improve pedestrian safety. (35)	Medium-High	High


Issue: Pedestrians – Crosswalks (Market St.)	Safety Risk
Description: There are no detectable warning surfaces in the southeast and southwest corners (within brick sidewalk) of the intersection.	Medium
Description: Pedestrian crossing demand line extends beyond the marked crosswalk.	Medium-Low



RSA Team’s Recommendation	Cost	Potential Safety Benefit
Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs at sidewalks, including adding detectable warning surfaces, especially in the southeast and southwest corners (in the brick). (36)	High	Medium
Consider widening the crosswalk. (37)	Low	Medium-Low
Investigate the installation of ergonomic crosswalks. (38)	Low	Medium-Low




Issue: Bicycles (Market St.)	Safety Risk	
Description: Bicycle travel appears to be unsafe.	Medium-High	
RSA Team's Recommendation	Cost	Potential Safety Benefit
Investigate the addition of bicycle lanes from Market St. to Central Ave.; the roadway is very wide and the delineation would improve safety. (40)	Medium	Medium-High

Issue: Buses (Market St.)	Safety Risk	
Description: The high volume of buses stopping and passengers boarding are not accommodated by the current intersection configuration.	Medium	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Improved roadway markings and signage would better delineate and accommodate bus stop activity. (41)	Low	Medium

RSA Team Findings

7th Avenue & Dr. Martin Luther King Jr. Boulevard

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 codes, standards, and best practices.

Issue: Traffic Signals (7 th Ave.)	Safety Risk	
Description: The traffic signals are antiquated and may be contributing to a significant number of pedestrian and right angle crashes.	Medium-Low	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider the upgrade of traffic signal equipment to 12-inch LED fixtures, and the installation of countdown pedestrian heads and retro-reflective back plates. (42)	Medium	Medium-High
Investigate implementing a full upgrade to traffic signals to include a new signal layout, additional signal heads and controller, and lengthen the mast arms. (43)	High	High


Issue: Pedestrians – Signal (7 th Ave.)	Safety Risk	
Description: Signal timing is too short for pedestrians, especially senior citizens.	Medium-High	
Description: There are no pedestrian heads.	Medium-High	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Investigate revising the signal timing to accommodate residents of the local senior housing. (44)	Low	High
Consider providing push buttons for senior pedestrians to obtain extended crossing time. (45)	Medium	High
Consider installation of countdown pedestrian heads. (46)	Medium	High

Issue: Traffic Operations (7 th Ave.)	Safety Risk
Description: Lanes aren't clearly delineated on the northbound side.	Medium
Description: There is a significant amount of pedestrian activity with increased risk for pedestrian safety.	Medium-High



RSA Team's Recommendation	Cost	Potential Safety Benefit
Clear lane delineation between the northbound right lane and left turn lanes would improve awareness of the intersection. (49)	Low	Medium-High
Investigate adding bulb-outs at the corners of the intersection, which will accommodate turning bus movements. (50)	Medium	Medium-High
Evaluate the benefit of installing "NO TURN ON RED" at all corners. (31)	Low	Medium-High


Issue: Pedestrians – General (7 th Ave.)		Safety Risk
Description: There are poor sidewalk conditions on the north side of the intersection.		Medium
Description: There are noncompliant pedestrian accommodations at the intersection.		Medium
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Plan for sidewalk replacement on the north side of the intersection. (47)	Medium	Medium
Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs, including the detectable warning surfaces. (48)	Medium	Medium

Issue: Sight Distance (7 th Ave.)	Safety Risk	
Description: There is parking within 25 feet of the intersection in the southwest corner of intersection, which affects sight distance.	Medium	
Description: Parking regulations are unclear in the southeast corner of the intersection	Medium	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
"NO PARKING" within 25 feet of the intersection can be clearly conveyed with informative signage and roadway markings. (51)	Low	Medium-High


RSA Team Findings




Crane Street & Dr. Martin Luther King Jr. Boulevard

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 codes, standards, and best practices.



Issue: Traffic Operations (Crane St.)	Safety Risk	
Description: The wide unstriped roadway increases driver confusion and speed.	Medium-High	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider adding edge-of-lane and shoulder striping to emphasize a single travel lane. (52)	Low	Medium-High
Adding painted or permanent bump-outs on all corners would increase driver awareness of the intersection and the presence of pedestrians in the crosswalk. (53)	Low (painted); Medium (permanent)	Medium-High

Issue: Sight Distance (Crane St.)	Safety Risk	
Description: A tree is obstructing sight distance in the southwest corner.	Medium	
RSA Team's Recommendation	Cost	Potential Safety Benefit
Regular maintenance will keep vegetation under control and will preserve optimal sight distance and sign visibility. (21)	Low	Medium

Issue: Parking (Crane St.)	Safety Risk	
Description: Parking isn't delineated clearly.	Medium-Low	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider installing hatching to clearly delineate parking areas. (54)	Low	Medium-Low

Issue: Pedestrians (Crane St.)		Safety Risk	
Description: The condition of the detectable warning surface is poor at all four corners of the intersection.		Medium	
Description: There is concern for pedestrians crossing safely adjacent to the school.		Medium-High	
  			
RSA Team's Recommendation		Cost	Potential Safety Benefit
Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs, including the detectable warning surfaces. (48)		Medium	Medium
Adding painted or permanent bump-outs on all corners would increase driver awareness of the intersection and the presence of pedestrians in the crosswalk.(53)		Low (painted); Medium (permanent)	Medium

Issue: Lighting (Crane St.)	Safety Risk	
Description: Lighting is lacking at the playground corner.	Medium-Low	
		
RSA Team's Recommendation	Cost	Potential Safety Benefit
Have professional staff conduct a review of existing lighting conditions to evaluate where both vehicle and pedestrian level lighting can be enhanced. (55)	Medium	Medium

Issue: Bicycle Safety (Crane St.)	Safety Risk	
Description: The roadway cross section narrows and provides limited space for bicyclists.	Medium	
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RSA Team's Recommendation	Cost	Potential Safety Benefit
Consider installing an additional speed limit sign. (56)	Low	Medium
Consider providing bicycle facilities. (57)	Medium-Low	Medium-High

Implementing Recommendations

The RSA team's recommendations suggested in this report should improve the safety of the five intersections along Dr. Martin Luther King Jr. Boulevard selected for investigation in the City of Newark. All of the recommendations fall under City of Newark roadway jurisdiction, and any potential projects generated from this report would be led by the City of Newark.

Many of the recommendations contained within this report can be implemented through routine maintenance, such as trimming vegetation and maintaining sign/pavement conditions, etc., while others will take more time and investment. Recognizing limited resources and developing partnerships can help to extend the impact of safety efforts. Rutgers' TSRC can provide support to municipalities and counties in identifying partnership opportunities. North Jersey Transportation Planning Authority (NJTPA) staff also provides a great partnership to assist with analysis with respect to crash data, capacity analysis, or any other related assistance.

Some of the recommendations may require sizable capital investment to obtain a long-term safety benefit. It is understood that larger projects may require funding assistance from non-municipal funds. In the section following the summary of recommendations, various potential funding sources are listed.

In addition to physical improvements, a combined effort of public education and police enforcement is necessary to make these intersections a safer place for all its users. To that end, NJTPA will be piloting a pedestrian safety education program in Newark (as well as four other locations). This effort will seek to educate both motorists and pedestrians about their roles and responsibilities for safely sharing the road as well as increasing their awareness of and compliance with pedestrian safety laws. Both paid and earned media, including grassroots outreach (e.g., distribution of educational materials through street contacts, community and work-place presentations, in-school programs), will be used to reach both audiences with key safety messages.

The campaign will also include enforcement. Enforcement addressing parking, excessive speed, pedestrian right-of-way distraction, and jay walking can help to reduce crashes and alert drivers and pedestrians of the importance of being safety conscious. Officers may also hand out pamphlets during routine motor vehicle or pedestrian-specific traffic stops to educate roadway users about traffic safety laws.

CLINTON AVENUE

Traffic Signals

- 1 Consider adding split phasing between Murray St. and Dr. Martin Luther King Jr. Blvd. to separate traffic.
- 3 Consider the installation of head-to-head left turn lanes on Clinton Ave.
- 4 Consider installing a protected phase for left turn movement.
- 14 Realigning or replacing louvers on all signal heads would allow for visibility in the appropriate directions.
- 15 Consider adding a supplemental near traffic signal at Dr. Martin Luther King Jr. Blvd. southbound.
- 16 Increased visibility of signal heads would be enhanced by installing retro-reflective back plates.

Pedestrian Signals

- 5 Installing lead pedestrian interval timing for crossing Clinton Ave. from the northwest corner of the intersection could better facilitate pedestrian crossing.
- 6 Consider adding an exclusive pedestrian phase.
- 7 Evaluate the benefits of adding an audible component to the pedestrian crossing instruction.
- 8 Evaluate revising the walk signal to display the maximum walk time within the existing signal timing.
- 13 Revising the walk signal to include the maximum walk time available within the existing signal timing would facilitate safer crossing.

Signage

- 9 Consider adding signage "TURNING VEHICLES MUST STOP FOR PEDESTRIANS".
- 10 Adding blank-out signs for "NO TURN ON RED" on the Dr. Martin Luther King Jr. Blvd. approach could improve the safety of pedestrians crossing MLK Blvd.

Roadway Markings

- 2 Defining two lanes on the Murray St. approach to Clinton Ave. would provide better direction.
- 11 Consider the addition of a crosswalk on Clinton Ave., east of Dr. Martin Luther King Jr. Blvd.

Sight Distance

- 12 Relocating the signal control box at the northwest corner of the intersection would give unobstructed view of pedestrians.

Geometry

- 17 Professional engineering staff should analyze the intersection and suggest geometric improvements that would better align the intersection roadways.

W. KINNEY STREET

Traffic Signal

- 16 Increased visibility of signal heads would be enhanced by installing retro-reflective back plates.
- 18 A full signal upgrade, including installation of countdown pedestrian heads and near-right /far-left traffic signals would be beneficial.
- 24 Consider the review of crash history and submission of an application for inclusion of the intersection in Project Red Light.

Pedestrian Accommodations

- 19 Consider replacement of deteriorated sidewalks.

Visibility

- 21 Regular maintenance will keep vegetation under control and will preserve optimal sight distance and sign visibility.

Roadway Markings

- 23 Consider additional roadway striping to narrow the travel lane and delineate the shoulder; if possible, install buffered bike lane adjacent to curb.

Signage

- 22 Schedule replacement of the school crossing sign.
- 25 Consider the installation of a "SIGNAL AHEAD" sign.
- 26 Consider the installation of a flashing "RED SIGNAL AHEAD" sign.

MARKET STREET

Traffic Signal and Operations

- 27 Evaluate adding a lead left along Market St. in addition to head-to-head left turns on Market St.
- 28 Consider installing split phasing on Market St.
- 29 Consider installing head-to-head left turn lanes on Dr. Martin Luther King Jr. Blvd.
- 31 Evaluate the benefit of installing “NO TURN ON RED” at all corners.

Roadway Markings

- 30 Installation of dotted lane line extension pavement markings delineating the left turn movement would increase awareness.
- 39 Consider adding signage or roadway hatching to clearly convey where parking is prohibited.
- 41 Improved roadway markings and signage would better delineate and accommodate bus stop activity.

Signs

- 31 Evaluate the benefit of installing “NO TURN ON RED” at all corners.
- 16 Increased visibility of signal heads would be enhanced by installing retro-reflective back plates.
- 39 Consider adding signage or roadway hatching to clearly convey where parking is prohibited.
- 41 Improved roadway markings and signage would better delineate and accommodate bus stop activity.

Pedestrian Accommodations

- 6 Consider adding an exclusive pedestrian phase.
- 32 Evaluate revising the locations of pedestrian heads so that they are conveniently located for pedestrian use.
- 33 Consider extending the painted median at Essex County Community College for pedestrians.
- 34 Investigate the installation of a raised island median as refuge for pedestrians.
- 35 Adding fencing in median, to force pedestrians to cross at marked cross walks, would improve pedestrian safety.
- 36 Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs at sidewalks, including adding detectable warning surfaces, especially in the southeast and southwest corners (in the brick).
- 37 Consider widening the crosswalk.
- 38 Investigate the installation of ergonomic crosswalks.

Bicycles

- 40 Investigate the addition of bicycle lanes from Market St. to Central Ave.; the roadway is very wide and the delineation would improve safety.

7TH AVENUE

Traffic Signals

- 42 Consider the upgrade of traffic signal equipment to 12-inch LED fixtures, and the installation of countdown pedestrian heads and retro-reflective back plates.
- 43 Investigate implementing a full upgrade to traffic signals to include a new signal layout, additional signal heads and controller, and lengthen the mast arms.
- 44 Investigate revising the signal timing to accommodate residents of the local senior housing.

Pedestrian Accommodations

- 45 Consider providing push buttons for senior pedestrians to obtain extended crossing time.
- 46 Consider installation of countdown pedestrian heads.
- 47 Plan for sidewalk replacement on the north side of the intersection.
- 48 Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs, including the detectable warning surfaces.

Roadway Markings

- 49 Clear lane delineation between the northbound right lane and left turn lane would improve awareness of the intersection.
- 51 “NO PARKING” within 25 feet of the intersection can be clearly conveyed with informative signage and roadway markings.

Signage

- 31 Evaluate the benefit of installing “NO TURN ON RED” at all corners.
- 51 “NO PARKING” within 25 feet of the intersection can be clearly conveyed with informative signage and roadway markings.

Traffic Operations

- 50 Investigate adding bulb-outs at the corners of the intersection, which will accommodate turning bus movements.

CRANE STREET

Roadway Markings

- 52 Consider adding edge-of-lane and shoulder striping to emphasize a single travel lane.
- 53 Adding painted or permanent bump-outs on all corners would increase driver awareness of the intersection and the presence of pedestrians in the crosswalk.
- 54 Consider installing hatching to clearly delineate parking areas.

Sight Distance

- 21 Regular maintenance will keep vegetation under control and will preserve optimal sight distance and sign visibility.

Pedestrian Accommodations

- 48 Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs, including the detectable warning surfaces.

Signage

- 56 Consider installing an additional speed limit sign.

Traffic Operations

- 53 Adding painted or permanent bump-outs on all corners would increase driver awareness of the intersection and the presence of pedestrians in the crosswalk.

Lighting

- 55 Have professional staff conduct a review of existing lighting conditions to evaluate where both vehicle and pedestrian level lighting can be enhanced.

Bicycle

- 57 Consider providing bicycle facilities.

Potential Funding Sources

In this economy, budget constraints may hamper the implementation of some of these recommendations. Finding alternative funding sources is critical to ensuring the investment in the safety of the intersections' users.

Local Funding Sources:

Roadway Owner's Maintenance and Operation Budget:

Existing funds from local and county sources, as appropriate, which are allocated for investment in maintenance and operational activity, can be used to implement the above suggestions. Many of the above countermeasures may be eligible for the appropriate use of these existing funds. The manager of these funds who understands the full budget picture should be consulted.

State Funding Sources:

LOCAL AID

Contact:

NJDOT Local Aid District 2, Newark (Bergen, Essex, Hudson, Union)

153 Halsey Street - 5th floor
Newark, NJ 07102
Phone: 973-877-1500
Fax: 973-877-1556

MUNICIPAL AID/URBAN AID PROGRAM (NJDOT Local Aid):

<http://www.state.nj.us/transportation/business/localaid/municaid.shtm>

This program has been a significant resource for municipalities in funding local transportation projects. All municipalities are eligible. The department continues to encourage municipalities to consider using the Municipal Aid Program to fund projects such as resurfacing, rehabilitation, or reconstruction and signalization.

LOCAL AID INFRASTRUCTURE FUND (Discretionary Aid):

<http://www.state.nj.us/transportation/business/localaid/descrfunding.shtm>

Subject to funding appropriation, a discretionary fund is established to address emergencies and regional needs throughout the state. Any county or municipality may apply at any time. These projects are approved at the discretion of the commissioner. Payment of project costs is the same as the Municipal Aid Program. Under this program a county or municipality may also apply for funding for local pedestrian safety and bikeway projects.

SAFE STREETS TO TRANSIT:

<http://www.state.nj.us/transportation/business/localaid/safe.shtm>

This program provides funding to counties and municipalities in improving access to transit facilities and all modes of public transportation. The objectives of the SSTT program are:

- To improve the overall safety and accessibility for mass transit riders walking to transit facilities.
- To encourage mass transit users to walk to transit stations.
- To facilitate the implementation of projects and activities that will improve safety in the vicinity of transit facilities (approximately one-half mile for pedestrian improvements).

HIGHWAY SAFETY FUND (Safe Corridors):

The Safe Corridor grant program targets resources to segments of several highways that have a history of high crash rates. Grants are supported by fines that are doubled in designated Safe Corridors for a variety of moving violations, including speeding. FY 13 Safe Corridors funding is being allocated based on crash data, with higher amounts of funding going to areas demonstrating the greatest need for continued enhanced enforcement measures. The link to a website is still in development.

Contact:

Shukri Abuhuzeima
Supervising Engineer
NJDOT Local Aid

BIKEWAY:

<http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm>

The NJDOT Bikeway Grant Program provides funds to counties and municipalities to promote bicycling as an alternate mode of transportation in New Jersey. A primary objective of the Bikeway Grant Program is to support the state's goal of constructing 1,000 new miles of dedicated bike paths. This program is available to every municipality and county throughout New Jersey. **TRANSIT VILLAGES:**

<http://www.state.nj.us/transportation/business/localaid/transitvillagef.shtm>

The Transit Village Grant Program is designed to assist municipalities who have been formally designated as Transit Villages. These are municipalities that have made a commitment to grow in the area surrounding a transit facility. The facility can service commuter rail, bus, ferry, or light rail. It funds projects within a half mile radius of major transit facilities.

Contact:

Monica Etz
Principal Planner Transportation
NJDOT Statewide Planner

NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS

MAIN STREET NEW JERSEY

<http://www.nj.gov/dca/divisions/dhcr/offices/msnj.html>

Main Street New Jersey provides selected communities with technical assistance and training of proven value in revitalizing historic downtowns. The program helps municipalities improve the economy, appearance, and image of their central business districts through the organization of local citizens and resources.

Contact:

Main Street New Jersey
NJ Department of Community Affairs - Office of Smart Growth
P.O. Box 204
Trenton, NJ 08625-0204
Jef Buehler
Phone: 609-633-9769
Email: jef.buehler@dca.state.nj.us

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)

<http://www.nj.gov/dca/divisions/dhcr/offices/cdbg.html>

Provide funds for economic development, housing rehabilitation, community revitalization, and public facilities designated to benefit people of low and moderate income, to prevent or eliminate slums and blight, or to address recent local needs for which no other source of funding is available.

Contact:

New Jersey Department of Community Affairs
101 South Broad Street
PO Box 811, 5TH Floor
Trenton, NJ 08625-0800
Terry Schrider
Phone: 609-633-6283
Email: terence.schrider@dca.state.nj.us

Federal Funding Sources - via NJDOT Office of Local Aid:

Contact (see details under State Funding section):

NJDOT Local Aid District 2, Newark (Bergen, Essex, Hudson, Union)

SAFE ROUTES TO SCHOOLS (SRTS):

<http://www.state.nj.us/transportation/business/localaid/srts.shtm>

The Safe Routes to Schools Program (SRTS) is a federally funded program and is administered by the State Departments of Transportation. This program provides funds to substantially improve the ability of primary and middle school students to walk and bicycle to school safely.

The purposes of the program are:

- to enable and encourage children, including those with disabilities, to walk and bicycle to school;
- to make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age;
- to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity (approximately 2 miles) of primary and middle schools (Grades K–8).

The program establishes two distinct types of funding opportunities: infrastructure projects (the planning, design, and construction of engineering improvements) and non-infrastructure related activities (such as education, enforcement, and encouragement programs).

Contact:

Elise M Bremer-Nei
Supervising Planner Transportation, NJDOT
Statewide Planning

via North Jersey Transportation Planning Authority (NJTPA):

Contact:

North Jersey Transportation Planning Authority
One Newark Center, 17th Floor
Newark, NJ 07102
Phone: 973-639-8400
Fax: 973-639-1953

LOCAL SAFETY PROGRAM:

http://www.njtpa.org/Project/Devel/local_safety/default.aspx

The federally funded Local Safety Program (LSP) is a component of wider safety planning at the NJTPA, supporting construction of quick-fix, high-impact safety improvements on county and local roadway facilities in the NJTPA region. Projects supported by this program include new and upgraded traffic signals, signage, pedestrian indications, crosswalks, curb ramps, pavement markings, and other improvements to increase the safety of drivers, bicyclists, and pedestrians.

The Local Safety Program:

- typically addresses NJTPA and/or NJDOT derived high priority crash locations on county or local roadways;
- supports quick-fix projects, backed with detailed crash data, with minimal or no environmental or cultural resource impacts (eligible for programmatic categorical exclusion from FHWA);
- funds the construction phase of work only—planning, design, and right-of-way acquisition are the responsibility of the sponsor.

LOCAL CMAQ MOBILITY INITIATIVES:

<http://www.njtpa.org/Project/Mobility/Default.aspx>

The NJTPA has established the CMAQ Local Mobility Initiatives Program to promote a variety of initiatives to lessen the level of pollutants and greenhouse gases generated through the use of fossil fuels including ridesharing, transit usage, travel demand management, and traffic mitigation projects. Proposals must implement strategies and policies in the Regional Transportation Plan, Plan 2040.

THE HIGH RISK RURAL ROADS PROGRAM

http://www.njtpa.org/Project/Devel/local_safety/default.aspx

High Risk Rural Roads Program (HRRRP) provides federal funds for construction improvements to address safety problems *ONLY on roadways that are functionally classified as rural major collector, rural minor collector, or rural local roads and have a crash rate that exceeds the statewide average for those functional classes of roadways.* Projects supported by this program have included skid-resistant surface treatments, guiderails, reflective pavement markings, rumbles strips and rumble stripes, safety edge, and enhanced and advanced warning signs.

This program funds the construction phase of work only, and therefore planning, design, and right-of-way acquisitions are the responsibility of the sponsor.

LOCAL CONCEPT DEVELOPMENT PHASE OF THE LOCAL CAPITAL PROJECT DELIVERY PROGRAM

http://www.njtpa.org/Project/Devel/local_capital_program/local_concept/default.aspx

The Local Capital Project Delivery Program (LCPD) provides federal funding for priority local projects. The Local Concept Development (LCD) Phase involves drafting a well defined and well justified Purpose and Need Statement focusing on the primary transportation need to be addressed. The LCD Phase elements include, but are not limited to, data collection, coordination, development of a reasonable number of prudent and feasible conceptual alternatives, and investigation of all aspects of a project: environmental, right-of-way (ROW), access, utilities, design, community involvement, constructability, etc., at a “planning level of effort,” and addressing requirements of the NJTPA Congestion Management Process (CMP).

SUBREGIONAL STUDIES PROGRAM

http://www.njtpa.org/Plan/Subregion/subregional_studies/default.aspx

This is a competitive program that provides two-year grants to individual sub-regions or sub-regional teams. The program is designed to assist sub-regions in refining and developing transportation improvement strategies rooted in the NJTPA’s Regional Transportation Plan (RTP). Ultimately, the program aims to generate project concepts ready for further development or implementation consistent with the RTP and/or other transportation planning activities in the region.

TRANSPORTATION ALTERNATIVES PROGRAM

This is new under MAP-21 and is currently under development at the NJDOT.

<http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm>

The Transportation Alternatives Program (TAP) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for the planning, design or construction of boulevards and other roadways largely in the right-of-way of former interstate system routes or other divided highways.

Federal Funding Sources - via NJDOT Department of Highway Safety:

<http://www.nj.gov/oag/hts/grants/index.html>

The New Jersey Division of Highway Traffic Safety offers, on an annual basis, federal grant funding to agencies that wish to undertake programs designed to reduce motor vehicle crashes, injuries, and fatalities on the roads of New Jersey. Municipal, county, state government, and law-enforcement agencies, as well as nonprofit organizations, are encouraged to apply for NJDHTS grant funding to address specific, local traffic safety issues.

Contact:

Bob Gaydosh, North Region Supervisor

609-633-9022

robert.gaydosh@lps.state.nj.us

Appendix A – Raw Crash Data

Clinton Avenue & Dr. Martin Luther King Jr. Boulevard

CRASH DATE	CRASH TIME	CRASH TYPE	LIGHT CONDITION	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL KILLED
4/18/2009	7:53 PM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Injury	Dry	3	0
2/14/2009	9:13 AM	Struck Parked Vehicle	Daylight	Property Damage	Dry	0	0
4/16/2009	4:18 PM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
5/7/2009	12:53 AM	Same Direction - Side Swipe	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
5/28/2009	5:30 PM	Right Angle	Daylight	Property Damage	Wet	0	0
6/20/2009	2:30 AM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
6/24/2009	5:10 PM	Same Direction - Rear End	Daylight	Property Damage	Wet	0	0
2/27/2009	7:15 PM	Opposite Direction - Head On/Angular	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
7/6/2009	10:13 AM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
8/26/2009	12:44 PM	Same Direction - Side Swipe	Daylight	Injury	Dry	1	0
10/23/2009	8:00 AM	Right Angle	Daylight	Property Damage	Dry	0	0
11/9/2009	2:50 PM	Opposite Direction - Side Swipe	Daylight	Injury	Dry	21	0
12/23/2009	11:35 AM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
9/30/2009	4:50 PM	Right Angle	Daylight	Property Damage	Dry	0	0
12/5/2009	7:30 PM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Injury	Wet	4	0
3/12/2010	3:45 PM	Left Turn / U Turn	Daylight	Property Damage	Wet	0	0
3/14/2010	7:09 AM	Left Turn / U Turn	Dawn	Injury	Wet	2	0
1/9/2010	11:53 PM	Left Turn / U Turn	Dark (Street Lights On/ Continuous)	Fatal	Dry	1	1
8/10/2010	5:00 PM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
9/11/2010	6:00 PM	Right Angle	Daylight	Property Damage	Dry	0	0
10/30/2010	2:30 PM	Same Direction - Rear End	Daylight	Property Damage	Dry	0	0
11/19/2010	5:45 PM	Left Turn / U Turn	Dark (Street Lights On/ Continuous)	Injury	Dry	1	0
1/26/2011	10:02 AM	Same Direction - Rear End	Daylight	Injury	Snowy	1	0

CRASH DATE	CRASH TIME	CRASH TYPE	LIGHT CONDITION	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL KILLED
2/10/2011	9:04 AM	Same Direction - Rear End	Daylight	Property Damage	Dry	0	0
2/10/2011	5:13 PM	Same Direction - Rear End	Daylight	Property Damage	Dry	0	0
2/13/2011	10:52 AM	Left Turn / U Turn	Daylight	Injury	Dry	1	0
9/17/2010		Same Direction - Side Swipe	Daylight	Property Damage	Wet	0	0
10/8/2010		Same Direction - Rear End	Daylight	Injury	Dry	1	0
10/2/2011	11:55 AM	Right Angle	Daylight	Property Damage	Dry	0	0

W. Kinney Street & Dr. Martin Luther King Jr. Boulevard

CRASH DATE	CRASH TIME	CRASH TYPE	LIGHT CONDITION	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL PEDESTRIANS INVOLVED
1/2/2009	6:50 PM	Right Angle	Dark (No Street Lights)	Injury	Dry	3	0
7/22/2009	1:30 PM	Right Angle	Daylight	Property Damage	Dry	0	0
9/26/2009	9:30 PM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
12/9/2009	2:00 PM	Left Turn / U Turn	Dark (Street Lights On/ Spot)	Property Damage	Wet	0	0
5/8/2010	3:10 PM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
6/9/2010	5:00 PM	Pedestrian	Daylight	Injury	Wet	1	1
11/1/2010	1:00 PM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
12/15/2010	2:00 PM	Right Angle	Daylight	Property Damage	Dry	0	0
1/17/2011	9:40 PM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
2/25/2011	3:30 PM	Same Direction - Rear End	Daylight	Property Damage	Dry	0	0
4/17/2011	7:30 PM	Right Angle	Daylight	Property Damage	Dry	0	0
5/11/2011	3:40 PM	Left Turn / U Turn	Daylight	Injury	Dry	1	0
6/9/2011	8:22 PM	Same Direction - Rear End	Dusk	Property Damage	Wet	0	0
5/23/2010	5:00 AM	Left Turn / U Turn	Dark (Street Lights Off)	Property Damage	Dry	0	0
5/29/2010	10:50 PM	Backing	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
8/9/2010	2:00 PM	Same Direction - Rear End	Daylight	Property Damage	Dry	0	0
7/23/2011	2:53 PM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
10/18/2011	8:20 AM	Same Direction - Side Swipe	Daylight	Property Damage	Wet	0	0
11/8/2011	5:45 PM	Pedestrian	Dark (Street Lights On/ Continuous)	Injury	Dry	1	1
11/14/2011	8:15 PM	Right Angle	Dark (No Street Lights)	Property Damage	Dry	0	0
12/20/2011	6:30 PM	Same Direction - Side Swipe	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0

Market Street & Dr. Martin Luther King Jr. Boulevard

CRASH DATE	CRASH TIME	CRASH TYPE	LIGHT CONDITION	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL PEDESTRIANS INVOLVED
2/9/2009	7:28 PM	Right Angle	Dark (Street Lights On/ Continuous)	Injury	Dry	2	0
2/6/2009		Struck Parked Vehicle	Daylight	Property Damage	Dry	0	0
3/20/2009	11:39 AM	Struck Parked Vehicle	Daylight	Property Damage	NULL	0	0
10/27/2009	3:17 PM	Same Direction - Rear End	Daylight	Property Damage	Wet	0	0
11/2/2009	8:00 PM	Left Turn / U Turn	Dark (Street Lights Off)	Property Damage	Dry	0	0
10/26/2009	11:00 AM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
5/10/2010	5:00 PM	Struck Parked Vehicle	Daylight	Property Damage	Dry	0	0
1/22/2010	6:05 PM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
2/2/2010	1:37 PM	Right Angle	Daylight	Injury	Snowy	2	0
2/12/2010	3:35 PM	Same Direction - Side Swipe	Daylight	Injury	Dry	1	0
9/1/2010	6:00 AM	Same Direction - Rear End	Dawn	Property Damage	Dry	0	0
9/22/2010	7:16 AM	Pedestrian	Daylight	Injury	Dry	1	1
10/28/2010	5:15 PM	Right Angle	Daylight	Property Damage	Dry	0	0
12/12/2010	12:45 AM	Opposite Direction - Head On/Angular	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
11/9/2010	9:10 AM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
12/20/2010	9:00 PM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Injury	Dry	1	0
12/23/2010	11:20 PM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
2/18/2011	3:28 PM	Pedestrian	Daylight	Injury	Dry	1	1
4/1/2011	3:30 PM	Same Direction - Side Swipe	Daylight	Property Damage	Wet	0	0
5/26/2011	3:30 PM	Pedestrian	Daylight	Property Damage	Dry	0	1

7th Avenue & Dr. Martin Luther King Jr. Boulevard

CRASH DATE	CRASH TIME	CRASH TYPE	LIGHT CONDITION	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL PEDESTRIANS INVOLVED
6/12/2009	7:13 PM	Right Angle	Daylight	Injury	Dry	1	0
1/9/2009	6:00 PM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
7/7/2009	6:14 PM	Same Direction - Side Swipe	Daylight	Injury	Dry	1	0
10/22/2009	4:35 PM	Right Angle	Daylight	Property Damage	Dry	0	0
12/14/2009	10:54 AM	Struck Parked Vehicle	Daylight	Property Damage	Dry	0	0
12/22/2009	6:14 AM	Fixed Object	Dark (Street Lights On/ Continuous)	Injury	Icy	1	0
9/26/2009	10:00 PM	Opposite Direction - Side Swipe	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
1/20/2010	7:40 AM	Same Direction - Rear End	Daylight	Property Damage	Dry	0	0
2/1/2010	3:10 PM	Pedestrian	Daylight	Injury	Dry	3	1
7/22/2010	6:10 AM	Pedalcyclist	Daylight	Injury	Dry	1	0
10/25/2010	4:40 PM	Pedestrian	Daylight	Injury	Dry	1	1
2/17/2011	2:50 PM	Pedestrian	Daylight	Injury	Dry	1	1
8/19/2011	11:00 PM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
12/16/2011	5:46 PM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0

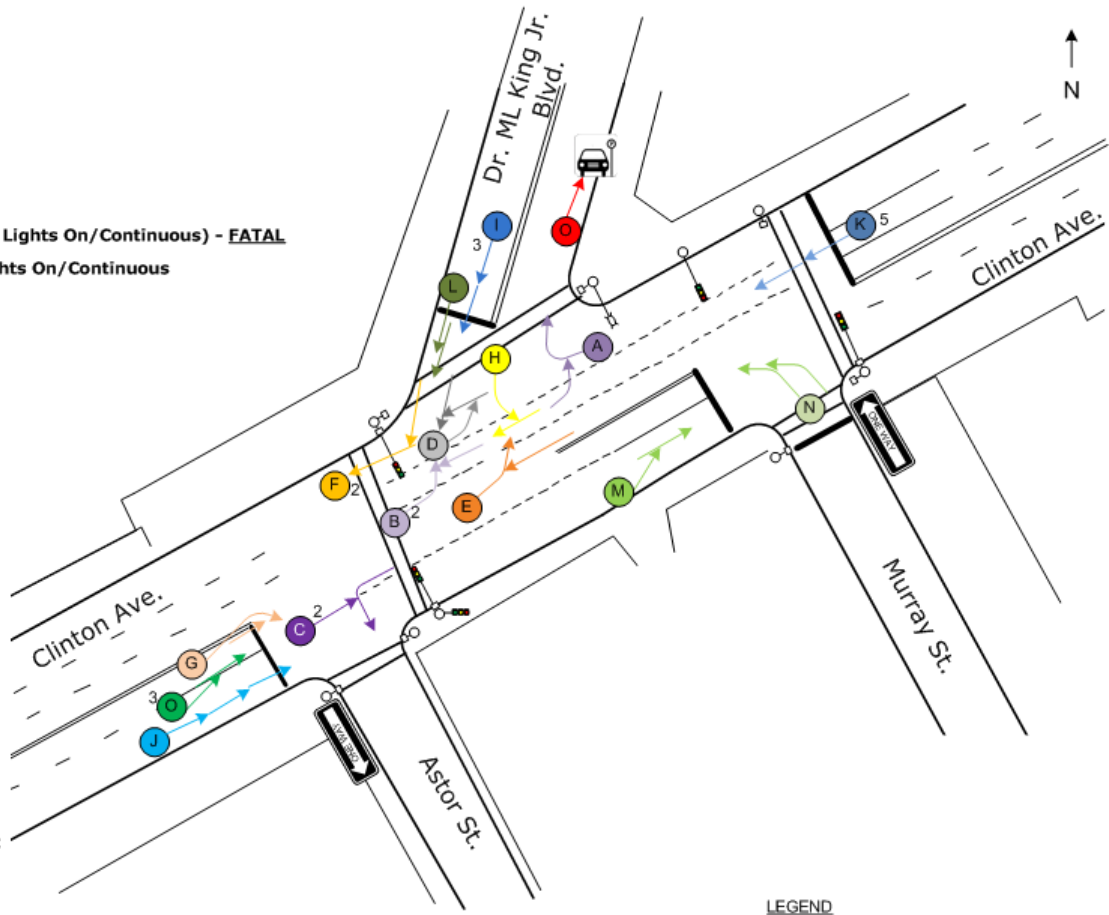
Crane Street & Dr. Martin Luther King Jr. Boulevard

CRASH DATE	CRASH TIME	CRASH TYPE	LIGHT CONDITION	SEVERITY	SURFACE CONDITION	PEDESTRIANS INJURED	TOTAL INJURED
3/8/2009	3:38 AM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
4/8/2009	8:09 PM	Same Direction - Side Swipe	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
5/17/2009	3:15 AM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
7/24/2009	1:20 PM	Right Angle	Dark (Street Lights On/ Continuous)	Property Damage	Wet	0	0
7/29/2009	5:30 PM	Same Direction - Rear End	Daylight	Property Damage	Wet	0	0
11/21/2009	1:40 PM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
9/18/2009	6:26 PM	Right Angle	Daylight	Property Damage	Dry	0	0
4/21/2010	8:14 AM	Same Direction - Side Swipe	Daylight	Property Damage	Dry	0	0
5/10/2010	7:55 PM	Right Angle	Daylight	Injury	Dry	0	3
12/20/2010	10:24 PM	Same Direction - Rear End	Dark (Street Lights On/ Continuous)	Injury	Dry	0	2
11/22/2010	8:45 PM	Same Direction - Side Swipe	Dark (Street Lights On/ Continuous)	Property Damage	Dry	0	0
5/28/2011	5:55 PM	Pedestrian	Daylight	Injury	Dry	1	1

Appendix B – Crash Diagrams

Clinton Avenue & Dr. Martin Luther King Jr. Boulevard

- A **Left Turn / U Turn** ●
- 1 3/12/2010 - 3:45 pm - Wet, Daylight
- B **Left Turn / U Turn** ●
- 2 3/14/2010 - 7:09 am - Wet, Dawn
- 3 2/13/2011 - 10:53 am - Dry, Daylight
- C **Left Turn / U Turn** ●
- 4 1/9/2010 - 11:53 pm - Dry, Dark (Street Lights On/Continuous) - **FATAL**
- 5 11/19/2010 - 5:45 pm - Dark, Street Lights On/Continuous
- D **Opposite Direction - Side Swipe** ●
- 6 11/9/2009 - 2:50 pm - Dry, Daylight
- E **Right Angle** ●
- 7 5/28/2009 - 5:30 pm - Wet, Daylight
- F **Right Angle** ●
- 8 10/23/2009 - 8:00 am - Dry, Daylight
- 9 9/11/2010 - 6:00 pm - Dry, Daylight
- G **Right Angle** ●
- 10 10/2/2011 - 11:55 am - Dry, Daylight
- H **Right Angle** ●
- 11 9/30/2009 - 4:50 pm - Dry, Daylight
- I **Same Direction - Rear End** ●
- 12 4/18/2009 - 7:53 pm - Dry, Dark (Street Lights On/Continuous)
- 13 10/8/2010 - xxxx - Dry, Daylight
- 14 12/5/2009 - 7:30 pm - Wet, Dark (Street Lights On/ Continuous)
- J **Same Direction - Rear End** ●
- 15 1/26/2011 - 10:02 am - Snowy, Daylight
- K **Same Direction - Rear End** ●
- 16 2/10/2011 - 9:04 pm - Dry, Daylight
- 17 2/10/2011 - 5:10 pm - Dry, Daylight
- 18 6/20/2009 - 2:30 am - Dry, Dark (Street Lights On/Continuous)
- 19 6/24/2009 - 5:10 pm - Wet, Daylight
- 20 10/30/2010 - 2:30 pm - Dry, Daylight
- L **Same Direction - Side Swipe** ●
- 21 8/10/2010 - 5:00 pm - Wet, Daylight
- M **Same Direction - Side Swipe** ●
- 22 4/16/2009 - 4:18 pm - Dry, Daylight

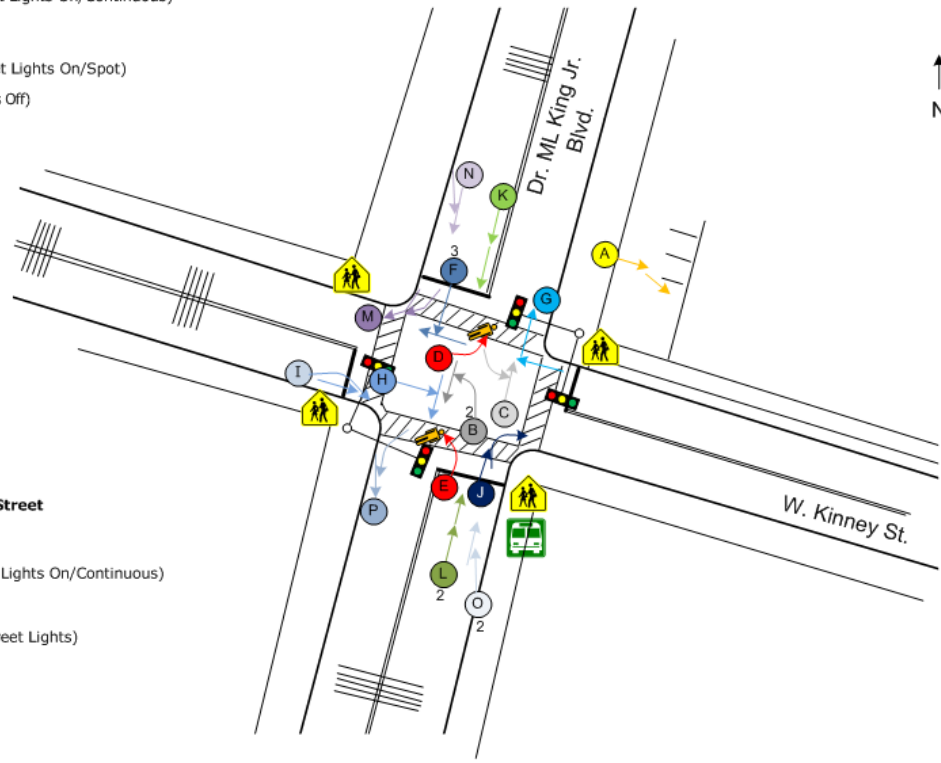


- N **Same Direction - Side Swipe** ●
- 23 8/26/2009 - 12:44 pm - Wet, Dark (Street Lights On/Continuous)
- O **Same Direction - Side Swipe** ●
- 24 9/17/2010 - xxxx - We, Daylight
- 25 7/6/2009 - 10:13 am - Dry, Daylight
- 26 12/23/2009 - 11:35 am - Dry, Daylight
- P **Struck Parked Vehicle** ●
- 27 2/14/2009 - 9:13 am - Dry, Daylight

- LEGEND**
- Injury (bold)**
- 5 ● No. of crashes by type (if >1)
- **Direction of Travel Not Specified or Can't Diagram**
 - 28 **Opposite Direction - Head On/Angular** - 2/27/2009 - 7:15 pm - Wet, Dark (Street Lights On/Continuous)
 - 29 **Same Direction - Side Swipe** - 5/7/2009 - 12:53 am - Dry, Dark (Street Lights On/Continuous)

W. Kinney Street & Dr. Martin Luther King Jr. Boulevard

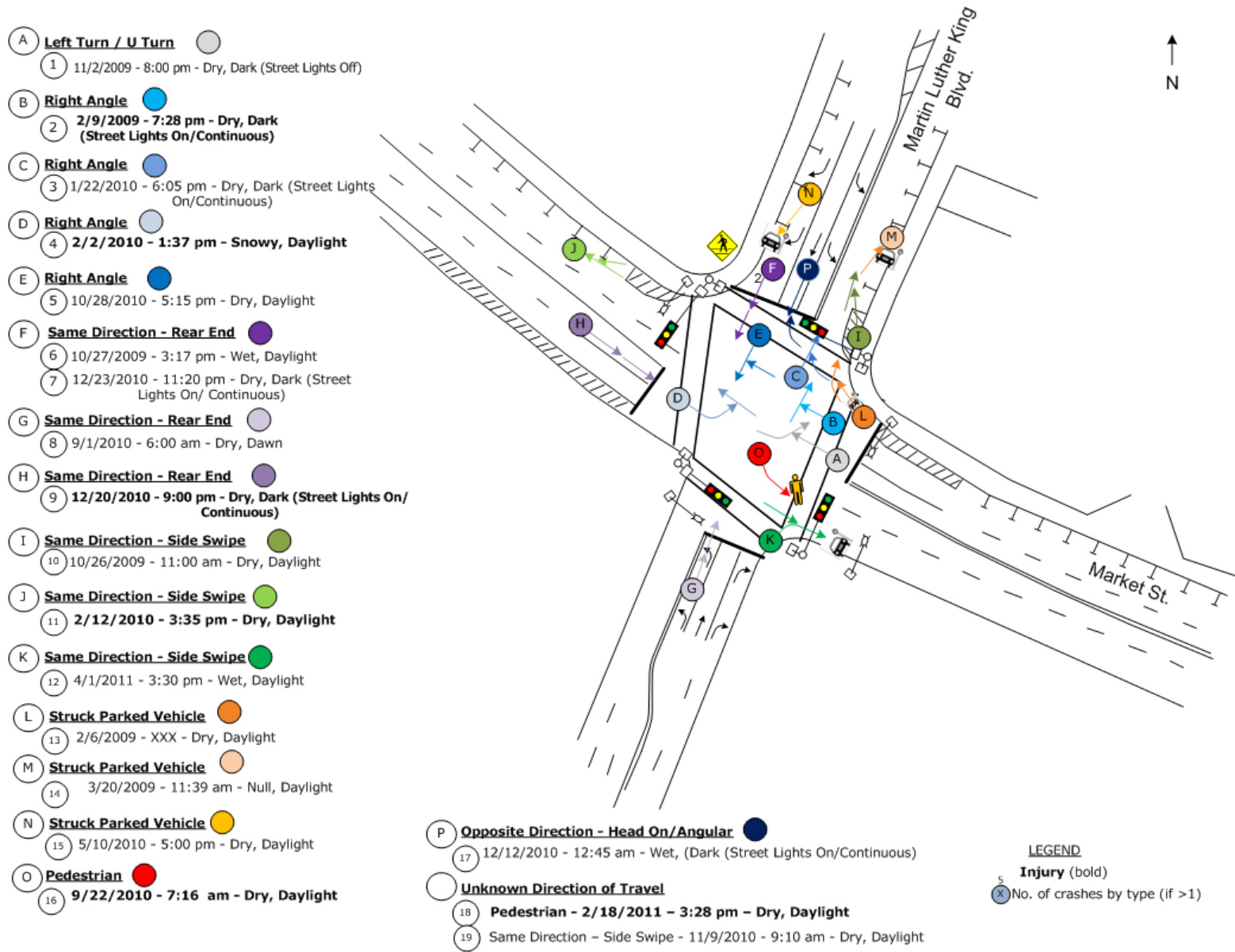
- A Backing** ●
 - 1 5/29/2010 - 10:50 pm - Dry, Dark (Street Lights On/Continuous)
- B Left Turn / U Turn** ●
 - 2 12/9/2009 - 2:00 pm - Wet, (Dark, Street Lights On/Spot)
 - 3 5/23/2010 - 5:00 am - Dry, Dark (Street Lights Off)
- C Left Turn / U Turn** ●
 - 4 5/11/2011 - 3:40 pm - Dry, Daylight
- D Pedestrian** ●
 - 5 6/9/2010 - 5:00 pm - Wet, Daylight
- E Pedestrian** ●
 - 6 11/8/2011 - 5:45 pm - Dry, Dark (Street Lights On/Continuous)
- F Right Angle** ●
 - 7 9/26/2009 - 9:30 pm - Dry, Daylight
 - 8 12/15/2010 - 2:00 pm - Dry, Daylight
 - 9 4/17/2011 7:30 pm - Dry, Daylight
- G Right Angle** ●
 - 10 1/2/2009 - 6:50 pm - Dry, Dark (No Street Lights)
- H Right Angle** ●
 - 11 1/17/2011 - 9:40 pm - Dry, Dark (Street Lights On/Continuous)
- I Right Angle** ●
 - 12 11/14/2011 - 8:15 pm - Dry, Dark (No Street Lights)
- J Right Angle** ●
 - 13 7/22/2009 - 1:30 pm - Dry, Daylight
- K Same Direction - Rear End** ●
 - 14 2/25/2011 - 3:30 pm - Dry, Daylight
- L Same Direction - Rear End** ●
 - 15 6/9/2011 - 8:22 pm - Wet, Dusk
 - 16 8/9/2010 - 2:00 pm - Dry, Daylight
- M Same Direction - Side Swipe** ●
 - 17 5/8/2010 - 3:10 pm - Dry, Daylight
- N Same Direction - Side Swipe** ●
 - 18 11/1/2010 - 1:00 pm - Dry, Daylight



- O Same Direction - Side Swipe** ●
 - 19 12/20/2011 - 6:30 pm - Wet, Dark (Street Lights On/Continuous)
 - 20 10/18/2011 - 6:30 pm - Wet, Daylight
- P Same Direction - Side Swipe** ●
 - 21 7/23/2011 - 2:53 pm - Dry, Daylight

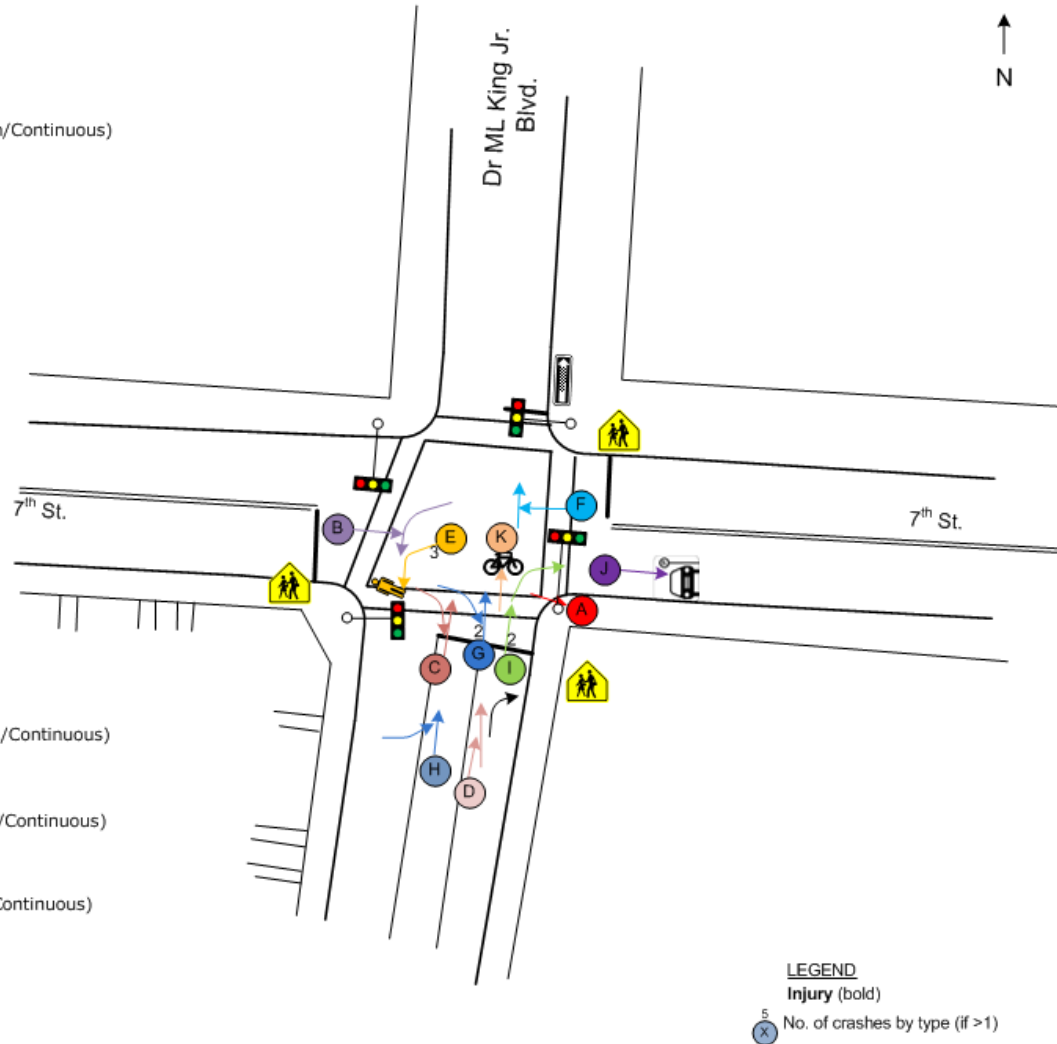
LEGEND
 Injury (bold)
 No. of crashes by type (if >1)

Market Street & Dr. Martin Luther King Jr. Boulevard



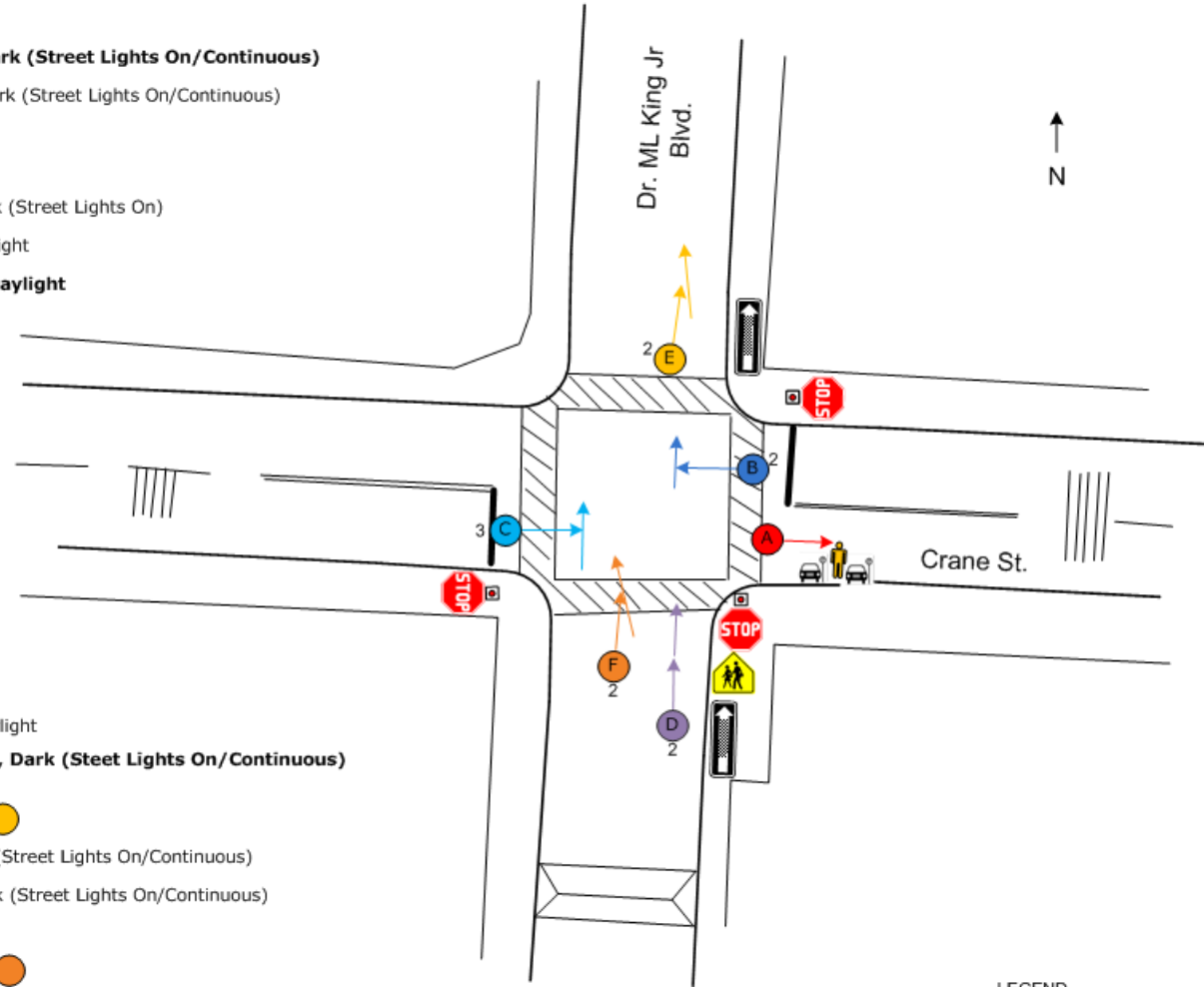
7th Avenue & Dr. Martin Luther King Jr. Boulevard

- A Fixed Object** ●
 - 1 12/22/2009 - 6:14 am - Icy, Dark (Street Lights On/Continuous)
- B Left Turn / U Turn** ●
 - 2 1/14/2009 - 5:32 pm - Dry, Dusk
- C Opposite Direction - Side Swipe** ●
 - 3 9/26/2009 - 10:00 pm - Wet, Dark (Street Lights On/Continuous)
- D Same Direction - Side Swipe** ●
 - 4 7/7/2009 - 6:14 pm - Dry, Daylight
- E Pedestrian** ●
 - 5 2/1/2010 - 3:10 pm - Dry, Daylight
 - 6 10/25/2010 - 4:40 pm - Dry, Daylight
 - 7 2/17/2011 - 2:50 pm - Dry, Daylight
- F Right Angle** ●
 - 8 6/12/2009 - 7:13 pm - Dry, Daylight
- G Right Angle** ●
 - 9 10/22/2009 - 4:35 pm - Dry, Daylight
 - 10 8/19/2011 - 11:00 pm - Wet, Dark (Street Lights On/Continuous)
- H Right Angle** ●
 - 11 12/16/2011 - 5:46 pm - Dry, Dark (Street Lights On/Continuous)
- I Same Direction - Rear End** ●
 - 12 1/9/2009 - 6:00 pm - Dry, Dark (Street Lights On/Continuous)
 - 13 1/20/2010 - 7:40 am - Dry, Daylight
- J Struck Parked Vehicle** ●
 - 14 12/14/2009 - 10:54 am - Dry, Daylight
- K Pedalcyclist** ●
 - 15 7/22 2010 - 6:10 am - Dry, Daylight



Crane Street & Dr. Martin Luther King Jr. Boulevard

- A Pedestrian** ●
 - 1 5/28/2011 - 5:55 pm - Dry, Daylight
- B Right Angle** ●
 - 2 3/8/2009 - 3:38 pm - Dry, Dark (Street Lights On/Continuous)
 - 3 5/17/2009 - 3:15 am - Wet, (Dark (Street Lights On/Continuous)
- C Right Angle** ●
 - 4 7/24/2009 - 1:20 pm - Wet, Dark (Street Lights On)
 - 5 9/18/2009 - 6:26 pm - Dry, Daylight
 - 6 5/10/2010 - 7:55 pm - Dry, Daylight
- D Same Direction - Rear End** ●
 - 7 7/29/2009 - 5:30 pm - Wet, Daylight
 - 8 12/20/2010 - 10:25 pm - Dry, Dark (Street Lights On/Continuous)
- E Same Direction - Side Swipe** ●
 - 9 4/8/2009 - 8:09 pm - Dry, Dark (Street Lights On/Continuous)
 - 10 11/21/2009 - 8:45 pm - Dry, Dark (Street Lights On/Continuous)
- F Same Direction - Side Swipe** ●
 - 11 4/21/2010 - 8:14 am - Dry, Daylight
 - 12 11/22/2010 - 8:45 pm - Dry, Dark (Street Lights On/Continuous)



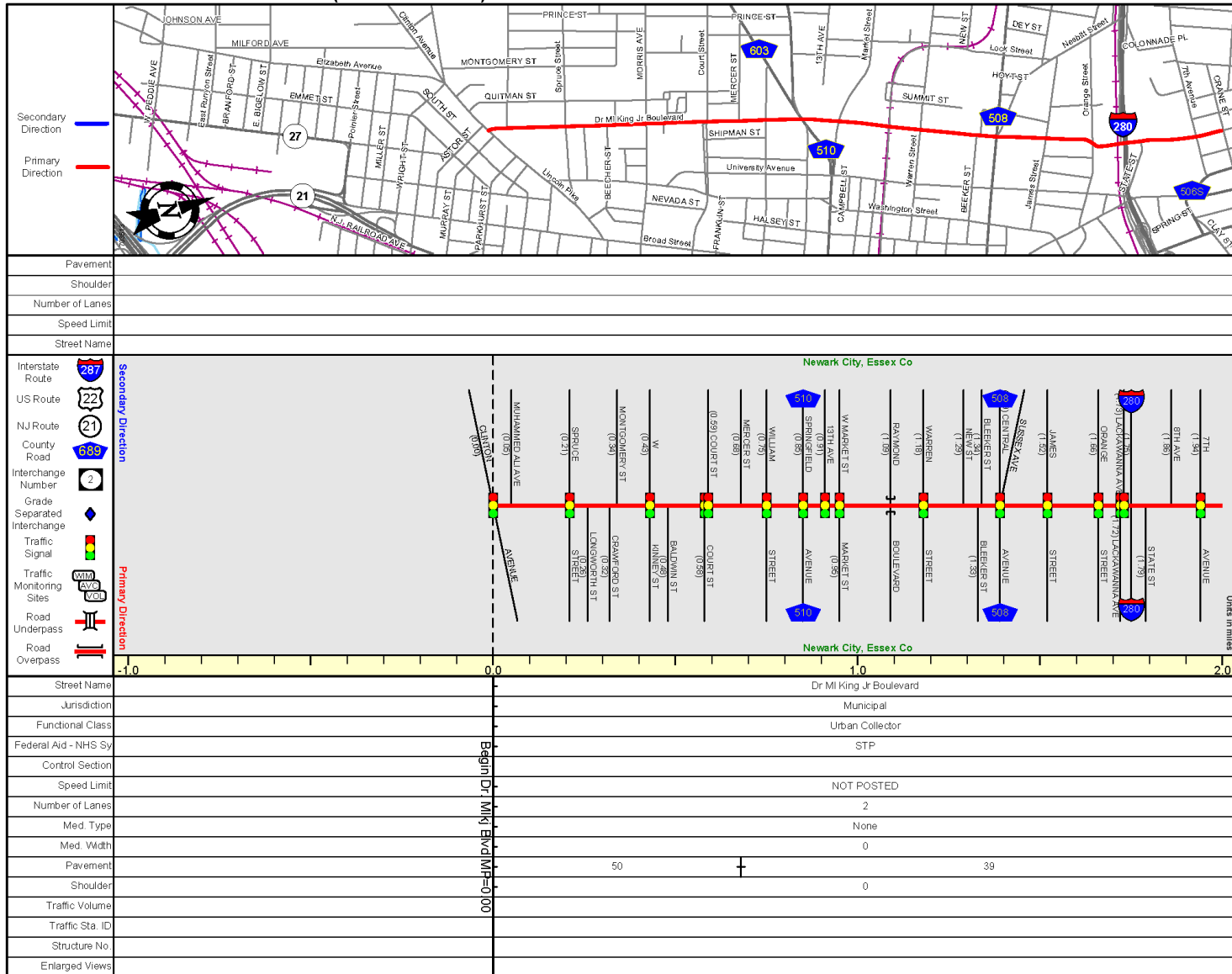
LEGEND
Injury (bold)
 5 No. of crashes by type (if >1)
 Speed Hump

Appendix C – Straight Line Diagram

Dr. Martin Luther King Jr. Boulevard

DR ML KING JR BLVD (South to North)

Mile Posts: 0.000 - 2.000

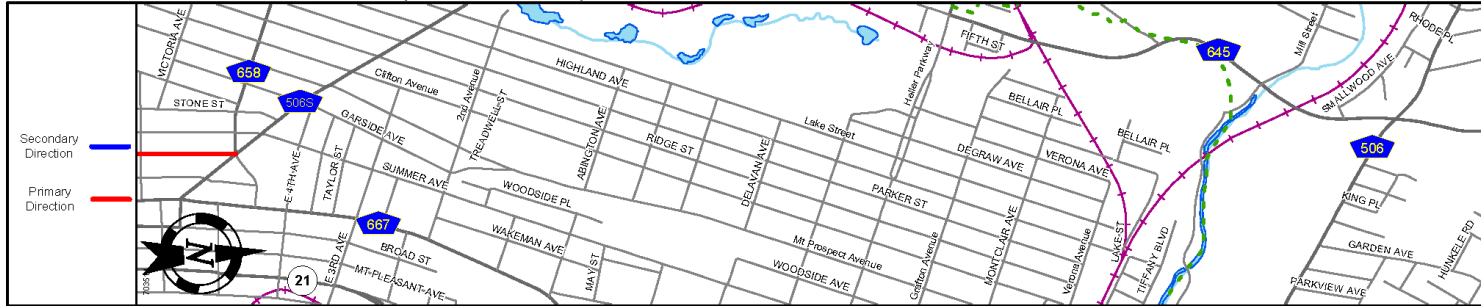


SRI = 07141904__

Date last inventoried: January 2001

DR ML KING JR BLVD (South to North)

Mile Posts: 2.000 - 2.220



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	

Interstate Route	
US Route	
NJ Route	
County Road	
Interchange Number	
Grade Separated Interchange	
Traffic Signal	
Traffic Monitoring Sites	
Road Underpass	
Road Overpass	

Street Name	Dr ML King Jr Boulevard
Jurisdiction	Municipal
Functional Class	Urban Collector
Federal Aid - NHS Sy	STP
Control Section	End Dr. MLK Blvd MP=2.22
Speed Limit	NOT POSTED
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	39
Shoulder	0
Traffic Volume	
Traffic Sta. ID	
Structure No.	
Enlarged Views	

SRI = 07141904__

Date last inventoried: January 2001

Page Created: May 2010

Appendix D

Bus Routes

Intersection	Bus Route	Name	Notes	
Clinton Avenue	59	Newark - Dunellen	Travels on Clinton	
	65	Newark - Mountainside - Somerville	Travels on Clinton	
		Newark - Mountainside - Somerville	Travels on Clinton	
	70	Newark - Livingston	Travels on Clinton	
	13	Irvington - Newark	Travels on Clinton	
	39	Irvington - Newark	Travels on Clinton	
	27	Irvington - Clifton	Travels on Clinton	
W. Kinney Street				
	5	Newark – East Orange	Travels on Kinney	Travels on MLK
Market Street				
	21	Newark - West Orange	Travels on Market	
	34	Newark - Montclair	Travels on Market	
7 th Avenue				
	99	Clifton Ave. Crosstown	Travels on 7th Ave.	Travels on MLK
	108	Newark - New York	Travels on 7th Ave.	Travels on MLK
Crane Street				
			No buses	