



To: Emily Dalphy  
DDOT

Date: August 31, 2017

## Memorandum

Project #: 38559.01

From: Dan Lovas, P.E.  
Alvaro Calle, EIT

Re: 2017 High Crash Intersections MLK Jr. Avenue and Good Hope  
Road Summary and Next Steps

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### Introduction

The District of Department of Transportation (DDOT) coordinated site visits to five “high crash” intersections in 2017. The site visits were attended by representatives from the local Advisory Neighborhood Commissions (ANCs), the Metropolitan Police Department (MPD), the District Department of Public Works (DPW), the Washington Metropolitan Area Transit Authority (WMATA), Department of Housing and Community Development (DCHD), and other advocacy organizations.

As part of the Vision Zero initiative, DDOT and the District hope to eliminate traffic-related fatalities and serious injuries by 2024. Accomplishing this goal first requires analyzing the behaviors and physical conditions at “high crash” intersections that contribute to traffic deaths. Historical crash data also needs to be reviewed to support this effort.

This memorandum summarizes the Martin Luther King Jr. Avenue SE and Good Hope Road SE site visit conducted on Wednesday, June 28<sup>th</sup>, 2017 at 8:30 AM. The site visit summary includes a summary of the traffic and pedestrian data, crash data, discussion of the site visit observations, and the proposed next steps and action items. Each next step and action item is identified as a short-term, mid-term, or long-term improvement to increase the safety at the location.

### Martin Luther King Jr. Avenue SE and Good Hope Road SE

The intersection of Martin Luther King (MLK) Jr. Avenue SE and Good Hope Road SE is located east of the Anacostia River in the historic Anacostia neighborhood. It is located 0.6 miles north of the Anacostia metro station. See Figure 1 for a map of the site.

MLK Jr. Avenue SE is a four-lane undivided minor arterial, with on-street parking, at the study intersection. It connects the historic Anacostia neighborhood to the Navy Yard and Capitol Hill areas via the 11th Street Bridge. On-street parking is provided in the northbound approach, upstream of the intersection. Additionally, bus stops are present along the roadway. Good Hope Road SE is a two-lane undivided minor arterial roadway at the study intersection. On-street parking is provided in both directions and significant bus activity was observed on this road, including passengers boarding/alighting at bus stops near the intersection and buses traveling to access the 11th Street bridge. Construction is occurring near the western side of the intersection, but is not creating any impediment to the traffic in the area. Retail and commercial services are also present on the eastern side of the intersection. The intersection is an important connection for all modes of traffic entering and exiting the Anacostia neighborhood.

VHB, Inc.  
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# Martin Luther King Jr. Avenue SE

Intersection at Good Hope Road SE



Figure 1. MLK Jr. Avenue and Good Hope Road Location



### Traffic and Pedestrian Data

According to DDOT data, the 2015 AADT along MLK Jr. Avenue was 12,700 vehicles per day (vpd) south of Good Hope Road. The 2015 AADT along Good Hope Road was 12,800 vehicles per day (vpd) east of MLK Jr. Avenue. The following summarizes the vehicular peak hour and pedestrian data obtained by Quality Counts on Thursday May 19<sup>th</sup>, 2016:

- AM peak hour: 7:30 AM – 8:30 AM
- Mid-day peak hour: 12:00 PM – 1:00 PM
- PM peak hour: 12:00 PM – 1:00 PM
- AM peak hour pedestrian volume: 43
- Mid-day peak hour pedestrian volume: 62
- PM peak hour pedestrian volume: 43

See Appendix A for the detailed turning movement counts.

### Crash Data

From January 2013 to December 2015, 77 crashes were reported at this intersection. Approximately 68 percent of the crashes were sideswipes, with the majority occurring from the westbound Good Hope Road approach. This crash type is common in locations where drivers quickly change lanes or where dual turning movements occur. About 10 percent of the crashes were rear end, which occur due to sudden stops. One bicycle crash and zero pedestrian crashes occurred during the three-year period. There were five injury crashes, with one causing a disabling injury. See Appendix B for a crash diagram and the summary report of the crashes at this intersection.

### Site Visit Observations

On Wednesday June 28, 2017, a DDOT Vision Zero site was held at the intersection of MLK Jr. Avenue and Good Hope Road SE. The following are initial observations based on the site visit.

### **Overall Issues**

- O1. Difficult to see far-right signal head on westbound Good Hope Road approach. No Right Turn on Red sign on mast arm is also not visible from the approach.
- O2. Roadway markings are missing for the left lane of the westbound Good Hope Road approach. Allowed movements are left/through/right.
- O3. Tight turning radii is difficult for heavy vehicles and buses to maneuver and turn simultaneously.
- O4. Curb at northeast corner is damaged.
- O5. Existing variable message signs, at the intersection and north of the intersection on MLK Jr. Avenue, are not activated.

### **Pedestrian Issues**

- P1. Pedestrian signals are actuated. Pedestrians are not using the push buttons.
- P2. Crosswalk markings are faded.
- P3. Double right turn from westbound Good Hope Road runs with pedestrian signal. High pedestrian crossings observed during the morning peak.

### **Bicycle Issues**

- B1. Bicycle facilities are not present at the intersection. Bicyclists tend to use pedestrian signals.

### **Vehicle Issues**

- V1. Vehicles tend to stop past the stop bars on all approaches.
- V2. Difficult to make concurrent eastbound and westbound left turns from Good Hope Road due to tight intersection geometry and heavy turning volumes.
- V3. High level of bus activity on all approaches. Aggressive driver behavior was observed, as vehicles tend to change lanes to avoid buses stopped at bus stops.
- V4. Heavy left-turn traffic from the southbound MLK Jr. Avenue approach. Vehicles were observed to be frequently speeding while turning from the intersection.
- V5. On-street parking on the northbound MLK Jr. Avenue approach is close to the intersection. Existing bus stop on the approach also causes vehicle queuing.
- V6. Existing rush hour on-street parking restrictions on Good Hope Road are not actively enforced.

Two issues were consistently noted by all participants. The first was the dual westbound right-turn movements from Good Hope Road onto MLK Jr. Avenue. The narrow travel lanes and the skewed design of the intersection make it difficult for drivers, especially those driving a bus or construction vehicle, to safely make the right turn. Additionally, many vehicles were speeding and/or ignoring the "No Turn On Red" sign. Most vehicles that ignored the "No Turn On Red" sign were stopped past the existing stop bar, and some drivers were not aware of the right-turn green arrow indication due to the limited visibility of the far-right signal head of this approach. See Figure 2 for a detailed description of the issues on Good Hope Road.

The second issue is related to the heavy left-turn traffic from the southbound MLK Jr. Avenue approach. Many vehicles make this movement at elevated speeds to reach the green-arrow indication. Many left-turning vehicles also stop past the stop bar and block westbound right turn maneuvers. Because of the tight intersection geometry, near-miss collisions were observed with other turning movements from Good Hope Road. Additionally, the geometry makes it difficult to have concurrent left-turns from MLK Jr. Avenue. Many pedestrians and bicyclists are present at this approach, and vehicle speeds and congestion exacerbate pedestrian conflicts. See Figure 3 for a detailed indication of the noted issues on MLK Jr. Avenue. There were discussions regarding an alternative route to access the 11<sup>th</sup> Street bridge and alleviate some noted issues. See Figure 4 for an illustration of the potential new 11<sup>th</sup> Street bridge location.

## Martin Luther King Jr. Avenue SE

Intersection at Good Hope Road SE

**O1.** Difficult to see far-right signal head on westbound Good Hope Road approach. No Turn on Red sign on mast arm is also not visible.  
**O2.** Roadway markings are missing from left lane of the westbound Good Hope Road approach.

**O3.** Tight turning radii is difficult for heavy vehicles and buses to maneuver and turn simultaneously.  
**P3.** Double right turn from westbound Good Hope Road runs with pedestrian signal.



Figure 2. Good Hope Road Observations





# Martin Luther King Jr. Avenue SE

Intersection at Good Hope Road SE



**V1. Vehicles tend to stop past the stop bars on all approaches.**

**V4. Heavy left-turn turning traffic from the southbound MLK Jr. Avenue approach. Vehicles were observed to be frequently speeding while turning from intersection.**



Figure 3. MLK Jr. Avenue Observations





Martin Luther King Jr. Avenue SE  
Intersection at Good Hope Road SE



Figure 4. MLK Jr. Avenue Alternative Roadway Connection

### Next Steps and Proposed Recommendations

Tables 1 to 3 present each issue and proposed short-term, mid-term, or long-term improvement measure suggestions. Further evaluation of some proposed improvement measures may be necessary to assess efficacy and feasibility.

**Table 1. Proposed Short-Term Improvements**

<b>Issue</b>	<b>Next Step</b>
Existing rush on-street parking restrictions on Good Hope Road are not actively enforced.	Work with DPW to increase parking enforcement on cars parked illegally.
Heavy left-turn from southbound MLK Jr. Avenue approach. Vehicles were observed to be frequently speeding while turning from the intersection.	Install speed limit sign on southbound MLK Jr. Avenue approach, upstream of the intersection near the 11 <sup>th</sup> Street bridge.
Difficult to make concurrent eastbound and westbound left turns from Good Hope Road due to tight intersection box.	Install skip marking (puppy tracks) to guide left-turn traffic from southbound MLK Jr. Avenue approach.
Crosswalk markings are faded.	Refurbish and enhance all crosswalks to 10-feet wide with ladder pavement markings.
Roadway markings are missing for the left lane of the westbound Good Hope Road approach. Allowed movements are left/through/right.	Install pavement markings indicating allowed movements.
Difficult to see far-right signal head on westbound Good Hope Road approach. No Right Turn on Red sign on mast arm is also not visible from the approach.	Install "No Turn on Red Except From Right Lane" sign on lampposts upstream of the westbound Good Hope Road approach.



**Table 2. Proposed Mid-term Improvements**

<b>Issue</b>	<b>Next Step</b>
Pedestrian signals are actuated. Pedestrians are not using the push buttons.	Change all pedestrian signals to pre-timed control.
Curb at northeast corner is damaged.	Repair/restore curb.
Bicycle facilities are not present at intersection. Bicyclists tend to use pedestrian signals.	Investigate the feasibility of installing a bike box on eastbound Good Hope Road approach to create 2-stage left turn for bikes traveling southbound on MLK Jr. Avenue. Stages would include turning onto eastbound Good Hope Road then making a through movement. Green-marked ingress and egress lanes should also be installed.
High level of bus activity on all approaches. Aggressive driver behavior was observed, as vehicles tend to change lanes to avoid buses stopped at bus stops.	Relocate existing bus stop on northbound MLK Jr. Avenue further south of the intersection.
Vehicles tend to stop past the stop bars on all approaches.	Relocate stop bars on each approach to improve sight distance. Additionally, upgrade all sub-standard stop bars to 24".
Difficult to make concurrent eastbound and westbound left turns from Good Hope Road due to tight intersection geometry and heavy turning volumes.	Conduct AutoTURN analysis to consider changing lane configurations and changing to split phasing for Good Hope Road approaches.
On-street parking on northbound MLK Jr. Avenue approach is very close to intersection. Blocks majority of far-right lane, which creates excessive vehicle queuing. Existing bus stop on approach also causes vehicle queuing.	Eliminate on-street parking close to the intersection. Additionally, future construction should include restriping travel lanes at 11 feet, per the DDOT Design and Engineering Manual (DEM) requirement for travel lanes with buses.

**Table 3. Proposed Long-Term Improvements**

<b>Issue</b>	<b>Next Step</b>
Tight turning radii is difficult for heavy vehicles and buses to maneuver and turn simultaneously.	Investigate a new connection to the 11 <sup>th</sup> Street bridge via 13th SE to potentially alleviate the right-turn traffic from Good Hope Road.
Existing variable message signs, at the intersection and north of the intersection on MLK Jr. Avenue, are not activated.	Remove overhead lane control mast arms on southbound MLK Jr. Avenue and at the intersection that are not in use.

## **Appendices**

Appendix A – Turning Movement Counts

Appendix B – Crash Diagrams

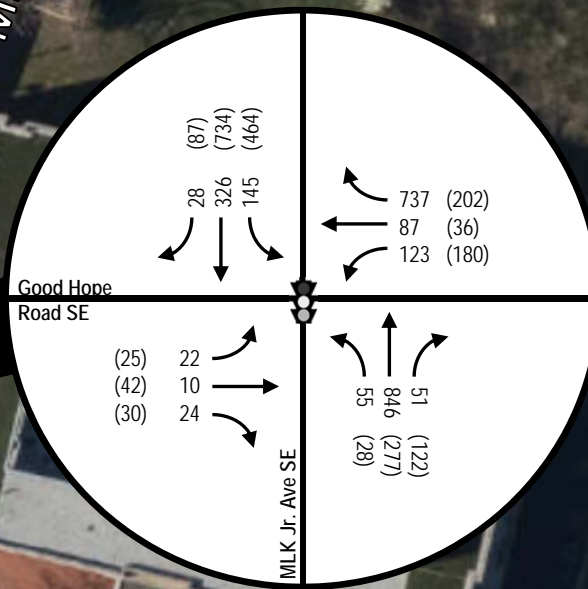


## Appendix A – Turning Movement Counts

# Martin Luther King Jr. Avenue SE

Intersection at Good Hope Road SE

MLK Jr. Avenue SE



Good Hope Road SE

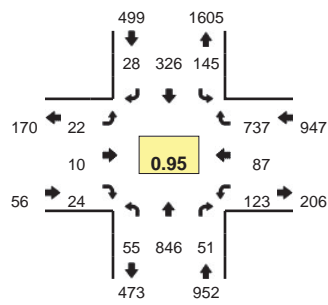


XX AM Peak Hour Turning Movement Volume  
(XX) PM Peak Hour Turning Movement Volume

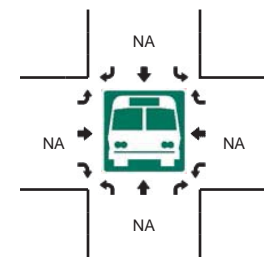
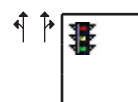
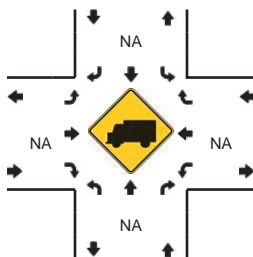
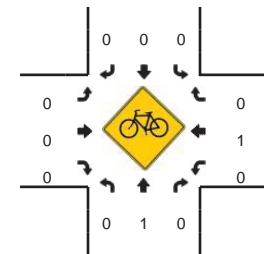
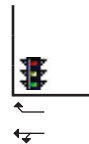
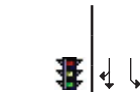
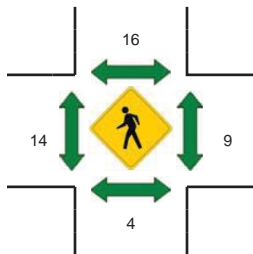
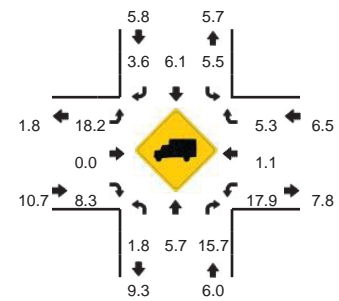


**LOCATION:** 4118- MLK Jr Ave SE -- Good Hope Rd SE  
**CITY/STATE:** Washington, DC

**QC JOB #:** 13803157  
**DATE:** Thu, May 19 2016



**Peak-Hour: 7:30 AM -- 8:30 AM**  
**Peak 15-Min: 8:15 AM -- 8:30 AM**

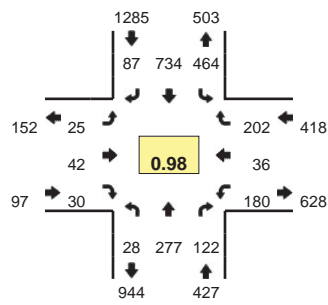


15-Min Count Period Beginning At	4118- MLK Jr Ave SE (Northbound)				4118- MLK Jr Ave SE (Southbound)				Good Hope Rd SE (Eastbound)				Good Hope Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	152	10	0	30	54	3	0	7	1	3	0	31	12	204	0	513	
7:15 AM	7	161	11	0	34	76	1	0	1	3	5	0	33	16	223	0	571	
7:30 AM	14	234	14	0	26	62	5	0	1	4	7	0	29	15	194	0	605	
7:45 AM	14	197	9	0	44	85	8	0	6	1	5	0	31	26	180	0	606	2295
8:00 AM	15	210	14	0	31	79	8	0	10	5	6	0	36	18	166	0	598	2380
8:15 AM	12	205	14	0	44	100	7	0	5	0	6	0	27	28	197	0	645	2454
8:30 AM	12	186	18	0	38	73	8	0	2	6	7	0	33	19	159	0	561	2410
8:45 AM	7	134	19	0	55	100	9	0	6	7	4	1	33	23	141	0	539	2343
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	48	820	56	0	176	400	28	0	20	0	24	0	108	112	788	0	2580	
Heavy Trucks	0	44	8		16	20	0		0	0	4		16	0	60		168	
Pedestrians		4				20				8				12			44	
Bicycles	0	1	0		0	0	0		0	0	0		0	1	0		2	
Railroad																		
Stopped Buses																		

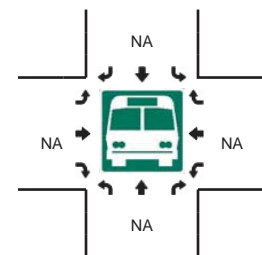
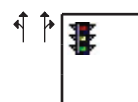
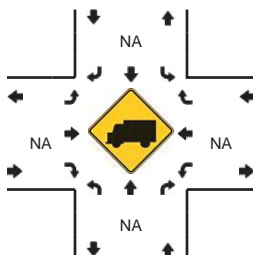
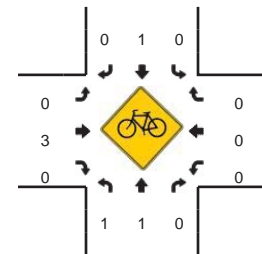
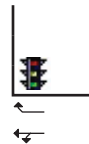
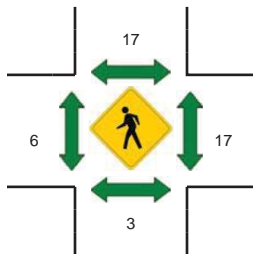
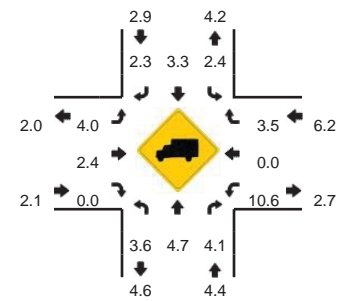
Comments:

**LOCATION:** 4118- MLK Jr Ave SE -- Good Hope Rd SE  
**CITY/STATE:** Washington, DC

**QC JOB #:** 13803159  
**DATE:** Thu, May 19 2016



**Peak-Hour: 4:45 PM -- 5:45 PM**  
**Peak 15-Min: 5:00 PM -- 5:15 PM**



15-Min Count Period Beginning At	4118- MLK Jr Ave SE (Northbound)				4118- MLK Jr Ave SE (Southbound)				Good Hope Rd SE (Eastbound)				Good Hope Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	3	78	25	0	115	177	18	0	14	17	5	1	42	5	57	0	557	
4:45 PM	6	84	26	0	123	170	20	0	7	10	8	0	43	8	52	0	557	
5:00 PM	7	60	28	0	119	188	16	0	8	13	9	1	45	12	61	0	567	
5:15 PM	7	67	32	0	104	186	27	0	5	10	6	0	37	8	53	0	542	2223
5:30 PM	8	66	36	0	118	190	24	0	4	9	7	0	55	8	36	0	561	2227
5:45 PM	7	58	36	0	119	196	24	0	4	8	4	0	35	11	39	0	541	2211
6:00 PM	2	46	31	0	118	159	24	0	8	8	7	0	44	8	56	0	511	2155
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Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	240	112	0	476	752	64	0	32	52	36	4	180	48	244	0	2268	
Heavy Trucks	0	8	0		16	32	4		0	4	0		20	0	8		92	
Pedestrians		0				8				4				4			16	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

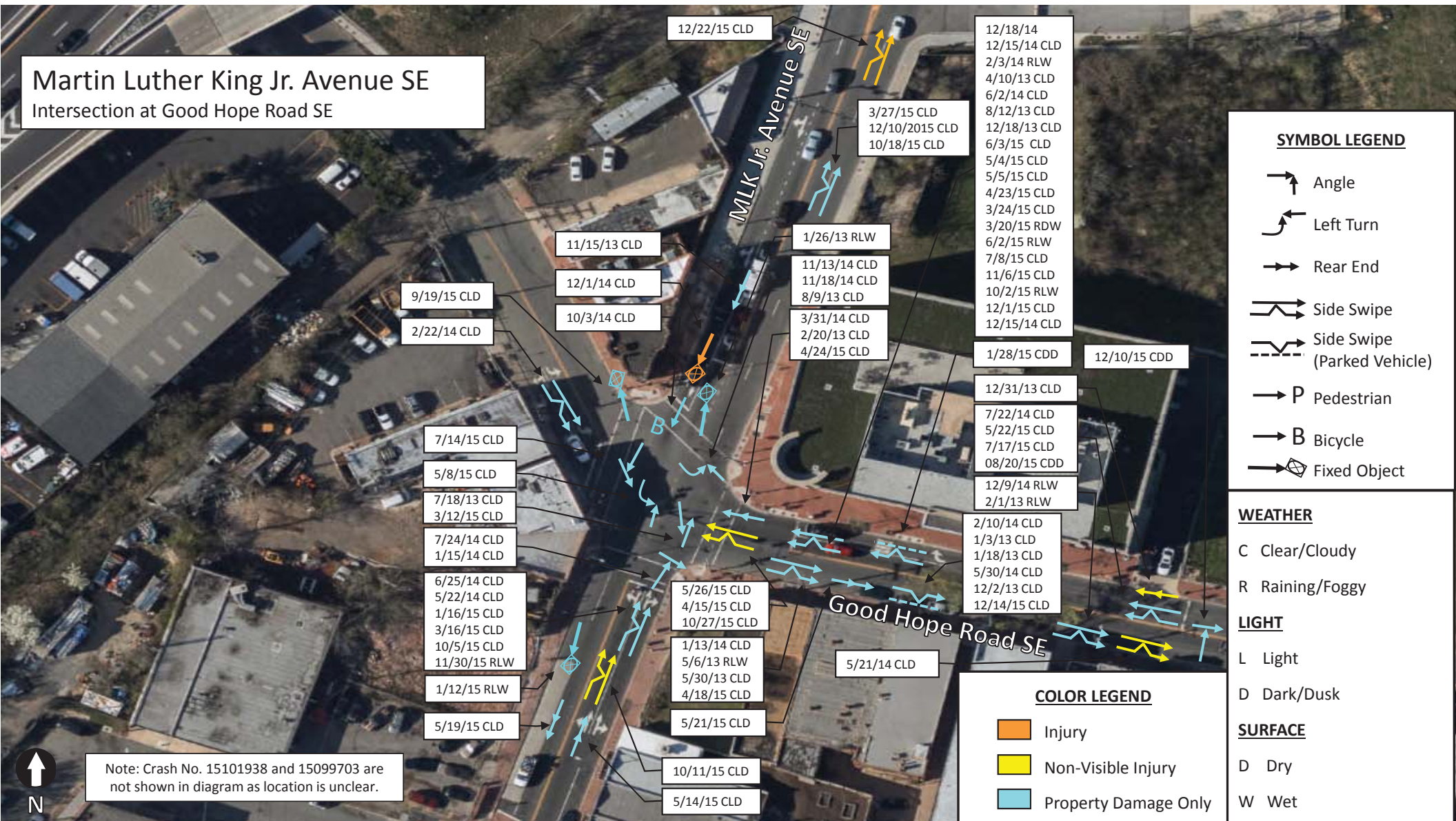
Comments:



## Appendix B – Crash Diagram

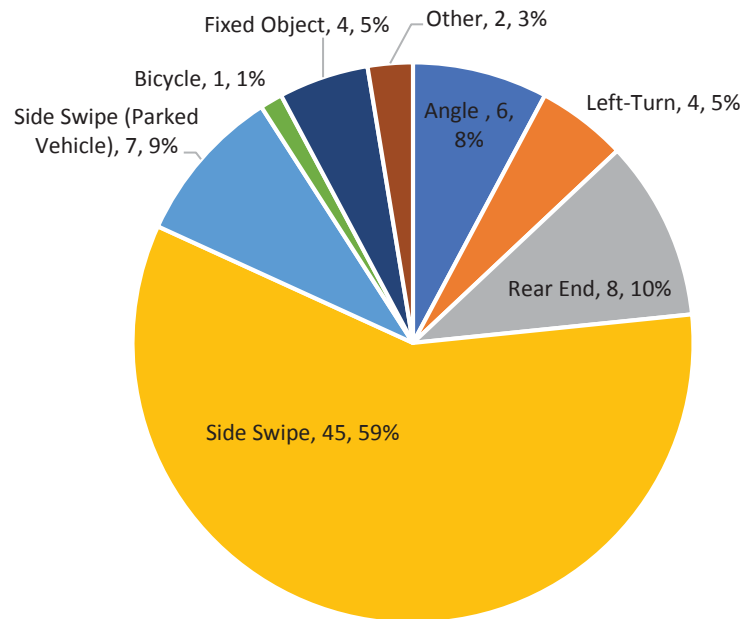
# Martin Luther King Jr. Avenue SE

Intersection at Good Hope Road SE





# Vehicle Crashes by Crash Type MLK Jr. Avenue SE and Good Hope Road SE 2013-2015



**77 Total Crashes**