District Department of Transportation

High Crash Intersection Site Visits

Summary and Next Steps

January 2016

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District Department of Transportation

High Crash Intersection Site Visits

Summary and Next Steps

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1.0 Introduction

Councilmember Mary Cheh coordinated site visits to five "high crash" intersections with the District Department of Transportation during an 8-day period from August 27, 2015 to September 5, 2015. The site visits engaged members of the local Advisory Neighborhood Commissions (ANCs), Business Improvement Districts (BIDs) and other business groups, members of the Bicycle and Pedestrian Advisory Councils (BAC and PAC), the Washington Area Bicyclist Association (WABA), All Walks DC and other concerned stakeholders. The following table outlines the locations and dates of each of the conducted site visits.

Table 1: Site Visit Locations and Dates

Site Visit Location	Date
First Street and Massachusetts Avenue NE	August 27, 2015
14th Street and U Street NW	September 1, 2015
Minnesota Avenue and Benning Road NE	September 2, 2015
New York Avenue and Bladensburg Road NE	September 3, 2015
Wisconsin Avenue and M Street NW	September 4, 2015

Collectively, these five intersections were the locations of three fatalities and 12 disabling injuries in the last 3½ years. With the Vision Zero Initiative, DDOT and the District as a whole seeks to eliminate traffic-based fatalities and serious injuries within 10 years. To accomplish this requires a proactive approach to analyzing and addressing behaviors and physical conditions that contribute to traffic deaths. DDOT analyzed historical crash data to inform the discussion and formulation of action steps at each of the intersections. This process reinforced the incomplete nature of crash data. For example, a contributing factor is not specified in nearly 80 percent of the crashes at the five intersections visited. Through our efforts to enhance data collection and reporting as part of the Vision Zero initiative, we will work collaboratively with our enforcement partners to ensure that we have comprehensive data to inform our safety priorities and improvements.

The site visits were conducted in an open and collaborative manner, with participants identifying and discussing issues and potential solutions. Each site visit summary includes:

1. Crash analysis and data
2. Recent and planned projects for the location
3. A discussion of site visit observations
4. A summary of next steps and action items

DDOT intends to use these site visit summaries as a guide to inform and prioritize short-term, interim, and longer-term infrastructure improvements to promote increased safety at these five locations. DDOT values the collaborative nature of the site visits and intends to utilize this method of targeted stakeholder engagement on safety issues moving forward. In early spring 2016, DDOT plans to organize another series of five intersection site visits in early spring of 2016. The following sections present the site visit summaries at each of the five high crash locations that were a part of this initiative.

2.0 First Street and Massachusetts Avenue NE

The intersection of First Street and Massachusetts Avenue NE is adjacent to Union Station and functionally serves as the confluence of First Street, Massachusetts Avenue, the vehicular exit from Columbus Plaza, and E Street NE. This is a complex intersection with multiple traffic signal phases.

The August 27, 2015 site visit included staff from Councilmembers Cheh, Allen, and Grosso's offices, as well as representatives from ANC 6C, bicycle and pedestrian advocates, and members of the Bicycle and Pedestrian Advisory Councils.

2.1. Crash Data

From January 1, 2012 through August 1, 2015, there were more than 200 crashes at this intersection. More than half of these crashes were sideswipes, which tend to occur when drivers quickly change lanes. The severity of these crashes was fairly low, with one disabling injury, four non-disabling injuries, and one crash in which speed was a contributing factor. Bicycle and pedestrian involvement was also low, representing three and five crashes respectively. The rate of taxi involved accidents at this location was extremely high at 30 percent, but, accounted for, in part, by the adjacency to Union Station. Figure 1 provides the summary report of crashes at this location.

District Department of Transportation

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-7)

Intersection: 1ST ST and COLUMBUS CIR (WEST), NE

Time Period Covered: From 01/01/2012 To 08/01/2015 **Prepared By:** admin TARAS **Prepared Date:** 9/2/2015

Total Number of Accident:	207
Total Number of Fatalities:	0
Total Number of Injuries:	19
Total Number of Disabling Injuries:	1
Total Number of NonDisabling Injuries:	4
Total Number of Pedestrians Involved:	5
Total Number of Bicycles Involved:	3
Total Number of Motorcycles Involved:	0

Collision Type	#ACC	%
Right Angle:	5	2.4%
Left Turn:	3	1.4%
Right Turn:	3	1.4%
Rear End:	23	11.1%
Side Swiped:	122	58.9%
Head On:	0	0.0%
Parked:	14	6.8%

Collision Type	#ACC	%
Fixed Object:	3	1.4%
Ran Off Road:	0	0.0%
Ped. Involved:	5	2.4%
Backing:	5	2.4%
Non Collision:	0	0.0%
Under/Over Ride:	1	0.5%
Unspecified:	23	11.1%

Time of Day	#ACC	%
07:30 ~ 09:30:	18	8.7%
09:30 ~ 11:30:	27	13.0%
11:30 ~ 13:30:	35	16.9%
13:30 ~ 16:00:	50	24.2%
16:00 ~18:30:	34	16.4%
18:30 ~ 07:30:	43	20.8%
Unspecified:	0	0.0%

Day o fweek	#ACC	%
Sunday:	14	6.8%
Monday:	34	16.4%
Tuesday:	42	20.3%
Wednesday:	25	12.1%
Thursday:	27	13.0%
Friday:	42	20.3%
Saturday:	23	11.1%

Weather Condition	#ACC	%
Clear:	176	85.0%
Rain:	15	7.2%
Snow:	2	1.0%
Sleet/Hail:	0	0.0%
Fog/Mist:	3	1.4%
Crosswind/Blowing Sand:	2	1.0%
Unspecified:	9	4.3%

Surface Condition	#ACC	%
Dry:	180	87.0%
Wet:	21	10.1%
Snow/Ice:	1	0.5%
Slush:	0	0.0%
Water/Sand:	0	0.0%
Repairing:	1	0.5%
Unspecified:	4	1.9%

Type of Vehicle	#VEH	%
Passenger Car:	172	42.4%
Bus:	61	15.0%
Truck:	16	3.9%
Taxi:	121	29.8%
Minivan:	0	0.0%
Police/Emergency Vehicle:	0	0.0%
Motorcycle/Moped:	0	0.0%
Bicycle:	3	0.7%
Fixed Object:	0	0.0%
Unspecified:	33	8.1%

Accident Severity Type	#ACC	%
Fatal Collision:	0	0.0%
Injury Collision:	17	8.2%
PDO Collision:	190	91.8%

Light Condition	#ACC	%
Daylight:	156	75.4%
Dawn/Dusk:	4	1.9%
Dark(Lighted):	36	17.4%
Dark(Not Lighted):	2	1.0%
Dark(Unknown Lighting):	0	0.0%
Unspecified:	9	4.3%

Contributing Factor	#VEH	%
Driver: Speed:	1	0.2%
Driver: Alcohol/Drug:	1	0.2%
Driver: Electronic Device:	0	0.0%
Driver: Others:	68	16.7%
Vehicle:	0	0.0%
Roadway:	2	0.5%
Unspecified:	334	82.3%

Pedestrian Actions	#ACC	%
In Crosswalk with Signal:	1	20.0%
In Crosswalk against Signal:	0	0.0%
In Crosswalk no Signal:	1	20.0%
In Unmarked Crosswalk:	0	0.0%
Not in Crosswalk:	0	0.0%
From Between Parked Cars:	0	0.0%
Unspecified:	3	60.0%

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Figure 1: First Street and Massachusetts Avenue NE Crash Data

High Crash Intersection Site Visits

2.2. Recent and Planned Projects

DDOT has recently completed several projects in this area, including: the full reconstruction of Columbus Plaza (2013), signal optimization as part of the Downtown area optimization (2015), and the completion of the Metropolitan Branch Trail extension on First Street NE (2015). DDOT has also worked with the Union Station Redevelopment Corporation over the past year to improve the operations of Columbus Plaza and installed some updated signage in Winter 2015. Additionally, in 2015, the Architect of the Capitol repaved E Street between Massachusetts Avenue and North Capitol and added bike lanes in coordination with DDOT.

2.3. Site Visit Observations

Participants identified issues related to all modes. Some may only require minor fixes, while others could require more substantial capital improvements. Many require further investigation and evaluation by DDOT. The timeline for next steps is included in the next section.

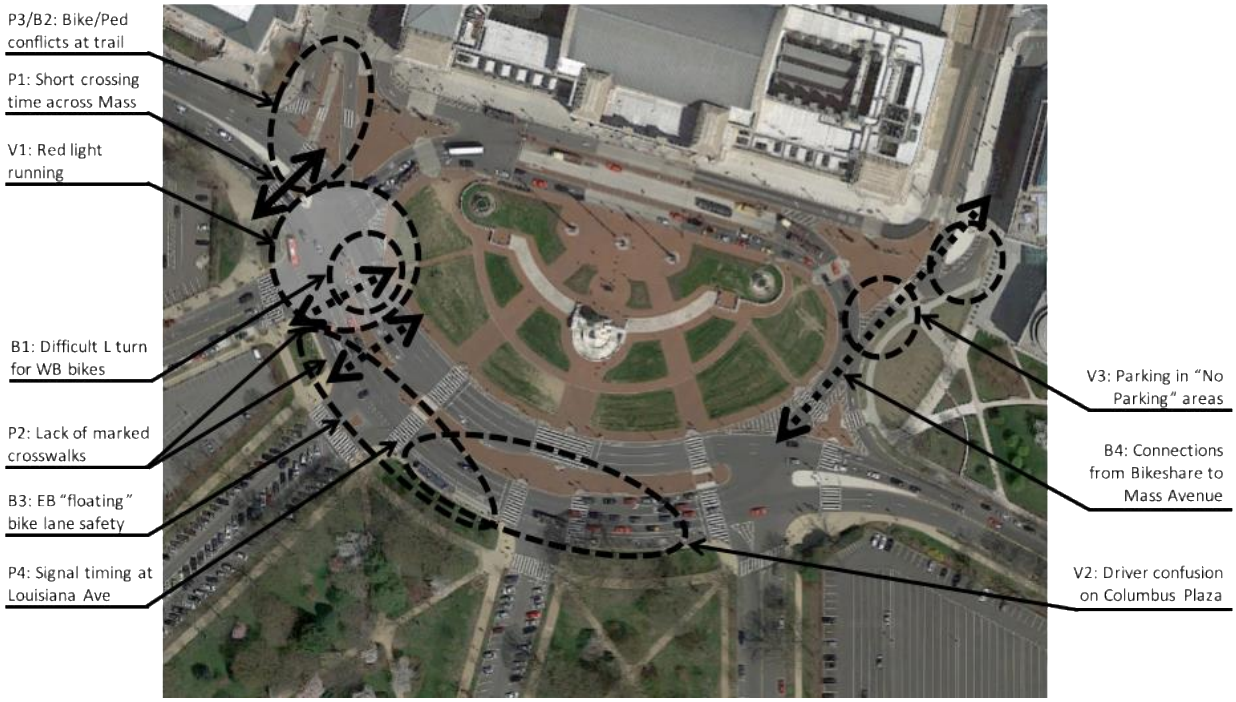

Figure 2: First Street and Massachusetts Avenue NE Site Visit Observations

Pedestrian Issues:

P1. There is a short time for pedestrians to cross Massachusetts Ave NE. There is currently 10 seconds of "walk" time and 7 seconds of "don't walk" time during AM peak. The multiple signal

phases in the intersection creates a challenge in allocating time for each. Participants observed a high number of pedestrians violating the signal and crossing during the "don't walk" phase.

P2. There is a lack of marked crossings of Massachusetts from E Street NE and Louisiana Avenue NE. There are currently no marked pedestrian crossings between the southeast side of Louisiana Avenue and the First Street crossing. This forces pedestrians to deviate from desire lines.

P3. Where First Street connects to the plaza, the "trail" portion of the sidewalk and crosswalk are not clearly defined, so pedestrians walk in the trail. The pedestrian crossing at the top of First Street near the Bikestation is not clearly defined and pedestrians could be stranded in the median.

P4. At Louisiana Avenue and Massachusetts Avenue, there is a lagging pedestrian phase for pedestrians crossing Massachusetts Avenue. Pedestrians are held when northbound cars on Louisiana Avenue receive a green light for the right turn. Next, the pedestrians get the walk signal but vehicles continue to get a green and proceed across the crosswalk.

Bicycle Issues:

B1. People biking westbound on Massachusetts Avenue have a difficult time making the left turn onto E Street NE. E Street NE/NW offers a connected bike lane all the way to 13th Street NW and is a popular route. This maneuver currently requires crossing three lanes of vehicular traffic into the turn pocket.

B2. People biking southbound on First Street NE have difficulty navigating the trail connection in the westbound Massachusetts direction. There is also some driver confusion with signals on First Street which leads to some conflicts with bicyclists following the bicycle signal.

B3. People biking eastbound on Massachusetts have a pocket lane between the right turn lane and the through lane. Stakeholders reported seeing the right turn lane regularly used to bypass queues in an unsafe manner.

B4. There is not an easy/designated way to bike from the Bikeshare station on 2nd Street to Massachusetts Avenue so riders go through Columbus Plaza, which creates challenges for all users.

Vehicular Issues:

V1. During the site visit, the participants observed a number of instances of vehicles running red lights and blocking intersections, which significantly impacted overall traffic operations and posed safety challenges for users of all modes.

V2. Participants mentioned a general level of confusion for drivers, which could be a cause of the predominance of sideswipes noted in the crash history. Many drivers are trying to access Union Station, which can be confusing for those who do not regularly access the station.

V3. There are a number of areas marked off as no-parking with hatching but that nonetheless see people regularly parking. Parking is often close to crosswalks, which reduces visibility of people crossing.

2.4. Next Steps

The following table identifies the next step for each issue and the associated timeline. Wherever possible, both design/evaluation and implementation timelines are noted, but further exploration for some issues may find potential solutions infeasible.

Issue	Next step	Timeline
Pedestrian Issues		
P1. Short crossing time for pedestrians across Mass Ave NE.	Evaluate signal timing to see if more walk time can be given across Massachusetts.	Evaluation: February 2016 Implementation: March 2016
P2. Lack of marked crosswalks across Massachusetts Avenue.	Conduct investigation into crosswalk needs and potential issues, including ADA access and catch basins.	Evaluation: January 2016 Implementation: TBD
P3. Pedestrian/Bike conflicts from 1st Street/MBT to Mass.	Identify marking changes, such as green paint or clearer delineation.	Design: February 2016 Implementation: May 2016
P4. Louisiana Avenue crossing of Mass.	Evaluate signal phasing to reduce conflicts with pedestrians.	Evaluation February 2016 Implementation: March 2016
Bicycle Issues		
B1. Difficulty of WB bikes on Mass.	Explore adding “two-stage” bike turn with bike box in front of vehicles exiting Columbus Plaza.	Design: February 2016 Implementation: May 2016
B2. Pedestrian/Bike conflicts from 1st Street/MBT to Mass.	Identify marking changes, such as green paint or clearer delineation. Evaluate signal operations and potentially identify signage changes.	Design: February 2016 Implementation: May 2016
B3. EB Mass biking conditions.	Explore strategies, including: addition of green paint to the pocket lane, improved channelization, or removal of the right turn lane.	Design: February 2016 Implementation: May 2016
B4. Bike connection from Bikeshare station on 2nd Street to Mass Ave.	Identify potential new or improved facilities.	Design: February 2016

Issue	Next step	Timeline
Vehicular Issues		
V1. Red light running	Explore automated red light enforcement with MPD.	Evaluation: March 2016 Implementation: TBD
V2. Driver confusion on Columbus Plaza	Work with USRC and Amtrak to explore adding additional lane markings on pavement directing drivers in advance of Columbus Plaza entry and/or signage upgrades.	Design: March 2016 Implementation: May 2016
V3. Parking in no-parking areas.	Explore addition of flex posts or other barriers to keep drivers from parking in these areas.	Design: March 2016 Implementation: May 2016

Table 2: First Street and Massachusetts Avenue NE Next Steps

3.0 Bladensburg Road and New York Avenue NE

Bladensburg Road and New York Avenue NE is one of the busiest intersections in the District, with around 100,000 vehicles each day, approximately 75,000 on New York Avenue and 25,000 on Bladensburg Road. In addition to the overall volumes, there are heavy turn volumes, which create challenges for pedestrians.

The September 3, 2015 site visit included staff from Councilmembers Cheh's office, representatives from ANC 5C, MPD staff, bicycle and pedestrian advocates, and members of the Bicycle and Pedestrian Advisory Councils.

3.1. Crash Data

The crash data reflects the high vehicular volumes and higher speeds at this intersection when compared with the other intersections visited. The number of alcohol-related crashes was high as were the percent of the crashes involved trucks, which reflects the freight volume at this location. Nearly one third of the crashes were rear end, which is indicative of locations with high congestion and/or high speeds.

Not reflected in the crash data summary is the high number of hit and run crashes at this location, which MPD has noted. During the data period, there was one fatality and four disabling injuries at this location, along with a number of other injuries. Thirteen pedestrians and five bicyclists were involved in crashes at this intersection. Figure 3 provides the summary report of crashes at this location.

District Department of Transportation

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-7)

Intersection: NEW YORK AVE and BLADENSBURG RD, NE

Time Period Covered: From 01/01/2012 To 08/01/2015 **Prepared By:** admin TARAS **Prepared Date:** 9/2/2015

Total Number of Accident:	362
Total Number of Fatalities:	1
Total Number of Injuries:	123
Total Number of Disabling Injuries:	4
Total Number of NonDisabling Injuries:	22
Total Number of Pedestrians Involved:	13
Total Number of Bicycles Involved:	5
Total Number of Motorcycles Involved:	10

Collision Type	#ACC	%
Right Angle:	22	6.1%
Left Turn:	25	6.9%
Right Turn:	21	5.8%
Rear End:	117	32.3%
Side Swiped:	89	24.6%
Head On:	7	1.9%
Parked:	4	1.1%

Collision Type	#ACC	%
Fixed Object:	15	4.1%
Ran Off Road:	5	1.4%
Ped. Involved:	9	2.5%
Backing:	20	5.5%
Non Collision:	3	0.8%
Under/Over Ride:	0	0.0%
Unspecified:	25	6.9%

Time of Day	#ACC	%
07:30 ~ 09:30:	43	11.9%
09:30 ~ 11:30:	27	7.5%
11:30 ~ 13:30:	30	8.3%
13:30 ~ 16:00:	42	11.6%
16:00 ~18:30:	56	15.5%
18:30 ~ 07:30:	164	45.3%
Unspecified:	0	0.0%

Day o fweek	#ACC	%
Sunday:	62	17.1%
Monday:	40	11.0%
Tuesday:	37	10.2%
Wednesday:	50	13.8%
Thursday:	49	13.5%
Friday:	67	18.5%
Saturday:	57	15.7%

Weather Condition	#ACC	%
Clear:	288	79.6%
Rain:	41	11.3%
Snow:	1	0.3%
Sleet/Hail:	1	0.3%
Fog/Mist:	7	1.9%
Crosswind/Blowing Sand:	1	0.3%
Unspecified:	23	6.4%

Surface Condition	#ACC	%
Dry:	295	81.5%
Wet:	53	14.6%
Snow/Ice:	0	0.0%
Slush:	0	0.0%
Water/Sand:	1	0.3%
Repairing:	0	0.0%
Unspecified:	13	3.6%

Type of Vehicle	#VEH	%
Passenger Car:	532	74.0%
Bus:	19	2.6%
Truck:	72	10.0%
Taxi:	14	1.9%
Minivan:	0	0.0%
Police/Emergency Vehicle:	15	2.1%
Motorcycle/Moped:	10	1.4%
Bicycle:	5	0.7%
Fixed Object:	0	0.0%
Unspecified:	52	7.2%

Accident Severity Type	#ACC	%
Fatal Collision:	1	0.3%
Injury Collision:	88	24.3%
PDO Collision:	273	75.4%

Light Condition	#ACC	%
Daylight:	204	56.4%
Dawn/Dusk:	7	1.9%
Dark(Lighted):	135	37.3%
Dark(Not Lighted):	3	0.8%
Dark(Unknown Lighting):	0	0.0%
Unspecified:	13	3.6%

Contributing Factor	#VEH	%
Driver: Speed:	11	1.5%
Driver: Alcohol/Drug:	12	1.7%
Driver: Electronic Device:	1	0.1%
Driver: Others:	131	18.2%
Vehicle:	1	0.1%
Roadway:	2	0.3%
Unspecified:	561	78.0%

Pedestrian Actions	#ACC	%
In Crosswalk with Signal:	1	10.0%
In Crosswalk against Signal:	1	10.0%
In Crosswalk no Signal:	0	0.0%
In Unmarked Crosswalk:	0	0.0%
Not in Crosswalk:	4	40.0%
From Between Parked Cars:	1	10.0%
Unspecified:	3	30.0%

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Figure 3: Bladensburg Road and New York Avenue NE Crash Data

High Crash Intersection Site Visits

3.2. Recent and Planned Projects

DDOT has not made any major improvements to the intersection in some time, and there are not currently capital improvement plans for this location. Three photo-enforcement cameras operate at this location to detect red light running and speeding.

3.3. Site Visit Observations

Participants identified a number of issues related to all modes. Some may only require minor fixes, while others could require more substantial capital improvements. Many require further investigation and evaluation by DDOT. The timeline for next steps is included in the next section.

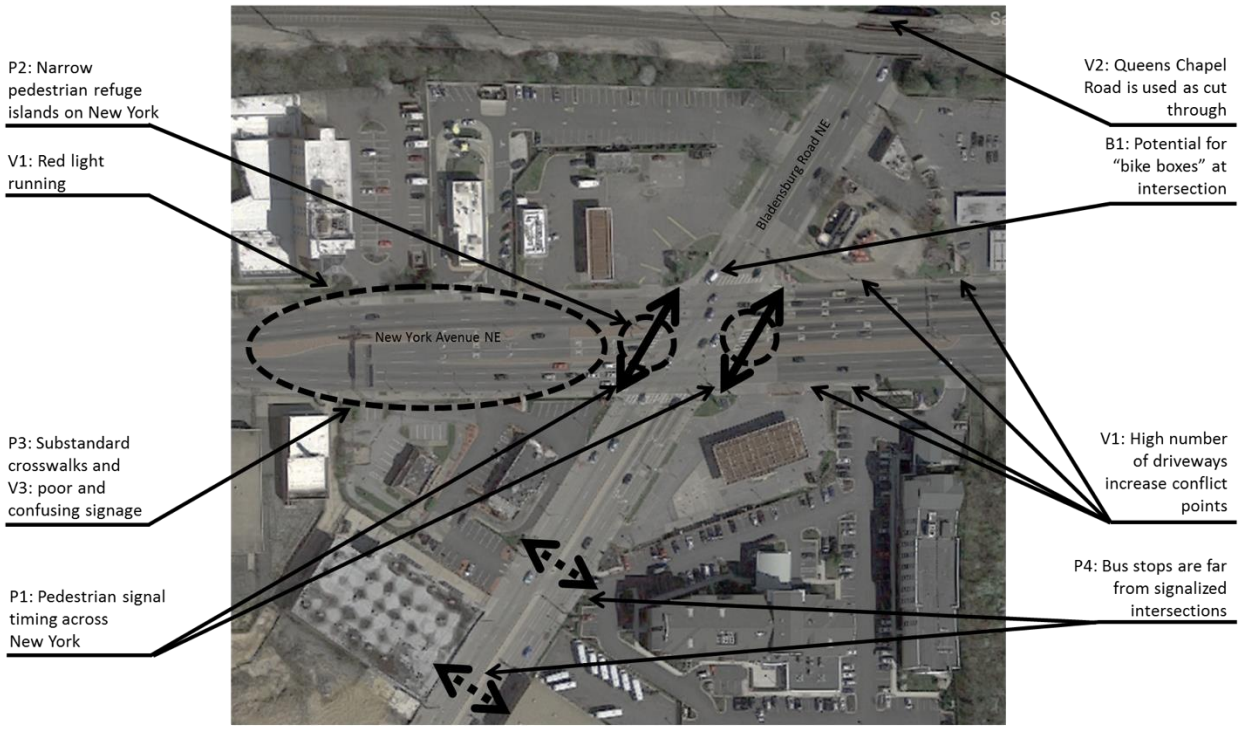

Figure 4: New York and Bladensburg Road NE Site Visit Observations

Pedestrian Issues:

P1. Signal timing for pedestrians is problematic. Leading Pedestrian Intervals or shifting left turns to lagging would give pedestrians a head start across the intersection. Participants also noted short crossing times overall and that pedestrians often must cross in two stages. Participants also

noted that trucks stopping at the intersection often obscure the pedestrian signals for those crossing New York Avenue. The eastern crossing of New York Avenue has higher pedestrian demand with hotel guests crossing to access restaurants. This is also a heavy right turn volume from WB New York Avenue to SB Bladensburg Road. The signal has a leading protected turn phase with right arrow, but eventually the green arrow turns into a green ball when the pedestrians get the walk signal. Drivers fail to yield the right-of-way and continue to turn right through the crosswalk even after pedestrians are present.

P2. Pedestrian refuge islands along New York Avenue are small and may not be ADA compliant.

P3. Pedestrian conditions along New York Avenue are substandard. Sidewalks have light poles in the middle of them and do not meet DDOT standards for width. Participants thought ADA conditions should be evaluated/retrofitted.

P4. Bus stops are far from the intersection (south of New York Avenue near the Taco Bell) which encourages mid-block crossing. MPD positions an officer to serve as a school crossing guard there in the mornings. A HAWK signal or Rectangular Rapid Flashing Beacon (RRFB) could be ways to allow pedestrians to cross safely. At the intersection of T Street and Bladensburg Road, there is a "Tee" intersection with no labelled crosswalks. Consider warrants for a signalized intersection, pedestrian refuge, or HAWK signal.

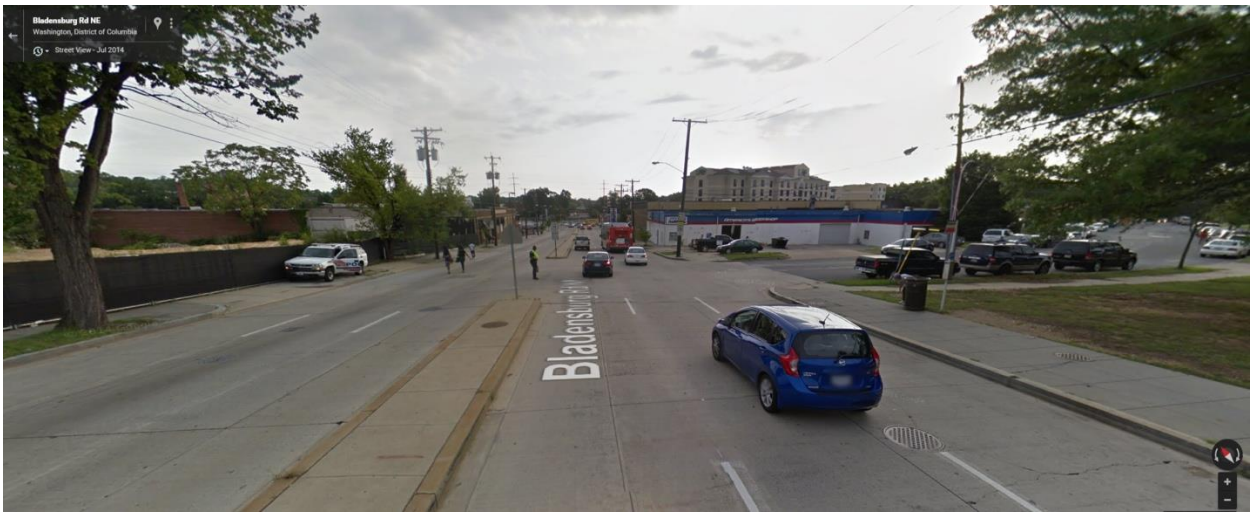

Figure 5: A police officer is regularly posted at the intersection of T Street and Bladensburg NE to facilitate pedestrian crossings and is visible in Google Street View.

Bicycle Issues:

B1. There are fairly low bicycle volumes at this intersection, but there were nevertheless five bicyclist crashes during the analysis period. Participants discussed the potential to add bike boxes on the Bladensburg Road approaches. One participant said that he has difficulty turning from Bladensburg to Queens Chapel Road and requested a climbing lane on Queens Chapel Road.

B2. The Fifth District Police Station on Bladensburg just south of the intersection needs bicycle racks. There are numerous community events held in this building and the existing bike racks are located in a secured area.

Vehicular Issues:

V1. The large number of driveways complicate turning movements and increase conflict points. The high number of curb cuts presents safety and operational concerns for all users.

V2. Participants mentioned that Queens Chapel Road gets used as a cut-through when traffic is congested along New York Avenue, including oversize and overweight trucks.

V3. Participants discussed the potential to add better signage to New York and Bladensburg, including potentially mounting street signs to traffic signals. Some of the existing traffic signs are placed low on the poles, which limits visibility and impacts pedestrians as well.

3.4. Next steps

The following table identifies the next step for each issue and the associated timeline. Wherever possible, both design/evaluation and implementation timelines are noted, but further exploration for some issues may find potential solutions infeasible.

Issue	Next step	Timeline
Pedestrian Issues		
P1. Pedestrian crossings of New York Avenue	Evaluate signal timing and phasing, particularly NB Bladensburg right turn onto New York Ave.	Evaluation: January 2016 Implementation: March 2016
P2. Pedestrian refuge islands on New York	Evaluate ADA compliance and identify physical improvements.	Evaluation: January 2016 Implementation: TBD
P3. Pedestrian conditions along New York Avenue	Evaluate sidewalk needs. Widening sidewalks would be a major capital project, which is not currently budgeted.	Evaluation: January 2016 Implementation: TBD
P4. Bladensburg Road south of New York Avenue	Evaluate potential for HAWK or Rectangular Rapid Flashing Beacon (RRFB) and initiate design.	Evaluation: January 2016 Implementation: TBD
Bicycle Issues		
B1. Bike conditions at intersections	Assess potential for bike improvements at intersections along Bladensburg Road and Queens Chapel Road	Evaluation: January 2016 Installation: TBD
B2. Bicycle racks at Fifth District Police Station	Add location to DDOT installation database and schedule for installation.	Installation: Summer 2016
Vehicular Issues		
V1. Access management and curb cuts	Assess potential to close some driveways that do not meet DDOT standards.	Evaluation: February 2016
V2. Queens Chapel Road gets used as a cut-through when traffic is congested along NY Ave.	Work with MPD to evaluate potential photo enforcement, particularly for oversize/overweight vehicles.	Evaluation: February 2016
V3. Driver confusion and signage	Evaluate signage at intersections and upgrade as necessary.	Evaluation: January 2016 Implementation: March 2016

Table 3: Bladensburg Road and New York Avenue NE Next Steps

4.0 14th Street and U Street NW

14th Street and U Street is fairly typical signalized intersection, but processes approximately 40,000 vehicles per day, in addition to very high pedestrian, bicycle, and transit demands. The intersection is also at the center of the U Street nightlife/entertainment district, which presents some atypical demands from for-hire vehicles.

The September 1, 2015 site visit included staff from Councilmembers Cheh's, Councilmember Nadeau's Office, Councilmember Evans' office, representatives from ANC 2B, ANC 1B, MPD staff, bicycle and pedestrian advocates, and members of the Bicycle and Pedestrian Advisory Councils.

4.1. Crash Data

During the analysis period, there were two fatalities and one disabling injury in this location. More than 10 percent of crashes involved pedestrians and bicyclists, and the 25 pedestrians and bicyclists involved in crashes was the highest for any of the five locations visited. Three of the pedestrian crashes involved pedestrians crossing in the crosswalk with the "walk" signal. More than one third of the crashes are sideswipes, which can be indicative of rapid lane changes in congested areas, in this case likely associated with the high volume of vehicular turning movements at the intersection, quick lane changes in response to double parking, or rapid changes to find parking. More than 10 percent of crashes involved taxis. Speed was a contributing factor in only two crashes. Over half of all crashes happen overnight, from 6:30pm to 7:30am. Figure 6 provides the summary report of crashes at this location.

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-7)

Intersection: 14TH ST and U ST, NW

Time Period Covered: From 01/01/2012 To 08/01/2015 **Prepared By:** admin TARAS **Prepared Date:** 9/2/2015

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	208	Right Angle:	11	5.3%	Fixed Object:	4	1.9%
Total Number of Fatalities:	2	Left Turn:	16	7.7%	Ran Off Road:	1	0.5%
Total Number of Injuries:	43	Right Turn:	17	8.2%	Ped. Involved:	6	2.9%
Total Number of Disabling Injuries:	1	Rear End:	36	17.3%	Backing:	15	7.2%
Total Number of NonDisabling Injuries:	6	Side Swiped:	81	38.9%	Non Collision:	1	0.5%
Total Number of Pedestrians Involved:	10	Head On:	2	1.0%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	15	Parked:	7	3.4%	Unspecified:	11	5.3%
Total Number of Motorcycles Involved:	7						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	13	6.3%	Sunday:	34	16.3%
09:30 ~ 11:30:	28	13.5%	Monday:	35	16.8%
11:30 ~ 13:30:	12	5.8%	Tuesday:	22	10.6%
13:30 ~ 16:00:	23	11.1%	Wednesday:	22	10.6%
16:00 ~18:30:	15	7.2%	Thursday:	20	9.6%
18:30 ~ 07:30:	117	56.3%	Friday:	25	12.0%
Unspecified:	0	0.0%	Saturday:	50	24.0%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	181	87.0%	Dry:	178	85.6%
Rain:	15	7.2%	Wet:	19	9.1%
Snow:	2	1.0%	Snow/Ice:	1	0.5%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	0	0.0%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	0	0.0%	Repairing:	0	0.0%
Unspecified:	10	4.8%	Unspecified:	10	4.8%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	244	60.0%	Fatal Collision:	2	1.0%
Bus:	33	8.1%	Injury Collision:	39	18.8%
Truck:	35	8.6%	PDO Collision:	167	80.3%
Taxi:	42	10.3%			
Minivan:	0	0.0%	**Light Condition**	**#ACC**	**%**
Police/Emergency Vehicle:	5	1.2%	Daylight:	97	46.6%
Motorcycle/Moped:	8	2.0%	Dawn/Dusk:	3	1.4%
Bicycle:	15	3.7%	Dark(Lighted):	99	47.6%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	25	6.1%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	9	4.3%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	2	0.5%	In Crosswalk with Signal:	3	37.5%
Driver: Alcohol/Drug:	6	1.5%	In Crosswalk against Signal:	1	12.5%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	72	17.7%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	1	12.5%
Roadway:	2	0.5%	From Between Parked Cars:	0	0.0%
Unspecified:	325	79.9%	Unspecified:	3	37.5%

44 Records are not approved as of 9/2/2015 2:15:35 PM

Figure 6: 14th Street and U Street NW Crash Data

4.2. Recent and Planned Projects

The intersection of 14th Street and U Street in Northwest will be included in the scope of work for the 14th Street Streetscape project. The project is currently in design and 90% complete, and already incorporates a number of improvements to the intersection. The design phase of this project will

High Crash Intersection Site Visits

conclude in winter 2016, and construction, which will cost approximately $10 million, is anticipated to begin in fall of 2016. The streetscape project is a potential mechanism to incorporate additional items and refinements identified during the site visit.

Figure 7 is an overview of the project boundaries and Figure 8 is an image of the proposed signs and marking plan, which depicts the following changes:

- Bulb-outs at each corner to improve pedestrian crossing safety through reducing the crossing distance.
- Bus Bulb outs along 14th Street, north of the intersection to improve boarding and alighting.
- Pavement Markings for a bike lane on 14th Street and a bike box at the intersection of 14th and U Streets.
- ADA compliant sidewalks and curb-ramps.
- New streetlights and signals with Audible Pedestrian Signal pushbuttons.
- Pavement milling and overlay with new pavement markings, including high visibility crosswalks.

Figure 7: 14th Street NW Streetscape Project Boundaries

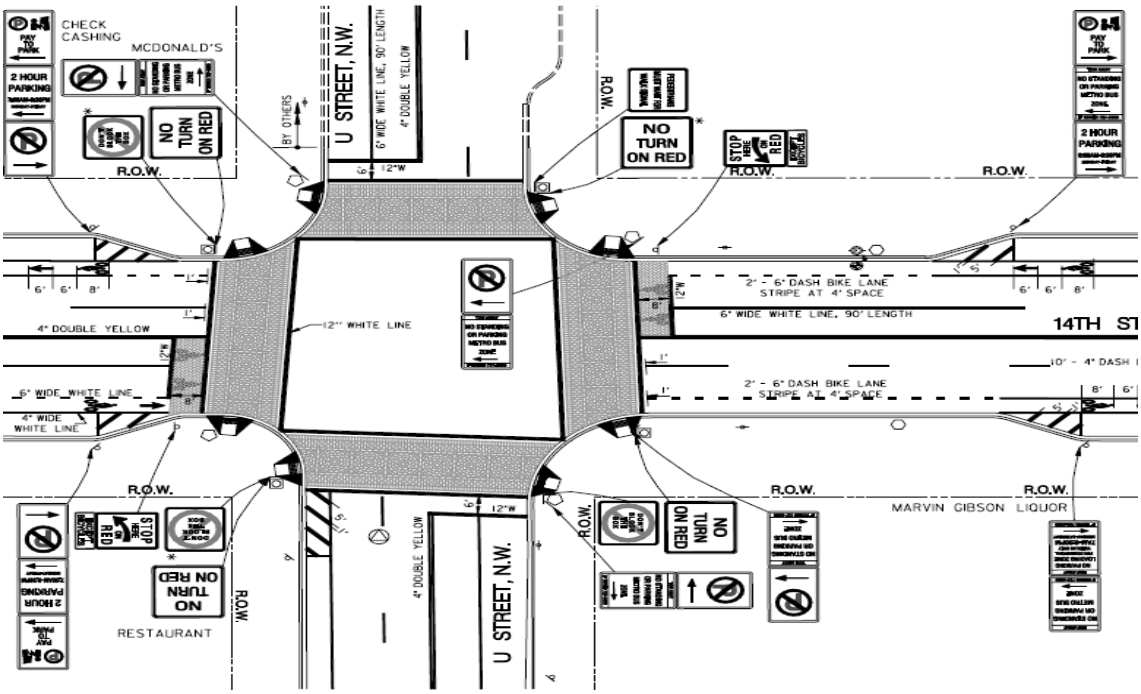

Figure 8: 14th Street NW and U Street Intersection – Signage and Pavement Marking Plan

Participants in the site visit asked about the potential for short term or "interim" improvements. There is currently $75,000 to $125,000 available from the 13th and U development, which may be used to support traffic safety improvements in the area.

4.3. Site Visit Observations

Participants identified a number of issues related to all modes. Some may only require minor fixes, while others could require more substantial capital improvements. Many will also require further investigation and evaluation by DDOT. The timeline for next steps is included in the next section.

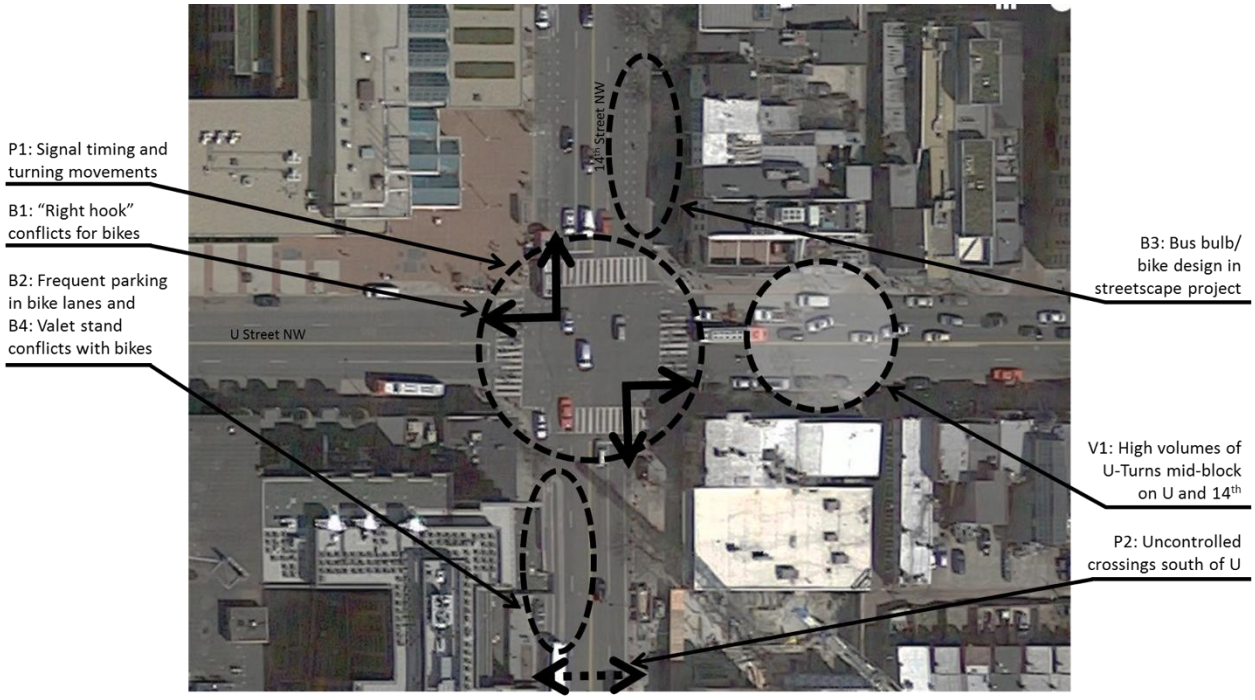

Figure 9: 14th and U Street NW Site Visit Observations

Pedestrian Issues:

P1. Participants discussed signal timing issues overall and concepts such as a diagonal crosswalk and "Barnes Dance" timing, as well as modifying signal timing to prioritize pedestrians. Participants discussed the potential to evaluate signal timing to restrict turning movements while pedestrians are crossing. The leading left for NB 14th Street onto WB U Street is problematic, as pedestrians often violate the exclusive left turn phase and drivers are stuck in the intersection.

P2. There are several uncontrolled pedestrian crossings along 14th Street south of U Street. A 2013 DDOT evaluation found that these locations do not warrant HAWK signals, but other improvements in visibility and safety may be possible. Recent repaving also has left some intersections without full crosswalk markings.

P3. There is heavy pedestrian traffic during late night conditions at the intersection, mostly on Fridays and weekends. Participants identified the potential for a Traffic Control Officer (TCO) to be stationed in high pedestrian volume periods.

Bicycle Issues:

B1. There are concerns with "right hooks" for bikes (when vehicles turn across a bike lane and collide with people biking) along 14th Street. Green pavement markings and stronger markings continuing through intersections may be improvements to highlight the visibility of people biking.

B2. Participants noted seeing parking in bike lanes frequently, especially at Trader Joe's.

B3. The streetscape project incorporates bus bulb outs at the intersection, but these could be a concern for people biking if they are not well integrated into the final design.

B4. Valet stands conflict with bike lanes and result in parking/pick-up/drop-off in the bike lanes.

Vehicular Issues:

V1. Participants discussed the high volume of U-Turns mid-block along U Street and 14th Street, especially by for-hire vehicles during evenings and weekends, and the potential for delineators or bollards to discourage this behavior.

V2. Participants asked for information from MPD on speed cameras.

4.4. Next steps

The following table identifies the next step for each issue and the associated timeline. Wherever possible, both design/evaluation and implementation timelines are noted, but further exploration for some issues may find potential solutions infeasible.

Issue	Next step	Timeline
Pedestrian Issues		
P1. Pedestrian crossings and signal timing	Evaluate signal timing to see if more walk time can be given, including the potential for a "Barnes Dance".	Evaluation: January 2016 Implementation: March 2016
P2. Pedestrian crossings on 14th Street corridor	Evaluate potential for HAWK signals or Rectangular Rapid Flashing Beacon (RRFB) and ensure appropriate crosswalk are markings in place.	Evaluation: January 2016 Implementation: TBD
P3. Late night/weekend pedestrian volumes	Evaluate potential for a dedicated Traffic Control Officer (TCO) to manage high pedestrian volume periods.	Evaluation: February 2016

Issue	Next step	Timeline
Bicycle Issues		
B1. Turning movement conflicts for bikes	Identify interim treatments prior to streetscape project construction, such as green paint treatment.	Design: March 2016 Installation: May 2016
B2. Parking in bike lanes	Work with DPW and MPD to improve enforcement of parking in bike lanes.	Ongoing
B3. Potential conflicts between "bus bulbs" and bikes	Refine streetscape design to address safety for all users.	Design: January 2016 Construction: 2017
B4. Valet stand conflicts with bike lanes	Work with permit holders to improve compliance, including enforcement.	January 2016
Vehicle Issues		
V1. U-Turns mid-block along U Street and 14th Street	Work with DCTC and MPD to address U-turns, especially by for-hire vehicles.	Ongoing
V2. Speeding in corridor	Work with MPD to evaluate potential photo enforcement locations.	January 2016

Table 4: 14th Street and U Street NW Next Steps

5.0 Minnesota Avenue and Benning Road NE

Minnesota Avenue and Benning Road NE is a heavily traveled intersection that serves substantial demand by vehicles and pedestrians. Over 40,000 vehicles per day traverse the intersection, with high turn volumes, particularly from Minnesota Avenue towards westbound Benning Road. Multiple Metrobus lines serve the intersection, connecting to the Minnesota Avenue Metrorail station and points farther east on Benning Road and south on Minnesota Avenue.

The September 2, 2015 site visit included staff from Councilmembers Cheh's office, MPD staff, bicycle and pedestrian advocates, and members of the Bicycle and Pedestrian Advisory Councils.

5.1. Crash Data

There were 206 crashes at this intersection during the analysis period, more than 10 percent of which involved left turns. Over 50 percent involved either rear end or side swipes, which is consistent with both the congestion and the heavy turn volumes. While there were no fatalities during the analysis period, there were four disabling injuries. Sixteen pedestrians and five bicyclists were involved in the crashes, the highest pedestrian total and the second highest combined pedestrian/bicyclist total of the five locations. Four of the pedestrians were hit in the crosswalk crossing with the "walk" signal, and another four were crossing outside of the crosswalk, an issue that is highlighted and discussed below. There were also a number of crashes related to speed or alcohol use, including four speed-related crashes. Figure 10 provides the summary report of crashes at this location.

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-7)

Intersection: MINNESOTA AVE and BENNING RD, NE

Time Period Covered: From 01/01/2012 To 08/01/2015 **Prepared By:** admin TARAS **Prepared Date:** 9/2/2015

Total Number of Accident:	206	**Collision Type**	**#ACC**	**%**	**Collision Type**	**#ACC**	**%**
Total Number of Fatalities:	0	Right Angle:	4	1.9%	Fixed Object:	6	2.9%
Total Number of Injuries:	101	Left Turn:	21	10.2%	Ran Off Road:	0	0.0%
Total Number of Disabling Injuries:	4	Right Turn:	9	4.4%	Ped. Involved:	16	7.8%
Total Number of NonDisabling Injuries:	14	Rear End:	59	28.6%	Backing:	7	3.4%
Total Number of Pedestrians Involved:	16	Side Swiped:	65	31.6%	Non Collision:	2	1.0%
Total Number of Bicycles Involved:	5	Head On:	5	2.4%	Under/Over Ride:	1	0.5%
Total Number of Motorcycles Involved:	2	Parked:	1	0.5%	Unspecified:	10	4.9%

Time of Day	**#ACC**	**%**	**Day o fweek**	**#ACC**	**%**
07:30 ~ 09:30:	19	9.2%	Sunday:	17	8.3%
09:30 ~ 11:30:	13	6.3%	Monday:	23	11.2%
11:30 ~ 13:30:	19	9.2%	Tuesday:	43	20.9%
13:30 ~ 16:00:	35	17.0%	Wednesday:	29	14.1%
16:00 ~18:30:	54	26.2%	Thursday:	31	15.0%
18:30 ~ 07:30:	66	32.0%	Friday:	41	19.9%
Unspecified:	0	0.0%	Saturday:	22	10.7%

Weather Condition	**#ACC**	**%**	**Surface Condition**	**#ACC**	**%**
Clear:	174	84.5%	Dry:	170	82.5%
Rain:	21	10.2%	Wet:	27	13.1%
Snow:	0	0.0%	Snow/Ice:	0	0.0%
Sleet/Hail:	0	0.0%	Slush:	0	0.0%
Fog/Mist:	3	1.5%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	1	0.5%	Repairing:	3	1.5%
Unspecified:	7	3.4%	Unspecified:	6	2.9%

Type of Vehicle	**#VEH**	**%**	**Accident Severity Type**	**#ACC**	**%**
Passenger Car:	273	70.9%	Fatal Collision:	0	0.0%
Bus:	42	10.9%	Injury Collision:	70	34.0%
Truck:	23	6.0%	PDO Collision:	136	66.0%
Taxi:	2	0.5%			
Minivan:	0	0.0%	**Light Condition**	**#ACC**	**%**
Police/Emergency Vehicle:	4	1.0%	Daylight:	139	67.5%
Motorcycle/Moped:	4	1.0%	Dawn/Dusk:	7	3.4%
Bicycle:	5	1.3%	Dark(Lighted):	54	26.2%
Fixed Object:	0	0.0%	Dark(Not Lighted):	0	0.0%
Unspecified:	32	8.3%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	6	2.9%

Contributing Factor	**#VEH**	**%**	**Pedestrian Actions**	**#ACC**	**%**
Driver: Speed:	4	1.0%	In Crosswalk with Signal:	4	25.0%
Driver: Alcohol/Drug:	9	2.3%	In Crosswalk against Signal:	2	12.5%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	1	6.3%
Driver: Others:	69	17.9%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	2	0.5%	Not in Crosswalk:	4	25.0%
Roadway:	1	0.3%	From Between Parked Cars:	0	0.0%
Unspecified:	300	77.9%	Unspecified:	5	31.3%

49 Records are not approved as of 9/2/2015 2:14:44 PM

Figure 10: Minnesota Avenue and Benning Road NE Crash Data

5.2. Recent and Planned Projects

The Minnesota Avenue, N.E. Revitalization Phase II Project, encompassing a segment of the roadway 300 feet south of Benning Road to Sheriff Road, is currently under design, and the design team is

preparing to submit 90% plans for review. The Phase II design plan is a continuation of the Phase I plan (which encompassed the section south of Benning Road), and includes intersection improvements, lane and median reconfiguration, pavement reconstruction, driveway and sidewalk adjustments, streetlights upgrades, new traffic signals, drainage improvements, landscape and streetscape improvements, and the undergrounding of Pepco's primary feeder line.

The design is anticipated to be complete in spring 2016, with the potential construction advertisement in fall 2016. The project will implement some physical upgrades to the intersection, including a new refuge island, upgraded curb ramps, and upgraded markings. The signage and marking plan is shown in Figure 11.

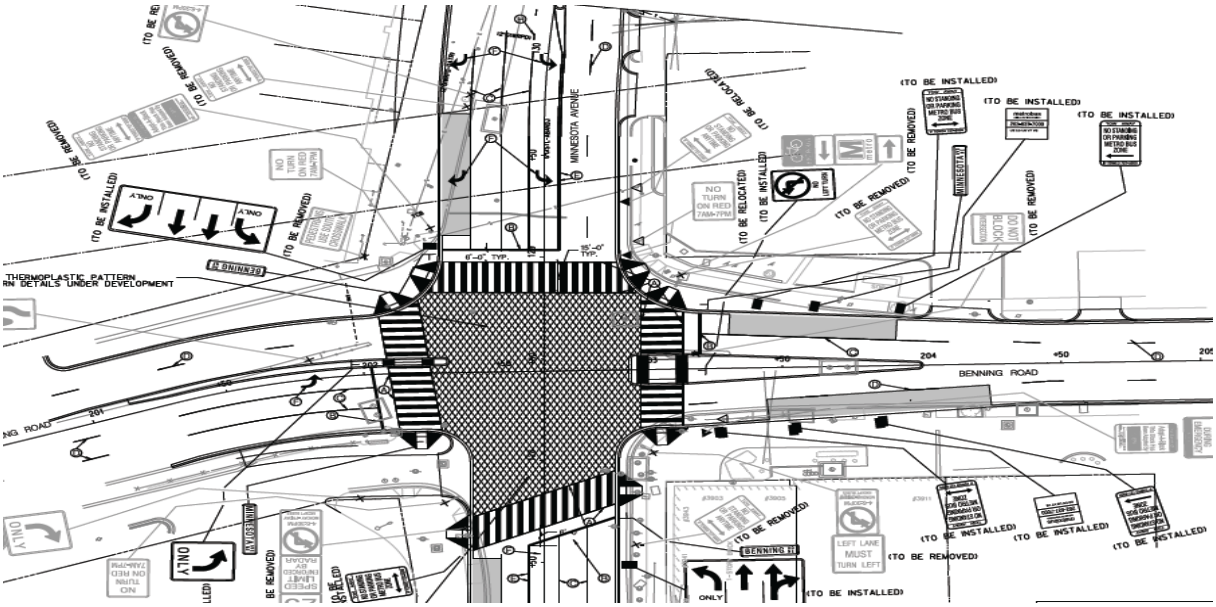

Figure 11: Minnesota Avenue and Benning Road Intersection – Signage and Pavement Markings

The Benning Road Streetcar Extension Environmental Assessment is also ongoing. The Environmental Assessment envisions additional modifications to traffic conditions at the intersection in conjunction with the reconstruction of the bridge, and the eastern expansion of the existing H Street/Benning Road Line. Improvements would include better pedestrian conditions crossing the bridge towards the downtown area and a lengthening of the eastbound left turn bay. The Environmental Assessment is expected to be complete in winter 2016, with a potential Finding of No Significant Impact (FONSI) by mid-year. However, the physical improvements from the streetcar extension are still likely several years away from construction.

5.3. Site Visit Observations

Participants identified a number of issues related to all modes. Some may only require minor fixes, while others could require more substantial capital improvements. Many will also require further investigation and evaluation by DDOT. The timeline for next steps is included in the next section.

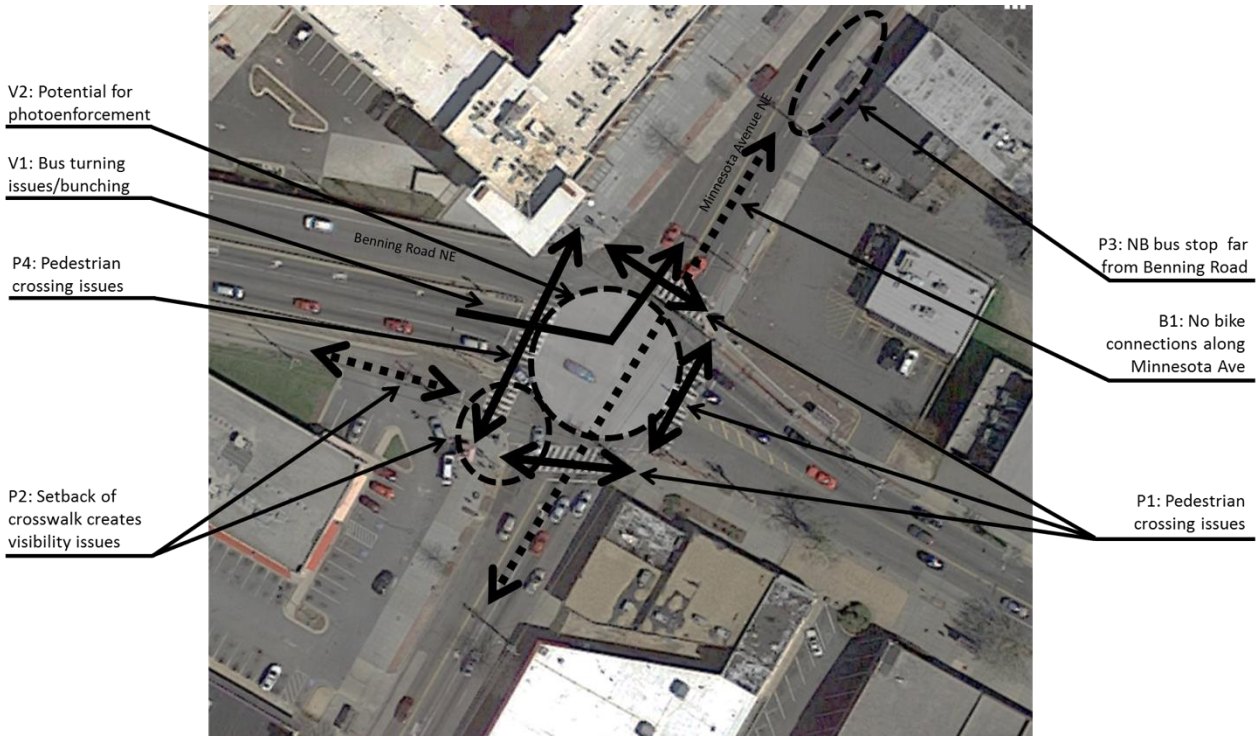

Figure 12: Minnesota Avenue and Benning Road NE Site Visit Observations

Pedestrian Issues:

P1. Participants discussed improvements such as high visibility crosswalks, signage, and longer pedestrian crossing times to improve the safety of the intersection.

P2. The setback of the crosswalk on Minnesota south of Benning creates visibility challenges for turning vehicles. The setback is created because of the access road along the bridge that services an industrial site.

P3. There is the potential to relocate the northbound bus stop located at Minnesota Avenue north of Benning Road to the south and closer to the intersection. This would require modifications to an existing driveway, and needs to be evaluated for bus turning movement and operations. There is also the potential to move the southbound bus stop closer to intersection prior to

Phase II project. This would require relocation of the bus shelter, but would improve pedestrian crossings and minimize violations for transfers.

P4. Participants discussed several ideas for improving the crossing of Benning Road on the west side of Minnesota, particularly to address the heavy eastbound to southbound right turn movements that are taken at relatively high speeds. One idea included a pedestrian "refuge" created with flex posts in anticipation of the Phase II project (see Figure 13) and Installation of R10-15 ("Turning Vehicles Yield to Pedestrians") signs on the NW corner pole facing the southbound right turning drivers, and the SW corner pole facing the eastbound right turning drivers. Another idea was to make the protected signal phase for the northbound left turn to westbound Benning "lagging", rather than "leading". This would reduce non-compliance by pedestrians, and could permit a Leading Pedestrian Interval.

Bicycle Issues:

B1. The intersection is fairly difficult to navigate by bicycle, because of the high turn volumes and narrow roadways. Participants discussed the potential for a bike lane along Minnesota Avenue. While this may be challenging due to traffic and transit volumes, the area can be evaluated for bike facility opportunities.

Vehicle Issues:

V1. Participants discussed bus bunching of the X2 articulated buses making the eastbound left turn to Minnesota Avenue.

V2. Participants noted the challenges with red light running and intersection blocking in general, particularly near the fire station on Minnesota north of the Benning Road intersection.

5.4. Next steps

The following table identifies the next step for each issue and the associated timeline. Wherever possible, both design/evaluation and implementation timelines are noted, but further exploration for some issues may find potential solutions infeasible.

Issue	Next step	Timeline
Pedestrian Issues		
P1. Pedestrian crossings improvements.	Evaluate for inclusion in the Phase II project, and/or shorter-term markings upgrades.	Design: March 2016 Potential interim markings: May 2016 Phase II construction: 2017
P2. Setback of south side Minnesota Avenue pedestrian crossing	Short: improve visibility of crosswalk. Long: reconfigure access and straighten crossing.	Short: with Phase II construction. Long: TBD
P3. Bus stop locations	Evaluate bus stop relocations with WMATA in near term and through capital projects.	Evaluation: February 2016 Implementation: TBD
P4. Benning Road pedestrian crossing	Evaluate signal timing and potential for temporary “refuge”.	Evaluation: March 2016 Implementation: May 2016
Bicycle Issues		
B1. Bike access on Minnesota	Identify potential bicycle access improvements.	Evaluation: March 2016 Implementation: TBD
Vehicle Issues		
V1. Signal operations for transit vehicles.	Evaluate phasing, especially for EB to NB X2 bus.	Evaluation: January 2016 Implementation: March 2016
V2. Driver behavior, including blocking the box and red light running.	Evaluate photo enforcement opportunities with MPD and/or TCO presence. Move “Do not block firehouse” sign closer to the station.	Evaluation: February 2016 Implementation: TBD

Table 5: Benning Road and Minnesota Avenue NE Next Steps

Figure 13: Mock-up of Potential Interim "Pedestrian Refuge" on West Side Crossing of Benning Road.

6.0 M Street and Wisconsin Avenue NW

M Street and Wisconsin Avenue NW is at the heart of the Georgetown shopping district and serves a busy mix of vehicles, bicyclists, pedestrians, and transit vehicles. Approximately 35,000 vehicles use the intersection daily, and pedestrian volumes are high, especially on weekends.

The site visit was held on Friday, September 4, 2015 at 9am. Attendees included DDOT staff, Councilmember Cheh, ANC 2E, Georgetown BID, WABA, All Walks DC, and the Pedestrian and Bicycle Advisory Councils. The intersection experiences high turning volumes, a high bus volume demand, and heavy peak-period demand by all modes of travel. The M Street corridor itself is a congested vehicular route on a daily basis, particularly leading towards the Key Bridge.

6.1. Crash Data

The crash data shows fairly low severity, with two disabling injuries and no fatalities during the analysis period. Almost half of all crashes were sideswipes, indicative of an intersection with heavy turn volumes and can also be representative of a location with lane changing or high parking demand/turnover. There were 12 pedestrians and nine bicyclists involved in crashes, the second highest combined total of the five intersections. A third of pedestrians were not in crosswalks, an issue discussed further below. There are high rates of taxi involvement in crashes, and heavy vehicles (buses and trucks) make up almost one quarter of vehicles involved in crashes. Figure 14 provides the summary report of crashes at this location.

DC Department of Transportation - Traffic Accident Reporting and Analysis System

Accident Summary Report (R-7)

Intersection: WISCONSIN AVE and M ST, NW

Time Period Covered: From 01/01/2012 To 08/01/2015 **Prepared By:** admin TARAS **Prepared Date:** 9/2/2015

		Collision Type	#ACC	%	Collision Type	#ACC	%
Total Number of Accident:	195	Right Angle:	7	3.6%	Fixed Object:	2	1.0%
Total Number of Fatalities:	0	Left Turn:	16	8.2%	Ran Off Road:	0	0.0%
Total Number of Injuries:	36	Right Turn:	14	7.2%	Ped. Involved:	11	5.6%
Total Number of Disabling Injuries:	2	Rear End:	27	13.8%	Backing:	12	6.2%
Total Number of NonDisabling Injuries:	12	Side Swiped:	88	45.1%	Non Collision:	1	0.5%
Total Number of Pedestrians Involved:	12	Head On:	2	1.0%	Under/Over Ride:	0	0.0%
Total Number of Bicycles Involved:	9	Parked:	2	1.0%	Unspecified:	13	6.7%
Total Number of Motorcycles Involved:	3						

Time of Day	#ACC	%	Day o fweek	#ACC	%
07:30 ~ 09:30:	7	3.6%	Sunday:	24	12.3%
09:30 ~ 11:30:	19	9.7%	Monday:	17	8.7%
11:30 ~ 13:30:	31	15.9%	Tuesday:	27	13.8%
13:30 ~ 16:00:	42	21.5%	Wednesday:	27	13.8%
16:00 ~18:30:	35	17.9%	Thursday:	27	13.8%
18:30 ~ 07:30:	61	31.3%	Friday:	38	19.5%
Unspecified:	0	0.0%	Saturday:	35	17.9%

Weather Condition	#ACC	%	Surface Condition	#ACC	%
Clear:	166	85.1%	Dry:	166	85.1%
Rain:	18	9.2%	Wet:	22	11.3%
Snow:	1	0.5%	Snow/Ice:	0	0.0%
Sleet/Hail:	1	0.5%	Slush:	2	1.0%
Fog/Mist:	1	0.5%	Water/Sand:	0	0.0%
Crosswind/Blowing Sand:	1	0.5%	Repairing:	1	0.5%
Unspecified:	7	3.6%	Unspecified:	4	2.1%

Type of Vehicle	#VEH	%	Accident Severity Type	#ACC	%
Passenger Car:	188	49.7%	Fatal Collision:	0	0.0%
Bus:	52	13.8%	Injury Collision:	31	15.9%
Truck:	34	9.0%	PDO Collision:	164	84.1%
Taxi:	65	17.2%			
Minivan:	0	0.0%	**Light Condition**	**#ACC**	**%**
Police/Emergency Vehicle:	5	1.3%	Daylight:	131	67.2%
Motorcycle/Moped:	3	0.8%	Dawn/Dusk:	6	3.1%
Bicycle:	9	2.4%	Dark(Lighted):	55	28.2%
Fixed Object:	0	0.0%	Dark(Not Lighted):	1	0.5%
Unspecified:	22	5.8%	Dark(Unknown Lighting):	0	0.0%
			Unspecified:	2	1.0%

Contributing Factor	#VEH	%	Pedestrian Actions	#ACC	%
Driver: Speed:	2	0.5%	In Crosswalk with Signal:	2	16.7%
Driver: Alcohol/Drug:	1	0.3%	In Crosswalk against Signal:	0	0.0%
Driver: Electronic Device:	0	0.0%	In Crosswalk no Signal:	0	0.0%
Driver: Others:	77	20.4%	In Unmarked Crosswalk:	0	0.0%
Vehicle:	0	0.0%	Not in Crosswalk:	4	33.3%
Roadway:	0	0.0%	From Between Parked Cars:	0	0.0%
Unspecified:	298	78.8%	Unspecified:	6	50.0%

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Figure 14: M Street and Wisconsin Avenue NW Crash Data

6.2. Recent and Planned Projects

DDOT does not have major planned projects at M and Wisconsin NW, and the last major project ended more than five years ago.

High Crash Intersection Site Visits

6.3. Site Visit Observations

Participants identified a number of issues related to all modes. Some may only require minor fixes, while others could require more substantial capital improvements. Many will also require further investigation and evaluation by DDOT. The timeline for next steps is included in the next section.

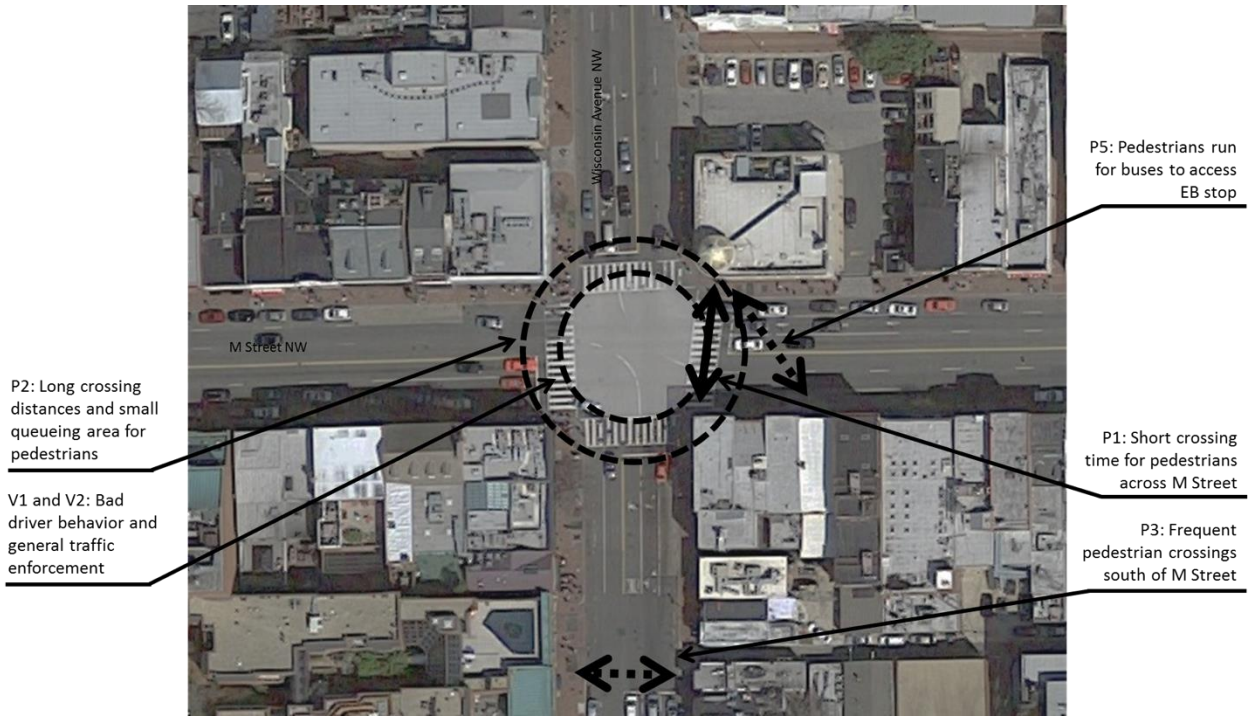


Figure 15: M Street and Wisconsin Avenue NW Site Visit Observations

Pedestrian Issues:

P1. Pedestrians have 16 seconds to cross M Street in the eastern crosswalk, and pedestrians are often still crossing as the phase ends. There was discussion of a possible "Barnes Dance" to permit diagonal crossings.

P2. There are long crossing distances and small queuing areas for pedestrians, especially on weekends. Curb extensions may be possible on the NW, SW, and SE corners (see Figure 16).

P3. There are frequent pedestrian crossings on Wisconsin outside of crosswalk south of M Street. A marked crossing at the canal could reduce some of the demand on the M Street crosswalk and make an existing pedestrian behavior safer.

P4. There are high volumes of pedestrians in evenings and weekends when vehicular demands are different. Attendees mentioned that some of the highest volume pedestrian times do not

coincide with highest volume vehicular demands, so additional timing plans giving more time for pedestrians could be possible at these times.

P5. Pedestrians run for buses, particularly for buses accessing eastbound M Street stop east of Wisconsin. There were suggestions to move the stop farther east, to 31st Street or to have "mini-layovers" built into schedules which would allow pedestrians to miss the signal cycle but still catch the bus without jaywalking.

Bicycle Issues:

- No specific bicycle issues were discussed during the site visit. It is likely that the pedestrian and vehicle issues also impact overall bicycle safety.

Vehicle Issues:

V1. The participants cited bad driver behavior at this intersection, particularly the running of red lights and blocking the intersection. The ANC and BID have requested red light cameras and MPD has previously indicated willingness to install, but sight lines and access are challenging.

V2. There are significant vehicular demands from at many times of day and very high turn volumes at this location. Interactions between drivers and pedestrians, especially during turns, create some safety hazards. More proactive management of the intersection may be necessary, and the Georgetown BID has requested additional TCO deployment at this location.

6.4. Next steps

The following table identifies the next step for each issue and the associated timeline. Wherever possible, both design/evaluation and implementation timelines are noted, but further exploration for some issues may find potential solutions infeasible.

Issue	Next Step	Timeline
Pedestrian Issues		
P1. Short crossing time for pedestrians across M Street	Evaluate signal timing to see if more walk time can be given or if alternative phasing is possible.	Evaluation: January 2016 Implementation: March 2016
P2. Long crossing distances and small queuing areas for pedestrians, especially on weekends	Explore "temporary" curb extensions, installed with paint and potentially flex posts in order to test the feasibility. (Figure 16)	Evaluation: March 2016 Implementation: May 2016

Issue	Next Step	Timeline
P3. Frequent pedestrian crossings on Wisconsin outside of crosswalk south of M Street	Explore feasibility of new crossing, particularly south of M Street across Wisconsin Avenue.	Evaluation: March 2016 Implementation: TBD
P4. High pedestrian volumes coincide with off-peak auto times	Evaluate potential for additional signal timing plans during non-peak times.	Evaluation: March 2016 Implementation: May 2016
P5. Pedestrians run for buses, particularly for buses accessing eastbound M Street stop east of Wisconsin.	Evaluate potential for bus stop location changes.	Evaluation: January 2016 Implementation: TBD
Bicycle Issues		
- No specific bicycle issues were discussed during the site visit.		
Vehicle Issues		
V1. Bad driver behavior, particularly running red lights and blocking box	ANC and BID have requested red light camera and MPD has previously indicated willingness to install, but sight lines and access are challenging.	Evaluation: January 2016 Implementation: TBD
V2. Traffic and turning movement volumes.	Evaluate whether TCO deployment can be accommodated as well as signal timing changes to minimize pedestrian/vehicle conflicts.	Evaluation: January 2016

Table 6: M Street and Wisconsin Avenue NW Next Steps

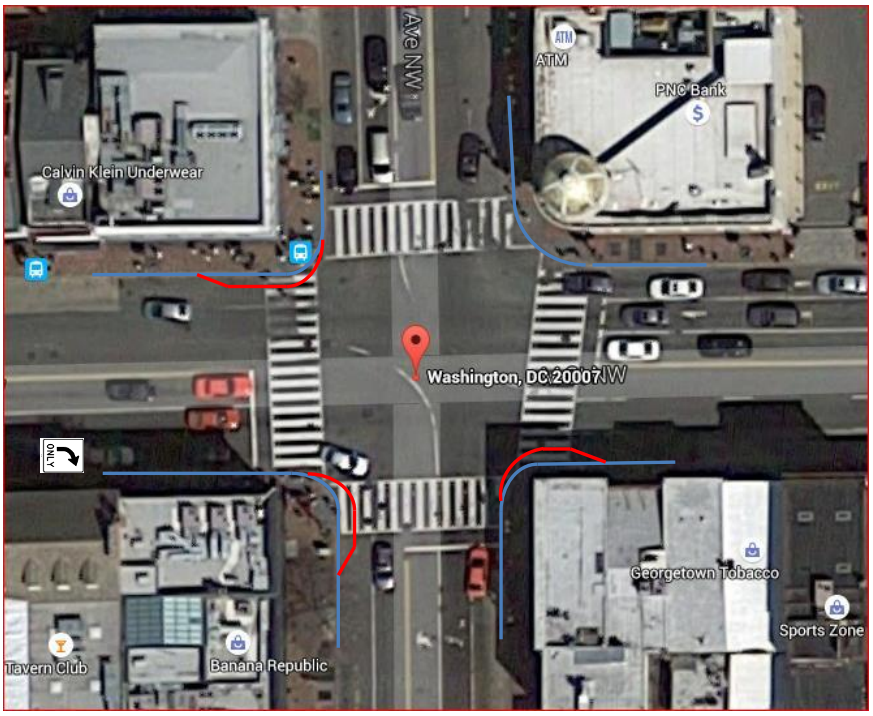


Figure 16: Conceptual Layout for Curb Extensions.

7.0 Conclusion

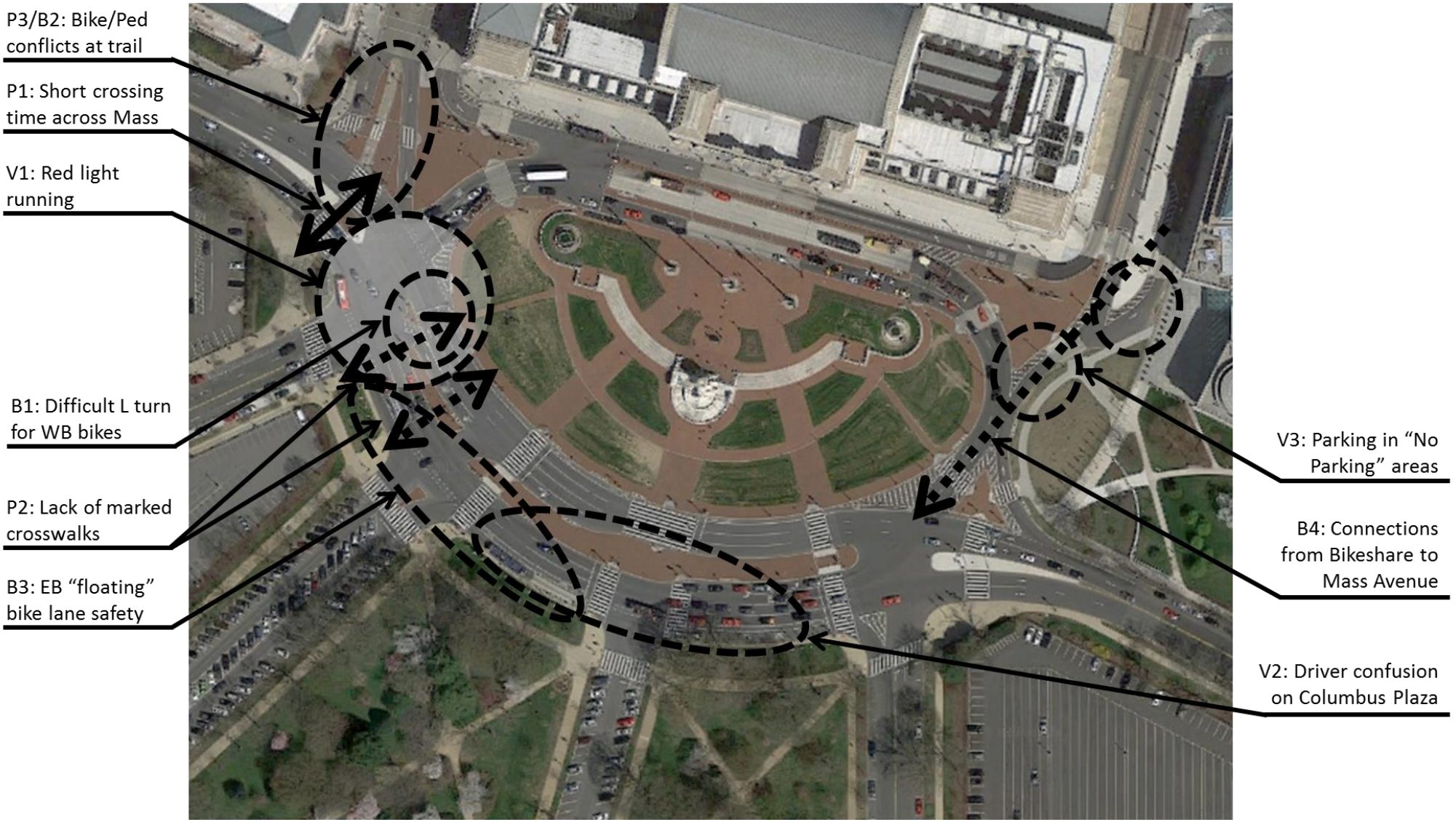
The high crash intersection site visit process was a useful exercise in which key stakeholders developed a common understanding of transportation safety issues and quickly evaluated a number of different issues in specific locations.

The theme of the site visits coalesces well with the District's Vision Zero Initiative to eliminate transportation fatalities and serious injuries within 10 years as Vision Zero will require concerted and collaborative effort from a number of stakeholders. These intersection evaluations and improvements are important early actions in achieving the vision, along with the engineering, infrastructure, and enforcement changes at these locations. This collaborative approach to improving data collection and analysis and engaging regularly with key stakeholders will enable us to identify and address safety issues more effectively.

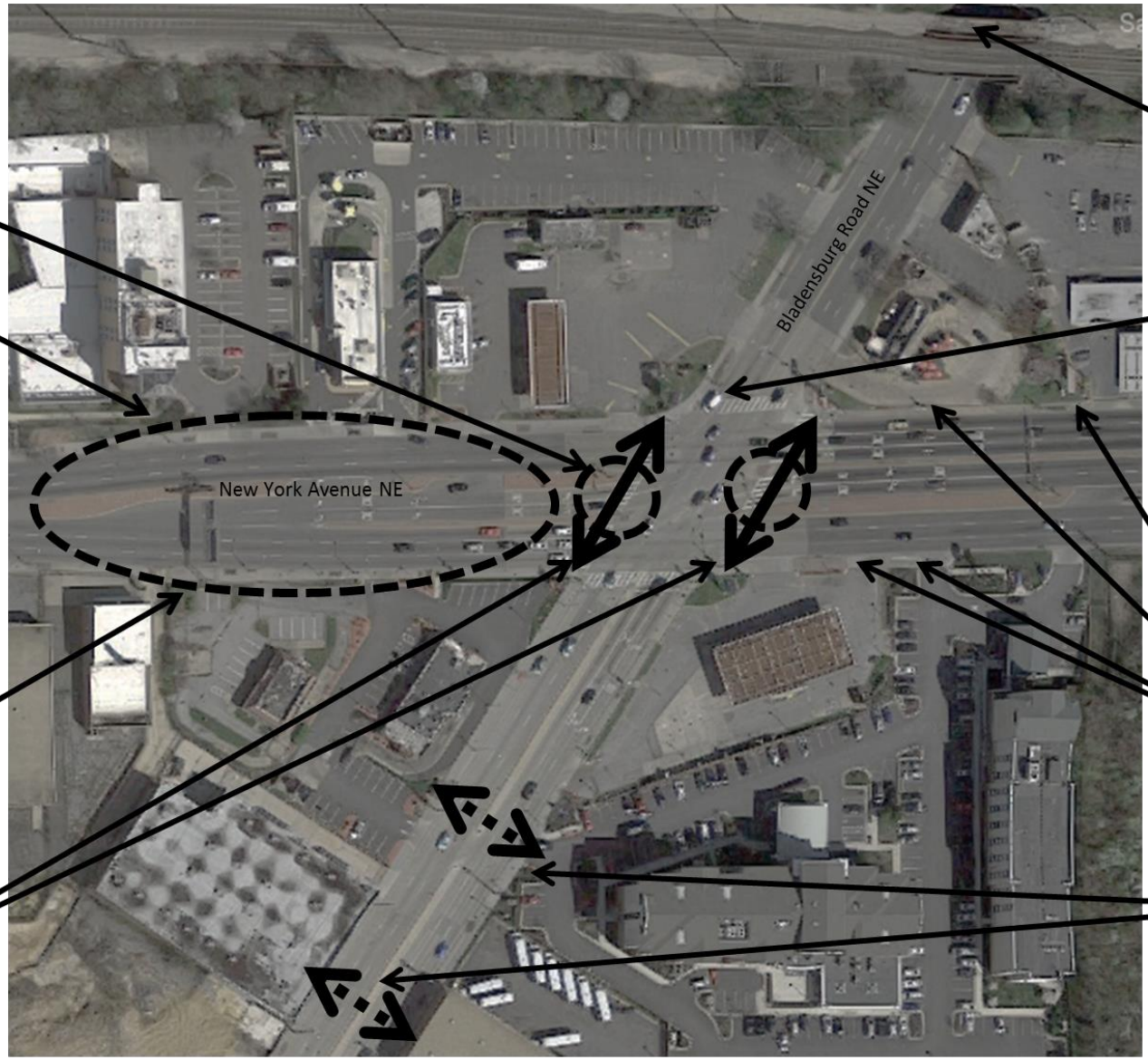
DDOT expects to institutionalize this process more formally, and accelerate the time to summarize and evaluate the site visits. The agency will identify five additional locations for site visits in early Spring 2016.

8.0 Appendix A: Large Format Location Issue Maps

First Street and Massachusetts Avenue NE



Bladensburg Road and New York Avenue NE



P2: Narrow pedestrian refuge islands on New York

V1: Red light running

P3: Substandard crosswalks and V3: poor and confusing signage

P1: Pedestrian signal timing across New York

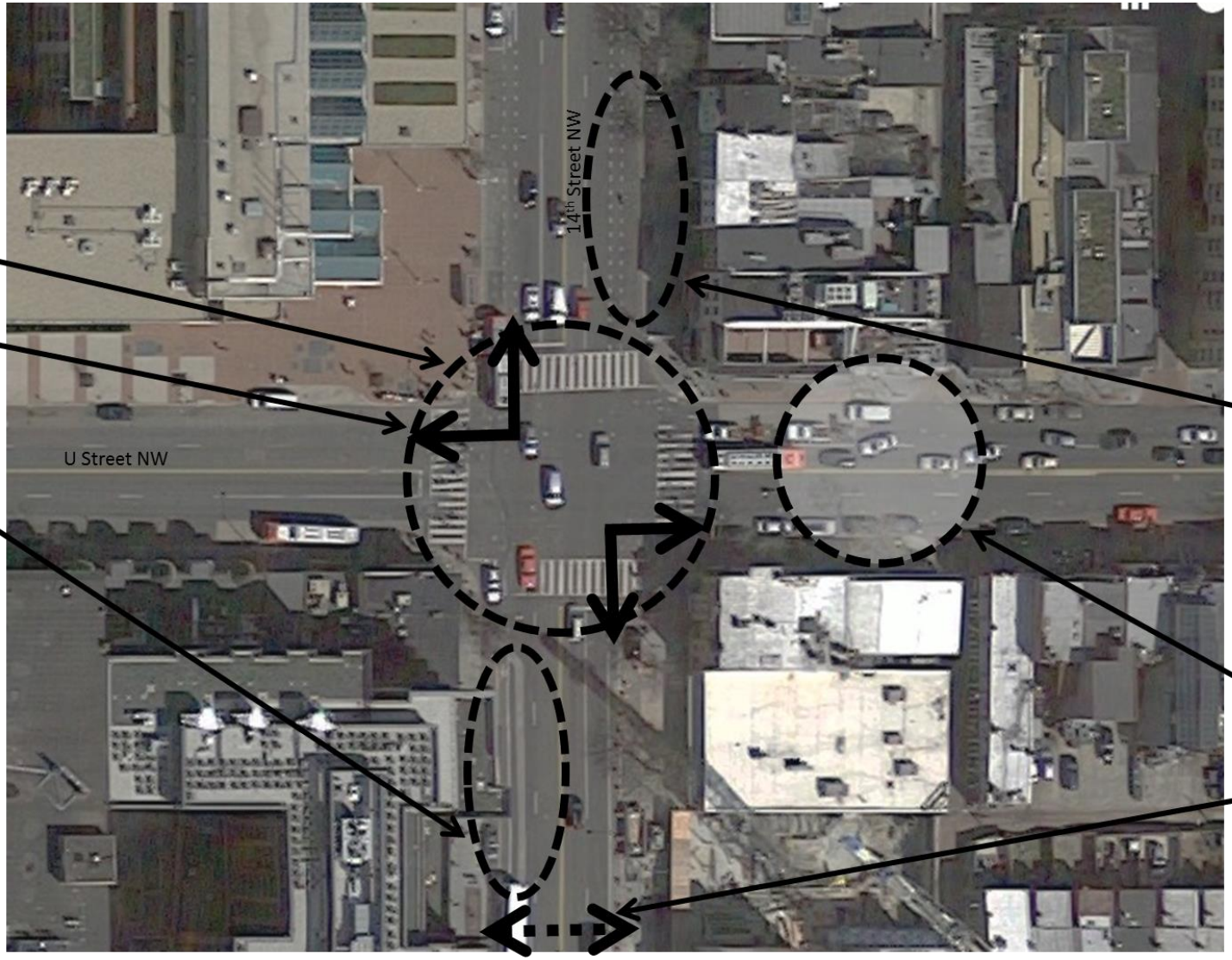
V2: Queens Chapel Road is used as cut through

B1: Potential for "bike boxes" at intersection

V1: High number of driveways increase conflict points

P4: Bus stops are far from signalized intersections

14th and U Street NW



P1: Signal timing and turning movements

B1: "Right hook" conflicts for bikes

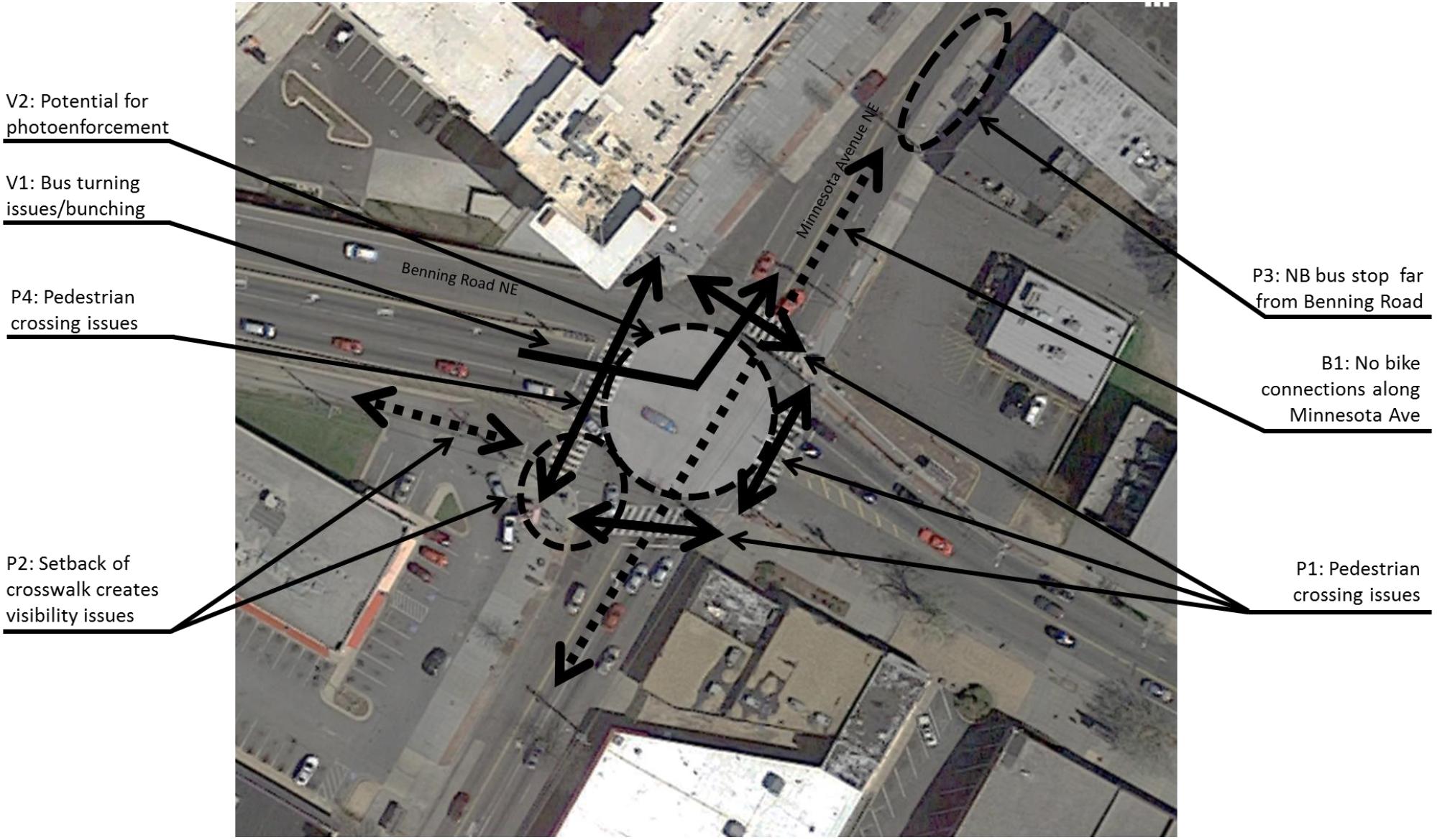
B2: Frequent parking in bike lanes and
B4: Valet stand conflicts with bikes

B3: Bus bulb/ bike design in streetscape project

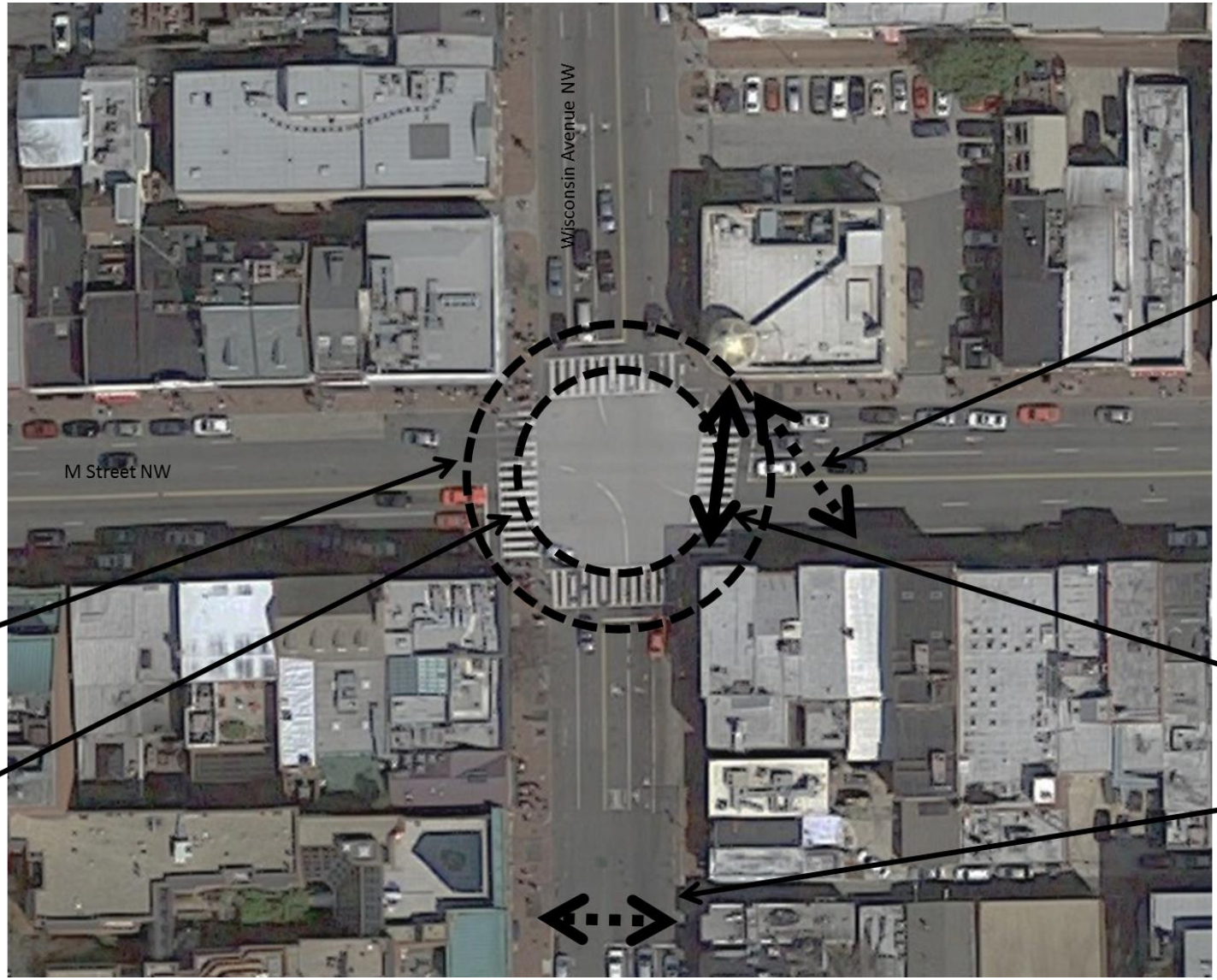
V1: High volumes of U-Turns mid-block on U and 14th

P2: Uncontrolled crossings south of U

Minnesota Avenue and Benning Road NE



M Street and Wisconsin Ave NW



P5: Pedestrians run for buses to access EB stop

P2: Long crossing distances and small queueing area for pedestrians

P1: Short crossing time for pedestrians across M Street

V1 and V2: Bad driver behavior and general traffic enforcement

P3: Frequent pedestrian crossings south of M Street