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Modernizing the Collection, Integration and Disclosure of Crash Data: Policy Recommendations for the District of Columbia

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In February 2015, District of Columbia Mayor Muriel Bowser announced that the District will implement a Vision Zero policy with the goal of bringing traffic fatalities and serious injuries in the District to zero by the year 2024.[1] The District of Columbia Department of Transportation (DDOT) has committed that "Vision Zero strategies will be informed by a systematic data and information-driven process that identifies and prioritizes interventions with the greatest potential to eliminate fatalities and serious injuries."[2] The Washington Area Bicyclist Association (WABA) fully supports the Vision Zero policy and looks forward to participating in the development of the District's comprehensive Vision Zero Action Plan in order to make our city's streets safer for its most vulnerable users.

As a key first step in the Vision Zero effort, we urge the Mayor's office, DDOT, the Metropolitan Police Department (MPD), the Department of Motor Vehicles and the City Council to modernize the District's crash data collection, integration and disclosure policies. Specifically, we recommend that the District take the following actions, discussed in more detail in this paper:

- Update the MPD's crash intake form to better align with national minimum standards so that the circumstances of a crash are captured accurately at the scene of the crash;
- Integrate crash data with medical data so that the physical outcomes of people injured in a crash are reflected in the record of the crash; and
- Disclose crash data automatically, in a timely and intuitive manner.

This modernization process will help the District accomplish many of the goals of Vision Zero by:

- Identifying high priority streets, intersections and neighborhoods for safety improvements;
- Analyzing the effects of street design features;
- Creating more accurate benchmarks for measuring the District's Vision Zero performance over time;
- Enabling public health practitioners to develop a greater understanding of the relationship between crash variables and medical outcomes; and
- Promoting transparency and ensuring the public's ready access to important safety information.

Because crash data will inform—and measure—the District's Vision Zero policies, it is critical that these recommendations be implemented as soon as possible.

I. Collecting More Accurate Crash Data

Accurate crash data allows engineers to design safer roadways.[3] Yet, the MPD's PD-10 crash intake form has several deficiencies that make it difficult for police officers to capture accurately the important details of a crash involving a pedestrian or bicyclist. The National Highway Traffic Safety Administration (NHTSA), Governors Highway Safety Association (GHSA), and U.S. Department of Transportation have jointly developed national crash data collection minimum standards in the Model Minimum Uniform Crash Criteria (MMUCC).[4] MMUCC guidelines include all of the inputs missing from the current PD-10 form, and provide a ready model for DDOT and MPD to use when updating the PD-10 form.

The PD-10 form[5] does not include inputs for any of the following factors (the corresponding input under the MMUCC guidelines is marked in parentheses):

- The location of a non-motorist with respect to the roadway at the time of the crash (*i.e.*, whether the non-motorist was on the sidewalk, a cycle track or bicycle lane, or the road) (P25);
- The action of a bicyclist immediately prior to the crash and an indication of whether the non-motorist was walking or cycling to or from school (P23);
- The impact point at which a vehicle struck a bicycle (V19; Appx. J)[6];
- Whether the bicyclist was wearing "high visibility" or reflective clothing (P26);
- Whether the bicyclist was using lights (P26); and
- Whether the bicyclist was wearing a helmet (P8).

District residents walk, bike, or take public transit more than in any other city in the United States other than New York.[7] Despite this fact, the MPD's PD-10 form is oriented solely toward automobiles. As a result, it is impossible to know the effect of basic street design and behavioral variables involving non-motorists. For example, without knowing whether a bicyclist was riding in a separated cycle track on any given street when he or she was struck, DDOT cannot know whether the cycle track is safer than other types of facilities.

Along with improvements to the MPD form, we hope the MPD will continue to train, and refresh the training of, officers in how to best use the PD-10 form to meet the needs of all roadway users. Unfortunately, due in part to the deficiencies of the current PD-10 form, WABA's experience has been that the records of crashes involving a pedestrian or bicyclist often omit basic information about the circumstances of the crash as they relate to the pedestrian or bicyclist.

II. Integrating Crash Data with Medical Data

All crashes are not equal. One of the fundamental principles of Vision Zero is to prioritize reducing crashes that cause deaths and serious injuries over those that cause minor or no injuries. Despite the importance of injury severity in road design, the MPD's PD-10 form only catalogs the responding officer's impression of the injuries at a single point in time—shortly after the officer arrives at the scene. This is problematic for at least three reasons. First, MPD officers are not always able to assess injuries as accurately as trained medical professionals.

Second, the responding officer's injury assessments reflected in the form are static, and do not necessarily reflect subsequent developments. If a pedestrian were struck by a car, appeared to have only minor external injuries at the scene, but later died of internal injuries in the emergency room, the crash record would only reflect that the crash caused minor injuries even though the crash caused a death. Third, this system does not allow District officials to easily determine the financial costs to the victims of crashes or to the public for health care associated with the crash.

The NHTSA has worked with state transportation departments to develop a solution to these problems. The NHTSA's Crash Outcome Data Evaluation System (CODES) links crash records to medical records in order to electronically track victims of a motor vehicle crash from the scene through the health care system. CODES allows for the analysis of crash outcomes in terms of mortality, injury, severity, and health care costs. CODES can also be used to link crash data to licensure, registration, roadway, citation, and other traffic records to understand the association of, for example, problem drivers, vehicle and roadway characteristics, and/or different types of violations with crash outcomes.

D.C.'s neighbors Maryland and Virginia have implemented CODES. In Maryland, CODES has "contributed data and expertise to the State Highway Administration to assist in the development of a statewide strategic plan that will guide the direction of traffic records and highway safety in the State for the next several years."[8] In Virginia, CODES has been used to support programs that "[r]educe injuries and severity, improve traffic records, and inform the public of injury costs."[9] Other states have used CODES to inform a wide range of initiatives, including injury prevention, traffic safety, and EMS improvements.[10] The experience of those states' departments of transportation and hospitals could inform the District's efforts to implement CODES.

Federal grants are available to the States and the District to implement CODES and other crash data improvement initiatives.[11] We understand that the District currently receives funds to generally improve its traffic safety information systems under this program.[12] For years, District transportation bodies have declared their intention to implement CODES as well.[13] While we understand the District has begun a pilot program that has linked crash data to Fire and EMS Department data,[14] it does not appear that the District has linked crash data to hospital data.[15] We recommend that DDOT and MPD prioritize and accelerate the full scale adoption of CODES so that the most accurate and useful data are available to drive Vision Zero.

III. Improving the Accessibility of Crash Data

The current process for the public to access crash data suffers from several flaws. As a threshold matter, a person who wants to access the record of a crash needs to be aware of the occurrence of the crash through news reports, and then make a Freedom of Information Act (FOIA) request to the MPD, DDOT or DMV for the record. But the MPD, DDOT or DMV could withhold or delay the release of the record. As City Councilmember and Transportation Committee Chair Mary Cheh has written, "the District does not have an especially proud history of FOIA compliance," because District agencies consistently deny valid requests for information and delay response times past legal limits.[16] We share her concerns in light of the District's most recent FOIA statistics. Only two-thirds of the FOIA requests sent to District agencies are granted in full, and an additional 12.8 percent are granted in part and denied in part.[17] More than 13 percent of all requests are processed after the legal limit of 25 days.[18] And when crash records are disclosed, the recipient needs to input the underlying data manually in order to analyze it.

This entire process requires that someone has enough interest, savvy and time to monitor the news for crashes, make FOIA requests, stitch the data together, and post it online for others to see, all on an ongoing basis. While some news organizations and bloggers have attempted to do this,[19] the results are inevitably incomplete and delayed.[20]

Meanwhile, the District releases its own crash statistics reports periodically, but it can take years for these reports to be generated from the relevant data. The city released its most recent official report on March 13, 2014, and the report covers crash statistics from 2010 to 2012.[21] Thanks to proactive efforts by DDOT to reshape our city streets in recent years, our streets evolve at a much faster pace than the release of these reports. And, while these reports have useful information, they are static reports that do not enable the public to sort the underlying data by the variables included in the data to produce different maps and charts.

We recommend that the District create an interactive, sortable map with citywide crash data, and disclose the underlying data in real time for the public to use. Other cities have done so successfully. For example, New York City has developed a "Vision Zero View," a map that shows detailed information on traffic crashes causing injuries and fatalities, including crash type, date, location, and whether a person was injured or killed.[22] New York City also uploads the underlying data to an Open Data Portal for the public to download and use.[23]

D.C. is a world-class city for walking, bicycling and public transit. We should also be a leader in the disclosure of crash data as Vision Zero is implemented.

WABA would be pleased to work with the city to accomplish these goals.

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1 Mayor Bowser Joins US Transportation Secretary Foxx to Highlight Importance of Safer Streets (Feb. 20, 2015), http://mayor.dc.gov/release/mayor-bowser-joins-us-transportation-secretary-foxx-highlight-importance-safer-streets.

2 District of Columbia Department of Transportation, Vision Zero Initiative, http://ddot.dc.gov/page/vision-zero-initiative.

3 *See* Anne C. Lusk et al., Database Improvements for Motor Vehicle/Bicycle Crash Analysis, Injury Prevention, at 1 (Apr. 2, 2015), *available at* http://injuryprevention.bmj.com/content/early/recent.

4 *See* Model Minimum Uniform Crash Criteria, Fourth Ed. (2012).

5 We reviewed the April 2011 version of the PD-10 form, which we understand to be the current version.

6 The MMUCC standard includes twelve possible inputs for the impact point on a motorcycle, which can be used to depict the impact point on a bicycle.

7 *See* Shane Hampton, The Latest Bike, Walk, and Transit Usage Data, Institute for Quality Communities at the University of Oklahoma (Oct. 22, 2013) (using 2012 census data to show that that Washington D.C. has the second highest percentage of commuters who bike, walk, or take public transit to work). *See also* Michael Sivak, Has Motorization in the U.S. Peaked? Part 4: Households Without a Light-Duty Vehicle, at 4 (Jan. 2014), *available at* http://hdl.handle.net/2027.42/102535 (showing that Washington, D.C. has the second highest proportion of households without a motor vehicle in the 30 largest U.S. cities as of 2012).

8 NHTSA, The Crash Outcome Data Evaluation System (CODES) and Applications to Improve Traffic Safety Decision-Making (Apr. 2010), *available at* http://www-nrd.nhtsa.dot.gov/Pubs/811181.pdf.

9 *Id.*

[10] *See* NHTSA, Catalog of Types of Applications Implemented Using Linked State Data (Apr. 1997), *available at* http://www-nrd.nhtsa.dot.gov/Pubs/808-581.pdf.

[11] 23 U.S.C. § 405(c) (directing the Secretary of Transportation to award grants to states to support the development and implementation of State and District programs that link the State data systems, including traffic records, with other data systems within the State, such as systems that contain medical, roadway, and economic data).

[12] *See* NHTSA Regional Office of Program Delivery, Office of Grants Management and Operations, FY 2014 Grant Award Summary (Mar. 25, 2014), *available at* http://www.nhtsa.gov/staticfiles/administration/programs-grants/MAP-21_FY14_Grants_Tracker.pdf (District of Columbia received $303,384 in grants under 23 U.S.C. § 405(c) in fiscal year 2014 to implement improvements to its traffic safety information systems).

[13] *See* District of Columbia Traffic Safety Information System Strategic Plan (June 13, 2007), *available at* http://www.ddot-hso.com/ddot/hso/documents/Safety_Program_Documents/Traffic%20Records%20Report%20Final-%20with%20all%20appendices.pdf (recommending implementation of a CODES project); District of Columbia Traffic Records Assessment (Feb. 7-9, 2012) *available at* http://www.ddot-hso.com/ddot/hso/documents/Safety_Program_Documents/DC%20Traffic%20Records%20Assessment_11June2012.pdf (describing CODES as a "worthwhile" project that "should be pursued"); D.C. Highway Safety Office, Fiscal Year 2015 Highway Safety Plan (July 1, 2014), *available at* http://www.nhtsa.gov/links/statedocs/FY15/FY15HSPs/DC_FY15HSP.pdf (listing a pilot project to implement CODES as "Ongoing").

[14] District of Columbia Highway Safety Office, FY 2014 Annual Report, 57 (Dec. 31, 2014), *available at* http://www.ddot-hso.com/ddot/hso/documents/Publications/Annual%20Report/2014/FY2014%20Annual%20Report.pdf.

[15] District of Columbia Strategic Highway Safety Plan: Toward ZERO Fatalities and Injuries (Sept. 2014), *available at* http://www.ddot-hso.com/ddot/hso/documents/Publications/SHSP/2014/DDOT%20SHSP%20-%20October%202014.pdf (describing linkage of crash data to hospital data as being on a "short - mid term" timetable).

[16] Mary M. Cheh, *Making Freedom of Information Laws Actually Work*: The Case of the District of Columbia, 13 D.C. L. Rev. 335, 344, 346-47 (2010).

[17] *See* Government of the District of Columbia, FY 2014 Freedom of Information Act Report (Mar. 2, 2015).

[18] *Id.*

[19] For instance, the Washington City Paper and the Twitter account "Struck in DC" attempt to map bicyclist and pedestrian crashes based on news reports and social media posts. *See* http://www.washingtoncitypaper.com/assets/maps/views/struck.html and https://twitter.com/struckdc.

[20] As the Washington City Paper notes, "without realtime information, the 2015 map will likely be incomplete until mid-2016." Sarah Anne Hughes, Map: The Most Dangerous Intersections in D.C., Washington Paper (Mar. 13, 2015), *available at* http://www.washingtoncitypaper.com/blogs/citydesk/2015/03/13/map-the-most-dangerous-intersections-in-d-c/.

[21] *See* Traffic Safety Statistics Report for the District of Columbia (2010-2012) (Mar. 13, 2014) *available at* http://ddot.dc.gov/publication/traffic-safety-report-statistics.

[22] *See* Vision Zero View, http://www.nycvzv.info/.

[23] *See* NYC OpenData, Vision Zero View Data, https://data.cityofnewyork.us/Public-Safety/Vision-Zero-View-Data/y74e-vkxy.