

September 11, 2017

CITY COUNCIL STUDY SESSION ITEM

SUBJECT

Vision Zero Action Plan and Video Analytics Towards Vision Zero Update

STAFF CONTACTS

Dave Berg, Director, 452-6468
Paula Stevens, Assistant Director, 452-2802
Franz Loewenherz, Principal Transportation Planner, 452-4077
Transportation Department

Steve Mylett, Chief, 452-4334
Michael Shovlin, Sergeant, 452-4210
David Sanabria, Sergeant, 452-2821
Police Department

POLICY ISSUES

In December 2015 Council endorsed Vision Zero – a goal of ending traffic deaths and serious injuries on Bellevue’s streets by 2030. Council directed the Transportation Commission to determine if any updates, revisions, or additional policies are warranted to incorporate Vision Zero into the 2016 amendments for the Transportation Element of the Comprehensive Plan.

In December 2016 Council adopted Vision Zero policies into the Bellevue Comprehensive Plan that supports a comprehensive and programmatic approach to traffic safety. Council directed staff to prepare and implement a Vision Zero Action Plan that includes education, encouragement, enforcement, engineering, equity, and evaluation strategies that enhance safety for all users of the roadway network.

DIRECTION NEEDED FROM COUNCIL

ACTION



DIRECTION



INFORMATION ONLY



No formal action is required by Council at this time. Tonight’s presentation is an opportunity to learn more about the City’s Vision Zero work and for Council to provide feedback.

BACKGROUND/ANALYSIS

Bellevue is in the process of coordinating two important efforts – the Vision Zero Action Plan and the Video Analytics Towards Vision Zero Partnership. At its September 11 meeting, staff will provide Council an update on these initiatives.

Vision Zero Action Plan

The City of Bellevue has a long-standing track record of advancing innovative road safety strategies focusing on 6Es – Education, Encouragement, Enforcement, Engineering, Equity, and Evaluation. The following is a sampling of activities:

- **Education:** In July 1993, the City created Pedbee, a pedestrian safety mascot that has been a model for engaging students at school assemblies and special events, teaching pedestrian safety to young students. The City continues to set new standards in safety through innovative approaches in community messaging; in September 2017, Neighborhood Traffic Safety Services, in collaboration with the Police Department, initiates an Eyes on the Road educational campaign to remind drivers to drive attentively and responsibly (see Attachment A).
- **Engineering:** The City of Bellevue's road safety programs extend to innovations in design as we install new bicycle lanes, sidewalks and pedestrian crossings, and implement information and communications technology funded through the voter approved Neighborhood Safety, Connectivity and Congestion Levy in November 2016.
- **Evaluation:** Each year as part of a collision reduction program, the Transportation Department reviews the crashes that occur on its roadways, analyzing those intersections and corridors experiencing a higher than typical rate of occurrence, and determining any appropriate countermeasures. These countermeasures are implemented through a broad range of programs, such as CIP and Neighborhood Traffic Safety Services, and then monitored to track the effectiveness and public benefit. The U.S. Department of Transportation recognized the City of Bellevue with a Mayor's Challenge Award in 2016 for its data-driven programs analyzing crashes, perceptions of safety, and pioneering new technologies to evaluate near-miss events.

While Bellevue continues to implement these, and other strategies, they lack an overarching framework for safety that Vision Zero provides. As a Vision Zero city, more can be done to consider road safety holistically and enable people to get where they need to go by road, by transit, by foot and by bicycle. Indeed, in 2016, there were 433 traffic collisions in Bellevue involving injuries, 39 bicycle crashes, and 47 incidents involving people walking, including one fatality. And beyond the crash statistics, staff is hearing from the community that safety is a concern.

Consistent with Council direction, the Transportation and Police Departments are commencing work on a Vision Zero Action Plan that integrates City policies and road safety strategies into a unifying framework that will help focus City efforts and identify priorities. The Action Plan comprises the following four task elements supported by public outreach and technical analysis.

1. **Existing Conditions:** Staff will document local crash data, including trends, locations, and contributing behavioral factors, and existing road safety measures including relevant guidelines, policies, procedures, programs, and the use of technology. The outcome of this task will be the identification of Bellevue's road safety priorities that will form the framework of the Vision Zero Action Plan.
2. **Policy Framework:** Vision Zero cities can be broadly categorized into four stages – initiative, descriptive, active, and adaptive – as they transform from developing Vision Zero action plans to an

optimized position of road safety sophistication (see Attachment B). Through consultations with the City Council, Transportation Commission, and the broader community, staff will assist the City in arriving at a vision of itself on this Vision Zero evolution continuum. This vision/goal setting task is informed by conversations on competing community priorities. For example, many congestion reduction strategies, such as wider roads with higher design speeds, tend to increase traffic risks for all road users, and higher vehicle speeds are strongly associated with serious injuries to pedestrians.

3. **Action Strategies and Performance Measures:** Staff and the Transportation Commission will investigate road safety strategies – including education, encouragement, enforcement, engineering, equity, and evaluation approaches – that are successful elsewhere and applicable to Bellevue. The outcome of this task will be safety measures endorsed by the Transportation Commission, including recommendations for any new guidelines, policies, procedures, programs, and the use of technology to make streets safe for everyone and reduce the number of road traffic fatalities and serious injuries to zero by 2030.
4. **Draft and Final Report:** Staff will prepare a draft report that will detail the methodology used and include recommendations, an implementation plan, and performance measures to track progress. Once the draft report is reviewed by the Transportation Commission, City Council, and broader community, staff will prepare a final report.

On September 28 staff will initiate work on the Vision Zero Action Plan with the Transportation Commission having oversight responsibility for the project. A public outreach strategy will result in input from a range of stakeholders including residents, businesses, major institutions, agencies (e.g., Washington State Department of Transportation, Washington Traffic Safety Commission), and others (e.g., the Network on Aging, Bellevue School District, Bellevue College, Chamber of Commerce, Bellevue Downtown Association). Special attention will be required to enlist the participation of “under-represented” communities such as immigrants and non-native English speakers.

Video Analytics Towards Vision Zero Partnership

Consistent with its Vision Zero policies, the City of Bellevue is committed to generating better data on travel behavior, patterns, crashes, and conflicts and developing partnerships with others in the public and private sector to make the City’s intersections smarter and safer. In recognition of the opportunities to enhance road safety, the City of Bellevue entered into a technology development partnership with Microsoft and the University of Washington. The video analytics platform under development leverages cloud computing and machine learning systems to convert raw video footage from the City of Bellevue’s existing camera network into useful data that can be searched, managed, and used to provide detailed information on traffic flows and non-crash traffic conflicts.

What began as a partnership between the City of Bellevue, Microsoft, and the University of Washington has attracted the active participation of over two dozen government, non-profit, research, and private sector collaborators. This public-private collaborative is promoting a crowdsourcing platform via the Institute of Transportation Engineers (ITE) website (see <http://www.ite.org/visionzero/videoanalytics/>). Crowdsourcing, in which interested community stakeholders volunteer to annotate prerecorded traffic camera video clips, will be used to train the underlying deep-learning algorithms informing the video analytics platform. Through crowdsourcing we have an opportunity to “teach” computers to recognize when, where, and why traffic crashes occur (see Attachment C).

In July the Video Analytics Towards Vision Zero Partnership received ITE's 2017 Transportation Achievement Award for Safety (see Attachment D). The media attention associated with the crowdsourcing initiative and the national award for safety is building industry excitement around how Bellevue addresses its road safety needs through technology. Staff is working diligently to build on this momentum and move this technology development partnership beyond proof of concept and arrive at a common set of capabilities that meets the needs of modern cities both large and small, in the US and in other nations.

OPTIONS

N/A

RECOMMENDATION

N/A

ATTACHMENTS

- A. Eyes on the Road Safety Campaign
- B. The Smart City Evolution: A Roadmap for Vision Zero
- C. Video Analytics Towards Vision Zero Partnership (September Update)
- D. ITE News Release on 2017 Transportation Achievement Award for Safety

AVAILABLE IN COUNCIL DOCUMENT LIBRARY

N/A