



City of Sunnyvale

Agenda Item

19-0298

Agenda Date: 6/20/2019

REPORT TO BICYCLE AND PEDESTRIAN ADVISORY COMMISSION

SUBJECT

Recommend to the City Council for Adoption of the Vision Zero Plan

BACKGROUND

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. It was first implemented in Sweden in 1997 when the country adopted a national transportation policy to establish a goal of eliminating fatalities or serious injuries as a result of a traffic collisions. Since 2014, Vision Zero has been building momentum in the United States. As of January 2018, 35 U.S. cities have committed to Vision Zero, including cities in Northern California such as San Francisco, San Mateo, San Jose and Fremont.

As the Vision Zero initiatives have been adopted by other cities, the Bicycle and Pedestrian Advisory Commission (BPAC) sponsored Study Issue DPW 16-01 to Develop a Vision Zero Plan (VZP). In FY 2015/16, Council approved Study Issue DPW 16-01 - Develop a Vision Zero Plan -Total Elimination of Traffic Fatalities, which subsequently became Budget Supplement No. 9 as part of the FY 2016/17 Budget to provide \$150,000 in funding for the development of a VZP. The primary goal of the VZP is to develop strategies and actions that will help select programs and projects to reduce traffic injuries and fatalities in the City. Creation of this type of plan requires a holistic view of traffic safety/solutions with the assumption that fatalities are preventable, that people make mistakes, and that the transportation system should be designed to reduce the frequency and severity of the mistakes. These strategies and actions could range from programmatic initiatives, to safety improvements in roadway design, to changes in policies, to education campaigns, to providing alternatives to driving.

The VZP summarizes the City's traffic safety data from 2012 through 2017, identifies possible factors for each type of traffic collision and priority project locations, provides potential mitigation measures for the various types of traffic collisions and priority project locations, and developed overall recommended strategies and actions to reduce traffic injuries and fatalities in Sunnyvale. Input from the community including the Department of Public Safety, Sunnyvale Schools, and other public agencies (Caltrans, VTA, Santa Clara County), was sought to ensure the development of a comprehensive plan.

EXISTING POLICY

Resolution 793-16 Complete Streets Policy (and Resolution 896-18 amendment to 793-16): the City...wishes to improve its commitment to Complete Streets and desires that its streets form a comprehensive and integrated transportation network promoting safe, equitable, and convenient travel for all users while preserving flexibility, recognizing community context, and using the latest and best design guidelines and standards.

General Plan, Chapter 3, *Land Use and Transportation Element* :

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- **Goal A: Coordinated Regional and Local Planning** - Protect the quality of life, the natural environment, and property investment, preserve home rule, secure fair share of funding, and provide leadership in the region.
- **Goal B: Coordinated Regional and Local Planning** - Support the sustainable vision by incorporating sustainable features into land use and transportation decisions and practices.
- **Goal C: An Effective Multimodal Transportation System** - Offer the community a variety of transportation modes for local travel that are also integrated with the regional transportation system and land use pattern. Favor accommodation of alternative modes to the automobile as a means to enhance efficient transit use, bicycling, and walking and corresponding benefits to the environment, person-throughput, and qualitative improvements to the transportation system environment.

The City does not currently have a Vision Zero Plan or Policy.

ENVIRONMENTAL REVIEW

The action being considered does not constitute a “project” within the meaning of the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines section 15378(a) as it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

DISCUSSION

The VZP was developed through analysis of current collision records, traffic count data, and an inventory of existing transportation facilities. In addition, the project team has sought input through community outreach events and a focus group. The stakeholders who attended the focus group included School Districts, Santa Clara County of Public Health, Santa Clara Valley Transportation Authority, Sunnyvale Department of Public Safety, and the Sunnyvale Planning Division. The public and focus group provided input on existing safety challenges in Sunnyvale and recommendations for transportation safety solutions.

The collision analysis information and the input obtained through community outreach events and the focus group were used to develop the following components of the plan: Collision Trends, the High Injury Network (HIN), Collision Profiles, a Countermeasure Toolbox, a list of Priority Project Locations, and Implementable Actions. The Collision Trends, HIN, and Collision Profiles help the City understand the “who, what, when, where and why” collisions result in fatalities or serious injuries. The Countermeasure Toolbox, ten Priority Project Locations, and the Implementable Actions provide the City with recommendations to improve traffic safety throughout the City.

A description of each of these components and the results of the analysis are as follows:

- **Collision Trends** - The data between 2012 and 2017 showed that, Sunnyvale’s Daily Vehicle Miles Traveled (VMT) increased by 9%, while the total number of collisions decreased, resulting in a decrease in the collision rate (collisions per 1,000 VMT) by 37%. The analysis in the report itself focused on 2012 through 2016 and also showed the following collision trends:
 - There were 6,244 total collisions with 91 resulting in a fatal or severe injury collision
 - 11% of fatal or severe injury collisions involved a driver under the influence of alcohol or

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drugs

- 72% of fatal or severe injury collisions involving pedestrians occurred at intersections
 - 60% of fatal or severe injury collisions occurred on roadways with speed limits greater than 35 mph
 - 10% of total collisions involved bicyclists or pedestrians; however, 56% of fatal or severe injury collisions involve a bicyclist or pedestrian
 - Sunnyvale residents 60 years of age or older represent 20% of the total population but are involved in 40% of the fatal or severe injury pedestrian collisions
- High Injury Network (HIN) - The analysis showed that 60% of the fatal or severe injury collisions occurred on 7% of Sunnyvale's roadway network. Most of the HIN is comprised of major roadways throughout the City including El Camino Real, Mathilda Avenue, Sunnyvale-Saratoga Road, Fair Oaks Avenue, and Wolfe Road. The HIN also consists of segments of the following roadways: Lawrence Expressway, Central Expressway, Homestead Road, Fremont Avenue, Evelyn Avenue, Mary Avenue, Bernardo Avenue, Maude Avenue, Moffett Park Drive, Duane Avenue, Hollenbeck Avenue, Olive Avenue, Henderson Avenue, Lakehaven Drive, Almanor Avenue, Alberta Avenue, and Old San Francisco Road.

Out of the total fatal and severe injury collisions involving pedestrians and bicyclists, 33% occurred on El Camino Real and 7% occurred on County Expressways.

- Collision Profiles - An aggregate of collision data was analyzed to develop ten collision profiles. The profiles are used to determine how fatal or severe injury collisions can be effectively addressed. The collision profiles include:
 - Walking or bicycling on expressway, arterial, or collector
 - Unmarked pedestrian crossing
 - Speed-related conflict
 - Left turn at signalized intersection
 - 60+ year old pedestrians at intersections
 - Influence of drugs or alcohol
 - Midblock bicycle conflict
 - Conflicting through movement at intersection
 - Children walking or biking near school

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- Red light violation at signalized intersection
- Countermeasure Toolbox - Based on the collision analysis and trends, the factors leading to the fatal and severe injury collisions were identified. The next step was to develop a countermeasure toolbox that once implemented, could reduce fatal and severe injury collisions in the City. The improvements listed in the countermeasure toolbox are proven safety countermeasures as identified in national research reports and in resources such as the Federal Highway Administration (FHWA) *Guidance Memorandums on Promoting the Implementation of Proven Safety Countermeasures*, FHWA Crash Modification Factors (CMF) Clearinghouse, and American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual (HSM). The items in the toolbox may be considered for implementation at any location throughout the City, and can be implemented either singularly or as part of a larger project. The toolbox consists of the following elements:
 - Roadway Design
 - Bulb-outs and Curb Extensions
 - Lane Reduction/Road Diet
 - Consolidated Driveways
 - Sidewalk gap closures
 - Roadway and Intersection Safety Lighting
 - Pedestrian Crossings
 - High Visibility Crosswalks with Advance Stop or Yield Lines
 - Marked Crossing
 - Pedestrian-Activated Crosswalk Warning Beacon
 - Pedestrian Hybrid Beacon
 - Pedestrian Refuge Island and Median
 - Bikeway Design
 - Bike Intersection Markings
 - Buffered Bike Lane
 - Green Pavement
 - Shared-use Trail and Bicycle Path
 - Protected Bikeway
 - Signs, Markings and Operation

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- Modified Intersection Stop-control
 - Parking Restriction at Intersections
 - Turn Restriction
 - Signal Timing and Phasing
 - Adaptive Pedestrian Signal System
 - Leading Pedestrian Interval
 - Pedestrian Countdown Signal Head
 - Protected Turn
 - Advance Dilemma-Zone Detection
 - Signal Timing and Phasing Improvements
 - Speed Control
 - Vehicle Speed Feedback Sign
 - Reduced Speed School Zone
 - Speed Hump, Speed Table, and Raised Crosswalk
 - Miscellaneous
 - Education
 - Enforcement
- Priority Project Locations - Based on the analysis of where fatal or severe injury collisions have occurred and locations identified through community input, ten priority project locations were chosen for a more detailed analysis. The safety issues were identified at each location along with potential collision countermeasures, as identified in the countermeasure toolbox. The ten locations include:
 1. El Camino Real between S. Mary Avenue and S. Mathilda Avenue
 2. El Camino Real between S. Taaffe Street and S. Fair Oaks Avenue
 3. El Camino Real, E. Fremont Avenue, and S. Wolfe Road
 4. Fair Oaks Avenue/Remington Drive between Iris Avenue and Manet Drive

5. El Camino Real between Henderson Avenue and Helen Avenue
6. N. Mathilda Avenue and W. Maude Avenue
7. N. Fair Oaks Avenue between Balsam Avenue and E. Taylor Avenue
8. Fremont Avenue between Sunnyvale Saratoga Road and Floyd Avenue
9. Homestead Road between Heron Avenue and Wolfe Road
10. Mary Avenue between Remington Drive and Fremont Avenue

The countermeasures recommended at these ten priority locations could also be applied to facilities with similar characteristics.

- Implementable Actions - Includes recommended strategies and actions to serve as a roadmap for the City to reduce fatal and severe injury collisions. These actions are organized into four action areas:
 - Vision Zero Program Initiatives and Evaluation - include Vision Zero promotion, integration of Vision Zero into other planning efforts, and improved Vision Zero data collection and program evaluation
 - Street Design and Operation - prioritize improvements listed in the toolbox on the HIN as the most targeted way to reach the goal towards zero traffic fatalities and severe injuries
 - Behavioral Change - encourage safe travel behaviors through outreach and education, enforcement, and providing alternatives to driving
 - Vulnerable Road Users - recognizing that younger and older people, people biking and walking are more vulnerable to severe traffic injuries and fatalities, the plan identifies different strategies for each of these groups of road users

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The goal of the VZP is to reduce fatalities and serious injuries by 50 percent by 2029 and to continue improving traffic safety towards zero fatal and serious injury collisions in the ten years that follow. The City will continue to perform periodic review of collision analysis to ensure the City is working toward the VZP goal.

FISCAL IMPACT

None for approving the VZP. Implementation of the recommended actions will be achieved through various projects that will be considered individually through the City's budget process.

PUBLIC CONTACT

Public contact was made through posting of the Bicycle and Pedestrian Advisory Commission agenda on the City's official-notice bulletin board, on the City's website, and the availability of the agenda and report in the Office of the City Clerk.

Public outreach efforts also included the following:

- Two community workshops
- Two online surveys
- One focus group meeting with government agency representatives
- Two BPAC meetings
- Three community walking tours

ALTERNATIVES

1. Recommend to City Council to Adopt the Vision Zero Plan.
2. Recommend to City Council to Adopt the Vision Zero Plan with modifications.
3. Do not recommend City Council to Adopt the Vision Zero Plan.
4. Other direction as provided by the Commission.

RECOMMENDATION

Alternative 1: Recommend to City Council to Adopt the Vision Zero Plan.

Prepared by: Ralph Garcia, Senior Transportation Engineer

Reviewed by: Shahid Abbas, Transportation and Traffic Manager, Public Works

Reviewed by: Chip Taylor, Director, Public Works

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Reserved for Report to Council
2. Draft Vision Zero Plan