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# WEST HOLLYWOOD TARGET VISION ZERO PLAN

DECEMBER 2023

PREPARED FOR:





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### INTRODUCTION

West Hollywood is a vibrant community located in central Los Angeles County between the Cities of Beverly Hills and Los Angeles at the foot of the Santa Monica Mountains. Santa Monica Boulevard provides access to US 101 to the east and Interstate 405 (I-405) to the west, connecting to many of the nearby cities in the region. Based on the United States Census Bureau, West Hollywood is one of the smallest cities in Los Angeles County, with a population of 35,757 people as of 2020.

In February 2021, the West Hollywood City Council established a goal of eliminating fatalities and severe injuries from traffic collisions on the City's roadways. The WeHo Target Vision Zero Action Plan is the next step towards achieving that goal. A Vision Zero plan provides a data- and community-driven framework to systematically identify, analyze and prioritize safety problems and recommend safety improvements on local roads. The following West Hollywood Target Vision Zero Plan presents the vision statement, summarizes crash data, identifies emphasis areas, recommends high priority project locations, and outlines the implementation and evaluation strategies for the City of West Hollywood.

### VISION STATEMENT

The City of West Hollywood has a vision of no transportation-related serious injuries or deaths by 2040. The Target Vision Zero approach emphasizes the preventable nature of transportation-related deaths and serious injuries, and aims to make communities safe, healthy, and equitable.

### FEDERAL AND CALTRANS SUPPORT FOR SAFETY PLANS

In support of the California Strategic Highway Safety Plan, Caltrans has encouraged jurisdictions throughout the State of California to prepare local and regional safety plans that document transportation safety concerns and identify a prioritized list of improvements and actions. To further encourage development of safety plans, Caltrans has required local agencies to develop a Vision Zero Plan, Local Roadway Safety Plan, or equivalent plan to be eligible for federal Highway Safety Improvement Program (HSIP) funds for Cycle 11 (2022) and beyond.

Consistent with the U.S. Department of Transportation's National Roadway Safety Strategy and the goal of zero roadway deaths, the Bipartisan Infrastructure Law (BIL) established the new Safe Streets and Roads for All (SS4A) discretionary program, with \$5 billion in appropriated funds over 5 years, 2022-2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries.

### TARGET VISION ZERO PLAN DEVELOPMENT PROCESS

The West Hollywood Target Vision Zero Plan was developed over the past 18 months, starting in March 2022 and adopted by the West Hollywood City Council in December 2023. The process has incorporated City efforts to dedicate funding for this effort, consultant procurement, identification of a project team and stakeholders, data collection and analysis, community outreach, drafting of the Plan and proposed mitigation measures, and updating draft recommendations based on additional community input.

### WEST HOLLYWOOD TEAM MEMBERS

The core project delivery team consisted of representatives from West Hollywood and DKS Associates. The West Hollywood team assisted in the development of content and document review.

### **Community Development Department**

Bob Cheung David Fenn, AICP, Senior Planner Francisco Contreras, AICP Bob Cheung, Senior Transportation Planner Francisco Contreras, AICP, Long Range Planning Manager Nicholas P. Maricich, Director of Community Development

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### SAFETY PARTNERS AND STAKEHOLDER ENGAGEMENT

This Plan was generated through discussions, input, and review by the following stakeholders representing City of West Hollywood appointed Advisory Board Members and Commissioners, emergency services, and law enforcement.

Myra Friedman, Disabilities Advisory Board Anny Semonco, Disabilities Advisory Board Joy Nuel, Senior Advisory Board Lee Walkup, Senior Advisory Board Robert Oliver, Public Safety Commission Todd Hallman, Public Safety Commission Adam Kroll, Transportation Commission Alexander Bazley, Transportation Commission Megan Currier, Los Angeles County Fire Department Drew Smith, Los Angeles County Fire Department Jason Duron, Los Angeles County Sheriff Department

Stakeholder input was requested at three critical points during the project process:

- Existing Crash Trends and Emphasis Areas
- Diagnosis and Strategy Identification
- Priority Location and Corridor Identification

The stakeholders were engaged each time through a combination of presentation, workshop, document review and feedback. Stakeholders were encouraged to distribute the draft documents internally to their relevant committees, departments, and/or agencies for further review and comment.

### PUBLIC OUTREACH AND ENGAGEMENT



# FIGURE 1: SCREENSHOT OF THE CITY'S INTERACTIVE ONLINE MAPPING TOOL AND COMMUNITY IDENTIFIED SAFETY CONCERNS

Public outreach included a combination of in-person engagement and awareness raising at community events as well as a project website<sup>1</sup> including an interactive online tool, called Social Pinpoint<sup>2</sup>, that allowed community members to identify and detail safety concerns at specific locations. In late 2022 and early 2023, community members were invited to share any safety concerns or problem areas they were aware of through an interactive online map on the Social Pinpoint platform promoted through a City press release, distribution to City email lists, City social media posts, with assistance from the West Hollywood Chamber of Commerce, and at two In-person pop-up outreach tables at previously planned City events. To date, over 400 public comments were received through the online mapping tool. In-person engagement was conducted at the following events:

### WEST HOLLYWOOD DAY, NOVEMBER 29, 2022

The project had a booth set up at the Community Reception celebrating the 38<sup>th</sup> birthday of the City. The event and project were advertised in advance on the City's website and social media platforms as shown in **Figure 2**. City and DKS staff were present at the booth to discuss the project and answer questions from residents, and flyers were passed out which included QR codes

<sup>&</sup>lt;sup>1</sup> http://www.wehotargetvisionzero.com/

<sup>&</sup>lt;sup>2</sup> http://www.wehotargetvisionzero.com/interactive-map.html

that linked to the project website as well as the Social Pinpoint site where residents could leave comments and safety concerns about locations throughout the City.



### FIGURE 2: CITY BIRTHDAY PROJECT MARKETING MATERIALS

### WINTER WONDERLAND, DECEMBER 17, 2022

The project had a booth set up at the Winter Wonderland event. The event and project were advertised in advance on the City's website and social media platforms as shown in **Figure 3**. DKS staff were present at the booth to discuss the project and answer questions from residents, and flyers were passed out which included QR codes that linked to the project website as well as the Social Pinpoint site where residents could leave comments and safety concerns about locations throughout the City.



### FIGURE 3: WINTER WONDERLAND EVENT MARKETING MATERIALS

### ADDITIONAL ADVISORY BOARD AND COMMISSION INPUT

In addition to the input from the combined Vision Zero Taskforce and the general public described above, the project team also presented the high-level findings and recommendations of the plan to several City Advisory Boards, Commissions, and stakeholder groups for additional feedback in duly noticed public meetings.

### TIMELINE

This Plan proceeded along the following Timeline:

- February 2021– City Council directive to adopt a Vision Zero Action Plan and establish a clear goal of eliminating traffic fatalities and severe injuries in West Hollywood.
- August 2021 Advertise Vision Zero Action Plan RFP and begin Consultant Procurement
- February 2022 Award Vision Zero Action Plan contract to Consultant and Project Kick-Off
- August 2022 Finalization of Task Force and First Task Force Workshop
- November December 2022 In-person Public Engagement Activities
- January 2023 Second Task Force Workshop and presentation of initial findings to West Hollywood Chamber of Commerce Government Affairs Committee (GAC)
- March 2023 Presentation of initial findings to full Transportation Commission
- April 2023 Third Task Force Workshop
- May 2023 Presentation of draft recommendations to West Hollywood Chamber of Commerce Government Affairs Committee (GAC)
- June 2023 Presentation of draft recommendations to full Transportation Commission
- August 2023 Presentation to full Disabilities Advisory Board
- September 2023 Presentation of draft recommendations to full Senior Advisory Board and Public Facilities Commission
- November 2023 Presentation of draft recommendations to full Public Safety Commission
- December 2023 Final Plan adopted by West Hollywood City Council

### WEST HOLLYWOOD COMMITMENT TO TRANSPORTATION SAFETY

While the West Hollywood City Council did not formally establish the goal of eliminating fatalities and severe injuries from traffic collisions on the City's roadways until 2021, the City has consistently worked towards improving safety on local roadways since it was incorporated in 1984. Key examples of major safety improvements include:

- Reconstruction of Santa Monica Boulevard (2001)
- Establishment of the Neighborhood Traffic Management Program (2003)
- Design District Streetscape Master Plan (2014)
- Buffered Bike Lanes Installed on Fairfax Avenue (2016)
- Adoption of Pedestrian and Bicycle Mobility Plan (2017)
- Santa Monica Boulevard Crosswalk Signalization Project (2017)
- Fountain Avenue Safety Improvements (2018, 2021)
- Citywide Crosswalk Upgrades to In-roadway Warning Lights (IRWLs) (Ongoing)
- Reconstruction of Melrose Avenue Design District Streetscape Improvements (Ongoing)
- Incorporated Leading Pedestrian Intervals at Numerous Intersections (2020-2021)
- Fountain Avenue Protected Bike Lane Project (Ongoing)
- Santa Monica Boulevard Protected Bike Lane Project (Ongoing)

- Willoughby Avenue, Kings Road, and Vista/Gardner Street Design Project (Ongoing)
- City Council Direction to Explore a "No Right Turn on Red Pilot Program (April 2023)

### WEST HOLLYWOOD LOCAL ROADWAY SAFETY PLAN

In 2021 the City of West Hollywood was awarded a \$40,000 state grant to develop a Local Roadway Safety Plan (LRSP) prior to the City's more recent focus on Vision Zero. The Plan was developed by the City's Engineering Division and finalized in July 2022, making the City eligible for related Caltrans grants that require a LRSP. The primary recommendations of the West Hollywood LRSP are included in an appendix to this Plan. Many of these recommendations have either already been implemented or incorporated into existing workplans or are incorporated into this Vision Zero Action Plan. Examples of recommended countermeasures from the LRSP carried over into the WeHo Target Vision Zero Action Plan include the installation of bike boxes and high-visibility green bike lane treatments, sight distance improvements, left turn restrictions, and leading pedestrian intervals (LPI).

### **CRASH DATA AND TRENDS**

To support the project analysis, a variety of information was compiled from different sources. Collision injury data was pulled from the Statewide Integrated Traffic Records System (SWITRS) and Transportation Injury Mapping System (TIMS). In addition, a data dashboard was prepared by UrbanLogiq that compiled, mapped, and combined the crash data with multiple land use and infrastructure datasets. The crash data analyzed for this project includes all crash events recorded in SWITRS and/or TIMS during the five-year period between January 1, 2017, and December 31, 2021. City Staff anticipate including updated analysis with the most recent available crash data in biannual WeHo Target Vision Zero Implementation Reports to be presented to the City Council and relevant City advisory boards and commissions every two years.

### DATA FRAMEWORK

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### STATEWIDE INTEGRATED TRAFFIC RECORDS SYSTEM (SWITRS)

SWITRS is a database<sup>3</sup> that serves to collect and process California crash data gathered from collision scenes. SWITRS processes all reported crashes that occurred on California's state highways and all other roadways, excluding private property. SWITRS allows for the creation of custom reports requested by the user based on different categories including, but not limited to locations, dates, and collision types.

<sup>&</sup>lt;sup>3</sup> <u>https://iswitrs.chp.ca.gov/Reports/jsp/index.jsp</u>

### TRANSPORTATION INJURY MAPPING SYSTEM (TIMS)

The Transportation Injury Mapping System (TIMS) is a crash mapping and analysis application<sup>4</sup> developed by the University of California-Berkeley Safe Transportation Research and Education Center (SafeTREC) to process and geocode crash data available by SWITRS. Specifically, the project looked at the needs of agencies to geocode and map the crashes in an efficient and simple manner. As such, TIMS provides processed and cleaned SWITRS data, but only includes fatal and injury crashes, excluding all crash reports resulting in only property damage.

### **CRASH RECORD FORMAT**

Crash records are categorized at three different levels: by collision, by party (vehicle), and by victim. All three levels are linked by a unique Case ID for each collision. Crash records provide all data collected by the reporting officer, including crash identification (jurisdiction, route and postmile, location, date, time), demographics (sex, age, race, sobriety, safety equipment usage), environmental (lighting, weather, road surface), and crash details (primary collision factor, type of collision, vehicle/party type, severity). The codebook detailing the SWITRS crash record data and format is available on the SWITRS website or from TIMS.

For this project and most other safety analyses, the collision severity is defined in the Highway Safety Manual (HSM) as follows:

- Fatal injury: A collision that results in the death of a person within 30 days of the collision.
- Severe (incapacitating) injury: A collision that results in broken bones, dislocation, severe lacerations, or unconsciousness, but not death.
- **Other Visible injury (non-incapacitating):** A collision that results in other visible injuries, including minor lacerations, bruising, and rashes.
- **Possible injury (complaint of pain):** A collision that results in the complaint of non-visible pain/injury, such as confusion, limping, and soreness.
- **Property damage only (PDO):** A collision without injury or complaint of pain but resulting in property damage to a vehicle or other object, commonly referred to as a "fender bender."

The most severe crashes, characterized as **KSI (Killed or Severely Injured)**, are the main focus of this analysis.

### CRASH DATA DASHBOARD AND INTERFACE

To support the safety data analysis, facilitate stakeholder discussion of citywide and corridor safety trends, and to provide an example to City staff of an ongoing safety dashboard tool, the City had the data vender, UrbanLogiq, develop a crash data dashboard and interface. The dashboard was accessed through an online portal and offered a dynamic and location-based view of crash data that could be filtered by multiple descriptors, including crash type, primary collision factor, crash severity and frequency, and vehicle type. The crash data could also be overlayed with contextual

<sup>&</sup>lt;sup>4</sup> Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center, University of California, Berkeley. 2021, <u>https://tims.berkeley.edu/</u>

GIS layers, such as speed limits, bicycle facilities, and intersection control. An example of the output is shown in **Figure 4**. Analysis using this dashboard supported the identification of the High Injury Network as well as informing safety countermeasures.

### **CRASH TRENDS**

**Table 1** below describes the proportion of each injury severity type (as defined in statewide crash reports and documented by reporting officers) in West Hollywood and compares it to that same severity for the entire county. **Figure 4** provides a map of all crashes within the West Hollywood city limits, with larger circles representing more crashes and more vibrant colors representing worse severity crashes. The figure shows a high concentration of crashes occurring along Santa Monica Boulevard and other higher volume corridors.

	NUMBER OF CRASHES	FATALITY/INJURY SEVERITY DISTRIBUTION	LOS ANGELES COUNTY FATALITY/INJURY SEVERITY DISTRIBUTION
FATAL	4	0.4%	1.3%
SEVERE INJURY	78	7.7%	6.2%
FATAL AND SEVERE INJURY (KSI)	82	8.1%	7.5%
OTHER VISIBLE INJURY	259	25.6%	29.4%
COMPLAINT OF PAIN	672	66.3%	63.1%
PROPERTY DAMAGE ONLY	2127		
TOTAL	3140	100%	100%

### TABLE 1: WEST HOLLYWOOD CRASH SEVERITY SUMMARY, 2017-2021

The combined proportion of fatal and severe injury collisions in West Hollywood (8.1%) is slightly higher than the county as a whole (7.5%). "Other Visible Injury" crashes occur somewhat less frequently in West Hollywood than the county as a whole while "Complaint of Pain" crashes occur somewhat more frequently.

During the same time period there were 2,127 Property Damage Only (PDO) crashes occurring citywide, representing 67.7% of all crashes (the number of PDO crashes is difficult to estimate Countywide and so no comparison was made).



FIGURE 4: FREQUENCY AND SEVERITY MAP OF ALL CRASHES WITHIN WEST HOLLYWOOD.

### **CRASH TREND CATEGORIES**

Several categories of crash descriptors were analyzed when determining recent crash trends in West Hollywood. These include, among other things, the physical environment, crash types, and contributing factors. Understanding any patterns in crash events can help diagnose potential causes based on where and why crashes occur.

### **Physical Environment**

The physical environment includes a description of the infrastructure, weather, and conditions during a crash event. Specifically, this can include the type of facility (segment or intersection) and control (stop controlled or signalized), lighting conditions (daylight, nighttime-lit, nighttime-unlit), and weather/road conditions (dry, wet, icy).

### **Crash Types**

Crash types provide insights into common conflicts that exist between multiple road users, such as broadside or rear end crashes at intersections, or between road users and the physical environment, such as hit object or lane departure crashes.

### **Contributing Factors**

Primary contributing factors and violation categories can provide insights into human behavior associated with a crash. This can involve choices the road user makes, such as driving under the influence or at an unsafe speed, as well as behavior related to the surrounding environment and other road users, such as violating right of way or improper passing.

### WEST HOLLYWOOD CRASH SUMMARY - ALL INJURY SEVERITIES (2017-2021)

The team first studied all crashes in the city, regardless of severity. Reviewing all crash events provides sufficient data to determine the most common types of crashes, locations (i.e., intersections and non-intersections), and recorded violations. Violation categories are ones used by Los Angeles County Sheriff personnel in the police reports that inform the underlying data and do not provide additional context.





### **FIGURE 5: CRASH TYPES**

### FIGURE 7: VIOLATION CATEGORY

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### **FIGURE 8: LIGHTING CONDITIONS**

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### **Summary of Trends for All Crashes**

- In West Hollywood, a very high proportion of all crashes occur at intersections. This is further supported by Improper Turning and Automobile Right of Way violations involved in almost half of all crashes and rear-ends and broadsides making up almost half of crash types.
- There is no evidence that environmental concerns (lighting, weather, roadway surface) are a major contributor to crashes.
- Pedestrians are involved in 7% of all crashes, which is slightly lower than the county average (7.8%), but as seen in the following section, their involvement in fatal and severe injury crashes is much higher.
- Road user behaviors, specifically Unsafe Speed and Under the Influence of Alcohol or Drugs, are cited in 15% of crashes. Each is historically underreported nationally, so the actual involvement of these actions is possibly higher than in official crash reports. When compared to the county as a whole, crashes involving unsafe speeds are much less prevalent than county rates (29%) and crashes resulting from being under the influence are similar to county rates (6%).

### WEST HOLLYWOOD FATAL AND SEVERE INJURY COLLISIONS (2017-2021)

This section focuses on fatal and severe injury collisions within West Hollywood. In the past five years, a total of four fatal and 78 severe-injury crashes occurred within the city limits. **Table 2** provides a summary and comparison of crash trends for fatal and severe injury crashes as compared to those for all crashes in West Hollywood. As shown, many of the crash categories involving vulnerable road users are over-represented in fatal and severe injury (KSI) crashes; for example, 74.3% of fatal and severe injury crashes in West Hollywood included pedestrians, motorcyclists, or bicyclists.

PROPORTION OF CRASHES			
CATEGORY		ALL CRASHES (3140 CRASHES)	FATAL AND SEVERE CRASHES (82 CRASHES)
	INTERSECTIONS	91.3%	92.7%
and the second	PEDESTRIAN INVOLVED	7.4%	40.2%
	LANE DEPARTURE	41.0%	25.6%
	MOTORCYCLE INVOLVED	6.1%	24.4%
Å	BICYCLIST INVOLVED	3.3%	9.7%
	SPEEDING INVOLVED	9.5%	6.1%
I I	IMPAIRED DRIVING (ALCOHOL OR DRUG)	6.1%	4.9%

### TABLE 2: WEST HOLLYWOOD SUMMARY OF CRASH STATISTICS





FIGURE 10: CRASH LOCATION CRASH TREE

**FIGURE 9: CRASH TYPES** 







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**Figure 13** provides a heat map of all the fatal and severe injury crashes within West Hollywood. As shown on the map below, fatal and severe crashes were largely concentrated at intersections along higher volume and larger commercial streets such as Santa Monica Boulevard, Sunset Boulevard, Fountain Avenue, and Melrose Avenue. These corridors also accounted for a significant share of the public comments on safety concerns submitted through the City's online Social Pinpoint mapping tool. The geographic distribution and type of safety concerns submitted for each of these priority corridors is documented in the public outreach cartograms on the following pages. In addition to these corridors, there were also smaller clusters of fatal and severe collisions along Doheny Drive, Robertson Boulevard, and La Cienega Boulevard.

FIGURE 11: VIOLATION CATEGORY

As compared to crash trends for all crashes, Automobile Right-of-Way became the most common collision cause indicated in the prescriptive categories from the underlying police reports, while Pedestrian Violations became the second most common. (Note: this trend should not be interpreted as solely an indictment of pedestrian behavior as there are limitations in the way collisions factors are categorized in standardized police reports and the prescriptive categories available to law enforcement officers which means in many cases there are likely other factors involved that are not reflected in the data). A much higher proportion of crashes occurred at night, though still in lit areas. Pedestrian-involved crashes were the most common crash type, making up more than the next two types (broadside, sideswipes) combined.



FIGURE 13: HEAT MAP OF FATAL AND SEVERE CRASHES IN WEST HOLLYWOOD

### Summary of Trends for Fatal and Severe Injury Crashes

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- While 7.4% of all crashes involved pedestrians, more than five times that 40.2% of fatal or severe injury crashes were pedestrian-involved. When a collision occurs with a pedestrian, the risk of severe injury or death is high.
- Together, half of all fatal or severe injury crashes in the city were pedestrian-involved or bicyclist-involved.
- Motorcycle-involved crashes make up nearly 25% of all fatal and severe injury crashes while only making up less than 3.5% of the mode of commute.
- Over 90% of all crashes and fatal or severe-injury crashes occurred at intersections.

### Fatal Crash and Severe Injury Crashes and Higher Speeds

In addition to the crash trends above, another common factor among fatal and severe-injury crashes was their location along corridors with higher speed limits. Corridors that accounted for the majority of the City's fatal and severe injury collisions also tended to be corridors where posted speed limits were higher. For example, Santa Monica Boulevard (west of Holloway Drive), Sunset Boulevard, Melrose Avenue, Crescent Heights Boulevard, Fairfax Avenue, La Brea Avenue, and Fountain Avenue all have posted speed limits of 35 mph, the highest in the City. **Figure 14** below illustrates current speed limits and fatal and severe injury crash concentration. While the City's 2023 speed survey did recommend speed limit reductions on Fairfax Avenue and portions of Fountain Avenue, speed limits on the remainder of these corridors remain unchanged.



FIGURE 14: SPEED LIMIT BY ROADWAY SEGMENT

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This is significant as vehicle speeds and posted speed limits have a demonstrated and significant impact of the incidence and severity of crashes. The following language is excerpted from the National Association of City Transportation Officials (NACTO) "City Limits: Setting Safe Speed Limits on Urban Streets" Guide<sup>5</sup>:

Speed is a central factor in traffic deaths. The National Highway Traffic Safety Administration reports that speed was a factor in a quarter of all fatal crashes in 2018. As speed limits and speeds increase, so do fatalities. Researchers from the Insurance Institute for Highway Safety (IIHS) found that **a 5 mph increase in the maximum speed limit was associated with an 8% increase in the fatality rate on interstates and freeways, and a 3% increase in fatalities on other roads.** 

Vehicle speed at the time of impact is directly correlated to whether a person will live or die. **A person hit by a car traveling at 35 miles per hour is five times more likely to die than a person hit by a car traveling at 20 miles per hour.** The risk of death at every speed is higher for older pedestrians and pedestrians hit by trucks and other large vehicles.

*High speed crashes are more likely to occur than crashes at lower speeds and, when they do occur, they're more likely to be deadly.* 

Higher speeds are more likely to result in crashes because the amount of time a driver has to hit the brakes or swerve decreases at higher speeds, while vehicle braking distances increase. A driver going 40 mph travels twice as far as a driver traveling at 25 mph before coming to a complete stop. Research also shows that drivers have less peripheral awareness at higher speeds and are less likely to see or predict potential conflicts such as people crossing the street or children playing. Meanwhile, crashes are more likely to be fatal at higher speeds because these crashes are more forceful.

As a result, evidence shows that small reductions in speed result in large safety gains. **The Highway Safety Manual reports that a 1 mph reduction in operating speeds can result in a 17% decrease in fatal crashes.** A separate study found that a 10% reduction in the average speed resulted in 19% fewer injury crashes, 27% fewer severe crashes, and 34% fewer fatal crashes.

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<sup>&</sup>lt;sup>5</sup> https://nacto.org/publication/city-limits/the-need/speed-kills/

### THE LIKELIHOOD OF FATALITY INCREASES EXPONENTIALLY WITH VEHICLE SPEED<sup>32</sup>



FIGURE 15: THE LIKELIHOOD OF FATALITY INCREASES EXPONENTIALLY WITH VEHICLE SPEED (NACTO CITY LIMITS: SETTING SAFE SPEED LIMITS ON URBAN STREETS)

### PUBLIC COMMENT ON SAFETY NEEDS

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This project utilized the Social Pinpoint website to engage and gather comments on local safety from the community. The general comment types for each priority corridor as well as visualized by cross street are provided in **Figure 16** through **Figure 19**:



FIGURE 16: PUBLIC COMMENT FOR SUNSET BOULEVARD

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### FIGURE 17: PUBLIC COMMENT FOR FOUNTAIN AVENUE

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### FIGURE 18: PUBLIC COMMENT FOR SANTA MONICA BOULEVARD

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### FIGURE 19: PUBLIC COMMENT FOR MELROSE AVENUE



### **EMPHASIS AREAS**

Emphasis Areas (such as pedestrians, bicycles and scooters, motorcycles, speeding, and impaired driving) provide a strategic framework for developing and implementing strategies and actions for the Target Vision Zero Plan. For each emphasis area, quantitative crash reduction goals were identified to provide a metric to evaluate the ongoing effectiveness of project implementation, programs, and policies. Achieving the goal of eliminating severe injury and fatal crashes requires the holistic implementation of the Safe System approach<sup>6</sup> with the use of both infrastructure-based and non-infrastructure-based countermeasures to create redundancies in the roadway system reinforced through education and enforcement policies, procedures, and practices. A summary figure of the objectives and principles of the Safe System Approach as provided by US DOT<sup>6</sup> is shown in **Figure 20**.

A detailed summary and additional sources for infrastructure and non-infrastructure countermeasures are provided in the Appendix. For the development of strategies, the Emphasis Areas were categorized into four broader groups: **Vulnerable Users, Risky Behaviors, Infrastructure, and Improved Systems**. While the Emphasis Areas identified for West Hollywood based on analysis of historic crash data only fall under the Vulnerable Users and Infrastructure categories, it is important to understand how road safety acts as a comprehensive whole. Each group is described below with the associated Emphasis Areas.



<sup>&</sup>lt;sup>6</sup> https://www.transportation.gov/NRSS/SafeSystem



FIGURE 20: SAFE SYSTEM APPROACH OBJECTIVES AND PRINCIPLES

### **VULNERABLE ROAD USERS**

Vulnerable road users can be characterized by the amount of protection they have when using the transportation system. For example, pedestrians, bicyclists, and motorcyclists are more exposed than people in motor vehicles, making them more susceptible to injury in the event of a crash. In West Hollywood, crashes involving vulnerable users make up 74.3% of all fatal or severe injury crashes.

For this category, the following Emphasis Areas were identified:

- **Pedestrians\*** focuses on crashes involving someone walking or rolling via an assistive device (e.g., wheelchair). Pedestrians are some of the most vulnerable users of a roadway network, and crashes involving pedestrians are more likely to result in a fatal or severe injury. In addition, many younger and older road users travel on foot, which compounds this vulnerability.
- **Bicyclists** focuses on crashes which involve someone riding a bicycle or e-bike. Bicyclists are considered vulnerable road users and crashes involving a cyclist typically result in injuries. In addition, younger and older road users often travel via bicycle, which compounds this vulnerability.



- **Scooters** While crash data in California does not specifically identify scooters, this is another vulnerable segment of road users that have been highlighted by City staff. Given the vehicle share aspect of scooters (i.e., most scooters on the road at the time of this writing are short-term rentals versus owned by the user), those riding scooters may also not be fully experienced and familiar with the vehicle operations. Additionally, some electronic scooters can travel at speeds faster than typical pedestrian and bicycle travel. Because of all these factors, crashes involving scooters have the potential to result in serious injuries or fatalities. Most mitigation measures that improve bicyclist safety also improve safety for scooter riders, so these user groups are combined in the emphasis areas below.
- **Motorcyclists** focuses on crashes which involve someone riding a motorcycle. Motorcyclists are vulnerable users, much like bicyclists and pedestrians, because they do not have the protection of an enclosed vehicle. However, unlike bicyclists and pedestrians, motorcyclists travel at vehicular travel speeds. Because of this, crashes involving motorcyclists often result in serious injuries or fatalities.

\*Note: Collision data is not collected in a way that specifically calls out the involvement of people with disabilities in crash reports so people with disabilities are included in the broader pedestrian category of vulnerable roadway users in this analysis. However, any improvements carried out to improve pedestrian safety more broadly are legally required to adhere to accessibility standards under the Americans with Disabilities Act (ADA) and the City is committed to ensuring the needs of this especially vulnerable user group are centered in the design of countermeasures to address this broader emphasis area.

**Consideration of Location Types.** Pedestrian-involved crashes tend to occur most often in busy commercial areas, consistent with higher pedestrian activity. High-volume signalized intersections can increase pedestrian crash risk due to complexities resulting from multiple types of road users (pedestrians, bicyclists, passenger vehicles, buses, trucks) and heavy turning movements at the location. Motorcyclist-involved collisions occur system-wide, and often involve high speeds of either the motorcyclist, other vehicle, or both as can be seen in **Figure 14**.

Following the Safe System approach, **Table 3** summarizes the goals and strategies for each of these emphasis areas. Additional information on specific countermeasures, treatments, and strategies can be found in the Countermeasure Toolboxes in the Appendix.

EMPHASIS AREA	GOALS	SAFE SYSTEM APPROACH STRATEGIES
		Safe Roads
• El inj pe PEDESTRIANS	Eliminate fatal and severe	<ul> <li>Install engineering countermeasures focused on increasing driver awareness of pedestrians and reducing conflict zones between vehicles and pedestrians.</li> </ul>
	pedestrians <b>by 2040</b> .	<ul> <li>Evaluate if updates to the City's Construction Accessibility Policy are needed to maintain pedestrian accessibility during construction and maintenance projects.</li> </ul>

### TABLE 3. EMPHASIS AREAS, GOALS, AND STRATEGIES FOR VULNERABLE ROAD USERS

EMPHASIS AREA	GOALS	SAFE SYSTEM APPROACH STRATEGIES
		Safe Road Users
		<ul> <li>Improve infrastructure connectivity for pedestrians, especially along safe routes to school and safe routes for seniors.</li> </ul>
		<ul> <li>Expand and develop safe routes to school/safe routes for seniors programming.</li> </ul>
		<ul> <li>Pair education with key pedestrian-focused engineering and enforcement countermeasures</li> </ul>
		Safe Roads
		<ul> <li>Install engineering countermeasures focused on increasing driver awareness of bicyclists and scooter riders and reducing conflicts between them and vehicles.</li> </ul>
7 58	<ul> <li>Eliminate fatal and severe injury crashes involving bicyclists and scooter riders by 2040.</li> </ul>	<ul> <li>Evaluate if updates to the City's Construction Accessibility Policy are needed to maintain accessibility for bicyclists and scooter riders during construction and maintenance projects.</li> </ul>
		Safe Road Users
BICYCLES & SCOOTERS		<ul> <li>Improve infrastructure connectivity for bicyclists and scooter riders, especially along safe routes to school.</li> </ul>
		<ul> <li>Expand safe routes to school programming to encourage safe bicycle and scooter riding.</li> </ul>
		<ul> <li>Pair education with key bicyclist and scooter rider focused engineering and enforcement countermeasures.</li> </ul>
		Safe Roads
Contraction of the second seco	<ul> <li>Eliminate fatal and severe injury crashes involving motorcyclists by 2040.</li> </ul>	<ul> <li>Install engineering countermeasures focused on improving pavement friction on curves and intersections at locations with high motorcycle crash frequency.</li> </ul>
		Safe Road Users
		<ul> <li>Partner with motorcycle advocacy groups to effectively promote safe behaviors.</li> </ul>
MOTORCICLES		<ul> <li>Pair education with key motorcyclist- focused engineering and enforcement countermeasures.</li> </ul>

### **RISKY BEHAVIORS**

Reductions in fatalities and serious injuries can be accomplished by deterring unsafe or risky behaviors made by drivers and other transportation users, such as driving or biking while under the influence of alcohol or drugs or travelling at unsafe speeds. While fatal and severe injury crash rates for common behavior categories, such as driving and biking under the influence or unsafe speeds, are significantly lower than statewide crash rates, West Hollywood has identified the broader category of Risky Behaviors as a priority and an Emphasis Area for this Plan.

• **Risky Behaviors** - focuses on driver behaviors, such as impairment or unsafe speeds, that put the driver and other road users at risk. These behaviors not only increase the risk of a crash occurring, but also can result in more severe injuries to those involved.

**Consideration of Location Types.** Fatal and severe injury crashes that involve impairment in an urban setting often involve delayed reaction time or lack of awareness at conflict points such as intersections and pedestrian crossings, resulting in a crash event. Speed affects both the likelihood of a crash occurring and crash severity, regardless of location. For example, speeding drivers may be less able to react in time to avoid a pedestrian, bicyclist, or object in the roadway. In an urban core setting, vehicle speed is directly correlated to the injury severity of a pedestrian-involved or bicyclist-involved crash.

Following the Safe System approach, **Table 4** summarizes the goals and strategies for the risky behaviors most frequently resulting in crashes. Additional information on specific countermeasures, treatments, and strategies can be found in the Countermeasure Toolboxes in the Appendix.

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EMPHASIS AREA	GOALS	STRATEGIES
		Safe Road Users
в		<ul> <li>Implement education and public awareness campaigns targeted at specific behaviors.</li> </ul>
д	<ul> <li>Eliminate fatal and severe injury crashes involving impaired drivers by 2040.</li> </ul>	Implement high-visibility enforcement campaigns.
I ]		<ul> <li>Partner with local businesses and organizations on educational efforts and campaigns along the High Injury Network.</li> </ul>
		<ul> <li>Facilitate a Safe Ride Home program in partnership with the Los Angeles County Sheriff Department, TNC Operators (e.g., Lyft, Uber), and local businesses.</li> </ul>
		Safe Roads
		<ul> <li>Implement engineering countermeasures focused on designing or improving roads that lead to speeds more appropriate to the surrounding land use.</li> </ul>
		Safe Vehicles
		<ul> <li>Develop a readiness plan for Connected and Automated Vehicles (CAVs).</li> </ul>
177		Safe Road Users
ALL A	Eliminate fatal and severe injury crashes	Implement high-visibility enforcement campaigns.
K Q K	resulting from unsafe	Safe Speeds
$\lor$ $\checkmark$	speeds by 2040.	<ul> <li>Use recent legislation and national research to set context-appropriate posted speed limits suitable for all road users.</li> </ul>
		<ul> <li>Implement a safe speeds education campaign.</li> </ul>
		Other
		• Interdepartmental coordination to implement data management strategies and better monitor system safety performance, including contextual data inventory, crash risk indicators, and crash reporting.

### TABLE 4. EMPHASIS AREAS, GOALS, AND STRATEGIES FOR RISKY BEHAVIORS

### INFRASTRUCTURE

Multimodal transportation assets can be constructed or retrofitted to reduce the risk of fatal and severe injury crashes. Opportunities to do this include implementing safety treatments at intersections and along and across roadways. For this category, the following Emphasis Area was identified:

• **Intersections** - focuses on crashes that occur within the functional area (within 250 feet) of an intersection. Intersections are the primary source of conflicts between road users of all types. Crash severity and patterns vary based on traffic control type, but intersection-related crashes that involve speeding, red-light running, and vulnerable users have an increased probability of resulting in fatal and serious injuries.

**Consideration of Location Types.** Intersection collisions occur most often at 2-way stop controlled and signalized locations. The severity of intersection crashes may be more likely in higher-speed environments (e.g., low volume corridors with minor-street stop control that minimizes stops along the corridor) due to the increased kinetic energy, as recognized in the Safe System Approach.

Following the Safe System approach, **Table 5** summarizes the goals and strategies for each of these emphasis areas. Additional information on specific countermeasures, treatments, and strategies can be found in the Countermeasure Toolboxes in the Appendix.

EMPHASIS AREA	GOALS	STRATEGIES
		Safe Roads
		<ul> <li>Install engineering countermeasures focused on increasing visibility and driver awareness of intersections, reducing conflicts between road users, and improving signal operations.</li> </ul>
		Safe Vehicles
		<ul> <li>Develop a readiness plan for Connected and Automated Vehicles (CAVs).</li> </ul>
		Safe Road Users
		<ul> <li>Implement high-visibility enforcement campaigns focused on priority violations including speeding and DUIs.</li> </ul>
1.1.1		Safe Speeds
	<ul> <li>Eliminate fatal and severe injury crashes at intersections by 2040.</li> </ul>	<ul> <li>Install engineering countermeasures focused on reducing speeds by minimizing the paved cross-section through street reconfigurations or curb extensions or other traffic calming measures such as roundabouts.</li> </ul>
		<ul> <li>Use recent legislation and national research to set context-appropriate posted speed limits suitable for all road users.</li> </ul>
		<ul> <li>Implement a safe speeds education campaign.</li> </ul>
		<ul> <li>Advocate for legislative authority to implement automated speed enforcement.</li> </ul>
		Other
		<ul> <li>Implement data management strategies and better monitor system safety performance, including contextual data inventory, crash risk indicators, and crash reporting.</li> </ul>

### TABLE 5: EMPHASIS AREAS, GOALS, AND STRATEGIES FOR INFRASTRUCTURE

### EMERGING TECHNOLOGY

New and innovative technological advances can help improve current safety practices. **Table 6** highlights some of the goals and strategies for emerging technology.

	GOALS	STRATEGIES	
•	Build awareness of how emerging technology solutions can improve understanding of crash trends and	<ul> <li>Contextual Data Inventory – Vendors can provide up-to-date data on transportation infrastructure, including roadway characteristics, intersection characteristics, and signs. Updated inventory can help City staff identify project synergies, such as including a safety countermeasure with a repaving project and support systemic safety analysis for future safety plans and evaluations.</li> </ul>	
•	Identify and fund pilot programs for effective technology solutions for increasing safety (e.g., near miss analytics, crash analytics dashboards).	<ul> <li>Crash Risk Indicators - Surrogate safety measures, such as "nearmiss" crashes, hard braking data, road user behaviors, speed data, community-reported hazards, and high stress facilities provide an understanding of the safety landscape and enable proactive interventions. Technology such as video data and platforms which interventions are understanding of the safety landscape and enable proactive interventions.</li> </ul>	
•	Build a comprehensive citywide crash and inventory database and provide ongoing funding for its	insights regarding near miss conflict events to support safety needs analysis.	
	maintenance.	<ul> <li>Crash Reporting - Crash reporting practices, such as complete data collection and documentation of road user behavior and infrastructure, can lead to a greater understanding of the holistic safety landscape, and thus lead to improved investments in safety.</li> </ul>	

### TABLE 6. GOALS AND STRATEGIES FOR EMERGING TECHNOLOGY

### COMPLEMENTARY PROGRAMS AND PRACTICES

Crash history and other types of safety data can be advanced to better understand the causes and locations of crashes, leading to effective solutions. One framework is the list of USDOT's data quality attributes: timeliness, accuracy, completeness, uniformity, integration, and accessibility. Training is used to educate planners, engineers, designers, and construction staff about the importance of safety and how to incorporate it into their everyday job responsibilities. This also includes training staff on culturally relevant community engagement. Trained law enforcement and emergency response agencies can direct their efforts toward keeping users safe and, when crashes do occur, have the resources and systems in place so traffic incident management and emergency medical services personnel are available to respond.

### Strategy - Culturally Relevant Community Engagement and Street Safety Ambassador

**Program** – Community engagement is not a one-size-fits-all model. Culturally relevant community engagement strategies can help education and programming around traffic safety reach a larger audience and be more impactful by making materials readable for all and meeting the community where they are. The City of West Hollywood partners with Block by Block on its Security



Ambassador program, which has a direct positive impact on safety and neighborhood livability<sup>7</sup>. The program has 85 Block by Block personnel and provides a highly visible uniformed presence at the street level, deployed on bicycles, on foot, or at kiosks along major streets, alleys, City parking lots, and residential neighborhoods.

**Strategy - Rapid Response Safety Communication Protocol and Multi-Disciplinary Team** - An internal, multi-department communication strategy should be deployed in response to severe and fatal crashes. This includes immediate on-the ground-response to an investigation of severe and fatal crashes and a quarterly interdepartmental working group to discuss lessons learned and potential interventions directly with first responders, ensuring a multi-disciplinary response team focused both on the behavioral and engineering elements of a crash. This team also supports timely data sharing among City departments, ensures data accuracy, and develops near-term interventions. The City currently contracts with County fire and police services.

### HIGH INJURY NETWORK AND RECOMMENDED PROJECTS

### METHODOLOGY

With a focus on fatal and severe injury crashes, the project team developed a high injury network (HIN) of corridors and intersections within the City of West Hollywood that experienced a high frequency and/or severity of crashes. Once the high-crash locations were identified, each location was scored (or ranked) based on the following metrics.

- **KSI Crashes.** The number of crash events resulting in a fatality or severe injury at this location.
- **Total Crashes.** The total number of crashes reported and verified to be related to this location.
- Weighted Severity Score. The weighted severity score based on the number and severity of crashes, provides a ranking that accounts for the number and severity of crashes at each location (based on the FHWA Highway Safety Manual Equivalent Property Damage Only methodology)
- **Number of Emphasis Areas (EAs).** This is the number of EAs that are reflected in the details of the reported crashes at this location.
- **Public Outreach Identified Concerns.** Safety concerns identified through public outreach associated with the location.
- LA Metro Equity Need Index<sup>8</sup>. Considers the proportion of Low-income households; Black, Indigenous, and other People of Color (BIPOC) residents; and Households with no access to a car to identify where transportation needs are greatest.

<sup>&</sup>lt;sup>7</sup> https://www.weho.org/city-government/city-departments/community-safety/public-safety/sheriff-fire-securityambassadors/security-ambassadors

<sup>&</sup>lt;sup>8</sup> https://www.arcgis.com/apps/mapviewer/index.html?layers=0b45ad0fef0549dd934df66cbea56524
# HIGH INJURY NETWORK LOCATIONS AND RECOMMENDATIONS

Within West Hollywood, the HIN is made up of four corridors and eleven high crash locations, which are summarized in **Table 7** and **Table 8** and shown on **Figure 21**. Two of the identified corridors and one intersection were initially selected based on the safety analysis; however, additional strategies and diagnosis were not performed based on upcoming improvements that will completely reconfigure the corridors and intersections in question while addressing many of the safety concerns. Follow-up Vision Zero analysis should revisit these corridors after planned improvements are complete to evaluate whether additional countermeasures may be appropriate. A one-page summary of each priority corridor and location is provided, which includes an overview of the location, the reported crash patterns, and potential engineering countermeasures.

CORRIDOR NAME	KSI CRASHES	TOTAL CRASHES	NUMBER OF EMPHASIS AREAS	
A. SUNSET BOULEVARD	18	650	2	
B. FOUNTAIN AVENUE	Upcoming corridor improvements are already planned, including new protected bike lanes and a reduction in vehicle travel lanes in the short-term and sidewalk widening and traffic calming treatments like curb extensions at intersections in the long- term.			
C. SANTA MONICA BOULEVARD*	31	818	3	
D. MELROSE AVENUE	Upcoming corridor improvements are already under construction on the eastern half of the corridor including sidewalk widening, landscaping, curb extensions, streetlight upgrades, and crosswalk visibility upgrades. Similar improvements are planned for construction on the western half of the corridor and construction on that phase of the project will begin after construction is complete on the eastern half of the corridor.			

### TABLE 7: HIGH INJURY NETWORK -CORRIDORS

\*Upcoming corridor improvements on Santa Monica Boulevard are currently being designed and evaluated including protected bike lanes on the western half of the corridor and a block-by-block analysis of standard bike lane feasibility on the eastern half of the corridor. However, unlike improvements slated for Melrose and Fountain Avenues, Santa Monica Boulevard improvements are expected to be implemented later and are more narrowly focused on bike lane improvements without reductions in travel lanes or the introduction of major new pedestrian safety features beyond what already exists on the corridor. As such, locations on Santa Monica Boulevard are still included in the priority locations and additional mitigation measures that are more broadly focused are still included in the plan.

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#### **TABLE 8: HIGH INJURY NETWORK - INTERSECTIONS**

KSI CRASHES	TOTAL CRASHES	SEVERITY SCORE <sup>1</sup>	NUMBER OF EMPHASIS AREAS	PUBLIC AREAS OF CONCERN
4	43	676	3	2
3	36	397	2	2
2	7	396	3	0
2	33	385	3	1
1	16	264	1	0
1	23	251	4	1
1	8	251	2	1
1	8	223	2	1
1	6	204	2	0
1	3	197	1	0
	KSI       4       3       2       1        1	KSI       CRASHES         4       43         3       36         2       7         2       33         1       16         1       23         1       8         1       8         1       6         1       3	KSI CRASHESTOTALSSEVERTY SCORE14436763363972739623338511626418251182231620413197	KSI CRASHESTOTAL SEVERITYNUMBER OF SMEAS4436763336397227396323338531162641182514182232162042131971

11. LA CIENEGA BLVD & ROSEWOOD

Upcoming intersection improvements planned by the City of Los Angeles Department of Transportation (LADOT) for construction in the next 1-2 years include a new signalized crosswalk and added turn restrictions.

**NOTES:** <sup>1</sup> Severity score is calculated as a weighted sum of all crashes based on their severity and the proportional economic cost as defined by Caltrans





#### FIGURE 21: HIGH INJURY NETWORK

Additional intersections of interest beyond the HIN were also identified through community outreach feedback. These intersections, along with the identified concerns, include:

- Santa Monica Boulevard and Greenacre Avenue (Intersection daylighting concern)
- Santa Monica Boulevard and Holloway Drive (Speeding concern)
- Sunset Boulevard and Horn Avenue (Speeding Concern)
- Fountain Avenue and Detroit Street (IRWL compliance concern, especially during the day)
- Fountain Avenue and Formosa Avenue (IRWL compliance concern, especially during the day)
- Melrose Avenue and Robertson Avenue (Pedestrian visibility concern, suggestion to consider no right turn on red)
- Doheny Drive and Elevado (IRWL compliance concern)
- Hilldale Avenue (Stop sign compliance concern)
- Crescent Heights Avenue and Norton Avenue (Suggestion to consider audible walk signals for pedestrians)
- Crescent Heights Avenue and Santa Monica Boulevard (Suggestion to consider a left turn signal)
- Spaulding Avenue and Norton Avenue (Suggestion to consider a neighborhood traffic circle)
- Larrabee Street (speeding concerns)



# LOCATION 1: SANTA MONICA BOULEVARD & LA BREA AVENUE

#### **REPORT CARD**

Priority Ranking	1		
Priority Score	676		
Associated Emphasis Areas (Data)			
Associated Emphasis Areas (Outreach)	And And		
LA County Metro Equity Need Index	High/Moderate Need		
Total Crashes	43		
Fatal/Severe injury Crashes	4		
Control Type	Signal		

- **Description**: This high-volume intersection is signalized and has protected left turns for all approaches. The intersection is primarily surrounded by commercial land use and has nearby transit stops. There are sidewalks, ADA ramps, and marked pedestrian crosswalks on all approaches. The intersection is well lit and has pedestrian push buttons and crossing signals with countdown timers.
- **Crash Data**: This intersection had a total of 43 crashes between 2017 2021, including four severe injury crashes. Two of the severe injury



crashes involved pedestrians crossing outside of a crosswalk. Two other severe injury crashes involved motorcycle and car interactions, one of which was a head on crash while the other was a sideswipe.

- **Outreach and Task Force insight:** There were multiple concerns from the public and Task Force members about pedestrian safety in a high car volume environment at this location. Some public comments also mentioned a lack of safe bicycle facilities. It was also suggested that the nearby bus stop be relocated to improve safety, which could be aligned with the recently installed peak-hour bus lanes on La Brea Avenue.
- Potential countermeasures:
  - Install retroreflective backplates for signal heads.
  - Install Leading Pedestrian Interval for pedestrian crossings or convert pedestrian crossing to a scramble (if feasible).
  - Install flexible delineators along La Brea to prevent left turns to/from driveways along La Brea

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# INSTALL BICYCLE DETECTIONLOCATION 2: SANTA MONICA BOULEVARD & CRESCENT HEIGHTS BOULEVARD

#### **REPORT CARD**

Priority Ranking	2	
EPDO Score	397	
Associated Emphasis Areas (Data)		ď []
Associated Emphasis Areas (Outreach)	A A A	A.
LA County Metro Equity Need Index	Moderate Need	
Total Crashes	36	
Fatal/Severe injury Crashes	3	
Control Type	Signal	

 Description: This high-volume intersection is signalized and has channelized lanes for right turns to and from Crescent Heights Boulevard north of Santa Monica Boulevard. The intersection is primarily surrounded by commercial land use and has nearby transit stops. There are sidewalks and marked pedestrian crosswalks on all approaches. The intersection is well lit and has pedestrian push buttons and crossing signals with countdown timers.



- **Crash Data**: This intersection had a total of 36 crashes between 2017 2021, including three severe injury crashes. One of the severe injury crashes involved an impaired driver sideswipe while another involved a head on collision. Both occurred at night, but with streetlights on.
- Outreach and Task Force insight: Public comments highlighted that the slip lanes could present a dangerous situation for crossing pedestrians, and the crash history shows three lower severity crashes where a pedestrian was hit in a crosswalk. Some public comments also mentioned a lack of safe bicycle facilities.
- Potential countermeasures:
  - Install retroreflective backplates for signal heads.
  - Install Leading Pedestrian Interval (if feasible).
  - Add raised crossings at uncontrolled crossings on slip lanes.
  - Add left turn hardening treatments to slow vehicles turning left from Northbound Crescent Heights Boulevard to Westbound Santa Monica Boulevard (ex: raised rubberized strip and/or flexible plastic bollards along painted centerline).

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ATTACHMENT A

- Widen median or sidewalks on Crescent Heights north of Santa Monica Boulevard to reduce the paved cross section and pedestrian crossing distance.
- $\circ$   $\;$  Look at changes to on-street parking to improve sight distances.

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## LOCATION 3: SANTA MONICA BOULEVARD & WEST KNOLL DRIVE

#### **REPORT CARD**

Priority Ranking	3	
EPDO Score	396	
Associated Emphasis Areas (Data)	Å.	
Associated Emphasis Areas (Outreach)	None	
LA County Metro Equity Need Index	Low Need	
Total Crashes	7	
Fatal/Severe injury Crashes	2	
Control Type	Stop Controlled	

- Description: This stop-controlled intersection has a median along Santa Monica Boulevard and only allows right-in and right-out movements to and from West Knoll Drive. The intersection is primarily surrounded by commercial land use. There are sidewalks and a marked pedestrian crosswalk across West Knoll Drive. There are bicycle lanes striped along Santa Monica Boulevard.
- Crash Data: This intersection had a total of 7 crashes between 2017 – 2021,



including two severe injury crashes. Both severe injury crashes involved a car hitting a pedestrian in the crosswalk.

- **Outreach and Task Force insight:** There were no public comments associated with this intersection, but the task force discussed the pattern of crashes at this location and agreed that increased crosswalk visibility could help reduce crashes.
- Potential countermeasures:
  - Utilize high visibility paint and signage for the crosswalk.
  - Upgrade the bike lanes with high-visibility green conflict striping.
  - Reduce the posted speed limit on Santa Monica Boulevard to 30 mph.
  - Pending the final design of the proposed protected bike lanes on Santa Monica Boulevard, explore a curb extension or quick-build rubber or plastic treatments to slow cars turning onto West Knoll Drive from Santa Monica Boulevard and block illegal parking in the red curb zone preceding the intersection.



ATTACHMENT A

## LOCATION 4: SANTA MONICA BOULEVARD & LA CIENEGA BOULEVARD

**REPORT CARD** 

Priority Ranking	4		
EPDO Score	385		
Associated Emphasis Areas (Data)			
Associated Emphasis Areas (Outreach)			
LA County Metro Equity Need Index	Low Need		
Total Crashes	33		
Fatal/Severe injury Crashes	2		
Control Type	Signal		

• **Description**: This high-volume intersection is signalized and has protected left turns for all approaches except for southbound. The intersection is primarily surrounded by commercial land use and has nearby transit stops. There are sidewalks and marked pedestrian crosswalks on all approaches. The intersection is well lit and has pedestrian push buttons and crossing signals with countdown timers. Signal timing already implements a Leading Pedestrian Interval. There are bicycle lanes striped along Santa Monica Boulevard in this location.



- Crash Data: This intersection had a total of 33 crashes between 2017 2021, including two severe injury crashes. Both severe injury crashes involved a rear end at night. There were nine lower severity crashes involving unsafe speed, most of which resulted in a rear end. There were six crashes involving a pedestrian, and three involving a bicycle.
- **Outreach and Task Force insight:** There were multiple concerns from the public and Task Force members about pedestrian safety in a high car volume environment, especially given the time required to traverse the long crosswalk. A refuge island on Santa Monica Boulevard could potentially work if parking was reduced adjacent to the intersection. The task force discussed the safety concerns presented with a high-angle intersection, and the potential for a pedestrian scramble was discussed, however the difficulties associated with implementing a scramble on a highly skewed intersection may be prohibitive.
- Potential countermeasures:
  - Install retroreflective backplates for signal heads.
  - Expand medians on Santa Monica Boulevard into pedestrian refuge by removing parking or explore bus boarding islands as part of the upcoming protected bike lane project to reduce crossing distances.

- Add speed feedback signs and/or automated speed enforcement cameras if legislative authority granted by the State legislature.
- Upgrade the bike lanes with high-visibility green conflict striping.

DKS



# LOCATION 5: SUNSET BOULEVARD & SHERBOURNE DRIVE

#### **REPORT CARD**

Priority Ranking	5	
EPDO Score	264	
Associated Emphasis Areas (Data)		
Associated Emphasis Areas (Outreach)	None	
LA County Metro Equity Need Index	Low Need	
Total Crashes	16	
Fatal/Severe injury Crashes	1	
Control Type	Stop Controlled	

• **Description**: This stop-controlled threeapproach intersection has high visibility signage identifying the uncontrolled pedestrian crossing. The intersection is primarily surrounded by commercial land use. There are sidewalks and marked pedestrian crosswalks with a bulb-out on the northwest corner of Sunset Boulevard with ADA ramps. The intersection is well lit with pedestrian-activated in pavement warning lights.



- **Crash Data**: This intersection had a total of 16 crashes between 2017 2021, including one severe injury crash. The severe injury crash and three other lower severity crashes involving a pedestrian all resulted from the pedestrian being hit in the crosswalk.
- **Outreach and Task Force insight:** There were no public comments associated with this intersection, however the task force discussed the pattern of crashes at this location and agreed that increased crosswalk visibility could help reduce crashes.

# Potential countermeasures:

- Reduce the posted speed limit on Sunset Boulevard to 30 mph if feasible under expanded authority granted by the state after June 2024.
- Convert the pedestrian crossing across Sunset Boulevard to a raised crossing if permitted by the Los Angeles County Fire Department.
- Add a curb extension on eastbound Sunset Boulevard to reduce the crossing distance and improve visibility of pedestrians in the roadway.
- Add a curb extension on the northeast corner to slow vehicles turning onto Sherbourne Drive (the aerial above shows the remnants of a previous painted curb extension).

ATTACHMENT A

## LOCATION 6: SANTA MONICA BOULEVARD & ROBERTSON BOULEVARD

**REPORT CARD** 

Priority Ranking	6			
EPDO Score		251		
Associated Emphasis Areas (Data)	Å	Å.		ď []
Associated Emphasis Areas (Outreach)	Å			
LA County Metro Equity Need Index	Moderate Need			
Total Crashes	23			
Fatal/Severe injury Crashes	1			
Control Type	Signal			

• **Description**: This high-volume intersection is signalized and has a high angle of approach. The intersection is primarily surrounded by commercial land use, including multiple bars. There are sidewalks and marked pedestrian crosswalks on all approaches. The intersection is well lit and some of the approaches have pedestrian push buttons and crossing signals with countdown timers. An all-pedestrian signal phase operates from 9:00 pm to 3:00 am on Thursday, Friday, and Saturday nights.



 Crash Data: This intersection had a total of 23 crashes between 2017 – 2021, including one severe injury crash. The severe injury crash involved a car travelling at unsafe speed that rear-ended a bicycle. There were also 13 lowerseverity crashes involving pedestrians, and 16 lower-severity crashes that involved alcohol.

- **Outreach and Task Force insight:** There were multiple concerns from the public and Task Force members about pedestrian safety in a high car volume environment, especially at night. The Task Force discussed converting the part time scramble to a full-time all-direction scramble with appropriate diagonal cross walk striping rather than only operating night during high pedestrian-volume time periods. There were task force discussions about getting prominent local business owners at this location involved in safety awareness and enforcement discussions.
- Potential countermeasures:
  - Reduce the posted speed limit on Santa Monica Blvd. to 30 mph if feasible under expanded authority granted by the state after June 2024.
  - Add speed feedback signs and/or automated speed enforcement cameras if legislative authority granted by the State legislature.
  - Install retroreflective backplates for signal heads.

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- Install Leading Pedestrian Interval or explore expanding the part-time pedestrian scramble to a full-time scramble (if feasible).
- $\circ$  Upgrade the bike lanes with high-visibility green conflict striping.
- Upgrade bicycle lanes to protected bicycle lanes.
- Install bike boxes.
- Install protected phasing on northbound and southbound left-turns.
- Focus DUI enforcement programs and DUI awareness campaigns in this area.

DKS



## LOCATION 7: SANTA MONICA BOULEVARD & NORTH HAYWORTH BOULEVARD

**REPORT CARD** 



 Description: This offset intersection is stop controlled with a median blocking left turns to and from Santa Monica Boulevard. In-roadway warning lights were recently installed and include flashing LED lights on the ped crossing warning signs. There is a midblock pedestrian crossing with signage just west of the intersection.



 Crash Data: This intersection had a total of eight crashes between 2017 – 2021, including one severe

injury crash. Four crashes involved pedestrians and three involved alcohol.

- **Outreach and Task Force insight:** Public comments mentioned that the existing flashers were not working for the midblock crossing, though they've since been repaired.
- Potential countermeasures:
  - Focus DUI enforcement programs and DUI awareness campaigns in this area.
  - Add speed feedback signs and/or automated speed enforcement cameras if legislative authority granted by the State legislature.
  - Consider removing metered parking space on the south side of Santa Monica west of and abutting the Hayworth crosswalk with bulb-out to improve pedestrian visibility.



# LOCATION 8: SANTA MONICA BOULEVARD & OGDEN DRIVE

#### **REPORT CARD**

Priority Ranking	8		
EPDO Score	223		
Associated Emphasis Areas (Data)			
Associated Emphasis Areas (Outreach)			
LA County Metro Equity Need Index	High/Moderate Need		
Total Crashes	8		
Fatal/Severe injury Crashes	2		
Control Type	Stop Controlled		
-control rype	Adjacent Pedestrian Hybrid Signals		

- **Description**: This stop-controlled threeapproach intersection has pedestrian signals on either side. The intersection is primarily surrounded by commercial land use and has nearby transit stops. There are sidewalks and marked pedestrian crosswalks across Ogden Drive. The intersection is well lit with roadway and pedestrian-scale lighting nearby.
- Crash Data: This intersection had a total of eight crashes between 2017 – 2021, including one fatal crash and one severe



injury crash. The fatal crash involved improper turning and a motorcycle, and the severe injury crash involved a pedestrian crossing without right-of-way and being struck by an oncoming car.

- **Outreach and Task Force insight:** Public comments highlighted concerns about car speeds along Santa Monica Boulevard in the vicinity of the intersection. The task force discussed the potential to install raise the midblock crossing west of Ogden Drive and potential alternatives to pedestrian signals including in-road warning lights to be consistent with other midblock crossings.
- Potential countermeasures:
  - Increase signage and visibility of the pedestrian crossings with retroreflective backplates.
  - Add speed feedback signs and/or automated speed enforcement cameras if legislative authority granted by the State legislature.
  - Look at changes to parking on Santa Monica Blvd. to improve sight distance issues.

# ATTACHMENT A

• Study potential impacts from and conduct public outreach to explore potentially installing signs and centerline bollards prohibiting left turns onto or off of Ogden Drive.





# LOCATION 9: NORTH DOHENY DRIVE & PHYLLIS AVENUE

#### **REPORT CARD**

Priority Ranking	9	
EPDO Score	204	
Associated Emphasis Areas (Data)		
Associated Emphasis Areas (Outreach)	None	
LA County Metro Equity Need Index	Moderate Need	
Total Crashes	6	
Fatal/Severe injury Crashes	1	
Control Type	Stop Controlled	

 Description: This offset intersection is stop controlled. A new midblock crosswalk with in-roadway warning lights was recently installed on Doheny Drive just south of this location at Cynthia Street. The intersection is primarily surrounded by residential land use. Southbound Doheny Drive is a Class III Bicycle Route and there are sidewalks, however there are no marked crosswalks. The intersection is lit and is on the border between Beverly Hills and West Hollywood.



- Crash Data: This intersection had a total of six crashes between 2017 2021, including one severe injury crash. The severe injury crash was a broadside involving a bicyclist and a car. Two of the lower severity crashes were caused by improper turning, while another two were caused by interfering in a vehicle's right-of-way.
- **Outreach and Task Force insight:** There were no public comments associated with this intersection, however the task force discussed the pattern of crashes at this location and decided that the offset and lack of intersection awareness for drivers on North Doheny Drive could contribute to crashes at this location. Speed might also contribute to lower situational awareness.
- Potential countermeasures:
  - Reduce the posted speed limit on North Doheny Drive to 20 mph if feasible under expanded authority granted by the state after June 2024.
  - Refresh the striping and add intersection ahead warning signs.
  - Add high visibility marked crosswalks and curb extensions across Phyllis Street and Phillys Avenue.

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# LOCATION 10: ROBERTSON BOULEVARD & RANGELY AVENUE

#### **REPORT CARD**

Priority Ranking	10	
EPDO Score	197	
Associated Emphasis Areas (Data)		
Associated Emphasis Areas (Outreach)	n) None	
LA County Metro Equity Need Index	Very Low Need	
Total Crashes	3	
Fatal/Severe injury Crashes	1	
Control Type	Stop Controlled	

- Description: This local intersection is stop controlled and has a slightly angled approach for Rangely Avenue west of Robertson Boulevard. The intersection is primarily surrounded by commercial land uses. There are sidewalks on all approaches and a striped crosswalk across the southern leg.
- Crash Data: This intersection had a total of three crashes between 2017 – 2021, including one severe injury crash. The severe injury crash involved a pedestrian



being hit in the crosswalk while another lower-severity crash involving a pedestrian had a car hitting a pedestrian on the sidewalk.

• **Outreach and Task Force insight:** Public comment identified noise complaints from nearby businesses and a dangerous crossing environment north and south of Rangely, given high vehicle speeds.

# Potential countermeasures:

- Reduce the posted speed limit on Robertson Boulevard to 25 mph.
- Add speed feedback signs and/or automated speed enforcement cameras if legislative authority granted by the State legislature.
- Refresh the striping and add intersection ahead warning signs.
- Add high visibility crosswalk markings across all legs of the intersection.
- Add curb extensions to shorten crossing distances, calm traffic, and increase the visibility of pedestrians.
- Install in-roadway warning lights to increase crosswalk visibility.

# **CITYWIDE SYSTEMIC OPPORTUNITIES**

Systemic safety solutions are a key component of the Safe System approach, as they address underlying crash risks on a large scale (a corridor, neighborhood, or entire city), including consideration of safety treatment locations with no reported crash history. By treating the known characteristics that are contributing to crashes on a broad scale, a systemic safety project can proactively eliminate crash risks before a crash occurs. Systemic safety solutions are generally lowcost treatments that have a proven safety benefit. The following countermeasures (or groups of countermeasures) could be implemented across the city to address the most common crash risks identified thus far.

- **Stop controlled intersection upgrades** Improve the visibility of stop-controlled intersections by upgrading signing and striping. Upgrades may include: reduced speed limits, pavement markings, high-visibility stop signs, larger or doubled-up regulatory and warning signs, retroreflective tape on sign posts, increased intersection daylighting by removing parking and striping additional red curb before an intersection (something called for up to 20 feet before crosswalks by a recent state law known as AB 413), flashing beacons, and tree trimming (including hedge trimming) as needed.
- Enhanced pedestrian crossing treatments (unsignalized intersection or midblock) Improve driver awareness of potential conflicts with vulnerable road users in locations with nearby pedestrian generators (transit stops, commercial/retail and mixed-use land uses, parks, etc.) and along Safe Routes to School and Safe Routes for Seniors. Treatments may include reduced speed limits, high-visibility and/or raised crosswalks, advanced warning signs, curb extensions, median refuge islands, updated ADA ramps with high-visibility dome treatments, raised crosswalks/speed tables, bicycle signal detection, and active warning devices like In-Road Warning Lights (IRWL), Rectangular Rapid-Flashing Beacon (RRFB) or Pedestrian Hybrid Beacons (PHB).
- Enhanced pedestrian crossing treatments (signalized intersection) Improve driver awareness of potential conflicts with vulnerable road users in locations with nearby pedestrian generators (transit stops, commercial/retail and mixed-use land uses, parks, etc.) and along Safe Routes to School and Safe Routes for Seniors. Treatments may include: retroreflective signal heads, high-visibility crosswalks, curb extensions, pedestrian countdown heads, leading pedestrian intervals, medians, raised crosswalks/speed tables, right and left turn prohibitions, channelized right turn redesign, left turn hardening, lighting improvements, slower pedestrian walking speeds, and protected intersections.
- Reduce speed limits Citywide Reduce maximum speed limits for arterials to 30 mph and for local streets to 20 mph (something allowed by a recent state law, known as AB 43, which allows increased flexibility in lowering speed limits starting on June 30, 2024). Support compliance with awareness campaigns, additional posted speed limit signs, speed feedback signs, and targeted enforcement. A recent state law known as AB 645 legalized automated speed camera enforcement in select California cities such as neighboring Los Angeles. While the new regulations did not legalize speed cameras in West Hollywood, advocating for inclusion in future expansions of this authority could reduce the enforcement burden on Los Angeles County Sheriff Department personnel while increasing compliance and improving safety.
- Enhanced education campaign for all road users Implement an ongoing Citywide awareness campaign to improve safe driving habits and regulatory compliance using Public Service Announcements (PSAs) on social media, at electronic displays at City bus shelters,



dockless stations, kiosks, on banners on streetlight poles and designated electronic billboards. These efforts should include pop-up outreach at community events as well as dedicated outreach activities such as City recognition of related events such as World Day of Remembrance for Road Traffic Victims (celebrated on the third Sunday of November annually). The City should pursue grant funding such as that available from the Southern California Association of Governments (SCAG) GoHuman or Metro Open Streets Grant Programs to the extent feasible to support this work.

# IMPLEMENTATION AND EVALUATION

This Target Vision Zero Plan is the framework for engaging residents, stakeholders, employers, planners, engineers, enforcement agencies, and emergency medical service providers across the City in improving transportation safety in West Hollywood. While safety-specific plans and programs are critical to achieving the vision for safety in West Hollywood, traditional transportation planning, design, operations and maintenance decision making processes, programs, and policies should proactively integrate safety as well. The emphasis areas and strategies in this Plan present short-term safety needs and solutions that can be used by stakeholders citywide as funding and implementation opportunities present themselves. Ongoing coordination and collaboration will enhance implementation efforts and set the stage to evaluate progress on policies, programs, and projects.

Using the goals and strategies in this Plan, planners and engineers can track and plan for safety on the transportation system by:

- Reviewing past, current, and predicted safety trends Are trends changing? Are the identified strategies reducing fatal and severe crashes within each emphasis area?
- Revising safety goals and strategies Have the goals been achieved early, or are they progressing slower than expected? Are the responsible parties implementing the strategies, and if not, what are the barriers to implementation (funding, staff resources, lacking champions)?
- Identifying new projects and strategies to achieve results Safety research and innovative programs are continually advancing. Are new and more effective strategies available that can be used to better improve safety?
- Monitoring and evaluating system performance Are systems in place to effectively monitor and evaluate safety throughout the city? Do opportunities exist to improve data collection and accuracy/quality?

# COLLABORATION

West Hollywood will reconvene an expanded Vision Zero Task Force every two years to review updated analysis and recommendations based on the latest crash trends and to discuss new and



ongoing strategy implementations, new strategic and funding opportunities, and barriers to implementation. The purpose of these meetings is to encourage and maintain communication across stakeholders and provide accountability for implementation. Whenever possible, these meetings should include the representatives from all relevant City advisory boards, commissions, and representatives of the business and advocacy communities as well.

In addition to the Taskforce, the City will establish a new Interagency WeHo Target Vision Zero Traffic Safety Working Group with City of West Hollywood Long Range Planning, Engineering, and Public Safety staff as well as representatives of the Los Angeles County Sheriff Department who will meet quarterly to discuss the prior quarters crashes and any needed engineering, education, and enforcement efforts at each location.

West Hollywood will also continue to use online outreach tools and in-person pop up outreach at community events to provide residents an ongoing opportunity to comment on safety concerns at locations and for projects throughout the City. This feedback will be incorporated into biannual Taskforce discussions and Vision Zero Implementation Reports for City Council consideration.



ATTACHMENT A

## **POLICY SUPPORT**

Projects following the Safe System approach may often require tradeoffs to be made between onstreet parking, vehicle level of service, and pedestrian and bicycle safety and accessibility, when funding and/or right of way are limited. A Vision Zero policy and Council Resolution in support of this can help clarify how these decisions will be made at a citywide scale rather than on a projectby-project basis. The policy can also support equity goals in the community by precluding unequal opportunities to those with the most resources for civic participation.

Other complementary policies to this Plan may include a citywide crosswalk policy and transition plan and a speed management policy and program. The Vision Zero Network website provides additional guidance: <u>https://visionzeronetwork.org/where-to-start/</u>

# INSTITUTIONALIZATION

In addition to pursuing funding for the priority and systemic projects identified in this Plan via upcoming grant opportunities, West Hollywood should consider reactive and project safety project opportunities through:

- Ongoing maintenance and Capital Improvement Projects, such as
  - Installation of in-road warning lights
  - Update of intersections and midblock crossings to be consistent with current ADA requirements
  - Repaving efforts as an opportunity to modify and upgrade pavement marking and other lowcost treatments
  - 。 Streetscape, protected bike lane, and neighborhood greenway projects
- Development Impact Review and Mitigation Guidance from the Institute of Transportation Engineers and NACTO present opportunities for bring the Safe System approach into the development review process:
  - https://www.ite.org/pub/?id=94372DF6-BAB5-AE00-E6D5-471ED4F338CE
  - https://nacto.org/program/vision-zero-and-safety/

### **EVALUATION**

 West Hollywood plans to maintain an internal crash data dashboard, allowing staff to identify safety concerns and trends as new data becomes available. The City will also load the adopted goals, strategies, and both systemic and location specific recommendations into the Envisio platform to enable community members to easily track implementation progress in an intuitive live online dashboard interface. West Hollywood plans to prepare a Vision Zero Implementation Report every two years that will summarize crash trends, relevant changes to state law and their implications for the City's Vision Zero program, and implementation progress for the city focused on the Emphasis Areas, High Injury Network, and the stated goals of the current Target Vision Zero Plan. This frequency will coincide with the frequency of Caltrans HSIP and ATP funding cycles, allowing the analysis to inform



priority projects and funding applications. The report or findings of the evaluation will be made publicly available to local residents. This may also include examination of other locations identified by the community. Examples of these may include: Sunset/Holloway/Horn Intersection (Identified by DAB)

The Emphasis Areas, High Injury Network, and Strategies identified in the Target Vision Zero Plan are anticipated to be re-evaluated every four years and revised based upon the results of the crash trend analysis.





# APPENDIX



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ATTACHMENT A

# CONTENTS

APPENDIX A. LOCAL ROAD SAFETY PLAN

### APPENDIX B. STRATEGY TOOLBOX

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# APPENDIX A. LOCAL ROAD SAFETY PLAN

RECOMMENDATIONS





# Project Template: Location #1

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



#### Project Location Description & Maps:

Segment: N La Brea Ave - Santa Monica Blvd to Lexington Ave

**Examples of Similar Segments:** N Fairfax Ave - Santa Monica Blvd to Romaine St; La Cienega Blvd - Holloway Dr to Santa Monica Blvd

Intersection: Santa Monica Blvd & N La Brea Ave; Similar Intersections: N Fairfax Ave & Santa Monica Blvd; Sunset Blvd



### Traffic and Geometric Data:

Collision Data		Traffic Data	
Total Collisions	80	Average Daily Traffic (ADT)	34,407
Fatal and Injury	Fatal Injury - 0	Lighting	Yes
Collisions	Severe Injury - 4	Highest Posted Speed Limit	35 MPH
		Number of approaches	4
(percentage) Rear-End (30.0%) Broadside (26.3%)	TEV	76,656	
Sideswipe (26.3%)		Crosswalk Condition	4 timed pedestrian
Total Nighttime Collisions	34	1	crosswalks
Wet Surface Collisions	1	Control Type	Signalized
Drug and Alcohol Related	Lighting	Yes	
Collisions	7	Median	No

### **Additional Notes:**

- · Lane width issues
- · Turning radii issues with multiple driveways
- City has federal money for this intersection from Metro
- Metro will be installing bus only lanes during rush hour on La Brea Ave
- · Lane width issues
- · Busy and active intersection

Collision Breakdown				
Veh vs. Veh Veh vs. Ped Veh vs. Bike				
71	2			



# **Countermeasure Evaluation**

Primary Issues	Potential Countermeasures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Pedestrian Safety	Implement Leading Pedestrian Interval (included in HSIP application)	60% (S21PB)	\$11,436,00	\$7,667	1491.59
Aggressive driving	Implement Advanced Dilemma Zone Detection system	40% (S04)	\$18,592,320	\$34,000	546.83
Prevent left-turns to and from driveways on La Brea Ave	Install flexible delineators along La Brea Ave	15% (R27)	\$262,920	\$750	350.56
Bicycle safety	Install bicycle detection	5% (-)	\$48,540	\$4,000	12.14
Transit user	First/last mile improvements - bike parking/ bike share	5% (-)	\$1,001,540	\$6,000	166.92
Transit user	First/last mile improvements - wayfinding signage	5% (-)	\$1,001,540	\$15,000	66.77
Transit user	First/last mile improvements - transit information signage/kiosk	5% (-)	\$1,001,540	\$3,000	333.85



# Project Template: Location #2

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



# **Project Location Description & Maps:**

Segment: N Crescent Heights Blvd - Santa Monica Blvd to Fountain Ave Examples of Similar Segments: N Gardner St - Santa Monica Blvd to Lexington Ave; N Highland Ave - Santa Monica Blvd to Lexington Ave



# Traffic and Geometric Data:

Collision Data				
Total Collisions	18			
Fatal and Injury Collisions	Fatal Injury - 0 Severe Injury - 0 Visible Injury - 1			
Top 3 Collision Types (percentage)	Broadside (44.4%) Rear-End (33.3%) Sideswipe (22.2%)			
Total Nighttime Collisions	4			
Wet Surface Collisions	1			
Drug and Alcohol Related Collisions	1			

Traffic Data			
Average Daily Traffic (ADT) 31,678			
Lighting	Yes		
Highest Posted Speed Limit	35 MPH		

Collision Breakdown				
Veh vs. Veh Veh vs. Ped Veh vs. Bike				
18 0 0				

# Additional Notes:

- Sight distance issues from Norton Ave
- High speeds observed
- Stop bar on westbound approach has been moved back



# **Countermeasure Evaluation**

Primary Issues	Potential Countermeasures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Pedestrian safety	Install pedestrian refuge island in RRFB (Rectangular Rapid Flashing Beacons)	45% (NS19PB)	-	\$30,000	-
Majority of crashes concentrated at this location	Install traffic signal at Norton Ave	30% (NS03)	\$847,680	\$270,000	3.14
Pedestrian safety	Add crosswalk striping along Norton Ave	25% (NS20PB)	-	\$5,000	-
Sight distance issues	Look at changes to on street parking	20% (NS11)	\$565,120	\$3,000	188.37
Bicycle safety	Install bicycle detection to RRFB	5% (-)	-	\$4,000	-



# Case Study Sheet: Location #3

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



# **Project Location Description & Maps:**

Intersection: Genessee Ave & Willoughby Ave

Examples of Similar Intersections: Spaulding Ave & Romaine St; Gardner St & Romaine St



# Traffic and Geometric Data:

Collision Data				
Total Collisions	4			
Fatal and Injury Collisions	Fatal Injury - 0 Severe Injury - 0 Visible Injury - 0			
Top 3 Collision Types	Sideswipe (75%) Rear-End (25%)			
Total Nighttime Collisions	1			
Wet Surface Collisions	2			
Drug and Alcohol Related Collisions	0			

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Traffic Data				
Number of Approaches	4			
Total Entering Vehicles	3,902			
Crosswalk Condition	0 crosswalks			
Control Type	Unsignalized			
Lighting	Yes			
Highest Posted Speed Limit	25 MPH			
Median	No			

Collision Breakdown				
Veh vs. Veh Veh vs. Ped Veh vs. Bike				
3	1			

# Additional Notes:

- · Residential area
- · Narrow lane widths with parked cars



# **Countermeasure Evaluation**

Primary Issues	Potential Counter- measures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Parked car collisions and narrow lane widths	Add edge line striping along Genessee Ave	25% (R28)	\$188,400	\$2,000	94.20
Vulnerable users safety	Install high visibility crosswalks	20% (NS11)	\$150,720	\$3,000	50.24



# Case Study Sheet: Location #4

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



# **Project Location Description & Maps:**

Intersection: N San Vicente Blvd & Santa Monica Blvd Examples of Similar Intersections: N Doheny Dr & Santa Monica Blvd; La Cienega Blvd & Santa Monica Blvd





## Traffic and Geometric Data:

Collision Data				
Total Collisions	73			
Fatal and Injury Collisions	Fatal Injury - 0 Severe Injury - 2 Visible Injury - 9			
Top 3 Collision Types	Rear-End (30.1%) Sideswipe (28.8%) Broadside (19.2%)			
Total Nighttime Collisions	40			
Wet Surface Collisions	1			
Drug and Alcohol Related Collisions	13			

Traffic Data			
Number of Appro	aches	4	
Total Entering Ve	hicles	64,480	
Crosswalk Condition		All Legs with Pedestrian Timing	
Control Type		Signalized	
Lighting		Yes	
Highest Posted Speed Limit		35 MPH	
Median		Yes	
Collision Breakdown			
Vehicular	Pedestrian		Bicyclist
65	2		4

# Additional Notes:

- Near miss observed between eastbound right and pedestrians going north
- Restriping occuring on Santa Monica Blvd
- Feasibility for protected bike lanes ongoing



# **Countermeasure Evaluation**

Primary Issues	Potential Countermeasures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Queuing issues	Protected left turn along northbound/southbound movements	30% (S07)	\$242,040	\$40,000	6.05
Speeding and running through red lights	Install advanced dilemma zone detection system	40% (S04)	\$10,720,800	\$34,000	315.32
Pedestrian safety	Install Leading Pedestrian Interval (included in HSIP application)	60% (S21PB)	\$535,680	\$7,667	69.87
Bicycle safety	Install green bicycle paint and bicycle boxes	15% (S20PB)	\$1,492,740	\$86,667	17.22
Pedestrian safety, sight distance issues	No right-turn on red along Santa Monica Blvd	5% (-)	\$456,840	\$40,000	11.42
Sight distance issues	Move stop lines back	5% (-)	\$1,340,100	\$5,000	268.02



# **Case Study Sheet: Location #5**

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



# **Project Location Description & Maps:**

Intersection: N Robertson Blvd & Santa Monica Blvd Examples of Similar Intersections: N La Peer Dr & Santa Monica Blvd; Larrabee St & Sunset Blvd



# Traffic and Geometric Data:

Collision Data			
Total Collisions	72		
Fatal and Injury Collisions	Fatal Injury - 0 Severe Injury - 1 Visible Injury - 6		
Top 3 Collision Types	Rear-End (29.2%) Sideswipe (26.4%) Broadside (16.7%)		
Total Nighttime Collisions	51		
Wet Surface Collisions	3		
Drug and Alcohol Related Collisions	14		

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Traffic Data			
Number of Appro	aches	4	
Total Entering Ve	hicles	53,31	4
Crosswalk Condition		All Legs with Pedestrian Timing	
Control Type		Signalized	
Lighting		Yes	
Highest Posted Speed Limit		35 MPH	
Median		Yes	
Collision Breakdown			
Veh vs. Veh	Veh vs. Ped		Veh vs. Bike
56	10		3

# Additional Notes:

- · No leading pedestrian interval for east and west crosswalks due to traffic delay on Santa Monica Blvd
- New development going in at southwest corner
- City is planning to put in roadway warning lights on Robertson Blvd for pedestrians going to the park



# **Countermeasure Evaluation**

Primary Issues	Potential Counter- measures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Speeding and running through red lights	Install advanced dilemma zone detection system	40% (S04)	\$8,092,000	\$34,000	238.00
Pedestrian safety	Implement Leading Pedestrian Interval	60% (S21PB)	\$2,206,560	\$7,667	287.80
Bicycle safety	Install green bicycle paint in bike lanes	35% (R32PB)	\$3,197,880	\$15,000	213.19
Bicycle safety	Install bike boxes	15% (S20PB)	\$1,370,520	\$86,667	15.81
Bicycle safety	Install protected bicycle lane along Santa Monica Blvd	45% (R33PB)	\$4,111,560	\$237,000	17.31
Sideswipes	Install lane guidance striping in intersection	10% (S09)	\$260,840	\$5,000	52.17
Northbound and southbound left turns	Install protected phasing on NB/SB left-turns	30% (S07)	\$622,920	\$3,000	207.64



# Case Study Sheet: Location #6

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



# **Project Location Description & Maps:**

Intersection: La Cienega Blvd & Sunset Blvd

Examples of Similar Intersections: N Sweetzer Ave & Sunset Blvd; La Cienega Blvd & Holloway Dr



# Traffic and Geometric <u>Data:</u>

Collision Data			
Total Collisions	62		
Fatal and Injury Collisions	Fatal Injury - 0 Severe Injury - 1 Visible Injury - 6		
Top 3 Collision Types	Broadside (32.3%) Sideswipe (27.4%) Rear-End (22.6%)		
Total Nighttime Collisions	40		
Wet Surface Collisions	1		
Drug and Alcohol Related Collisions	5		

	M la Broa Ave
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Traffic Data				
Number of Appro	aches	4		
Total Entering Ve	hicles	41,224		
Crosswalk Condition		All Legs with Pedestrian Timing		
Control Type		Signalized		
Lighting		Yes		
Highest Posted Speed Limit		35 MPH		
Median		No		
Collision Breakdown				
Veh vs. Veh	Veh vs. Ped		Veh vs. Bike	
55	4		0	

# Additional Notes:

- Construction on northern lot
- Loud
- · Car went right on red when pedestrian had right-of-way
- Southbound approach is very steep
- New developments coming in


#### **Countermeasure Evaluation**

Primary Issues	Potential Counter- measures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Pedestrian safety	Implement Leading Pedestrian Interval (included in HSIP application)	60% (S21PB)	\$5,985,840	\$7,667	780.73
Aggressive driving	Install advanced dilemma zone detection	40% (S04)	\$7,446,560	\$34,000	219.02
Queuing and sight distance issues for eastbound left turning	Install protected EBL turn phasing (in process)	30% (S07)	\$186,720	\$40,000	190.38



#### Case Study Sheet: Location #7

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



#### **Project Location Description & Maps:**

Intersection: N La Brea & Fountain Ave

Examples of Similar Intersections: N Fairfax Ave & Fountain Ave; Crescent Heights Blvd & Fountain Ave



#### Traffic and Geometric Data:

Collision Data				
Total Collisions	39			
Fatal and Injury Collisions	Fatal Injury - 1 Severe Injury - 0 Visible Injury - 3			
Top 3 Collision Types	Sideswipe (30.8%) Broadside (25.6%) Rear-End (15.4%)			
Total Nighttime Collisions	15			
Wet Surface Collisions	3			
Drug and Alcohol Related Collisions	3			

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Traffic Data				
Number of Appro	aches	4		
Total Entering Ve	hicles	63,81	0	
Crosswalk Condition		All Legs with Pedestrian Timing		
Control Type		Signalized		
Lighting		Yes		
Highest Posted Speed Limit		35 MPH		
Median		No		
С	ollision Bre	akdow	n	
Veh vs. Veh	Veh vs. Ped		Veh vs. Bike	
31	6		1	

#### Additional Notes:

- Near miss pedestrian- car collisions witnessed
- Left turn queuing
- Fountain Ave merges to one lane
- Aggressive driving observed here



## **Countermeasure Evaluation**

Primary Issues	Potential Counter- measures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Vehicles making right turns not observant of pedestrians	Right turn blank out sign for pedestrians - restrict right turns when pedestrians present	5% (-)	\$32,360	\$20,000	1.62
Aggressive driving	Install advanced dilemma zone detection	40% (S04)	\$6,337,920	\$34,000	186.41
Pedestrian safety	Implement Leading Pedestrian Interval (included in HSIP application)	60% (S21PB)	\$1,459,680	\$7,667	190.38
Queuing issues	Install protected left turn phasing	30% (S07)	\$1,222,440	\$40,000	30.56



#### Case Study Sheet: Location #8

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



#### **Project Location Description & Maps:**

Intersection: N Vista St & Santa Monica Blvd

Examples of Similar Intersections: N Poinsettia PI & Santa Monica Blvd; N Fuller Ave & Santa Monica Blvd



#### Traffic and Geometric Data:

Collision Data					
Total Collisions	28				
Fatal and Injury Collisions	Fatal Injury - 0 Severe Injury - 1 Visible Injury - 1				
Top 3 Collision Types	Sideswipe (39.3%) Broadside (21.4%) Rear-End (17.9%)				
Total Nighttime Collisions	15				
Wet Surface Collisions	4				
Drug and Alcohol Related Collisions	4				

	N la Brea Are
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Traffic Data				
Number of Appro	aches	3 (offs	set intersection)	
Total Entering Ve	hicles	40,201		
Crosswalk Condition		1 pedestrian crosswalk on the north		
Control Type		Unsignalized		
Lighting		Yes		
Highest Posted Speed Limit		35 MPH		
Median		Yes		
С	ollision Bre	akdow	n	
Veh vs. Veh	Veh vs. F	Ped	Veh vs. Bike	
23	2		1	

#### **Additional Notes:**

· High number of parked car collisions along Vista St



#### **Countermeasure Evaluation**

Primary Issues	Potential Counter- measures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Narrow lane widths	Install edgeline striping along Vista St	15% (R31)	\$104,400	\$600	174
Left-turn collisions	Install flexible delineators along Santa Monica Blvd on left turn pockets	15% (R27)	\$2,514,900	\$1,500	1676.60



#### Case Study Sheet: Location #9

Project Name: West Hollywood LRSP Agency Name: West Hollywood Public Works Contact Name: John Gilmour Email: JGilmour@weho.org Prepared by: Kimley-Horn Checked by: Kyle McGowan Date: July 2022



#### **Project Location Description & Maps:**

Intersection: N Ogden Dr & Santa Monica Blvd

Examples of Similar Intersections: Havenhurst Dr & Santa Monica Blvd; N Curson Ave & Santa Monica Blvd



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#### Traffic and Geometric Data:

Collision Data				
Total Collisions	17			
Fatal and Injury Collisions	Fatal Injury - 1 Severe Injury - 1 Visible Injury - 1			
Top 3 Collision Types	Rear-End (29.4%) Sideswipe (17.6%) Broadside (17.6%)			
Total Nighttime Collisions	8			
Wet Surface Collisions	3			
Drug and Alcohol Related Collisions	1			

Traffic Data				
Number of Appro	aches	3 (offs	set intersection)	
Total Entering Ve	hicles	40,220		
Crosswalk Condition		1 Untimed Crosswalk to the north		
Control Type		Unsignalized		
Lighting		Yes		
Highest Posted Speed Limit		35 MPH		
Median		No		
С	ollision Bre	akdow	n	
Veh vs. Veh	Veh vs. Ped		Veh vs. Bike	
13	3		0	

#### Additional Notes:

- Near miss pedestrian collision witnessed
- Poor sight distance from SB Ogden Dr



#### **Countermeasure Evaluation**

Primary Issues	Potential Counter- measures	Crash Modification Factor (LRSM/CMF ID)	20 Year Safety Benefit	Total 20-Year Costs	Safety Related B/C
Sight distance issues	Look at changes to parking on Santa Monica Blvd	20% (NS11)	\$3,929,040	\$3,000	1309.68
Sight distance issues	Implement right-in/right-out restrictions	50% (NS15)	\$188,400	\$30,000	6.28

## **APPENDIX B. STRATEGY TOOLBOX**

**B1. INFRASTRUCTURE TOOLBOX B2. NON-INFRASTRUCTURE TOOLBOX** 

## **FIGURE LINKS**

#### Signalized (S)

S1a https://www.aaroads.com/california/ca-238.html S1b https://www.aaroads.com/california/ca-262.html S2a http://santaclaritacitybriefs.com/2016/02/26/new-blue-light-traffic-enforcement-tool-installed-at-seven-intersectionsthroughout-santa-clarita/ S2b http://wishtv.com/2016/02/16/new-traffic-signals-aim-to-reduce-crashes/ S3a http://www.k-state.edu/roundabouts/ada/news/USNews.htm S3b https://parade.com/19072/marilynvossavant/what-would-traffic-light-synchronization-cost/ S4a https://www.aaroads.com/forum/index.php?topic=1824.0 S4b http://www.advancedtraffic.com/products/wavetronix/smartsensor-advance/ S5a https://ops.fhwa.dot.gov/publications/fhwahop08024/chapter9.htm S6a https://www.flickr.com/photos/raymondyue/8299071442 S6b https://www.flickr.com/photos/raymondyue/7130680785/sizes/l/ S7a https://www.fhwa.dot.gov/publications/research/safety/09036/index.cfm S7b http://www.madriverunion.com/samoa-boulevard-traffic-light-system-changed-up/ S8a http://www.mantecabulletin.com/archives/77790/ S8b http://www.trafficsignals.net/west.htm S10a http://www.health.com/weight-loss/traffic-light-calorie-label S10b https://www.ticketsnipers.com/article/red-light-cameras-may-increase-traffic-tickets-at-local-intersection S11a http://www.cochraneeagle.com/article/Cochrane-familes-celebrate-cultural-diversity-20170803 S11b https://rspcb.safety.fhwa.dot.gov/noteworthy/html/edccasestudy\_ky.aspx S12a http://www.jurist.org/hotline/2014/03/zachary-heiden-maine-panhandling.php S12b https://safety.fhwa.dot.gov/hsip/hrrr/manual/sec42.cfm S13PBa http://sfcitizen.com/blog/2015/12/09/abbey-road-vs-post-street-even-the-long-haired-beatles-didnt-bring-along-chilrensis-jaywalking-a-general-motors-conspiracy/ S13PBb http://erectionswa.com.au/products/ingal-pedestrian-barrier/ S14a https://bouldercolorado.gov/transportation/median-maintenance S16B Google Streetview S17PBa Google Streetview S18PBb https://www.minnpost.com/cityscape/2014/07/everything-youve-always-wanted-know-about-crosswalks S19PBb https://www.linkedin.com/pulse/other-side-thinking-carefully-pedestrian-scramble-john-turecki/ S20PBa Google Streetview

S20PBb Google Streetview



#### Non-Signalized (NS)

NS1a Google Streetview NS1b Google Streetview NS2a Google Streetview NS2b http://www.ite.org/uiig/types.asp NS3a http://www.ite.org/uiig/problems.asp NS3b Google Streetview NS4b https://highways.dot.gov/safety/proven-safety-countermeasures/roundabouts NS5a https://www.flickr.com/photos/repowers/2933707788/ NS5b Google Streetview NS6a https://alchemistsdiary.wordpress.com/2017/07/22/ NS6b http://www.xwalk.com/pages/TS40-R5-1-Do-Not-Enter.htm NS7a Google Streetview NS7b http://www.pinsdaddy.com/signal-ahead-pavement-markings\_pmmyKaBIkhEBxPhrBiiWMkFlQQFWhfqxyj3AuCoWiME/ NS8a http://www.ite.org/uiig/types.asp NS8b http://www.renewa.es/renewa31/index.php/balizamiento/trafico/115-trafico/zonas-escolares/194-r829-semaforo-solar-zonaescolar NS9a http://www.sfexaminer.com/stop-signs-installed-at-marina-intersection-where-driver-struck-boys/ NS9b Google Streetview NS10a http://www.cleveland.com/berea/index.ssf/2012/11/berea\_changes\_stop\_sign\_parkin.html NS10b https://radiobintangsembilan.com/2016/03/07/hindari-kecelakaan-anak-sekolah-warga-minta-garis-kejut/ NS11a https://www.strongtowns.org/journal/2017/4/18/are-one-way-streets-really-that-bad NS11b Google Streetview NS12a http://www.cochraneeagle.com/article/Cochrane-familes-celebrate-cultural-diversity-20170803 NS12b https://rspcb.safety.fhwa.dot.gov/noteworthy/html/edccasestudy\_ky.aspx NS13a https://safety.fhwa.dot.gov/hsip/hrrr/manual/sec43.cfm NS13b https://safety.fhwa.dot.gov/intersection/other\_topics/fhwasa08008/ue3.cfm NS14a http://www.jurist.org/hotline/2014/03/zachary-heiden-maine-panhandling.php NS14b https://www.edmonton.ca/transportation/on\_your\_streets/neighbourhood-traffic-concerns.aspx NS15a https://bouldercolorado.gov/transportation/median-maintenance NS15b Google Streetview NS17a Google Streetview NS17b https://ux.stackexchange.com/questions/42867/how-does-the-projection-angle-of-road-arrows-change-driversexpectations-of-the NS18a https://en.wikipedia.org/wiki/Uncontrolled\_intersection NS18b http://www.mikeontraffic.com/left-turn-lane-design-factors/ NS19PBa https://www.vosizneias.com/36699/2009/08/13/new-jersey-undercover-police-to-enforce-pedestrian-crosswalks-rules/ NS19PBb http://njbikeped.org/helping-to-tame-multi-lane-crossings/ NS20PBb https://michigancompletestreets.wordpress.com/2014/01/21/mid-block-pedestrian-crossings-explained/ NS21PBb https://nacto.org/publication/urban-bikeway-design-guide/bicycle-boulevards/major-street-crossing/ NS23PBa http://www.ite.org/uiig/ada.asp

NS23PBb https://www.fhwa.dot.gov/publications/research/safety/10045/index.cfm



#### Roadway Segments (R)

R1a https://www.aaroads.com/california/ca-238.html R1b https://www.aaroads.com/california/ca-074.html R2a Google Streetview R2b Google Streetview R3a Google Streetview R3b Google Streetview R4a Google Streetview R4b https://www.reddit.com/r/funny/comments/4zcplq/a\_local\_plumbers\_truck\_decal/ R5a Google Streetview R5b http://lslee.com/attenuators/Impact-Attenuators R6a http://toolkit.irap.org/default.asp?page=treatment&id=57 R6b http://www.engr.uconn.edu/~garrick/ce371/l12-14.htm R7a https://www.roadsbridges.com/lindsay-transportation-solutions R7b https://www.fhwa.dot.gov/publications/publicroads/09mar/05.cfm R8b https://safety.fhwa.dot.gov/intersection/other topics/corridor/cam tech/sa1500505.cfm R9b https://safety.fhwa.dot.gov/intersection/other\_topics/corridor/cam\_tech/sa1500504.cfm R11b http://modot.mo.gov/northeast/programs/generalintersectionetiquette.htm R14a https://www.littlerock.gov/for-residents/bikeped-little-rock/projects/road-diets/road-diets-and-safety/ R14b https://www.littlerock.gov/for-residents/bikeped-little-rock/projects/road-diets/road-diets-and-safety/ R15a Google Streetview R15b http://ruraldesignguide.com/gallery R17b http://www.cahighways.org/137-144.html R23b https://www.fhwa.dot.gov/publications/research/safety/15030/009.cfm R24b http://countyprogress.com/road-safety-101/ R25b https://safety.fhwa.dot.gov/roadway\_dept/horicurves/fhwasa15084/ch4.cfm R26b https://www.fhwa.dot.gov/publications/publicroads/16marapr/04.cfm R27b https://safety.fhwa.dot.gov/roadway\_dept/horicurves/fhwasa07002/ch2.cfm R29b https://content.govdelivery.com/accounts/ORDOT/bulletins/119b591 R30b http://www.ct.gov/dot/cwp/view.asp?a=3199&q=526532 R31b https://safety.fhwa.dot.gov/roadway\_dept/pavement/rumble\_strips/bike\_ig/ R32PBa http://www.latimes.com/politics/la-pol-sac-enviro-bike-lanes-20160407-story.html R32PBb http://moderntransit.org/expy/pa.html R36PBb https://www.arrivealive.co.za/Traffic-Calming-Speed-Calming-and-Road-Safety R38PBb http://www.henrycoate.co.uk/RCsite/HIGHWAYS%20AND%20RAILWAY%20FENCE%20SYSTEM.html



# NON-INFRASTRUCTURE COUNTERMEASURES

Supplementing infrastructure-related countermeasures included above, this next section focuses on non-infrastructure countermeasures. This includes focused community engagement, policies and data, and additional safety countermeasures that fall under the Safe System elements including Safe Vehicles, Safe Road Users, Post-Crash Care, and Safe Speeds.

### **COUNTERMEASURES THAT WORK**

In contrast to infrastructure-focused countermeasures, non-engineering countermeasures do not have an associated benefit-cost ratio. The National Highway Traffic Safety Administration (NHTSA) published the *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices* (Ninth Edition, 2017). This document serves as a guide for practitioners in selecting effective, evidence-based countermeasures for traffic safety problems such as alcohol and drug impaired driving, speeding and speed management, and pedestrian and bicycle safety. Each countermeasure includes an effectiveness rating, if applicable. Effectiveness of any countermeasure varies immensely depending on its implementation, broad publication to all communities, and satisfactory funding. The effectiveness data likely shows the maximum effect that can be achieved through comprehensive implementation and will only be listed if data is available.

## \*\*\*\*

Demonstrated to be effective by several highquality evaluations with consistent results  $\star \star \star$ 

Demonstrated to be effective in certain situations

#### \*\*

Likely to be effective based on balance of evidence from high-quality evaluations or other sources \*\*

Effectiveness still undetermined; different methods of implementing this countermeasure produce different results \*

Limited or no high-quality evaluation evidence

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## EQUITABLE & CULTURALLY RELEVANT COMMUNITY ENGAGEMENT

Community engagement is not a one-size-fits-all model. By developing culturally relevant engagement strategies, all participants are invited into conversations about safety. Culturally relevant engagement strategies can help education and programming around traffic safety reach a larger audience and be more impactful.

Culturally relevant community engagement may include dissemination of materials and presentation of information in multiple languages, including English, Spanish, and/or Tagalog. Hosting safety-related engagement events at local parks of businesses may provide better accessibility and comfort for residents to receive information and provide feedback. Additionally, the creation of a Street Safety Ambassador Program can also help to build awareness within specific communities around roadway safety issues. Culturally relevant community engagement could be considered during the implementation of all roadway safety projects.

#### **BEST PRACTICE RESOURCES:**

The Los Angeles Department of Transportation (LADOT) Vision Zero Division launched the Dignity-Infused Community Engagement (DICE) strategy in 2019<sup>1</sup>, which aims to center community members in the Vision Zero planning process from the beginning and weave all perspectives and lived experiences into the technical planning process. The DICE approach includes collaboration with local community-based organizations (CBOs); the provision of childcare, transportation, interpretation, and food at all engagement events; and the development of unique, culturally relevant engagement approaches that weave in community identity and markers. Beyond promoting the initiative, the dignity-infused planning process is an expansive approach to community engagement that seeks to heal and atone for the negative impacts of systems and practices within Los Angeles as well as the broader field of transportation planning.

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<sup>&</sup>lt;sup>1</sup> <u>https://ladotlivablestreets.org/content-detail/Dignity-Infused-Community-Engagement-</u> <u>Strategy#:~:text=The%20Vision%20Zero%20Dignity%2DInfused,into%20the%20technical%20planning%20process</u>

## **POLICIES AND DATA**

When it comes time to make tradeoff decisions between vehicle roadway operations, parking, and safety, having policies in place guiding decision makers on prioritizing vulnerable users can streamline processes and provide consistency. Data inventory and management also play a role in the city's overall non-infrastructure framework for safety. Using advanced technology to determine crash risks allows cities to be proactive and systemic when identifying projects for funding and implementation.

#### PD1. SET A VISION ZERO GOAL.

Becoming a Vision Zero jurisdiction includes a commitment to a goal of "zero" KSI collisions by an identified year. Jurisdictions must establish performance management strategies with periodic review and progress tracking.

#### PD2. SET A VISION ZERO POLICY THAT OUTLINES TRADEOFF DECISION MAKING AND **PRIORITIZES VULNERABLE USERS.**

Oversight and accountability of an LRSP includes a need for leadership. This includes strategies such as identifying a champion to advocate for the LRSPs project development and implementation. To prioritize zero deaths and severe injuries through projects and policies, a mayoral or City Council directive or ordinance can be enacted to acknowledge the need for tradeoffs on the roadway system.

#### **PD3. CONSTRUCTION ACCESSIBILITY POLICY.**

Having a policy in place for accessibility to be maintained during construction and road maintenance projects is crucial for maintaining safety on City roads. These policies, including bicycle and pedestrian safety, can be included in a memorandum or report put out by a local jurisdiction. Some examples are City of Oakland Design Guidance<sup>2</sup> and Regulations for Working in San Francisco Streets<sup>3</sup>.





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<sup>&</sup>lt;sup>2</sup> http://www2.oaklandnet.com/oakca1/groups/pwa/documents/memorandum/oak062315.pdf

<sup>&</sup>lt;sup>3</sup> https://www.sfmta.com/sites/default/files/reports-and-documents/2021/10/blue book 8th ed accessible rev 10-2021v3 0.pdf

#### PD4. CRASH RISK INDICATORS.

Surrogate safety measures, such as "near-miss" collisions, hard braking data, speed data, community-reported hazards, and high stress facilities provide an understanding of the safety landscape and enable proactive interventions. Near misses have historically been difficult to study in practical safety applications due to an overall lack of reported information. In the absence of sufficient crash data, near miss data is an important indicator for guiding crash prevention. There are several technologies that are closing the gap and providing key safety insights regarding near misses, including:

- Video data Video machine learning is an effective means of classifying collisions and collecting near miss data.
- Public crowdsourcing —Online web crowdsourcing platforms, such as UC Berkeley's SafeTREC Street Story tool (available in English and Spanish), allow anyone to anecdotally report incidents of near misses: https://safetrec.berkeley.edu/tools/street-story-platformcommunity-engagement. These data points are publicly available for analysis and contain important contextual information based on geographic location (e.g., road conditions, street lighting, and travel mode). Using a platform like Street Story in future projects also advances community education and engagement around road safety by providing an outlet and way for people to connect around each other's stories. Social pinpoint is another platform that allows for online and geolocated public input on safety needs and perceptions.

#### PD5. CONTEXTUAL DATA INVENTORY.

Up-to-date data on transportation infrastructure, including roadway characteristics, intersection characteristics, and signs, are valuable for planning and implementing future improvements. With an updated inventory, cities can identify project synergies, such as including a safety countermeasure with a repaving project. Finally, enhanced contextual data supports systemic safety analysis for future safety plans and evaluations. Examples of service providers available to assist with this work include the following:

- Mapillary uses crowdsourced or privately provided street-level imagery to extract and map signs, streetlamps, sidewalks, signals, and other objects: https://www.mapillary.com/
- Ecopia uses satellite imagery to extract features such as road centerlines, roadway crosssections, sidewalks, and more: <u>https://www.ecopiatech.com/</u>

#### PD6. CRASH REPORTING.

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Crash reporting practices, such as complete data collection and documentation of road user behavior and infrastructure, and sharing data across agencies or organizations (e.g., law enforcement, health officials, transportation officials, and hospitals) can lead to a greater understanding of the holistic safety landscape, and thus lead to improved investments in safety.

The following countermeasures follow the Safe System Elements including Safe Vehicles, Safe Road Users, Post-Crash Care, and Safe Speeds.

## SAFE VEHICLES

#### SV1. EMERGING TECHNOLOGY, INCLUDING AUTONOMOUS AND CONNECTED VEHICLES.

#### **Connected and Automated Vehicle (CAV) Readiness Planning**

Having strategies prepared to meet and address the oncoming challenges posed by connected and automated vehicle (CAV) technology is crucial in advancing road safety. Fully automated vehicles have the potential to modify travel behavior and improve safety outcomes given that CAVs are ultimately intended to operate lawfully and eliminate or reduce human error. However, the need to integrate CAVs into the transportation system in the short term where there will be a mix of automated and non-automated vehicles also poses challenges.

Some strategies for preparation include educating the public on current and future safety features and limitations, continuing to upgrade signal equipment, installing EV charging citywide, installing Intelligent Transportation Systems (ITS) to enable vehicle safety features, identifying the ability for future fleet purchases to include CAV technology, having policies around curbside management, having policies around truck routes to keep them off main arterials if feasible, and maintaining roadway surfaces, striping and signage.

#### **BEST PRACTICE RESOURCE**

#### **NHTSA Automated Vehicles for Safety**

CONTEXT Local and Regional



## SAFE ROAD USERS

## SRU1. EDUCATION AND PUBLIC AWARENESS CAMPAIGNS - TARGETED AT SPECIFIC BEHAVIORS.

Cities can expand upon any existing social media and portable and City Hall message boards to establish an ongoing public education media campaign focused on safe and responsible driving, discouraging drinking and driving, along with encouraging increased awareness of pedestrians and bicyclists. An example of this campaign is collaboration with local radio stations to disseminate safety messages. Efforts can also coordinate with Public Health & Social Services or partner with school districts to host OTS Safety Programs or Campaigns at schools, libraries, parks or other high-volume pedestrian and bicycle areas that focus on raising awareness about traffic rules, rights, and responsibilities for all users.

The OTS Go Safety California campaign has free resources for local agencies to use in implementing public awareness campaigns.

#### **BEST PRACTICE RESOURCES**

#### USDOT Traffic Safety Marketing | OTS Go Safely California Campaign



San Francisco Municipal Transportation Agency's "Be Nice, Look Twice" pedestrian safety campaign and "Safety - It's Your Turn" campaign through social media, billboards, and bus posters, shown in multiple languages.



Safety-based prioritization of schools for Safe Routes to School infrastructure projects: A process for transportation professionals



#### EFFECTIVENESS



Mass media campaign on DUI

CONTEXT Local and Regional

#### SRU2. PARTNER WITH LOCAL BUSINESSES AND ORGANIZATIONS ON HOT SPOT CORRIDORS.

Local partners serve as community liaisons between the City and the public. Conducting targeted education with community partners and public institutions (businesses, libraries, churches, cultural organization) along the hot spot corridors strengthens the engagement process by building trust and drawing on an established base of stakeholders. Educational materials can include pamphlets, stickers, window displays, etc. This effort can include materials for libraries to display on bicycle safety or for restaurants to display resources to ensure patrons do not drive while under the influence (e.g., safe ride home number, local taxi number, etc.).

#### **BEST PRACTICE RESOURCES**

#### USDOT Traffic Safety Marketing | OTS Go Safely California Campaign

USDOT Traffic Safety Marketing provides images and GIFs discouraging DUI that can be displayed or posted on restaurants and nightlife establishments' social media accounts.

**EFFECTIVENESS** 

 $\star \star \star \star$ 

Pedestrian Safety Zones

 $\star \star \star$ 

Communications and Outreach Supporting Enforcement

CONTEXT Hot Spot Corridors

#### SRU3. IMPROVE INFRASTRUCTURE CONNECTIVITY FOR VULNERABLE USERS.

Cities can apply for grant funding that supports safe and connected infrastructure for all roadway users. This includes addressing gap closures in bicycle facilities and sidewalks and prioritizing low stress connections to key destinations. West Hollywood's 2017 Pedestrian and Bicycle Mobility Plan can serve as a guide with previously identified projects.

#### **BEST PRACTICE RESOURCES**

#### West Hollywood's 2017 Pedestrian and Bicycle Mobility Plan

The Pedestrian and Bicycle Mobility Plan provides project recommendations for Active Transportation projects. Cities can apply for grant funding using the project recommendations included in the report, which includes a prioritization ranking and estimated cost.

#### CONTEXT

Local DKS

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#### SRU4. HIGH VISIBILITY ENFORCEMENT.

High-visibility enforcement is a multifaceted approach to enforcement that garners public attention to traffic safety laws through highly visible patrols, such as checkpoints, saturation patrols, or message boards. OTS provides three grant funding sources to supplement CHP in their highvisibility enforcement goals. The goal for Get Education and Ride Safe III (GEARS III) is to reduce the number of motorcycle-involved KSI collisions. The goal of the Safer Highways Statewide grant is to reduce the number of alcohol-involved KSI collisions. Lastly, the Regulate Aggressive Driving and Reduce Speed V (RADARS V) grant is aimed at reducing the number of victims killed or injured due to speed, improper turning, driving on the wrong side of the road, or reckless driving-related collisions.

The goal of high-visibility enforcement is to promote voluntary compliance with traffic laws and, according to National Highway Traffic Safety Administration (NHTSA) research, it is one of the most effective enforcement strategies for safety outcomes.<sup>4</sup>

#### **EQUITY CONSIDERATIONS**

Enforcement of traffic laws is a common strategy to increase street safety, but historical enforcement techniques and strategies have raised concerns about racial profiling, police violence, and the impacts of policing on communities of color. According to the US Department of Justice, Black and Hispanic people are more likely than white people to experience use of force when they are stopped by police. To ensure that efforts to improve safety recognize that all people have the right to move about their communities safely, cities have shifted to equity-based strategies that target specific reckless behaviors that pose the highest safety risk while working to mitigate potential inequities in enforcement. Equity considerations can be considered in a range of enforcement strategies, including enacting progressive fine structures, analyzing demographic data in traffic citations

#### EFFECTIVENESS

 $\star \star \star \star \star$ 

Publicized Sobriety Checkpoints

 $[\star\star\star\star]$ 

High-Visibility Saturation Patrols

#### CONTEXT

Local

WEHO TARGET VISION ZERO PLAN • APPENDIX B2: NON-INFRASTRUCTURE COUNTERMEASURES

<sup>&</sup>lt;sup>4</sup> Richard, C. M., Magee, K., Bacon-Abdelmoteleb, P., & Brown, J. L. (2018). Countermeasures That Work: A Highway Safety Countermeasure Guide For State Highway Safety Offices, 2017 (No. DOT HS 812 478). United States. Department of Transportation. National Highway Traffic Safety Administration. https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/812478\_countermeasures-that-work-a-highway-safety-countermeasures-guide-.pdf. Accessed February 14, 2022.

#### SRU5. EXPAND SAFE ROUTES TO SCHOOL.

Expansion of school area traffic safety measures provides an opportunity to conduct further outreach on projects proposed in this Plan, expand the toolkit to additional school areas, and pair engineering and non-engineering countermeasures citywide.

#### **BEST PRACTICE RESOURCE**

#### Safe Routes – National Center for Safe Routes to School

Safety-based prioritization of schools for Safe Routes to School infrastructure projects: A process for transportation professionals



#### EFFECTIVENESS

 $\star \star \star$ 

Safe Routes to School

CONTEXT Local Schools

#### SRU6. PAIR EDUCATION WITH KEY ENGINEERING & ENFORCEMENT COUNTERMEASURES.

Educational materials can be used to teach people how to use new and unfamiliar safety countermeasures, such as pedestrian hybrid beacons (PHB), roundabouts, or protected bikeways. Example materials include informational signs or demonstration videos, presented in multiple languages such as English, Vietnamese, and Spanish.

#### **BEST PRACTICE RESOURCES**

**City of Berkeley "How to Use a Pedestrian Hybrid Beacon" Flyer**: The informational flyer shown on the following page was paired with the installation of a new PHB and includes both driver and pedestrian instruction for properly using the new countermeasure.

**City of San Francisco Informational Signs**: The San Francisco Municipal Transportation Agency posted signs with a brief explanation next to a newly installed protected bike lane in multiple languages as part of their Vision Zero SF initiative. This approach was also applied to educate people about pedestrian scrambles and bus bulb outs.



#### City of Los Angeles Education through Pop-Up Installations:

LADOT used temporary pop-up installations to introduce safety improvements in specific neighborhoods. Hay bales and planters were used to test the roundabout design and educate drivers on how to use the countermeasure. In addition to introducing safety improvements, pop-up installations can bring out emergency vehicles to ensure the vehicles can navigate around roundabouts or curb extensions.



#### **City of Sacramento Bicycle Education Videos**

https://www.cityofsacramento.org/Public-Works/Transportation/Programs-and-Services/Bicycling-Program/Bicycle-Videos

#### SRU7. SAFE RIDE HOME.

Partnerships between each City, STA, Police Departments, CHP, TNC Operators (e.g., Lyft, Uber), and local businesses can be facilitated to offer promotional codes for free or discounted rides home from establishments or events to reduce the potential for DUI, drowsy driving, or distracted driving. This program may be focused on particular holidays or event days, or applied more broadly to weekend nights.

#### **BEST PRACTICE RESOURCE**

#### Portland Bureau of Transportation (PBOT) Safe Ride Home Program

PBOT partnered with the Portland Police Bureau, TriMet, Old Town Hospitality Group, and Portland cab companies Radio Cab, Broadway Cab, New Rose City Cab and United Independent Cab, as well as transportation network companies Lyft and Uber to provide promo codes for discounted rides. The program is funded by a 50-cent fee charged for every taxi and TNC ride in Portland.

#### **EFFECTIVENESS**



Alternative Transportation

CONTEXT

Local



## **POST-CRASH CARE**

# PCC1. RAPID RESPONSE SAFETY COMMUNICATION PROTOCOL & MULTI-DISCIPLINARY TEAM.

City Public Works and Police Department staff work closely to address safety challenges at key collision locations. Cities can employ, or continue to employ, an internal, multi-department communication strategy in response to severe and fatal collisions. The protocol will outline a path forward for Public Works staff to be a part of the immediate on-the ground-response to an investigation of severe and fatal collisions, ensuring a multi-disciplinary response team focused both on the behavioral and engineering elements of a collision. This multi-disciplinary team also supports timely data sharing among City departments, ensures data accuracy, and develops near-term interventions.

#### **BEST PRACTICE RESOURCES**

#### San Francisco Vision Zero Traffic Fatality Protocol

This protocol is an efficient and standardized procedure for reporting, investigating, and collecting data on traffic fatalities, with coordination across multiple city agencies.

CONTEXT

Local



#### PCC2. VICTIM AND FAMILY SUPPORT.

Post-crash care includes providing resources to both the victim, their friends, and their families. To ensure a crash survivor receives the care needed to recover and restore body and mind to an active life within society, they require medical rehabilitation with specialists that can range from orthopedics, neurosurgery, physical and occupational therapy, and prosthetics to psychology and neuropsychology.

Resources for crash survivors, their family, and friends, can be found on Solano County Behavioral Health Services' website, https://www.solanocounty.com/depts/mhs/default.asp.

Severe and fatal collisions not only affect the victim involved, but their family and friends as well. Across the nation, in Canada, and locally in the San Francisco Bay Area, there are chapters of Families for Safe Streets. This group advocates at the state capitol in Sacramento and works with lawmakers and non-profits like Mothers Against Drunk Driving to share their stories and testify before legislative committees. Supporting victims' families comes in many forms. For example, World Day of Remembrance for Road Traffic Victims is an annual event held on the third Sunday in November in remembrance of those who have died or have been affected by motor vehicle collisions, and to draw attention to the goal of Vision Zero.

#### **BEST PRACTICE RESOURCES**

# World Health Organization's Post-Crash Response: Supporting Those Affected by Road Traffic Crashes

This booklet<sup>5</sup> describes the consequences of crashes that may not only include physical injuries resulting in disability, but also psychological trauma. WHO recognizes that an effective post-crash response requires the integration of injury care, mental health services, legal support and legislation, and data on crashes and injuries.



#### CONTEXT

Local and Regional

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<sup>&</sup>lt;sup>5</sup> https://www.who.int/violence\_injury\_prevention/publications/road\_traffic/Post-crash\_response\_booklet.pdf

## SAFE SPEEDS

#### SS1. SPEED LIMIT MODIFICATION.

California Assembly Bill (AB) 43 was passed in methodology to lower speed limits on additional corridors. Cities will have increasing flexibility moving forward to consider context as they set speed limits.

AB 43 features the following five major components, focused on providing local jurisdictions more flexibility in setting speed limits, especially regarding vulnerable road users:

- Engineering & Traffic Survey (E&TS) option to extend enforceable time period
- Post E&TS agency can elect to retain current or immediately prior speed limit
- Speed Limit Reduction reduction of additional 5 mph based on several factors, including designation of local "Safety Corridors"
- Prima Facie Speed Limits options for 15 and 25 mph in certain zones
- Business Activity Districts option for 20 or 25 mph

#### **BEST PRACTICE RESOURCE**

#### NACTO City Limits Setting Safe Speed Limits on Urban Streets Guide | California Assembly Bill 43

Seattle Department of Transportation Speed

**Limit Case Studies**<sup>6</sup> In supporting their commitment to Vision Zero, the City of Seattle completed their work of lowering speed limits to 25 mph on most major streets (totaling around 415 miles of arterial streets) and installed nearly 2,500 new speed limit signs.



With funding from the voter-approved Levy to Move Seattle, the City created a policy of 25 mph on arterial streets with a speed limit of 20 mph on smaller streets and near schools when children are present. They already conducted a case study in five Seattle neighborhoods. The data showed that lowering speed limits and increasing sign density – without any marketing campaigns, additional enforcement, re-timed signals, or engineering changes to the roadway – resulted in a 20-40% drop in the number of crashes in the study locations.

#### CONTEXT

Local

**DKS** WEHO TARGET VISION ZERO PLAN • APPENDIX B2: NON-INFRASTRUCTURE COUNTERMEASURES

<sup>&</sup>lt;sup>6</sup> https://www.seattle.gov/Documents/Departments/SDOT/VisionZero/SpeedLimit CaseStudies Report.pdf

#### SS2. SAFE SPEEDS EDUCATION CAMPAIGN.

This measure creates a safety education campaign targeting safe speeds. This can include yard signs, wall boards/posters in prime injury-corridor neighborhoods, ads on bus exteriors, radio ads, changeable message signs, etc. To maximize effectiveness, this should be an ongoing program for cities.

The OTS Go Safety California campaign has free resources for local agencies to use in implementing public awareness campaigns.

#### **BEST PRACTICE RESOURCES**

#### USDOT Traffic Safety Marketing | OTS GO Safely California Campaign

#### Minnesota DOT Using Technology for In-Vehicle Alerts

Jurisdictions, such as the Minnesota Department of Transportation have also started to partner with technology companies to provide alerts to on-vehicle computer systems and phones when drivers pass through designated corridors that have been targeted for speed



enforcement and education programs. These programs use geofencing technology and send push alerts urging drivers to travel at reasonable speeds.

#### **EFFECTIVENESS**



Communications and Outreach on Speeding

#### CONTEXT

Local



#### SS3. AUTOMATED ENFORCEMENT.

Automated enforcement methods, such as red-light cameras or speed safety cameras, equitably target the specific drivers who are behaving dangerously. Red light cameras (RLC) detect motor vehicles that pass over sensors in the pavement after a traffic signal has turned red. According to a National Cooperative Highway Research Program study conducted over five states, a downwards trend in red light running crashes and violations because of RLCs was reported.

Speed safety cameras (SSCs) use speed measurement devices to detect speeding and capture photographic or video evidence of vehicles that are violating a set speed threshold. SSCs can be deployed as fixed unit (single, stationary camera targeting one location), point-to-point (Multiple cameras capturing average speed over a certain distance) or mobile units (portable camera). The image to the right shows the safety benefits of SSCs.

Safety cameras are not currently allowed in California, however an upcoming pilot within select cities statewide will study effectiveness. City staff can monitor potential changes to state legislation for future use of this critical tool, should it become available.

#### **BEST PRACTICE RESOURCE**

#### **EFFECTIVENESS**



Automated Enforcement

CONTEXT

Local

