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prepared by

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The analysis and recommendations in this report are conceptual in nature based upon limited information, and before implementing any changes, or using any of its information for design or construction, the City of Montclair should conduct a more detailed analysis and make sure that the design or construction documents reflect specific, detailed, local and field conditions.

The scope of this work, including study locations, time frame, and topics, was determined by the client. While it is possible that some locations or issues were not addressed in this report, nothing should be inferred by their omission.

The 2022 City of **Montclair Local Roadway Safety Plan** [LRSP] was funded through an LRSP grant provided by the California Department of Transportation (Caltrans). Input was sought from an advisory group consisting of staff from the City of Montclair and partner public agencies. Fehr & Peers assisted the City of Montclair in preparing the Plan.

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Chapter 1 Introduction

THE CITY OF MONTCLAIR IS

committed to prioritizing safety and eliminating traffic-related deaths and serious injuries on city streets. This Local <u>Roadway Safety Plan (LRSP)</u> builds upon the work of <u>Montclair's Systemic Safety</u> <u>Analysis Report (SSAR)</u> to proactively identify and evaluate additional hot spots and systemic risk factors throughout the city and identify proven countermeasures that can be implemented through roadway design changes, as well as key partnerships with safety stakeholders. This plan applies a <u>Safe System Approach</u> to safety, as described later in this chapter.

Local Road Safety Plan Background

A Local Road Safety Plan (LRSP) provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on Montclair's local roads, while contributing to the success of the <u>California Strategic</u> <u>Highway Safety Plan</u> and statewide safety goals. LRSPs are one of the FHWA Proven Safety Countermeasures. The LRSP process results in a prioritized list of issues, risks, actions, and improvements that can be used to reduce fatalities and serious injuries on local roads. Local Road Safety Plans are commonly becoming the method through which jurisdiction-wide safety planning is done at the local level.

The Safe System Approach

Each day, people are killed and seriously injured on roads in the US and California. Crashes can irreversibly change the course of human lives, touching victims, their families and loved ones, and society as a whole. Through the collective action on the part of all roadway system stakeholdersfrom system operators and vehicle manufacturers, to law enforcement and everyday users-we can move to a Safe System Approach that anticipates human mistakes, with the goal of eliminating fatal & serious injuries for all roadway users. Embedded in this approach is a Vision Zero goal, with the creation of a Safe System as the method to achieve that goal.

A <u>Safe System</u> acknowledges the vulnerability of the human body—in terms of the amount of kinetic energy transfer a body can withstand—when designing and operating a transportation network to minimize serious consequences of crashes. According to the World Health Organization, the goal of a Safe System is to ensure that if crashes occur, they "do not result in serious human injury."¹

The <u>Safe System Approach</u> to road safety started internationally as part of the Vision Zero proclamation that, from an ethical standpoint, no one should be killed or seriously injured on the road system.^{[2][3]} It is founded on the principle that people make mistakes, and that the road system should be adapted to anticipate and accommodate human mistakes and the physiological and psychological limitations of humans.⁴ Countries that have

A Safe System Approach addresses the five elements of a safe transportation system-safe road users, safe vehicles, safe speeds, safe roads, and **post-crash care**—in an integrated manner, through a wide range of interventions. DEATHISERIOUS INJURY IS UNACCEPTABLE HUMANS MAKE MISTAKES REDUNDANCY IS CAUCA Safe Road afe Vehicles Users THE SAFE SYSTEM APPROACH . STREAS WILL STREAM STRE SAFETH IS PROPERTING Post-Crash Safe Care Speeds Safe Roads RESPONSIBILITY IS SHARED

adopted the <u>Safe System Approach</u> have had significant success reducing highway fatalities, with reductions in fatalities between 50 and 70%.⁵

The Institute of Transportation Engineers (ITE) and the Road to Zero Coalition's <u>Safe</u> <u>Systems Explanation</u> 2 and <u>Framework</u> 2 articulate that to anticipate human mistakes, a Safe System seeks to:

- Separate users in a physical space (e.g., sidewalks, dedicated bicycle facilities)
- Separate users in time (e.g., pedestrian scramble, dedicated turn phases)
- > Alert users to potential hazards
- Accommodate human injury tolerance through interventions that reduce speed or impact force

Creating a Safe System means shifting a major share of the responsibility from road users to those who design the road transport system. "Individual road users have the responsibility to abide by laws and regulations"⁶ and do so by exhibiting due care and proper behavior on the transportation system. While road users are responsible for their own behavior, this is a shared responsibility with those who design, operate, and maintain the transportation network: including the automotive industry, law enforcement, elected officials, and government bodies.7 In a Safe System, roadway system designers and operators take on the highest level of ethical responsibility.

The Safe System approach is the foundation for the National Safety Strategy released by USDOT in 2022. The new federal Safe Streets and Roads for All (SS4A) grant program takes steps to formalize the Safe System approach in local safety planning documents through its Comprehensive Safety Action Plan requirements. The Safe System approach is also the foundation for the Caltrans Strategic Highway Safety Plan (SHSP).

About Montclair

The City of Montclair, located in San Bernardino County, is home to approximately **39,155**.⁸

Montclair's population is 71% Latino, 13% non-Latino white, 11% Asian, 4% two or more races, and 3% Black.

64% of residents speak a language other than English at home.⁸

Approximately <u>15%</u> of Montclair residents are living in poverty, with a citywide median household income of \$62,000.⁸

• Of the eight census tracts within the City, <u>seven</u> of them fall within the State California's definition of Disadvantaged Communities, based on health, economic and environmental factors.⁹



The ITE Safe System framework provides important context for the focus on safe speeds within a Safe System approach. For vulnerable users speed is a determining factor in survivability—a human's chance of surviving being struck by a vehicle increases from 20% at 40 miles per hour to 60% at 30 miles per hour to 90% at 20 miles per hour. Reducing speed in the presence of vulnerable users is a key Safe System strategy. Approaches include:

- Physical roadway designs (width, horizontal alignment) to limit free flow speeds,
- > Traffic calming treatments that induce slower speeds,
- Traffic signal timing that minimizes high speed flow,
- Traditional or automated enforcement that discourages speeding.

Endnotes

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- 4. Belin, M.-Å., Tillgren, P., & Vedung, E. (2012). Vision Zero - a road safety policy innovation. International Journal of Injury Control and Safety Promotion, 19, 171-179.
- 5. World Resources Institute (2018). Sustainable and Safe: A Vision and Guidance for Zero Road Deaths. Retrieved from https://www.wri.org/ publication/sustainableand-safe-vision-andguidance-zero-road-deaths
- 6. World Health Organization (2011). Decade of Action for Road Safety 2011-2020. Retrieved from <u>https://</u> www.who.int/roadsafety/ decade_of_action/plan/ plan_en.pdf, p. 9.
- 7. World Health Organization (2011). Decade of Action for Road Safety 2011-2020. Retrieved from <u>https://www. who.int/roadsafety/decade_ of_action/plan_plan_en.pdf</u>
- 8. American Community Survey 2019 5-year Estimates
- 9. CalEnviroScreen

Montclair's vision statement is modeled on the international <u>Vision Zero</u> strategy for roadway safety, which recognizes that traffic fatalities and serious injuries are preventable, and that no loss of life on our roadways is acceptable.

Chapter 2 Vision & Priorities

Montclair's Safety Vision Statement

Eliminate fatalities and serious injuries by 2050, through the proactive implementation of safety improvements for all people who travel on Montclair's streets.

Safety Priorities

Safe Roads

Prioritize roadway design changes throughout Montclair that address the factors contributing to severe injury and fatal collisions.

Safe Road Users

Focus on human vulnerability when planning and implementing street safety strategies, with an emphasis on people who travel by foot, bicycle or wheelchair, children and seniors. Prioritize equitable strategies that will best serve the Montclair community.

Safe Speeds

Use a multidisciplinary approach - roadway design, policy, education, and enforcement strategies - to encourage drivers to travel at speeds that accommodate for human error and injury tolerances.

Safe Vehicles

Proactively plan for a connected and autonomous vehicle fleet, accounting for related safety considerations, such as uniform signing and striping, and pedestrian detection.

Post-Crash Care

Partner with law enforcement and emergency response to identify strategic investments in areas such as collision response, collision site assessment, and collision reporting and database management practices.

Through this plan, we have identified a group of multidisciplinary stakeholders, who each play a significant role in roadway safety and can act as partners in future safety work for the City of Montclair.

Chapter 3 Safety Partners

Montclair Police Department

Sworn officers provide valuable input on trends they observe on the roads, and are important partners in focusing enforcement resources on behaviors that are most closely associated with injuries and fatalities. PD can also be an important partner in a multi-disciplinary approach to fatal and severe injury crash response, collision reporting, and education or engagement activities with the community, which they have led previously through Office of Traffic Safety (OTS) grant funding. The Montclair Police Department served as a key partner in the development of the SSAR.

Ontario-Montclair School District and Schools

Transportation habits are informed by our experiences as children, and schools are important partners in cultivating positive and safe transportation experiences for young people and families. Schools are also areas of concentrated activity, so including districts in safety conversations can lead to recommendations near schools.

Caltrans

As the state-level transportation agency, Caltrans is a vital partner in Montclair, in large part due to the 10 Freeway and ramp locations. Caltrans also serves as a partner as the funder of this LRSP and a key partner on efforts like Safe Routes to School.

San Bernardino County Transportation Authority (SBCTA)

SBCTA can be a key partner in helping to lead cross-jurisdictional collaboration efforts focused on roadway safety, including identifying and supporting funding for implementation projects, as well as data sharing.

Omnitrans

Omnitrans runs bus service that serves Montclair, and has previously identified opportunities for bus stop location enhancements that can also have roadway safety benefits, and improve safe access to transit.

Community Groups

Community groups, such as **Safety Routes Ontario and Montclair**, can serve as an important partner to help understand safety issues as they emerge and collaboratively identify solutions.

City Partners

Elected leaders and staff at the City of Montclair are critical to ensuring the success of a shift of roadway safety culture. Key partners can include City Council and Public Works Committee members, the City Attorney's office, and communications staff. Montclair has done significant recent work in planning and implementation to enhance roadway safety. These efforts are summarized in this chapter.

Chapter 4 Existing Efforts

OVER THE PAST FEW YEARS,

the City of Montclair has adopted various plans and initiatives to enhance roadway safety. In 2020 alone, the City approved the Montclair Active Transportation Plan (ATP), the Montclair Safe Routes to School (SRTS) Plan, and the Montclair Systemic Safety Analysis Report (SSAR), all of which included analysis of safety and contextual data, and provided project prioritization and funding recommendations for the City to blaze a clear path forward to a Safe System. Additionally, the Montclair General Plan Mobility Element (Our Accessible Community) addresses roadway safety via safety and accessibility improvements aimed at creating a healthier and more sustainable community.

Safe Roads

The <u>Safe Roads Element</u> of the <u>Safe System Approach</u> includes the physical design of roadways, including the separation of users in time and space, with a focus on designs that accommodate human mistakes and injury tolerance levels. Proposed roadway design projects with a focus on safety enhancements are summarized here. The City of Montclair's General Plan, ATP, SRTS, and SSAR feature infrastructure recommendations to improve roadway safety. The Montclair General Plan establishes citywide goals and policies supporting safe roads, including complete streets, first and last mile connectivity, and more explicitly related to safety, a call for the creation of a Vision Zero Program. The tailored infrastructure recommendations in the ATP, SRTS, and SSAR range from intersection and roadway design to signage, striping, and signal upgrades. The ATP, SRTS, and SSAR also each contain a list of available funding opportunities so that the City has a pathway to bring the recommendations to fruition.

Active Transportation Plan

The <u>ATP</u> addresses <u>Safe Roads</u> with a focus on people biking and walking, establishing a Citywide Infrastructure Treatments Guide, an Active Transportation Network, and a Bicycle Network, which proposes over 30 miles of bicycle facilities throughout the City. The <u>ATP</u> defines four priority corridors:

- > Monte Vista Avenue
- Central Avenue
- > San Bernardino Street
- Kingsley Street

Safe Routes to School

The <u>Montclair SRTS Plan</u> contains a thorough review Montclair's schools, with a focus on elementary schools. In this plan, each of the of the nine schools analyzed received a custom menu of recommendations for safer road design, ranging from pedestrian hybrid beacons to signal timing upgrades.

Systemic Safety Analysis Report

The <u>SSAR</u> process uses a systemic approach to proactively identify locations for safety improvements, regardless of their collision history. This proactive plan recommends a variety of infrastructure countermeasures to make roadway improvements at ten hot spot locations and in response to five collision profiles networkwide. The priority areas are:

- Monte Vista Avenue Signals
- Central Avenue Signals
- > Ramona Avenue & Mission Boulevard
- Ramona Avenue Stop-Controlled Intersections
- Mills Avenue Stop-Controlled Intersections
- Orchard Street Stop-Controlled Intersections
- Bandera Street
- Holt Boulevard
- Central Avenue
- > Kingsley Street
- Vehicle & Bicycle Broadside Collisions at Signals with Permissive Lefts
- Vehicle & Bicycle Broadside Collisions at Larger Unsignalized Intersections
- Pedestrian Violations
 Outside of a Crosswalk
- Pedestrian Collisions Near School Crosswalks During the AM Peak Period

 Midblock Collisions on Wider High-Speed Roads

Safe Speeds

As identified in the SSAR, speed is the primary factor in the resulting severity of a collision, and most of Montclair's collisions occur on its high-speed roadways. The Safe Speeds component of the Safe System Approach fine tunes the idea of Safe Roads into infrastructure and policy changes that specifically target speed as a major factor in collisions and collision severity. The ATP's Citywide Infrastructure Treatments Guide, the SRTS Plan and the SSAR all identify roadway recommendations to support safer speeds in Montclair. These recommendations include:

- Lane narrowing
- Roadway reconfiguration/road diets
- Speed feedback signs
- Bulb-outs/curb extensions
- Edge line striping
- Intersection control changes, such as roundabouts

The <u>General Plan</u> establishes the overarching policy themes to bring these specific recommendations to life, including complete streets, first and last mile connectivity, and the creation of a Vision Zero Program. The <u>SRTS Plan</u> also provides recommendations for identifying locations for lower posted speeds.

Safe Road Users

The <u>Safe Road Users</u> component of the <u>Safe System Approach</u> addresses safety from the behavioral perspective, and focuses on education, engagement, and enforcement. The <u>General Plan</u> provides a high-level foundation for addressing <u>Safe Road User</u> education, beginning with community engagement, social media and website outreach, and digital



Class I - Bike Path

Class II - Bike Lane

--- Class I - Bike Path

····· Class II - Bike Lane

Class III - Bike Route
 Class III - Bike Boulevard
 Require Additional Study

--- Class II - Buffered Bike Lane

 Class II - Buffered Bike Lane to Class IV - Seperated Bike Lane

Existing & Proposed Bicycle Network

Source: Montclair Active Transportation Plan, December 2020

messaging. The <u>Montclair ATP</u>, <u>SRTS</u>, and <u>SSAR</u> establish a more specific, innovative toolbox of delivery methods for educating the community on safety principles.

Education

Given its specific focus on schools, the SRTS Plan identifies an extensive list of opportunities for ongoing education of both students and parents or caregivers, including School Safety Campaigns like Walktober and National Bike to School Day. Additionally, the SRTS Plan recommends potential partnerships including STEM Center USA to integrate Safe Road User principles more thoroughly into the community. The SSAR includes recommendations for additional educational opportunities outside of schools, targeted at all road users. Some opportunities identified therein are:

- Pop-up installations to precede permanent infrastructure
- Demonstration videos
- Informational signs for new infrastructure

The <u>SSAR</u> also acknowledges and emphasizes the importance of making these educational efforts accessible, culturally relevant, and available to all community members.

Enforcement

Enforcement measures to help serve the goal of focusing on <u>Safe Road</u> <u>Users</u> are also identified in the <u>SSAR</u>, centering on strategies with proven effectiveness and equity considerations. These enforcement solutions include DUI deterrence policies such as sobriety checkpoints, DUI recovery programs, automated enforcement such as speed cameras, more equitable fine structures, and updated speed limits.

Post-Crash Care

Much of the Safe System Approach centers on collision severity mitigation, and Post-Crash Care is an important aspect of reducing the number of people who suffer fatal or life-changing complications when collisions do occur. Centered on generally decreasing emergency medical service (EMS) response time, Montclair's SSAR includes infrastructure, policy, and vehicle modification recommendations for improving Post-Crash Care. On the infrastructure side, the SSAR recommends the City explore emergency vehicle signal operation, while high visibility design of emergency vehicles and additional training for first responders are noted as opportunities to improve Post-Crash Care through policy and department vehicle modifications.

Safe Vehicles

Emerging vehicle technology, such as autonomous vehicles (AV's), presents the opportunity to improve safety by reducing the consequences of human error. The Montclair General Plan calls for an overall investment into programs and infrastructure to support AV technology. Montclair's SSAR also includes a discussion on how AV's may be implemented by the City, such as pilot programs for AV transit vehicles. The SSAR also notes that while AV's have a strong potential to serve the Safe Vehicles component of the Safe System Approach, a trial period for addressing challenges and adapting to AV proliferation must be accounted for during Montclair's ongoing safety efforts.

Comparison of Recent Safety Planning Efforts

Local Road Safety Plan (LRSP)	Complete Streets Safety Assessment (CSSA)	Systemic Safety Analysis Report (SSAR)
Project Timeline		
2022	2021	2019-2020
Grant Source		
HSIP grant provided by Caltrans (\$44,445, incl. 10% local match)	California OTS grant for UC Berkeley SafeTREC (no cost to the City)	SSAR grant provided by Caltrans (\$210k, incl. 10% local match)
Major Elements		
Documentation of existing safety efforts Recommended safety partners Development of safety vision and goals Development of non-engineering strategies toolbox (education, enforcement, evaluation, etc.) Update collision analysis from SSAR to include 2 new years of data Project recommendations for 3 new hot spots	Bicycle and pedestrian-focused safety recommendations for 3 priority locations (based on city priorities) based on walk audit Provides a best practices benchmarking summary of Policies, Programs and Practices related to complete streets (completed by UC Berkeley)	Summary of historic collision data and roadway contextual data to identify collision risk factors Signal warrants and crossing enhancement recommendations for several locations Engineering focused Safety Countermeasure Toolbox Engineering focused safety recommendations for: > 10 hot spot locations > 5 collision profiles
Recommended prioritized projects for HSIP competitiveness		Resulted in successful HSIP grant application for Ramona/ Howard roundabout

This section summarizes the results of a broad collision analysis for the City of Montclair for years 2015 – 2019, which will inform the project prioritization and countermeasures for the City. This is an update to the analysis performed for the SSAR, which focused on years 2013 – 2017.

Chapter 5 Summary of Safety Data

Collision Data Overview

Between 2015 and 2019, 1,114 collisions involving people driving, biking and walking occurred in Montclair.

Source: TIMS/SWITRS

This analysis considers injury collisions from 2015 through 2019 acquired from the Transportation Injury Mapping System (TIMS) as of May 1st, 2021.

TIMS reports injury collisions from the Statewide Integrated Traffic Records System (SWITRS). Collision databases have been found to have certain reporting biases, including:

- Collisions involving people walking, on biking, or on motorcycles are less likely to be reported than collisions with people driving.
- Property damage only collisions are less likely to be reported compared to more severe collisions
- Younger victims are less likely to report collisions

Race, income, immigration status, and English proficiency may also impact reporting, but there is limited research on these factors.

With those reporting biases in mind, this analysis identified several collision trends and risk factors in Montclair, including:

- People walking and biking are more likely to be killed or severely injured
- Drugs or alcohol increase the likelihood that a collision will be more severe
- > KSI collisions occurring at night
- Bike and pedestrian collisions involving victims 19 years and under near schools

Caltrans' Local Roadway Safety Manual (LRSM)

Chapter 2 of Caltrans' LRSM states that safety practitioners should "consider a wide range of data sources to get an overall picture of the safety needs" (p. 14).

Both collision data and contextual data were collected and analyzed as part of this plan.

Contextual Data Overview

To better understand systemic collision patterns in Montclair, several contextual factors were analyzed in conjunction with collision characteristics. Key contextual factors include proximity to:

- streetlights
- transit stops
- schools
- signalized intersections
- pedestrian crossing facilities
- CalEnviroScreen Disadvantaged Communities

Additionally, collisions were matched with the characteristics of a roadways in which they occurred, including roadway classification, number of lanes, and posted speed limit. The proximity to each contextual factor varied based on its area of influence (e.g. a school has a much larger area of influence than a streetlight or transit stop). The distances for each factor are summarized in the table to the right.

Sidewalk Gaps100'StreetlightsOutside 50'Pedestrian Crossing Facilities100'Bicycle Facilities100'Transit Stops250' Bus Stops 1,000' Rail StationNumber of Lanes100'Signalized Intersection with and without protected efft turn50' Minor Roadway 250' Major Roadway	Contextual Factors	Distance
StreetlightsOutside 50'Pedestrian Crossing Facilities100'Bicycle Facilities100'Transit Stops250' Bus Stops 1,000' Rail StationNumber of Lanes100'Signalized Intersection with and without protected eft turn50' Minor Roadway 250' Major Roadway	Sidewalk Gaps	100'
Pedestrian Crossing Facilities100'Bicycle Facilities100'Transit Stops250' Bus Stops 1,000' Rail StationNumber of Lanes100'Signalized Intersection with and without protected eft turn50' Minor Roadway 250' Major Roadway	Streetlights	Outside 50'
Bicycle Facilities100'Transit Stops250' Bus Stops 1,000' Rail StationNumber of Lanes100'Signalized Intersection with and without protected left turn50' Minor Roadway 250' Major RoadwayUnservation50' Minor Roadway	Pedestrian Crossing Facilities	100'
Transit Stops250' Bus Stops 1,000' Rail StationNumber of Lanes100'Signalized Intersection with and without protected left turn50' Minor Roadway 	Bicycle Facilities	100'
Number of Lanes 100' Signalized Intersection 50' Minor Roadway Left turn 50' Minor Roadway Sol Minor Roadway 50' Minor Roadway	Transit Stops	250' Bus Stops 1,000' Rail Station
Signalized Intersection with and without protected50' Minor Roadway 250' Major RoadwayUnsignalized Intersection50' Minor Roadway	Number of Lanes	100'
Unsignalized Intersection 50' Minor Roadway	Signalized Intersection with and without protected left turn	50' Minor Roadway 250' Major Roadway
250' Major Roadway	Unsignalized Intersection	50' Minor Roadway 250' Major Roadway
Posted Roadway Speeds 100'	Posted Roadway Speeds	100'
Roadway Type 100'	Roadway Type	100'

Land Use Type	Distance
Schools	1,000'
Parks	1,000'
Senior and Community Centers	1,000'

¹ Disadvantaged Communities defined by SB 535 and CalEnviroScreen 3.0



Central & San Bernardino 🎽







From Top to Bottom Central & Benito Monte Vista & Holt **Collision Landscape Summary**

From 2015 to 2019, <u>1,114 injury collisions</u> occurred in Montclair. While people walking and biking account for 13% of all collisions, they disproportionately involved in 42% of collisions where someone was killed or severely injured (KSI).

Chapter 6 Safety Analysis & Results

Collisions by Mode

From 2015 to 2019, there 1,114 total injury collisions, 48 of which where victims were killed or severely injured (KSI). On average, 10 people are killed or severely injured each year by traffic violence in the City of Montclair. Of the total number of collisions, 72 collisions (6 percent) involved a person biking and 83 collisions (7 percent) involved a person walking. The total number of collisions per year decreased an average of 3 percent from 2015 to 2019. However, collision totals increased by 5 percent from 2018 to 2019. Over the same time, the number of collisions involving people bicycling decreased an average by 7 percent, while the number of collisions involving people walking increased an average of 10 percent.



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Killed or Severely Injured in a Collision

Severe injuries resulting from a traffic collision can result in a number of catastrophic impacts, including permanent disability, lost productivity and wages, and ongoing healthcare costs. These injuries can include:

- Broken or fractured bones
- Dislocated or distorted limbs
- Severe lacerationsSevere burns
- Skull, spinal, chest or abdominal injuries
- Unconsciousness at or when taken from the collision scene

Throughout this plan, the acronym KSI is used to denote collisions where someone was killed or severely injured.

KSI Collisions by Mode

From 2015 to 2019, 48 collisions (4 percent of the total number of collisions) involved a person who was killed or severely injured (KSI). People walking and biking are involved in 13 percent of all collision in Montclair, but are disproportionately involved in 42 percent of all KSI collisions. Pedestrian collisions resulting in severe injuries or fatalities remained constant from 2015 to 2019 with an average of 3 collisions per year. Since 2015, only 2016 and 2018 had a bicycle KSI collision, 1 and 2 respectively. Both 2017 and 2019 did not have a bicycle KSI collision.

All Collisions, 2015-2019



KSI Collisions, 2015-2019



Behavior

PEDESTRIAN LOCATION

Although crosswalks are designated locations for pedestrians to safely cross streets, most collisions (47 percent) occurred when people were in a crosswalk. The remaining collisions occurred outside of a crosswalk, which include mid-block locations without marked crosswalks (29 percent), and in the road, including the shoulder, or not stated (24 percent). In collisions where someone walking was severely injured or killed, most collisions occurred in an "other" location (38 percent). The remaining KSI pedestrian collisions were split evenly at 31 percent occurring in a crosswalk, and 31 percent occurring outside of a crosswalk.

DRIVING UNDER THE INFLUENCE

A driver under the influence of alcohol

Pedestrian Location, 2015-2019



Note: "Crossing Not in Crosswalk" includes mid-block locations without marked crosswalks, and may sometimes be misapplied at unmarked crosswalks at intersections. "Other" includes "In Road, Including Shoulder," "Not in Road," and "Not Stated."

Driving Under the Influence, 2015-2019

and/or drugs increases the likelihood of a collision resulting in a severe injury or a fatality. From 2015 to 2019, 9 percent of collisions involved a driver under the influence. The percentage nearly doubles to 17 percent for KSI collisions.



Who

Victim Age, 2015-2019

VICTIM PROFILE

Vulnerable age groups have not experienced a disproportionate share of collisions in Montclair. People under the age of 15 represent 20 percent of the City's population but represent 10 percent or less of all injury and KSI collisions. People 65 years and older comprise 11 percent of the City's population but represent 9 percent of all injury collisions, and a slight percentage increase of KSI collisions at 12 percent.

In all collisions, the victim gender breakdown is roughly evenly distributed with 53 percent female victims, 43 percent male victims, and 2 percent not stated. In KSI collisions, however, male victims are overrepresented and account for 69 percent of people who were killed or severely injured.

People identified as Black, white, and other race are overrepresented in collisions, although it is important to note that race is determined at the discretion of the reporting office and is only reported at the party level. This means that if people of multiple races are present in a vehicle, only the driver's race will be reported. People identified as Black represent 9 percent of victims but only 3 percent of the population of Montclair. People identified as White for race represent 17 percent of victims but only 13 percent of the population. People identified as "Other" for race by the reporting office represent 4 percent of victims but only 3 percent of the population. As noted prior, race, income, immigration status, and English proficiency may impact collision reporting, but there is



Where

ROADWAY SPEED

Speed is the primary factor in determining the severity of a collision. Most collisions occurred on higher speed roadways. Over three times the proportion of all collisions KSI collisions occurred on roadways with 40 and 45 miles per hour speed limits compared to the proportion of roadways with these speed limits.

Roadway Speed All Modes, 2015-2019



PERCENTAGE

NUMBER OF LANES

The number of lanes on a roadway is a proxy for roadway speed. Collisions may occur on multi-lane roads due to varying speeds among different road users, such as motorists, bicyclists, and pedestrians, and increased conflict points due to vehicles changing lanes. Based on collision type and number of lanes on a roadway, certain safety improvements, such as pedestrian refuge islands or curb extensions, are proposed to address location-specific collision factors. While roadways with four or more lanes make up 20 percent of all roadways in Montclair, roadways with four or more lanes disproportionately make up 72 percent of all collisions and 60 percent of KSI collisions.

Number of Lanes All Modes, 2015-2019

PERCENTAGE



LOCATION TYPE

While most collisions take place at signalized intersections (51 percent), the majority of KSI collisions take place at unsignalized intersections (44 percent). Midblock collisions account for the smallest share of KSI collision than they do for all collisions (21 percent versus 15 percent). Collisions are more likely to occur at intersections rather than midblock because people walking, biking, and driving are interacting with others, changing directions, and making decisions. Location Type, 2015-2019



NEAR SCHOOLS

Schools are areas of concentrated activity during arrival and dismissal times. 41 percent of all collisions occurred within 1,000 feet of a school. Most collisions near a school involved another vehicle (35 percent), while 3 percent involved a pedestrian, and 2 percent involved a bicyclist. Compared to the distribution of all collisions, a smaller share of KSI collisions (31 percent) occurred within 1,000 feet of a school. Approximately 10 percent and 4 percent of KSI collisions near schools involved a pedestrian and a bicyclist, respectively. Near Schools (within 1,000 feet), 2015-2019



NEAR BUS STOPS

Bus stops typically have high pedestrian and bicyclist activity as people are traveling to and from transit. 46 percent of all collisions occurred within 250 feet of a bus stop. Most collisions near a bus stop involved a vehicle (40 percent), while the remaining 6 percent were split between collisions involved with a bicyclist (3 percent) and pedestrian (3 percent). Compared to the distribution of all collisions, a slightly smaller share of KSI collisions (44 percent) occurred within 250 feet of a bus stop. Of that 44 percent of KSI collisions, 29 percent of collisions involved another vehicle, 10 percent involved a pedestrian, and 4 percent involved a bicyclist.

Near Bus Stops (within 250 feet), 2015-2019



When

LIGHTING CONDITIONS

Roadway lighting conditions can influence the visibility of roadway users, especially pedestrians and bicyclists, and road infrastructure. While 26 percent of all collisions occurred during nighttime, the share of nighttime collisions increased to 42 percent of KSI collisions.



Mills & American



TIME OF DAY

Studying the timing of collisions can provide context about the surrounding traffic and lighting conditions, which informs the selection of countermeasures. Most collisions take place when more people are likely to be on the road - between 6 AM and 9 PM. The highest share of collisions occurs between 3 PM and 6 PM, which is when many people are returning from work and school. The number of collisions occurring between 3 PM and 6 PM may also be affected by seasonal changes, such as Daylight Savings Time, which can influence visibility as people's commutes shift from being before to after sunset. While the distribution of KSI collisions is relatively evenly distributed from 12 PM to 9 PM, the share of KSI collisions is heavily concentrated during the morning commute period, from 6 AM to 9 AM. This imbalance is likely due to most people having similar start times for work and school and more varied departure times from work and school. Additionally, a large share of KSI collisions is centered between 6 PM and 9PM, likely due to increased commuter volumes during peak PM travel times. The percent of KSI collisions slightly decreases to approximately 23 percent between 9 PM and 3 AM; this pattern indicates that there may still be a relatively high number of people traveling in the late night and/or there are night-related issues, such as visibility and speeding when fewer cars are on the road.

Time of Day, 2015-2019



PERCENT OF COLLISIONS



All Injury Collisions

ALL INJURY COLLISIONS

- Fatal Collisions (4)
- Severe Injury Collisions (44)
- Other Injury Collisions (1,066)



All Injury Collisions Not Included in the SSAR 2018 - 2019

ALL INJURY COLLISIONS

- Fatal Collisions (2)
- Severe Injury Collisions (18)
- Other Injury Collisions (415)



KSI Collisions

- KSI COLLISIONS
 - Fatal Collisions (4)
 - Severe Injury Collisions (44)



Bicycle and Pedestrian Collisions

PEDESTRIAN COLLISIONS

Other Injury

KSI



KSI

Other Injury

2015 - 2019

Systemic Analysis

Systemic analysis is a proactive safety approach that focuses on evaluating an entire roadway network using a defined set of criteria. It looks at collision history on an aggregate basis to identify high-risk roadway characteristics in addition to looking at highcollision concentration locations. By merging adjacent road and intersection features with collision data, relationships can be uncovered between contextual factors and the risk of frequent and severe collisions. This systemic process relied on a two-fold approach to identify key safety issues and locations to prioritize:

Hot Spot Analysis

Following conventional collision mapping processes, the top intersections and corridors that account for a disproportionate share of collisions were identified. The location of fatal and severe injury (KSI) collisions were overlaid to see where the most severe collisions occurred and if there was overlap with the collision hot spots.

Systemic Matrix

In developing systemic analysis, it is important to understand the relationship between collision characteristics and the contextual characteristics of the collision location. A systemic matrix illustrating the number of collisions at the intersection of a collision characteristic (e.g. location of pedestrian) and a contextual characteristic (e.g. posted speed of roadway) was identified. Each combination of a collision characteristic and a contextual characteristic represents a collision type. This process evaluates risk across the entire roadway system, rather than only managing risk at certain locations where collisions have occurred.

(SYSTEMIC SAFETY ANALYSIS)

Hot Spot Analysis

To summarize the total number of collisions by intersection, a set of non-overlapping areas of influence were generated based on a 50-foot radius around minor intersections and a 250-foot radius around major intersections. To summarize the total number of collisions by roadway, collisions were matched to roadways based on the primary road name and a 50-foot search area. Not all collisions are associated with an intersection, but all collisions are associated with a roadway. The top intersection and segment locations are listed on corresponding tables. Intersection and segment locations highlighted are hot spots that were not a focus of the SSAR.

Priority Location Options, Intersections

				Colli	sions	
Option	North/South Street	East/West Street	Total	KSI	Bike	Ped
1	Ramona Avenue	Mission Boulevard	45	2	1	2
2	Monte Vista Avenue	State Street	29	1	1	0
3	Central Avenue	San Bernardino Street	29	0	4	2
4	Monte Vista Avenue	Palo Verde Street	27	0	1	2
5	Central Avenue	Moreno Street	27	1	1	4
6	Central Avenue	Holt Boulevard	26	1	2	0
7	Central Avenue	Kingsley Street	25	1	0	3
8	Ramona Avenue	Holt Boulevard	24	2	1	1
9	Central Avenue	Costco Drive	24	1	4	0
10	Central Avenue	Orchard Street	23	0	1	3
11	Central Avenue	Arrow Highway	23	2	2	1
12	Monte Vista Avenue	Holt Boulevard	21	1	3	2
13	Central Avenue	Benito Street	19	1	0	2
14	Central Avenue	East Montclair Plaza Lane	17	0	0	0
15	Benson Avenue	Holt Boulevard	16	0	1	0
16	Monte Vista Avenue	San Jose Street	16	0	1	0
17	Monte Vista Avenue	San Bernardino Street	15	0	0	0
18	Ramona Avenue	Howard Street	14	1	2	1
19	Monte Vista Avenue	Mission Boulevard	10	0	2	1
20	Montclair Plaza Lane	Moreno Street	10	0	2	1
21	Fremont Avenue	Moreno Street	10	1	0	1
22	Ramona Avenue	Kingsley Street	8	1	1	1
23	Lindero Ave	Moreno Street	7	0	1	2

Priority Location Options, Segments

					Colli	sions	
Option	Segment	North/East Extent	South/West Extent	Total	KSI	Bike	Ped
1	Holt Boulevard	Central Avenue	Monte Vista Avenue	10	2	1	0
2	Central Avenue	Palo Verde Street	San Bernardino Street	7	0	0	1
3	Central Avenue	Costco Drive	Palo Verde Street	6	0	1	1
4	San Jose Street	Felipe Lane	Stagecoach Drive	5	0	0	1
5	Central Avenue	San Bernardino Street	Bento Street	5	0	0	0

(SYSTEMIC SAFETY ANALYSIS)

Systemic Matrix Results

Collision data was paired with geographic roadway and other contextual data to develop collision types. Outputs from this analysis were used to populate a set of matrices that allow us to look at crosstabs (collision data in rows and geographic data in columns) for collisions across the entire roadway network. The matrices allowed for identification of the combinations of factors that contributed to a high number of all collisions, and combinations that led to a high number of fatal and severe collisions. These trends remained very similar to the trends identified through the SSAR.

Key trends include:

 Roadways with 4-5 lanes and posted speed 40-45 mph account for nearly half of all collisions in the City, but just 12% of the roadway network

- Unsignalized intersections along non-local roadways account for an outsized share of collisions
- Broadside collisions account for the largest category of collision type throughout the City, with particular concentration on 4-5 lane roadways and signals without fully protected left turns
- A high number of collisions involving victims under age 19 occur near schools, when compared with other areas of the City
- Collisions tend to be concentrated in the mid-day and PM peak periods near parks and schools
- While most drivers at fault were proceeding straight at the time of the collision, drivers making left turns are involved in an outsized share of collisions on 4-5 lane roadways and at signals without fully protected left turns

Collisions by Roadway and Location Type, 2015-2019

This table compares the percentage of different roadway and location types in Montclair with the percentage of collisions that occur on each roadway and location type.

For example, while roads with 4 or 5 lanes and speed limits of 40 - 45 MPH make up 12 percent of roadways in Montclair, 46 percent of collisions occur on those roads, which suggests that roads with more lanes and higher speed limits are conducive to collisions.

			Roadwa		Locatio	on Type					
Lanes	3 Lanes or Less			4 or 5 Lanes 6 Lanes			Sig	nal	Unsignalized Intersection		
Speed (mph)	15-25	30-35	40-45	30-35	40-45	40-45	All Protected Lefts	Not All Protected	Non- Local	Local	
Share of Roadway/ Intersections	65%	12%	4%	2%	12%	5%	28%	72%	22%	78%	
Share of Collisions	10%	13%	4%	7%	48%	16%	29%	71%	72%	28%	
Collisions Per Mile	1.4	10.1	11.0	26.0	34.9	29.3					

Collision Typing By Context, 2015-2019

Ο

This table shows the number of different types of collisions that occur on each roadway and location type. Cells with a high number of collisions are highlighted to call out collision trends in Montclair.

For example, there are many broadside collisions that occur on roadways with 4 or 5 lanes with speed limits of 40 - 45 MPH, at signals with unprotected lefts, and near parks. This matrix informed the development of the collision profiles.

				Roadw	ау Туре			Location Type						nter		
	Lanes	3 L	anes or L	ess	4 or 5	Lanes	6 Lanes	Sig	nal	Unsign Interse	alized		Schoo	r Park	ic Cen	TAL
	Speed (mph)	15-25	30-35	40-45	30-35	40-45	40-45	All Protected Lefts	Not All Protected	Non- Local	Local	Mid- block	Near	Neal	Near Civ	TO
	Driving Under Influence	16	12	5	11	39	12	12	24	26	10	23	43	33	4	95
u	Unsafe Speed	18	18	1	12	86	42	41	51	47	9	29	66	49	5	177
/iolati	Improper Turning	24	26	9	3	72	23	20	34	42	17	44	54	59	8	157
	Automobile Right of Way	17	40	9	23	127	27	20	94	66	33	30	108	87	4	243
	Traffic Signs and Signals	7	20	11	13	113	32	27	119	33	16	1	86	68	11	196
	Head-On	19	17	4	9	43	13	12	42	14	18	19	48	37	5	105
	Sideswipe	14	15	4	5	35	14	12	20	17	12	26	43	30	4	87
Type	Rear End	18	36	11	19	130	69	64	79	83	13	44	109	93	10	283
	Broadside	31	59	25	34	239	62	53	201	107	47	42	180	151	17	450
	Hit Object	14	4	0	0	27	7	8	7	16	6	15	15	17	0	52
	12 am -3 am	5	6	3	3	22	6	8	10	15	3	9	18	11	1	45
	3 am - 6 am	8	7	1	5	16	5	4	14	14	2	8	19	13	1	42
'n	6 am - 9 am	16	18	5	8	54	14	16	35	31	15	18	50	37	6	115
of Da	9 am - 12 pm	8	6	8	8	74	22	19	64	28	7	8	44	46	4	126
Time	12 pm - 3 pm	16	33	8	16	124	44	36	91	56	22	36	97	79	6	241
	3 pm - 6 pm	29	42	11	17	126	30	35	76	70	31	44	97	94	13	256
	6 pm - 9 pm	23	33	11	18	79	46	37	76	44	20	34	98	70	6	211
	9 pm - 12 am	10	5	2	5	44	12	11	34	15	8	10	32	25	2	78
ault nt	Proceeding Straight	51	67	23	40	256	102	88	185	147	45	74	211	163	22	539
er at Fa vemer	Making Right Turn	14	11	3	1	26	5	11	21	9	11	8	27	21	3	60
Driv M	Making Left Turn	15	27	10	22	125	25	20	109	49	21	26	104	87	8	225
e	Under 19	35	43	10	17	95	19	22	70	54	37	37	102	72	8	220
Ag	60+	9	15	6	11	86	37	24	69	38	11	22	56	61	7	164
	TOTAL	115	150	49	80	539	179	166	400	273	108	167	455	375	39	

<u>3 priority location project recommendations</u> are summarized in this chapter:

1. San Bernardino Street Ramona Avenue to Benson Avenue

2. Central Avenue Orchard Street to Holt Boulevard

3. Ramona Avenue Kingsley Street to State Street

Chapter 7 Emphasis Areas and Strategies

Recommended Safety Projects

The following hot spot project summaries include location-specific recommendations. These projects are intended to be implemented in the mid to long-term time frame.

Each project summary includes project cost estimates and the resulting benefit/ cost (B/C) ratio. The B/C ratio accounts for collision history, countermeasure crash reduction factors, project costs, and expected life of countermeasure. The B/C ratio is the primary basis for funding selection under the HSIP grant process. Per unit construction costs are based on the most recent available estimates for Southern California and include contingency (20 percent) and other soft cost assumptions. Collisions classified as "property-damage only" were not part of the collision database for this report, and therefore have been conservatively estimated for the purposes of the B/C ratio calculation.

The City can use these project summaries in future grant funding applications. Information has been summarized here primarily for use in HSIP grant applications. However, some proposed projects may also compete well under the Active Transportation Program (ATP) grant funding process. The City may make project modifications in order to fulfill new ATP or HSIP grant guidelines. Grant applications should be developed with the most recent collision and cost information available at the time of submission.

Emphasis Area Prioritization

These 3 priority locations were chosen to represent several different elements of the collision analysis:

- Locations with a history of severe and fatal collisions
- Locations that reflect a variety of the roadway and land use contexts present throughout the City
- Locations with shared roadway characteristics and risk factors that are appropriate for systemic application of safety countermeasures
- Locations that supplement those identified through the SSAR and CSSA

1. SAN BERNARDINO STREET

Location Summary

- Ramona Avenue to Benson Avenue
- > 1.5 miles
- > Two travel lanes in each direction with on-street parking
- > 40 MPH posted speed
- > 9,000 ADT
- > 3 signalized intersections
- > 4 all-way stop-controlled intersections

2. CENTRAL AVENUE

Location Summary

- > Orchard Street to Holt Boulevard
- > 0.5 mile
- > Two travel lanes in each direction with on-street parking
- > 40 MPH posted speed
- > 30,000-35,000 ADT
- > 3 signalized intersections

Collision Characteristics

- > 70 total collisions
- > 7% KSI
- > 12 ped & bike collisions
- > Top Violation: Traffic Signals & Signs
- > Top Type: Broadside

Primary Countermeasures

- > Road Diet with Bicycle Lanes
- > Protected Left Turns
- > Flashing LED Stop Signs
- Curb Extensions
- > Trail Crossing with PHB (or RRFB with pedestrian refuge island)

Estimated Cost: \$2.76m Estimated B/C: 10.4

Collision Characteristics

- > 83 total collisions
- > 4% KSI
- > 10 ped & bike collisions
- > Top Violation: Vehicle **Right-of-Way**
- > Top Type: Broadside

Primary Countermeasures

- > Buffered Bike Lanes
- > Protected Left Turns
- > Raised Medians
- Curb Extensions
- Leading Pedestrian Interval
- > ADA-Compliant Curb Ramps

Estimated Cost: \$1.61m Estimated B/C: 8.19

3. RAMONA AVENUE

Location Summary

- > Kingsley Street to State Street
- > 0.5 mile
- > One travel lane in each direction with on-street parking north of Holt Blvd, two travel lanes in each direction south of Holt Blvd
- > 35 MPH north of Holt Blvd, 40 MPH posted speed south of Holt Blvd
- > 21,000 ADT
- > 1 signalized intersection
- > 2 all-way stop-controlled intersections

Collision Characteristics

- > 63 total collisions
- > 9 ped & bike collisions
- > Top Violation: Unsafe Speed
- > Top Type: Broadside

Primary Countermeasures

- > Mini Roundabouts
- Advance Warning Flashing Beacon
- > Right Turn on Red Restriction
- > Signal Timing and Phasing Modifications

Estimated Cost: \$1.83m Estimated B/C: 3.5

- - > 6% KSI

San Bernardino Street

Ramona Avenue to Benson Avenue

MONTCLAIR

Mills Av

12

Implement a Road Diet from Ramona Av to Benson Av by removing one travel lane in each direction to encourage slower speeds and free-up space for **On-Street Bicycle Facilities.** The corridor's current ADT of about 9,000 falls below the typical road diet threshold of 20,000-25,000, supporting the feasibility of road diet.

A

Benson /

 \odot

Add Triple 4 High-Visibility Crosswalks to help make drivers more aware of pedestrians. Consider new crosswalks where currently missing at Ramona Bl and Helena Av

Fremont Av

•



Hindon H

Ramona Bl

Helena Av

San Antonio Creek Channel

Relocate Bus Stop to Far Side of Intersection to create visibility of pedestrians in the crosswalk

Monte Vista Av

Add Curb Extensions

to decrease crossing distance for pedestrians and slow right-turns for vehicles

Add Protected Left Turns

San Bernardino St

Central Av

in the eastbound and westbound directions to mitigate conflicts between vehicles or other users

Adjust Signal Head Placement at Monte Vista Av

Add Curb Extensions

Vernon Av

Remove eastbound and westbound right-turn lanes and replace with painted curb extensions

San Bernardino Street

Vernon Av

Vernon Avenue to Bel Air Avenue

MONTCLAIR

Add New Intersection Lighting to help illuminate road users under dark conditions Add Flashing LED Lights to Stop Signs (or install postmounted Flashing Beacons) to increase their visibility and

effectiveness

STOP

Q

Add School Crossing Sign

6

SPEED LIMIT 25

to warn drivers of pedestrians, approximately 125' from the crossing. On existing school warning sign in eastbound direction, add "Ahead" sign. Implement a Road Diet from Ramona Av to Benson Av by removing one travel lane in each direction to encourage slower speeds and free-up space for **On-Street Bicycle Facilities.** The corridor's current ADT of about 9,000 falls below the typical road diet threshold of 20,000-25,000, supporting the feasibility of road diet.

Remove Sidewalk Obstructions

by relocating utility boxes or replacing poles to improve pedestrian accessibility

San Bernardino St

Bel Air Av

Install 50 feet of Red Curb Paint along eastbound approach

Crosswalks to improve drivers' visibility of the crossing path

As needed, refresh High-Visibility

As funding permits, **add Curb Extensions** to decrease crossing distance for pedestrians and slow right turns for vehicles

Add School Crossing Sign to warn drivers of pedestrians, approximately 125 from the crossing.

Add school speed zone signs. Assembly Bill 43, signed into law in October 2021, allows for the establishment of 25 mph prima facie speeds "when approaching or passing a school building or the grounds thereof, contiguous to a highway and posted with a standard 'SCHOOL' warning sign, while children are going to or leaving the school either during school hours or during the noon recess period."

Conceptual, Not For Construction. Detailed Analysis and Engineering Design Required.

Central Avenue

12

Orchard Street to Holt Boulevard

MONTCLAIR



Replace On-Street Parking with Buffered Bike Lanes as an interim solution while General Plan improvements are planned and implemented

> Install Edge Lines around the median to increase fixed-object visibility

Supplement Botts' Dots with 8" Striping to provide continuous lane demarcation

Install ADA-compliant Curb Ramps to help increase access for people with limited mobility, or those pushing strollers or using wheelchairs Orchard St

Add Protected Left Turns in the eastbound and westbound directions on **Orchard St** to help mitigate conflicts between vehicles or other users

Modify Flashing Yellow Arrow in the northbound and southbound directions to display a **solid red arrow** during a pedestrian call

Add a Leading Pedestrian Interval to minimize conflicts with right-turning vehicles

Kingsley St

Holt BI

Add Protected Left Turns in the eastbound and westbound directions on **Kingsley St** to help mitigate conflicts between vehicles or other users

Modify Flashing Yellow Arrow in the northbound and southbound directions to display a **solid red arrow** during a pedestrian call

Stripe Outside Crosswalk Lines & Refresh Stamped Concrete Coloring to increase crosswalk visibility

Conceptual, Not For Construction. Detailed Analysis and Engineering Design Required.

Central Avenue

E N

at Orchard Street

MONTCLAIR

Install Raised Medians noncontinuously on Orchard St to help slow vehicle speeds

Add "Sharrow" Striping to the Mixing Zone Conflict Area along the bike lane approach to minimize right-hook bicycle collisions Install Raised Medians noncontinuously on Orchard St to help slow vehicle speeds

Orchard St

15;

Add Bulb-Outs on Orchard St at the northwest and southeast corners to slow right turns and decrease crossing distance for pedestrians

Central

Ramona Avenue

Kingsley Street to State Street

MONTCLAIR



Add a High-Visibility Crosswalk to the eastbound approach to help make drivers more aware of pedestrians

Add New Intersection Lighting to help illuminate road users under dark conditions

Clear Intersection Sight Lines by trimming back overgrown vegetation

Supplement Botts' Dots with 8" Striping to provide continuous lane demarcation

Install an Advance Warning Flashing Beacon on the eastbound approach to alert drivers of the upcoming intersection



Restrict Right Turn On Red (RTOR) on the eastbound approach to reduce conflicts between movements

Stripe Outside Crosswalk Lines & **Refresh Stamped Concrete Coloring** to increase crosswalk visibility



Bandera St

Holt Bl

Remove Stop Control and Install Mini Roundabout to reduce broadside collisions

CORRIDOR-WIDE

to improve sight lines





Extend Pedestrian Crossing Time to provide better access for people with limited mobility

6

Upgrade Pedestrian Push Buttons to improve accessibility

Add Advance Stop Bars to discourage crosswalk encroachment by drivers

Extend Northbound Left Turn Phase Length to reduce queueing and red-light running

Supplement Botts' Dots with 8" Striping to provide continuous lane demarcation

State St

4.



Systemic Safety Analysis Report (SSAR) May 2020



Safe Routes to School Plan (SRTS) November 2020









Active Transportation Plan (ATP) December 2020

Previous Plan Prioritized Locations

Prioritized Location Methodology

The Montclair SSAR, CSSA, and SRTS Plans, and this LRSP each contain priority infrastructure project recommendation packages, including hot-spot and systemic intersections and corridor locations. A comprehensive list of these project packages was created to compare historical collision data in the influence area of each infrastructure improvement to aid in package funding and implementation prioritization decisions. This list can be used to rank projects by the number of total collisions, KSI collisions, bicycle and pedestrian collisions, or bicycle and pedestrian KSI collisions within 250 feet of the project corridor or intersection for the LRSP, CSSA, and SSAR projects and within one-half mile of the SRTS schools. Because the SRTS project packages include multiple intersections and corridors surrounding each, this list also includes a note of areas where overlap exists between the SRTS plan recommendations and the LRSP, CSSA, or SSAR projects.

Project locations are sorted by the number of fatal and severe (KSI) collisions, in the table on the following page.

Prioritized Project List

FIIUIILIZEU				C	ollisions	
Project Name	Project Description	Plan	KSI	Total ¹	Bike & Ped KSI	Bike & Ped Total
Montera Elementary ²	Safe Routes to School project	SRTS ³	9	283	9	49
Montclair High ²	Safe Routes to School project	SRTS ³	7	219	7	39
Monte Vista Elementary ²	Safe Routes to School project	SRTS ³	6	231	6	37
Central Avenue	Corridor project between Arrow Highway and Palo Verde Street	CSSA	5	119	2	14
Central Avenue Systemic	Central Avenue Intersections with Permissive Lefts	SSAR	5	114	1	16
San Bernardino Street	Corridor project between Ramona Avenue and Benson Avenue	LRSP	5	72	2	12
Lehigh Elementary ²	Safe Routes to School project	SRTS ³	4	180	4	32
Kingsley Elementary ²	Safe Routes to School project	SRTS ³	4	164	4	28
Ramona Avenue Corridor	Corridor project between State Street and Kingsley Street	LRSP	4	64	1	9
Holt Boulevard	Corridor project between Monte Vista Avenue and Central Avenue	SSAR	4	58	1	8
Ramona Elementary ²	Safe Routes to School project	SRTS ³	3	119	3	17
Central Avenue South	Corridor project between Holt Boulevard and Orchard Street	LRSP	3	86	1	10
Moreno Street	Corridor project between Monte Vista Avenue and Benson Avenue	CSSA	3	81	3	14
Kingsley Street	Corridor project between Amherst Avenue and Helena Avenue	SSAR	3	27	1	5
Howard Elementary ²	Safe Routes to School project	SRTS ³	2	148	2	17
Arrow Highway	Corridor project between Mills Avenue and Benson Avenue	CSSA	2	50	0	5
Ramona & Mission	Intersection of Ramona Avenue & West Mission Boulevard	SSAR	2	45	1	3
Ramona Avenue	Ramona Avenue Multi-Lane Stop-Controlled Intersections	SSAR	2	36	0	7
Bandera Street	Corridor project between Ramona Avenue and Central Avenue	SSAR	2	28	2	7
Vernon Middle ²	Safe Routes to School project	SRTS ³	1	181	1	32
Buena Vista Arts ²	Safe Routes to School project	SRTS ³	1	138	1	28
Monte Vista Avenue	Monte Vista Avenue Intersections with Permissive Lefts	SSAR	1	103	1	13
Central Avenue North	Corridor project between Benito Street and San Bernardino Street	SSAR	1	53	0	8
Orchard Street	Orchard Street Stop-Controlled Intersections	SSAR	1	27	1	9
Mills Avenue	Mills Avenue Stop-Controlled and Offset Intersections	SSAR	1	8	0	3

¹ Data years 2015-2019, 250 ft radius from corridor or intersection ² Location overlaps with one or more LRSP or SSAR project

³SRTS project collision data is taken directly from the Montclair Safe Routes to School Plan (data years 2014-2018, 1/2 mile radius)

Prioritized Project Comparison

The Montclair Safe Routes to School (SRTS) Plan includes infrastructure recommendations for nine schools in the City. As a part of the LRSP prioritized project development process, the SRTS plan recommendations at these schools were compared to overlapping project recommendations from other plans, including the SSAR, CSSA and LRSP. Potential project conflicts and recommended solutions surrounding the SRTS schools are noted below.

BUENA VISTA ARTS INTEGRATED MAGNET SCHOOL AND VERNON MIDDLE SCHOOL

San Bernardino Street & Vernon Avenue:

The SRTS plan recommends an intersection control beacon for encouraging stop sign compliance at this intersection. This LRSP recommends an LED flashing stop sign to increase their visibility and effectiveness. While both options provide similar effects in decreases stop sign-running, only one is needed. An LED flashing stop sign was installed in 2022.

In the SRTS plan, curb extensions are suggested for the crosswalk across San Bernardino Street. This LRSP recommends bicycle lanes along San Bernardino Street from Ramona Avenue to Benson Avenue, which would be precluded by curb extensions, due to the removal of curbside right-of-way. To enhance corridor-wide bicycle mobility, it is recommended that the bicycle lanes be considered over curb extensions.

HOWARD ELEMENTARY SCHOOL

Howard Street & Ramona Avenue:

In the SRTS plan, an intersection control beacon and curb extensions are recommended at this intersection. The SSAR recommends that this stopcontrolled intersection be converted to a roundabout, in which approaches are yield-controlled, negating the need for a control beacon. Additionally, curb extensions are not used in roundabouts, as curb extensions are intended to encourage slower right-angle turns. To encourage slower vehicle speeds on Ramona Avenue, reduce severity of broadside collisions, and eliminate stop sign-running, the roundabout conversion is recommended. This project is currently in the design phase.

Howard Street & Monte Vista Avenue:

The SRTS plan recommends curb extensions at all four corners of this intersection. In the SSAR, a bicycle lane and road diet are recommended along Monte Vista Avenue, from Palo Verde Street to Mission Boulevard. While the limits of this proposed bicycle lane do not include the intersection of Howard Street and Monte Vista Avenue, curb extensions along Monte Vista Avenue could preclude further south extension of the proposed bicycle facility by removing curbside right-of-way.

LEHIGH ELEMENTARY SCHOOL

Ramona Avenue & Orchard Street:

The SRTS plan recommends painted curb extensions, while the SSAR recommends concrete curb extensions. While concrete curb extensions are permanent and more effective in slowing vehicle turns, as drivers are less likely to drive over them, painted curb extensions can serve as a low-cost interim countermeasure while funding for concrete improvements is secured.

The SRTS plan includes a pedestrian hybrid beacon as a pedestrian crossing enhancement across the east leg of Orchard Street, while the SSAR suggests a rapid rectangular flashing beacon (RRFB). If a raised median with a pedestrian refuge island is installed on this leg, the RRFB is an effective crossing upgrade. If a raised median and refuge island is not installed, the PHB is recommended, as it has a higher driver-yield effectiveness to supplement the lack of a refuge island.

Kingsley Street:

In the SSAR, back-in angled parking is suggested along Kingsley Street,

throughout the same segment where a raised median is suggested in the SRTS plan. Due to limited right-of-way, it may be infeasible to implement both improvements in the same location. Back-in angled parking would provide increased parking supply along the corridor, while a raised median could decrease left-turn conflicts and provide a refuge for crossing pedestrians.

Ramona Avenue & Bandera Street:

The SRTS plan recommends a pedestrian crossing sign and advance yield markings across the north leg of Ramona Avenue, while the SSAR recommends converting this intersection to all-way stop-control. To encourage slower vehicle speeds on Ramona Avenue, conversion of the intersection to all-way stop-control is recommended. In 2022, this location was analyzed for all-way stop control and it does not meet the warrant at this time.

MONTCLAIR HIGH SCHOOL

Orchard Street & Camulos Avenue and Orchard Street & Tudor Avenue:

The SRTS plan recommends a pedestrian hybrid beacon as a pedestrian crossing enhancement across Orchard Street at both locations, while the SSAR suggests rapid rectangular flashing beacons (RRFB). If a raised median with a pedestrian refuge island is installed on the crossing leg, the RRFB is an effective crossing upgrade. If a raised median and refuge island is not installed, the PHB is recommended.

The SRTS plan recommends painted curb extensions, while the SSAR recommends concrete curb extensions. Painted curb extensions can serve as a low-cost interim countermeasure while funding for concrete improvements is secured.

Ramona Avenue and San Bernardino Street:

The SRTS plan recommends curb extensions at this intersection, while this LRSP recommends a road diet and bicycle lanes along San Bernardino Street, from Benson Avenue to Ramona Avenue. Curb extensions on the San Bernardino Street legs of this intersection may preclude bicycle lane implementation by removing curbside right-of-way. It is recommended that the bicycle facilities be considered over the curb extension to promote corridor-wide bicycle mobility.

RAMONA ELEMENTARY SCHOOL

Ramona Avenue & Grand Avenue:

In the SRTS plan, an intersection control beacon is recommended at this intersection. The SSAR recommends that this stop-controlled intersection be converted to a roundabout, negating the need for a control beacon. To encourage slower vehicle speeds on Ramona Avenue, reduce severity of broadside collisions, and eliminate stop sign-running, the roundabout conversion is recommended.

MONTERA ELEMENTARY SCHOOL

Monte Vista Avenue & Bandera Street:

The SRTS plan recommends curb extensions at the northwest and southeast corners of this intersection. In the SSAR, a bicycle lane and road diet are recommended along Monte Vista Avenue, from Palo Verde Street to Mission Boulevard. Curb extensions along Monte Vista Avenue could preclude the proposed bicycle facility by removing curbside right-of-way. To promote corridor-wide mobility, it is recommended that the bicycle facilities be implemented over the curb extensions.



The following toolbox presents non-engineering countermeasures that cover the Safe System Elements: <u>Safe</u> <u>Roads</u>, <u>Safe Road Users</u>, <u>Safe Speeds</u>, <u>Safe Vehicles</u>, and <u>Post-Crash Care</u>.

Chapter 8 Countermeasure Toolbox

This toolbox presents non-engineering countermeasures that can help support the development of a Safe System. These activities are meant to supplement and enhance the roadway design recommendations in this plan and the SSAR.

The countermeasures summarized in this toolbox are primarily based on the research-based recommendations in NHTSA's *Countermeasures that Work* report. Additional countermeasures are included that are relevant to Montclair's context, though they are not yet included in NHTSA's research. An engineering countermeasure toolbox can be found in the Montclair SSAR. SAFE ROAD USERS 1. Education and Public Awareness Campaigns

2. Partner with Businesses on Hot Spot Corridors

3. High Visibility Enforcement for DUIs

4. Pair education with Key Engineering Countermeasures

5. Safe Ride Home

6. Enforcement Priorities Mandate

SAFE SPEEDS 7. Speed Limit Modification

8. Safe Speeds Education Campaign

SAFE VEHICLES 9. Emerging Technology, including Autonomous and Connected Vehicles

POST-CRASH CARE 10. Rapid Response Safety Communication Protocol & Multi-Disciplinary Team

CTW EFFECTIVENESS RATING

Countermeasures That Work, National Highway Traffic Safety Administration, 2017



Demonstrated to be effective by several high-quality evaluations with consistent results

$\star \star \star \star$

Demonstrated to be effective in certain situations



Likely to be effective based on balance of evidence from highquality evaluations or other sources

$\star\star$

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

Limited or no high-quality evaluation evidence

Safe Road Users

Education & Public Awareness Campaigns Targeted at Specific Behaviors

Expand upon the 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 would be collaborating with local radio stations to disseminate safety messages.

The SCAG Go Human campaign and the OTS Go Safely California campaign both have free resources for local agencies to use in implementing public awareness campaigns.

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES

Montclair Police Department Community-Based Organizations Local Media Outlets California State Highway Patrol Caltrans San Bernardino County Department of Public Health SCAG Go Human Campaign OTS Go Safely California Campaign

FUNDING SOURCES

California Office of Traffic Safety (OTS) Grants SCAG Go Human Grants

EFFECTIVENESS RATING



Mass Media Campaigns on DUI

BEST PRACTICE RESOURCES

USDOT Traffic Safety Marketing SCAG Go Human Campaign OTS Go Safely California Campaign

Pedestrian Crossing Campaign Example: San Francisco Municipal Transportation Agency's (SFMTA) "Be Nice, Look Twice" Pedestrian Safety Campaign aims to increase driver awareness of pedestrians in crosswalks and encourage proper yielding behavior.



Partner with Businesses on Hot Spot Corridors

Conduct targeted education to businesses along the hot spot corridors (e.g. use caution when exiting driveways). Educational materials could include pamphlets, stickers, window displays, etc. This effort could include materials on how businesses can help drivers be more aware of their surroundings. For drinking establishments or restaurants, this could also include information to reduce driving under the influence (e.g., safe ride home number, local taxi number, etc.).

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES

Community-Based Organizations Montclair Police Department

FUNDING SOURCES

California Office of Traffic Safety (OTS) Grants Public/Private Partnerships

EFFECTIVENESS RATING



Communications and Outreach Supporting Enforcement

BEST PRACTICE RESOURCES USDOT Traffic Safety Marketing

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



Safe Road Users

High Visibility Enforcement for DUIs

Deterrence policies focus on raising the actual and perceived risk of detection of driving under the influence. These policies should be highly visible to increase awareness of the risks of driving under the influence. Publicized sobriety checkpoints, saturation patrol, and other forms of high visibility enforcement are effective for safety outcomes.

Integrated enforcement would include coordination with Public Awareness Campaigns and Education of Businesses. For example, widespread dissemination of multi-lingual educational messaging and promotion of safe rides home programs in advance of major enforcement efforts will help to mitigate equity concerns about disproportionate impacts of fines/fees on lower income residents.

LEAD AGENCY

Montclair Police Department

PARTNER AGENCIES

California State Highway Patrol California Office of Traffic Safety (OTS)

FUNDING SOURCES

California Office of Traffic Safety (OTS) Grants

EFFECTIVENESS RATING

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

Publicized Sobriety Checkpoints



High-Visibility Saturation Patrols

BEST PRACTICE RESOURCES

Massachusetts Saving Lives – Enforcement Strategies

This program combines community engagement events, high-visibility enforcement including sobriety checkpoints, and media communication to discourage DUI.

Pair Education with Key Engineering 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. These materials can consist of informational signs or demonstration videos, and should be presented in multiple languages, including English, and Spanish.

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES

Montclair Police Department Community-Based Organizations

FUNDING SOURCES California Office of Traffic Safety (OTS) Grants

EFFECTIVENESS RATING

N/A

BEST PRACTICE RESOURCES

City of Los Angeles Education through Pop-Up Installations

As part of Bike to Work Day in 2019, LADOT used temporary pop-up installations to introduce safety improvements in specific neighborhoods. Hay bales, straw wattles, and plants were used to test the roundabout design and educate drivers on how to use the traffic circle 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.



LADOT Pop-Up Installation Source: LA Streetsblog

Safe Road Users

Safe Ride Home

Develop partnerships between the City of Montclair, the Montclair Police Department, TNC operators, Foothill Transit, and local businesses to offer promotional codes for free or discounted rides home from establishments or events in Montclair 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.

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES

TNC Operators (Lyft, Uber, Taxis, etc.) Foothill Transit Montclair Police Department Local businesses

FUNDING SOURCES California Office of Traffic Safety (OTS) Grants SCAG Go Human Grants

EFFECTIVENESS RATING



Alternative Transportation

BEST PRACTICE RESOURCES

Portland Bureau of Transportation 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.

Enforcement Priorities Mandate

Use crash history and emphasis area corridors as one criterion for where to concentrate enforcement efforts.

LEAD AGENCY Montclair Police Department

PARTNER AGENCIES

Community-Based Organizations California State Highway Patrol

FUNDING SOURCES

General Funds California Office of Traffic Safety (OTS) Grants

EFFECTIVENESS RATING



Communications and Outreach Supporting Enforcement

BEST PRACTICE RESOURCES

Behavior Change Campaigns to Improve Traffic Safety Toolkit

NHTSA Countermeasures that Work, 10th Edition

Safe Speeds

Speed Limit Modification

Utilize California Assembly Bill (AB) 43 methodology to lower speed limits on additional corridors.

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

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES Montclair Police Department

FUNDING SOURCES

General Funds

EFFECTIVENESS RATING



Speed Limits

BEST PRACTICE RESOURCES California Assembly Bill 43

NACTO City Limits Setting Safe Speed Limits on Urban Streets guide



Safe Speeds Education Campaign

Continue existing safety education campaign targeting safe speeds. This could include yard signs, wall boards/ posters in prime injury-corridor neighborhoods, ads on bus exteriors, radio ads, etc. To maximize effectiveness, this should be an ongoing program.

The SCAG Go Human campaign and the OTS Go Safely California campaign both have free resources for local agencies to use in implementing public awareness campaigns.

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES

Montclair Police Department Community-Based Organizations Local Media Outlets California State Highway Patrol Caltrans San Bernardino County Department of Public Health SCAG Go Human Campaign OTS Go Safely California Campaign

FUNDING SOURCES

California Office of Traffic Safety (OTS) Grants

EFFECTIVENESS RATING



Communications and Outreach on Speeding

BEST PRACTICE RESOURCES

USDOT Traffic Safety Marketing

SCAG Go Human Campaign

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.

Safe Vehicles

Emerging Technology, including Autonomous and Connected Vehicles

Recent advancements in transportation technology have not only introduced new transportation modes and travel patterns, but have also presented opportunities to better understand travel behavior and encourage safe behavior. The following represent a summary of emerging technology trends related to safety.

Near Miss Data

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.
- Commercially Available Event Data: With the capability of vehicles to capture and transmit realtime data on driver behavior wirelessly, these data are increasingly becoming an integral part of reporting near misses especially given the introduction of AVs on public roadways.

AV Readiness Planning

Having strategies prepared to meet and address the oncoming challenges posed by AV technology will be crucial in advancing road safety in Montclair. Fully automated vehicles have the potential to modify travel behavior and improve safety outcomes given that AVs are ultimately intended to operate lawfully and eliminate or reduce human error. Some strategies for preparation include educating the public on current and future safety features and limitations, continuing to upgrade signal equipment, and maintaining roadway surfaces, striping and signage.

LEAD AGENCY

Montclair Public Works

PARTNER AGENCIES

Montclair Police Department Caltrans

FUNDING SOURCES

Caltrans Highway Safety Improvement Program California Office of Traffic Safety (OTS) Grants General Funds

EFFECTIVENESS RATING

N/A

BEST PRACTICE RESOURCES NHTSA Automated Vehicles for Safety

Post-Crash Care

Equity Considerations

Rapid Response Communication Protocol & Multi-Disciplinary Team

Employ an internal, multi-departmental communication strategy in response to severe and fatal collisions. The protocol should 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. Development of this multidisciplinary team can also support timely data sharing among Montclair departments, ensure data accuracy, and develop near-term interventions.

LEAD AGENCY

Montclair Police Department Montclair Fire Department

PARTNER AGENCIES

Montclair Public Works California State Highway Patrol

FUNDING SOURCES

California Office of Traffic Safety (OTS) Grants General and Road Funds

EFFECTIVENESS RATING

N/A

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.

Enforcement

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, and analyzing demographic data in traffic citations.

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. Culturallyrelevant engagement strategies can help education and programming around traffic safety reach a larger audience and be more impactful.

In Montclair, culturally-relevant community engagement may include dissemination of materials and presentation of information in Spanish. Hosting safety-related engagement events and local parks or 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 should be considered during the implementation of all roadway safety projects. This chapter describes the process that can be used by the City to evaluate the success of the plan, ensure implementation, and identify funding sources for projects.

Chapter 9 Evaluation & Implementation

Implementation

Implementation of the LRSP is a vital step in the process where identified strategies and projects are executed. To successfully implement programs and projects, partnerships, trust, funding, and coordination need to be proactively managed. Successful implementation requires sustained and coordinated support from key stakeholders, elected officials, and City staff. Recommendations related to facilitating buy-in and support, and project delivery methods are included in this chapter.

Evaluation

Evaluation identifies possible opportunities to inform future decisionmaking and allows the City to understand how it is doing against the goal of eliminating collisions and reducing collision severity in each of its emphasis areas. Recommendations include how and when to update this plan and related public communications. Specific performance metrics are also included.

Funding

While the primary purpose of this study is to prepare the City of Montclair to submit successful Highway Safety Improvement Program (HSIP) applications, safety projects can be funded through a wide range of additional sources at the regional, state, and federal levels.

HSIP funds are largely awarded based on a benefit/cost analysis using a set of Caltrans-approved countermeasures with documented collision reduction factors and historic collision data. While many safety projects will perform well in the HSIP process, others may be successfully funded through other sources that consider additional factors, such as the Active Transportation Program (ATP).

The sources in this chapter may be used to fund a broad scope of projects targeting air quality and sustainability, affordable housing, and transportation. Successful projects often entail creative solutions that address impact areas beyond transportation safety alone.

Implementation Strategies

Implementation Action	Examples	Agencies and Partners
Reprioritize and/or modify scope for CIP projects to focus on safety	Document how safety projects have been prioritized for implementation in CIP, and cross- check LRSP, SSAR, CSSA, SRTS and ATP for safety enhancements to identified CIP projects	Montclair Public Works Montclair City Council
Incorporate safety strategies into existing programs, such as street maintenance and repair	Integrate safety projects into regular maintenance cycles, such as using the repainting of crosswalks as an opportunity to upgrade to high visibility markings	Montclair Public Works
Incorporate LRSP goals into all roadway projects	Adopt roadway design guidelines and policies that prioritize safety, such as standards for narrower travel lanes and enhanced bicycle facilities, crosswalk marking and enhancement guidelines, and improving multi- lane stop-controlled intersections	Montclair Public Works Montclair City Council
Implement interim projects	Implementation of "paint and plastic" projects, such as temporary curb extensions until funding for more capital-intensive concrete curb extensions is secured	Montclair Public Works
Incorporate safety goals into citywide traffic impact analysis	Include collision review and roadway safety issues identification during development review and non-CEQA traffic impact analysis, following guidance from Caltrans' Interim Local Development Intergovernmental Review Safety Review Practitioners Guide	Montclair Public Works Montclair Planning Division
Bundle projects similar in scope to deliver systemic improvements	Reduce soft costs such as project administration, data collection, and conceptual and final design and increase the efficiency of public outreach and engagement compared to delivering multiple separate projects; apply to projects such as signal improvements or pavement marking upgrades	Montclair Public Works

Evaluation Strategies

Evaluation Action	Examples	Agencies and Partners
Update LRSP regularly	Scheduling an update every three to five years could assist with organizing and directing evaluation efforts. As conditions within the City could change, it will be necessary to update the LRSP in the future Completion of bi-annual plan updates should correspond with Caltrans HSIP calls-for-projects. Calls-for- projects are typically released in spring or early summer of even years (i.e. 2020, 2022, etc) and are due in the fall of the same year	Montclair Public Works Montclair Police Department Montclair City Council Community Organizations
Present on roadway safety progress regularly	 Opportunities for engaging with the public: Create online dashboard showcasing safety metrics and recent projects Release an annual publicly available "safety report card" Train City employees on a standard approach to addressing the public and the media about LRSP performance Market benefits of safety investments—how is funding being used and what are resulting safety outcomes? 	Montclair Public Works Montclair City Council
Track and report metrics	 Number of KSI collisions Number of pedestrian and bicycle collisions Number of collisions related to LRSP and SSAR emphasis areas (hot spots and collision profiles) Demographic data associated with collisions, to track disproportionate impacts on communities Number of projects implemented Grant funding secured for safety projects Number of segments with reduced posted speeds 	Montclair Public Works Montclair City Council

Funding Sources

Local and Regional Sources

SCAG SUSTAINABLE COMMUNITIES PROGRAM

Provides direct technical assistance to SCAG member jurisdictions to complete planning and policy efforts that enable implementation of the regional Sustainable Communities Strategy (SCS). Grants are available in four categories: Civic Engagement, Equity & Environmental Justice; Smart Cities & Mobility Innovations; Housing & Sustainable Development; Active Transportation & Safety.

NEXT FUNDING OPPORTUNITY

Call for projects opening in early 2023 for Civic Engagement, Equity & Environmental Justice

SCAG COMMUNITY STREETS MINI-GRANT PROGRAM

Competitive community grant program that funds safety projects. Awards are made up to \$10,000. Projects aim to build street-level community resiliency and increase the safety of people most harmed by traffic injuries and fatalities. \$277,000 was awarded to 31 projects in 2021.

NEXT FUNDING OPPORTUNITY Call for applications TBD 2023

SBCTA TDA ARTICLE 3 PROGRAM

The Transportation Development Act (TDA) provides that 2 percent of the Local Transportation Funds (LTF) be made available to counties and cities for facilities for the exclusive use of pedestrians and bicyclists, known as TDA Article 3 Program. In August 1999 the SBCTA Board approved a policy that 80 percent would be available for pedestrian and bicycle projects. The remaining 20 percent of the Article 3 program would be made available for projects that improve access to transit stops for pedestrians and persons with disabilities. There are additional set-asides for bicycle and pedestrian maintenance and small projects.

NEXT FUNDING OPPORTUNITY 2023

State Sources

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

HSIP is a core federal-aid program to States for the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. California's Local HSIP focuses on infrastructure projects with nationally recognized crash reduction factors (CRFs). This is the primary grant funding source to support roadway projects identified through the LRSP.

NEXT FUNDING OPPORTUNITY Cycle 12 expected 2024

CALIFORNIA STRATEGIC GROWTH COUNCIL (SGC) TRANSFORMATIVE CLIMATE COMMUNITIES (TCC) PROGRAM

The Transformative Climate Communities (TCC) Program empowers the communities most impacted by pollution to choose their own goals, strategies, and projects to reduce greenhouse gas emissions and local air pollution.

NEXT FUNDING OPPORTUNITY Round 5 expected early 2023

SGC AFFORDABLE HOUSING AND SUSTAINABLE COMMUNITIES (AHSC) PROGRAM

The Affordable Housing and Sustainable Communities (AHSC) Program makes it easier for Californians to drive less by making sure housing, jobs, and key destinations are accessible by walking, biking, and transit.

NEXT FUNDING OPPORTUNITY Round 7 due March 2023

ACTIVE TRANSPORTATION PROGRAM (ATP)

ATP is a statewide competitive grant application process with the goal of encouraging increased use of active modes of transportation. The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SRTS), into a single program with a focus to make California a national leader in active transportation. The ATP administered by the Division of Local Assistance, Office of State Programs.

NEXT FUNDING OPPORTUNITY Cycle 6 applications closed in June 2022 Cycle 7 TBD (likely 2023 or 2024)

SB 1 LOCAL STREETS AND ROADS PROGRAM (LSRP)

SB 1 dedicated approximately \$1.5 billion per year in new formula revenues apportioned by the State Controller to cities and counties for basic road maintenance, rehabilitation, and critical safety projects on the local streets and roads system.

NEXT FUNDING OPPORTUNITY Expected Fall 2023

CALTRANS SUSTAINABLE COMMUNITIES GRANTS

To encourage local and regional planning that furthers state goals, including, but not limited to, the goals and best practices cited in the Regional Transportation Plan Guidelines adopted by the California Transportation Commission.

NEXT FUNDING OPPORTUNITY Due March 2023

CALIFORNIA OFFICE OF TRAFFIC SAFETY (OTS) GRANT PROGRAMS

OTS administers traffic safety grants in the following areas: Alcohol Impaired Driving, Distracted Driving, Drug-Impaired Driving, Emergency Medical Services, Motorcycle Safety, Occupant Protection, Pedestrian and Bicycle Safety, Police Traffic Services, Public Relations, Advertising, and Roadway Safety and Traffic Records.

NEXT FUNDING OPPORTUNITY Due January 2023

SB 1 SOLUTIONS FOR CONGESTED CORRIDORS PROGRAM (SCCP)

The Solutions for Congested Corridors Program funds projects designed to reduce congestion in highly traveled and highly congested corridors. This statewide, competitive program makes \$250 million available annually for projects that implement specific transportation performance improvements and are part of a comprehensive corridor plan by providing more transportation choices while preserving the character of local communities and creating opportunities for neighborhood enhancement.

NEXT FUNDING OPPORTUNITY 2024 TBD

SB1 LOCAL PARTNERSHIP PROGRAM (LPP)

The purpose of this program is to provide local and regional transportation agencies that have passed sales tax measures, developer fees, or other imposed transportation fees with a continuous appropriation of \$200 million annually from the Road Maintenance and Rehabilitation Account to fund road maintenance and rehabilitation, sound walls, and active transportation projects. There is also a competitive grant portion of this project.

NEXT FUNDING OPPORTUNITY 2024 TBD

SB 1 STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)

The State Transportation Improvement Program (STIP) is the biennial five-year plan for future allocations of certain state transportation funds for state highway improvements, intercity rail, and regional highway and transit improvements.

NEXT FUNDING OPPORTUNITY 2024 TBD

CALIFORNIA NATURAL RESOURCES AGENCY URBAN GREENING PROGRAM

This program supports projects that "use natural systems or systems that mimic natural systems to achieve multiple benefits." Eligible projects include "Non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools."

NEXT FUNDING OPPORTUNITY 2024 TBD

Additional Resource Considerations

Funding Roadway Safety

In addition to grant funding opportunities, there are several additional opportunities for Montclair to find financial support for implementing safety projects, including identifying dedicated General Fund support, local bonds and sales tax measures, and identifying roadway safety enhancements related to new public and private development projects.

EXAMPLES

City of Fort Worth: <u>Safety/Mobility Bond Package</u> Voters within the City of Fort Worth supported a bond measure to allocate \$5 million to the City's Vision Zero Program. The bond measure includes multimodal safety improvements, such as new crosswalks, streetlights, and flashing beacons.

City of San Diego: <u>Proposed FY 2023 Municipal Budget</u> Within it's upcoming proposed budget, the City of San Diego is allocated in \$24.2 million to support the Vision Zero Program. This includes new bicycle facilities, traffic calming projects, and street lighting amongst others.

Identifying Safety Champions

Identifying safety champions in key to implementing a culture of roadway safety throughout Montclair. Actions could include;

- Hire 1 FTE tasked with coordination, delivery, and evaluation of safety projects
- Identify elected official, community stakeholder, and internal staff safety champions

EXAMPLES

City of Boulder: <u>Transportation Operations</u> <u>Engineer - Vision Zero</u>

Boulder has an engineer dedicated to Vision Zero. The role includes reviewing crash data and coordinating with various stakeholders, such as law enforcement and street maintenance.

Safety Champion: Elected Official

- Mayor John Bauters

Emeryville Mayor John Bauters believes that elected officials can help <u>"set the tone"</u> and bring the community together to address concerns. Mayor Bauters has committed to prioritizing improvements along the high-injury network and a commitment to a permanent slow streets program.

Federal Sources

RAISE GRANTS (FORMERLY BUILD AND TIGER)

The Rebuilding American Infrastructure with Sustainability and Equity, or RAISE Discretionary Grant program, provides a unique opportunity for the DOT to invest in road, rail, transit and port projects that promise to achieve national objectives. The program selection criteria this cycle encompass safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, innovation, and partnerships with a broad range of stakeholders. The first round of RAISE grants awarded \$417m to bicycle and pedestrian projects, and \$30m for planning grants (eligible for the first time).

NEXT FUNDING OPPORTUNITY Due February 2023

SAFE STREETS AND ROADS FOR ALL (SS4A) GRANTS

The recent federal infrastructure bill established the new Safe Streets and Roads for All program to provide \$5 billion in grant funding to develop and implement Vision Zero safety plans. Current legislation emphasizes funding of planning efforts, but the focus on implementation funding is expected to increase over the next few years.

NEXT FUNDING OPPORTUNITY Expected Spring 2023