Local Road Safety Plan

Final Document

City of Rohnert Park

August 24, 2022

REPORT SIGNATURE SHEET

This Local Road Safety Plan for the City of Rohnert Park has been prepared under the direction of the following Professional Engineer. The Registered Civil Engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Kathryn Savoy Kleinschmidt, PE
Registered Civil Engineer

August 24, 2022

Date

Acknowledgements

A special thanks to all the Safety Partners that contributed to this plan.

City of Rohnert Park

Mayor and Council Members

Public Works Department

Public Safety Department

City of Cotati

Caltrans District 4

Sonoma County

Department of Transportation and Maintenance

Sonoma County Transit

Sonoma County Bicycle Coalition

Bicycle and Pedestrian Advisory Committee

Sonoma County Transportation Authority

Sonoma State University

Cotati-Rohnert Park Unified School District Offices

Rancho Cotate High School

Monte Vista Elementary School

Credo High School

Lawrence E. Jones Middle School

Technology Middle School

John Reed Elementary School

Richard Crane Elementary School

Pathways Charter School

Latino Alliance

Rotary

Graton Rancheria

Executive Summary

The City of Rohnert Park was awarded a state grant from Caltrans to develop a Local Road Safety Plan (LRSP). The LRSP is a requirement for Cycle 11 of the Highway Safety Improvement Program (HSIP) grant funding. The LRSP includes a citywide analysis of the roadway system in Rohnert Park comprising of the current collision patterns and high-risk roadway characteristics (systemic analysis). Rohnert Park's goal is to identify safety countermeasures to help mitigate the City's primary crash type trends and reduce the overall collision severity.

The LRSP is a collaborative process with representatives for the 5 E's . **The 5 E's of traffic safety include Engineering, Enforcement, Education, Emergency Response, and Emerging Technologies.**

This holistic approach allows certain areas of concern not showing a crash pattern to be analyzed. Also, it fosters local, state, and agency partnerships to advance local road safety.

In following the overall LRSP process, a Stakeholder Working Group (Working Group) was formed with the City as the lead and local organizations with an interest in improving the City's roadway safety. This group gathered for meetings to discuss the overall collision analysis, goals, priorities, safety recommendations, and overall development of the safety plan.

Based on the past 6 years collision analysis and the City's Stakeholder Working Group Meetings, this LRSP will address multiple Strategic Highway Safety Plan (SHSP) Challenge Areas including, but not limited to:

1. Bicyclists
2. Distracted Driving
3. Aggressive Driving / Speed Management
4. Intersections
5. Pedestrians

In addition, a vision, a mission statement, and goals were established during the development of the LRSP. It was also decided that the LRSP for the City of Rohnert Park would be a living document with a recommended formal update every five (5) years.

The following strategies are recommended for the focused study locations and Citywide systemic applications for the 5 E's of Traffic Safety.

1. Engineering: Apply safety countermeasures at current locations experiencing collisions and systemically at locations with similar risks (comprehensive approach).

2. Enforcement: Enforce actions that reduce high-risk behaviors to include speeding, distracted roadway usage, and Driving Under the Influence (DUI).
3. Education: Educate all road users on safe behaviors.
4. Emergency Response: Improve emergency response times and action.
5. Emerging Technologies: Utilize emerging technologies in conveying and collecting information from the roadway users to improve safety and operations.

Through collision data analysis, public input, and City feedback, priority locations were identified in the City. These locations, along with their proposed engineering countermeasures, are shown in the tables below.

Priority Intersections and Recommended Countermeasures

Intersection	Recommended Countermeasures
City Jurisdiction	
Rohnert Park Expressway / Country Club Drive	Convert signal to mast arm (from pedestal-mounted) Evaluate modifying signal phasing to implement a Leading Pedestrian Interval (LPI) Install green conflict marking at bicycle lane approaches to the intersection
Rohnert Park Expressway / Redwood Drive	Convert signal to mast arm (from pedestal-mounted) Install flashing beacons as advance warning Install raised median on approaches Install advance stop bar before crosswalk (Bicycle Box) Install green conflict marking at bicycle lane approaches to the intersection
Rohnert Park Expressway / Redwood Drive	Convert intersection to roundabout (from signal)
Commerce Boulevard / Rohnert Park	Install flashing beacons as advance warning Install advance stop bar before crosswalk (Bicycle Box) Install green conflict marking at bicycle lane approaches to the intersection
Commerce Boulevard / Rohnert Park Expressway	Convert intersection to roundabout (from signal)
Rohnert Park Expressway / State Farm Drive	Convert signal to mast arm (from pedestal-mounted) Install advance stop bar before crosswalk (Bicycle Box) Consider installing a changeable message board near intersection
Golf Course Drive W / Commerce Boulevard	Evaluate modifying signal phasing to implement a Leading Pedestrian Interval (LPI)

Priority Segments and Recommended Countermeasures

Segment	Recommended Countermeasures
City Jurisdiction	
Rohnert Park Expressway (State Farm Drive to Country Club Drive)	Install Median Barrier
	Install Separated Bike Lanes
Snyder Lane (Hinebaugh Creek to E Cotati Avenue)	Install dynamic/variable speed warning signs
	Install green conflict markings at driveways
Commerce Boulevard (Golf Course Drive to Avram Avenue)	Install edge-lines and centerlines
	Install Median Barrier
	Install dynamic/variable speed warning signs
	Install Rectangular Rapid Flashing Beacon (RRFB)
Redwood Drive (Willis Avenue to South City Limit)	Install edge-lines and centerlines
	Install Median Barrier
	Install dynamic/variable speed warning signs
	Install/upgrade pedestrian crossing (with enhanced safety features)
Rohnert Park Expressway (Redwood Drive to Commerce Boulevard)	Install pavement markings for lane positioning for the US 101 southbound ramp
Golf Course West (Redwood Drive to Country Club Drive)	Install edge-lines and centerlines
	Install dynamic/variable speed warning signs
	Increase enforcement
Golf Course Drive (Country Club Drive to Snyder Lane)	Improve pavement friction (High Friction Surface Treatments)
	Evaluate parking along corridor
	Install speed limit sign on existing speed feedback sign

Systemic countermeasures were also recommended for City roadways. These countermeasures included Citywide recommendations that can also be used for more specific project locations. The table below shows some of the non-engineering strategies that are incorporated in the plan.

Recommended Systemic Countermeasures

Location	Type of Countermeasure	Countermeasure	Reasoning
Signalized Intersections along Major Roadways	Engineering	Improve signal timing (coordination, phases, red, yellow, or operation)	Pattern of rear end collisions at signalized intersections on major roadways.
Along Major Roadways	Engineering	Install median barrier	Pattern of broadside collisions along segments.
Signalized Intersections with Pedestrian Collisions	Engineering	Install Leading Pedestrian Interval (LPI)	Pedestrians are a challenge/emphasis area in the LRSP. Preferred countermeasure from the BPAC.
Trail Crossings	Engineering	Pedestrian and bicycle improvements	Pedestrians and bicyclists are identified as challenge/emphasis areas in the LRSP.
City Segments	Engineering	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	Signs throughout the City appear faded.
Citywide	Enforcement	Increase visibility of enforcement	Public request gathered through public engagement. Patterns of DUIs and speeding throughout the City.

It is important to understand the upcoming funding opportunities in the successful implementation of these safety projects. Most of the proposed engineering countermeasures are Highway Safety Improvement Program (HSIP) fundable (Cycle 11 opened May 9, 2022). However, safety countermeasures can be implemented through other funding sources as well, including:

- Active Transportation Program (ATP) Cycle 6 – Due June 15, 2022
- One Bay Area Grant 3 (OBAG) – Due date to be determined (TBD)
- USDOT Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Congestion Mitigation and Air Quality (CMAQ) program
- Sustainable Transportation Planning Grant (Sustainable Communities)
- Local Partnership Project (LPP) – anticipated to be due fall 2022
- Stimulus funding sources
- City's Capital Improvement Program or with on-going maintenance work
- Office of Traffic Safety grants
- Statewide Transportation Improvement Program (STIP) funding sources
    - State Highway Operation and Protection Program (SHOPP) funding for Caltrans roadways

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List of Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
APS	Accessible Pedestrian Signal
ATP	Active Transportation Program or Plan
AWSC	All Way Stop Control
BCR	Benefit to Cost Ratio
BUI	Biking Under the Influence
CA MUTCD	California Manual on Uniform Traffic Control Devices
CMAQ	Congestion Mitigation and Air Quality
DUI	Driving Under the Influence
EPDO	Equivalent Property Damage Only
FHWA	Federal Highway Administration
FSI	Fatal and Severe Injury
HSIP	Highway Safety Improvement Program
HSM	Highway Safety Manual
LRSM	Local Roadway Safety Manual
LRSP	Local Road/Roadway Safety Plan
SCTA	Sonoma County Transportation Authority
SHSP	Strategic Highway Safety Plan
SSAR	Systemic Safety Analysis Report
SWITRS	Statewide Integrated Traffic Records System
TIMS	Transportation Injury Mapping System
TWSC	Two Way Stop Control

1. Introduction

The Local Road Safety Plan (LRSP) is a traffic safety planning document for local agencies to address unique roadway safety needs in their jurisdictions. This comprehensive document will both help to guide the City's implementation of safety countermeasures and allow eligibility for funding in future Highway Safety Improvement Program (HSIP) grant applications.

Preparing an LRSP facilitates local agency partnerships and collaboration, resulting in a prioritized list of improvements and actions that contribute to California's Strategic Highway Safety Plan (SHSP) overall vision and goals. This SHSP focuses on reducing fatal and severe injury collisions (FSI collisions) with focused challenge areas with a focus on the Five "E's" of Traffic Safety (see **Figure 1**).

Figure 1 California SHSP (2020-2024)

The City and GHD will follow the Federal Highways Administration's (FHWA) Local Road Safety process in the following six (6) steps as shown in **Figure 2**:

Figure 2 FHWA's LRSP Development Process

In working with the first step of establishing leadership, Jason Sampietro (Project Manager) and Terrie Zwillinger (Public Works Capital Improvement Project Program Manager) served as Safety Champions/Leads for this project with a stakeholder working group that consisted of the other E's (enforcement, education, emergency response, and emerging technologies) and other important safety partners. This stakeholder working group was paramount in creating a comprehensive safety plan tailored to address the local needs and issues.

2. Background

2.1 Purpose and Need

The City of Rohnert Park is located in Sonoma County, south of Santa Rosa, California with an approximate population of 42,000. Rohnert Park shares its southwestern border with the City of Cotati. US Highway 101 crosses through the City in the north-south direction and provides two interchanges in Rohnert Park: at Golf Course Drive and at Rohnert Park Expressway. Rohnert Park Expressway connects US 101 to Sonoma State University and is a major thoroughfare through the City.

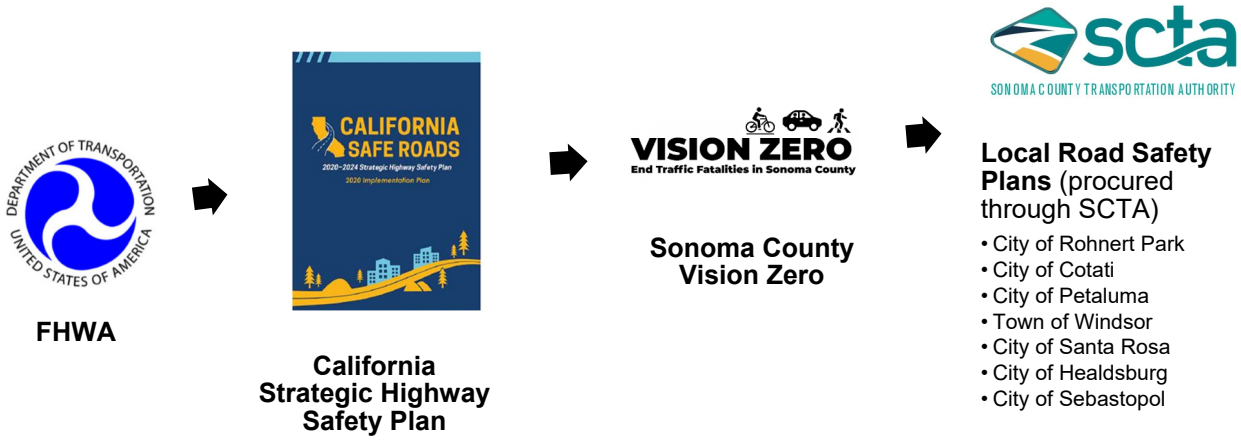
Focusing in on the roadway safety needs, the past six (6) years of collisions (2015-2020) were evaluated for City roadways and Caltrans interchange locations. As presented in **Figure 3**, there were three fatal and thirty-six severe injury collisions on City roadways. Caltrans interchange locations did not have any fatal or severe injury collisions within this time period. In improving roadway safety for the City of Rohnert Park, it is important to focus on mitigating these high injury collisions. More information on these collisions can be found in **Section 4.2: Collision Data**.

Figure 3 High Severity Collisions in the City of Rohnert Park

2.2 Guiding Documents

FHWA requires that each state has an SHSP to receive federal funding. The California SHSP is a statewide safety plan that helps provide a framework to reduce fatal and high severity collisions. Sonoma County recently completed a countywide Vision Zero Action plan with similar goals (for more information, see **Section 2.2.2**). In 2020, the Sonoma County Transportation Authority procured seven (7) LRSPs throughout Sonoma County. These LRSPs will have similar goals to the California SHSP and Sonoma

County Vision Zero but will be more tailored to the local roadway needs of each agency.



2.2.1 California Strategic Highway Safety Plan

The Rohnert Park LRSP will complement California's SHSP 2020-2024. The SHSP recommended challenge areas are shown in **Figure 4**. This plan will focus on challenge/emphasis areas that are determined through data analysis and stakeholder input.

Figure 4 SHSP Challenge Areas

2.2.2 Sonoma County Vision Zero

The Sonoma County Transportation Authority (SCTA) and the Department of Health Services launched a Vision Zero plan for all of Sonoma County. The Rohnert Park LRSP aims to complement Vision Zero plan with elements catered specifically for the City of Rohnert Park. SCTA's goal is to produce "a project that will focus on action-oriented strategies to reduce serious injuries and fatalities caused by traffic collisions, and improve health, quality of life and economic vitality, particularly for low-income and disadvantaged communities". The vision and goals of the Rohnert Park's LRSP document will follow similar standards.

Figure 5 Sonoma County Transit Authority Vision Zero Website

2.2.2.1 Vision Zero

Vision Zero is a significant departure from the status quo in two major ways:

– Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to minimize those inevitable mistakes and reduce their likeliness to result in severe injuries or fatalities. This means that system designers and policymakers are expected to improve the roadway environment, policies (such as speed management), and other related systems to lessen the severity of crashes. Roadway users are, however, still responsible for their mistakes and should follow all applicable laws and use reasonable judgement when conducting themselves within the public right of way.

– Vision Zero is a multidisciplinary approach, bringing together diverse and necessary stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration among local traffic planners and engineers, policymakers, and public health professionals has not been the norm. Vision Zero acknowledges that many factors contribute to safe mobility -- including roadway design, speeds, behaviors, technology, and policies -- and sets clear goals to achieve the shared goal of zero fatalities and severe injuries.

2.2.3 Safe System Approach

The Federal Highway Administration (FHWA) is using the Safe System approach to work towards their goal of zero fatalities in vehicles. In providing a comprehensive approach to safety, the Safe System approach is to design our vehicles and infrastructure in a manner that anticipates human error and accommodates human tolerances with a goal of reducing fatal and serious injuries. The following framework is intended to assist the vehicle and infrastructure communities in making decisions that will be

in alignment with Safe System principles. Implementing and selecting safe system practices and design will incrementally improve safety over time.

FHWA defines the Safe System Approach Principles and Elements as follows:

- Safe Road Users—The safety of all road users is equitably addressed, including those who walk, bike, drive, ride transit, or travel by other modes.
- Safe Vehicles—Vehicles are designed and regulated to minimize the frequency and severity of collisions using safety measures that incorporate the latest technology.
- Safe Speeds—Humans are less likely to survive high-speed crashes. Reducing speeds can accommodate human-injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.
- Safe Roads—Designing transportation infrastructure to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.
- Post-Crash Care—People who are injured in collisions rely on emergency first responders to quickly locate and stabilize their injuries and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.

Adopting a Safe System approach does not absolve users of their responsibility. Other safety practices such as speed management strategies, driver education, enforcement, and effective emergency response will remain essential to improving road safety. With the passing of Assembly Bill (AB) 43, new criteria will be implemented for setting speed limits which can favor lower speed limits and keeping existing speed limits when no significant roadway developments have occurred.

Figure 6 shows a diagram of the Safe System approach.

Source: FHWA.

Figure 6 Safe Systems Approach

2.2.4 Standards and Guidelines

In developing the City of Rohnert Park LRSP, the following standards and guidelines were followed:

1. "Local Roadway Safety, A Manual for California's Local Road Owners", Caltrans, Version 1.5, April 2020.
2. 2020-2024 California's Strategic Highway Safety Plan (SHSP), "California Safe Roads: 2020-2024 Strategic Highway Safety Plan", Caltrans.
3. "Developing Safety Plans, A Manual for Local Rural Road Owners", Federal Highway Administration, March 2012.
4. "Local and Rural Road Safety Briefing Sheets: Local Road Safety Plans," Federal Highway Administration, November 2014.
5. "Highway Safety Manual", American Association of State Highway Officials (AASHTO), 1st Edition, 2014 supplement.
6. "California Manual of Uniform Traffic Control Devices (CA MUTCD)", Revision 5, 2014.

2.3 Methodology

The LRSP methodology followed the FHWA's LRSP development process as shown in **Figure 7** and the Caltrans *Local Roadway Safety Manual* document.

Below is a roadmap created by FHWA to show the process of creating the City's LRSP. The following items were the primary steps used to create this plan:

1. **Identify Stakeholders**
   - *i) Working Group was formed of the 5 E's and other interested representatives.*
2. **Use Safety Data**
   - *i) Past 6 years of collisions were analyzed with discussion of other high-risk locations.*
3. **Chose Proven Solutions**
   - *i) FHWA Proven Countermeasures and Caltrans safety countermeasures were used in mitigation collision trends and risk characteristics.*
4. **Implement Solutions**
   - *i) Projects were identified for specific locations and systemically.*

Figure 7 FHWA's LRSP Development Map (Source: Federal Highway Administration)

3. Safety Partners/Stakeholders

3.1 LRSP Stakeholder Working Group Members

Based on community connections, the City of Rohnert Park led the formation of the LRSP Stakeholder Working Member Group. This leadership group was crucial in the development of the LRSP and helped in capturing the safety needs, goals, and priorities, including safety countermeasures for the City of Rohnert Park.

The following agencies were requested to participate in the LRSP Stakeholder Working Group:

- City of Rohnert Park, Public Works Department
- City of Rohnert Park, Public Safety Department
- City of Cotati
- Caltrans, District 4
- Sonoma County, Department of Transportation and Maintenance
- Sonoma County Transit
- Sonoma County Bicycle Coalition
- City of Rohnert Park Bicycle and Pedestrian Advisory Committee
- Sonoma County Transportation Authority
- Sonoma State University
- Cotati-Rohnert Park Unified School District Offices
- Rancho Cotate High School
- Monte Vista Elementary School
- Credo High School
- Lawrence E. Jones Middle School
- Technology Middle School
- John Reed Elementary School
- Richard Crane Elementary School
- Pathways Charter School
- Latino Alliance
- City of Rohnert Park Rotary
- Graton Rancheria

3.2 LRSP Stakeholder Working Group Meetings

One meeting was held with the stakeholder working group. The virtual meeting was as follows:

1. April 25, 2022 – 10 a.m. to 12 p.m.
    a. Discussed the LRSP overall process, working group member's safety priorities, past 6 years of collisions (City and Caltrans roadways), guiding principles (vision, mission, goals), and public comments.

The meeting summary for the stakeholder working group meeting is in **Appendix A: Stakeholder and Public Input**. The stakeholder working group also provided their feedback and comments on the draft

Local Road Safety Plan document before the plan was finalized. Since many of the safety countermeasures incorporate engineering, enforcement, and emergency response strategies, stakeholder approval is important for understanding how the plan will be implemented.

3.3 Bicycle and Pedestrian Advisory Committee Meeting

LRSP details and progress were presented to the City's Bicycle and Pedestrian Advisory Committee at an in-person meeting on May 9, 2022. Feedback was solicited for the guiding principles, locations of concern, and preferred countermeasures. The feedback received through this meeting was incorporated into the draft LRSP.

3.4 SHSP Challenge/Emphasis Areas

Based on the collision data analysis and LRSP Stakeholder Working Group Meetings, this LRSP will address multiple Strategic Highway Safety Plan (SHSP) Challenge Areas including:

1. Bicyclists
2. Distracted Driving
3. Aggressive Driving / Speed Management
4. Intersections
5. Pedestrians

3.5 Guiding Principles

The members of the stakeholder working group coordinated to establish the vision, mission statement, and goals that guided the development of the document. Ideally, this document will help the City move toward Vision Zero. The aim of Vision Zero is to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all. Traditionally, traffic deaths and severe injuries have been considered as inevitable side effects of modern life. The reality is that these tragedies can be addressed overtime by taking a proactive, preventative approach that prioritizes traffic safety as a public health issue.

3.5.1 Vision

A vision statement describes what the Local Road Safety Plan is trying to achieve.

Provide a safe, sustainable, and equitable multimodal transportation system for all users of the public roadways in the City of Rohnert Park.

3.5.2 Mission Statement

The mission statement defines the purpose of the plan, what it does, and what it is about. The mission statement was developed in collaboration with the working group.

Ensure all people have the transportation choice to walk, bike, drive, and use public transit while working to achieve zero fatalities and no life-altering injuries on City of Rohnert Park roadways, because every person in our community matters.

3.5.3 Goals

Safety goals were developed for the Local Road Safety Plan. It is important to capture realistic goals that can be measurable or evolve over time.

Goal 1

Maintain existing Crossroads collision database and standardized reporting practices.

Goal 2

Revaluate collision trends and associated countermeasures in the LRSP every 5 years and engage community, stakeholders, and City management.

Goal 3

Develop an implementation priority for identified countermeasures. Implement countermeasures utilizing strategies across all traffic safety E's; engineering, emerging technologies, enforcement, education, and emergency response.

Goal 4

Reduce rear end collisions with intersection operational improvements.

Goal 5

Implement speed management strategies and increase enforcement presence.

Goal 6

Reduce pedestrian and bicycle collisions with improved accommodations.

Goal 7

Improve safety and accessibility for vulnerable road users.

Goal 8

Improve safety around schools with a connected multimodal system, enhanced crossings, enforcement of school zones, education campaigns about school drop off/pick up, bicycle and pedestrian safety, and driver awareness.

4. Analyze Safety Data

4.1 Existing Safety Efforts

The City of Rohnert Park is actively implementing various safety policies/guidelines from their General Plan and Countywide Bicycle and Pedestrian Master Plan. There are several safety projects and programs that are currently in progress, nearly complete, recently completed or will begin in the near future. Some of these projects include:

- Improving pathways, removing old asphalt, and pouring concrete for 10-foot-wide multi-use pathways along creeks and drainages
- Improving sidewalks in the public right-of-way, replacing sidewalk flags that are broken, lifting, and/or sinking
- Replacing pedestrian ramps with modern ramps brought up to ADA standards
- Installing rectangular rapid flashing beacons (RRFBs) at specific pedestrian crossings
- Minimum green times updated to allow for bicycle users to cross at specific intersections
- School and bike safety engagement
  - The Rohnert Park Police Department conducts yearly presentations to local schools about drinking and driving
- Rohnert Park Police Department and City Public Works partnership
- Every Fifteen Minutes program
  - An event conducted at high schools that simulates the psychological effects of student fatalities as a result of traffic collisions
- US 101 Bike and Pedestrian Crossing study
- Pedestrian crossing enhancements (median refuge and RRFB) at Golf Course Drive and Hacienda Way
- East Cotati Avenue, west of Camino Colegio
  - Paving improvements are in progress

4.1.1 HSIP, Cycle 10

Three HSIP applications were submitted by the City of Rohnert Park for Cycle 10. The applications were for a signalized intersection improvement project, a roundabout project, and a Sonoma-Marin Area Rail Transit (SMART) crossings enhancement project. Out of the three applications, only the signalized intersection improvement project was funded through HSIP. The projects that were not funded through HSIP will be locally funded. Details on these projects are provided in the sections below.

4.1.1.1 Signalized Intersection Improvement Project

The signalized intersection improvement project includes upgrades for hardware on traffic signals such as 12-inch vehicle heads, retroreflective yellow tape, countdown pedestrian signal heads, and accessible pedestrian signals. This project also includes upgrades to detection and emergency preemption equipment, updates to signal controllers, and installation of a battery backup system. These countermeasures will be incorporated at forty signalized intersections throughout the City of Rohnert Park. **Figure 8** shows the locations for this project.

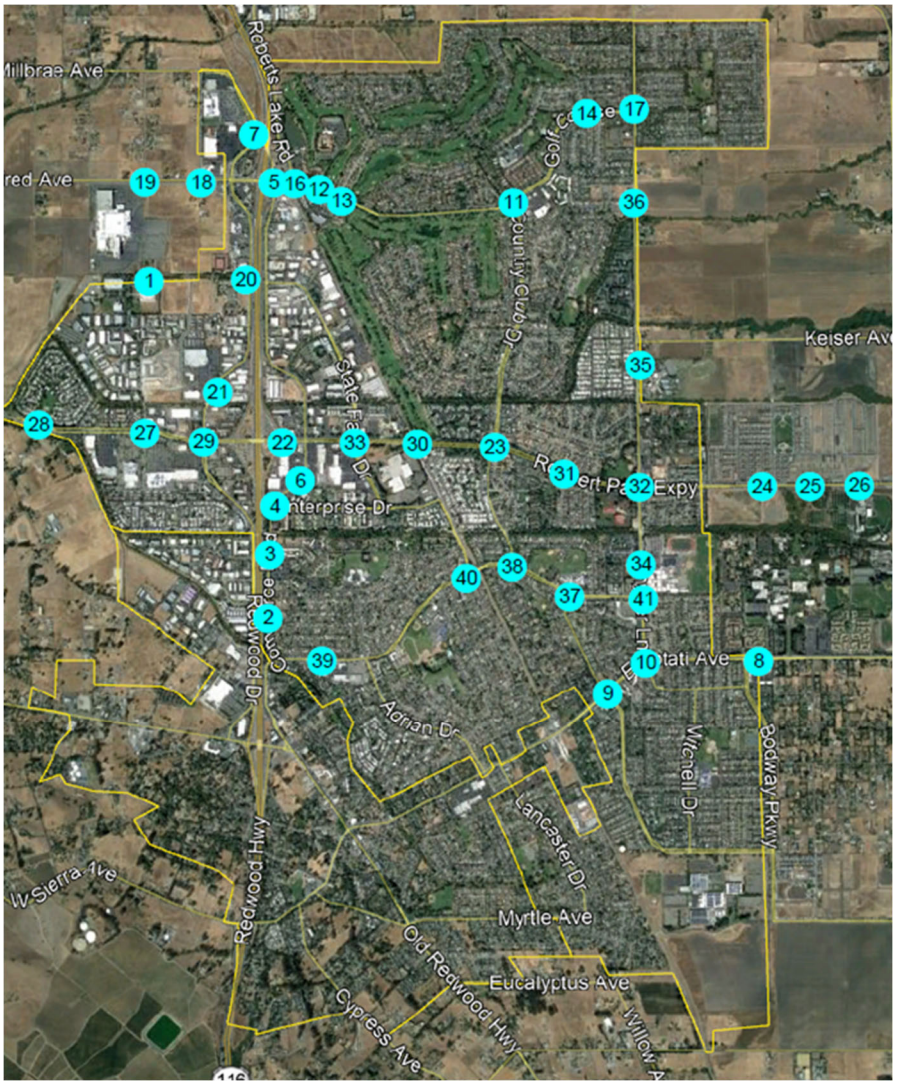


Figure 8 Locations of Signalized Intersection Improvement Project

4.1.1.2 Roundabout Project

The City applied for HSIP funding to convert the intersection of Southwest Boulevard and Commerce Boulevard from all-way stop control to a roundabout. This project was not awarded HSIP funding, and other funding sources were utilized to complete the project. Construction was completed in May 2022.

4.1.1.3 SMART Crossings Enhancement Project

Upgrades are planned for enhancing the at-grade crossings for the SMART rail at Golf Course Drive, Rohnert Park Expressway, and Southwest Boulevard (see locations in **Figure 9** below).

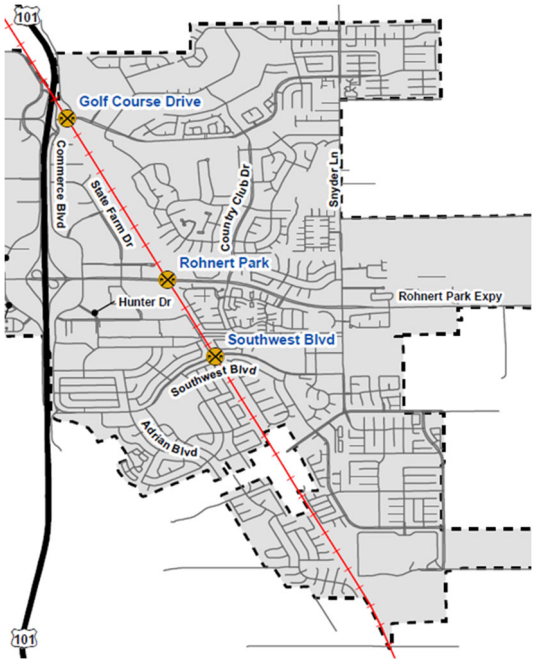


Figure 9 Locations of SMART Crossings in Rohnert Park

Grade crossings were evaluated for potential vehicular, bicycle, and pedestrian enhancement recommendations. Based on the evaluation, vehicular, pedestrian, and bicycle recommendations are provided for each grade crossing mentioned above.

4.1.2 US 101 Bike and Pedestrian Overcrossing Study

The City is assessing seven potential locations to install a bicycle and pedestrian overcrossing at US 101. These seven locations include at Golf Course Drive, Business Park/State Farm, Industrial Park, Hinebaugh Creek, Rohnert Park Expressway, Copeland Creek, and Cotati/Neighborhood-A. **Figure 10** shows further information about each of the potential locations.

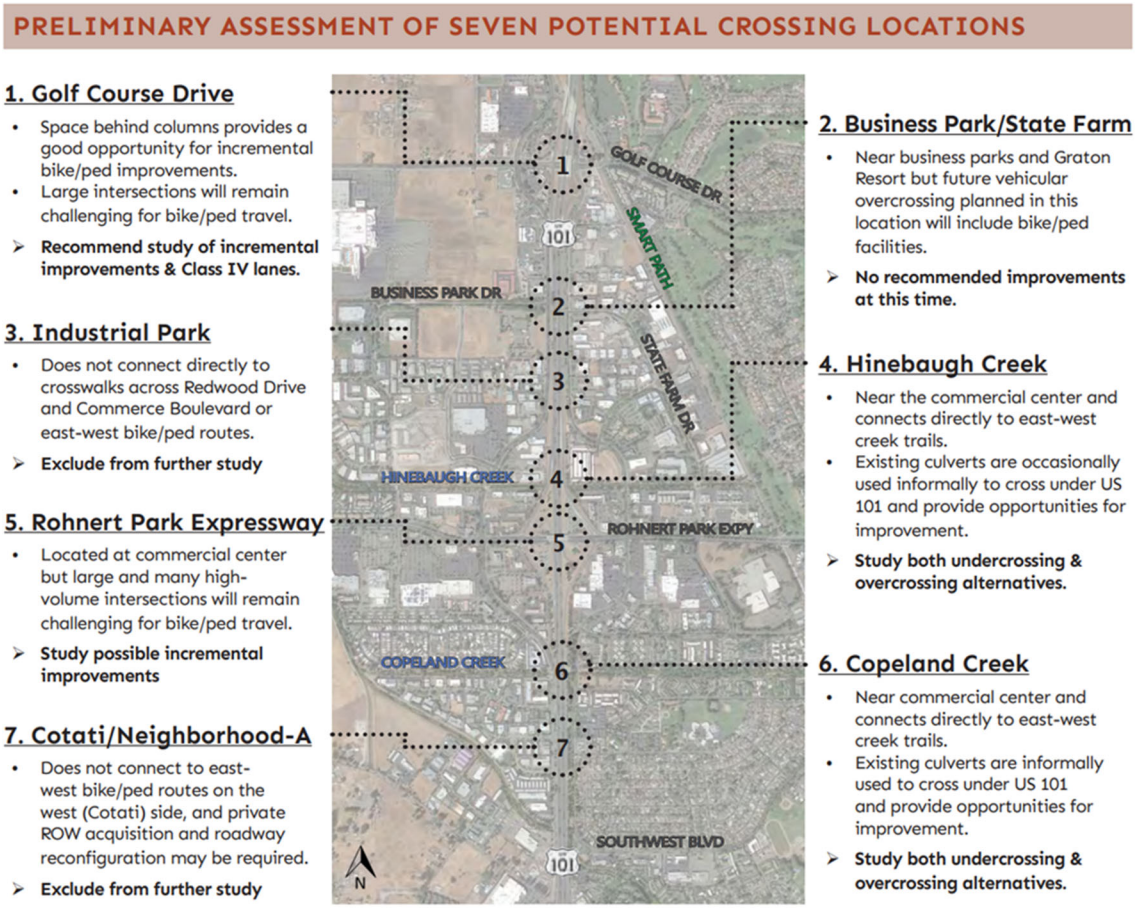


Figure 10 Potential Crossing Locations for the US 101 Bike and Pedestrian Overcrossing Study

4.1.3 Central Rohnert Park Priority Development Area (PDA) Plan

The Central Rohnert Park PDA Plan was adopted in 2016. A key component of the Central Rohnert Park PDA Plan is an interconnected multimodal transportation network of sidewalks, bicycle, and pedestrian paths. Some of the projects identified in this plan include:

- Slip Street construction
- State Farm Drive pavement rehabilitation
  - The proposed project includes pavement preventative maintenance along State Farm Drive, Enterprise Drive, and Rohnert Park Expressway and redefining the roadways to prioritize zero-emission users through complete streets concepts such as buffered bicycle lanes, green bike lanes, sidewalk accessibility improvements, traffic calming, and other enhanced safety features for bicycles and pedestrians
- Commerce Boulevard / Hunter Drive median
- Signals and other various pedestrian improvements
- State Farm Drive road-diet and rehabilitation
- Various striping projects

4.1.4 Pedestrian and Bicycle Safety Improvements Project

The Pedestrian and Bicycle Safety Improvements Project is a suite of physical improvements to improve safety and convenience for pedestrians and bicyclists traveling within and to the Central Rohnert Park Priority Development Area, and at other select locations of off-street pedestrian/ bicycle facilities intersecting with streets. Improvements include but are not limited to: enhanced street crossings with warning devices (e.g. rectangular rapid flashing beacons), pedestrian median refuge, restriping crosswalks, traffic signal video programming modifications and signage; advanced “yield here to pedestrians” signage & striping; parking restrictions, curb ADA upgrades; and signage geared toward pedestrians and bicyclists on both on-street and off-street facilities.

City Staff identified 13 locations where safety improvements would be highly beneficial:

- Coleman Creek Path at Snyder Lane
- Hinebaugh Creek Path at Country Club Drive
- Hinebaugh Creek Path at State Farm Drive
- Hinebaugh Creek Path at Commerce Boulevard
- Rancho Cotate High School Path at Snyder Lane
- Copeland Creek Path at Snyder Lane
- Copeland Creek Path Connector at Camino Coronado
- Copeland Creek Path at Country Club Drive
- Copeland Creek Path at Seed Farm Drive
- Santa Alicia Drive at Arlen Drive
- Santa Alicia Drive at Avram Avenue
- Southwest Boulevard at Almond Street
- Rohnert Park Expressway at Commerce Boulevard west crosswalk (pedestrian refuge)

4.2 Collision Data

The City of Rohnert Park collision data was gathered using collisions from the City’s Crossroads collision database. The data set contains six complete years’ worth of collisions spanning from January 1, 2015, to December 31, 2020. Collision data on the US 101 mainline was removed, due to the lack of interaction with the local roadways. However, the collision data at the US 101 ramps with local roads was captured in the analysis.

During this period, a total of 1,406 collisions were reported in the City of Rohnert Park. These collisions were classified based on location: intersection, segment, or interchange. Locations identified as an interchange are defined as intersections where US 101 ramps meet City roadways.

The chart in **Figure 11** depicts the number of collisions by collision location. The highest number of collisions were at intersections.

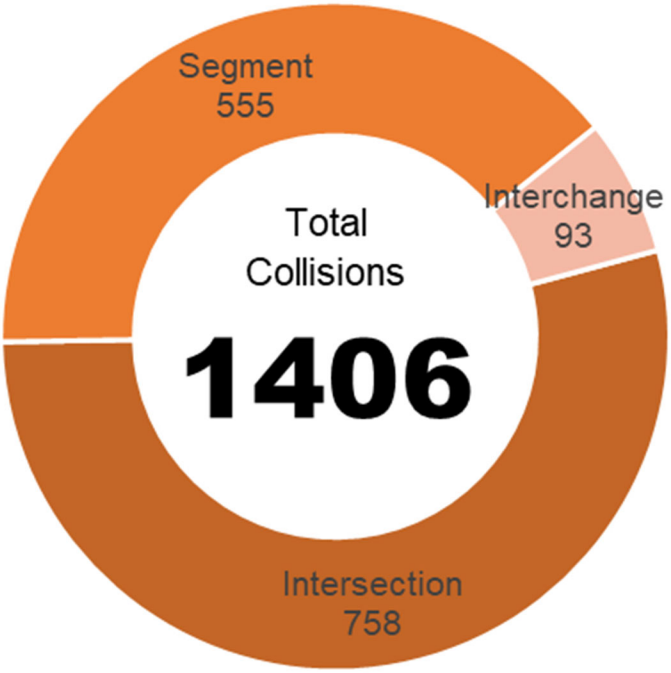


Figure 11 Total Collisions within the City of Rohnert Park (2015-2020)

Figure 12 displays the collision density throughout the Rohnert Park, including interchange locations.

Figure 12 Collision Density in the City of Rohnert Park (2015-2020)

4.2.1 Collisions on City Maintained Roadways

There were 1,313 collisions recorded on the City roadways between 2015 and 2020. **Figure 13** shows the breakdown of collisions by year and severity. The highest number of collisions was reported in 2018. The number of collisions trended downward since the peak in 2018. However, there was an increase in the number of severe injury collisions in 2019 and 2020 (8 severe injury collisions in each year) when compared to 2018 (4 severe injury collisions). Fatalities occurred in 2016, 2017, and 2018.

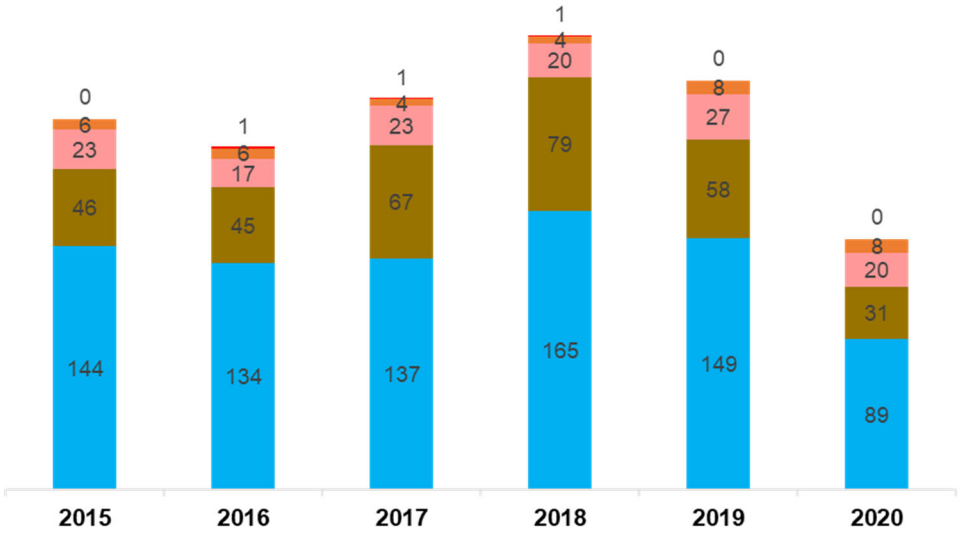


Figure 13 Collisions by Year on City of Rohnert Park Roadways (2015-2020)

As shown on the collision density map (see **Figure 14** below), areas with high density of collisions include:

- Rohnert Park Expressway at Redwood Drive,
- Rohnert Park Expressway at Commerce Boulevard,
- Rohnert Park Expressway at State Farm Drive,
- Rohnert Park Expressway at Country Club Drive, and
- Golf Course Drive at Commerce Boulevard.

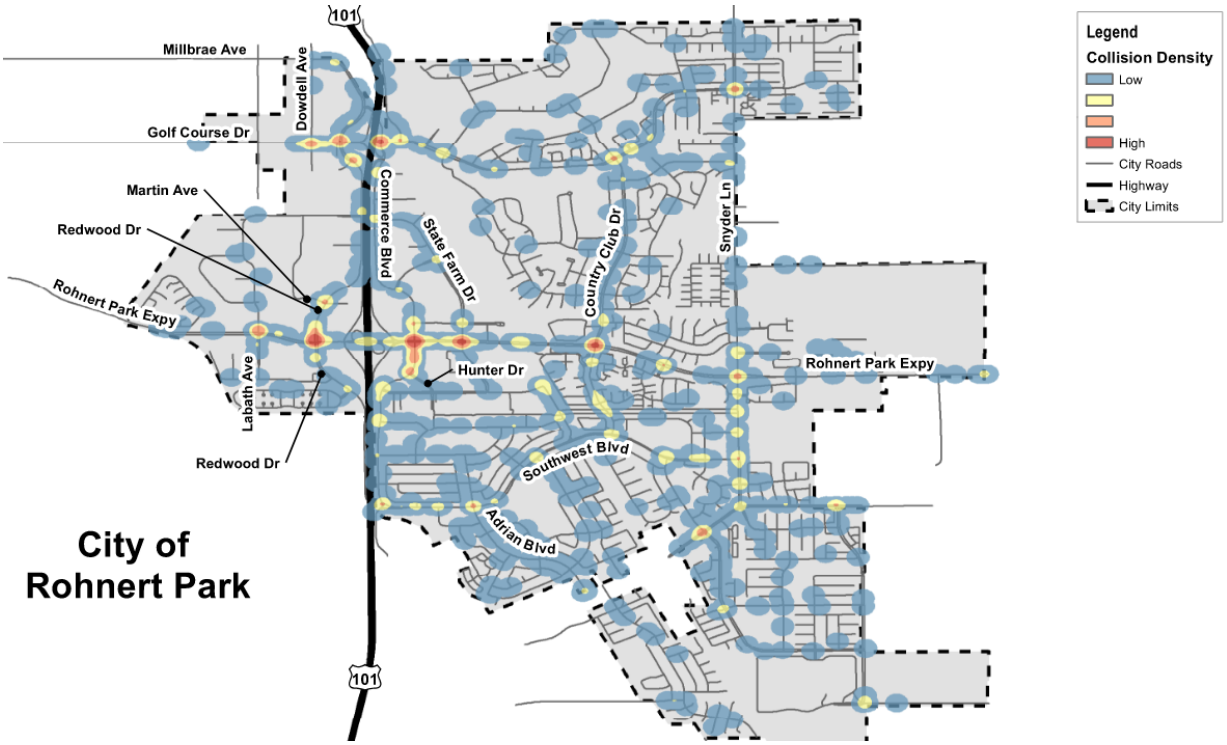


Figure 14 Collision Density on City Roads (2015-2020)

Rear end collisions were the most common collision type, closely followed by broadside collisions. Other common collision types include sideswipe and hit object. **Figure 15** summarizes the City collisions based on severity and type.

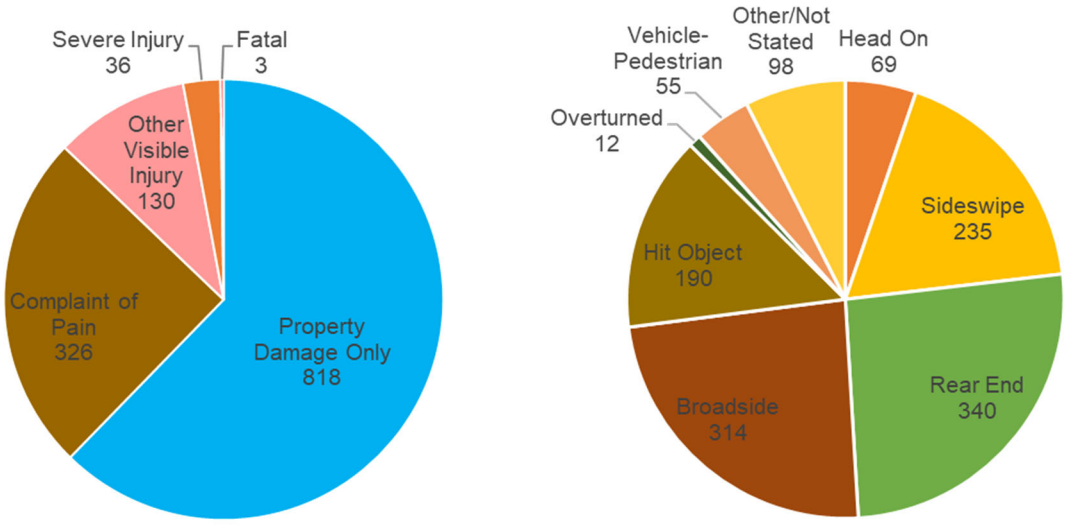


Figure 15 Collision Severity and Type for City Roadways (2015-2020)

The majority of collisions were recorded as property damage only with 38% of the collisions in the past six years recorded as injury or fatal collisions. **Figure 16** displays the top five violation categories (not including unknown/not stated) and the number of collision types per category. Improper turning was the top violation category with sideswipe collisions as the common cause.

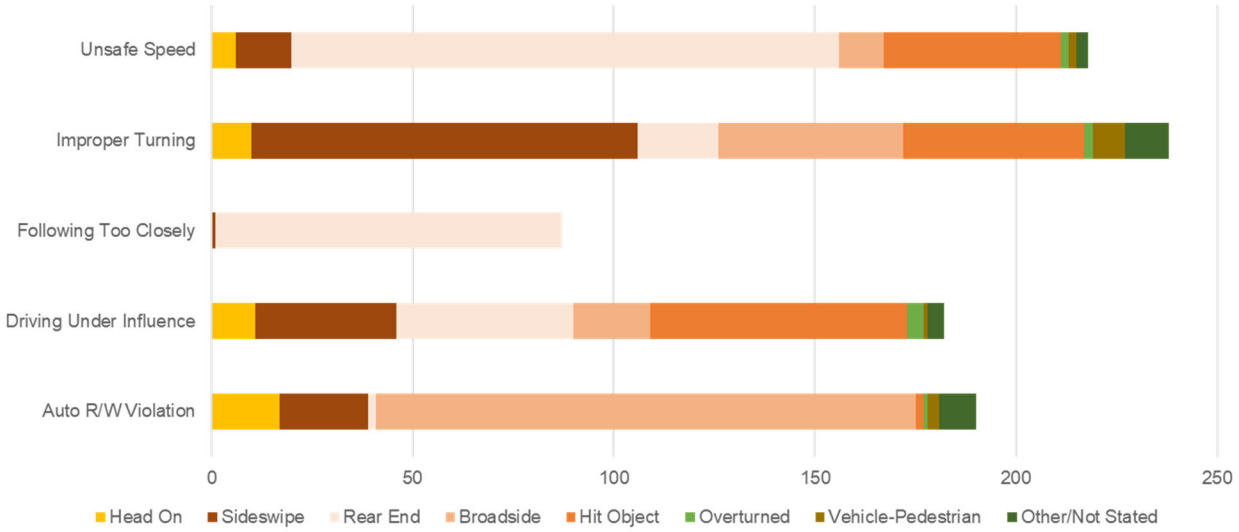


Figure 16 Top Five Violation Categories for Collisions on City Roadways (2015-2020)

The total number of collisions and severity ranking were assessed at the City intersection locations to aid in the determination of the top study intersections (refer to **Appendix B: Collision Data** for the breakdown of collision severity and violation type by intersection). Per the Caltrans Local Roadway Safety Manual, it is recommended to rank locations with higher severity as higher focus.

The Highway Safety Manual (HSM) methodology of Equivalent Property Damage Only (EPDO) ranking assigns a weight to collisions by capturing the relative severity in equivalent property damage only where a property damage only collision is given a weight of 1. This weighting helps the locations with highest collision severity to rank the highest.

The Local Roadway Safety Manual (LRSM) identifies a similar method for calculating EPDO, but instead of having individual crash costs for fatal and severe injury collisions, it combines the cost of these high-severity collisions. This is the method used to calculate the Benefit-to-Cost Ratio (BCR) in HSIP grant applications.

To view the crash costs and associated EPDO (severity ranking) for each of these methods, see **Table 1** below. Collision costs include both direct and indirect costs. Direct crash costs include ambulance service, police and fire services, property damage, insurance, and other costs directly related to the crashes. Indirect collision costs account for the value society would place on pain and suffering or loss of life associated with the crash.

Table 1 Comprehensive Collision Costs and EPDO Weights

SWITRS Code	Crash Severity	Location Type	Crash Cost*	Severity Ranking**
Highway Safety Manual (HSM)				
1	Fatal	-	$ 7,219,800	543
2	Severe Injury	-	$ 389,000	29
3	Other Visible Injury	-	$ 142,300	11
4	Complaint of Pain	-	$ 80,900	6
0	Property Darmage Only	-	$ 13,300	1
Local Roadway Safety Manual (LRSM)* **				
1 & 2	Fatal & Severe Injury	Signalized Intersection	$ 1,787,000	120
		Non-Signalized Intersection	$ 2,843,000	191
		Roadway	$ 2,461,000	165
3	Other Visible Injury	-	$ 159,900	11
4	Complaint of Pain	-	$ 90,900	6
0	Property Darmage Only	-	$ 14,900	1

* *Based on Table 7-1, Highway Safety Manual (HSM), First Edition, 2010. Adjusted to 2020 dollars.*

** *Based on Equivalent Property Damge Only (EPDO)*

*** *Local Roadway Safety: A Manual for California's Local Road Owners (LRSM), Version 1.6, 2022.*

Although the past six years of data (2015-2020) was initially analyzed for the LRSP, only the past five years of collision data was considered for countermeasure development, per HSIP grant requirements. The collisions between 2015 and 2019 were higher than between 2016 and 2020, so the 2015 to 2019 dataset was chosen. The decrease in collisions in 2020 was likely due to the traffic pattern changes due to the COVID 19 pandemic.

For the purposes of identifying priority locations for the LRSP, the intersections and segments with collisions on City roadways were analyzed based off of HSM EPDO ranking, LRSM EPDO ranking, and total collisions. The top five intersections and segments in each of these three categories were identified as a priority. After removing duplicates between the lists, six unique City intersections, three unique City intersections with Caltrans roadways, and seven unique City road segments were identified.

The intersection of Rohnert Park Expressway and Country Club Drive had the highest EPDO using the HSM methodology (655) due to a fatality at that location, and the intersection of Rohnert Park Expressway and Commerce Boulevard had highest EPDO using the LRSM methodology (355). The intersection of Rohnert Park Expressway and Redwood Drive had the highest number of collisions (46). **Table 2** shows the top intersections, per collision analysis. Further detailed collision analysis is in **Appendix B: Collision Data.**

Table 2 Top Intersections, per Collision Analysis

Primary Road	Secondary Road	Severity Ranking (EPDO)		Total Collisions
		HSM	LRSM	
Rohnert Park Expressway	Country Club Drive	655	323	25
Rohnert Park Expressway	Redwood Drive	189	280	46
Commerce Boulevard	Rohnert Park Expressway	173	355	42
Rohnert Park Expressway	State Farm Drive	134	134	29
Snyder Lane	Capri Way/Rosana Way	74	256	8
Snyder Lane	Southwest Boulevard	67	229	9
Golf Course Drive W	Commerce Boulevard	71	71	21

The segment collisions were also analyzed by EPDO and total number of collisions. **Table 3** shows the top segments, per collision analysis. Rohnert Park Expressway from State Farm Drive to Country Club Drive had the highest EPDO rating using the HSM methodology (634) due to a fatality and Redwood Drive from Willis Avenue to the southern City limit had the highest EPDO rating using the LRSM

methodology. The segment of Commerce Boulevard between Golf Course Drive and Avram Avenue had the highest number of collisions (56).

Table 3 Top Segments, per Collision Analysis

Street Name	From	To	Severity Ranking (EPDO)		Total Collisions
			HSM	LRSM	
Rohnert Park Expressway	State Farm Drive	Country Club Drive	634	256	17
Snyder Lane	Hinebaugh Creek	E Cotati Avenue	621	243	19
Commerce Boulevard	Golf Course Drive	Avram Avenue	204	340	56
Redwood Drive	Willis Avenue	South City Limit	200	472	44
Rohnert Park Expressway	Redwood Drive	Commerce Boulevard	121	257	28
Golf Course West	Redwood Drive	Country Club Drive	92	364	21
Golf Course Drive	Country Club Drive	Snyder Lane	63	335	7

4.2.2 Collisions on Caltrans Maintained Roadways

For the purpose of this plan, the only collision location analyzed under Caltrans maintained roadways was interchanges (intersections where US 101 ramps meet with City roadways). There were 93 collisions at interchanges between 2015 and 2020.

Figure 17 displays the top four violation categories (not including unknown/not stated) and the number of collision types per category. Traffic signals and signs was the top violation category with the majority of collisions cited as broadsides.

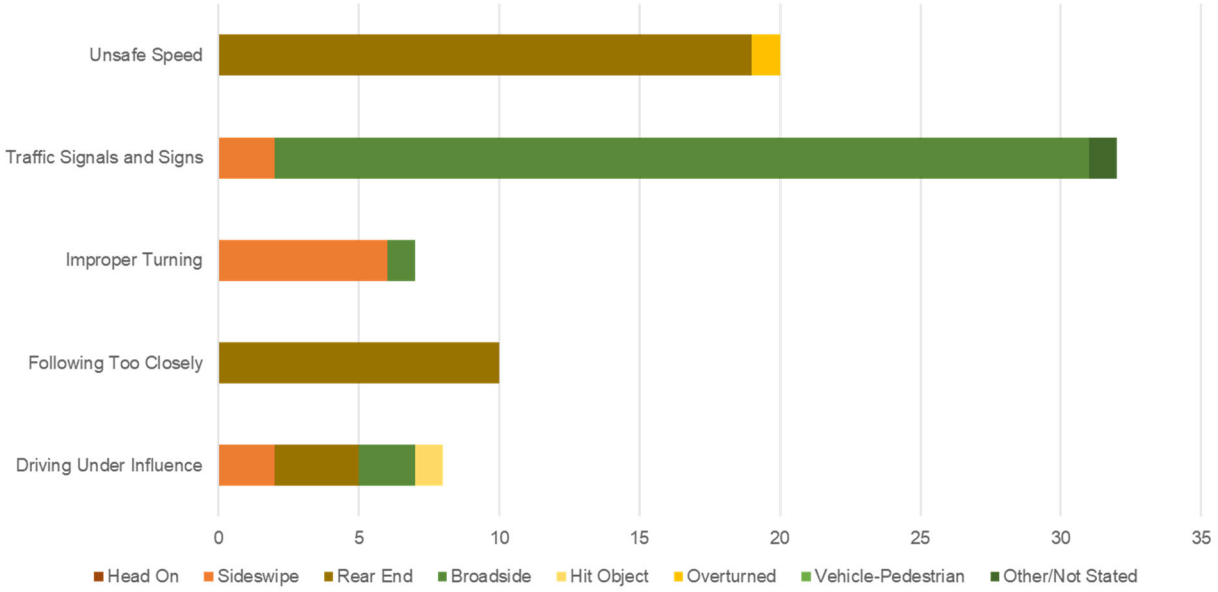


Figure 17 Top Violation Categories for Collisions on Caltrans Roadways (2015-2020)

Figure 18 summarizes the Caltrans intersection collisions based on severity and type. The main collision type was broadside followed by rear end. A little over half of the collisions were recorded as property damage only with 37% of the collisions in the past six years recorded as injury collisions.

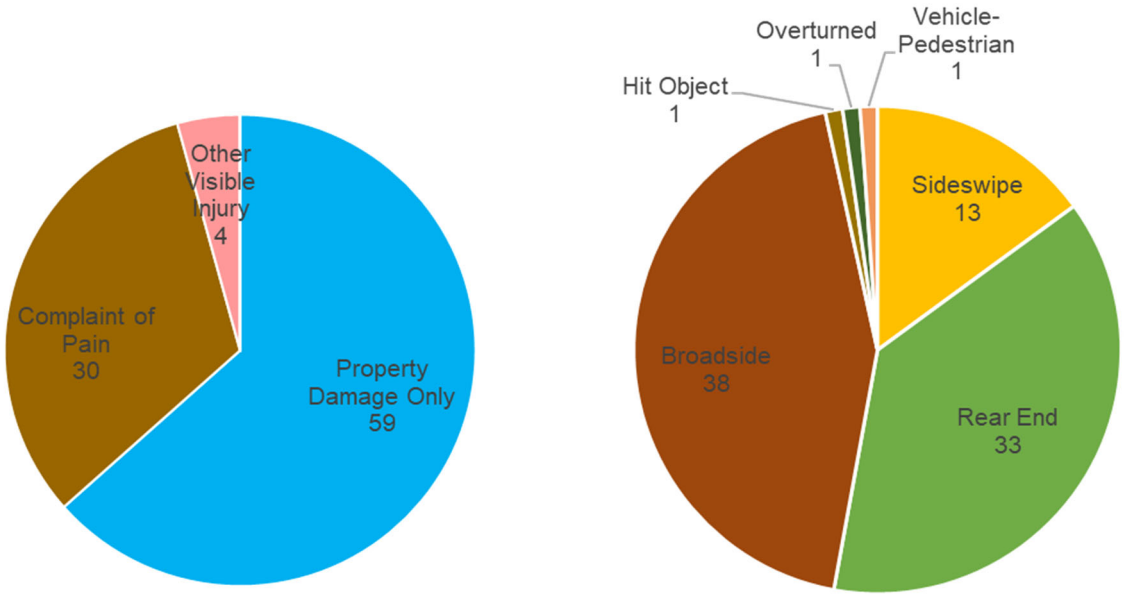


Figure 18 Summary of Caltrans Collisions (2015-2020)

The intersection of Rohnert Park Expressway and the US 101 northbound ramps had the highest EPDO using both the HSM and LRSM methodology (80), along with the highest number of collisions (25). **Table 4** shows the top interchange locations, per collision analysis. Further detailed collision analysis is in **Appendix B: Collision Data.**

Table 4 Top Interchanges, per Collision Analysis

Primary Road	Secondary Road	Severity Ranking (EPDO)		Total Collisions
		HSM	LRSM	
Rohnert Park Expressway	US 101 NB Ramps	80	80	25
Golf Course Drive W	US 101 SB Ramps	61	61	16
Rohnert Park Expressway	US 101 SB Ramps	56	56	21

4.2.3 Collisions Related to Challenge Areas

4.2.3.1 Bicyclists

There were 66 bicycle to vehicle collisions on roadways under the City's jurisdiction and bicycle to vehicle collisions on roadways under Caltrans jurisdiction between 2015 and 2020. Bicyclist-to-vehicle collisions were approximately 3% of the total City collisions. Of these collisions, five resulted in severe injuries. **Figure 19** shows the bicycle collision severity by year for City collisions.

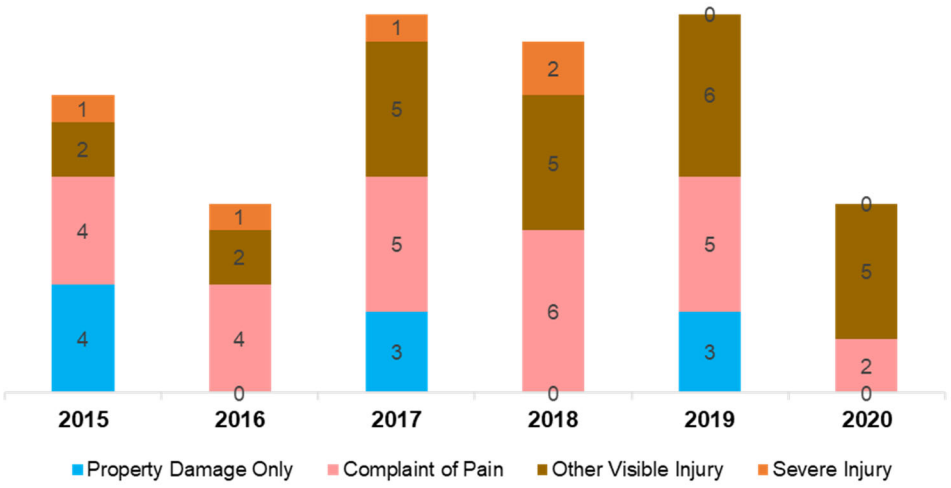


Figure 19 Severity by Year for Bicycle-Related Collisions on City Roadways (2015-2020)

The top five violation categories for bicycle-related collisions on City-maintained roadways (not including unknown/not stated) are shown in **Figure 20** below. The top violation category for bicycle collisions was improper turning. Two collisions with improper turning violations resulted in a severe injury.

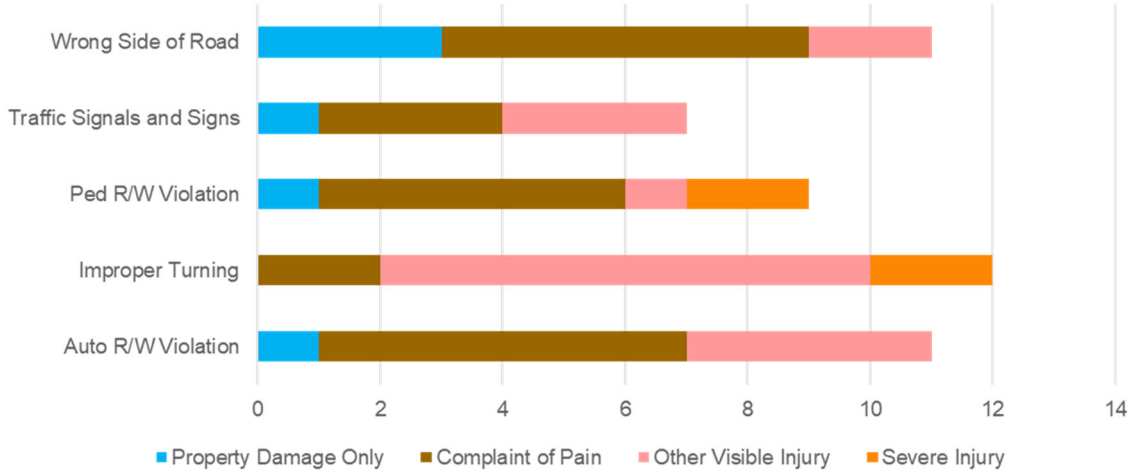


Figure 20 Top Violation Categories for Bicycle-Related Collisions on City Roadways (2015-2020)

The location of each collision is outlined in **Figure 21**.

Figure 21 *Map of Bicycle Collisions on City Roadways (2015-2020)*

4.2.3.2 Distracted Driving

Distracted driving is categorized in collision data as inattention. Categories for inattention include cell phones (handheld or hands-free), electronic equipment, smoking, eating, children, animals, personal hygiene, and reading. From 2015 to 2020, there were 156 collisions with at least one party cited due to inattention. This is approximately 11 percent of all collisions (including interchange collisions). There were five severe injury collisions as a result of inattention (see **Figure 22** for a breakdown of collision severity with inattention as a factor).

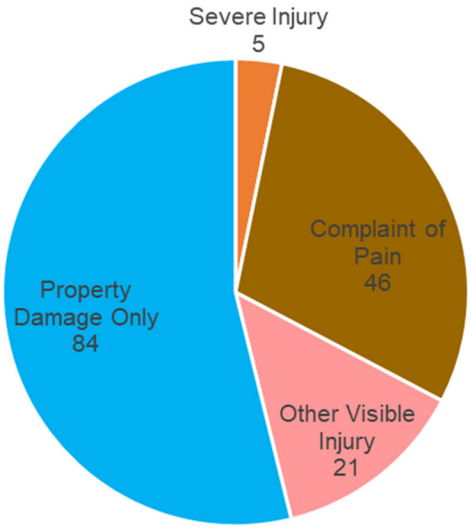


Figure 22 *Severity of Collisions with Inattention as a Factor (2015-2020)*

4.2.3.3 Aggressive Driving / Speed Management

Aggressive driving can be quantified through collision data through unsafe speed violations. There were 218 collisions on City roadways and 20 collisions on Caltrans roadways due to unsafe speed between 2015 and 2020. This is approximately 17% of all collisions on City roadways and 22% of all collisions on Caltrans roadways. The majority of these collisions resulted in rear end collisions. There were no fatal and six severe injury collisions as a result of unsafe speed – all occurring on City roadways.

4.2.3.4 Intersections

As mentioned in **Section 4.2**, there were 758 collisions at City intersections during the study period. These account for approximately 58% of all collisions on City roadways. The top collision type was rear end, followed by broadside. The top violation category was unsafe speed, with many of these violations resulting in rear end collisions. **Figure 23** outlines the top five violation categories and their associated collision types for the intersection-related collisions.

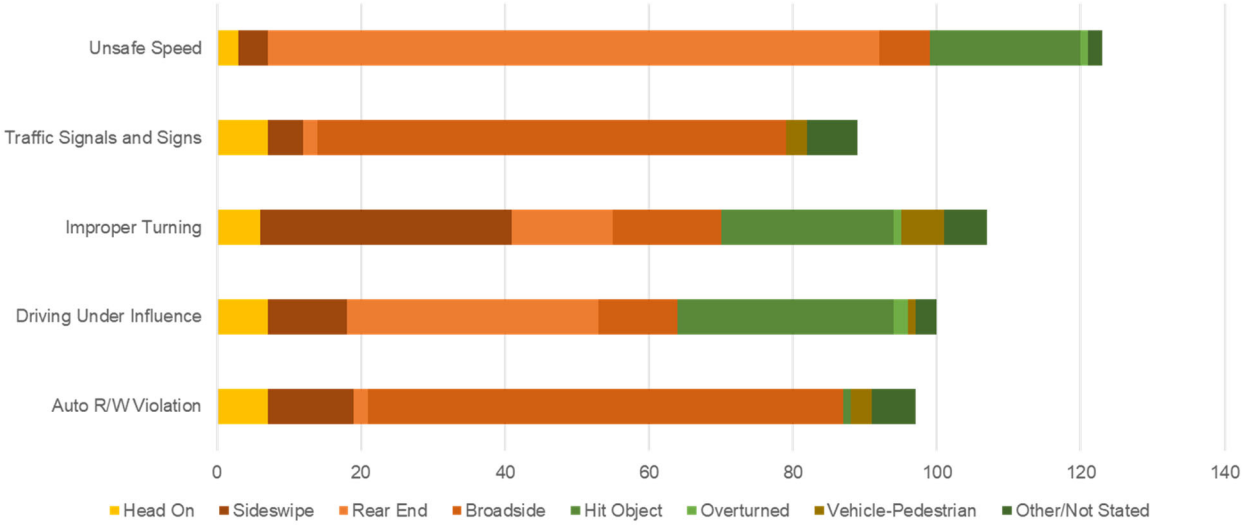


Figure 23 Top Violation Categories for Intersection Collisions

4.2.3.5 Pedestrians

Pedestrian-to-vehicle collisions were approximately 3% of the total collisions and there were 43 total pedestrian collisions on the City roadways and none on Caltrans roadways. The year 2017 had the highest collision severity with two severe injury collisions and 2018 had the highest number of pedestrian collisions. The number of pedestrian collisions trended downwards since 2018, with the lowest number of pedestrian collisions in 2020. **Figure 24** presents the pedestrian collision severity by year.

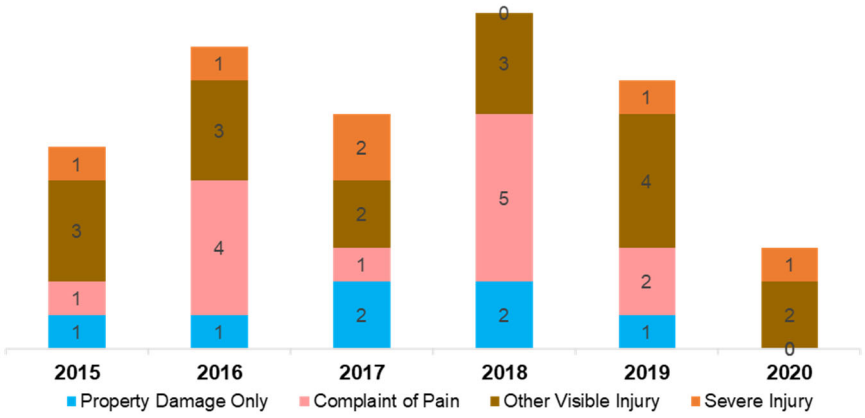


Figure 24 Severity by Year for Pedestrian-Related Collisions

The pedestrian location at the time of collision, along with corresponding severity, is shown in **Figure 25**. Most pedestrians were crossing in the crosswalk at an intersection. The mapped location of each collision is shown in **Figure 26**.

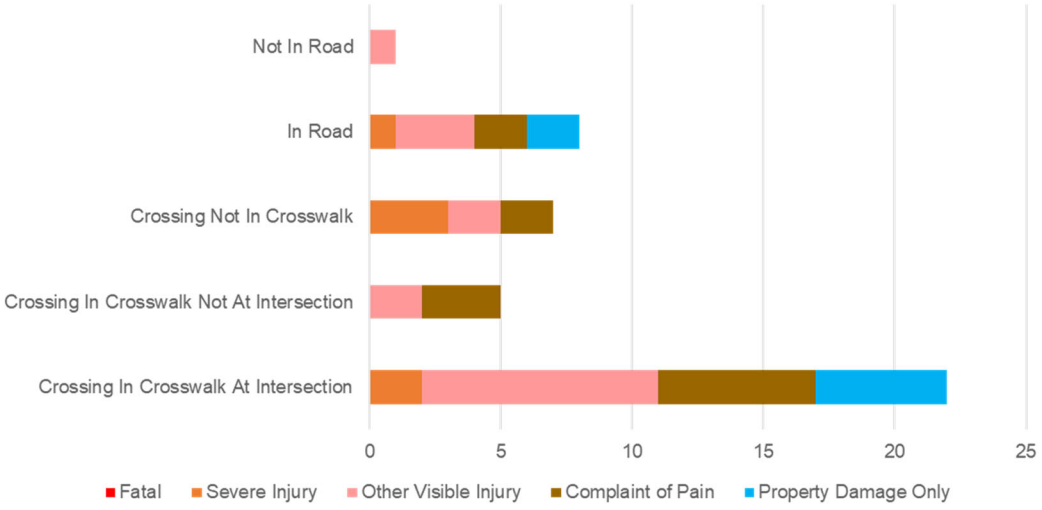


Figure 25 Pedestrian Location at Time of Collision (2015-2020)

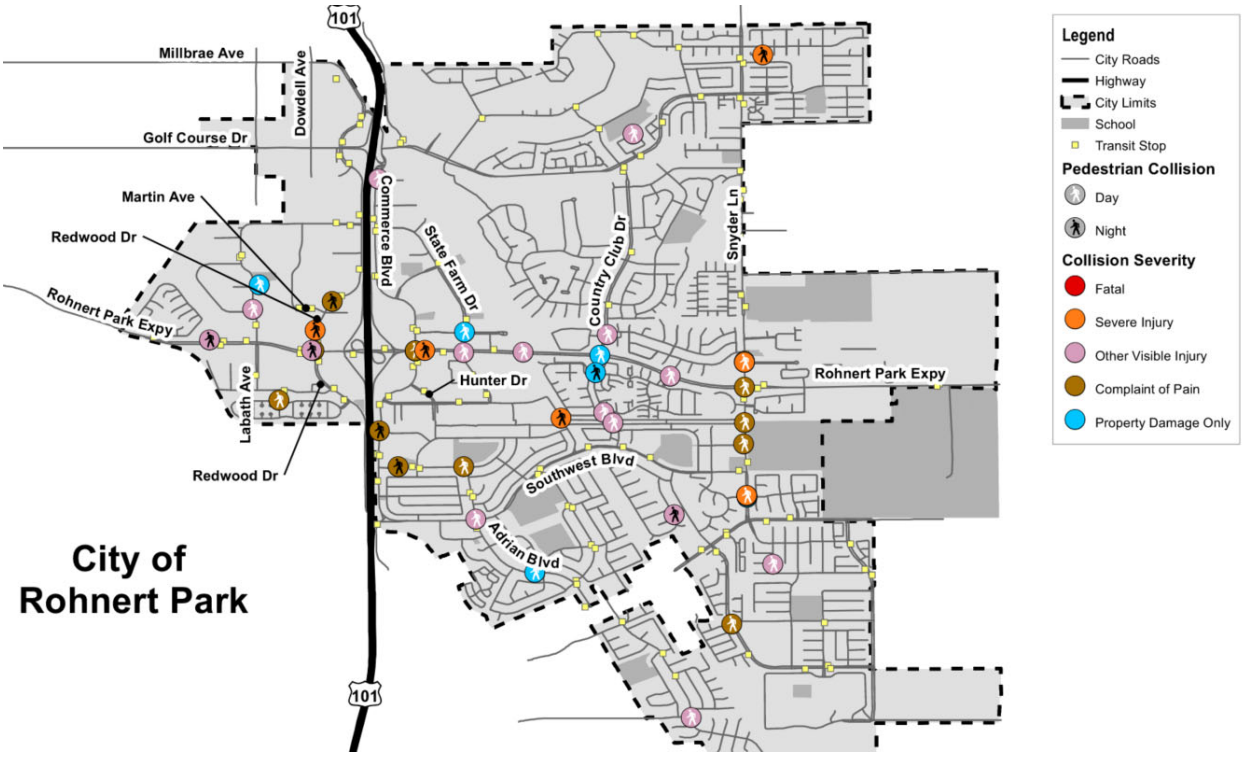


Figure 26 Map of Pedestrian Collisions

4.3 Field Reconnaissance

A field visit was performed on Monday, May 9, 2022, to analyze the roadways throughout the City of Rohnert Park and observe areas with high densities of public comments and collisions. Observations from the field visit were considered when developing countermeasures.

5. Public Outreach

5.1 Social Pinpoint Website

A project website was created on the Social Pinpoint platform to inform the public about the LRSP and provide a platform for input. **Figure 27** displays the homepage for the website found at https://lrsp.mysocialpinpoint.com/city-of-rohnert-park. The project website had Google Translate enabled that could translate the webpage in over 100 languages and detect the user's browsers settings to automatically display the website in their language preference. In addition, the user could toggle the preferred language on the upper right corner of the webpage. Visitors to the page were invited to provide comments on an interactive project map and share their thoughts through a project survey. Comments from the interactive map and open-ended project survey responses are included in **Appendix A: Stakeholder and Public Input**.

Figure 27 Public Website Home Page

Overall, 80 unique community members interacted with the website, and the site received 57 interactive map comments and 63 survey responses.

5.1.1 Interactive Map

The interactive map feature on the website allowed the public to drag icons to a location within the City with potential safety concerns and leave a comment regarding driving, pedestrian, or bicycle suggestions at that location. Most comments were related to vehicle safety (see **Figure 28**).

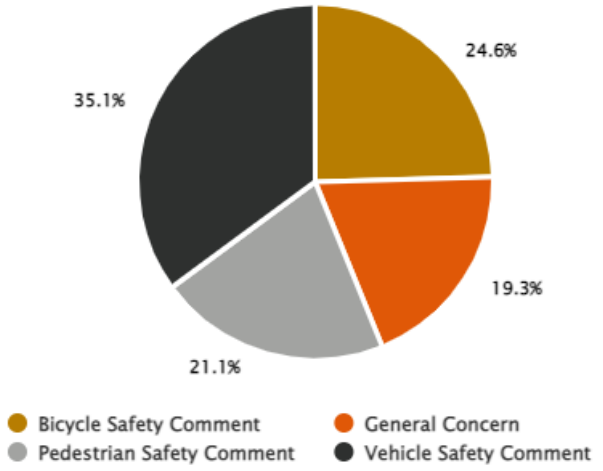


Figure 28 Public Website Interactive Map

Figure 29 shows the interactive map feature from the website.

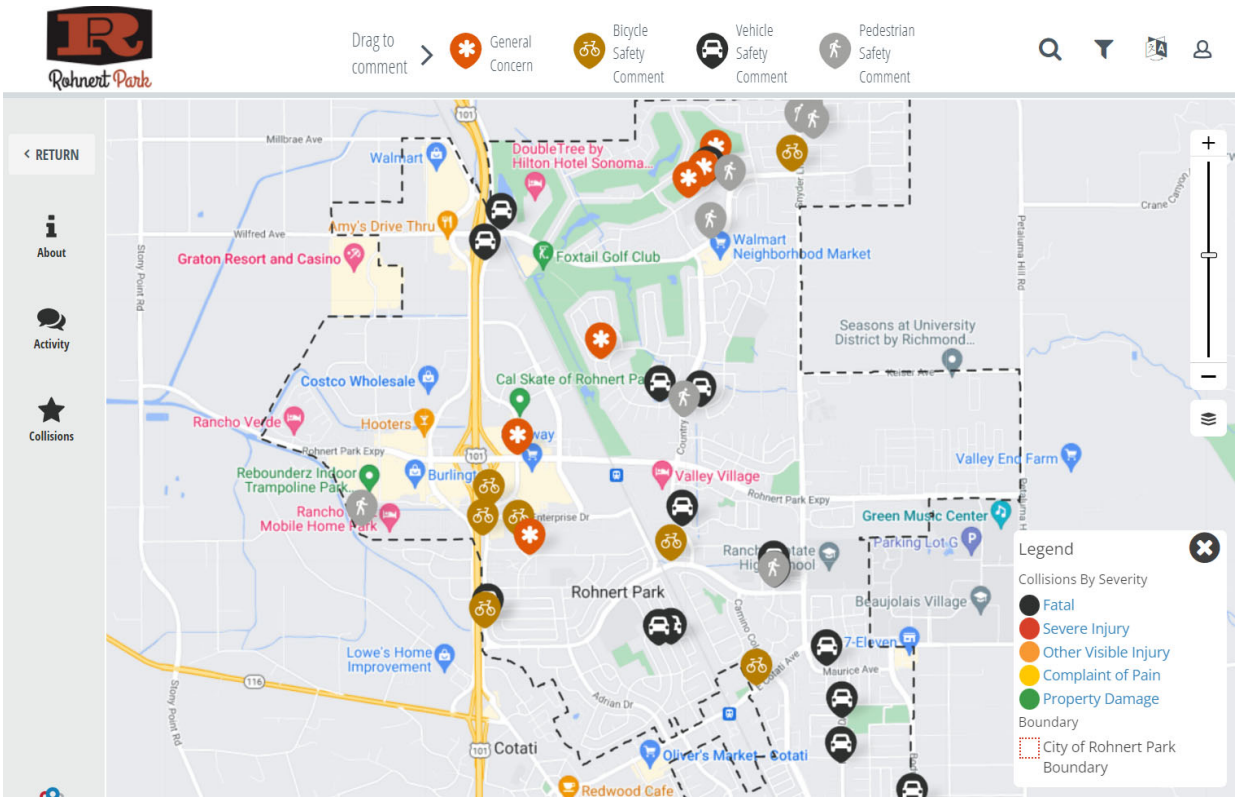


Figure 29 Public Website Interactive Map

Further discussion on the public comments received through the interactive map is included in **Section 6.3**.

5.1.2 Public Survey

The City of Rohnert Park Public Survey asked three questions relating to the LRSP. The survey received 63 responses. A summary of the survey responses is shown below and is included in **Figures 30 and 31**.

Question 1. What do you think are the most common issues leading to traffic collisions in the City?

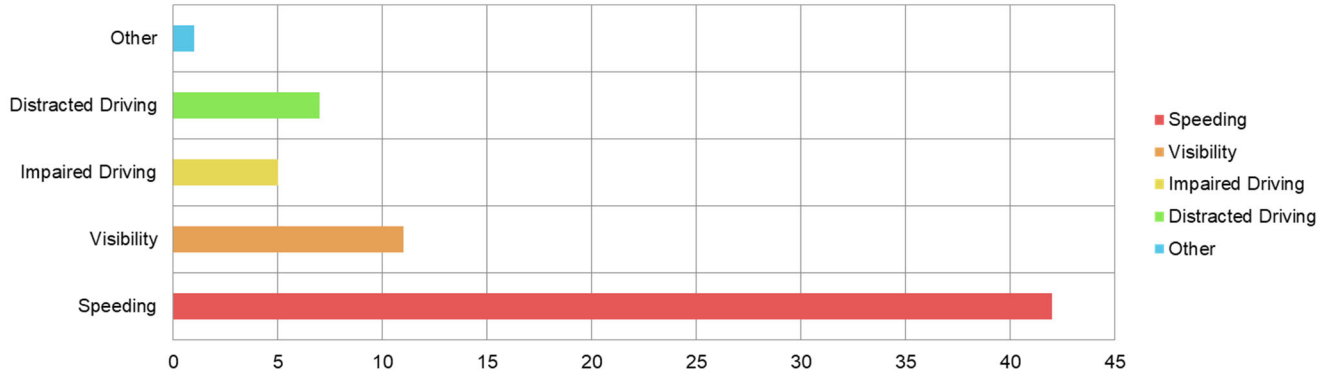


Figure 30 Survey Responses to Question 1

Question 2. Which safety discipline do you feel is most effective in addressing safety on roadways?

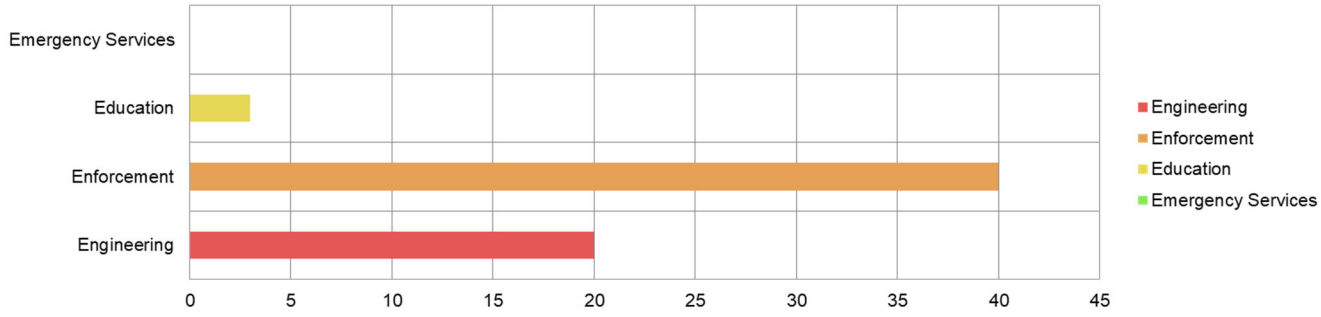


Figure 31 Survey Responses to Question 2

Question 3. Are there any additional safety concerns that you think the City should be considering? If so, describe below.

Some of the trends in suggestions from this question are summarized below.

- Increase visibility of enforcement
- Mitigate speeding
- Trim bushes/trees to increase visibility
- Improve quality of signage
- Improve roadway pavement condition
- Increase traffic control enforcement

- Pedestrian crossing enhancements
- Increase engineering projects (specifically in disadvantaged communities)
- Increase quantity and/or quality of bicycle lanes

5.1.3 Draft LRSP Document

The draft LRSP document was posted on the project website for comments from June 11, 2022 to June 26, 2022. All comments are included and addressed in **Appendix A: Stakeholder and Public Input**.

5.2 Public Meeting

A meeting was hosted by GHD and the City on July 19, 2021 to provide details on the LRSP and gather feedback. This meeting included time for a live question and answer session.

6. Identify Strategies

Through coordination and feedback from the City of Rohnert Park, LRSP working group, and public outreach; safety projects and strategies were identified for the Local Road Safety Plan. Countermeasure development was coordinated with the City to collect feedback and identify recommended countermeasures.

The LRSP will reference specific location engineering projects and systemic safety applications. In addition, safety strategies and projects that address the other E's to include Enforcement, Education, Emergency Response, and Emerging Technologies will be discussed below.

6.1 Engineering Strategies

Per the HSIP program, engineering countermeasures are available for grant funding. Recommended countermeasures for the priority locations were chosen per the most recent Caltrans, Local Roadway Safety Manual (Version 1.6), April 2022, guidance from the stakeholders on preferred countermeasures, crash characteristics, public input from the project website, and observations from Google Maps. To view the list of available countermeasures from the LRSM, see **Appendix C: Countermeasures from the LRSM**.

6.1.1 City Intersection Projects

The locations and characteristics of priority intersections on City roadways are shown in **Table 5** below.

Table 5 Priority Intersection Characteristics

		Crash Characteristics											
Location	**Control**	**Top Type of Collision** (Number of Collisions)	**Top Violation Category** (Number of Collisions)	**Fatal + Severe Injury**	**% at Night**	**Wet**	**Ped**	**Bike**	**Involv. w/Fixed Object**	**Pedestrian Not in Crosswalk**	**DUI**	**Dark with No Streetlights**
City Jurisdiction												
Rohnert Park Expressway / Country Club Drive	Signal	Rear End (12)	Improper Turning (8)	2	40%	1	1	2	2	0	1	1
Rohnert Park Expressway / Redwood Drive	Signal	Rear End (21)	Traffic Signals and Signs (9) / Unsafe Speed (9)	1	37%	9	2	3	1	1	5	0
Commerce Boulevard / Rohnert Park Expressway	Signal	Rear End (17)	Unsafe Speed (11)	2	24%	6	2	3	2	0	1	0
Rohnert Park Expressway / State Farm Drive	Signal	Rear End (15)	Unsafe Speed (7)	0	31%	6	1	1	1	1	5	0
Snyder Lane / Capri Way/Rosana Way	TWSC	Vehicle-Pedestrian (3)	Pedestrian Right of Way (4)	2	50%	0	3	2	0	0	0	1
Golf Course Drive W / Commerce Boulevard	Signal	Rear End (7)	Improper Turning (6)	0	33%	2	0	1	2	0	3	0

In general, at all major roadways, rear end collisions can be countered by consistent improvement of signal timing (coordination, phases, red, yellow, or operation). **Table 6** presents a list of possible recommended safety countermeasures for each priority intersection, along with a subsequent Crash Reduction Factor (CRF). The countermeasures eligible for HSIP funding have corresponding countermeasure numbers. The countermeasure numbers can be used to find further information about the intended use about each countermeasure in the LRSM.

One or many of the countermeasures can be selected for grant applications. It is noted that if more than one countermeasure is applied at a location, the Combined Crash Reduction Factor (CCRF) is adjusted multiplicatively by the following equation (CCRFi = 1- [(1-CRF1)*(1-CRF2)*(1-CRF3)] etc.).

Table 6 Recommended Countermeasures for Priority Intersections

Intersection	Control	Relevant Challenge Area(s)	Countermeasure Number	Crash Reduction Factor	Funding Eligibility	Recommended Countermeasures	Reasoning
City Jurisdiction							
Rohnert Park Expressway / Country Club Drive	Signal	Intersections	S08	30%	100%	Convert signal to mast arm (from pedestal-mounted)	3 of 4 approaches have pedestal-mounted left turn signal heads.
		Pedestrians	S21PB	60%	100%	Evaluate modifying signal phasing to implement a Leading Pedestrian Interval (LPI)	2 bicycle collisions and 1 pedestrian collision. Intersection has long crossing distances.
		Bicyclists	-	-	-	Install green conflict marking at bicycle lane approaches to the intersection	2 bicycle collisions. Raises awareness of bicyclists in the area.
Rohnert Park Expressway / Redwood Drive	Signal	Intersections	S08	30%	100%	Convert signal to mast arm (from pedestal-mounted)	3 of 4 approaches have pedestal-mounted left turn signal heads.
		Distracted Driving	S10	30%	100%	Install flashing beacons as advance warning	21 rear end collisions. The eastbound approach to the intersection is at the end of a horizontal curve.
		Intersections	S12	25%	90%	Install raised median on approaches	Can help with access management for the driveways in close proximity to the intersection.
		Bicyclists / Pedestrians	S20PB	15%	100%	Install advance stop bar before crosswalk (Bicycle Box)	3 bicycle collisions and 2 pedestrian collisions.
		Bicyclists	-	-	-	Install green conflict marking at bicycle lane approaches to the intersection	3 bicycle collisions. Raises awareness of bicyclists in the area.
		OR					
		Intersections	S16	Varies	100%	Convert intersection to roundabout (from signal)	21 rear end collisions.
Commerce Boulevard / Rohnert Park Expressway	Signal	Distracted Driving	S10	30%	100%	Install flashing beacons as advance warning	17 rear end collisions. 11 collisions due to unsafe speed. Install on westbound and northbound approaches.
		Bicyclists / Pedestrians	S20PB	15%	100%	Install advance stop bar before crosswalk (Bicycle Box)	3 bicycle collisions and 2 pedestrian collisions.
		Bicyclists	-	-	-	Install green conflict marking at bicycle lane approaches to the intersection	3 bicycle collisions. Raises awareness of bicyclists in the area.
		OR					
		Intersections	S16	Varies	100%	Convert intersection to roundabout (from signal)	17 rear end collisions.
Rohnert Park Expressway / State Farm Drive	Signal	Intersections	S08	30%	100%	Convert signal to mast arm (from pedestal-mounted)	3 of 4 approaches have pedestal-mounted left turn signal heads.
		Bicyclists / Pedestrians	S20PB	15%	100%	Install advance stop bar before crosswalk (Bicycle Box)	1 bicycle collision and 1 pedestrian collision.
		Distracted Driving	-	-	-	Consider installing a changeable message board near intersection	To educate the public on impaired and distracted driving. 5 DUI collisions at intersection. Install on the eastbound direction, as this is where vehicles are entering town from.
Snyder Lane / Capri Way/Rosana Way	TWSC	Improvements to this intersection were recently completed to address collision patterns. Monitoring this location to evaluate the effectiveness of these improvements is recommended.					
Golf Course Drive W / Commerce Boulevard	Signal	Pedestrians	S21PB	60%	100%	Evaluate modifying signal phasing to implement a Leading Pedestrian Interval (LPI)	Per BPAC comment. 1 pedestrian collision.

Countermeasures were also recommended for some intersections that had high densities of collisions or that had high numbers of bicycle or pedestrian collisions. **Table 7** includes the lists of these countermeasures.

Table 7 Recommended Countermeasures for Other Intersections

Intersection	Control	Relevant Challenge Area(s)	Countermeasure Number	Crash Reduction Factor	Funding Eligibility	Recommended Countermeasures	Reasoning
City Jurisdiction							
Redwood Drive / Martin Avenue	Signal	Intersections	S03	15%	50%	Improve signal timing (coordination, phases, red, yellow, or operation)	
		Distracted Driving	S10	30%	100%	Install flashing beacons as advance warning	On northbound and southbound approaches.
		Intersections	-	-	-	Realign signal head for WB Martin Avenue	
Commerce Boulevard / Hunter Drive	Signal	Intersections	S12	25%	90%	Install raised median on approaches	
		Distracted Driving	S10	30%	100%	Install flashing beacons as advance warning	On northbound and southbound approaches.
		Aggressive Driving / Speed Management	-	-	-	Focused speed enforcement and installation of red-light indicators for officers	
Rohnert Park Expressway / Labath Avenue	Signal	Distracted Driving	S10	30%	100%	Install flashing beacons as advance warning	On westbound approach.
Golf Course Drive W / Redwood Drive	Signal	Intersections	S03	15%	50%	Improve signal timing (coordination, phases, red, yellow, or operation)	
Golf Course Drive / Dowdell Avenue	Signal	Intersections	S03	15%	50%	Improve signal timing (coordination, phases, red, yellow, or operation)	
		Distracted Driving	-	-	-	Install message boards near intersection	To educate the public on a variety of issues and concerns that the City is experiencing, including DUI and speeding.
Southwest Boulevard / Adrian Drive	AWSC	Intersections	NS05	Varies	100%	Convert intersection to roundabout (from stop or yield control on minor road)	
		OR					
		Pedestrians	-	-	-	Install high visibility crosswalk	Per BPAC comment.
		Pedestrians	-	-	-	Install advance stop bar before crosswalk	Per BPAC comment.
		Pedestrians	-	-	-	Install curb bulb outs	To shorten crossing distances.
Adrian Drive / Arlen Drive	AWSC	Intersections	NS07	25%	100%	Upgrade intersection pavement markings	Install centerline striping and warning markings.
		Pedestrians	NS19PB	45%	90%	Install raised medians / refuge islands	
		Pedestrians	-	-	-	Install supplemental "yield to pedestrian" signage	
Southwest Boulevard / Burton Avenue	AWSC	Bicyclists	-	-	-	Install green bike lane	On Southwest Boulevard WB and EB approach and departure with extension thru intersection.
		Pedestrians	-	-	-	Upgrade crosswalks to high visibility crosswalks	Per BPAC comment.
		Pedestrians	-	-	-	Reposition curb ramp to align with crosswalk	Per BPAC comment. School crossing and transit stop nearby.
		Pedestrians	-	-	-	Install curb bulb outs	
Golf Course Drive / Hacienda Circle	TWSC	Intersections	NS11	20%	90%	Improve sight distance to intersection (Clear Sight Triangles)	
		Bicyclists	-	-	-	Install green bike lane	On Golf Course Drive WB and EB approach and departure with extension thru intersection.
		Pedestrians	-	-	-	Install curb bulb outs	
Burton Avenue / Bonnie Avenue	TWSC	Pedestrians	-	-	-	Install high visibility crosswalks	Per BPAC comment.
Bonnie Avenue / Bernice Court	TWSC	Pedestrians	-	-	-	Evaluate enhanced crossing treatments	Per BPAC comment.

6.1.2 City Segment Projects

Segment countermeasures were developed in the same manner as the intersections. The priority segments on City roadways were chosen based on EPDO and collision frequency. These priority segments and their characteristics are shown in **Table 8** below.

Table 8 Priority Segment Characteristics

		Crash Characteristics										
Location	**Length (mi)**	**Top Type of Collision** (Number of Collisions)	**Top Violation Category** (Number of Collisions)	**Fatal + Severe Injury**	**% at Night**	**Wet**	**Ped**	**Pedestrian Not in Crosswalk**	**Bike**	**Involv. w/Parked Car**	**Involv. w/Fixed Object**	**DUI**
City Jurisdiction												
Rohnert Park Expressway (State Farm Drive to Country Club Drive)	0.52	Hit Object (6) / Rear End (6)	Improper Turning (5)	1	29%	4	0	0	2	0	6	1
Snyder Lane (Hinebaugh Creek to E Cotati Avenue)	1.30	Broadside (6)	Improper Turning (6)	1	5%	0	0	0	3	1	2	1
Commerce Boulevard (Golf Course Drive to Avram Avenue)	1.55	Broadside (29)	Automobile Right of Way (25)	1	18%	7	0	0	1	2	5	2
Redwood Drive (Willis Avenue to South City Limit)	1.43	Broadside (23)	Automobile Right of Way (17)	2	30%	6	2	1	0	0	5	2
Rohnert Park Expressway (Redwood Drive to Commerce Boulevard)	0.38	Rear End (20)	Unsafe Speed (12)	1	22%	2	0	0	0	0	2	2
Golf Course West (Redwood Drive to Country Club Drive)	1.12	Hit Object (8)	Unsafe Speed (7)	2	52%	8	0	0	0	0	7	3
Golf Course Drive (Country Club Drive to Snyder Lane)	0.68	Hit Object (3) / Sideswipe (3)	Varies	2	57%	5	0	0	0	4	3	2

The countermeasures recommended for these locations are presented in **Table 9**.

Table 9 Recommended Countermeasures for Priority Segments

Segment	Length (mi)	Relevant Challenge Area(s)	Countermeasure Number	Crash Reduction Factor	Funding Eligibility	Recommended Countermeasures	Reasoning
City Jurisdiction							
Rohnert Park Expressway (State Farm Drive to Country Club Drive)	0.52	-	R03	25%	100%	Install Median Barrier	6 hit object collisions, including 1 fatality. Trees are in the median of the roadway, with no existing barrier.
		Bicyclists	R33PB	45%	90%	Install Separated Bike Lanes	2 bicycle collisions.
Snyder Lane (Hinebaugh Creek to E Cotati Avenue)	1.3	-	R26	30%	100%	Install dynamic/variable speed warning signs	4 unsafe speed collisions. In school zone.
		Bicyclists	-	-	-	Install green conflict markings at driveways	3 bicycle collisions. In school zone.
Commerce Boulevard (Golf Course Drive to Avram Avenue)	1.55	Distracted Driving	R28	25%	100%	Install edge-lines and centerlines	Increase visibility of existing striping by installing thermoplastic striping. TWLTL markings are currently Bott's dotts.
		-	R03	25%	100%	Install Median Barrier	29 broadside collisions. Recommended for access management and reducing the number of automobile right of way violations (25 collisions due to this violation category). Many driveways are placed on the horizontal curves.
		Aggressive Driving / Speed Management	R26	30%	100%	Install dynamic/variable speed warning signs	7 unsafe speed collisions. Several curvilinear sections.
		Pedestrians / Bicyclists	R37PB	35%	100%	Install Rectangular Rapid Flashing Beacon (RRFB)	At Copeland Creek Trail crossing. 1 bicycle collision.
Redwood Drive (Willis Avenue to South City Limit)	1.43	Distracted Driving	R28	25%	100%	Install edge-lines and centerlines	Increase visibility of existing striping by installing thermoplastic striping. TWLTL markings are currently Bott's dotts.
		-	R03	25%	100%	Install Median Barrier	23 broadside collisions. Recommended for access management and reducing the number of automobile right of way violations (17 collisions due to this violation category). Many driveways are placed on the horizontal curves.
		Aggressive Driving / Speed Management	R26	30%	100%	Install dynamic/variable speed warning signs	6 unsafe speed collisions. Several curvilinear sections.
		Pedestrians	R35PB	35%	90%	Install/upgrade pedestrian crossing (with enhanced safety features)	2 pedestrian collisions, 1 resulting in a severe injury from a pedestrian crossing not in a crosswalk. Consider installing north of Rohnert Park Expressway.
Rohnert Park Expressway (Redwood Drive to Commerce Boulevard)	0.38	Distracted Driving	-	-	-	Install pavement markings for lane positioning for the US 101 southbound ramp	Per BPAC suggestion. To provide additional clarity. Between US 101 northbound ramps and Commerce Boulevard.
Golf Course West (Redwood Drive to Country Club Drive)	1.12	Distracted Driving	R28	25%	100%	Install edge-lines and centerlines	Increase visibility of existing striping by installing thermoplastic striping. Centerline markings are currently Bott's dotts. Majority of collisions at night. 8 hit object collisions.
		Aggressive Driving / Speed Management	R26	30%	100%	Install dynamic/variable speed warning signs	7 collisions due to unsafe speed violations.
		Aggressive Driving / Speed Management	-	-	-	Increase enforcement	7 collisions due to unsafe speed violations. 3 DUI collisions.
Golf Course Drive (Country Club Drive to Snyder Lane)	0.68	-	R21	55%	100%	Improve pavement friction (High Friction Surface Treatments)	3 hit object collisions. Majority of collisions when road surface was wet. Curvilinear roadway.
		-	-	-	-	Evaluate parking along corridor	4 collisions with parked cars on portions of roadway with horizontal curve.
		Aggressive Driving / Speed Management	-	-	-	Install speed limit sign on existing speed feedback sign	No existing speed limit sign on speed feedback sign.

Countermeasures were also recommended for select roadway segments where the City saw needs. **Table 10** includes the lists of these countermeasures.

Table 10 Recommended Countermeasures for Other Segments

Intersection	Relevant Challenge Area(s)	Countermeasure Number	Crash Reduction Factor	Funding Eligibility	Recommended Countermeasures
City Jurisdiction					
Between Redwood Drive and Commerce Boulevard	Pedestrians / Bicyclists	-	-	-	Install bicycle and pedestrian overcrossing at the Copeland Creek Trail over US 101
Adrian Drive (Arlen Drive to E Cotati Avenue)	-	R14	30%	90%	Road Diet (Reduce travel lanes from 4 to 3 and add a two way left-turn and bike lanes)
	Distracted Driving	R26	30%	100%	Install dynamic/variable speed warning signs

6.1.3 Interchange Projects

There are three priority interchange locations (shared jurisdiction between Caltrans and the City) in Rohnert Park: Rohnert Park Expressway and US 101 northbound ramps, Golf Course Drive W at US 101 southbound ramps, and Rohnert Park Expressway at US 101 southbound ramps. These locations have many unsafe speed and traffic signals and signs violations, primarily resulting in rear end and broadside collisions. These intersections are all signalized, and the recent signal timing improvements along Rohnert Park Expressway and Golf Course Drive should help to mitigate the collision patterns at these locations. Therefore, monitoring these intersections and the effect of the improvements is recommended.

6.1.4 Identified Challenge/Emphasis Areas

Per the SHSP, the identified challenge/emphasis areas for the LRSP were as follows:

1. **Bicycling** – Bicycling safety countermeasures/projects were recommended at multiple locations.
2. **Distracted Driving** – Prevention of distracted roadway usage is addressed though education and enforcement component of the non-engineering strategies. These strategies can be communicated through the police department, social media channels, and through the schools.
3. **Aggressive Driving / Speed Management** – Aggressive driving can include higher speeds and improper turning and passing. Engineering strategies were identified for intersections and segments at locations where these issues were identified. Non-engineering strategies to prevent aggressive driving includes enforcement in selective areas with a speed management education campaign.
4. **Intersections** – Projects were identified for the top intersections with collision severity and frequency.
5. **Pedestrians** – Providing pedestrian accommodations to include crossing enhancements. Other locations for pedestrian improvements are identified in the engineering strategies. Non-engineering strategies to improve pedestrian safety will be discussed in a later section of the document.

6.1.5 Systemic Safety Countermeasures

When selecting countermeasures, just focusing on locations with a current collision issue is a reactive approach to roadway safety planning. A reactive approach targets recent hot-spots and specific problems that are associated with these locations; as a result of this approach, locations with low traffic volumes but with similar safety issues as hot spot locations are not addressed. In order to mitigate collisions in a both

a reactive and proactive approach, Caltrans' Local Roadway Safety Manual suggests agencies utilize a comprehensive approach that includes systemic and hot spot location improvements in developing a safety plan.

While analyzing crash characteristics at the priority locations in the City, patterns in crashes were also identified. Potential countermeasures that can be applied systemically throughout various locations in the City are presented in **Table 11** below.

Table 11 Recommended Systemic Countermeasures

Location	Type of Countermeasure	Countermeasure	Reasoning
Signalized Intersections along Major Roadways	Engineering	Improve signal timing (coordination, phases, red, yellow, or operation)	Pattern of rear end collisions at signalized intersections on major roadways.
Along Major Roadways	Engineering	Install median barrier	Pattern of broadside collisions along segments.
Signalized Intersections with Pedestrian Collisions	Engineering	Install Leading Pedestrian Interval (LPI)	Pedestrians are a challenge/emphasis area in the LRSP. Preferred countermeasure from the BPAC.
Trail Crossings	Engineering	Pedestrian and bicycle improvements	Pedestrians and bicyclists are identified as challenge/emphasis areas in the LRSP.
City Segments	Engineering	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	Signs throughout the City appear faded.
Citywide	Enforcement	Increase visibility of enforcement	Public request gathered through public engagement. Patterns of DUIs and speeding throughout the City.

6.1.5.1 Install/Upgrade Signs with New Fluorescent Sheeting

The countermeasure to install/upgrade street signs with new fluorescent sheeting (R22) has the following guidance, per the LRSM:

> *"This CM only applies to crashes occurring within the influence area of the new/upgraded signs. This CM is not intended for maintenance upgrades of street-name, parking, guide, or any other signs without a primary focus on roadway safety.* ***This CM is not eligible unless it is done as part of a larger sign audit project****, including the study of: 1) the existing signs' locations, sizes and information per MUTCD standards, 2) missing signs per MUTCD standards, and 3) sign retroreflectivity. The overall sign audit scope (or a special exception from the HSIP program manager) must be documented in the Narrative Questions in the application. Based on the scope of the project/audit, it may be appropriate to combine other CMs in the B/C calculation."*

When requested, Caltrans provided further detail on what can be funded through the countermeasure (see text below).

> *"This sign audit and the associated studies are fundable through the HSIP. It will not be a separate application but will be included in the application to install/upgrade signs with new fluorescent sheeting as its PE cost.*
>
> *For an application, the HSIP amount for PE normally should not exceed 25% of the HSIP amount for Construction Items. But if it does go over 25% due to the sign audit and studies, it should be explained in the application."*

6.1.6 Active Transportation

Rohnert Park has an active walking and biking community, with many multimodal improvements already on the roadways or in planning and design phases. In evaluating future transportation projects, it is important to look for opportunities to incorporate facilities and safety improvements for bicycle, pedestrians, and transit, including evaluating protected bikeways and separated pedestrian pathways. This will help to provide a safe alternative to driving and reduce greenhouse gases while increasing the health and vitality of the community.

6.2 Non-Engineering Strategies

A comprehensive approach to selecting countermeasures recognizes that not all safety issues can be addressed through infrastructure improvement. The comprehensive approach to safety involves the 5 E's of traffic safety. Besides engineering safety countermeasures, it is important to recommend safety countermeasures to coincide with the other safety E's. **Table 12** shows some of the identified non-engineering strategies.

Table 12 Non-Engineering Strategies

Strategy Type	Recommended Strategy
Education	Bicycle and pedestrian safety campaigns
	Driver education and campaigns related to driving under the influence and distracted driving
	Safe Routes to School maps and outreach at schools
	Social media blasts with education campaigns
	Seek opportunities for public service advertisements such as billboards and public utility box wraps in the downtown area. Include options for alternative rides to help prevent DUIs.
	Dangers of speeding/speed management campaigns (e.g. Keep Kids Alive Drive 25)
	Partner with Sonoma County Health and SCTA with public information
Emerging Technologies	Video/bicycle detection
	Intelligent Transportation System (ITS) infrastructure, web/mobile applications (apps) and smart cities practices
	Upgraded controllers for flashing yellow arrows (FYAs) and leading pedestrian intervals
	Installing touchless Accessible Pedestrian Signals (APS)
	Communication with traffic signals
	Changeable message signs
Enforcement	Targeted speed enforcement focused on areas of concern from public feedback
	Prioritize patrol patterns and overall presence at high incident locations
	Continue conduct DUI checkpoints within impaired driving collision concentrations. Advertise as required, engage with media outlets (i.e. DUI Checkpoints).
	Increase the number of traffic officers
	Distracted driving enforcement
Emergency Response	Consider emergency vehicle pre-emption at signalized intersections
	Continue to conduct training targeted at responding to speed-related collisions
	Improvements to roadways to increase access, reduce congestion, and potentially shorten response times

6.3 Projects Suggested Through Public Input

The interactive map tool on the public website for the plan gathered many suggestions from community members for areas of improvement. These suggestions were summarized and are shown in **Table 13** below.

Table 13 Public Suggestions from the Interactive Map Feature on the Public Website

Suggestion	Location
Evaluate speed limit and/or implement speed mitigation measures	Maurice Avenue / Mercedes Way
	Hudis Street
	Avenida Cala, north of Southwest Boulevard
	Beverly Drive
	Emily Avenue near Country Club Drive
	Mitchell Drive near Magnolia Avenue
	Snyder Lane near Holly Avenue
	Burton Avenue
	Mitchell Drive near Magnolia Park
	Beverly Drive
Install trail crossing	Copeland Creek Drive near US 101*
	Commerce Boulevard, south of Enterprise Drive
	West Copeland Creek Trail near Sonoma Water's accessible maintenance road*
	Commerce Boulevard near Laguna de Santa Rosa*
	Commerce Avenue / Copeland Creek Trail
Pedestrian crossing enhancements	Golf Course Drive / Halcyon Place
	Snyder Lane / Coleman Creek Trail
	Country Club Drive / Hinebaugh Creek Trail
	Country Club Drive / Copeland Creek Trail
	Snyder Lane / Hinebaugh Creek Trail
Evaluate intersection sight distance	Dexter Circle / Dolores Drive
	Santa Alicia Drive / Avram Avenue
	South leg of Country Club Drive / Copeland Creek Drive
	Commerce Boulevard / Avram Avenue
	Beverly Drive / Bernice Avenue
Evaluate lane geometry	Southbound Commerce Boulevard, south of US 101 NB Ramps
	Hudis Street
	Westbound approach to Southwest Boulevard / Seed Farm Drive
	Adrian Drive near Southwest Boulevard
	Southwest Boulevard near Commerce Boulevard
Install bike lanes	Eastbound Golf Course Drive between Harbor Lane and Snyder Lane
	Westbound approach to Southwest Boulevard / Seed Farm Drive
Improve signage	Westbound left to Rohnert Park Expressway / Commerce Boulevard
	Trail north of Rohnert Park City Hall
Traffic control enforcement	Santa Dorotea Circle / Dawn Court
	Country Club Drive / Copeland Creek Trail
Evaluate conversion to all-way stop control	Bodway Parkway / Camino Colegio
Evaluate traffic signal heads	Commerce Boulevard / Alison Avenue

Suggestion	Location
Consider installing a roundabout	Southwest Boulevard / Avenida Cala
	Burton Avenue / Santa Barbara Drive
Improve signal timing	Golf Course Drive near US 101 interchange
Install crosswalk	Southwest Boulevard / Avenida Cala
	Redwood Drive, north of Rohnert Park Expressway
Consider removal of crosswalk	Golf Course Drive / Hacienda Way
Improve quality of bicycle lanes	E Cotati Avenue, west of Camino Colegio
	Southbound Seed Farm Drive
Consider limiting parking	Avram Avenue
Install Leading Pedestrian Interval (LPI)	E Cotati Avenue / Adrian Drive / Lipton Way*
Improve circulation at school zone	Burton Avenue / Baron Drive
Install safety lighting	Golf Course Drive / Redwood Drive
	Southwest Boulevard near Adrian Drive
Consider installing separated bicycle lanes	Southbound Seed Farm Drive
Install pedestrian refuge island	Rohnert Park Expressway / State Farm Drive
Install multi-use path	Between Racquet Club Circle and Rohnert Park Expressway
Provide additional access	Between L and M sections
Restrict turning movements at intersections	Southwest Boulevard near Commerce Boulevard
	Southwest Boulevard near College View Drive
Improve quality of multi-use path	Copeland Creek Trail
	Multi-use path parallel to Commerce Boulevard
**Location is either fully/partially not in City jurisdiction*	

7. Prioritize and Incorporate Strategies

7.1 Funding Sources

The City of Rohnert Park can look for opportunities to incorporate safety enhancements with the City's Capital Improvement Program. However, it is noted that funding is limited and typically used for roadway maintenance. Additional funding opportunities can come through grant funding to include HSIP, ATP, OBAG, and CMAQ.

The primary source of potential funding for projects recommended in this plan is HSIP funding. Each cycle has available project funding for Benefit to Cost Ratio (BCR) and funding set-aside projects. BCR projects use expected benefit and estimated cost to determine eligibility and likelihood for receiving funding. The expected benefit is determined using the crash history and the predicted collision reduction from the recommended countermeasures. On the other hand, funding set-aside projects do not require a collision history. The set-aside countermeasures available to agencies for HSIP Cycle 11 include guardrail upgrades, pedestrian crossing enhancements, installing edgelines, bike safety improvements, and tribes. These set-aside countermeasures can be applied at multiple locations (systemically) as long as the requested funding is still within the maximum funding amount available per agency.

ATP funding for engineering projects is primarily for installing or improving non-mobilized transportation infrastructure. Projects are more likely to receive this type of funding if it helps to increase the number of walkers and bikers in a disadvantaged community, or improves the safety of children, specifically at school zones. Ultimately, the goal of this type of funding is to increase the use of active transportation.

For funding for the non-engineering strategies, the California Office of Traffic Safety has grant opportunities the City's Police Department can pursue for additional enforcement and traffic safety education. Some campaigns highlighted in their website include impaired driving, distracted driving, pedestrian and bicycle safety, and speeding. The website provides educational materials, safety tips, facts, and resources to use in educating the public on traffic safety.

7.2 Prioritized Projects

In evaluating how to implement safety projects, preliminary benefit-to-cost ratios (BCRs) for priority intersection and segment projects were calculated using the HSIP Cycle 11 Analyzer. **Tables 14** and **15** contain lists of the proposed intersection and segment projects and their corresponding BCRs. These tables also show potential funding opportunities. It should be noted that some of the recommended countermeasures are not current HSIP countermeasures. However, these improvements can typically be included in an HSIP project provided the cost does not exceed 20% of the total project cost.

In addition, the awarded projects through the BCR application for HSIP Cycle 10 started at a BCR of 12. Although the minimum for the grant application was a BCR of 3.5, the projects submitted were very competitive. Some of this was due to funding shortfalls with COVID lockdowns and the HSIP grant application deadline extension which allowed more agencies to submit. Therefore, the maximum project cost is also included for a BCR of 10.

Costs used to estimate the preliminary BCRs are planning-level construction costs with a 30% contingency.

Table 14 Priority of City Intersection Projects

Intersection	Recommended Countermeasures	Max Project Cost for B/C Ratio of 10	Preliminary B/C Ratio	Total Expected Benefit	Preliminary Estimated Project Cost*	HSIP Funding Reimbursement Ratio	HSIP Set-Aside**	ATP Funding
City Jurisdiction								
Rohnert Park Expressway / Country Club Drive	Convert signal to mast arm (from pedestal-mounted)	$600,083	41.6	$6,000,829	$144,300	100%	-	-
	Evaluate modifying signal phasing to implement a Leading Pedestrian Interval (LPI)					100%	-	-
	Install green conflict marking at bicycle lane approaches to the intersection					-	-	-
Rohnert Park Expressway / Redwood Drive	Convert signal to mast arm (from pedestal-mounted)	$926,867	31.7	$9,268,669	$292,500	100%	-	-
	Install flashing beacons as advance warning					100%	-	-
	Install raised median on approaches					90%	-	-
	Install advance stop bar before crosswalk (Bicycle Box)					100%	-	Y
	Install green conflict marking at bicycle lane approaches to the intersection					-	-	Y
Rohnert Park Expressway / Redwood Drive	Convert intersection to roundabout (from signal)	*Volume data needed*	*Volume data needed*	*Volume data needed*	$3,900,000	100%	-	-
Commerce Boulevard / Rohnert Park Expressway	Install flashing beacons as advance warning	$293,972	90.5	$2,939,720	$32,500	100%	-	-
	Install advance stop bar before crosswalk (Bicycle Box)					100%	-	Y
	Install green conflict marking at bicycle lane approaches to the intersection					-	-	Y
Commerce Boulevard / Rohnert Park Expressway	Convert intersection to roundabout (from signal)	*Volume data needed*	*Volume data needed*	*Volume data needed*	$3,900,000	100%	-	-
Rohnert Park Expressway / State Farm Drive	Convert signal to mast arm (from pedestal-mounted)	$242,843	18.7	$2,428,429	$130,000	100%	-	-
	Install advance stop bar before crosswalk (Bicycle Box)					100%	-	Y
	Consider installing a changeable message board near intersection					-	-	-
Golf Course Drive W / Commerce Boulevard	Evaluate modifying signal phasing to implement a Leading Pedestrian Interval (LPI)	$16,310	125.5	$163,098	$1,300	100%	-	Y

[1] Non-engineering countermeasure

[2] Not HSIP Cycle 10 countermeasure

[3] Not included in project benefit, as HSIP applications limit the number of countermeasures to 3

* Includes 30% contingency

**BSI = Bike Safety Improvements, PCE = Pedestrian Crossing Enhancements, E = Install Edgelines

Table 15 Priority of City Segment Projects

Segment	Recommended Countermeasures	Max Project Cost for B/C Ratio of 10	Preliminary B/C Ratio	Total Expected Benefit	Estimated Project Cost*	HSIP Funding Reimbursement Ratio	HSIP Set-Aside**	ATP Funding
City Jurisdiction								
Rohnert Park Expressway (State Farm Drive to Country Club Drive)	Install Median Barrier	$404,038	22.7	$4,040,380	$178,121	100%	-	-
	Install Separated Bike Lanes					90%	BSI	Y
Snyder Lane (Hinebaugh Creek to E Cotati Avenue)	Install dynamic/variable speed warning signs	$216,792	18.8	$2,167,921	$115,017	100%	-	-
	Install green conflict markings at driveways					-	-	Y
Commerce Boulevard (Golf Course Drive to Avram Avenue)	Install edge-lines and centerlines	$751,379	18.2	$7,513,787	$413,659	100%	E	-
	Install Median Barrier					100%	-	-
	Install dynamic/variable speed warning signs					100%	-	-
	Install Rectangular Rapid Flashing Beacon (RRFB)					100%	PCE	Y
Redwood Drive (Willis Avenue to South City Limit)	Install edge-lines and centerlines	$1,235,348	29.0	$12,353,477	$425,276	100%	E	-
	Install Median Barrier					100%	-	-
	Install dynamic/variable speed warning signs					100%	-	-
	Install/upgrade pedestrian crossing (with enhanced safety features)					90%	PCE	Y
Rohnert Park Expressway (Redwood Drive to Commerce Boulevard)	Install pavement markings for lane positioning for the US 101 southbound ramp	$0	0.0	$0	$6,500	-	-	-
Golf Course West (Redwood Drive to Country Club Drive)	Install edge-lines and centerlines	$516,145	54.1	$5,161,446	$95,479	100%	E	Y
	Install dynamic/variable speed warning signs					100%	-	-
	Increase enforcement					-	-	-
Golf Course Drive (Country Club Drive to Snyder Lane)	Improve pavement friction (High Friction Surface Treatments)	$549,615	11.7	$5,496,150	$468,051	100%	-	-
	Evaluate parking along corridor					-	-	-
	Install speed limit sign on existing speed feedback sign					-	-	-

* Includes 30% contingency
**BSI = Bike Safety Improvements, PCE = Pedestrian Crossing Enhancements, E = Install Edgelines

8. Evaluation Process

To evaluate the success of this plan, yearly collision analysis, along with requests for public feedback, can take place and be compared to the established goals.

Goal 1

Maintain existing Crossroads collision database and standardized reporting practices.

Measure of Success: Crossroads collision database has an increase in accurately reported collision information including coordinates, collision types, violation categories, etc.

Goal 2

Revaluate collision trends and associated countermeasures in the LRSP every 5 years and engage community, stakeholders, and City management.

Measure of Success: Collisions are reviewed every 5 years and LRSP is updated accordingly.

Goal 3

Develop an implementation priority for identified countermeasures. Implement countermeasures utilizing strategies across all traffic safety E's; engineering, emerging technologies, enforcement, education, and emergency response.

Measure of Success: Priority for implementing countermeasures is planned. Implemented countermeasures not only incorporate engineering strategies, but also other disciplines such as emerging technologies, enforcement, education, and emergency response.

Goal 4

Reduce rear end collisions with intersection operational improvements.

Measure of Success: Collisions resulting in rear ends reduce after improvements to intersection operations are completed. This could be quantified by a 5% decrease in rear end collisions after two years.

Goal 5

Implement speed management strategies and increase enforcement presence.

Measure of Success: Road users increasingly obey traffic laws, specifically related to speed. Strategies targeted towards managing speed are prioritized with a reduction in speed related collisions.

Goal 6

Reduce pedestrian and bicycle collisions with improved accommodations.

Measure of Success: Pedestrian and bicycle collisions trend downward in a 5-year period.

Goal 7

Improve safety and accessibility for vulnerable road users.

Measure of Success: The number of residents choosing active transportation more often noticeably increases. This can be captured through a public survey.

Goal 8

Improve safety around schools with a connected multimodal system, enhanced crossings, enforcement of school zones, education campaigns about school drop off/pick up, bicycle and pedestrian safety, and driver awareness.

Measure of Success: Residents will feel more comfortable choosing multimodal transportation to travel to and from school destinations and express an increased feeling of safety in these areas. This can be captured through a public survey administered by the school districts.

9. Next Steps

The Draft Local Road Safety Plan will be presented to City Council for comments on July 26, 2022. This will be an informational meeting to gather direction from City Council before the Final Local Road Safety Plan is presented for adoption on August 9, 2022. This safety plan will be a living document and will guide the City's roadway safety needs for the next five years. It will be updated as needed and the goals will be monitored.

10. References

Traffic Data

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- "Developing Safety Plans, A Manual for Local Rural Road Owners", Federal Highway Administration, March 2012, http://safety.fhwa.dot.gov/local_rural/training/fhwasa12017/.
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- California Department of Transportation, "Strategic Highway Safety Plan (SHSP)", https://dot.ca.gov/programs/safety-programs/shsp.
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- California Department of Transportation, "HSIP Cycle 10", https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program/apply-now.
- City of Rohnert Park Local Road Safety Plan (LRSP), https://lrsp.mysocialpinpoint.com/city-of-rohnert-park.

Surveys

- Local Road Safety Plan Project Survey, https://lrsp.mysocialpinpoint.com/city-of-rohnert-park.

Appendix A

Stakeholder and Public Input

Meeting Summary

April 25, 2022

Author	Kathryn Kleinschmidt	**Project no.**	11220605
Meeting info	April 25, 2022 from 10 a.m. to 12 p.m.	**Subject**	Rohnert Park LRSP – Stakeholder Working Group Meeting Summary

The following is GHD's understanding of the discussions and decisions for the above referenced meeting. Please notify GHD of any discrepancies in the information recorded.

This meeting record has been prepared to serve as documentation for the virtual meeting conducted on April 25, 2022 via Microsoft Teams platform. A PowerPoint presentation was used to focus the discussion.

All participants attending virtually, no sign-in sheet was circulated. Rather, the list of attendees will be provided at the end of this document.

1. Introductions

a. Jason - Project Manager for the City
b. LRSP Stakeholder Working Group members
    i. Role and interest in serving on this committee
        1. Reduce number of fatal and severe injury collisions
        2. Increase safe bicycle access throughout the city
        3. Improvements along the Commerce corridor
        4. Continuity in safety infrastructure between Caltrans and City facilities, specifically for bicycle and pedestrian facilities
        5. Pedestrian safety to and from bus stops
        6. Managing pedestrian lines (midblock crossings)
            a. Fatality on E Cotati, east of Bodway
        7. Vision Zero action plan completed a couple months ago
            a. 6 main goals, with overarching goal as 0 fatalities by 2030
            b. Keep things complimentary to the plan

2. Background

a. SCTA Procurement
    i. 7 LRSPs procured for cities in Sonoma County
b. Purpose of LRSP
    i. Engages stakeholders representing all E's and other local community stakeholders (neighboring jurisdictions, advocacy groups, and officials) in developing a plan of action to increase safety and create a prioritized list of projects
    ii. Focus challenge areas per Strategic Highway Safety Plan
        1. Bicyclists
        2. Distracted Driving
        3. Aggressive Driving / Speeding
        4. Intersections
        5. Pedestrians

c. LRSP Process
d. Process and Frequency to Updates

3. Data Analysis

a. Previous/existing safety efforts
    i. US 101 Bike and Pedestrian Overcrossing Study
    ii. HSIP Cycle 10 Applications
        1. 3 applications submitted
            a. Signalized intersection project was funded through the program but other 2 were not
            b. Projects that were not funded through the program were funded locally
        2. Roundabout at Southwest and Commerce is in construction
    iii. Bike and Pedestrian Features at At-Grade Railroad Crossings
        1. In the permitting phase
    iv. Central Rohnert Park Priority Development Area (PDA) Plan
        1. Walking meeting with BPAC this evening to help inform project
b. Collision data from the past 6 complete years (2015-2020)
    i. Location
    ii. Hot Spot Locations
    iii. Collision Severity
    iv. Collision Type
    v. Fatal and Severe Injury Collisions
        1. Fatalities
            a. Country Club / Rohnert Park Expressway
                i. DUI due to vehicle travelling too fast and hitting a power pole
            b. Country Club, west of Rohnert Park Expressway
                i. Medical emergency
            c. Snyder Lane / Southwest Boulevard
                i. DUI collision with a motorcycle
        2. Trends for higher speeds and less stopping at stop signs or flashing red lights
            a. Police department has previously worked with OTS for Distracted Driving Month, education at high schools for DUI and distracted driving
        3. Police department could benefit from message signs, trailer speed indicator
            a. 4 pole-mounted signs for speed indicators
    vi. Top Violation Categories
    vii. Pedestrian Collisions
        1. SCT can provide shapefile of bus stops and these can be compared with pedestrian collision locations
    viii. Bicycle Collisions
        1. Type of collisions could be due to lack of training
        2. Bicycle collisions tend to be broadsides or head-ons due to right of way violations
        3. Bicyclists tend to not stop at stop signs
            a. Education about this could be helpful
c. Top ranking intersections and segments
    i. Police department has control over signals
    ii. Ped refuge going in at RPX / Commerce
    iii. Funding is being established for HSIP set asides related to ped/bike safety

4. Public Engagement

a. Current Efforts
    i. Public Meeting
    ii. Public Website
b. Public Website
    i. Interactive Map Results
        1. Project to repave E Cotati is in the works
    ii. Survey Results

5. **Other Items**
    a. Guiding Principles
        i. Vision, Goals, & Mission Statement
    b. Next Steps
        i. Countermeasure Development and Prioritization
        ii. Funding Opportunities
    c. Tentative Timeframe
        i. Action Items

List of Attendees

1. Jason Sampietro – City of Rohnert Park, Public Works Department
2. Terrie Zwillinger – City of Rohnert Park, Public Works Department
3. Jon Caldwell – City of Cotati
4. Aung Maung – Caltrans, District 4
5. Joel Mandella – Caltrans, District 4
6. Sergeant Marshall – City of Rohnert Park, Department of Public Safety
7. Steven Schmitz – Sonoma County Transit
8. Eydie Tacata – Bicycle and Pedestrian Advisory Committee
9. Janet Spilman – Sonoma County Transportation Authority
10. Frank Penry – GHD
11. Kathryn Kleinschmidt – GHD
12. Emily Darke – GHD

Interactive Map Comments

ID	Created on	Type	Comment	Up Votes	Down Votes	Latitude	Longitude	Location	Response to Comment
1	6/21/2021 16:56	Pedestrian Safety Comment	The pedestrian crossing here needs some visibility enhancement. Because it's on a tight horizontal curve and there is a fair amount of speeding on Golf Course, I have witnessed and been victim of several near misses. This crossing is especially precarious at night. I think this could be a good candidate for additional illumination and possibly an RRFB. Also, some pedestrian crossing yield triangles wouldn't hurt.	1	0	38.365736	-122.691616	Golf Course Drive / Halcyon Place	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
2	6/21/2021 16:59	General Concern	Visibility while trying to turn the corner as neighbors construction fence obstructs the view. One must pull half way into the street to see. I'm concerned for traffic safety.	0	0	38.354651	-122.702521	Dexter Circle / Dolores Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
3	6/21/2021 17:02	Bicycle Safety Comment	A striped bike lane on this block would be helpful for bicyclist comfort, since vehicles trying to make the right onto Snyder are not always yielding to bikes.	2	0	38.367014	-122.686365	Eastbound Golf Course Drive between Harbor Lane and Snyder Lane	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
4	6/21/2021 17:07	Pedestrian Safety Comment	Mid-block pedestrian crossing would benefit from illumination as many H and G residents frequent this path in the evening.	2	0	38.369555	-122.68571	Snyder Lane / Coleman Creek Trail	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
5	6/21/2021 17:13	Vehicle Safety Comment	This 4 way stop is regularly ignored.	1	0	38.351805	-122.697554	Santa Dorotea Circle / Dawn Court	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
6	6/21/2021 17:15	Pedestrian Safety Comment	Lights should be added to this crossing. It can be hard to see people walking or riding out of the creek paths.	1	0	38.350825	-122.695491	Country Club Drive / Hinebaugh Creek Trail	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
7	6/21/2021 17:31	Vehicle Safety Comment	Cars taking off from this four-way stop from time to time accelerate to speeds unsafe with the fire station and/or cars entering the roadway from driveways. A 15-mile-hour speed limit (due to the curve and fire station) on Maurice Ave from E. Cotati to Mercedes Way might be an appropriate change.	2	0	38.334378	-122.683468	Maurice Avenue / Mercedes Way	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
8	6/21/2021 17:37	Vehicle Safety Comment	A 4-Way stop is needed here, I have almost gotten into a accident here so many times	1	1	38.324867	-122.676226	Bodway Parkway / Camino Colegio	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
9	6/21/2021 17:40	Vehicle Safety Comment	Left turn signal from Commerce should have an additional light so one can call a green left turn signal.	0	0	38.337415	-122.712071	Commerce Boulevard / Alison Avenue	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
10	6/21/2021 19:40	Pedestrian Safety Comment	Cars on this street travel quickly and often do not look for pedestrians crossing at this unlit crosswalk. I have concerns for children from G section walking to Hahn Elementary. A signal with lights would be beneficial.	0	0	38.369218	-122.684541	Snyder Lane / Coleman Creek Trail	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).

ID	Created on	Type	Comment	Up Votes	Down Votes	Latitude	Longitude	Location	Response to Comment
11	6/21/2021 20:00	General Concern	There is very poor visibility at this corner due to the parked cars when turning onto Santa Alicia.	0	0	38.341757	-122.708541	Santa Alicia Drive / Avram Avenue	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
12	6/21/2021 20:09	Vehicle Safety Comment	There is a very unnatural flow of southbound traffic in this stretch. The lane with most of the traffic turns into a left turn lane, while the right lane is directed to merge into it. So, you've got cards suddenly moving right to avoid the turn lane, with others merging towards the left. I could see this causing accidents.	0	1	38.361205	-122.712308	Southbound Commerce Boulevard, south of US 101 NB Ramps	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
13	6/21/2021 21:22	General Concern	People driving always at a very unsafe speed up and down Hudis street. This is a residential area with children walking to and from school. There is also a very popular walking path to this park here. We need speed humps and fast. It will stop people that down live down this street from using it as a quick way to get past the lights on golf course.	3	0	38.367355	-122.692866	Hudis Street	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
14	6/21/2021 21:23	Vehicle Safety Comment	During sporting events/an occasional weekend this section of the roadway is one car only and it is a blind turn. It is only a matter of time before a head on collision happens	2	0	38.366287	-122.693424	Hudis Street	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
15	6/21/2021 21:26	General Concern	People are speeding up and down this street day and night. Santa Rosa uses traffic humps to keep cars from traveling at a high rate of speed. Can we get these.	3	0	38.365311	-122.69513	Horizontal curve on Hudis Street, south of Helene Court	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
16	6/21/2021 21:28	General Concern	Yeah speed humps around school zones and parks would definitely keep people from driving to fast up and down. I agree	3	0	38.366034	-122.693843	Hudis Street	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
17	6/22/2021 8:13	Vehicle Safety Comment	Install a roundabout to improve visibility to oncoming traffic, improve pedestrian safety in crossing SW Blvd,, and to slow speed on this section of SW Blvd. SW Blvd has become a raceway with speeds commonly close to 50 mph by some motorists and cyclists. Am a 40+ year resident in this neighborhood. Roundabout slows speed, there is room for one at this intersection, and is cheaper in long run than a traffic signal.	0	1	38.339584	-122.687832	Southwest Boulevard / Avenida Cala	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
18	6/22/2021 8:17	Vehicle Safety Comment	Speed bumps needed on this section of Avenida Cala to slow speed of cars. With in-class education resuming at the Ranch, this is a "short-cut" street used by parents/students to avoid intersections governed by traffic signals and wait times. Camino Coronado has street bumps for same reason, for cars coming off Country Club Dr. Camino Corto is also a a good candidate as cars speed from stop sign to the Camino Corto/Snyder intersection.	2	1	38.340259	-122.687955	Avenida Cala, north of Southwest Boulevard	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
19	6/22/2021 8:24	Bicycle Safety Comment	Is the north side of this road going to be striped with a bike lane? When reaching the signal, many cars still try to create a 3rd lane, a right-turn lane, onto Seed Farm Drive, even tho the bike lane markings have been removed. If no bike lane, is it possible to safely create a right hand turn lane to alleviate backup and to make clear there is either 1 lane or 2.	1	0	38.341294	-122.696632	Westbound approach to Southwest Boulevard / Seed Farm Drive	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
20	6/22/2021 11:13	General Concern	turning left (south) from RP Expressway facing west, turning onto Commerce Blvd. needs better signage on the traffic light that there is only ONE left turn lane. I've seen many people turn from the straight lane next to it and I've seen one collision as a result of this.	0	0	38.348351	-122.709544	Westbound left to Rohnert Park Expressway / Commerce Boulevard	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).

ID	Created on	Type	Comment	Up Votes	Down Votes	Latitude	Longitude	Location	Response to Comment
21	6/22/2021 13:44	Vehicle Safety Comment	People drive down Beverly at break-neck speed to avoid other roads with lights and stop signs; children cannot safely play on this street. Speed humps should be installed, as enforcement does not occur.	1	1	38.335825	-122.696579	Beverly Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
22	6/22/2021 17:50	Vehicle Safety Comment	Cars rarely obey the 25mph residential speed limit on this street, let alone the 30 mph speed limit on Country Club Dr. The gradual turn suddenly becomes "blind" and residents have almost been t-boned coming out of our own driveway. Add to that the people that are trying to drop off their kids at school, the distracted drivers, the annual Sonoma State renters, the sun in your eyes when headed West, no posted speed limits or traffic enforcement, and you get real sketchy stretch of road.	0	0	38.351467	-122.694068	Emily Avenue near Country Club Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
23	6/22/2021 18:04	Vehicle Safety Comment	Robert's lake rd, commerce and freeway south on ramp traffic lights on westbound golf course need to be sync'd better. There is often a back up over the railroad crossing that causes people to try and use the right lane to go around and then quickly try to get back in to left lane. The main backup is from golf course turning left to commerce and N 101 on ramp	0	0	38.363193	-122.710961	Golf Course Drive near US 101 interchange	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
24	6/23/2021 10:49	Vehicle Safety Comment	Increased speeding during commute hours which will only worsen because of SoMo. Street is used as a conduit to Petaluma hill road.	0	0	38.327972	-122.682288	Mitchell Drive near Magnolia Avenue	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
25	6/25/2021 12:17	Pedestrian Safety Comment	A marked pedestrian crossing is needed at this location. I have crossed this intersection on foot nearly every day for 18 years, and I can say that the number of times cars have stopped for a pedestrian crossing has only been a handful in all that time. It is also in close proximity to two schools, and there tends to be a lot of children crossing the street in this location as well.	1	0	38.339555	-122.687942	Southwest Boulevard / Avenida Cala	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
26	6/26/2021 8:17	Pedestrian Safety Comment	Many cars are flying down Snyder to and from Petaluma Hill and sometimes don't even slow down for the stop sign. Extremely unsafe.	0	0	38.37008	-122.685099	Snyder Lane near Holly Avenue	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
27	6/26/2021 8:21	Pedestrian Safety Comment	This crosswalk does not have great visibility for people who are from out of the area and are unaware of it. Should be completely taken out in my opinion. Pedestrians should use the signal down the street.	0	0	38.3626	-122.693293	Golf Course Drive / Hacienda Way	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
28	6/26/2021 12:24	Bicycle Safety Comment	Would be good to be able to safely cross Hwy101 and connect bike paths	1	0	38.343019	-122.712457	Copeland Creek Drive near US 101*	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
29	6/26/2021 12:26	Bicycle Safety Comment	How are bicyclists supposed to merge with traffic here. The bicycle path just ends.	2	0	38.344938	-122.711921	Commerce Boulevard, south of Enterprise Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
30	6/26/2021 12:30	Bicycle Safety Comment	Bicycle/Pedestrian access needs to be marked and adequate access made from Rohnert Park City parking to pedestrian/bicycle path. Too often there is a vehicle parked in front of the Class I bike path access.	2	0	38.34291	-122.709475	Trail north of Rohnert Park City Hall	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).

ID	Created on	Type	Comment	Up Votes	Down Votes	Latitude	Longitude	Location	Response to Comment
31	6/26/2021 12:35	Pedestrian Safety Comment	Add bridge across channel - to allow safer walking paths along Sonoma Water's accessible maintenance road.	0	0	38.343592	-122.722692	W Copeland Creek Trail near Sonoma Water's accessible maintenance road*	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
32	6/30/2021 0:51	Vehicle Safety Comment	I agree with the other person we need speed humps near schools and parks to keep drivers from speeding through these zones.	1	1	38.335749	-122.69763	Burton Avenue	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
33	6/30/2021 0:54	Vehicle Safety Comment	People speed up and down like it is a race track. We need speed humps near schools and parks to keep drivers going at a safe speed so a child walking to school or the park dos EMt get hit.	1	0	38.330933	-122.682164	Mitchell Drive near Magnolia Park	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
34	7/2/2021 20:27	Vehicle Safety Comment	When turning from Copeland Creek on to Country Club it is impossible to see oncoming northbound traffic due to parked cars. This should be a red zone.	0	0	38.343617	-122.695681	South leg of Country Club Drive / Copeland Creek Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
35	7/24/2021 16:07	Bicycle Safety Comment	Bike lane on E.Cotati Ave in Rohnert Park is rutted, often with debris and loose gravel that makes it tricky for cyclists. The asphalt is broken up and adjoins the concrete of the storm water channel at a tricky angle, too. The Cotati side is fine. It's the Rohnert Park part that is a problem.	2	0	38.33311	-122.689401	E Cotati Avenue, west of Camino Colegio	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
36	7/24/2021 16:12	Bicycle Safety Comment	Cyclists need safe way to cross Hwy 101 to get to Laguna trail on west side	1	0	38.336907	-122.712273	Commerce Boulevard near Laguna de Santa Rosa*	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
37	5/10/2022 10:05	General Concern	Narrow bend with not enough width for turns when cars are parked. Parking should not be allowed here.	0	0	38.342365	-122.709399	Avram Avenue	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
38	5/10/2022 10:08	Vehicle Safety Comment	Sight angle to see northbound vehicle traffic is slightly obscured. Makes right turns from Avram sketchy, especially with permissive turns from Commerce also obstructing the view.	0	0	38.342534	-122.712049	Commerce Boulevard / Avram Avenue	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
39	5/10/2022 10:13	General Concern	Popular road for vehicles going to school, but speed bumps will not work here. Speeding vehicles need to be slowed in a better way.	0	0	38.33607	-122.696686	Beverly Drive	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
40	5/10/2022 10:15	Vehicle Safety Comment	T-intersection where it is common for drivers to not look for Bernice westbound traffic or Beverly northbound traffic or they simply roll through. Parked cars partially obstruct the view of oncoming traffic.	0	0	38.337273	-122.697469	Beverly Drive / Bernice Avenue	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
41	5/10/2022 10:27	Pedestrian Safety Comment	Strongly recommend a leading signal for pedestrians here. Cars turning right to go west on E Cotati are focused looking eastward and it is easy to miss pedestrians who have arrived at the corner while the waiting driver had been waiting and looking the other direction. A leading signal would hold the car from reactively turning right onto E Cotati into a pedestrian who got the green light at the same time.	0	0	38.329842	-122.696868	E Cotati Avenue / Adrian Drive / Lipton Way*	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).

ID	Created on	Type	Comment	Up Votes	Down Votes	Latitude	Longitude	Location	Response to Comment
42	5/10/2022 10:31	General Concern	School drop off is a disaster. Cars queue to stop at the painted crossing, drop their student off, wait for them to cross, and then leave. Anyone parked cannot get out, and the queue will go all the way to the next block. The school needs a better drop off zone.	0	0	38.339319	-122.699958	Burton Avenue / Baron Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
43	5/10/2022 10:33	Pedestrian Safety Comment	Common and dangerous place for hoteliers to cross street so they can get to amenities on the other side of the busy road.	0	0	38.349074	-122.716824	Redwood Drive, north of Rohnert Park Expressway	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
44	5/10/2022 10:39	Pedestrian Safety Comment	Very poorly lit sidewalk at wide intersection. Can barely see pedestrians at night.	0	0	38.363287	-122.714796	Golf Course Drive / Redwood Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
45	5/10/2022 10:42	General Concern	Very wide intersection where impatient drivers generally do not expect or tolerate slower moving pedestrians. This road should only be one lane all the way through. Also this intersection is poorly lit because the narrow cast of the LED light is insufficient for the width if the street crossing.	0	0	38.335986	-122.705151	Adrian Drive near Southwest Boulevard	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
46	5/10/2022 10:52	Bicycle Safety Comment	Dangerous crossing for bikes and peds on trail crossing Country Club. Needs a way to stop drivers when bike/ped needs to cross.	0	0	38.343148	-122.695119	Country Club Drive / Copeland Creek Trail	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
47	5/10/2022 10:55	Bicycle Safety Comment	This is a terrible crossing for travelers on creek trail. Bikers should not be able to blow through this crossing, and cars need to be stopped to let peds and baby strollers through.	0	0	38.350512	-122.685539	Snyder Lane / Hinebaugh Creek Trail	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
48	5/10/2022 10:59	Bicycle Safety Comment	Debris tends to collect in bike lane on east side of the street, from the MUP intersection to Enterprise. Makes the bike lane less safe for bike and relatively impossible for scooters. A protected bike lane would be nice, but at the very least the lane needs to be regularly swept.	1	0	38.343516	-122.698746	Southbound Seed Farm Drive	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
49	5/10/2022 11:02	Pedestrian Safety Comment	This wide intersection needs an island amendable for wheeled devices. I have seen too many wheelchairs and baby strollers waiting in the street part of the middle section because they can't get into the more protected island protected by a curb,	0	0	38.348306	-122.705687	Rohnert Park Expressway / State Farm Drive	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
50	5/10/2022 11:05	Bicycle Safety Comment	There should be a ped/bike access path that connects Racquet Ball Circle to RPX. It is not ped/bike friendly to force non-vehicles to take the long street way out of this neighborhood.	0	0	38.348331	-122.698778	Between Racquet Club Circle and Rohnert Park Expressway	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
51	5/10/2022 11:09	General Concern	There is no way to get from L Section to M Section without having to drive through the much busier and longer East Cotati corridor. There should be a way to do this at least for bikes and peds.	1	0	38.326114	-122.687877	Between L and M sections	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
52	5/10/2022 11:14	Vehicle Safety Comment	Parking lot access to this mall attracts the worst drivers. Too many drivers either jump out of the parking lot into a fast moving street or clog up the street trying to turn into the lot. Drivers need to be forced only to turn one way into and out of this lot.	0	0	38.335871	-122.710741	Southwest Boulevard near Commerce Boulevard	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).

ID	Created on	Type	Comment	Up Votes	Down Votes	Latitude	Longitude	Location	Response to Comment
53	5/10/2022 11:16	Vehicle Safety Comment	Westbound drivers should either have a pocket where they can stack to turn left into the gas stations or they should not be allowed to turn left at all.	0	0	38.335871	-122.707404	Southwest Boulevard near College View Drive	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
54	5/10/2022 11:20	Vehicle Safety Comment	Sight angle makes it challenging for drivers to pull out of Santa Barbara and onto Burton. Candidate intersection for a roundabout.	0	0	38.331904	-122.69734	Burton Avenue / Santa Barbara Drive	Thank you for sharing your suggestion. It was considered in the development of the Local Road Safety Plan (LRSP).
55	5/20/2022 11:16	Bicycle Safety Comment	There needs to be a safe way for people coming off the Copeland Creek path to cross Commerce and continue!!	0	0	38.343088	-122.711696	Commerce Avenue / Copeland Creek Trail	Thank you for sharing your observation. It was considered in the development of the Local Road Safety Plan (LRSP).
56	5/20/2022 11:18	Bicycle Safety Comment	This path needs repair! There are many places where the concrete is lifted up by tree roots, potholes, etc.	0	0	38.343245	-122.710639	Copeland Creek Trail	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).
57	5/20/2022 11:19	Bicycle Safety Comment	This pathway is a hot mess - there are HUGE cracks, potholes, and upheavals from tree roots. Somebody is gonna go flying and sue the city one of these days!	0	0	38.341801	-122.712377	Multi-use path parallel to Commerce Boulevard	Thank you for sharing your concern. It was considered in the development of the Local Road Safety Plan (LRSP).

Project Survey

Are there additional safety concerns that you think the City should be considering? If so, describe below.

Response
Plan streetwork better...for a while recently we only had one north-south street free.
Potholes are a BIG issue. Also bushes/trees need to be trimmed where they grow over and get in the way of street signs.
Positioning of light stands and other sidewalk signage frequently pushes pedestrians into the street and blocks driver and pedestrian views of each other.
The city doesn't do enough to trim trees, shrubs at street corners, all over the city. Stop signs, street lights and speed limit signs are obscured. Not only is this an issue surrounding this city but speeding is as well.
Enforcement supports the engineering, but in the long run, the engineering solutions are cheapest and support 24/7 safety
I could pick only one issue, but really there should be two: speeding and texting. What do you mean by most affective? Did you mean effective. We could use more visibility of our enforcement officers.
Speeding and running stop signs has been horrid the past 16 months. Step up enforcement, raise the fines. Anyone who talks back, arrest them.
I have been walking with a stroller AND driving near the Jr High at the end of the day and have nearly been hit by boys riding there bikes on the sidewalk (which I don't mind, except they ride two and three abreast and don't yield to pedestrians. These same boys and done wheelies on the sidewalks AND in the bike lane and nearly hit me in my 3/4 to pickup. Perhaps have an officer cleverly placed so they can see the kids and the kids can't see them....for all I know, these boys may be in High School now. But it has been dangerous.
...again YES! -- now that they have widened Expressway all the way to Pet-Hill-Road? Every intersection has a stop-light - as they should to manage speeders - BUT, why did they NOT put one in at the 3-way of Expressway/Jasmine Circle/&/Oak-View-Circle? . This is just NUTZ that they did NOT put one in. . So - now you have your night-time balls-to the walls drivers heading east on expressway from Snyder g-u-n-n-i-n-g it ...sigh -vs- managing them dang speeders with a light at that three way - Now the addition of a traffic light at the three way of "Expressway/Jasmine Circle/&/Oak-View-Circle" IS a must to be added to the City of R.P. 'Roadway Safety Plan'!
Speeding. Many people speed on the roadways. So many in residential areas.
So much speeding throughout the city! I live on Southwest Blvd between Camino Colegio and Country Club,m which has become a drag strip straightaway in recent years and rarely, if ever do I see any patrol cars parked in Camino Vista Park. Maybe some strategically placed license plate cameras are called for in this town. Maybe a good muffler shop as well!!
At intersections with a yellow flashing left turn signal, there should be a 4 light fixture instead of a 3 light, so one can call a green left turn signal if opposing traffic is busy. It appears that only in A section these 3 light fixtures are used while in other sections there are 4 light fixtures. This shows where the City's priorities are, not with minority neighborhoods obviously.
safer bike trails. East West trail connector.

On Golf Course Drive in the front of the golf course there is a merge and people acclerate their speed to pass the other aggressively. It is ridiculous how some people think they own the road. I almost want to add the lack of education but it is also a lack of decency towards others. There needs to be enforcement before another fatality.
Seems like nobody through our town likes to make a stop at stop sign intersections.
ALL crosswalks should be zebra striped and those near schools and bus stops equipt w/flashing lights, cameras need to be in parks and trails, and ALL signals need reflective outlines.
All too often tree or foliage block the view of stop signs.
Some speed limit signs are obscured by trees. Obstructions to views of road signs should be removed.
residents in new housing on north side of expressway are using the walking path along hinebaugh creek. There is no crossing protection for them on Snyder and I am one of the very few that will yield to allow the to cross snyder. Ther needs to be cross walk and signage for their protection.
The streetlights seem to be brighter in Cotati than in Rohnert Park. I am concerned about pedestrian safety at night throughout the City, but in particular on busy roads.
Potholes and conditions of the roads need addressing.
Expressway and Snyder. If Police would just park here, I guarantee they would make a lot of money for the city. It is a raceway here. I'm afraid to cross the street!
There are seldom any patrol cars driving around. If there is a presence, there would be more people falling driving laws. Stop signs need to be well marked, some signs are blocked and the white that states stops are very faded.
There are multiple intersections that need attention...especially in the area of Redwood/Golf Course...also the nonsense that is the area of Krispy Kreme/In&Out Burger
Impaired drivers coming from the casino through town on Golf Course Dr. to avoid the freeway. Blind corners due to vegetation.
More police officers dedicated to traffic enforcement; more intersections controlled by stop signs, signals or roundabouts (yes, a pain to stop, but they SLOW traffic); more traffic signs that warn of curves in the roadway; as roads are repaved or improved around town, look for ways to better stripe the roads, straighten out weird curves, would rather see roads narrowed to one lane than have merge arrows as drivers simply speed up instead of merging.
Increased enforcement once fall term starts for the schools. It was great 3-4 years ago and then slowly tapered off. My child attended Monte Vista and there were consistently issues with drivers making illegal u-turns, dangerous maneuvers out of parking spaces, unsafe pedestrian movements, and drivers passing lines of cars on the wrong side of the road. If all/most patrol officers were dedicated to schools in the 20 minutes prior to the start of school, families would be safer and the efforts of your officers would be front and center.
Paved roads are important. Visabilty at night with lighted signs. RP Expressway is a problem with speeding at night. As a resident at Oak View Apartments, this is an issue. Please install more Speed Monitors in that area on both sides of the street.

Oh I have a couple. 1. Turning left (south) from RP Expressway on to Commerce Blvd, there is ONE turn lane and often I see people using the lane next to the turn lane to turn left as well, because there are 2 lanes on Commerce. I have seen a collision as a result of this. There needs to be better signage above the light I think. 2. Visibility / Speeding on that stretch of Commerce Blvd. between RP Expressway and Hunter Drive is Awful and there are so many ins & outs. I'm not sure how to fix this but I have been in TWO collisions, neither of which were my fault - the first was someone turning into the Safeway parking lot while I was going straight, the second was someone coming from the Grocery Outlet parking lot who struck my vehicle and then fled the scene. That one totaled my car and I'm still really upset about it. I avoid this stretch of road now as much as possible.
Posted speed limits and enforcement, especially the residential sections.
There's considerable speeding on Rohnert Park Expressway above Snyder and a fair amount of speeding on Snyder as well. I've not often seen a police car in these areas.
Many STOP sign are hidden by growing tree. Even though letter STOP are painted on the street, many out of city driver cannot see these painted sign until they are too close to the intersection. I wish these branches hiding the STOP sign should be trimmed.
Bike lanes need to be a priority. It's far too dangerous to ride a bike in some areas
Daniel Drive has become a speedway for residents in D section who bypass Country Club Dr., often at speeds above 35 mph. It's a long stretch of roadway and I highly recommend that a speed bump be placed somewhere in mid-block before someone is seriously injured!
more cross walk lights for pedestrians--- also more benches on main streets for the elderly--- between bus stops maybe---and also BIG THING FOR DEPRESSION AND SUICIDE---GET BLUE LIGHTS OR FILTERS FOR THE STREET LIGHTS----- STUDIES SHOW LESS SUICIDES WHERE CITIES HAVE BLUE LIGHTS IN ALL STREET LIGHTS. we have a lot of train track suicides in this town
Cars are running red lights on a regular basis.
Safe access to and from the SMART bike trail, for cyclists. Upkeep and maintainance in bike lanes on roads, to keep them clear of debris. In places cars parked in bike lanes are a hazard, and people leaving trash cans etc. in bike lanes.

Public Comments on the Draft LRSP

Source	Section	Comment	Response to Comment
Public Website	6. Identify Strategies	There needs to be a crosswalk at hinebaugh creek and snyder lane with illuminated singal. Every day during school there are kids waiting on their bikes who cross over snyder from k section to continue down hinebaugh creek to evergreen school.	Thank you for sharing your feedback. The City is evaluating this crossing location.
Public Website	6. Identify Strategies	There is a ton of information in this draft. Many changes involve things that I am not clear exactly what they are. I think the public needs for a presenter with each project separately with a picture of what it would look like highlighting with the changes are so we can actually know what this plan is going to do.	The plan identifies traffic safety needs and possible improvements the City could implement to improve safety.

Appendix B

Collision Data

Collisions at Selected Intersections

Intx ID	Primary Road	Secondary Road	Facility Type	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
				Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
1	Redwood Drive	Martin Avenue	City			3	4	2		1	2	4		1		1		1	1	2	4		2	59	59	9
2	Rohnert Park Expressway	Redwood Drive	City		1	3	17	25	3	4	21	10	1	1	2	4	2	3	5	8	10	13	10	189	280	46
3	Commerce Boulevard	Rohnert Park Expressway	City		2	2	11	27	2	8	17	8	2		1	2	2	3	9	12	7	7	7	173	355	42
4	Commerce Boulevard	Hunter Drive	City				4	7		1	4	5							5			4	2	31	31	11
5	Rohnert Park Expressway	Labath Avenue	City			1	6	8		1	3	6	3			2			4	5	1	2	3	55	55	15
6	Golf Course Drive W	Redwood Drive	City				5	16	1	3	10	4	1			2		1	4	1	3	7	6	46	46	21
7	Golf Course Drive	Dowdell Avenue	City			2	5	5		1	5	2	3		1			1		3	2	2	5	57	57	12
8	Rohnert Park Expressway	Country Club Drive	City	1	1	2	8	13	1	1	12	4	2		2	2	1	2	8	1	6	6	4	655	323	25
9	Rohnert Park Expressway	State Farm Drive	City			5	11	13			15	10	1		1	2	1	1	9	2	8	4	6	134	134	29
10	Southwest Boulevard	Adrian Drive	City			3	3	5			3	2	2		2	2	1	2	5	2	2	1	1	56	56	11
11	Millbrae Avenue	Dowdell Avenue	City			1	1			1		1										1	1	17	17	2
12	Redwood Drive	Commerce Boulevard	City				1	1			1		1							1	1			7	7	2
13	Golf Course Drive W	US 101 SB Ramps	Caltrans			1	7	8		1	7	5	1	1		1		1	5	4	2	4	1	61	61	16
14	Golf Course Drive W	Commerce Boulevard	City			3	4	14		5	7	4	2			3		1	3	7	1	8	2	71	71	21
15	Golf Course Drive	Roberts Lake Road	City					7	1	1	3		1							2	2	2	1	7	7	7
16	Golf Course Drive	Doubletree Drive	City					3			1		1			1			1		1		1	3	3	3
17	Golf Course Drive	Fairway Drive	City				1	3		1	2	1								2		2		9	9	4
18	Golf Course Drive	Fern Place	City					1					1									1		1	1	1
20	Golf Course Drive	Country Club Drive	City			1	1	5	1	1		1	2			2		1	1	2	1	2	1	22	22	7
21	Golf Course Drive	Hacienda Circle	City		1	1	1	3		2		3				1		2	1	1	1	2	1	49	211	6
22	Golf Course Drive	Halcyon Place	City		1			1				1				1		1	1		1			30	121	2
23	Golf Course Drive	Hillview Court	City			2		1	1			2							1		1	1		23	23	3
24	Golf Course Drive	Snyder Lane	City			2	5	5	2	2	1	5				2		1	2	1	4	3	2	57	57	12
25	Golf Course Drive	Gold Way	City					1	1													1		1	1	1
26	Golf Course Drive	Grandview Way	City					1		1												1		1	1	1
27	Golf Course Drive W/Wilfred Avenue	Langner Avenue	City			1					1										1			11	11	1
28	Holly Avenue	Hollingsworth Circle (N)	City					2	1		1								1			1		2	2	2
29	Holly Avenue	Hermosa Court	City				1					1										1		6	6	1
30	Holly Avenue	Fairway Drive	City					1	1										1					1	1	1
31	Holly Avenue	Hillview Way	City					1					1						1					1	1	1
32	Snyder Lane	Holly Avenue	City					2				2								1			1	2	2	2
33	Holly Avenue	Goodson Way	City					1								1							1	1	1	1
34	Country Club Drive	Fairway Drive	City					1			1									1				1	1	1
35	Country Club Drive	Hudis Street	City					1				1									1			1	1	1
36	Country Club Drive	Eleanor Avenue	City					3				3										2	1	3	3	3
37	Country Club Drive	Santa Dorotea Circle/Ellen Street	City			1					1									1				11	11	1
38	Country Club Drive	Santa Dorotea Circle/Emily Avenue	City			1	2			1		2								2			1	23	23	3
39	Country Club Drive	Hinebaugh Creek Trail	City				1								1			1				1		6	6	1
40	Country Club Drive	Santa Cruz Way/Racquet Club Circle	City			1	1	2		1	1	1			1		1	1		2		2		19	19	4
41	Country Club Drive	Civic Center Drive	City				1	3				1	1		1	1	1	1		2			2	9	9	4
42	Country Club Drive	Copeland Creek Drive	City			1	4	3			5	2			1		1		4	1	1		2	38	38	8
43	Country Club Drive	Copeland Creek Trail	City			2			1		1						1		1				1	22	22	2
44	Country Club Drive	Camino Coronado	City					2					1			1				1			1	2	2	2
45	Country Club Drive	Carlita Circle	City			1		1				1	1					1	2					12	12	2
46	Country Club Drive	Southwest Boulevard	City			2		3			1	1	1			2		1				1	4	25	25	5
47	Redwood Drive	Willis Avenue	City				4	4		1	1	6							3	1	2	1	1	28	28	8
48	Redwood Drive	Business Park Drive	City					2			1		1								1		1	2	2	2
49	Redwood Drive	Laguna Drive	City				1	1			1	1								1		1		7	7	2
50	Redwood Drive	Los Feliz	City				1	1	1				1							1	1			7	7	2
51	Commerce Boulevard	US 101 NB Ramps	Caltrans					4		1	1	2							1	1	2			4	4	4
52	Commerce Boulevard	Utility Court	City			1	1	1	1			1			1		1					2	1	18	18	3

Intx ID	Primary Road	Secondary Road	Facility Type	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
				Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
53	Commerce Boulevard	Cascade Court	City					1			1									1				1	1	1
54	Commerce Boulevard	State Farm Drive	City			1	1	2	1		1	1				1				1	2	1		19	19	4
55	Commerce Boulevard	Professional Center Drive	City					2		1						1			1	1				2	2	2
56	Commerce Boulevard	Padre Parkway	City			1	2	2				4				1			2			1	2	25	25	5
57	Commerce Boulevard	Enterprise Drive	City					6			4		1			1			1	2			3	6	6	6
58	Commerce Boulevard	Avram Avenue	City				3	4		1	4	1			1		1			1	1	2	3	22	22	7
59	Commerce Boulevard	Arlen Drive	City					3			1	1	1									2	1	3	3	3
60	Commerce Boulevard	Alison Avenue	City					1								1			1					1	1	1
61	Commerce Boulevard	Southwest Boulevard	City				1	5		1	1	2	2						3	1		2		11	11	6
62	Southwest Boulevard	Aima Avenue	City				2	2	1		1	1	1						1	1	1	1		14	14	4
63	Southwest Boulevard	College View Drive	City				1	3	1		2		1						2		2			9	9	4
64	Southwest Boulevard	Boris Court	City				1	2			1		1	1							1		2	8	8	3
65	Southwest Boulevard	Almond Street	City				1							1									1	6	6	1
66	Southwest Boulevard	Burton Avenue	City			1	2	2		1		1	1		1	1		3	1	1	1	1	1	25	25	5
67	Southwest Boulevard	Seed Farm Drive	City				1					1										1		6	6	1
68	Southwest Boulevard	Camino Colegio	City				3	6	1		2	6							2	2	1	2	2	24	24	9
69	Southwest Boulevard	Camino Coronado	City					2				1				1			1			1		2	2	2
70	Southwest Boulevard	Avenida Cala	City		1		1	1			1	2						1	1	1	1			36	127	3
71	Snyder Lane	Southwest Boulevard	City		1	2	2	4	1	1	1	1	2		1	2		1	5	1	1	1	1	67	229	9
72	Snyder Lane	Honey Brook Place	City				1				1											1		6	6	1
73	Snyder Lane	Heartwood Drive	City																							
74	Snyder Lane	Eleanor Avenue	City			2	1				2	1						1	1	1		1		28	28	3
75	Snyder Lane	Keiser Avenue	City					1				1										1		1	1	1
76	Snyder Lane	Circulo Grande	City				1	1	1							1		1					2	7	7	2
77	Snyder Lane	Parkway Drive	City				2	1	1			1				1		1				2	1	13	13	3
78	Snyder Lane	Medical Center Drive	City		1	1	3				1	1			3		3		1	2		1	1	58	149	5
79	Rohnert Park Expressway	Snyder Lane	City		1	1	2	7	2	2	3	2			1	1	1	1	2	4	3		2	59	221	11
80	Snyder Lane	Jasmine Circle	City			1	1	1		1		2								1	1	1		18	18	3
81	Snyder Lane	Copeland Creek Trail	City				4				1				1	2	1	2	1	1			2	24	24	4
82	Snyder Lane	Camino Corto/Rancho Cotate High	City				4	2			2	3			1		1	1		1	4		1	26	26	6
83	Snyder Lane	Capri Way/Rosana Way	City		2		2	4		2	1	1			3	1	3	2	1	3		2	2	74	256	8
84	E Cotati Avenue	Snyder Lane/Maurice Avenue	City				3	1				3	1								1	2	1	19	19	4
85	Maurice Avenue	Monique Place	City					1								1						1		1	1	1
86	Maurice Avenue	Maximillian Place	City			1		1					1			1			1			1		12	12	2
87	Bodway Parkway	Maurice Avenue	City					1				1								1				1	1	1
88	State Farm Drive	Classic Court	City				1				1												1	6	6	1
89	State Farm Drive	Executive Avenue	City					1		1										1				1	1	1
90	State Farm Drive	Professional Center Drive	City				2		1			1							1				1	12	12	2
91	State Farm Drive	Padre Parkway/City Center Drive	City			1	2	3			1	3			1	1	1			1	2		3	26	26	6
92	Enterprise Drive	State Farm Drive	City					2			2								1		1			2	2	2
93	Enterprise Drive	Hunter Drive	City					1								1				1				1	1	1
94	Enterprise Drive	Seed Farm Drive	City			1		4	1	1	2		1						3	1			1	15	15	5
95	Rancho Verde Court	Calle Roja	City					1								1			1					1	1	1
96	Rohnert Park Expressway	Rancho Verde Court	City					2			1		1						2					2	2	2
97	Rohnert Park Expressway	US 101 SB Ramps	Caltrans				7	14		3	7	9				2			6	4	4	4	3	56	56	21
98	Rohnert Park Expressway	US 101 SB On Ramp	Caltrans				4	12		1	9	5				1			4	4	1	2	5	36	36	16
99	Rohnert Park Expressway	US 101 NB On Ramp	Caltrans					1		1												1		1	1	1
100	Rohnert Park Expressway	US 101 NB Ramps	Caltrans			2	7	16		5	7	10			1	2		3	6	4	9	4	2	80	80	25
101	Rohnert Park Expressway	Lynne Conde Way	City				1				1								1					6	6	1
102	Rohnert Park Expressway	SMART Crossing	City		1			5		1	2		1			2		1			2	2	2	34	125	6
103	Rohnert Park Expressway	San Simeon Drive	City			2	1	6		2	2	3	1		1		1	2	2	3	1	2	1	34	34	9
104	Rohnert Park Expressway	Oak View Circle/Jasmine Circle	City				1	1				2										2		7	7	2

Intx ID	Primary Road	Secondary Road	Facility Type	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
				Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
105	Rohnert Park Expressway	Karrington Road	City					1				1										1		1	1	1
106	Rohnert Park Expressway	Kerry Road	City																							
107	Rohnert Park Expressway	Knight Road/E Redwood Drive	City					1		1											1			1	1	1
108	Rohnert Park Expressway	Petaluma Hill Road	City				3				2	1										1	2	18	18	3
109	Camino Colegio	Circle Drive	City			1		1							1	1				1	1			12	12	2
110	Camino Colegio	Casa Way	City				1	1	1			1								1	1			7	7	2
111	Camino Colegio	Cala Way	City				1	1			1	1										1	1	7	7	2
112	E Cotati Avenue	Camino Colegio	City				3	6		3	1	3	2					1	1		5	1	2	24	24	9
113	Camino Colegio	Magill Lane	City				1	1	1			1									1	1		7	7	2
114	Camino Colegio	Maiden Way	City					1				1								1				1	1	1
115	Camino Colegio	Magnolia Avenue	City				2	1		2					1		1		1				2	13	13	3
116	Camino Colegio	Mitchell Drive	City					1	1										1					1	1	1
117	Camino Colegio	Manchester Avenue	City					1					1							1				1	1	1
118	Bodway Parkway	Camino Colegio	City					2					1			1			1		1			2	2	2
119	E Cotati Avenue	Adrian Drive/Lipton Way	City				1	3		1	3								1	1		1	1	9	9	4
120	E Cotati Avenue	Sunflower Drive	City				1	1		1			1						1		1			7	7	2
121	E Cotati Avenue	Cristobal Way	City					1			1										1			1	1	1
122	E Cotati Avenue	Roman Drive	City			2		1				2				1					1	1	1	23	23	3
123	E Cotati Avenue	Vine Street/Bodway Parkway	City			1	1	7		1	5	1	1			1			3	1	2	1	2	24	24	9
124	Bodway Parkway	Middlebrook Way	City					1					1						1					1	1	1
125	Bodway Parkway	Magnolia Avenue	City					1	1												1			1	1	1
126	Bodway Parkway	Valley House Drive	City			1	1	5		1	1		4			1			2	3		1	1	22	22	7
127	Adrian Drive	Arlen Drive	City				1	1							1	1	1		1			1		7	7	2
128	Adrian Drive	Ava Avenue	City				1				1									1				6	6	1
129	Adrian Drive	Alison Avenue/Adrian Court	City																							
130	Adrian Drive	Anson Avenue	City																							
131	Adrian Drive	Santa Barbara Drive	City					1					1									1		1	1	1
132	Adrian Drive	Bruce Avenue	City				1				1											1		6	6	1
133	Adrian Drive	Burton Avenue	City					1					1									1		1	1	1
134	Lancaster Drive	Lincoln Avenue	City					1		1											1			1	1	1
135	Lancaster Drive	Lombard Way	City				1									1		1					1	6	6	1
136	Lancaster Drive	Liman Way	City			1						1									1			11	11	1
137	Lancaster Drive	Myrtle Avenue	City			1									1		1				1			11	11	1
138	Lancaster Drive	Lanyard Circle E	City					1											1					1	1	1
139	Lancaster Drive	Lamont Circle	City				1		1										1					6	6	1
140	Bruce Avenue	Burton Avenue	City					1	1													1		1	1	1
141	Bruce Avenue	Bonnie Avenue	City					1				1							1					1	1	1
142	Bruce Avenue	Bridgit Drive	City					1								1				1				1	1	1
143	Santa Barbara Drive	Boris Court	City					1			1											1		1	1	1
144	Santa Barbara Drive	Bobbie Way (E)	City					1				1								1				1	1	1
145	Santa Barbara Drive	Bonnie Avenue	City																							
146	Santa Barbara Drive	Burton Avenue	City					1				1										1		1	1	1
147	Burton Avenue	Blair Avenue	City					1			1										1			1	1	1
148	Burton Avenue	Bonnie Avenue	City					2		1	1									1			1	2	2	2
149	Burton Avneue	Bernice Avenue	City					1			1											1		1	1	1
150	Burton Avenue	Baron Drive	City					1				1										1		1	1	1
151	Bernice Avenue	Beverly Drive	City					1			1										1			1	1	1
152	Bernice Avenue	Brenda Way	City																							
153	Santa Alicia Drive	Arlen Drive (W)	City					1			1								1					1	1	1
154	Santa Alicia Drive	Avram Avenue	City					2			1		1						1			1		2	2	2
155	Santa Alicia Drive	Arlen Drive (E)	City					1		1									1					1	1	1
156	Santa Alicia Drive	Ava Avenue	City					3	1	1			1							1		1	1	3	3	3

Intx ID	Primary Road	Secondary Road	Facility Type	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
				Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
157	Santa Alicia Drive	Alta Avenue	City					1		1												1		1	1	1
158	Seed Farm Drive	Santa Alicia Drive	City				2	2			2		1			1			2		1		1	14	14	4
159	Alison Avenue	Adele Avenue	City					1		1													1	1	1	1
160	Almond Street	Anson Avenue	City					1			1								1					1	1	1
161	Almond Street	Alta Avenue	City					1		1												1		1	1	1
162	College View Drive	Bridgit Drive	City					1			1								1					1	1	1
163	Hudis Street	Floral Way	City					1		1									1					1	1	1
164	Francis Circle	Felice Court	City					1			1											1		1	1	1
165	Hudis Street	Helene Court	City					1		1									1					1	1	1
166	Heath Circle	Hemp Court	City				1	1		1			1									1	1	7	7	2
167	Hillview Way	Hailey Court/Harmony Place	City					1		1												1		1	1	1
168	Hillview Way	Heron Court	City		1			1			1				1			1				1	1	30	192	2
169	Gordon Way	Garfield Court	City					1	1										1					1	1	1
170	Eleanor Avenue	Daniel Drive/Daniel Court	City					1					1									1		1	1	1
171	Eleanor Avenue	Edna Court	City																							
172	Eleanor Avenue	Emily Avenue	City					2			2								1	1				2	2	2
173	Dexter Circle	Dolores Drive	City					1				1									1			1	1	1
174	Santa Doretea Circle	Daniel Drive	City					1					1							1				1	1	1
175	Santa Doretea Circle	Dawn Drive	City					1		1										1				1	1	1
176	Santa Doretea Circle	Dawn Drive/Dawn Court	City					1			1											1		1	1	1
177	Emily Avenue	Elsa Avenue	City					1		1									1					1	1	1
178	Santa Cruz Way	San Mateo Court	City					1			1									1				1	1	1
179	Civic Center Drive	Kirsten Court	City				1			1										1				6	6	1
180	Civic Center Drive	Meadow Pines Avenue	City																							
181	Copeland Creek Drive	Cedar Circle	City					1		1									1					1	1	1
182	Copeland Creek Drive	Sequoia Street	City					1			1										1			1	1	1
183	Medical Center Drive	Oak View Circle	City				1					1											1	6	6	1
184	Kensington Place	Kolton Place	City					1			1											1		1	1	1
185	Kensington Place	Karrington Road	City																							
186	Kendra Place	Kelliann Place/Kelly Place	City																							
187	Labath Avenue	Martin Avenue (S)	City			1		1					1		1		1		1	1				12	12	2
188	Labath Avenue	Martin Avenue (N)	City				1					1								1				6	6	1
189	Business Park Drive	Grand Restort and Casino Driveway (W)	City				1				1										1			6	6	1
190	Laguna Drive	Labath Avenue	City				1	2			1	2								2			1	8	8	3
191	Estrella Drive	Salamanca Street	City				1								1		1			1				6	6	1
192	Estrella Drive	Ronda Street	City					1					1							1				1	1	1
193	Estrella Drive/Madrigal Street	Los Feliz	City					1			1									1				1	1	1
194	Madrigal Street	Laredo Street	City					1					1						1					1	1	1
195	Jasmine Circle	Joyce Court	City					1								1				1				1	1	1
196	Circle Drive	Cadiz Court	City					2		1			1							2				2	2	2
197	Circle Drive	Cornell Avenue	City					1		1									1					1	1	1
198	Circle Drive	Casa Way	City			1									1		1						1	11	11	1
199	Cielo Circle	Cala Way	City					1												1				1	1	1
200	Cielo Circle	Crest Court	City																							
201	Capri Way	Cielo Circle	City			1										1		1					1	11	11	1
202	Rosana Way	Roxanne Lane	City					1					1						1					1	1	1
203	Rosana Way	Ruby Court	City			1										1		1			1			11	11	1
204	Beverly Drive	Bonnie Avenue	City					1		1									1					1	1	1
205	Myrtle Avenue	Liman Way	City					1			1											1		1	1	1
206	Lords Manor Way	Laurelwood Drive	City					1								1				1				1	1	1
207	Magnolia Avenue	Mason Drive	City					2	1							1					1		1	2	2	2
208	Mercedes Way	Milton Place	City					1		1												1		1	1	1

Intx ID	Primary Road	Secondary Road	Facility Type	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
				Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
209	Mercedes Way	Megan Place	City			1									1		1					1		11	11	1
210	Mitchell Drive	Miramonte Place	City				1								1			1			1			6	6	1
211	Mitchell Drive	Marigold Place	City					1			1									1				1	1	1
212	Magnolia Avenue	Mitchell Drive	City				1				1								1					6	6	1
213	Magnolia Avenue	Machester Avenue	City					1			1										1			1	1	1
214	Manchester Avenue	Mallory Place	City																							
215	Maureen Lane	Mary Place	City					1		1												1		1	1	1
216	Borris Avenue	Blair Avenue	City					1			1								1					1	1	1

Collisions at Selected Segments

Segment ID	Street Name	From	To	Length (ft)	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
					Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
001A	Acacia Court	Walnut Circle	East End	122					1		1													1	1	1	1
002A	Adrian Drive	Arlen Drive	E Cotati Avenue	4981				1	4		1	1	2			1		1		2			3		10	10	5
003A	Alden Avenue	Alison Avenue	Alma Avenue	1384					1				1								1				1	1	1
004A	Alison Avenue	Commerce Boulevard	Adrian Drive	1847																							
005A	Alma Avenue	Alison Avenue (W)	Alison Avenue (E)	2416				1	2			1		2							1			2	8	8	3
006A	Alta Avenue	Anson Avenue	Santa Alicia Drive	3012																							
007A	Arlen Drive	Commerce Boulevard	Santa Alicia Drive	3090				1	5		1	1	1	1	1	1		1			2	2	1	1	11	11	6
008A	Ava Avenue	Adrian Drive	Santa Alicia Drive	1533					1				1							1					1	1	1
009A	Avenida Cala	North End	Cielo Circle	1680					1			1											1		1	1	1
010A	Avram Avenue	Commerce Boulevard	Santa Alicia Drive	1057					4		3	1								2			1	1	4	4	4
011A	Beverly Drive	Bernice Avenue	E Cotati Avenue	2557					2		1		1									2			2	2	2
012A	Blair Avenue	Bonnie Avenue	Burton Avenue	1609					1				1							1					1	1	1
013A	Bodway Parkway	E Cotati Avenue	Magnolia Avenue	2720					2				1	1								1		1	2	2	2
013B	Bodway Parkway	Magnolia Avenue	Valley House Drive	2519					2					1	1					1				1	2	2	2
014A	Bonnie Avenue	Bruce Avenue	East End	3837					2		2									1	1				2	2	2
015A	Boris Street	Southwest Boulevard	Santa Barbara Drive	1263					2		2									1				1	2	2	2
016A	Bridgit Drive	College View Drive	Bruce Avenue	1418					2	1	1										1	1			2	2	2
017A	Burton Avenue	Southwest Boulevard	Bruce Avenue	5394					5	2	3									2		1	1	1	5	5	5
019A	Camino Colegio	Southwest Boulevard	E Cotati Avenue	2097					1	1													1		1	1	1
019B	Camino Colegio	E Cotati Avenue	Bodway Parkway	5743		1	2	2	4		3	2	1	2			1			2	1	2		4	67	203	9
020A	Camino Coronado	Country Club Drive	Southwest Boulevard	2610			1		2		2						1			1			2		13	13	3
021A	Camino Corto	Camino Coronado	Snyder Lane	939					1		1												1		1	1	1
022A	Caridad Court	Cala Way	East End	227					1					1							1				1	1	1
023A	Carlson Court	West End	Dowdell Avenue	1242					1							1		1					1		1	1	1
024A	Circle Drive	Camino Colegio	End	5905					2		2											1		1	2	2	2
025A	Civic Center Drive	Walnut Circle	Jacararda Street	2386																							
026A	College View Drive	Southwest Boulevard	Adrian Drive	1278			1					1												1	11	11	1
027A	Commerce Boulevard	Redwood Drive	Golf Course Drive	1077			1		4		2			3							1	3	1		15	15	5
027B	Commerce Boulevard	Southwest Boulevard	South City Limit	264					1						1									1	1	1	1
027C	Commerce Boulevard	Avram Avenue	Southwest Boulevard	2279				3	2			2	1	2						2		1	2		20	20	5
027D	Commerce Boulevard	Golf Course Drive	Avram Avenue	8182		1	3	18	34	5	9	6	29	5			1		1	15	10	9	17	5	204	340	56
028A	Corte Rosa	South End	Rancho Verde Circle	236																							
029A	Country Club Drive	Golf Course Drive	Rohnert Park Expressway	5132			1	2	10		6	2	1	3			1			1	2	4	1	5	33	33	13
029B	Country Club Drive	Rohnert Park Expressway	Southwest Boulevard	2421				2	5		1	3	2	1						1	1	2	2	1	17	17	7
030A	Daniel Drive	Country Club Drive	Santa Dorotea Circle	2063				1	2	1	2									1	1			1	8	8	3
031A	Dawn Court	South End	Santa Dorotea Circle	303					1	1													1		1	1	1
032A	Dexter Circle	Santa Dorotea Circle	Donan Drive	3307																							
033A	Dinah Court	South End	Santa Dorotea Circle	458					1				1								1				1	1	1
034A	Dowdell Avenue	Millbrae Avenue	South of Golf Course Drive W	2985																							
035A	East Cotati Avenue	Sunflower Drive	East City Limit	4302			2	6	11	3	2	5	3	6						2	1	8	6	2	69	69	19
036A	Eleanor Avenue	Country Club Drive	Snyder Lane	2451				1	5		4	1					1			2	1	1		2	11	11	6
037A	Emily Avenue	Country Club Drive	North of Eleanor Avenue	4862					4	1	1		2							1	1		1	1	4	4	4
038A	Enterprise Drive	Commerce Boulevard	Seed Farm Drive	3467				1	4	1				4						1	2	1	1		10	10	5
039A	Estrella Drive	Zaragoza Street	Los Feliz	2056					1		1													1	1	1	1
040A	Fairway Drive	Golf Course Drive	Holly Avenue	5820					5		2	1		2							1	2	2		5	5	5
041A	Floral Way	Fern Place	Hudis Street	1639					1			1										1			1	1	1
042A	Flores Avenue	Firethorn Drive	Fairway Drive	1364					1		1													1	1	1	1
043A	Golf Course Drive	Country Club Drive	Snyder Lane	3590		2			5		3	1		3						1		1	1	4	63	335	7
043B	Golf Course West	West City Limit	Redwood Drive	2859		1		3	4		1	5	2					1				3	2	3	51	187	8
043C	Golf Course West	Redwood Drive	Country Club Drive	5938		2		3	16		6	3	3	8			1			3	5	6	1	6	92	364	21

Segment ID	Street Name	From	To	Length (ft)	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
					Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
044A	Goodson Way	Gillpepper Lane	South End	869																							
045A	Gordon Way	Golf Course Drive	Gretchen Court	811					1		1									1					1	1	1
046A	Gregory Court	West End	East End	594																							
047A	Hacienda Circle	West End	East End	1593			1									1		1						1	11	11	1
048A	Helene Court	Hudis Street	East of Hudis Street	611																							
049A	Hemp Court	Heath Circle	East of Heath Circle	455					1			1											1		1	1	1
050A	Holly Avenue	Hollingsworth Circle	Gladstone Way	7579					2	1				1								1	1		2	2	2
051A	Hudis Street	West of Floral Way	Hillview Way	4256					1				1									1			1	1	1
052A	Hunter Drive	Commerce Boulevard	Enterprise Drive	665				1	1				1	1									1	1	7	7	2
053A	Jacaranda Street	Civic Center Drive	Copeland Creek Drive	543					1		1											1			1	1	1
054A	Joanne Court	North End	Copeland Creek Drive	233					1		1											1			1	1	1
055A	Keiser Avenue	Snyder Lane	Petaluma Hill Road	5212					2		1			1								1	1		2	2	2
056A	Kirby Place	Kensington Place	Kelliann Place	807																							
057A	Labath Avenue	Rohnert Park Expressway	Laguna Drive	1163				1	2	1			2							1				2	8	8	3
057B	Labath Avenue	Business Park Drive	Rohnert Park Expressway W	3146																							
058A	Laguna Drive	West End	Redwood Drive	2375			1							1							1				11	11	1
059A	Lancaster Drve	South City Limit	South End	5239				1	2	1		1	1							1		1		1	8	8	3
060A	Lorraine Court	North End	South End	877					2								2						1	1	2	2	2
061A	Los Feliz	Estrella Drive	Redwood Drive	237					1					1									1		1	1	1
062A	Magnolia Avenue	Camino Colegio	Bodway Parkway	2807					2		1						1				1	1			2	2	2
063A	Mainsail Drive	Mathias Place	Camino Colegio	924																							
064A	Mandolin Way	Melody Drive	North End	702					2				1				1				1		1		2	2	2
065A	Martin Avenue	Labath Avenue (N)	Labath Avenue (S)	2756																							
065B	Martin Avenue Extension	Dowdell Avenue	Redwood Drive	624					1		1													1	1	1	1
066A	Maurice Avenue	E Cotati Avenue	Bodway Parkway	2336					4		2		1	1						2		1		1	4	4	4
067A	Medallion Way	North End	Magnolia Avenue	596					1		1											1			1	1	1
068A	Medical Center Drive	Snyder Lane	East End	1020					1		1													1	1	1	1
069A	Middlebrook Way	West End	Bodway Parkway	2366					1		1													1	1	1	1
070A	Mitchell Drive	Middlebrook Way	Camino Colegio	2405				1	2		1	1					1			1		1		1	8	8	3
071A	Myrtle Avenue	South City Limit	Lancaster Drive	905					2		1		1									1	1		2	2	2
072A	Professional Center Drive	Commerce Boulevard	Seed Farm Drive	1223					1					1						1					1	1	1
073A	Rancho Verde Circle	West End	East End	4203			1							1							1				11	11	1
074A	Redwood Drive	Dowdell Avenue	Willis Avenue	3583				3	8				7	3	1					1	2	2	3	3	26	26	11
074B	Redwood Drive	Willis Avenue	South City Limit	7563		2	4	12	26	1	7	3	24	6		2	1	2		4	6	14	10	10	200	472	44
075A	Roberts Lake Road	North City Limit	Golf Course Drive	2183			1	1	6		3	1		3		1			1	1	1	1	3	2	23	23	8
076A	Rohnert Park Expressway	West City Limit	Redwood Drive	4295		1	3	3	5	1	2	1	4	2		1	1	1		1	3	3	2	3	85	221	12
076B	Rohnert Park Expressway	Commerce Boulevard	State Farm Drive	929		1	2	4	9		8	7				1		1		2	1	4	4	5	84	220	16
076C	Rohnert Park Expressway	Country Club Drive	Snyder Lane	3080			1	3					1	3							2	1	1		29	29	4
076D	Rohnert Park Expressway	Redwood Drive	Commerce Boulevard	1980		1	1	11	15		3	20	1	2			1			2	4	5	9	8	121	257	28
076E	Rohnert Park Expressway	Snyder Lane	Petaluma Hill Road	5214		1			4		2			3							2	1	1	1	33	169	5
076F	Rohnert Park Expressway	State Farm Drive	Country Club Drive	2740	1		5	5	6		2	6	2	6			1		2		6	3	6	2	634	256	17
077A	Rosana Way	Snyder Lane	Rebecca Way	1428					1						1								1		1	1	1
078A	Santa Alicia Drive	Adele Avenue	Seed Farm Drive	3907			1	1	4		2	3	1							1	1	3	1		21	21	6
079A	Santa Barbara Drive	Adrian Drive	Brett Avenue	3851					2		1	1											1	1	2	2	2
080A	Santa Dorotea Circle	Country Club Drive (N)	Country Club Drive (S)	4707																							
081A	Seed Farm Drive	Enterprise Drive	Southwest Boulevard	1600		1	1		5		4	1		1		1		1		1		2	3	1	45	181	7
082A	Snyder Lane	Eleanor Avenue	Hinebaugh Creek	2375			3	1				1	1			2			2				3	1	39	39	4
082B	Snyder Lane	North City Limit	Eleanor Avenue	3475			1		2		1			1		1			1		1	2			13	13	3
083C	Snyder Lane	Hinebaugh Creek	E Cotati Avenue	6847	1		4	4	10		3	5	6	2		1	2		3	1	2	4	6	6	621	243	19
084A	Southwest Boulevard	Commerce Boulevard	Snyder Lane	8403				7	7		3	4	2	3	1		1			3	1	3	4	3	49	49	14
085A	State Farm Drive	Commerce Boulevard	Professional Center Drive	1813				2	3		1		1	1	1					1			2	2	15	15	5
085B	State Farm Drive	Professional Center Drive	Rohnert Park Expressway	2230					2		1		1							1		1			2	2	2

Segment ID	Street Name	From	To	Length (ft)	Severity					Type								Pedestrian	Bicycle	Year					HSM Severity Ranking (EPDO)	LRSM Severity Ranking (EPDO)	Total
					Fatal	Injury (Severe)	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-on	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle/ Pedestrian	Other/Not Listed			2015	2016	2017	2018	2019			
085C	State Farm Drive	Rohnert Park Expressway	Enterprise Drive	1409					**3**				**1**	**2**								**1**	**1**	**1**	**3**	**3**	**3**
086A	Valley House Drive	Bodway Parkway	Petaluma Hill Road	2625																							
087A	Allan Avenue	Adele Avenue (W)	Adele Avenue (E)	1421					**1**	**1**												**1**			**1**	**1**	**1**
088A	Santa Cruz Way	Country Club Drive	San Gabriel Place	2879					**1**		**1**									**1**					**1**	**1**	**1**
089A	Carlita Circle	Carlita Circle	Country Club Drive	1703					**1**				**1**											**1**	**1**	**1**	**1**
090A	Jasmine Circle	Rohnert Park Expressway	Jasmine Circle	2994					**1**	**1**													**1**		**1**	**1**	**1**

Appendix C

Countermeasures from the LRSM

HSIP Countermeasures from the LRSM (Version 1.6)

No.	Type	Countermeasure Name	Crash Type	CRF	Expected Life (Years)	HSIP Funding Eligibility	Systemic Approach Opportunity
S01	Lighting	Add intersection lighting	Night	40%	20	100%	Medium
S02	Signal Mod.	Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number	All	15%	10	100%	Very High
S03	Signal Mod.	Improve signal timing (coordination, phases, red, yellow, or operation)	All	15%	10	50%	Very High
S05	Signal Mod.	Install emergency vehicle pre-emption systems	Emergency Vehicle	70%	10	100%	High
S06	Signal Mod.	Install left-turn lane and add turn phase (signal has no left-turn lane or phase before)	All	55%	20	90%	Low
S07	Signal Mod.	Provide protected left turn phase (left turn lane already exists)	All	30%	20	100%	High
S08	Signal Mod.	Convert signal to mast arm (from pedestal-mounted)	All	30%	20	100%	Medium
S09	Operation/ Warning	Install raised pavement markers and striping (Through Intersection)	All	10%	10	100%	Very High
S10	Operation/ Warning	Install flashing beacons as advance warning	All	30%	10	100%	Medium
S11	Operation/ Warning	Improve pavement friction (High Friction Surface Treatments)	All	55%	10	100%	Medium
S12	Geometric Mod.	Install raised median on approaches	All	25%	20	90%	Medium
S13PB	Geometric Mod.	Install pedestrian median fencing on approaches	P & B	35%	20	90%	Low
S14	Geometric Mod.	Create directional median openings to allow (and restrict) left-turns and u-turns	All	50%	20	90%	Medium
S15	Geometric Mod.	Reduced Left-Turn Conflict Intersections	All	50%	20	90%	Medium
S16	Geometric Mod.	Convert intersection to roundabout (from signal)	All	Varies	20	100%	Low
S17PB	Ped and Bike	Install pedestrian countdown signal heads	P & B	25%	20	100%	Very High
S18PB	Ped and Bike	Install pedestrian crossing	P & B	25%	20	100%	High
S19PB	Ped and Bike	Pedestrian Scramble	P & B	40%	20	100%	High
S20PB	Ped and Bike	Install advance stop bar before crosswalk (Bicycle Box)	P & B	15%	10	100%	Very High
S21PB	Ped and Bike	Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	P & B	60%	10	100%	Very High

No.	Type	Countermeasure Name	Crash Type	CRF	Expected Life (Years)	HSIP Funding Eligibility	Systemic Approach Opportunity
NS01	Lighting	Add intersection lighting	Night	40%	20	100%	Medium
NS02	Control	Evaluate conversion to all-way STOP control (from 2-way or Yield control)*	All	50%	10	100%	High
NS03	Control	Evaluate installing signals*	All	30%	20	100%	Low
NS04	Control	Convert intersection to roundabout (from all way stop)	All	Varies	20	100%	Low
NS05	Control	Convert intersection to roundabout (from stop or yield control on minor road)	All	Varies	20	100%	Low
NS05mr	Control	Convert intersection to mini-roundabout	All	30%	20	90%	Medium
NS06	Operation/ Warning	Install/upgrade larger or additional stop signs or other intersection warning/regulatory signs	All	15%	10	100%	Very High
NS07	Operation/ Warning	Upgrade intersection pavement markings	All	25%	10	100%	Very High
NS08	Operation/ Warning	Install Flashing Beacons at Stop-Controlled Intersections	All	15%	10	100%	High
NS09	Operation/ Warning	Install flashing beacons as advance warning	All	30%	10	100%	High
NS10	Operation/ Warning	Install transverse rumble strips on approaches	All	20%	10	90%	High
NS11	Operation/ Warning	Improve sight distance to intersection (Clear Sight Triangles)	All	20%	10	90%	High
NS12	Operation/ Warning	Improve pavement friction (High Friction Surface Treatments)	All	55%	10	100%	Medium
NS13	Geometric Mod.	Install splitter-islands on the minor road approaches	All	40%	20	90%	Medium
NS14	Geometric Mod.	Install raised median on approaches	All	25%	20	90%	Medium
NS15	Geometric Mod.	Create directional median openings to allow (and restrict) left-turns and u- turns	All	50%	20	90%	Medium
NS16	Geometric Mod.	Reduced Left-Turn Conflict Intersections	All	50%	20	90%	Medium
NS17	Geometric Mod.	Install right-turn lane	All	20%	20	90%	Low
NS18	Geometric Mod.	Install left-turn lane (where no left-turn lane exists)	All	35%	20	90%	Low
NS19PB	Ped and Bike	Install raised medians / refuge islands	Ped and Bike	45%	20	90%	Medium
NS20PB	Ped and Bike	Install pedestrian crossing at uncontrolled locations (new signs and markings only)	Ped and Bike	25%	10	100%	High
NS21PB	Ped and Bike	Install/upgrade pedestrian crossing at uncontrolled locations (with enhanced safety features)	Ped and Bike	35%	20	100%	Medium
NS22PB	Ped and Bike	Install Rectangular Rapid Flashing Beacon (RRFB)	Ped and Bike	35%	20	100%	Medium
NS23PB	Ped and Bike	Install Pedestrian Signal (including Pedestrian Hybrid Beacon (HAWK))	Ped and Bike	55%	20	100%	Low

No.	Type	Countermeasure Name	Crash Type	CRF	Expected Life (Years)	HSIP Funding Eligibility	Systemic Approach Opportunity
R01	Lighting	Add segment lighting	Night	35%	20	100%	Medium
R02	Remove/ Shield Obstacles	Remove or relocate fixed objects outside of Clear Recovery Zone	All	35%	20	90%	High
R03	Remove/ Shield Obstacles	Install Median Barrier	All	25%	20	100%	Medium
R04	Remove/ Shield Obstacles	Install Guardrail	All	25%	20	100%	High
R05	Remove/ Shield Obstacles	Install impact attenuators	All	25%	10	100%	High
R06	Remove/ Shield Obstacles	Flatten side slopes	All	30%	20	90%	Medium
R07	Remove/ Shield Obstacles	Flatten side slopes and remove guardrail	All	40%	20	90%	Medium
R08	Geometric Mod.	Install raised median	All	25%	20	90%	Medium
R09	Geometric Mod.	Install median (flush)	All	15%	20	90%	Medium
R10PB	Geometric Mod.	Install pedestrian median fencing on approaches	P & B	35%	20	90%	Low
R11	Geometric Mod.	Install acceleration/ deceleration lanes	All	25%	20	90%	Low
R12	Geometric Mod.	Widen lane (initially less than 10 ft)	All	25%	20	90%	Medium
R13	Geometric Mod.	Add two-way left-turn lane (without reducing travel lanes)	All	30%	20	90%	Medium
R14	Geometric Mod.	Road Diet (Reduce travel lanes from 4 to 3 and add a two way left-turn and bike lanes)	All	30%	20	90%	Medium
R15	Geometric Mod.	Widen shoulder	All	30%	20	90%	Medium

No.	Type	Countermeasure Name	Crash Type	CRF	Expected Life (Years)	HSIP Funding Eligibility	Systemic Approach Opportunity
R16	Geometric Mod.	Curve Shoulder widening (Outside Only)	All	45%	20	90%	Medium
R17	Geometric Mod.	Improve horizontal alignment (flatten curves)	All	50%	20	90%	Low
R18	Geometric Mod.	Flatten crest vertical curve	All	25%	20	90%	Low
R19	Geometric Mod.	Improve curve superelevation	All	45%	20	90%	Medium
R20	Geometric Mod.	Convert from two-way to one-way traffic	All	35%	20	90%	Medium
R21	Geometric Mod.	Improve pavement friction (High Friction Surface Treatments)	All	55%	10	100%	High
R22	Operation/ Warning	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	All	15%	10	100%	Very High
R23	Operation/ Warning	Install chevron signs on horizontal curves	All	40%	10	100%	Very High
R24	Operation/ Warning	Install curve advance warning signs	All	25%	10	100%	Very High
R25	Operation/ Warning	Install curve advance warning signs (flashing beacon)	All	30%	10	100%	High
R26	Operation/ Warning	Install dynamic/variable speed warning signs	All	30%	10	100%	High
R27	Operation/ Warning	Install delineators, reflectors and/or object markers	All	15%	10	100%	Very High
R28	Operation/ Warning	Install edge-lines and centerlines	All	25%	10	100%	Very High
R29	Operation/ Warning	Install no-passing line	All	45%	10	100%	Very High
R30	Operation/ Warning	Install centerline rumble strips/stripes	All	20%	10	100%	High
R31	Operation/ Warning	Install edgeline rumble strips/stripes	All	15%	10	100%	High
R32PB	Ped and Bike	Install bike lanes	P & B	35%	20	90%	High
R33PB	Ped and Bike	Install Separated Bike Lanes	P & B	45%	20	90%	High
R34PB	Ped and Bike	Install sidewalk/pathway (to avoid walking along roadway)	P & B	80%	20	90%	Medium
R35PB	Ped & Bike	Install/upgrade pedestrian crossing (with enhanced safety features)	P & B	35%	20	90%	Medium
R36PB	Ped and Bike	Install raised pedestrian crossing	P & B	35%	20	90%	Medium
R37PB	Ped and Bike	Install Rectangular Rapid Flashing Beacon (RRFB)	P & B	35%	20	100%	Medium
R38	Animal	Install animal fencing	Animal	80%	20	90%	Medium


GHD