Local Road Safety Plan

Final Document

City of Fortuna

November 15, 2021

REPORT SIGNATURE SHEET

This Local Road Safety Plan for the City of Fortuna 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.

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Registered Civil Engineer

November 15, 2021
Date

Acknowledgements

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

City of Fortuna

Mayor and Council Members

Department of Public Works

Police Department

Fortuna Volunteer Fire Department

Fortuna Union High School District

Fortuna Elementary School District

Caltrans, District 1

Redwood Community Action Agency

County of Humboldt

Humboldt Transit Authority

Executive Summary

In 2020, the City of Fortuna was awarded a state grant from Caltrans to perform a Local Road Safety Plan (LRSP). The LRSP is a requirement for Cycle 11 of the Highway Safety Improvement Program (HSIP). The LRSP grant application included a citywide analysis of the roadway system in Fortuna comprising of the current collisions patterns and high-risk roadway characteristics (systemic analysis). Furthermore, the City of Fortuna'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 that is similar to a Systemic Safety Analysis Report (SSAR) except a LRSP has a local leadership group that represents the 5 E's (not just engineering) and public outreach. **The 5 E's of traffic safety include Engineering, Enforcement, Education, Emergency Services, 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 from the 5 E's and anyone 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 5 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. Pedestrians
2. Bicyclists
3. Distracted Driving
4. Intersections
5. Aggressive Driving/Speeding

In addition, the vision, mission statement, and goals were established in guiding the development of the LRSP. It was also decided that the LRSP for the City of Fortuna would be a living document with official updated every five (5) years.

Data analysis, public input, and City feedback helped to determine the priority locations in the City. These locations, along with their proposed countermeasures, are shown in the tables below.

Priority Intersections and Recommended Countermeasures

Intersection	Recommended Countermeasures
S Fortuna Blvd / Newburg Rd	Convert signal to mast arm (from pedestal-mounted)
	Improve signal timing (coordination, phases, red, yellow, or operation)
	Install emergency vehicle pre-emption systems
	Install pedestrian countdown signal heads
	Install pedestrian crossing
	Upgrade existing pedestrian push buttons
	Upgrade to yellow, high visibility crosswalk markings
	Install School Crossing Warning sign to signal arms
Newburg Rd / 12th St	Convert intersection to roundabout (from 2-way stop or Yield control)
	Evaluate removal of railroad equipment from inactive railroad
Rohnerville Rd / Newburg Rd	Remove crosswalk on north leg
	Install curb bulb-outs for crossing on south leg, increase visibility of Rectangle Rapid Flashing Beacons (RRFBs), and install crosswalk on south leg
	Add intersection lighting
S Fortuna Blvd / Redwood Way	Improve signal hardware: lenses, mounting, size, and number
	Improve signal timing (coordination, phases, red, yellow, or operation)
	Install raised median on approaches
	Restrict parking near intersection
S Fortuna Blvd / Kenmar Rd	Improve signal hardware: lenses, mounting, size, and number
	Improve signal timing (coordination, phases, red, yellow, or operation)
	Install flashing beacons as advance warning on eastbound approach
	Extend eastbound right turn lane
	OR
	Convert intersection to roundabout (from signal)
Rohnerville Rd / School St	Convert to All-Way STOP control (from 2-way or Yield control) *
	Install flashing beacons as advance warning
Main St / 6th St	Convert to All-Way STOP control (from 2-way or Yield control) *
	Improve sight distance to intersection (Clear Sight Triangles)
Dinsmore Dr / US 101 SB Ramps	Convert intersection to roundabout (from all way stop)
Kenmar Rd / US 101 SB Ramps	Convert intersection to roundabout (from 2-way or yield control)
Kenmar Rd / US 101 NB Ramps	Convert intersection to roundabout (from 2-way or yield control)
Systemic (3 intersections along S Fortuna Blvd)	Improve signal hardware: lenses, mounting, size, and number
	Improve signal timing (coordination, phases, red, yellow, or operation)

*Would need an engineering study to see if it met the California Manual on Uniform Traffic Control Devices warrants for multi-way stop control

Priority Segments and Recommended Countermeasures

Segment	Recommended Countermeasures
S Fortuna Blvd from Smith Ln to Kenmar Rd	Add Segment Lighting
	Install bike lanes
Main St from 3rd St to 9th St	Increase DUI enforcement
	Refresh bike lane striping
	Add Segment Lighting
	Install no-passing line
Rohnerville Rd from Newell Dr to Renner Dr	Add Segment Lighting
	Install edgeline reflectors
	Install additional speed limit signs
Riverwalk Dr from Dinsmore Dr to Alamar Way	Install/refresh edgelines and centerlines
N Fortuna Blvd from Main St to Smith Ln	Install bike lanes
Smith Ln from N Fortuna Blvd to Rohnerville Rd	Add Segment Lighting
	Install edgelines and centerlines
Newburg Rd from 12th St to Rohnerville Rd	Install edgelines
	Install bike lanes
	Upgrade sidewalks to American with Disabilities Act (ADA) standards
Systemic (3.11 mi total)	Add Segment Lighting
	Complete sidewalk gap closures

It is important to understand the upcoming funding opportunities in the successful implementation of these safety projects. Most of the proposed countermeasures are HSIP fundable (next cycle 11 is scheduled to open in May 2022). However, countermeasures can be implemented through other funding sources to include

- Active Transportation Program (ATP)
  - Next call for funding projects is scheduled to start in March 2022
- Congestion Mitigation and Air Quality (CMAQ) program
- Sustainable Transportation Planning Grant (Sustainable Communities)
- Stimulus funding sources
- Capital Improvement Program or with on-going maintenance work

Contents

1. Introduction **1**

2. Background **2**

2.1 Purpose and Need 2

2.1.1 City Roadways 2

2.2 Standards and Guidelines 3

2.2.1 California Strategic Highway Safety Plan 4

2.3 Methodology 4

3. Safety Partners/Stakeholders **6**

3.1 LRSP Working Group Members 6

3.1.1 LRSP Working Group Meetings 6

3.2 SHSP Challenge Areas 7

3.3 Guiding Principles 7

3.3.1 Vision Zero 7

3.3.2 Vision 8

3.3.3 Mission Statement 8

3.3.4 Goals 8

4. Analyze Safety Data **10**

4.1 Recent/Planned Safety Projects 10

4.1.1 Active Transportation Program (ATP) 10

4.1.2 Highway Safety Improvement Program (HSIP) 10

4.1.3 Statewide Transportation Improvement Program (STIP) 10

4.1.3.1 Rohnerville Road Improvements Project 10

4.1.3.2 Redwood Way Paving and Pedestrian Improvements 11

4.1.4 12th Street Integrated Stormwater Enhancement Project 11

4.1.5 Strongs Creek Trail 11

4.2 Collision Data 13

4.2.1 Collisions on City Roadways 14

4.2.2 Collisions on Caltrans Interchanges 17

4.2.3 Collisions Related to Challenge Areas 18

4.2.3.1 Pedestrians 18

4.2.3.2 Bicyclists 20

4.2.3.3 Distracted Driving 21

4.2.3.4 Intersections 22

4.2.3.5 Speeding 22

4.2.3.6 School Drop Off/Pick Up 22

4.3 Field Reconnaissance 24

5. Public Outreach **25**

5.1 Public Website 25

5.1.1 Interactive Map 25

5.1.2 Public Survey 26

6. Prioritize & Incorporate Strategies **29**

6.1 Engineering Strategies 29

6.1.1 Identified Challenge Areas 29

6.1.2 City Intersection Projects 30
6.1.3 City Segment Projects 32
6.1.4 Systemic Safety Countermeasures 35
6.1.5 Projects Suggested through Public Input 36
6.2 Non-Engineering Strategies 37
6.2.1 Education 37
6.2.2 Emerging Technologies 37
6.2.3 Enforcement 38
6.2.4 Emergency Response 38
7. Prioritize & Incorporate Strategies 39
8. Evaluation Process 42
9. Next Steps 44
10. References 45

Table Index

Table 4.1 Comprehensive Collision Costs and EPDO Weights (2018 dollars) 16
Table 4.2 Top Intersections, per Collision Analysis 17
Table 4.3 Top Segments, per Collision Analysis 17
Table 5.1 Positive Feedback from Interactive Map 26
Table 6.1 Priority Intersections and Crash Characteristics 30
Table 6.2 Recommended Countermeasures for Priority Intersections 31
Table 6.3 Priority Segments and Crash Characteristics 33
Table 6.4 Recommended Countermeasures for Priority Segments 34
Table 6.5 Projects Suggested through Public Input 36
Table 7.1 Priority of City Intersection Projects 40
Table 7.2 Priority of City Segment Projects 41

Figure Index

Figure 1.1 California SHSP (2020-2024 1
Figure 1.2 FHWA's LRSP Development Process 1
Figure 2.1 Severe Injury Collisions in the City of Fortuna 3
Figure 2.2 SHSP Challenge Areas 4
Figure 2.3 FHWA's LRSP Development Map (Source: Federal Highway Administration) 5
Figure 3.1 Traditional Approach vs. Vision Zero 8
Figure 4.1 Safety Projects in the City of Fortuna 12
Figure 4.2 Total Collisions within the City of Fortuna (2015-2020*) 13
Figure 4.3 Collision Density on All Roadways (2015-2019) 14
Figure 4.4 City Collision Severity 15
Figure 4.5 Top Violation Categories on City Roadways (2015-2019) 15
Figure 4.6 Summary of City Collisions (2015-2019) 16

Figure 4.7	Summary of Caltrans Interchange Collisions Reported to SWITRS (2015-2019)	18
Figure 4.8	Pedestrian Collisions on City Roadways	19
Figure 4.9	Pedestrian Location at Time of Collision	20
Figure 4.10	Bicycle Collisions on City Roadways	21
Figure 4.11	Types of Inattention for City Collisions (Jan 2015-Oct 2018)	22
Figure 5.1	Public Website Home Page	25
Figure 5.2	Public Website Interactive Map	26
Figure 5.3	Public-Identified Roadway Issues	27
Figure 5.4	Interest in Additional Education for Roundabouts	27

Appendices

Appendix A	Stakeholder and Public Input
Appendix B	Previous Safety Plans and Projects
Appendix C	Collision Data
Appendix D	Field Reconnaissance

List of Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act of 1990
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
CIP	Capital Improvement Program
CMAQ	Congestion Mitigation and Air Quality
CRF	Crash Reduction Factor
DUI	Driving Under the Influence
EPDO	Equivalent Property Damage Only
FHWA	Federal Highway Administration
FSI	Fatal or Severe Injury
HSIP	Highway Safety Improvement Program
HSM	Highway Safety Manual
LRSM	Local Roadway Safety Manual
LRSP	Local Road Safety Plan
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 project involves the development of a Local Road Safety Plan (LRSP), which provides local agencies an opportunity to address unique roadway safety needs in their jurisdictions. This comprehensive document will both help to guide City in safety countermeasures and allow eligibility for funding in future HSIP applications. The process of preparing an LRSP creates a framework to systematically identify and analyze local safety problems and recommend engineering safety improvements for future Highway Safety Improvement Program (HSIP) funding.

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 1.1**).

Figure 1.1 California SHSP (2020-2024

The City and GHD will follow the Federal Highway Administration's (FHWA) Local Road Safety process in the following six (6) steps as shown in **Figure 1.2**:

Figure 1.2 FHWA's LRSP Development Process

In working with the first step of establishing leadership, Brendan Byrd, the City Engineer for the City of Fortuna was identified as the Safety Champion/Lead 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 that is tailored to address the local needs and issues.

2. Background

2.1 Purpose and Need

The City of Fortuna has a current approximate population of 12,000 and is in Humboldt County, California with a mix of local, commuter, recreational, and commercial traffic. The "City of Fortuna General Plan 2030" evaluates how the City growth and development will occur. The Transportation & Circulation chapter of this plan contains seven (7) goals for Fortuna's transportation system. The goals relevant to the local road system are shown below.

> *Goal TC-1:* To develop a safe, convenient, and uncongested road network.
>
> *Goal TC-2:* To provide a sufficient amount of convenient, available, accessible, safe, and attractive parking to serve existing and new development throughout the city.
>
> *Goal TC-3:* To provide and maintain viable public transportation services, with convenient and efficient access to workplaces, shopping, and other destinations that improve mobility, relieve congestion, and address environmental conditions.
>
> *Goal TC-4:* To develop safe and pleasant pedestrian ways that provide recreation opportunities as well as alternatives to the automobile.
>
> *Goal TC-5:* To provide an interconnected and effective system of bikeways, bicycle parking facilities, and trails for people wishing to walk or bicycle for commuting and/or recreational trips.
>
> *Goal TC-7:* To coordinate City-planned transportation and circulation improvements through HCAOG with county, State, and Federal transportation systems.

In focusing in on the roadway safety needs, the past five (5) years of collisions (2015-2019) were evaluated for City roadways and the high severity collisions are discussed below.

2.1.1 City Roadways

During the five-year period (2015-2019), there were no fatal and six (6) severe injury collisions recorded for the roadways under the City of Fortuna's jurisdiction.

The severe injury collisions on City streets had the following characteristics:

- 2016 – A vehicle-pedestrian collision due to a pedestrian violation on Oak Street at 7th Street. Pedestrian was in the road at the time of the collision.
- 2017 – A broadside collision due to an automobile right-of-way violation where Redwood Way intersects Springville Avenue.
- 2018 – A vehicle-pedestrian collision due to a pedestrian violation at the intersection of Rohnerville Road and Kenmar Road. Pedestrian was crossing not in a crosswalk.
- 2018 – A broadside, motorcycle collision due to an automobile right-of-way violation at Rohnerville Road and Senestraro Way.
- 2018 – A single-vehicle, hit object collision at Rohnerville Road and Redwood Way.
- 2019 – A head-on collision due to an unsafe lane change at 524 Main Street.

See **Figure 2.1** for a map of the severe injury collisions in the City. In improving roadway safety for the City of Fortuna, it is important to focus on mitigating these high injury collisions and loss of life.

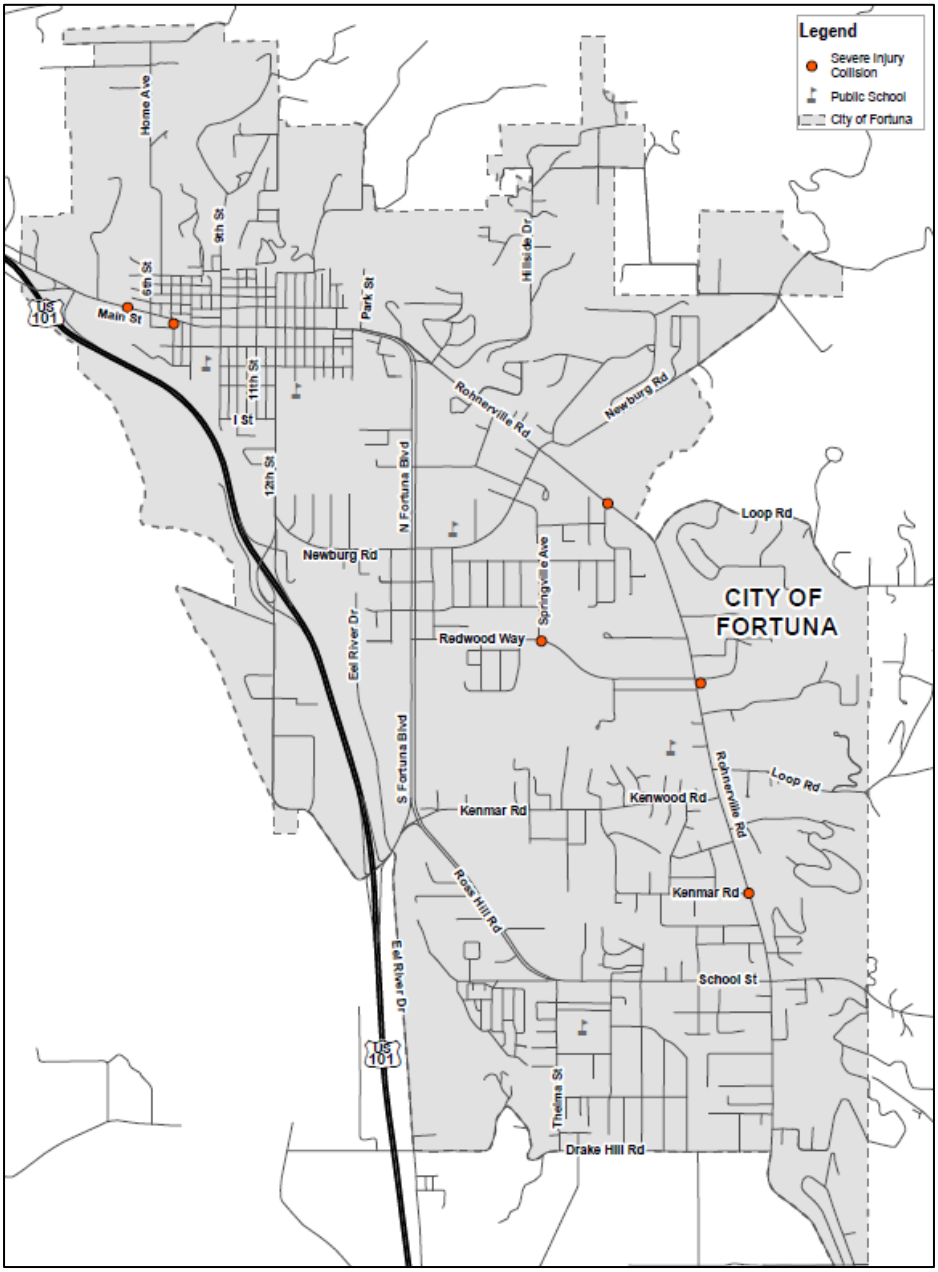


Figure 2.1 Severe Injury Collisions in the City of Fortuna

2.2 Standards and Guidelines

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

- "Local Roadway Safety, A Manual for California's Local Road Owners", Caltrans, Version 1.5, April 2020.
- 2020-2024 California's Strategic Highway Safety Plan (SHSP), "California Safe Roads: 2020-2024 Strategic Highway Safety Plan", Caltrans.
- "Local and Rural Road Safety Briefing Sheets: Local Road Safety Plans," Federal Highway Administration, November 2014.

– “Developing Safety Plans, A Manual for Local Rural Road Owners”, Federal Highway Administration, March 2012
– “Systemic Safety Project Selection Tool,” Federal Highway Administration, 2013.
– “Highway Safety Manual”, American Association of State Highway Officials (AASHTO), 1st Edition, 2014 supplement.
– “California Manual of Uniform Traffic Control Devices (CA MUTCD)”, Revision 5, 2014.

2.2.1 California Strategic Highway Safety Plan

The LRSP will complement California’s SHSP 2020-2024. Per this plan the recommended challenge areas are shown in **Figure 2.2**. This plan will focus on challenge/emphasis areas that are determined through data analysis and stakeholder input.

Figure 2.2 SHSP Challenge Areas

2.3 Methodology

The LRSP methodology followed the FHWA’s LRSP development process as shown in **Figure 2.3**.

Below is a roadmap created by the Federal Highway Administration to show the process of creating the Local Road Safety Plan. Here are 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 5 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 location and systemically.

Figure 2.3 FHWA's LRSP Development Map (Source: Federal Highway Administration)

3. Safety Partners/Stakeholders

3.1 LRSP Working Group Members

Based on community connections, the City of Fortuna led the formation of the LRSP 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 Fortuna.

The LRSP Working Group included the following representatives:

- City of Fortuna
- Caltrans, District 1
- County of Humboldt
- Fortuna Police Department
- Fortuna Fire Department
- Fortuna Union High School District
- Fortuna High School
- Fortuna Elementary School District
- Humboldt Transit Authority
- Redwood Community Action Agency
- City Ambulance

3.1.1 LRSP Working Group Meetings

Two meetings were held with the stakeholder working group and facilitated by GHD. The virtual meetings were as follows:

- December 8, 2020 – 2:00 p.m. to 4:00 p.m.
    - Discussed the LRSP overall process, working group member's safety priorities, past 5 years of collisions (City and Caltrans roadways), vision, goals, and priorities.
- April 22, 2021 – 1:30 p.m. to 3:30 p.m.
    - Reviewed first meeting, discussed public comments and ways to address their concerns, recent developments, safety countermeasures and projects, refined of LRSP's guiding principles, and coordinated next steps.

The meeting summaries for the stakeholder working group meetings are 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. With many of the safety countermeasures to include engineering, enforcement, and emergency response, it is important to have buy off from the stakeholders in understanding how the plan will be implemented.

3.2 SHSP Challenge Areas

Based on the LRSP Working Group Meetings, this LRSP will address multiple Strategic Highway Safety Plan (SHSP) Challenge/Emphasis Areas including:

1. Pedestrians
2. Bicyclists
3. Distracted Driving
4. Intersections
    a. Prioritize intersections and traffic improvements
5. Aggressive Driving/Speeding
    a. Speed management on major roadways

The plan will also address School Drop Off/Pick Up, per stakeholder working group recommendation.

3.3 Guiding Principles

The members of the 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 strive 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 over time by taking a proactive, preventative approach that prioritizes traffic safety as a public health issue.

3.3.1 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.

As shown in **Figure 3.1**, is the comparison of the traditional approach versus the Vision Zero approach.

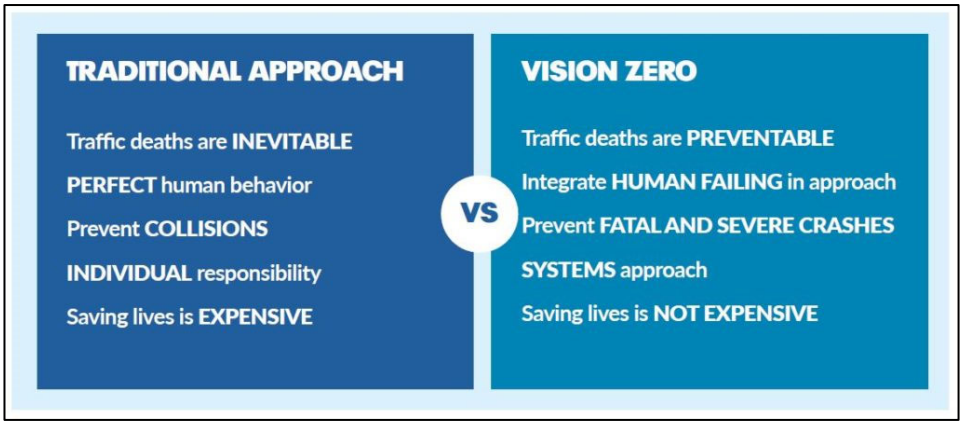


Figure 3.1 Traditional Approach vs. Vision Zero

3.3.2 Vision

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

The City of Fortuna will partner with various community stakeholders to provide a safe and sustainable multimodal transportation system for all users of the public roadways in Fortuna.

3.3.3 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.

The City of Fortuna will develop a comprehensive safety plan with engagement of stakeholders and citizens in proactively improving safety throughout the City.

3.3.4 Goals

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

1. **Goal:** Create a safe, livable, and welcoming community by developing a roadway safety plan targeted to Fortuna's transportation and safety needs
2. **Goal:** Reduce the potential for fatal and severe injury collisions citywide
3. **Goal:** Improve safety around schools with speed management and connected multimodal infrastructure
4. **Goal:** Improve multimodal transportation safety by expanding the City's non-motorized transportation infrastructure
5. **Goal:** Reduce rear end collisions citywide by implementing speed management strategies
6. **Goal:** Increase walking, biking, rolling (wheelchair, skateboard, scooter, etc.) to downtown district, to work, and to school
7. **Goal:** Reduce speeding and improper turning related collisions through engineering, enforcement, and education strategies

4. Analyze Safety Data

4.1 Recent/Planned Safety Projects

The City of Fortuna has conducted some previous safety analysis that has developed the following planned safety projects. The primary source of funding for the current safety projects in the City are the Caltrans' Active Transportation Program and Highway Safety Improvement Program. **Figure 4.1** shows a map of the project locations in the City. Refer to **Appendix B: Previous Safety Plans and Projects** for additional project details.

4.1.1 Active Transportation Program (ATP)

The City of Fortuna received one (1) ATP grant from Cycle 1 and one (1) ATP grant from Cycle 2. The details of the ATP projects are as follows:

1. An ATP, Cycle 1 grant was awarded to Fortuna for the "2015 Safe Routes to School Project". According to the City website, the project "focused on pedestrian, cyclist and traffic safety improvements along Ross Hill Road as well as in the neighborhoods surrounding Toddy Thomas Middle School, Redwood Preparatory Charter School and Ambrosini School. These improvements focused on adding clearly marked crosswalks, continuous sidewalks, and marked bike paths as well as improved signage and street painting for driver visibility." This project was completed in 2017.
2. An ATP, Cycle 2 grant was awarded to Fortuna for the "South Fortuna Elementary School Safe Routes to School Project". The City website explains that this project "will focus on pedestrian, cyclist and traffic safety improvements in the immediate vicinity of South Fortuna Elementary School. These improvements will alter the traffic striping on Newburg Road, and improve pedestrian and cyclist facilities on Newburg Road as well as within the Lawndale Subdivision "The project is currently in design.

4.1.2 Highway Safety Improvement Program (HSIP)

In 2016, the City of Fortuna received an HSIP grant from Cycle 8 for the "Citywide Striping & Unsignalized Intersection Improvements Project". This project proposed upgrading and installing crosswalks at eight (8) locations in the City and installing edgelines and centerlines on ten (10) City streets. This project was completed in 2020.

4.1.3 Statewide Transportation Improvement Program (STIP)

4.1.3.1 Rohnerville Road Improvements Project

The Rohnerville Road project was STIP and HSIP funded and included safety improvements from Redwood Way to School Street and Main Street to Newell Drive. Safety improvements included new bike lanes, sidewalks, driveways, curb ramps, crosswalks, and user-activated LED crossing signs. The total length of the project was around 1 mile. Construction was completed in 2016.

4.1.3.2 Redwood Way Paving and Pedestrian Improvements

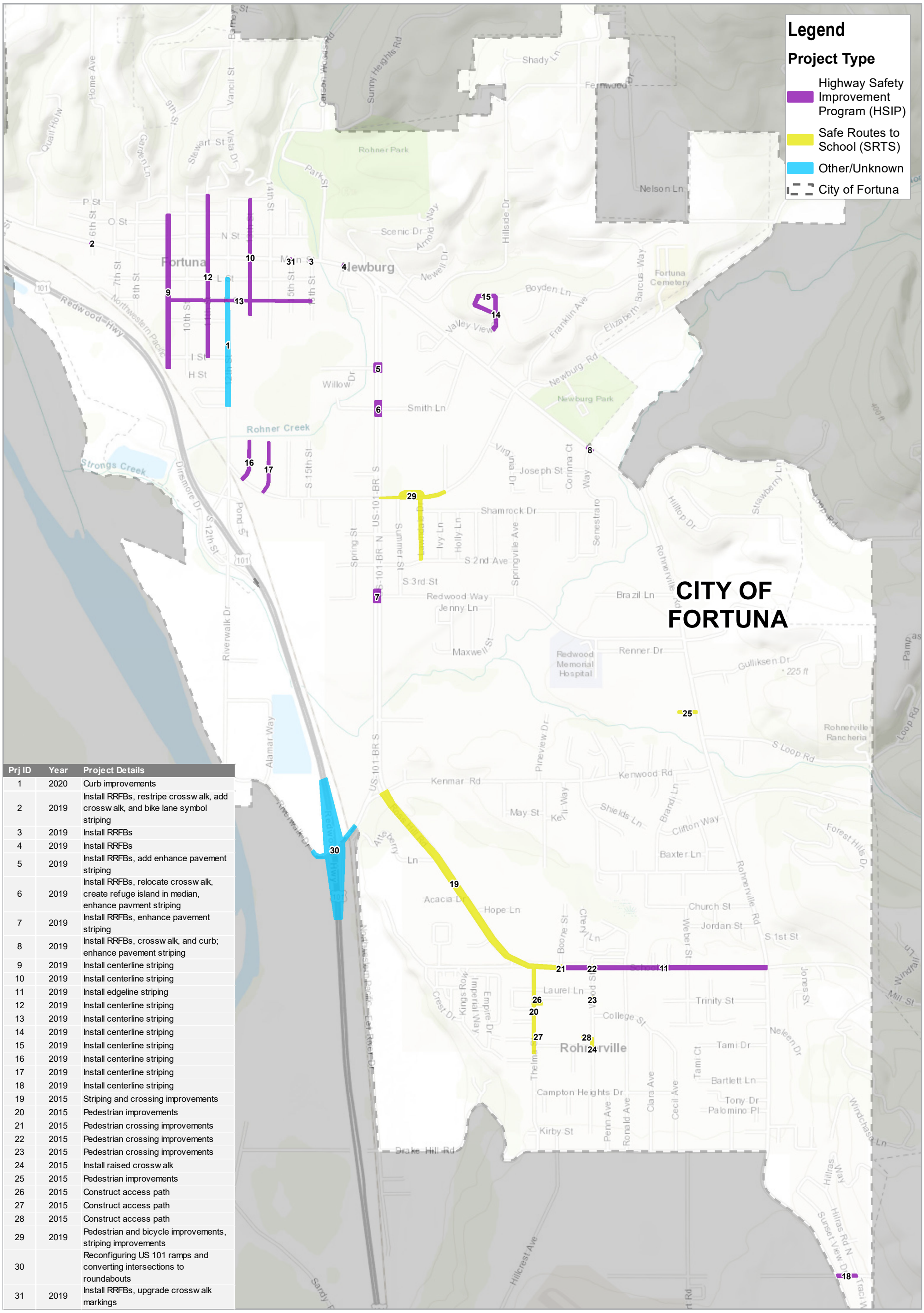
The Redwood Way Paving and Pedestrian Improvements project covers approximately 0.75 miles of roadway and was funded through STIP. This project spans from Fortuna Boulevard to Rohnerville Road and will include widened shoulders (5' wide), sidewalk infill, curb ramp improvements, crosswalk striping, and a new RRFB system. Construction will be completed around September 2021.

4.1.4 12th Street Integrated Stormwater Enhancement Project

The 12th Street Integrated Stormwater Enhancement Project is a low-impact development project that aims to improve drainage along 12th Street and in the southern parking lot of Fortuna High School. This project includes the installation of new curb bulb-outs with planter boxes and some improvements to curb ramps.

4.1.5 Strongs Creek Trail

The City is planning for a Class I trail that will connect the Riverwalk area to Newburg park, with the trail located largely along the top of bank of Strongs Creek. This trail would offer bicycle and pedestrian access to natural parts of Fortuna that otherwise are not accessible and would increase safety on local roads by allowing for bicyclists and pedestrians to have a separated pathway to move through the City.



Prj ID	Year	Project Details
1	2020	Curb improvements
2	2019	Install RRFBs, restripe crossw alk, add crossw alk, and bike lane symbol striping
3	2019	Install RRFBs
4	2019	Install RRFBs
5	2019	Install RRFBs, add enhance pavement striping
6	2019	Install RRFBs, relocate crossw alk, create refuge island in median, enhance pavment striping
7	2019	Install RRFBs, enhance pavement striping
8	2019	Install RRFBs, crossw alk, and curb; enhance pavement striping
9	2019	Install centerline striping
10	2019	Install centerline striping
11	2019	Install edgeline striping
12	2019	Install centerline striping
13	2019	Install centerline striping
14	2019	Install centerline striping
15	2019	Install centerline striping
16	2019	Install centerline striping
17	2019	Install centerline striping
18	2019	Install centerline striping
19	2015	Striping and crossing improvements
20	2015	Pedestrian improvements
21	2015	Pedestrian crossing improvements
22	2015	Pedestrian crossing improvements
23	2015	Pedestrian crossing improvements
24	2015	Install raised crossw alk
25	2015	Pedestrian improvements
26	2015	Construct access path
27	2015	Construct access path
28	2015	Construct access path
29	2019	Pedestrian and bicycle improvements, striping improvements
30		Reconfiguring US 101 ramps and converting intersections to roundabouts
31	2019	Install RRFBs, upgrade crossw alk markings

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Miles

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

N

GHD

CITY OF FORTUNA
LOCAL ROAD SAFETY PLAN (LRSP)

SAFETY PROJECTS IN THE CITY OF FORTUNA

Project No. **11211821**
Revision No. **-**
Date **2/22/2021**

FIGURE 4.1

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4.2 Collision Data

The City of Fortuna collision data was gathered using the Statewide Integrated Traffic Records System (SWITRS), Transportation Injury Mapping System (TIMS), and collision data from the Fortuna Police Department. Each data set was analyzed, crosschecked, and compiled into one complete comprehensive data set. This process was done to ensure that all reported collisions occurring within the City are accounted for and to provide additional information that one system may not have captured. The data set contains over five years' worth of collisions spanning from January 1, 2015 to October 17, 2020.

During this period, a total of 488 collisions were reported in the City of Fortuna (not including US 101 mainline collisions). These collisions were classified based on roadway jurisdiction (City or Caltrans) and only the US 101 interchanges were evaluated due to their interface with local roadways. Collisions were further categorized into intersection related collisions and roadway segment related collisions with a separate focus on the City streets and Caltrans US 101 interchanges.

The pie chart in **Figure 4.2** depicts the number of City collisions by collision location (intersection or segment). The highest number of collisions was at City intersections (282 collisions).

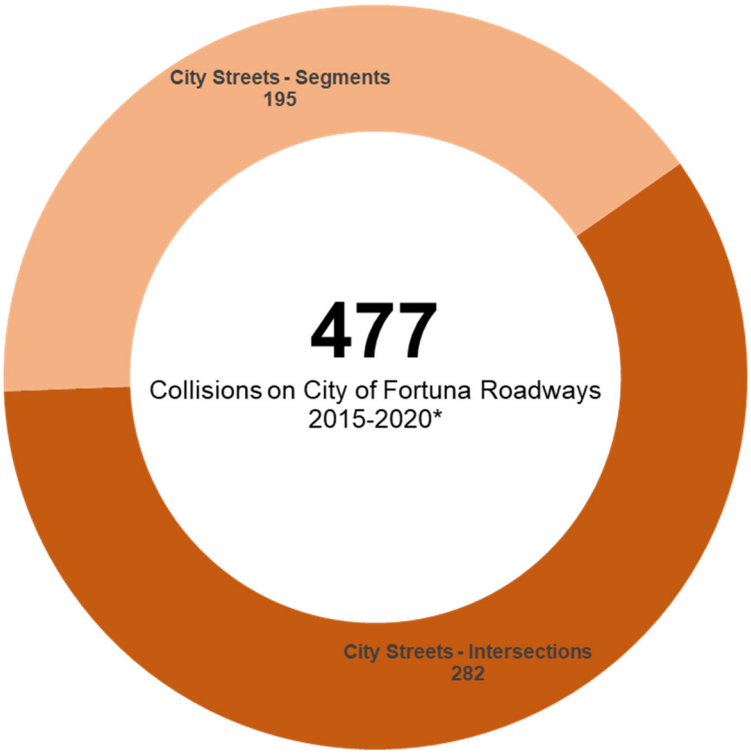


Figure 4.2 Total Collisions within the City of Fortuna (2015-2020)*

**2020 data is from City database from January – October 17th. Does not include SWITRS 2020 data.*

As shown on the collision density map (see **Figure 4.3** below), areas with high density of collisions include S Fortuna Boulevard at Kenmar Road, N Fortuna Boulevard at Newburg Road, and along Main Street in the downtown area.

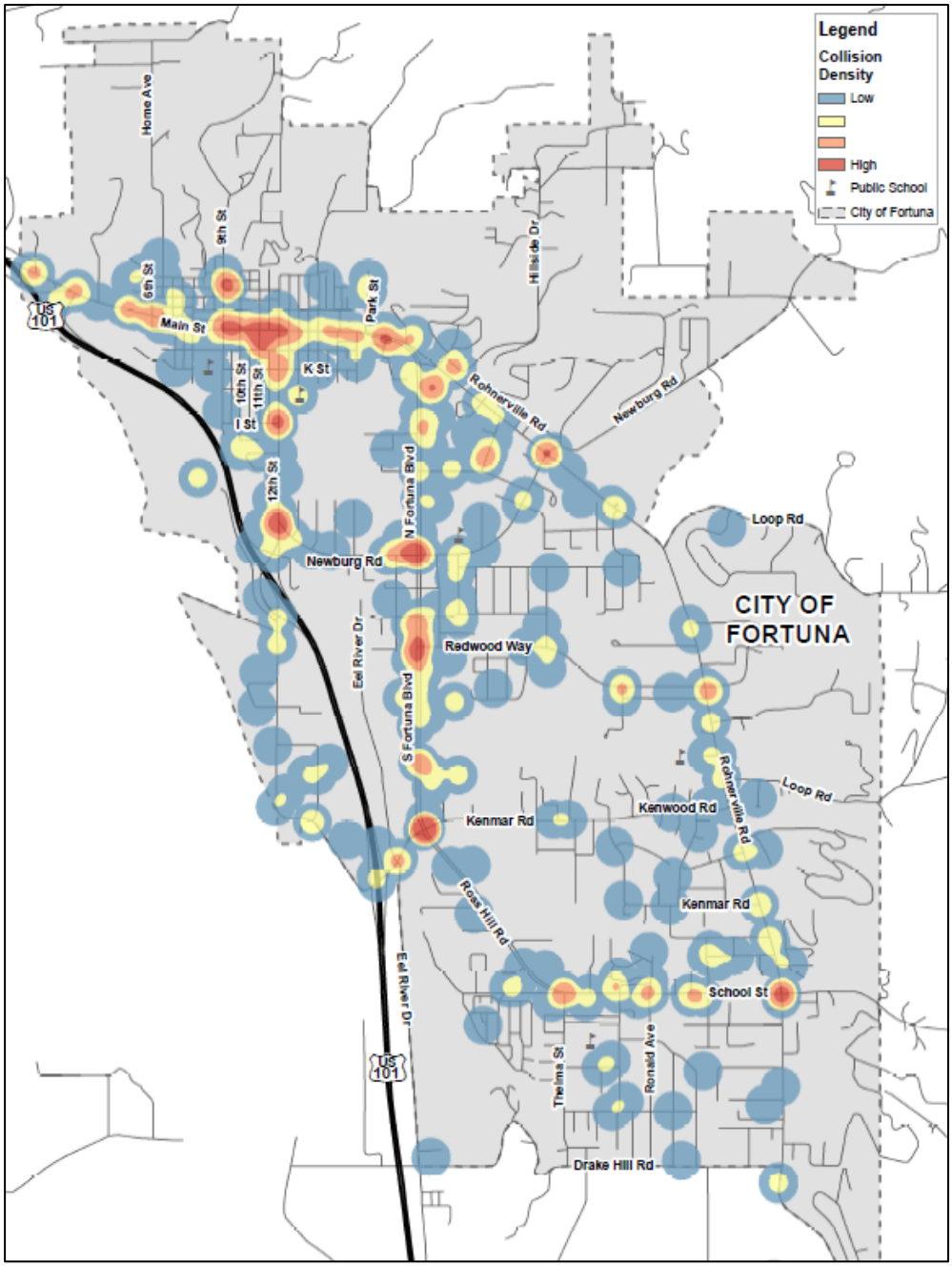


Figure 4.3 Collision Density on All Roadways (2015-2019)

4.2.1 Collisions on City Roadways

There were 436 collisions recorded on the City roadways between 2015 and 2019. As shown in **Figure 4.4**, there were no fatal collisions and six (6) severe injury (SI) collisions on City roadways, with 2016 having the most collisions and 2018 having the most SI collisions. In addition, the current trend of collisions per year is trending downward with the least amount of collisions in 2019.

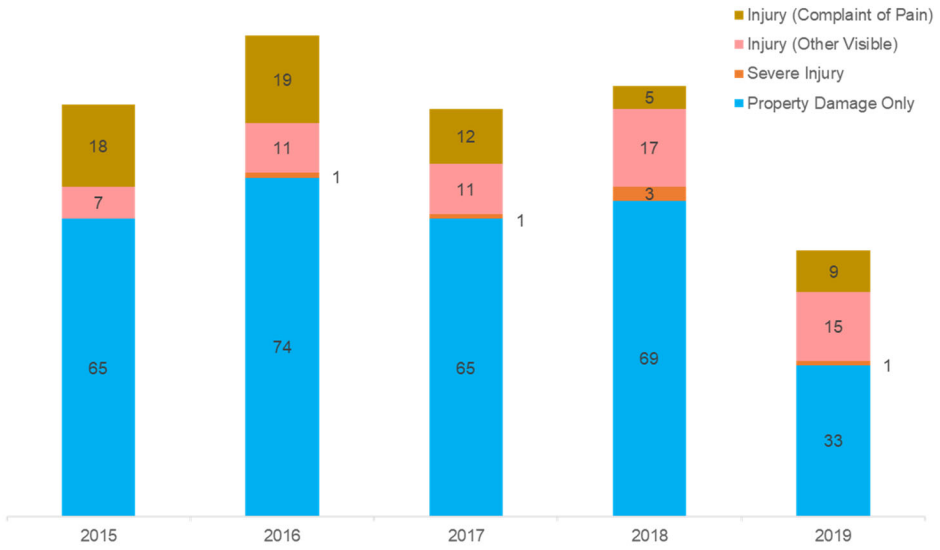


Figure 4.4 City Collision Severity

Rear end collisions were the most common collision type. The top five violation categories in order (not including unknown or not stated collisions) for City roadways are presented in **Figure 4.5**. The top violation category on City roadways was unsafe speed. The majority of unsafe speed violations resulted in rear end collisions.

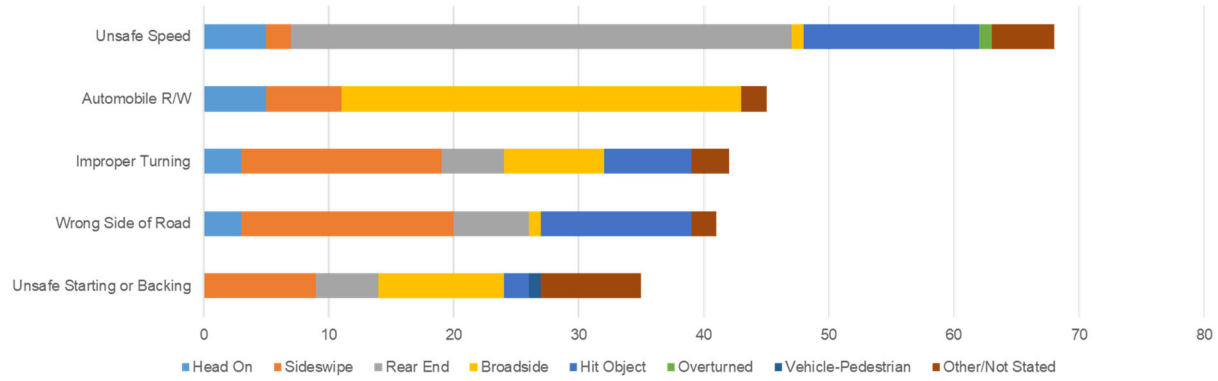


Figure 4.5 Top Violation Categories on City Roadways (2015-2019)

Figure 4.6 summarizes the City collisions based on severity and type.

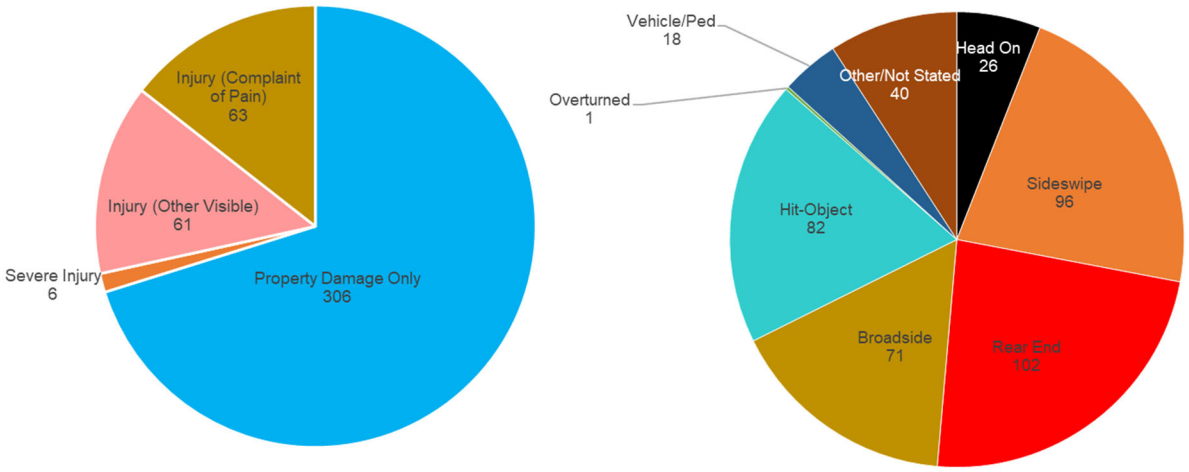


Figure 4.6 Summary of City Collisions (2015-2019)

The total number of collisions and Equivalent Property Damage Only (EPDO) rating were assessed to determine the top study intersections (refer to **Appendix C: Collision Data**). 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) rating assigns a weight to collisions in capturing the relative severity in equivalent property damage only (PDO =1).

Table 4.1 provides the comprehensive collision costs and EPDO weights that were used in ranking the collisions. 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 4.1 Comprehensive Collision Costs and EPDO Weights (2018 dollars)

Severity	Comprehensive Costs	EPDO Weight
Fatal (K)	$6,418,400	544
Severe Injury (A)	$345,800	30
Minor Injury (B)	$126,500	11
Non-Visible Injury (C)	$71,900	6
PDO (O)	$11,800	1

Based on Table 7-1, Highway Safety Manual, 2010, Adjusted to 2018 dollars.

The intersection of S Fortuna Boulevard/Ross Hill Road and Newburg Road had the highest EPDO score at 62 and the second highest number of collisions at 12. The intersection of S Fortuna Boulevard and Kenmar Road had the highest number of collisions (14 total collisions). **Table 4.2** shows the top intersections, per collision analysis. Further detailed collision analysis is in **Appendix C: Collision Data.**

Table 4.2 Top Intersections, per Collision Analysis

North/South Road	East/West Road	EPDO	Total Collisions
S Fortuna Blvd	Newburg Rd	62	12
Newburg Rd	12th St	56	11
Rohnerville Rd	Kenmar Rd	41	2
Redwood Way	Springville Ave	37	3
Rohnerville Rd	Newburg Rd	33	8
S Fortuna Blvd	Redwood Way	30	10
S Fortuna Blvd	Kenmar Rd	24	14

The segment collisions were also analyzed by EPDO and total number of collisions. **Table 4.3** shows the top segments, per collision analysis. S Fortuna Boulevard from Smith Lane to Kenmar Road had the highest EPDO rating (125) and number of collisions (25). Further detailed collision analysis is in **Appendix C: Collision Data**.

Table 4.3 Top Segments, per Collision Analysis

Road Name	From	To	EPDO	Total Collisions
S Fortuna Blvd	Smith Ln	Kenmar Rd	125	25
Main St	3rd St	9th St	57	8
Rohnerville Rd	Newell Dr	Renner Dr	41	11
Riverwalk Dr	S 12th St	Alamar Way	23	3
Rohnerville Rd	S Loop Rd	Jordan St	22	2
Smith Ln	N Fortuna Blvd	Rohnerville Rd	18	8
N Fortuna Blvd	Main St	Smith Ln	13	8

4.2.2 Collisions on Caltrans Interchanges

There were nine (9) collisions reported to the SWITRS database at US 101 interchanges in Fortuna between 2015 and 2019. No collisions on US 101 mainline were analyzed. **Figure 4.7** summarizes the Caltrans collisions on the interchanges based on severity and type. One (1) collision had a visible injury and the remaining collisions were property damage only. There were no fatal or severe injury collisions at the interchanges. The majority of collisions were rear ends.

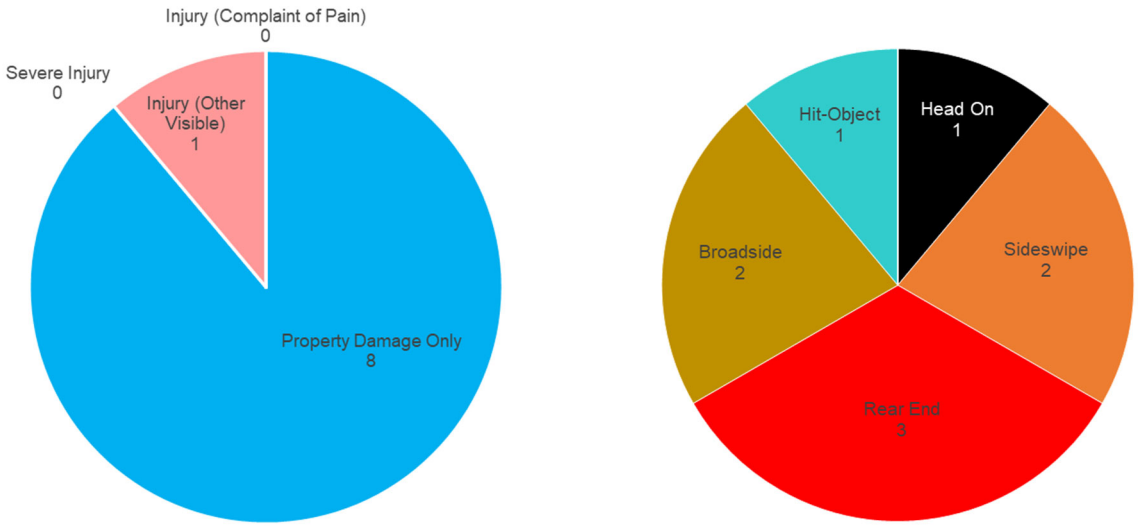


Figure 4.7 Summary of Caltrans Interchange Collisions Reported to SWITRS (2015-2019)

4.2.3 Collisions Related to Challenge Areas

4.2.3.1 Pedestrians

There were nineteen (19) total pedestrian collisions on City roadways between 2015 and 2019. Most pedestrian collisions were at intersections (14 out of 19). Of these collisions, two (2) resulted in a severe injury. **Figure 4.8** shows the locations of pedestrian collisions, along with their respective severity and lighting characteristics.

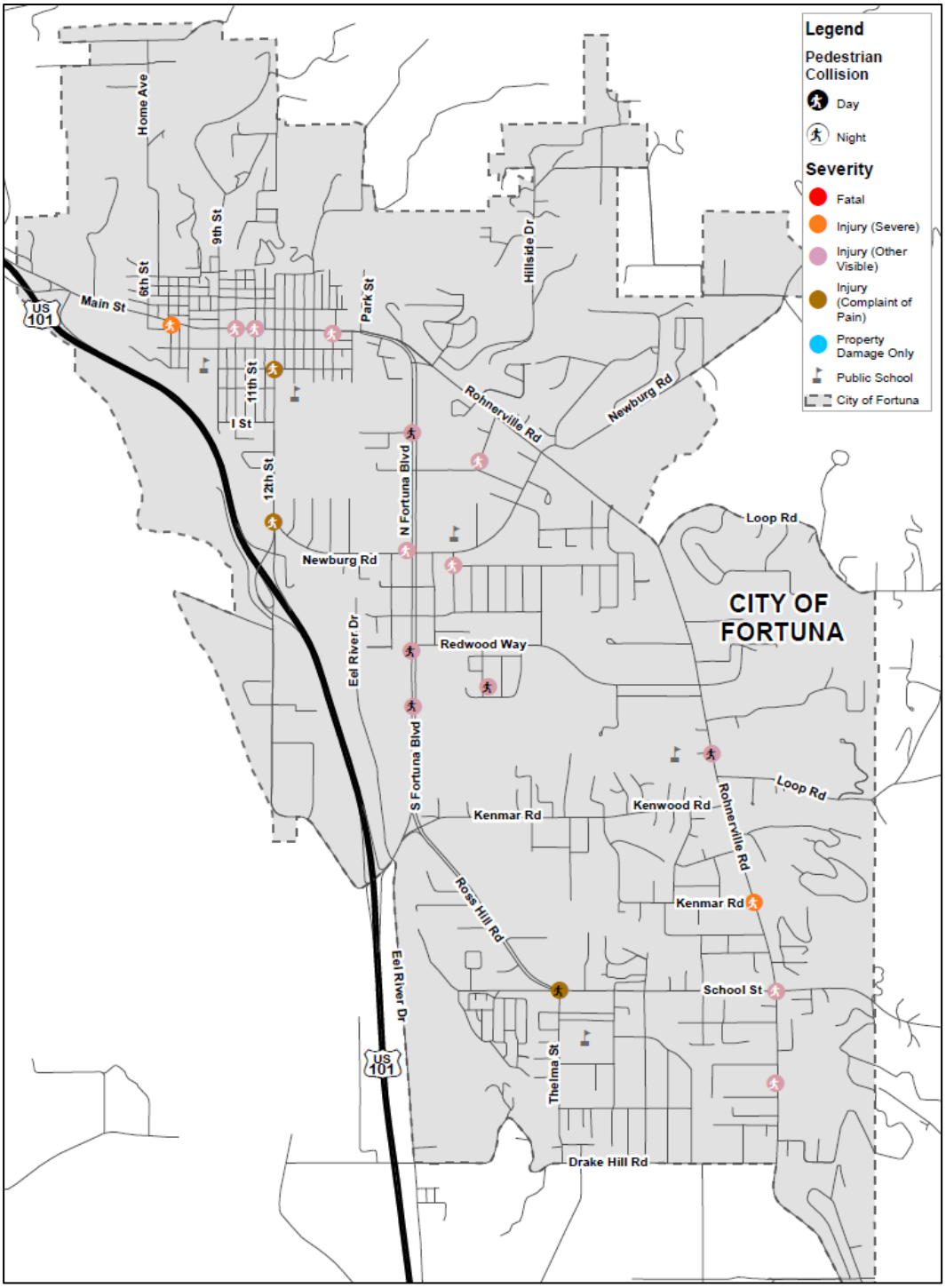


Figure 4.8 Pedestrian Collisions on City Roadways

The top violation category for pedestrian collisions was pedestrian violation (42% of all pedestrian collisions). This category includes violations such as pedestrians failing to yield right of way to vehicles at areas without a marked crosswalk, crossing without a crosswalk at the mid-block of two adjacent signals, and walking on the wrong side of the road when no pedestrian facilities are provided outside of a business or residence district. The pedestrian location at the time of collision, along with corresponding severity, is shown in **Figure 4.9**.

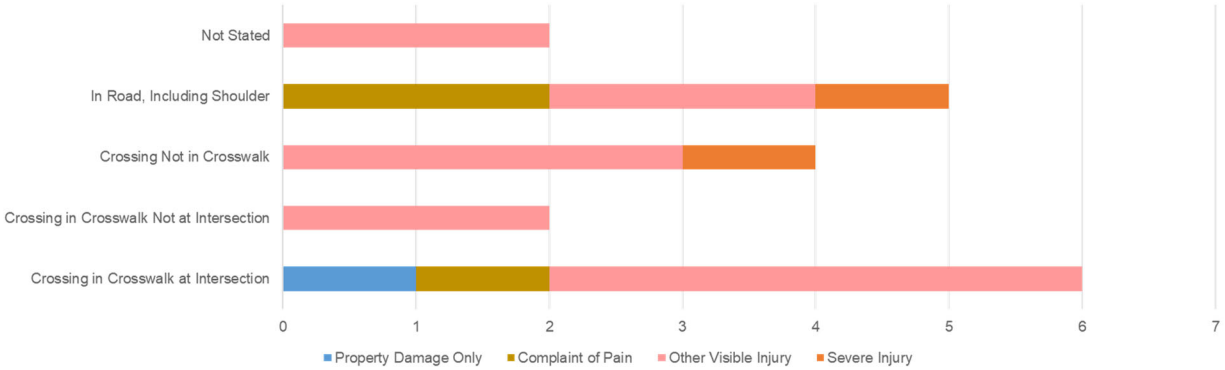


Figure 4.9 Pedestrian Location at Time of Collision

4.2.3.2 Bicyclists

There were fifteen (15) total bicycle collisions for City roadways. The locations of bicycle collisions, along with their respective severity and lighting characteristics are shown in **Figure 4.10**. Most bicycle collisions occurred at roadway segments (8 out of 15). There were no severe injury or fatal bicycle-related collisions between 2015 and 2019.

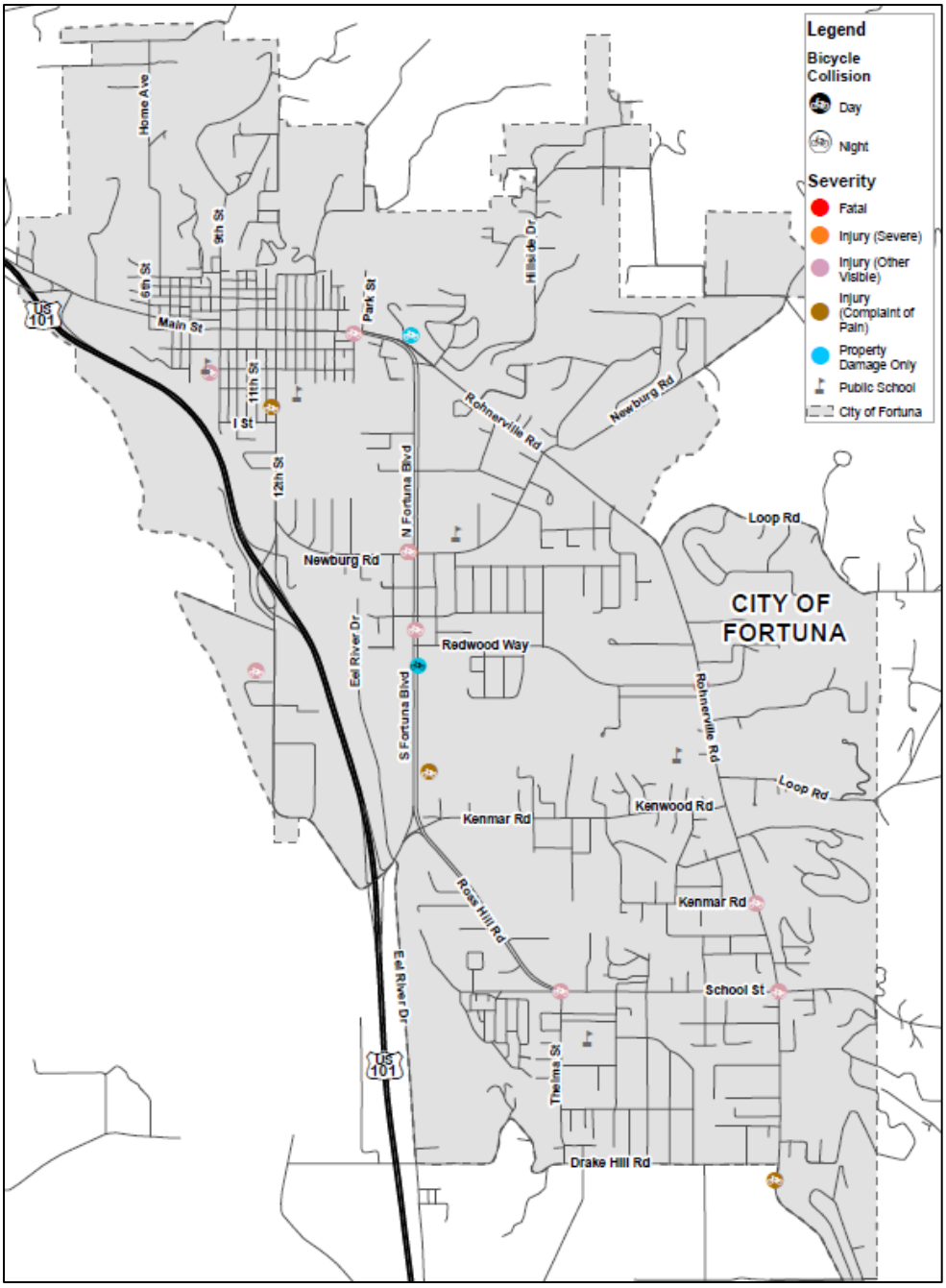


Figure 4.10 Bicycle Collisions on City Roadways

4.2.3.3 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, animal, personal hygiene, and reading.

There were thirty-eight (38) collisions due to distracted driving on City roadways reported to the SWITRS database between January 2015 and October 2018 (collision information from the Fortuna Police Department did not provide this information). **Figure 4.11** presents a breakdown of the types of inattention for the distracted driving collisions.

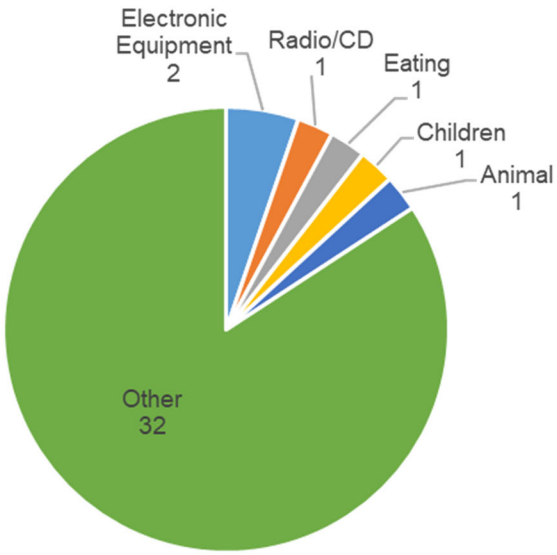


Figure 4.11 Types of Inattention for City Collisions (Jan 2015-Oct 2018)

4.2.3.4 Intersections

Two-hundred and eighty-two (282) collisions in the City of Fortuna between 2015 and 2019 were at intersections. This is sixty-one percent (61%) of all collisions on City roadways.

4.2.3.5 Speeding

Sixty-eight (68) collisions in the City of Fortuna between 2015 and 2019 were due to vehicles travelling at an unsafe speed. The majority of these collisions resulted in rear ends. Over sixty percent (60%) of the collisions were property damage only and no severe injury collisions can be attributed to unsafe speed.

According to the Fortuna Police Department, the unsafe speed collisions could also include factors such as following too closely and distracted driving.

4.2.3.6 School Drop Off/Pick Up

Through collision analysis, some of the locations with the highest relative severity (EPDO) and number of collisions were in school zones. These locations are listed below, along with their respective schools.

– Walker Elementary School
  - S Fortuna Boulevard from Smith Lane to Kenmar Road
  - S Fortuna Boulevard at Newburg Road

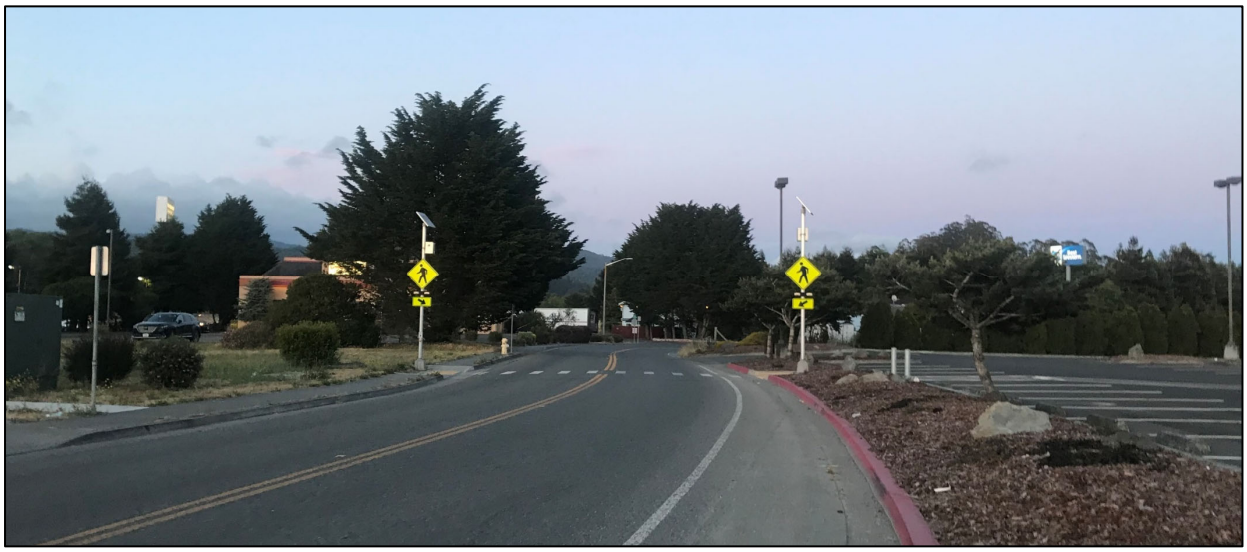
    - Newburg Road from Main Street to Smith Lane
- Prime Montessori School
    - Main Street from 3rd Street to 9th Street
- Great Beginnings Preschool
    - Newburg Road from Main Street to Smith Lane
- Eel River Community School
    - Newburg Road from Main Street to Smith Lane
- Fortuna Junior Academy
    - S Fortuna Boulevard at Kenmar Road
- Fortuna Middle School
    - Main Street from 3rd Street to 9th Street

Countermeasures for these locations are shown in a later section of the plan.

4.3 Field Reconnaissance

A field visit was performed on June 8, 2021 to analyze the roadways throughout the City of Fortuna and observe areas with high densities of public comments and collisions. Notes and photos from this visit are compiled in **Appendix D: Field Reconnaissance**. Some key findings from the field review are noted below.

- Several areas in need of ADA improvements (specifically near downtown and schools)
- Discontinuous sidewalks near Walker Elementary School
- Landscaping has potential to limit sight distance for vehicles turning onto Main Street from minor roads
- Several signals with 8-inch signal heads
    - Should be upgraded 12-inch signal heads as funding allows



5. Public Outreach

5.1 Public 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 5.1** displays the homepage for the website found at lrsp.mysocialpinpoint.com/fortuna. 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 detailed results from the survey are included in **Appendix A: Stakeholder and Public Input**.

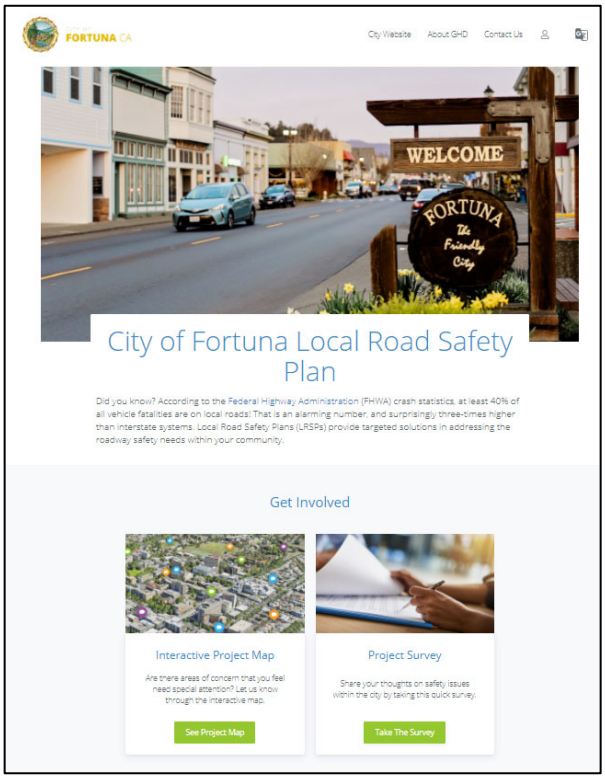


Figure 5.1 Public Website Home Page

5.1.1 Interactive Map

The interactive map feature on the website allowed the public to drag icons to a location within the City and leave a comment regarding driving, pedestrian, or bicycle suggestions at that location. **Figure 5.2** shows the interactive map feature from the website. Some of the top locations for public comment, along with the common comment themes, are listed below.

1. 12th St at Newburg Rd
    a. Difficulty turning onto Newburg from 12th
    b. Safety for bicyclists and pedestrians
    c. Congestion/high speeds on Newburg
2. Kenmar Rd at S Fortuna Rd/Ross Hill Rd
    a. Merging onto Kenmar from S Fortuna
    b. Red light running
3. Downtown Fortuna along Main St
    a. Sight distance turning onto Main
4. Ross Hill Rd/School St at Thelma St
    a. Safety of children crossing
5. Newburg Rd near S Fortuna Blvd
    a. Positive feedback on upgrades from Safe Routes to School project
6. Along Rohnerville Rd
    a. Speeding/congestion

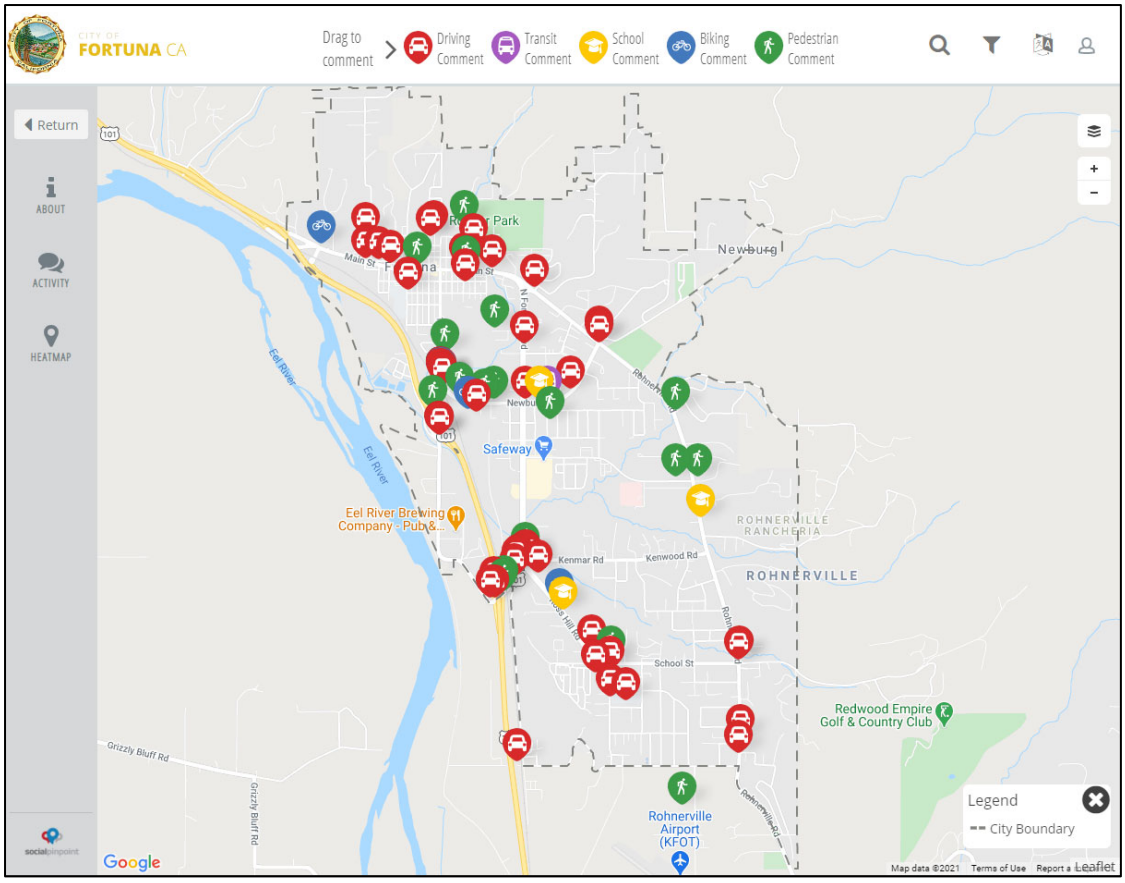


Figure 5.2 Public Website Interactive Map

Table 5.1 shows some of the positive feedback from the interactive map. Individual comments, along with their respective responses, are presented in **Appendix A: Stakeholder and Public Input**.

Table 5.1 Positive Feedback from Interactive Map

Location	Positive Feedback
Near Walker Elementary	Traffic flow after Safe Routes to School program implementation
Westbound approach to Newburg Rd at S Fortuna Blvd	New lane configuration
Lawndale Drive	Installation of new sidewalks
City of Fortuna	Flashing crosswalks
City of Fortuna	Safety of roadways in comparison to nearby areas
Ross Hill Rd	Lane configuration

5.1.2 Public Survey

The City of Fortuna Public Survey asked five questions relating to the LRSP. As of June 29, 2021, the survey received 29 responses. According to the survey, the primary safety issue for the City of Fortuna is intersections (see **Figure 5.3** for a chart with the responses).

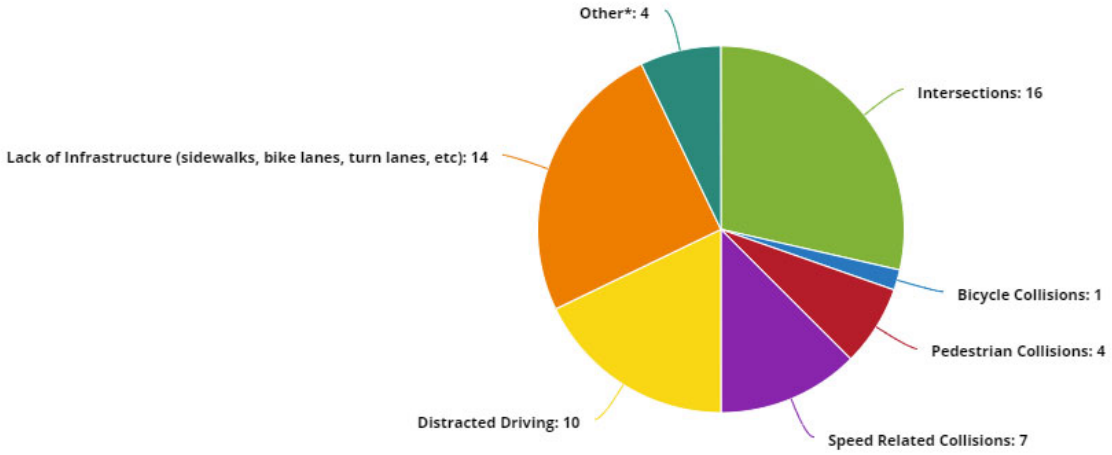


Figure 5.3 Public-Identified Roadway Issues

One hundred percent (100%) of the respondents were familiar with how to drive through a roundabout. **Figure 5.4** shows the responses when polled to see if there was interest in learning more about the safety benefits of roundabouts including pedestrian and bicycle accessibility.

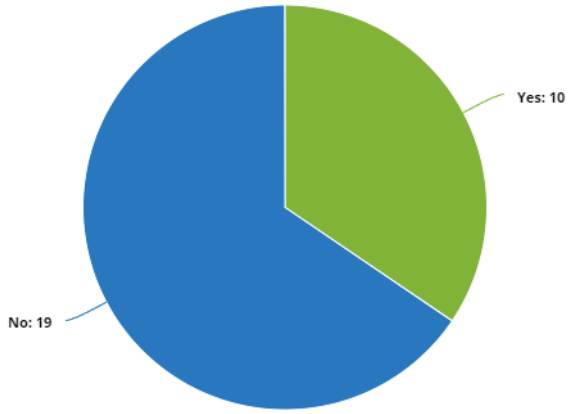


Figure 5.4 Interest in Additional Education for Roundabouts

Common suggestions for roadway improvements in and around school zones are summarized below,

- Increased access for bicyclists and pedestrians
- Additional flashing beacons/signs
- Refreshing striping on roadways
- Adding/improving sidewalks
- Traffic calming measures to reduce speed
- Additional enforcement
- Reducing congestion
- Evaluating traffic control

Other improvements suggested include:

- Installing bike lanes on major roadways
- Repainting crosswalks
- Installing additional streetlights
- Installing additional sidewalks
- Installing flashing lights/signs
- Mitigating speed
- Better signage on minor roads
- Improving sight distance turning onto Main St
- Improving circulation and safety at the US 101 interchange at Kenmar Road
- Enforcing new stop signs

Some other key takeaways from the public survey include positive feedback about installation of retroreflective backplates on signals and flashing lights on stop signs and pedestrian crossings.

6. Prioritize & Incorporate Strategies

Through coordination and feedback from the City of Fortuna, LRSP working group, and public outreach, safety projects and strategies were identified for the Local Road Safety Plan.

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. Per the most recent HSIP Cycle (Cycle 10) the approved countermeasures and crash reduction benefits were quantified in the HSIP analyzer. Priority intersections and segment locations were determined based off the collision analysis and relative severity, public comments, recent safety improvements, and City feedback and recommendations. Since the next HSIP Cycle 11 is in 2022, further safety analysis should be conducted at that time in refining the collision data and subsequent safety projects and Benefit to Cost Ratios (BCRs).

Countermeasures were evaluated and prioritized based on benefit to cost ratios as prescribed in Caltrans most recent Local Roadway Safety Manual (LRSM). The benefit value of a crash is the expected reduction in crashes with the countermeasure and the associated costs with the crash. Caltrans has opted to use 5 years of observed crashes in estimating future expected crashes. A benefit in reduction of cost can include benefits derived from savings of societal cost (emergency response, medical cost, and property damage). Cost associated with a project is based on planning level estimates of construction cost, planning and environmental cost and costs associated with right-of-way and utilities.

The priority intersections and segment locations were determined based off the collision analysis and relative severity, public comments, recent safety improvements, and City feedback and recommendations.

6.1.1 Identified Challenge Areas

Per the SHSP and the LRSP Working Group, the identified challenge areas for the LRSP were as follows:

1. **Pedestrians** – Providing pedestrian accommodations to include crossing enhancements and continuous sidewalks.
2. **Bicyclists** – Bicycling safety countermeasures/projects were recommended at multiple locations.
3. **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 social media channels and through the schools.
4. **Intersections** – Projects were identified for the top intersections with collision severity and frequency.
5. **Aggressive Driving/Speeding** – Engineering and enforcement strategies were identified for intersections and segments where these issues were identified.

6. **School Pick Up/Drop Off** – Several intersections and segments near schools are prioritized in the plan. Countermeasures such as pedestrian and bicycle enhancements are identified.

In determining applicable countermeasures for priority locations, these six challenge areas were emphasized.

6.1.2 City Intersection Projects

The locations and characteristics of the priority intersections are shown in **Table 6.1** below.

Table 6.1 Priority Intersections and Crash Characteristics

			Crash Characteristics												
Primary Road	**Secondary Road**	**Control**	**EPDO**	**Total Crashes**	**Top Type of Collision** (Number of Collisions)	**Top Violation Category** (Number of Collisions)	**Severe Injury**	**Night**	**Wet**	**Pedestrian**	**Bicycle**	**Involv. w/Fixed Object**	**Crossing Not in Crosswalk**	**DUI**
City														
S Fortuna Blvd	**Newburg Rd**	Signal	62	12	Rear End (3) Broadside (3) Hit Object (3)	Unsafe Speed (5)	0	2	1	1	1	3	0	1
Newburg Rd	**12th St**	TWSC	56	11	Rear End (2) Broadside (2) Hit Object (2)	Improper Turning (3)	0	1	0	1	0	2	0	1
Rohnerville Rd	**Newburg Rd**	AWSC	33	8	Broadside (4)	Automobile Right of Way (4)	0	3	1	0	0	0	0	0
S Fortuna Blvd	**Redwood Way**	Signal	30	10	Sideswipe (4)	Unsafe Speed (3)	0	5	1	1	0	0	0	0
S Fortuna Blvd/ Ross Hill Rd	**Kenmar Rd**	Signal	24	14	Rear End (10)	Unsafe Speed (7)	0	3	1	0	0	1	0	1
Rohnerville Rd	**School St**	TWSC	32	7	Broadside (2)	Auto Right of Way (3)	0	1	3	1	0	1	1	0
Main St	**6th St**	TWSC	14	4	Rear End (2)	Improper Turning (2)	0	0	0	0	0	1	0	0
Caltrans														
Dinsmore Dr / Riverwalk Dr	**US 101 SB Ramps**	AWSC	12	2	Rear End (1) Broadside (1)	Unsafe Speed (1) Traffic Signals and Signs (1)	0	0	0	0	0	0	0	0
Kenmar Rd / Riverwalk Dr	**US 101 SB Ramps**	TWSC	13	3	Broadside (2)	Automobile Right of Way (2)	0	1	1	0	0	0	0	0
Kenmar Rd	**US 101 NB Ramps**	TWSC	1	1	Rear End (1)	Unsafe Speed (1)	0	0	0	0	0	0	0	0

The countermeasures recommended for these locations are presented in **Table 6.2**.

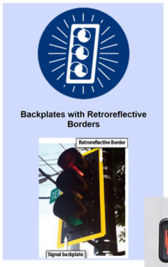
Table 6.2 Recommended Countermeasures for Priority Intersections

Intersection	Relevant Challenge Area(s)	Crash Reduction Factor (CRF)	Recommended Countermeasures	Reasoning
S Fortuna Blvd/ Newburg Rd	Intersections	15%	Improve signal hardware: lenses, mounting, size (upgrade all 8" to 12" indications), and number	3 rear end collisions. 3 broadside collisions. 5 collisions due to unsafe speed.
			OR	
		30%	Convert signal to mast arm (from pedestal-mounted)	No mast arms on minor approaches.
		15%	Improve signal timing (coordination, phases, red, yellow, or operation)	1 of 3 priority locations on S Fortuna Blvd. 5 collisions due to unsafe speed.
		70%	Install emergency vehicle pre-emption systems	Proximity to fire station. Suggested by Fortuna Fire Department
	Pedestrians	25%	Install pedestrian countdown signal heads	1 pedestrian collision.
		25%	Install pedestrian crossing (S.I.)	Lack of crossings on west and south legs. 1 pedestrian collision.
		-	Upgrade existing pedestrian push buttons	
	Pedestrians, Bicyclists	-	Upgrade to yellow, high visibility crosswalk markings	Intersection is at a school zone and crossings are currently standard white crosswalks.
		-	Install School Crossing Warning sign (S1-1) to signal arms	No school crossing signs currently on signal arms. 1 pedestrian and 1 bike collision at this collision.
Newburg Rd/ 12th St	Intersections	VARIES	Convert intersection to roundabout (from 2-way stop or Yield control)	Multi-use path proposed along existing railroad tracks for the Great Redwood Trail project. Roundabout would facilitate a two-stage crossing.
		-	Evaluate removal of railroad equipment from inactive railroad	Presence of railroad signage and equipment can create driver confusion. No signage for inactive railroad on minor road.
Rohnerville Rd/ Newburg Rd[2]	Pedestrians	35%	Install curb bulb-outs for crossing on south leg, increase visibility of RRFBs, and install crosswalk on south leg	Request from stakeholder to improve location for pedestrians. Uncontrolled crossing on Rohnerville Rd. No current pedestrian collisions but in close proximity to a park.
	Intersections	40%	Add intersection lighting (NS.I.)	3 collisions occurred at night.
S Fortuna Blvd/ Redwood Way	Intersections	15%	Improve signal hardware: lenses, mounting, size, and number	2 rear end and 2 broadside collisions. 3 collisions due to unsafe speed.
		15%	Improve signal timing (coordination, phases, red, yellow, or operation)	1 of 3 priority locations on S Fortuna Blvd. 3 collisions due to unsafe speed.
		25%	Install raised median on approaches (S.I.)	2 broadside collisions. No median currently on Redwood Way. Needs to be evaluated for truck turning movements.
		-	Restrict parking near intersection	4 sideswipe collisions. Vehicles are currently permitted to park right up to intersection.
S Fortuna Blvd/ Kenmar Rd	Intersections	15%	Improve signal hardware: lenses, mounting, size, and number	10 rear end collisions and 1 broadside collision. 7 collisions due to unsafe speed.
		15%	Improve signal timing (coordination, phases, red, yellow, or operation)	1 of 3 priority locations on S Fortuna Blvd. 7 collisions due to unsafe speed.
		30%	Install flashing beacons as advance warning (S.I.) on eastbound approach	10 rear end collisions. Intersection is in a horizontal curve.
		-	Extend EB right turn lane	10 rear end collisions. Intersection is in a horizontal curve.
			OR	
	Intersections, Pedestrians, Bicyclists	Varies	Convert intersection to roundabout (from signal)	Reduction of conflict points due to elimination of left-turn and right-angle movements and reduction of collision severity at intersection.
Rohnerville Rd / School St	Intersections	50%	Convert to all-way STOP control (from 2-way or Yield control)[1]	2 broadside collisions. 3 collisions with automobile right of way violations. 2 uncontrolled crosswalks.
		30%	Install flashing beacons as advance warning (NS.I.)	2 broadside collisions. 1 rear end collision.
Main St / 6th St	Intersections	50%	Convert to all-way STOP control (from 2-way or Yield control)[1]	2 improper turning violations. Close proximity of parking to intersection. Can help to calm traffic coming from US 101.
		20%	Improve sight distance to intersection (Clear Sight Triangles)	1 hit object collision. Close proximity of parking to intersection potentially causes sight distance issues. Slight skew to intersection.
Dinsmore Dr / US 101 SB Ramps	Intersections, Pedestrians, Bicyclists	Varies	Convert intersection to roundabout (from all way stop)	Reduction of conflict points due to elimination of left-turn and right-angle movements and reduction of collision severity at intersection.
Kenmar Rd / US 101 SB Ramps	Intersections, Pedestrians, Bicyclists	Varies	Convert intersection to roundabout (from 2-way or yield control)	Reduction of conflict points due to elimination of left-turn and right-angle movements and reduction of collision severity at intersection.
Kenmar Rd / US 101 NB Ramps	Intersections, Pedestrians, Bicyclists	Varies	Convert intersection to roundabout (from 2-way or yield control)	Reduction of conflict points due to elimination of left-turn and right-angle movements and reduction of collision severity at intersection.

[1] Countermeasure must be warranted through CA MUTCD guidelines

[2] All-way stop was recently installed at this location

Some of the proposed countermeasures at City intersections are highlighted below.



Improve Signal Timing and Upgrade Signals (size and ped signals and push buttons)

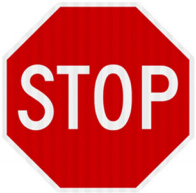
- S Fortuna Blvd / Newburg Rd
- S Fortuna Blvd / Redwood Way
- S Fortuna Blvd / Kenmar Rd

Convert intersection to roundabout

- Newburg Rd / 12th St
- S Fortuna Blvd / Kenmar Rd
- Riverwalk Dr / US 101 SB Ramps
- Kenmar Rd / US 101 SB Ramps
- Kenmar Rd / US 101 NB Ramps

Upgrade Pedestrian Crossing

- S Fortuna Blvd / Newburg Rd
- Rohnerville Rd / Newburg Rd



Evaluate intersection conversions to all-way stop control

- Rohnerville Rd / School St
- Main St / 6th St

It should be noted that the intersection of Rohnerville Road and Newburg Road was recently converted from two-way stop control to all-way stop control and left-turn lanes were installed for the northbound and southbound directions. There are also Rectangular Rapid Flashing Beacons (RRFBs) installed for the crosswalk at this intersection. With potential development adjacent to this intersection, this intersection can benefit from safety monitoring.

Additionally, the intersection of 12th Street and Newburg Road had high collision severity and was frequently discussed in public comment and stakeholder meetings as an area of focus. There is a future trail (Great Redwood Trail) that will replace the current railway that runs through the intersection. The Great Redwood Trail project, is currently under evaluation by the North Coast Railroad Authority. They are in the process of applying to the Surface Transportation Board to abandon the rail lines. If this project is approved, the addition of a roundabout at this intersection could help increase the safety of users on the trail and help to realign the intersection for vehicles. In addition, the abandoned railroad equipment, and tracks (that can cause vehicle off-tracking during turn movements) should be removed.

6.1.3 City Segment Projects

Throughout the analysis period, there were 172 collisions reported on City of Fortuna roadway segments (non-intersection related). A breakdown of roadway collisions on City streets are included in **Appendix C: Collision Data**. Priority segments for the City of Fortuna and their corresponding crash characteristics are shown in **Table 6.3** below.

Table 6.3 Priority Segments and Crash Characteristics

			Crash Characteristics												
Primary Road	**Limits**	**Length (mi)**	**EPDO**	**Total Crashes**	**Top Type of Collision** (Number of Collisions)	**Top Violation Category** (Number of Collisions)	**Severe Injury**	**Night**	**Wet**	**Pedestrian**	**Crossing Not in Crosswalk**	**Bicycle**	**Involv. w/Parked Car**	**Involv. w/Fixed Object**	**DUI**
S Fortuna Blvd	**Smith Ln to Kenmar Rd**	1.04	125	25	Rear End (7)	Improper Turning (5)	0	6	3	1	2	3	3	4	3
Main St	**3rd St to 9th St**	0.44	57	8	Sideswipe (3)	DUI/BUI (4)	1	6	2	0	0	0	3	0	4
Rohnerville Rd	**Newell Dr to Renner Dr**	1.29	41	11	Hit Object (5)	DUI/BUI (2) Improper Turning (2)	0	4	1	0	0	0	3	5	1
Riverwalk Dr	**Dinsmore Dr to Alamar Way**	0.37	23	3	*N/A (all unique)*	*N/A (all unique)*	0	0	0	0	0	1	0	0	0
N Fortuna Blvd	**Main St to Smith Ln**	0.38	13	8	Sideswipe (4)	Unsafe Speed (2)	0	3	1	0	0	0	2	3	0
Smith Ln	**N Fortuna Blvd to Rohnerville Rd**	0.34	18	8	Sideswipe (3)	*N/A (all unique)*	0	2	0	1	1	0	3	1	0
Newburg Rd	**12th St to Rohnerville Rd**	0.95	15	5	Sideswipe (2) Rear End (2)	Wrong Side of Road (2)	0	1	0	0	0	1	2	0	0

The countermeasures recommended for these locations are presented in **Table 6.4**.

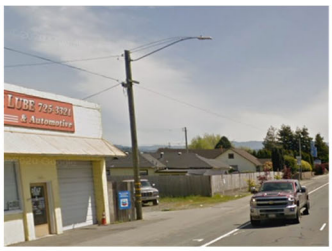
Table 6.4 Recommended Countermeasures for Priority Segments

Segment	Relevant Challenge Area(s)	CRF	Recommended Countermeasures	Reasoning
S Fortuna Blvd from Smith Ln to Kenmar Rd	-	35%	Add Segment Lighting	6 night collisions.
	Bicyclists	35%	Install bike lanes	3 bicycle collisions. No current bicycle-specific facilities.
Main St from 3rd St to 9th St	-	-	Increase DUI enforcement.	4 DUI collisions.
		35%	Add Segment Lighting	6 night collisions.
		45%	Install no-passing line	3 sideswipe and 2 head on collisions.
	Bicyclists	-	Refresh bike lane striping	Bike lane striping is faded.
Rohnerville Rd from Newell Dr to Renner Dr	-	35%	Add Segment Lighting	4 night collisions.
	Distracted Driving	25%	Install edgeline reflectors	5 fixed object collisions. Add to alert drivers if they are leaving the lane.
	Speeding	-	Install additional speed limit signs	Observed very few speed limit signs during field visit. Public input indicated a concern with high speeds at this location.
Riverwalk Dr from Dinsmore Dr to Alamar Way	Distracted Driving	25%	Install/refresh edgelines and centerlines	1 head on collision.
N Fortuna Blvd from Main St to Smith Ln	Bicyclists	35%	Install bike lanes	No existing bike lanes at this location.
Smith Ln from N Fortuna Blvd to Rohnerville Rd	-	35%	Add Segment Lighting	2 night collisions.
		25%	Install edgelines and centerlines	3 sideswipe collisions. No current centerline or edgeline.
Newburg Rd from 12th St to Rohnerville Rd	Distracted Driving	25%	Install edgelines	2 sideswipes. Parking on edge of street.
	Bicyclists	35%	Install bike lanes	1 bicycle collision. Partially in a school zone.
	Pedestrians	-	Complete sidewalk infill	Sidewalk system is not complete. Recommended through City feedback. Route to elementary school.

Some of the proposed countermeasures at City intersections are highlighted below.

Install Bike Lanes

- Fortuna Blvd from Main St to Kenmar Rd
- Newburg Rd from 12th St to Rohnerville Rd



Add Segment Lighting

- S Fortuna Blvd from Smith Ln to Kenmar Rd
- Main St from 3rd St to 9th St
- Smith Ln from N Fortuna Blvd to Rohnerville Rd

Install/Refresh Edgelines and Centerlines

- Rohnerville Rd from Newell Dr to Renner Dr
- Riverwalk Dr from Dinsmore Dr to Alamar Way
- Smith Ln from N Fortuna Blvd to Rohnerville Rd
- Newburg Rd from 12th St to Rohnerville Rd

Additionally, pavement overlays were recently performed, and new striping was installed at the following road segments.

- Redwood Way in between Barry Avenue and Rohnerville Road
- School Street in between Ross Hill Road and Wood Street
- 12th Street in between Newburg Road and L Street
- Newburg Road in between 12th Street and Fortuna Boulevard

6.1.4 Systemic Safety Countermeasures

When selecting countermeasures, just focusing on locations with current collision issues 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. 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.

Public input and observations from the field visit revealed that some of the sidewalks around the City have discontinuous sidewalks, specifically at the following locations,

– Near Walker Elementary School on Fortuna Boulevard and Newburg Road

– Along Fortuna Boulevard between Strongs Creek Drive and Kenmar Road

– On Rohnerville Road from Newburg Road to Redwood Way

– On Redwood Way from Rohnerville Road to St. Josephs Drive

It is recommended to complete the sidewalk system in these areas, and other areas with higher pedestrian volumes (around schools, downtown, etc.). Also, where possible, ADA improvements are recommended systemically to allow for increased pedestrian accessibility.

6.1.5 Projects Suggested through Public Input

The interactive map tool on the public website for the plan gathered many suggestions from residents of the City for areas of improvement. These suggestions were summarized and are shown in **Table 6.5** below.

Table 6.5 Projects Suggested through Public Input

Location	Suggestion
Newburg Rd (12th St to Fortuna Blvd)	Improve quality and width of sidewalk to ensure proper effective width and follow ADA guidelines
12th St (Loni Dr to Newburg Rd)	Ensure proper effective width for sidewalk
S Fortuna Blvd (Burger King to Kenmar Rd)	Install sidewalk / pedestrian facilities
Drake Hill Rd	
Rohnerville Rd (S Fortuna Blvd to Redwood Way)	
Redwood Way (Hospital to Rohnerville Rd)	
Between S Fortuna and downtown (separate from Newburg and Main)	
Newburg Rd near schools	Speed limit enforcement
Thelma St	
Park St	
Rohnerville Rd (southern end)	
Rohnerville Rd and Newburg Rd	Stop sign enforcement
Vista Dr at P St	
K St at 9th St	
Vista Dr at 11th St	Evaluate configuration
Thelma St, north of Oleary St	Evaluate speed hump to ensure it meets standards
Drake Hill Rd at US 101	Evaluate installing northbound US 101 ramps to relieve congestion at Kenmar Rd interchange
Along Main St	Evaluate sight distance
Main St at Park St	
Rohner Creek footbridge (connecting 14th St and Rohner Park)	Evaluate removal of pole in front of bridge entrances to allow for wheelchair access
Ross Hill Rd at School St	Evaluate installing signal
Rohnerville Rd at Tami Dr	
W School St Extension	Install traffic control
Drake Hill Rd	

Kenmar Rd at US 101	Increase pedestrian / bicycle connectivity and safety at interchanges
Main St (3rd St to downtown)	
Riverwalk Dr/Dinsmore Dr at US 101 Ramps	
Main St	Educate the public about yielding to pedestrians at uncontrolled crosswalks
School St at Thelma St	
School St at Thelma St	Evaluate visibility of crossing

6.2 Non-Engineering Strategies

A comprehensive approach to selecting countermeasure 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.

6.2.1 Education

Education strategies are listed below.

- Pedestrian education campaign – street crossing do's and don'ts, bright clothing and have a light at night
- Bicyclist education and resources
- Pedestrian and bicycle friendly driving programs
- Priorities for including education with the project implementation
- Secure bike parking near high schools and middle schools
- Collaborate with countywide Safe Routes to School taskforce and other agencies with existing programs in place such as Redwood Community Action Agency, Humboldt County, and Humboldt County Association of Governments
- Distracted driving education campaigns
    - Can be funded through Office of Traffic Safety Grants
- Social media blasts with quick education tool for all users

6.2.2 Emerging Technologies

Possible emerging technologies strategies are listed below.

- ITS infrastructure, web/mobile application (apps) and smart cities practices
- Bicycle detection at signals
- Changeable message signs

6.2.3 Enforcement

Enforcement strategies are listed below.

- Targeted speed enforcement
    - Focus on areas of concern for residents based on public feedback
    - Provide the police department with speed feedback signs
    - Additional officer enforcement can be funded through Office of Traffic Safety grants
- Additional radar equipment

6.2.4 Emergency Response

Emergency response strategies are suggested below.

- Emergency vehicle pre-emption at the signalized intersection of Newburg Road and South Fortuna Boulevard
- Improvements to roadways to increase access and potentially shorten response times

7. Prioritize & Incorporate Strategies

In evaluating how to implement safety projects, a prioritized list of projects was created. The City of Fortuna can look for opportunities to incorporate safety enhancements with the Capital Improvement Program. However, it is noted that funding is very limited and typically used from roadway paving. Additional funding opportunities can come through grant funding to include HSIP, ATP, and CMAQ.

Table 7.1 contains a prioritized list of the proposed intersection projects on City roadways based on their preliminary benefit-to-cost ratios. **Table 7.2** shows a prioritized list of the proposed segment projects for City roadway segments based on preliminary benefit-to-cost ratios. These tables also show potential funding opportunities. It should be noted that upgrading pedestrian push buttons and installing ADA improvements at signalized intersections are not current HSIP countermeasures. However, these improvements can be included in a Pedestrian Crossing Enhancements set-aside project provided the cost does not exceed 20% of the total project cost.

In addition, the last HSIP call for projects, Cycle 10, the awarded projects through the Benefit to Cost Ratio (BCR) application started at a BCR of 12. Even though 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, we have also included the max project cost for a BCR of 10 with the expected project benefits.

Low-cost, systemic countermeasures are preferred by Caltrans in the HSIP process.

Table 7.1 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
Rohnerville Rd / School St	Convert to all-way STOP control (from 2-way or Yield control)	$ 54,431	27.9	$ 544,311	$ 19,500	100%	-	-
	Install flashing beacons as advance warning							
S Fortuna Blvd / Newburg Rd	Convert signal to mast arm (from pedestal-mounted)	$ 114,323	3.4	$ 1,143,230	$ 338,000	50%	-	-
	Improve signal timing (coordination, phases, red, yellow, or operation)							
	Install emergency vehicle pre-emption systems							
	Install pedestrian countdown signal heads	$ 39,060	15.0	$ 390,600	$ 26,000	100%	Pedestrian Crossing Enhancements	Y
	Install pedestrian crossing							
	Upgrade existing pedestrian push buttons	-	-	-	-	-		
	Upgrade to yellow, high visibility crosswalk markings							
	Install School Crossing Warning sign (S1-1) to signal arms							
Main St / 6th St	Convert to all-way STOP control (from 2-way or Yield control)	$ 22,608	11.6	$ 226,081	$ 19,500	90%	-	-
	Improve sight distance to intersection (Clear Sight Triangles)							
Systemic (3 intersections along S Fortuna Blvd)	Improve signal hardware: lenses, mounting, size, and number	$ 84,538	10.8	$ 845,378	$ 78,000	50%	-	-
	Improve signal timing (coordination, phases, red, yellow, or operation)							
S Fortuna Blvd / Redwood Way	Improve signal hardware: lenses, mounting, size, and number	$ 55,376	5.9	$ 553,755	$ 94,250	50%	-	-
	Improve signal timing (coordination, phases, red, yellow, or operation)							
	Install raised median on approaches							
	Restrict parking near intersection							
S Fortuna Blvd / Kenmar Rd	Improve signal hardware: lenses, mounting, size, and number	$ 31,770	3.5	$ 317,704	$ 91,000	50%	-	-
	Improve signal timing (coordination, phases, red, yellow, or operation)							
	Install flashing beacons as advance warning on eastbound approach							
	Extend eastbound right turn lane	-	-	-	-	-		
	Convert intersection to roundabout (from signal)	$ 690,077	1.8	$ 6,900,768	$3,900,000	100%		
Rohnerville Rd / Newburg Rd	Remove crosswalk on north leg	-	-	-	-	-	Pedestrian Crossing Enhancements	Y
	Install curb bulb-outs for crossing on south leg, increase visibility of RRFBs, and install crosswalk on south leg							
	Add intersection lighting	$ 27,024	2.8	$ 270,240	$ 97,500	100%	-	-
Newburg Rd / 12th St	Convert intersection to roundabout (from 2-way stop or Yield control)	$ 661,425	2.0	$ 6,614,246	$3,250,000	100%	-	-
	Evaluate removal of railroad equipment from inactive railroad	-	-	-	-	-		
Kenmar Rd / US 101 SB Ramps	Convert intersection to roundabout (from 2-way or yield control)	$1,196,136	1.8	$11,961,361	$6,500,000	100%	-	-
Kenmar Rd / US 101 NB Ramps	Convert intersection to roundabout (from 2-way or yield control)						-	-
Dinsmore Dr / US 101 SB Ramps	Convert intersection to roundabout (from all way stop)	$ 72,027	0.2	$ 720,267	$3,250,000	100%	-	-

*Assuming 30% contingency

**Improve signal timing (coordination, phases, red, yellow, or operation); HSIP Funding Eligibility: 50%
Install raised median on approaches (S.I.); HSIP Funding Eligibility: 90%
Improve sight distance to intersection (Clear Sight Triangles); HSIP Funding Eligibility: 90%

Table 7.2 Priority of City Segment Projects

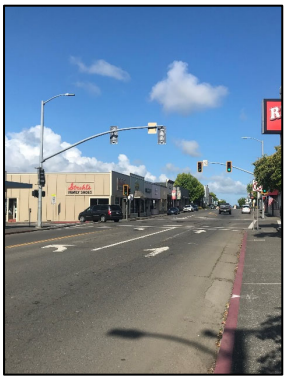
Segment	Recommended Countermeasures	Max Project Cost for B/C Ratio of 10	Preliminary B/C Ratio	Total Expected Benefit	Preliminary Estimated Project Cost*	HSIP Funding Reimbursement Ratio**	HSIP Set-Aside
Main St from 3rd St to 9th St	Increase DUI enforcement	-	-	-	-	-	-
	Refresh bike lane striping						
	Add Segment Lighting	$ 251,354	15.2	$ 2,513,538	$ 164,850	100%	
	Install no-passing line						
Newburg Rd from 12th St to Rohnerville Rd	Install edgelines	$ 27,207	8.3	$ 272,068	$ 32,604	90%	Install Edgelines
	Install bike lanes						-
	Upgrade sidewalks to ADA standards	-	-	-	-	-	-
S Fortuna Blvd from Smith Ln to Kenmar Rd	Add Segment Lighting	$ 101,192	2.5	$ 1,011,921	$ 411,039	90%	-
	Install bike lanes						
Smith Ln from N Fortuna Blvd to Rohnerville Rd	Add Segment Lighting	$ 15,029	1.2	$ 150,285	$ 123,152	100%	-
	Install edgelines and centerlines						Install Edgelines
Systemic (3.11 mi total)	Add Segment Lighting	$ 88,564	0.8	$ 885,641	$1,043,900	100%	-
	Complete sidewalk infill	-	-	-	-	-	-
Rohnerville Rd from Newell Dr to Renner Dr	Add Segment Lighting	$ 7,448	0.2	$ 74,480	$ 443,300	100%	-
	Install edgeline reflectors	-	-	-	-	-	Install Edgelines
	Install additional speed limit signs	-	-	-	-	-	-
Riverwalk Dr from Dinsmore Dr to Alamar Way	Install/refresh edgelines and centerlines	-	-	-	-	-	Install Edgelines
N Fortuna Blvd from Main St to Smith Ln	Install bike lanes	$ -	N/A	$ -	$ -	90%	-

*Assuming 30% contingency

**Install bike lanes; HSIP Funding Eligibility: 90%

8. Evaluation Process

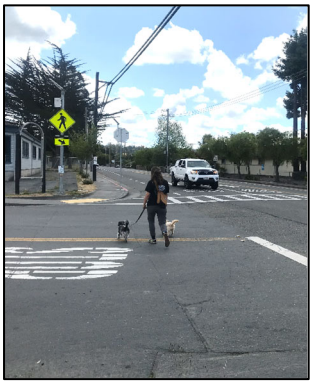
To evaluate the success of this plan, yearly collision analysis, along with requests for public feedback, can take place and be compared to the established goals.



1. **Goal:** Create a safe, livable, and welcoming community by developing a roadway safety plan targeted to Fortuna's transportation and safety needs
   - **Measure of Success:** If this goal is successful, residents will express an increased feeling of safety while using Fortuna's transportation systems and the number and severity of collisions each year will decrease.

2. **Goal:** Reduce the potential for fatal and severe injury collisions citywide
   - **Measure of Success:** This can be achieved by smaller reductions of 1 fatal or severe injury (FSI) collision reduction per year.

3. **Goal:** Improve safety around schools with speed management and connected multimodal infrastructure
   - **Measure of Success:** Results of public feedback shows that there are areas where pedestrian access and safety can be improved around schools in the City of Fortuna. An evaluation of the improvements of multimodal transportation infrastructure around schools will capture effectiveness of this goal.



4. **Goal:** Improve multimodal transportation safety by expanding the City's non-motorized transportation infrastructure
   - **Measure of Success:** Public feedback results show that there are areas where pedestrian and bicycle accessibility can be improved or installed. Improvements and installations of non-motorized transportation infrastructure will capture this goal.

5. **Goal:** Reduce rear end collisions citywide by implementing speed management strategies
   - **Measure of Success:** This goal will be effective if there is a decrease in "Unsafe Speed" collisions after implementing speed management strategies outlined in this plan.

6 **Goal:** Increase walking, biking, rolling (wheelchair, skateboard, scooter, etc.) to downtown district, to work, and to school

- **Measure of Success:** Increase in multimodal infrastructure and improvements and subsequent pedestrian and bicycle counts.

7 **Goal:** Reduce speeding and improper turning related collisions through engineering, enforcement, and education strategies

- **Measure of Success:** A reduction in collisions with “Unsafe Speed” and “Improper Turning” violations after implementing engineering, enforcement, and education strategies will determine if this goal is met.

9. Next Steps

The City of Fortuna Local Road Safety Plan was adopted by City Council on November 15, 2021. 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

Recent/Upcoming Projects

- "12th Street Integrated Stormwater Enhancement Project", GHD, Inc., April 2020.
- Weiss, Jenny. "2014-2015 School Safe Routes to School Inventory Summaries", Redwood Community Action Agency, Natural Resources Services Division, January 2015.
- "Citywide Striping & Unsignalized Intersection Improvements Project", GHD, Inc, December 2019.
- "2015 Safe Routes to School Improvement Project ATPL-5145(014)", GHD, Inc., April 2016.
- "South Fortuna Elementary School Safe Routes to School Project", GHD, Inc., September 2019.
- "Highway 101, Fortuna Downtown and Riverwalk Area Complete Streets and Connectivity Planning Study: Study Report", GHD, Inc., November 2016.
- "Humboldt County Systemic Safety Analysis Report", Mark Thomas, October 2018.
- Carter, Kevin and Amanda Hubacek. "Five-Year Capital Improvement Program 2020-2021", City of Fortuna, Public Works Department, June 2020. https://www.friendlyfortuna.com/Document%20center/Department/Public%20Work/CIP/20-21%20CIP_Final.pdf.
- "2018 Regional Transportation Improvement Program (RTIP)", Humboldt County Association of Governments (HCOAG), November 2017.

Traffic Data

- City of Fortuna Collision Data, Statewide Integrated Traffic Records System, 2015-2019.
- City of Fortuna Collision Data, Transportation Injury Mapping System, 2015-2019.
- City of Fortuna Collision Data, City of Fortuna Police Department, 2018-2020.

Manuals/Articles

- "Developing Safety Plans, A Manual for Local Rural Road Owners", Federal Highway Administration, March 2012, http://safety.fhwa.dot.gov/local_rural/training/fhwasa12017/.
- 2020-2024 California's Strategic Highway Safety Plan (SHSP), "California Safe Roads: 2020-2024 Strategic Highway Safety Plan", Caltrans.
- "Local Roadway Safety, A Manual for California's Local Road Owners", Caltrans, Version 1.5, April 2020
- "Highway Safety Manual", American Association of State Highway Officials (AASHTO), 1st Edition, 2014 supplement.
- "California Manual of Uniform Traffic Control Devices (CA MUTCD)", Revision 5, 2014.

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- “California Statewide Collision Overview”, Caltrans, https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/shsp/shsp-ca-datafactsheets_a11y.pdf.

Websites

- California Department of Transportation, “Strategic Highway Safety Plan (SHSP)”, https://dot.ca.gov/programs/safety-programs/shsp.
- California Department of Transportation, “Local Roadway Safety Plan (LRSP) and Systemic Safety Analysis Report Program (SSARP)”, https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program/local-roadway-safety-plans.
- 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 Fortuna, CA, “Safe Routes to School Projects”, 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 Fortuna Local Road Safety Plan, https://lrsp.mysocialpinpoint.com/fortuna.

Surveys

- Local Road Safety Plan Project Survey, https://lrsp.mysocialpinpoint.com/fortuna.

Appendix A

Stakeholder and Public Input

Meeting Summary

December 8, 2020

To:	Travis Clohessy	Project:	City of Fortuna Local Road Safety Plan (LRSP)
From:	Kathy Kleinschmidt (GHD)	Ref/Job No.:	11211821
CC:	Emily Darke (GHD)	File No.:	LRSPMS0001.docx

Subject: Local Roadway Safety Plan (LRSP) Meeting #1 Summary – December 8th, 2020

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 December 8th, 2020 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. Attendees of LRSP meeting
        i. Self-introductions of meeting attendees
            1. Attendees and respective introductions are listed at the back of the document
2. **Meeting Summary**
    a. Focus Challenge Areas per SHSP (see poll results)
        i. Pedestrians
        ii. Bicyclists
        iii. Distracted Driving
        iv. Intersections
    b. Potential Additional Challenge Areas (input from stakeholders)
        i. Speeding (from Jenny)
        ii. School drop off/pick up (from Kevin)
            1. Traffic south of City Hall is main thoroughfare with young drivers and influx of traffic around 8am
            2. Schools contribute to traffic congestion on Main St, along with traffic from US 101
    c. Collision Analysis
        i. Check with PD to find location of Severe Injury on Main and 9th St
            1. Oak St is near Humboldt Flooring Outlet
        ii. Rear ends possibly from abrupt stopping due to drivers approaching crosswalks in downtown area
        iii. Comprehensive Approach preferred for safety analysis (input from Brendan)
    d. Previous Projects (City will send active projects to help maximize grant programs)
        i. 12-15 RRFBs recently installed (4-5 along Main)
            1. Around 50% no more than a few months old, so difficult to speak for

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effectiveness
   ii. City completed ATP Safe Routes to School project on Newburg Rd near S Fortuna Elementary but not ATP for this Cycle
   iii. Walker Elementary (previously S Fortuna Elementary) recently added changes in neighborhood and circulation that had an education component, arrival/departure maps, and walking maps (from Jenny)
      1. Humboldtsaferoutes.org (hosted by HCOG) has a section for maps where they are stored
      2. Also included some safety improvements on Rohnerville Rd
   iv. Ross Hill Rd from 2 lane to 1 lane with walking path and bike lane with crosswalk enhancements for Safe Routes to Schools (around 2016/2017)
   v. Elevated crosswalks on Wood St (Brett should have LID project drawings)
   vi. Fortuna Elementary one of the only schools that does not have Safe Routes to School
   vii. Recent non-infrastructure ATP at Middle School through public health

3. **Next Steps**
   a. Draft Mission, Vision, and Goals
      i. Asked stakeholder group to provide feedback via email
   b. Compile current and previous safety projects within Fortuna
      i. Asked stakeholders to provide any current information they have
   c. Determine timeframe to launch Social Pinpoint page
   d. Develop safety projects
   e. Schedule next LRSP meeting
      i. Virtual meeting with the working group in February/March

List of Attendees

1. **Travis Clohessy** – Safety Champion/Assistant City Engineer, City of Fortuna
   a. Wants to prioritize intersections and traffic improvements
2. **Brendan Byrd** – Deputy Civil Engineer, City of Fortuna
   a. Wants to hear input from stakeholders
3. **Kevin Carter** – Deputy Director of Public Works, City of Fortuna
   a. Bring institutional knowledge
4. **Glen Senestraro** – Superintendent, FUHSD
   a. Focus on student safety, Fortuna High on main thoroughfare, regulate speeding
5. **Greg Pratt** – General Manager, Humboldt Transit Authority General Manager
   a. Provide feedback on pedestrian safety in relation to crosswalks at bus stops
      i. Not enough room for buses to pull all the way off of the road
      ii. Improve placement of bus stops in relation to intersections
      iii. Preferred to have crosswalks behind the bus (farside)
6. **Clint Duey** – Principal, Fortuna High School
   a. Wants to be voice of youth in the plan
7. **Rachel Barry** – Transportation Engineer, Caltrans District 1
8. **Jesse Robertson** – Caltrans District 1
   a. Help with regional planning for district to recommend funding
9. **Jenni Weiss** – Redwood Community Action Agency
   a. Represent Humboldt County Safe Routes to school, equity, complete streets, improving safety for peds and bikes
10. **Kathy Kleinschmidt** – GHD
11. **Emily Darke** – GHD

Meeting Summary

April 22, 2021

To:	Brendan Byrd	Project:	City of Fortuna Local Road Safety Plan (LRSP)
From:	Kathy Kleinschmidt	Ref/Job No.:	11211821
CC:	Emily Darke	File No.:	LRSPMS002.docx

Subject: Local Roadway Safety Plan (LRSP) Meeting #2 Summary – April 22, 2021

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 22, 2021 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. Attendees of LRSP meeting
        i. Self-introductions of meeting attendees
            1. Attendees are listed at the back of the document

2. **Meeting Summary**
    a. Summary of 1st Stakeholder Meeting
        i. Meeting Summary
            1. Challenge/Emphasis areas
                a. Pedestrians
                b. Bicyclists
                c. Distracted Driving
                d. Intersections
                e. Speeding
                f. School Drop Off/Pick Up
        ii. Vision, Mission, and Goals
            1. Sent Microsoft Form asking for input on the mission, vision, and goals
            2. Preferred Vision
                a. "City of Fortuna will develop a comprehensive safety plan with engagement of stakeholders and citizens in proactively improving safety throughout the City."
            3. Discussed strategies for implementing goals
    b. Recent Developments
        i. Updates to collision analysis
            1. Revised charts
                a. Some collision locations were revised and property damage only collisions were refined

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2. Top violation categories
    a. Many unsafe speed collisions result in rear ends
        i. Potentially due to distracted driving, following too closely, speed associated
    b. Many automobile right of way collisions result in broadside collisions
3. Revised maps
    a. Hotspots along Main Street, at Kenmar and Ross Hill, at School and Rohnerville, at Newburg and S Fortuna

ii. Public website engagement
1. 84 interactive map comments and 27 survey responses
2. Summarized survey results
    a. Top concern was intersections
    b. Citizens were familiar with using roundabouts and generally did not express a need for further education
        i. Roundabouts in Arcata
            1. Some are similar to the proposed roundabouts in Fortuna
            2. Worked well in those locations
    c. Walker Elementary SRTS project helped reduce congestion and improved drop off/pick up for students
    d. Potentially create a response document to public comments
    e. Ross Hill Road is typically a high-speed area
        i. Narrowed from 2 to 1 lane
    f. Positive feedback on yellow retroreflective tape installed recently on traffic signal indications
        i. Used local funding
    g. 9 locations with new Rectangular Rapid Flashing Beacons (RRFBs)
        i. Positive feedback
    h. Positive feedback about flashing stop signs on major roadway approaches
        i. Rohnerville and Newburg
        ii. 9th and Main
3. Summarized interactive map comments
    a. Top locations for Public Comment
        i. 12th St at Newburg Rd had the most comments
            1. Priority location for the City as well
            2. Great Redwood Trail project
                a. Vision would be that a trail follows the railway
                b. NCRA will apply to the Surface Transportation Board to abandon rail lines
                    i. Would make it easier to move forward with trail conversions
                    ii. In progress and various agencies were requested to comment on the application
            3. Caltrans aware of potential roundabouts at/near interchanges in Fortuna

a. Agrees with where the plan is headed
b. Desires to create better bike/ped conditions

4. Discussed most liked comments
    a. Most liked comment located at Kenmar Rd / US 101 interchange
    b. City has identified pedestrian access as a need along Newburg Rd
        i. Hesitant to do anything due to cost and potential development at the old mill site

iii. Safety projects in the City
1. Citywide Striping & Unsignalized Intersection Improvements project
    a. Installed around 1 year ago
2. Safe Routes to School
    a. Converted Ross Hill Rd from 2 lanes to 1 lane with a buffered bike lane
3. 12th St Integrated Stormwater Enhancement project

c. Safety Projects
i. Methodology
ii. Priority locations
iii. Recommended countermeasures
1. Priority intersections
    a. Improvements to signals
        i. Request to install bike detection
            1. Microwave seems to have better detection than loops at intersections
            2. Video detection is another possibility
            3. Upgrading controllers could be a concurrent project
    b. Roundabouts near interchange location
        i. Some concepts are created
        ii. City is currently in PA&E phase for Kenmar interchange
        iii. Caltrans has spent $5-6M on similar projects in Lake County
        iv. Local Partnership Program funding
            1. Gas tax match program
                a. Usually asphalt overlay projects
            2. Windsor had a roundabout funded around $2.6M
    c. Evaluate all-way stop
        i. Rohnerville / School can be busy, and Rohnerville Road can have high speeds
        ii. Main / 6th could help calm traffic from freeway coming into town and potentially has some sight distance issues
2. Priority segments
    a. Install Edgelines
        i. Many of these locations have been/will be repaved/restriped
            1. Riverwalk Drive will be repaved/restriped in the next year or two
    b. Segment Lighting

i. Gap on Rohnerville between Smith Lane and Newell Drive
1. Consider incorporating into the plan

iv. Potential funding sources for projects
1. Highway Safety Improvement Program (HSIP)
a. Benefit-to-cost ratio projects
b. Set-aside funding
2. Active Transportation Program (ATP)

v. Non-engineering safety projects
1. Education
a. City will sometimes partner with other agencies to help provide education components to projects
b. Pedestrian and bicycle friendly driving programs
i. Will be done for a new ATP project in McKinleyville
c. Priority for including education with the project implementation
d. Secure bike parking near high schools and middle schools
i. E-bikes are gaining popularity
e. Information has been sent out to elementary schools for SRTS programs
f. Collaborating with countywide SRTS taskforce and other agencies with existing programs in place
2. Emerging Technologies
a. Bike detection at signals
b. PD has speed radar sign
i. Outdated and has some technical problems so not utilized often
c. New changeable message sign would be helpful
d. Remove crash warning system from list of potential strategies
3. Enforcement
a. PD is willing to help any campaigns via social media
i. Already doing Click it or Ticket and Distracted Driving
b. Target speed enforcement, DUI check points and traffic stops, are already in place
c. Additional LIDAR equipment
4. Emergency Response
a. Private driveway recently installed to connect fire department to Newburg Road
b. Fire department currently offers First Aid, CPR, and Fire Extinguisher training
c. Involved in Community Emergency Response Team
d. Would benefit from signal pre-emption at Newburg/Fortuna

d. LRSP Timeframe
i. LRSP schedule for completion
1. Final LRSP around June/July 2021
a. Will send to stakeholders for input after the City reviews
b. Can send to the public for review
c. Will go to City council for adoption

3. Next Steps

a. Respond to Microsoft Form with input on Vision, Mission, and Goals
i. Results will be compiled and incorporated into the plan

b. Document locations that were recently repaved/restriped
    i. Kathy will reach out to the Kevin about this information
c. Create a matrix that describes each proposed project and their respective costs, safety rankings, public comments, etc.

List of Attendees

1. Brendan Byrd – Deputy Civil Engineer, City of Fortuna
2. Kevin Cater – Deputy Director of Public Works
3. Jeff Northern – FESD Superintendent
4. Matt Eberhardt – FPD Lieutenant
5. Kyle Kertscher – Fortuna Fire Captain
6. Greg Pratt – Humboldt Transit Authority General Manager
7. Russel Hansen – Caltrans District 1 Transportation Engineer
8. Jesse Robertson – Caltrans District 1 Regional Planning Coordinator
9. Jenni Weiss – Redwood Community Action Agency
10. Kathy Kleinschmidt – GHD

Appendix B

Previous Safety Plans and Projects

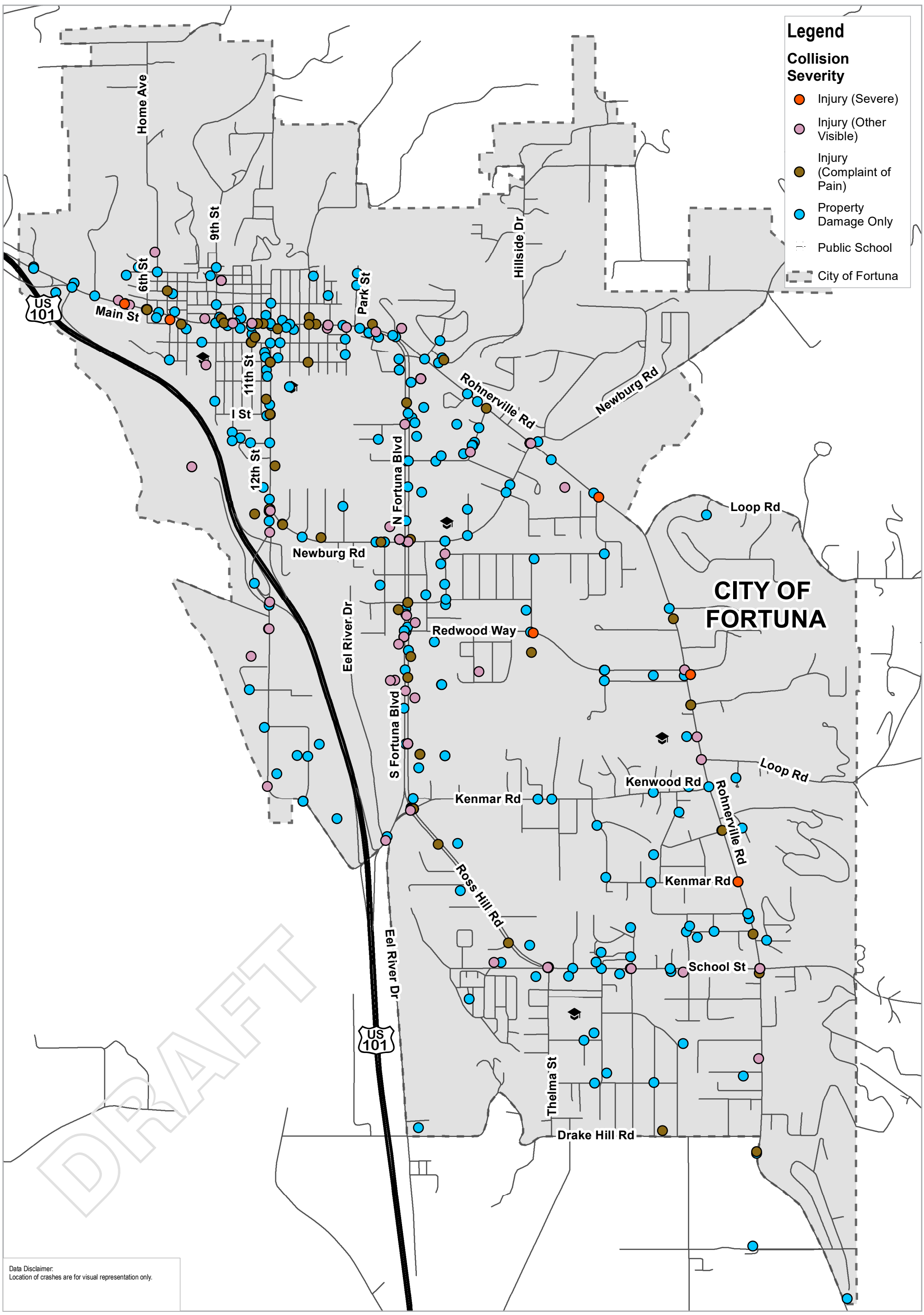
Safety Projects in Progress/Recently Completed in the City of Fortuna

Project Type	Project Name	Location	Project Details
Low Impact Development	12th St ISE	12th St from L St to Loni Dr, HS Parking Lot Dwy	Curb improvements
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Main St at 6th St	Install RRFBs, restripe crosswalk, add crosswalk, and bike lane symbol striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Main St at 16th St	Install RRFBs
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Main St at Stillman Way	Install RRFBs
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Fortuna Blvd at Alder Dr	Install RRFBs, add enhance pavement striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Fortuna Blvd at Smith Ln	Install RRFBs, relocate crosswalk, create refuge island in median, enhance pavment striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Fortuna Blvd, S of Redwood Way	Install RRFBs, enhance pavement striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Rohnerville Rd at Senestrario Way	Install RRFBs, crosswalk, and curb; enhance pavement striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	9th St, N of o St to S of I St	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	13th St	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	School St	Install edgeline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	11th St	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	K St	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Valley View Dr	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Cypress Loop	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Meadowbrook Ln	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Sunnybrook Ln	Install centerline striping
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Hillras Way	Install centerline striping
Safe Routes to School	Safe Routes to School Improvement Project	Ross Hill Rd	Striping and crossing improvements
Safe Routes to School	Safe Routes to School Improvement Project	Thelma St	Pedestrian improvements

Safe Routes to School	Safe Routes to School Improvement Project	School St at Boone St	Pedestrian crossing improvements
Safe Routes to School	Safe Routes to School Improvement Project	School St at Wood St	Pedestrian crossing improvements
Safe Routes to School	Safe Routes to School Improvement Project	Wood St at Thoddy Thomas entrance	Pedestrian crossing improvements
Safe Routes to School	Safe Routes to School Improvement Project	Wood St, N of Highland Dr	Install raised crosswalk
Safe Routes to School	Safe Routes to School Improvement Project	Rohner St	Pedestrian improvements
Safe Routes to School	Safe Routes to School Improvement Project	Toddy Thomas School Path	Construct access path
Safe Routes to School	Safe Routes to School Improvement Project	Toddy Thomas School Path	Construct access path
Safe Routes to School	Safe Routes to School Improvement Project	Toddy Thomas School Path	Construct access path
Safe Routes to School	South Fortuna Elementarry Safe Routes to School	Newburg Rd (S Fortuna to Orchard), Lawndale Dr	Pedestrian and bicycle improvements, striping improvements
	Kenmar Road Interchange	Kenmar Road from US 101 SB Ramps to NB Ramps	Reconfiguring US 101 ramps and converting intersections to roundabouts
Highway Safety Improvement Program	Striping & Unsignalized Intersection Improvements	Main St at 15th St	Install RRFBs, upgrade crosswalk markings

Appendix C

Collision Data



Paper Size ANSI B

0 0.1 0.2 0.3 0.4

Miles

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

N

GHD

CITY OF FORTUNA
LOCAL ROAD SAFETY PLAN (LRSP)

COLLISION SEVERITY ON FORTUNA ROADWAYS (2015-2019)

Project No. **11211821**
Revision No. **-**
Date **01/12/2021**

FIGURE C.1

C:\Users\edarke\Desktop\GIS Folders\Fortuna LRSP - 11211821\Working\Collision Severity.mxd
Print date: 12 Jan 2021 - 09:52

Data source: Statewide Integrated Traffic Records System (SWITRS) 2015-2019, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Created by: edarke

Collisions at Selected Intersections

			Severity					Type										Year							
INTX ID	North/South Road	East/West Road	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	Pedestrian	Bicycle	2015	2016	2017	2018	2019	EPDO	Fatal + Injury	Total
1	Main St	Bryant Dr					3		1		1				1			1	2				3	0	3
2	Home Ave	P St					1					1								1			1	0	1
3	14th St	P St					1					1						1					1	0	1
4	Main St	US 101 Ramps					2					2							1		1		2	0	2
5	Main St	3rd St					1	1										1					1	0	1
6	Main St	Harlan Way					1					1									1		1	0	1
7	O St	7th St				1	1	1			1							1	1				7	1	2
8	9th St	N St					2		1	1									1	1			2	0	2
9	N St	12th St					1								1						1		1	0	1
10	Main St	6th St				2	2	1		2		1						1		2	1		14	2	4
11	Main St	7th St				1	1		1		1							1			1		7	1	2
12	Main St	8th St				1				1										1			6	1	1
13	Main St	9th St			1	1	5	1		2	2	2							3	3	1		22	2	7
14	Main St	10th St			1		3		1	1		1		1		1		3	1				14	1	4
15	Main St	11th St			1	2	3	1	2	1				1	1	1			2	2		2	26	3	6
16	Main St	12th St				1	6		2	4	1							2	3	1		1	12	1	7
17	Main St	13th St			1		3		1	1		1			1					1	3		14	1	4
18	Main St	14th St				3			1	2								1		2			18	3	3
19	Main St	15th St			2	1				2				1		1		2	1				28	3	3
20	Main St	16th St			1		1			1	1						1	1				1	12	1	2
21	Main St	Park St					1				1									1			1	0	1
22	Main St	Stillman Way			1	1	5		1		4	1			1			3	1	1	2		22	2	7
23	Main St	Park Heights Ct					1					1								1			1	0	1
24	11th St	L St				1					1									1			6	1	1
25	12th St	K St				3	4			1	3			1	2	1		2	2	2		1	22	3	7
26	14th St	K St				1					1									1			6	1	1
27	Rohnerville Rd	Newell Dr					1					1								1			1	0	1
28	Newell Dr	Hillside Dr					1					1									1		1	0	1
29	12th St	J St					3		2		1									3			3	0	3
30	Rohnerville Rd	Valley View Dr					2		1	1										1	1		2	0	2
31	12th St	I St				1	5			4		2						1	1	1	3		11	1	6
32	N Fortuna Blvd	Alder Dr			1		2			3						1		1		1	1		13	1	3
33	Smith Ln	Stockton Ct					1		1												1		1	0	1
34	Rohnerville Rd	Newburg Rd			2	1	5	1	2	1	4							2	3	1		2	33	3	8
35	12th St	Loni Dr				1	2			2	1								1	1	1		8	1	3
36	N Fortuna Blvd	Smith Ln					3		1		1				1			1	1		1		3	0	3
37	Newburg Rd	12th St			3	3	5			2	2	2		1	4	1		2	2	1	5	1	56	6	11
38	Newburg Rd	Meadowbrook Ln				1	1	1		1								1	1				7	1	2
39	Newburg Rd	Sunnybrook Dr					1					1						1					1	0	1
40	Newburg Rd	Randolph Way				1				1										1			6	1	1
41	Newburg Rd	Spring St				1	2		1	2								1	1		1		8	1	3
42	S Fortuna Blvd	Newburg Rd			4	2	6	1	1	3	3	3		1		1	1	3	4		5		62	6	12
43	S Fortuna Blvd	Westcot Dr					3		1	2								1	2				3	0	3
44	Newburg Rd	Orchard Ln					1								1					1			1	0	1
45	Newburg Rd	Virginia Dr					1					1									1		1	0	1
46	12th St	US 101 Ramps				1	2		1		1	1							1	2			8	1	3
47	Rohnerville Rd	Senestraro Way		1			1				2									1	1		31	1	2
48	Lawndale Dr	Shamrock Dr			1									1		1			1				11	1	1
49	Shamrock Rd	Springville Ave					1		1										1				1	0	1
50	Shamrock Rd	Senestraro Way					1			1										1			1	0	1
51	Riverwalk Dr	Dinsmore Dr			1		1			1	1									2			12	1	2
52	S Fortuna Blvd	2nd Ave				2	1			2	1									1		2	13	2	3
53	2nd Ave	Lawndale Dr					2		1						1					1		1	2	0	2
54	Rohnerville Rd	Private Dr					1					1						1					1	0	1
55	S Fortuna Blvd	Redwood Way			2		8		4	2	2			1	1	1		4	3		2	1	30	2	10
56	Redwood Way	Maxwell St				1				1								1					6	1	1
57	Redwood Way	Springville Ave		1		1	1			1	1	1							1	2			37	2	3
58	Redwood Way	St Joseph Dr					2		1			1							1	1			2	0	2
59	Rohnerville Rd	Redwood Way		1			1				1	1							1		1		31	1	2
60	Renner Dr	St Joseph Dr					1		1									1					1	0	1
61	Rohnerville Rd	Gulliksen Dr				2					1	1						1	1				12	2	2
62	Riverwalk Dr	Alamar Way					2					2							1		1		2	0	2
63	S Fortuna Blvd	Strongs Creek Dr				2	4		1	3	2							3	1	1		1	16	2	6
64	Rohnerville Rd	Rohner St			1										1	1			1				11	1	1
65	12th St	L St			1									1		1						1	11	1	1
66	Kenmar Rd	Eel River Dr			1		2		1	2								1	1	1			13	1	3
67	S Fortuna Blvd	Kenmar Rd				2	12	1	1	10	1	1						4	3	3	3	1	24	2	14
68	Kenmar Rd	Pineview Dr					1		1									1					1	0	1
69	Kenmar Rd	Justice Ct					1	1											1				1	0	1
70	Rohnerville Rd	Kenwood Rd			1		1				1				1		1			1	1		12	1	2
71	Rohnerville Rd	Clifton Way				1	1				1				1			1		1			7	1	2
72	Kenmar Rd	Church St					1			1									1				1	0	1
73	Rohnerville Rd	Kenmar Rd		1	1							1		1		1					2		41	2	2
74	Rohnerville Rd	Church St					3				2	1							2		1		3	0	3

INTX ID	North/South Road	East/West Road	Severity					Type								Pedestrian	Bicycle	Year					EPDO	Fatal + Injury	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			
75	Weber St	Jordan St					1			1									1				1	0	1
76	Jordan St	Brown St					1			1									1				1	0	1
77	Rohnerville Rd	Jordan St			1	1			1						1		1		2				17	2	2
78	1st St	Basayo Village Ct					1		1												1		1	0	1
79	Ross Hill Rd	Dana Ct				1				1								1					6	1	1
80	School St	Thelma St			1	2	1			1	2				1		1	1	2			1	24	3	4
81	School St	Boone St					2	1	1									2					2	0	2
82	School St	Wood St					3			1		1			1						2	1	3	0	3
83	School St	Ronald Ave			2		2		1		2	1						1	2	1			24	2	4
84	School St	Evelyn Ct					3		2	1											2	1	3	0	3
85	School St	Weber St					1								1				1				1	0	1
86	Rohnerville Rd	School St			2	1	4	1	1	1	2			1	1	1		1	2	4			32	3	7
87	Highland Dr	Campton Ln					1					1								1			1	0	1
88	Campton Heights Dr	Clara Ave					1		1									1					1	0	1
89	10th St	N St					1		1												1		1	0	1
90	K St	7th St					1					1										1	1	0	1
91	9th St	O St					1			1												1	1	0	1
92	Thelma St	Thomas St																					0	0	0
93	Spring St	2nd Ave			1										1					1			11	1	1
94	Kenmar Rd	US 101 NB Ramps					1			1									1				1	0	1
95	Ross Hill Rd	W School St																					0	0	0
96	Cheryl Ln	Maggie Ln					1				1							1					1	0	1
97	Thelma St	Campton Heights Dr					1	1												1			1	0	1
98	Rohnerville Rd	Bartlett Ln					1					1									1		1	0	1
99	Redwood Way	Barry Ave					1								1						1		1	0	1
100	Kenmar Rd	Xavier Ct			1										1							1	11	1	1
101	N Fortuna Blvd/Rohnerville Rd	Main St					4		1	1		1			1		1		2		2		4	0	4
102	7th St	Oak St		1										1		1			1				30	1	1
103	Rohnerville Rd	Loop Rd					1					1										1	1	0	1
104	8th St	L St			1										1		1					1	11	1	1
105	Grace Ct	Hillras Way					1					1							1				1	0	1
106	Newburg Rd	Lawndale Dr					1			1									1				1	0	1
107	Kenwood Rd	Bluejay Ct					1			1										1			1	0	1
108	Kenmar Rd	US 101 SB Ramps			1		2	1			2									2	1		13	1	3
Total			0	5	37	47	183	14	44	77	55	42	0	12	28	14	7	60	72	63	54	23	-	-	272

Collisions at Selected Segments

SEG ID	Street	From	To	Severity					Type									Pedestrian	Bicycle	Year					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	Main St	W of Bryant Ln	3rd St					4		1	1		2										4	4	4
001B	Main St	3rd St	9th St		1	2		5	2	3	1	1	1						1		2	2	3	57	8
001C	Main St	9th St	15th St				2	4		3	1		1			1				3	1		2	16	6
001D	Main St	15th St	N Fortuna Blvd					3		3									1	1			1	3	3
002A	Rohnerville Rd	Newell Dr	Renner Dr			2	2	7		2	4		5						3	2		3	3	41	11
002B	Rohnerville Rd	S Loop Rd	Jordan St			2			1				1					1				2		22	2
002C	Rohnerville Rd	Jordan St	Drake Hill Rd			1									1		1			1				11	1
002D	Rohnerville Rd	Drake Hill Rd	S City Boundary				1	2			1		2					1	2		1			8	3
003A	P St	W End	7th St					2		1	1									1			1	2	2
004A	Home Ave	P St	N of Home Ave			1							1									1		11	1
005A	8th St	P St	S of K St					1					1										1	1	1
006A	9th St	Cristian Ridge Rd	S End					2		2									1		1			2	2
007A	10th St	L St	H St					1			1										1			1	1
008A	L St	N St	L St					3		2		1								2			1	3	3
009A	L St	W End	16th St					4		1	1		1			1				2		1	1	4	4
010A	12th St	Main St	Newburg Rd				1	5	1	1		2				2		1	2		1	2	1	11	6
010B	S 12th St	12th St	Riverwalk Dr					2		2									1			1		2	2
011A	15th St	N End	N St					1								1					1			1	1
011B	S 15th St	N End	Newburg Rd					1				1								1				1	1
012A	Park St	Rohner Park	Main St					3		1			2							1		2		3	3
013A	16th St	Main St	S of K St					2		2									1				1	2	2
014A	Park St	N End	Main St			1										1						1		11	1
015A	Willow Dr	W End	Alder Dr					1					1						1					1	1
016A	Loni Dr	12th St	12th St					2		2									2					2	2
017A	Hillside Dr	Newell Dr	Shady Ln				1	3		2			2							2			2	9	4
018A	N Fortuna Blvd	Main St	Smith Ln				1	7		4	1		3							2	1	4	1	13	8
018B	S Fortuna Blvd	Smith Ln	Kenmar Rd			8	4	13	2	3	7	5	5		2	1	1	3	4	5	10	3	3	125	25
019A	Ross Hill Rd	Kenmar Rd	Thelma St				1	2	1	1			1						2				1	8	3
020A	W School St	Crest Dr	Thelma St			1		2	1				1	1						1	1	1		13	3
020B	School St	Thelma St	Rohnerville Rd			1	1	3	1	1			1		1	1	1			3		1	1	20	5
021A	Smith Ln	N Fortuna Blvd	Rohnerville Rd			1		7		3	1	2	1		1		1		1		1	5	1	18	8
022A	Stockton Ct	W End	Smith Ln					1								1						1		1	1
023A	Orchard Ln	N End	Newburg Rd					1								1							1	1	1
024A	Newburg Rd	12th St	Rohnerville Rd			1		4		2	2		1				1		2		2		1	15	5
025A	Summer St	Newburg Rd	Redwood Way					1				1							1					1	1
026A	Lawndale Dr	Newburg Rd	S 2nd Ave					2		1	1									1		1		2	2
027A	Springville Ave	Shamrock Dr	Redwood Way					1		1												1		1	1
028A	Redwood Way	Springville Ave	Rohnerville Rd					1					1									1		1	1
029A	Alamar Way	Riverwalk Dr	Riverwalk Dr					3		2			1						1	1	1			3	3
030A	Riverwalk Dr	S 12th St	Alamar Way			2		1	1				1			1		1		1	1		1	23	3
030B	Riverwalk Dr	Alamar Way	US 101 SB Ramps			1		3	1	1		2								2	1		1	14	4
031A	Kenmar Rd	Eel River Dr	Kenmar Rd				1	3		1	2		1						2				2	9	4
031B	Kenmar Rd	Kenwood Rd	Rohnerville Rd					2			1	1										1	1	2	2
032A	Brandi Ln	Kenwood Rd	Kenmar Rd					2	1	1												1	1	2	2
033A	Loop Ct	S Loop Rd	S End					1				1							1					1	1
034A	Huffman Dr	Rohnerville Rd	Woodcock Ct					1					1								1			1	1
035A	Queens Row	Royal Dr	Crest Dr					1					1									1		1	1
036A	Wood St	School St	S of Campon Heights Dr					2		2									1	1				2	2
037A	Eel River Dr	Kenmar Rd	Drake Hill Rd					1					1									1		1	1
038A	Drake Hill Rd	Eel River Dr	Rohnerville Rd				1			1											1			6	1
039A	Spring St	Newburg Rd	S End					1			1											1		1	1
040A	Rohner St	W End	Rohnerville Rd					1			1											1		1	1
041A	Matthew Ln	Cheryl Ln	Ronald Ave					1		1											1			1	1
042A	Ronald Ave	Maggie Ln	School St					1	1											1				1	1
043A	Weber St	Church St	School St					1				1									1			1	1
044A	Jordan St	Weber St	Rohnerville Rd					1		1											1			1	1
045A	Cecil Ave	College St	Drake Hill Rd					1					1									1		1	1
046A	Barry Ave	Redwood Way	Maxwell St			1									1		1					1		11	1
047A	Riverwalk Dr	Begin	End					1								1				1				1	1
Total				0	1	25	16	131	13	54	28	18	41	1	6	12	5	8	30	35	31	41	36	-	173

Appendix D

Field Reconnaissance

Field Visit – Fortuna LRSP

Date: Tuesday, June 8, 2021

1. **Riverwalk Dr, west of Alamar Way**
   a. RRFB recently installed at this location

   a. Near conference center and trail along the river

2. **Main St between 9th St and S Fortuna Blvd**
   b. Between 15th St and 16th St
      i. Not up to ADA standards

ii. 5’ wide bike lanes, 8’ wide parking

b. Between 13th St and 15th St

i. 50’ wide

ii. Bike facilities end west of 15th

A. Suggest continuing bike facilities along this segment

iii. Landscaping/objects in curb bulb outs at intersections can limit sight distance for turning vehicles from the minor road approaches

3. Main St at 12th St

a. Not up to ADA standards
    i. Suggest pedestrian crossing enhancements to comply with ADA
b. No pedestrian countdown
c. Suggest a right turn overlap to tie in with dual lefts
d. Upgrade signal heads

4. Main St between 3rd St to 9th St

v

a. Remove countermeasure for median barrier
b. Add countermeasure to refresh bike lane striping
c. Vehicles seem to be travelling much higher than the speed limit

5. Main St at 6th St

a. Hill on northbound approach
b. Difficult to see from side streets
    i. Drivers need to move a lot past the stop bar to see

6. Oak St at 7th St

a. Consider painting southwest corner red to remove parking near intersection and increase sight distance

7. **S Fortuna Blvd at Newburg Rd**
    a. Add countermeasure to install school crosswalk on south leg

Fortuna Blvd Segment

a. Measured road width is 33’ for northbound direction and 33’ for southbound direction
    i. From front of curb to median

b. Recommend converting each direction to 10’ lanes (2 in each direction), 6’ bike lane, and 7’ parking each direction
c. Sidewalks are discontinuous
    i. Recommend countermeasure to complete sidewalk system

8. **Newburg Rd between S Fortuna Blvd at 12th St**
    a. May not be enough room for bike lanes
        i. 40’ wide (just west of Spring St) with 13’ lanes

b. Discontinuous sidewalks

c. Route to school

d. Observed several pedestrians and bicyclists along this route

e. Potential PG&E Rule 20A project to remove power poles in sidewalks

f. Potentially a sustainable communities grant to create complete streets

9. Newburg Rd at 12th St

a. Audible skidding from turning vehicles

10. Rohnerville Rd at Newburg Rd

a. Propose installing crosswalk on east leg with curb bulb out on south-eastern corner
    i. Observed pedestrians crossing at this location and there is no existing crossing

11. Rohnerville Rd at School St

Rohnerville Rd Segment

a. Very limited speed limit signs
    i. Recommend installing additional speed limit signs to alert drivers of speed
b. Paint seems to be in decent shape (probably does not need to be refreshed)
    i. Consider installing edgeline reflectors

12. Kenmar Rd near S Fortuna Blvd

a. WB approach is uphill
    i. Difficult to tell where lane continues from east leg to west leg
b. Curb is scraped from vehicles hitting it so often

c. Issues with merging at the location pictured below

d. Add countermeasure to install a flashing beacon on the signal ahead warning sign (eastbound approach)

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