CITY OF SOLEDAD

LOCAL ROADWAY SAFETY PLAN

Prepared January 2022 by MNS Engineers Inc

Adopted December 7, 2022

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1. INTRODUCTION

Background to the LRSP

The Local Roadway Safety Plan (LRSP) identifies and analyzes traffic safety problems and recommends safety improvements. The preparation of an LRSP relies on local agency partnerships and stakeholder collaboration, and results in a community-supported, prioritized list of improvements and actions that demonstrate defined needs and solutions to local roadway safety challenges. Local Roadway Safety Plans scale down to the local level the goals and approach of the federally mandated State Highway Safety Plan (SHSP).

A SHSP is a statewide data-driven traffic safety plan that coordinates the efforts of a wide range of organizations to reduce traffic accident fatalities and serious injuries on all public roads. In coordination with federal, state, local and private sector safety stakeholders, the SHSP establishes goals, objectives, and emphasis (or challenge) areas.

High Priority issues are:

- lane departures
- speed management/aggressive driving
- impaired driving
- active transportation
- intersections

Effective data driven and collaborative countermeasures are:

- Specific
- Measurable
- Achievable
- Relevant
- Time constrained

Safety improvements recommended in the LRSP are eligible for state funding through implementation grant programs including the HSIP (Highway Safety Implementation Program). HSIP funds are eligible for work on any public road or publicly owned bicycle or pedestrian pathway or trail, or on tribal lands for general use of tribal members, that improves the safety for its users. Projects proposed for HSIP funding must be consistent with the SHSP, the statewide plan which provides the policy foundation for the LRSP.

City of Soledad

The City of Soledad is located in the Salinas Valley in Monterey County. The City is in one of the most economically productive agricultural regions in the world and is known for its many wineries, the Spanish mission (Mission Nuestra Señora de la Soledad), and as a gateway to Pinnacles National Park. The City has also played a major role in fostering and increasing much-

needed units of affordable housing to support the diverse needs of Monterey County's growing workforce.

According to the most recent US Census data, the City of Soledad is populated with just under 25,000 residents, about 22.6% of that population being under 18, with only 6% over 65%. This means the population of Soledad is much younger than that of California as a wholesince almost 15% of the population statewide is over 65. Almost 60% of residents speak Spanish at home, and 30% are foreign born. The largest industrial sector in Soledad is agriculture, employing a third of the working population.

The City of Soledad is committed to improving transportation safety. This Local Roadway Safety Plan (LRSP) will address traffic safety needs and strategies, laying the groundwork to improve the health and safety of all residents and visitors. The intent of the LRSP is to:

1. Analyze traffic incidents in the City of Soledad's road network.
2. Determine traffic incident patterns and high-risk locations.
3. Identify safety partner agencies and gain insight from the local community.
4. Establish a vision and goals for traffic safety in the City of Soledad.
5. Develop a list of countermeasures to address key safety issues at high-risk locations.

2. VISION & GOALS

Soledad Transportation Safety Program

The City, in collaboration with its Safety Partners, will implement a new transportation safety program that will be ongoing and build on previous HSIP projects and the past work of Safety Partners. The new program will use data driven analysis and collaboration between the City, public agencies and local groups to improve transportation safety utilizing a Vision Zero approach.

Goals

1. Reduce the number of fatal and severe injury collisions in Soledad
2. Implement systemic physical countermeasures to target emphasis areas identified in this report
3. Develop, implement, assess outcomes, and adjust course to achieve effective roadway safety through education, engagement, and enforcement.

Vision Zero

The City of Soledad aims to advance roadway safety through a Vision Zero strategy to reduce the number of fatal and severe traffic incidents to zero by 2030. Vision Zero is based on an underlying ethical principle that it is never acceptable for people to be killed or seriously injured when moving on public roadways. Vision Zero provides a new lens for decision making in which safety outcomes are prioritized above all else. It also redistributes the responsibility for

accidents from solely the roadway users, to collectively between roadway users, policy makers, designers, and enforcement. Vision Zero is not a slogan, tagline, or even a program, but rather a fundamentally different way to approach traffic safety. The City of Soledad is committed to increasing safe, healthy, equitable mobility for all, while eradicating traffic fatalities and injuries.

Each year, more than 40,000 people are needlessly killed on American streets and thousands more are injured. We call this suffering traffic “accidents” — but there are strategies to prevent traffic collisions. Vision Zero is a multidisciplinary approach that brings together diverse 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 addresses the many factors that contribute to safe mobility -- including roadway design, speeds, behaviors, technology, and policies.

Equity is not only a desired outcome of Vision Zero, but also integral to every component of Vision Zero planning and implementation. Equitable strategies include prioritizing safety improvements in areas that have historically been underserved, and robust engagement strategies to reach those who are most vulnerable on the roadways including those who have not typically been included in traditional city planning processes.

Committing to Vision Zero requires building and sustaining leadership, collaboration, and accountability, collecting, analyzing, and using data to understand trends and potential disproportionate impacts of traffic deaths on certain populations, prioritizing equity and community engagement, managing speed to safe levels, and setting a timeline to achieve zero traffic deaths and serious injuries, which brings urgency and accountability, and ensuring transparency on progress and challenges.

General Plan Circulation Element Goals

1. To provide a safe and efficient circulation network to meet the present and future needs of the City.
2. To encourage the use of alternate forms of transportation other than the automobile.
3. To create a pedestrian friendly, walkable community.

General Policies that support local roadway safety

C-16 Roundabouts will be considered as an alternative to traditional intersection controls.

C-22 Bike lanes and paths shall be designed and maintained to improve bicycling safety, and convenience, and encourage people to use bicycles to commute to work or school.

C-29 Pedestrian crossings at heavily traveled intersections shall be made as safe as possible, utilizing neckdowns/bulb outs where feasible. Crossing controls shall be installed when traffic levels warrant.

Programs

5.10 To maintain Soledad's roadway standards, the City shall:
b. Make changes within existing roadways to improve safety and traffic flow, including:

- Selectively removing on street parking.
- Restriping a street including the addition of bike lanes.
- Synchronizing traffic signals.
- Installing turn pockets at intersections.
- Constructing center turn lanes or median islands.
- Provide neckdowns/bulb outs at intersections and where appropriate

3. SAFETY PARTNERS

Safety Partners are a variety of stakeholders and community groups who contribute to the development and implementation of the LRSP by providing support, assistance, advice, data, and resources. A complete list of safety partners can be found below.

- Association of Monterey Bay Area Governments
- Transportation Agency of Monterey County (TAMC)
- Monterey County Sheriff's Office
- Soledad Unified School District
- Monterey County Health Department
- Ciclovia Soledad Youth Planning Committee
- Ciclovia Soledad Community Planning Committee
- Greenfield Community Science Workshops
- Soledad Chamber of Commerce

4. PROCESS

Data Analysis

Collision Reports from the Soledad Police Department were analyzed from 2016 to 2021 to better understand the recent collision history within the City and assist in the selection of emphasis areas. Key data points from the reports were extracted and organized for ease of analysis. The Transportation Injury Mapping System (TIMS) provided by UC Berkeley was also utilized as a supplemental source for collision data analysis, specifically data from the California Statewide Integrated Traffic Records System (SWITRS).

Safety Partners

Safety partners were initially contacted starting in Fall 2021 and communications continued through the development for the first draft of the LRSP. Initial interviews were conducted with the Soledad School District, the Police Department, Caltrans, Monterey County Health Department, and TAMC. These interviews helped collect information relevant to the development of the plan and established connections to assist with the public outreach process.

LRSP Development

Plan development began in October 2021 and continued until the release of the first draft in April 2022.

Emphasis Areas

Emphasis areas were selected based on collision report data, TIMS data, and feedback from City Public Works staff as well as safety partners. Once emphasis areas were selected, a variety of methods were utilized to select countermeasures to address the issues found in each emphasis area. Previous traffic reports and studies as well as guidelines from the Federal Highway Administration on Proven Safety Countermeasures were referenced. Satellite imagery was used to view emphasis areas and a field review was also conducted to further evaluate specific hotspots and identify the best fitting countermeasures.

Plan Development

Plan development began in February 2021 and continued until the release of the first draft in January 2021. At this point, the draft was made public for the community to review and a survey was conducted to gain further insight on community roadway safety concerns.

Public Outreach and Engagement Plan

The core objectives of this Public Outreach and Engagement Plan are outlined as follows:

- Broaden local understanding of the purpose of the LRSP.
- Develop acceptance of the LRSP and its visions and goals.
- Promote the long-term community benefits associated with the LRSP.
- Understand public opinions and concerns regarding traffic safety.
- Receive community feedback and input on emphasis areas and countermeasures.

Outreach Approach

1. Survey & Interactive Map

The survey and interactive map were the main format to provide feedback on the LRSP. The survey and map were open for feedback from 5/2/2022 to 5/22/2022, along with the first draft of the LRSP. The survey and map were created via Social Pinpoint and offered a variety of questions, visuals, and mapping tools, allowing community members to easily give feedback on the LRSP's vision and goals, emphasis areas, and countermeasures. A flyer was created (in both English and Spanish) to publicize the survey and map and was shared with the community on the City's and School District's social medias. The flyer was also sent out to residents in utility bill mailings and sent out to parents by the School District (via Parent Square). We received 29 map comments and 28 survey responses, from a total of 41 unique stakeholders who participated. The full results from the survey and interactive map can be found in the Public Engagement Summary in Appendix B.

2. Public Comment

A draft of the LRSP was made available via the City website and a link was included on the outreach flyers. No comments were received outside of Social Pinpoint.

5. EXISTING EFFORTS

Regional Roundabout Study

The Transportation Agency for Monterey County conducted a Regional Roundabout Study in 2016, utilizing Caltrans' Intersection Control Evaluation. The study analyzed the benefit cost (B/C) ratios for 26 study intersections across Monterey County, including two within the City of Soledad: Metz Road at Pinnacles Parkway and Front Street at East Street. The B/C ratio is based on five performance measures: safety benefit, delay reduction benefit, emission reduction benefit, operations and maintenance costs, and initial capital costs. The B/C ratio for Metz Road at Pinnacles Parkway is denoted as NA-R, indicating the ratio could not be calculated because the roundabout is less expensive than the cost of a stop/signal and the roundabout provides benefits over the stop/signal. The B/C ratio for Front Street at East Street is 1.98, indicating the roundabout provides a better return on investment when compared to either stop or signal control.

Active Transportation Plan (Caltrans District 5)

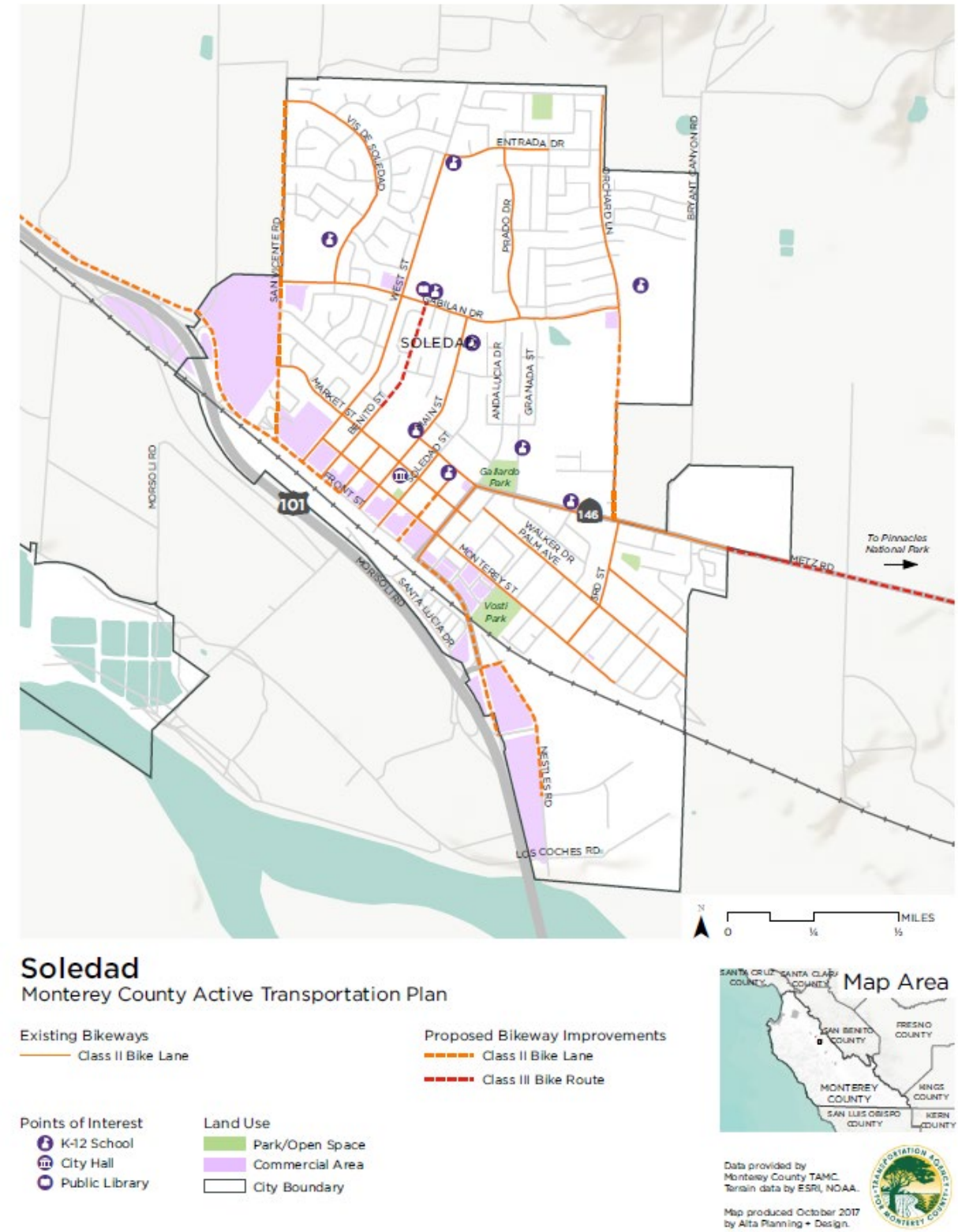
The Caltrans District 5 Active Transportation Plan identifies bicycle and pedestrian needs across and parallel to the State Transportation System throughout California's Central Coast. The six goals of the plan are safety, partnerships, mobility, maintenance, and corridor context. Cycling is prohibited along US Route 101 in Soledad but not on State Route 146, where there is a density of collisions outside of but adjacent to City boundaries.

TAMC Monterey County Active Transportation Plan (2018)

The TAMC Active Transportation Plan recommends several new bike lanes (Class II) and one bike route (Class III) ranked based on their order of priority in the City of Soledad (see list below). The analysis carried out for this plan states that between 2010 and 2016, 30 out of the 92 collisions in the City involved pedestrians or cyclists, even though bicycling and walking mode shares are only 2.8% and 0% respectively.

- .18 mile Class II bike lane on Kidder Street between Front and Market St. ($9,517)
- .59 mile bike lane on Front St. between East St to 4th St ($30,764)
- 1.00 mile bike lane on San Vincente Rd. between Vista del Sol Rd and Hwy 101 ($52,191)
- .52 bike lane on Orchard Lane between Metz Rd. and Asilomar Rd. ($27,186)
- .48 bike lane on Nestles Rd. between Los Coches Rd. and Front St. ($25,199)
- .34 bike route Benito St. between North St. and Gabilan Dr. ($4054)

Figure 1: TAMC Existing and Proposed Bikeways Map



Bicycle and Pedestrian Master Plan (2011)

The Transportation for Monterey County (TAMC) adopted a Bicycle and Pedestrian Master Plan in December of 2011. The Plan identifies existing and proposed bicycle and pedestrian facilities in Monterey County and the communities therein. The Plan was used to prioritize project funding as the TAMC administers bicycle and pedestrian related funding. At the completion of the Plan, the City of Soledad had 10.4 miles of existing bikeway (all Class 2). There are five potential bikeway projects in Soledad that are identified in the Plan. The projects, in order of priority, are as follows:

- 0.59 mile, Class 2 bikeway on Front Street, from East Street to Fourth Street ($25,200)
- 0.18 mile, Class 2 bikeway on Kidder Street, from Front Street to Market Street ($7,800)
- 0.52 mile, Class 2 bikeway on Orchard Lane, from Metz Road to Asilomar Road ($22,300)
- 1.0 mile, Class 2 bikeway on San Vincente Rd, from Vista del Sol Road to Hwy 101 ($42,800)
- 0.48 mile, Class 2 bikeway on Nestles Road, from Los Coches Road to Front Street ($20,700)

Implementation of the proposed projects would add nearly three miles to the existing bikeway network and would cost an estimated $118,800 in 2011 dollars. General Pedestrian improvements were also recommended at “various locations,” including:

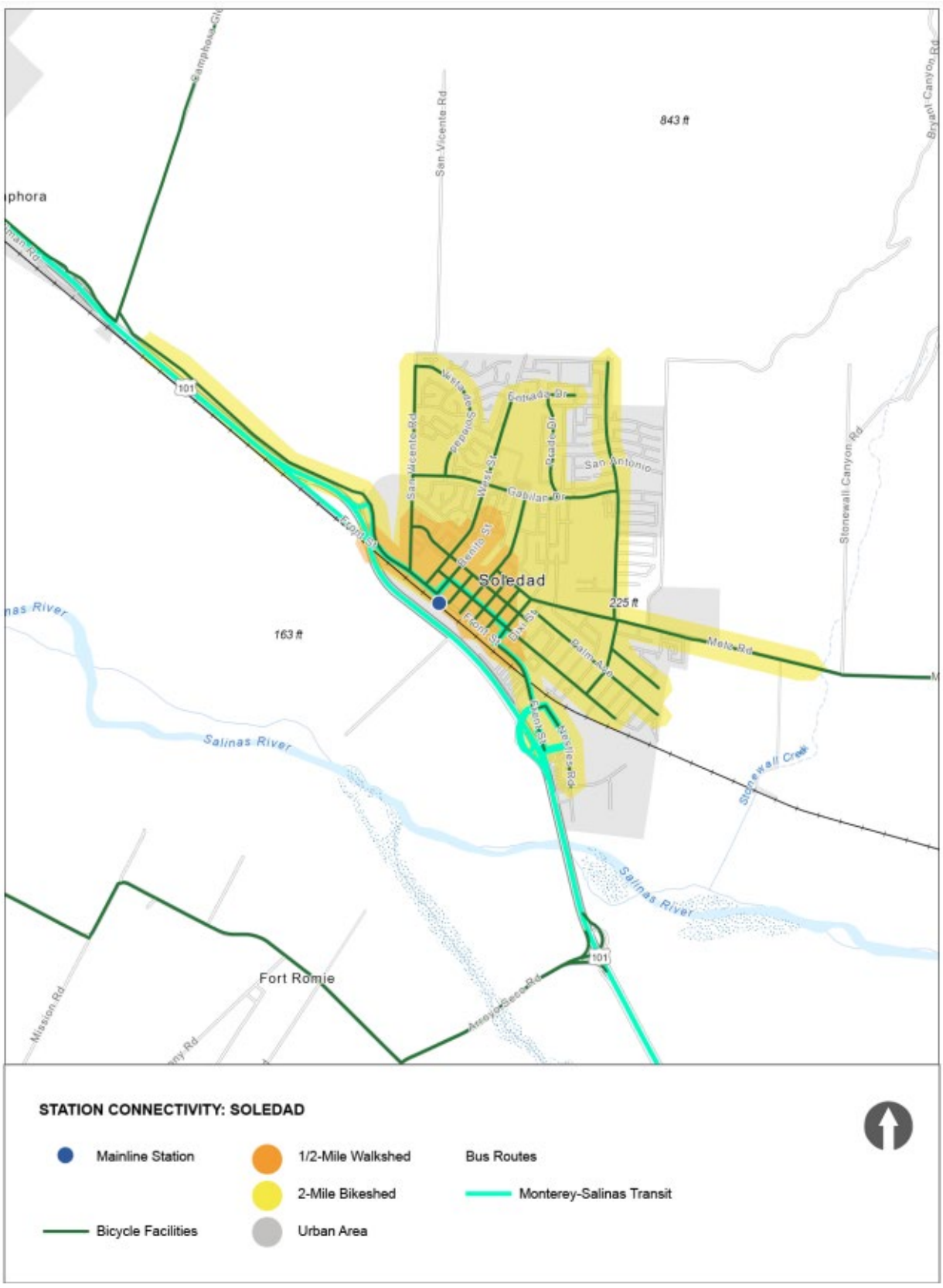
- Construct lighted crosswalks in front of local schools ($120,000/ea)
- Replace damaged and broken crosswalks with new thermoplastic striping ($6/SF)
- Construct countdown ped signals at signalized intersections ($40,000/ea)
- Remove and replace non-ADA ramps ($4,000/ea)
- Construct missing sidewalk ($540,000/mi)
- Remove raised and broken sidewalk with new sidewalk ($200,000/mi)

Planning level cost estimates and a map of the projects were not provided because the submitted projects did not indicate specific locations.

TAMC Monterey Bay Area Network Integration Study (July 2021)

The primary focus of the Transit Integration Study is rail, but it also addresses bus and active transportation in Soledad. The rail service vision for Monterey County is to create a regular Amtrak passenger link between the Monterey Bay area and the San Fancisco Bay Area that includes connections between Monterey Bay communities. Decades ago, there was a rail station that served Soledad. The Transit Integration Study includes a stop by Amtrak in Soledad that that the City could, in the future, reconstruct at the original station location. If re-built, the station would provide access within a half-mile by foot to downtown, and within two miles by bicycle to most of the residential areas of the City.

Figure 2: TAMC Local Transit and Active Transportation Access



South County Monterey-Salinas Transit Improvements

The primary transit provider in Soledad is Monterey-Salinas Transit (MST). The services in the City are a door-to-door paratransit service for people with a disability and a long-distance fixed-route that connects King City to Salinas with limited stops in Soledad. A third service, currently on-call door-to-door, will be replaced with a fixed, one-way, curricular route that arrives to each stop once every thirty minutes. MST has been working with City staff to develop bus stop locations. The proposed route is shown in Figure 3 below. MST has also proposed several bus stop infrastructure improvements along this route, including concrete passenger landing pads, red striping, and bus stop poles. These proposed improvements were considered when selecting emphasis areas and countermeasures for the LRSP. The City is engaging with MST to ensure proposals for transit facilities in Soledad are coordinated with the design of corresponding pedestrian infrastructure. The City will address, to the extent feasible, design and construction of pedestrian safety infrastructure at each of the proposed bus stops on the route. This project and its locations have not been finalized, but the City's coordination with MST at the earliest stages of project development will result in the best possible design for transit stops and pedestrian safety.

Figure 3: Proposed Fixed Bus Route

City of Soledad General Plan

The City of Soledad is currently updating its General Plan. The content of this LRSP will help to provide a foundation and context for the updated Circulation Element of the General Plan.

Previous HSIP-Funded Projects

The City of Soledad was awarded a combined total of $500,000 from the Highway Safety Improvement Program in Cycles 9 and 10 to implement pedestrian safety improvements at 15 locations throughout the City. The improvements are summarized in Table 1 below. Some of these locations and projects are still subject to changes.

Table 1: HSIP-Funded Projects

Location	Proposed Improvements
Market St at Benito St	• 4 curb extensions • 4 high-visibility crosswalks • 4 solar-powered LED stop signs • Relocate 3 existing SD catch basins
Market St at Encinal St	• 2 Yield Here to Pedestrians signs • 2 sets of yield pavement markings • 2 rectangular rapid flashing beacons (RRFBs) • Restripe 2 existing crosswalks to be yellow continental
Main St at Market St	• 4 high-visibility crosswalks • 4 solar-powered LED stop signs • 4 advance stop bars • Restripe 4 existing “STOP” pavement markings
Main St at North St	• 4 curb extensions • 2 solar-powered LED stop signs • Relocate 3 existing SD catch basins
Main St at Ticino St	• 3 curb extensions • 2 advance stop bars • Restripe 2 existing crosswalks to be yellow continental • Restripe 1 existing advance stop bars • Restripe 3 existing “STOP” pavement markings • Remove and replace approx. 1,335 SF pavement at Ticino Approach
Gabilan Dr at Vista de Soledad	• 4 curb extensions • 4 solar-powered LED stop signs (2 each approach Gabilan Dr) • 2 advance stop bars • Relocate 4 existing SD catch basins
Vista de Soledad at Franscioni St	• 3 curb extensions • 2 Yield Here to Pedestrians signs • 2 sets of yield pavement markings • 4 school crosswalk signs • Restripe 2 existing crosswalks to be yellow continental • Restripe 1 existing advance stop bar • Restripe 1 existing “STOP” pavement marking • 2 RRFBs
Gabilan Dr at West St	• 8 pedestrian countdown heads • 4 advance stop bars • Lead pedestrian interval timing • Restripe 4 existing crosswalks to be yellow continental

West St at Anderson St	• 1 raised median (refuge island) • 2 curb extensions • 2 RRFBs • 2 Yield Here to Pedestrians signs • 2 sets of yield pavement markings • 4 school crosswalk signs • Relocate one existing SD catch basin
Gabilan Dr at Benito St	• 2 RRFBs • 2 Yield Here to Pedestrians signs • 2 sets of Yield pavement markings • 4 School Crosswalk signs
Gabilan Dr at Main St	• 2 solar-powered LED stop signs • 3 advance stop bars • Restripe 3 existing crosswalks to be yellow continental
Metz Rd at Walker Rd	• 2 RRFBs
West St at Entrada Dr	• 4 curb extensions • 1 new crosswalk • 3 advance stop bars • 1 solar-powered LED stop sign • Relocate 2 existing SD catch basins
Gabilan Dr at Orchard Ln	• 4 advance stop bars • 1 high-visibility crosswalk • 4 solar-powered LED stop signs
San Antonio St at Orchard Ln	• 3 advance stop bars

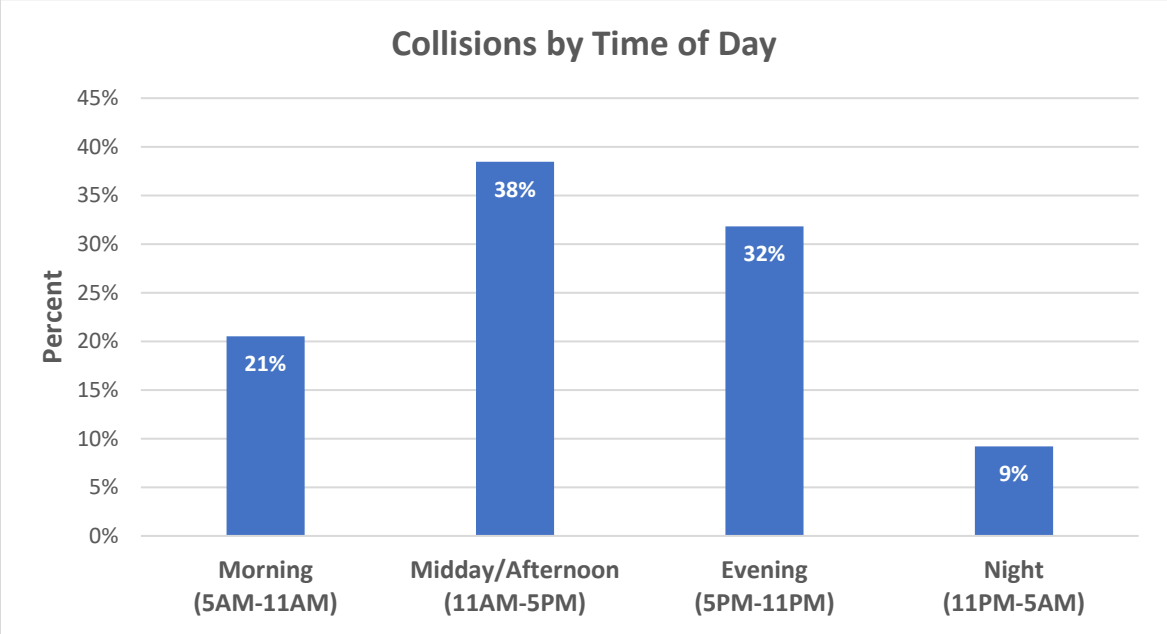
6. DATA SUMMARY

Soledad Police Department Collision Reports

A report summarizing traffic collisions from 2016 to 2021 was provided by the Soledad Police Department. The report included records of over 650 collisions. For each collision, the report included street location, whether it occurred at an intersection, cross street and distance from cross street, date, time, day of the week, primary collision factor (PCF), BCS code, and incident number. The data in the report was analyzed to help pinpoint the intersections and roadway segments where there are frequent collisions. This analysis was used to inform the selection of emphasis areas and proposed countermeasures. The report also provided some general insights into when and how traffic collisions occur.

As seen in Figure 5 below, the day was split up into four six-hour time slots for analysis: Morning, Midday/Afternoon, Evening, and Night. According to the data, collisions occur most frequently in the afternoon (about 38% of collision take place between 11AM and 5PM). There are frequently collisions in the evening hours as well, with about 31% of collisions taking place between 5PM and 11PM. Morning has the next largest percent of collisions, with 21% of collisions occurring between 5AM and 11AM, while only 9% of collisions occur at night (11PM to 5AM).

Figure 4: Collisions by Time of Day

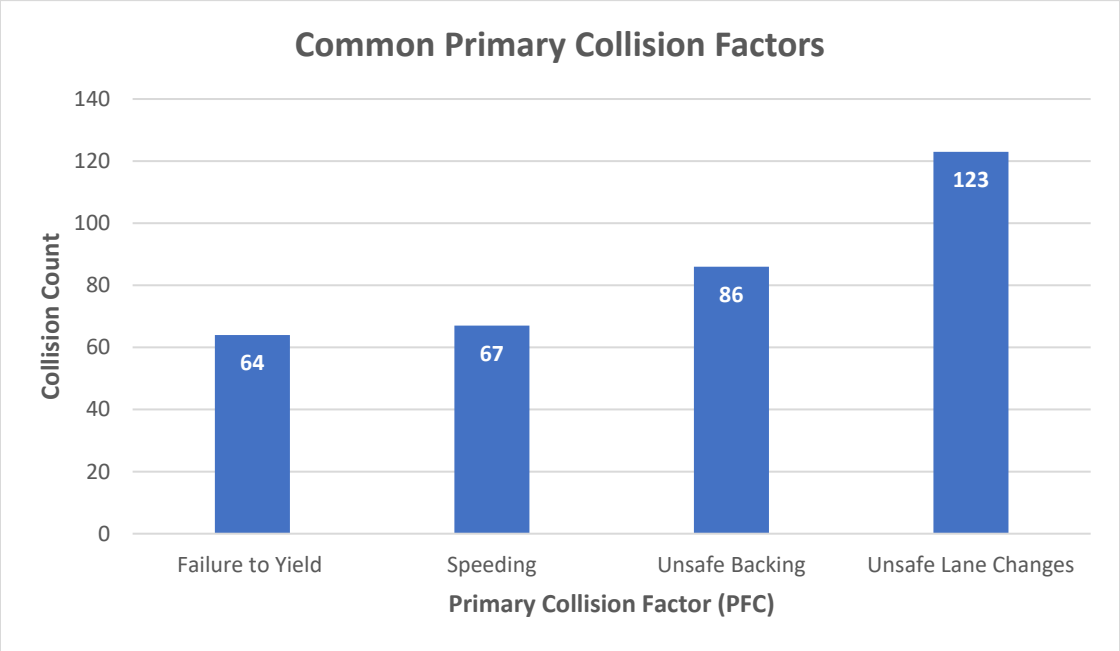


Source: Collision Reports 2016-2021.

Figure 5 below highlights four of the most common primary collision factors (PCFs) in the collision data. The most common PCF was unsafe lane changes, at 123 collisions. Unsafe lane changes could depict a variety of collision scenarios. The second most common PCF was unsafe backing, which accounted for 86 collisions, while other notable PCFs were speeding (67 collisions) and failure to yield (64 collisions). Unsafe backing could also depict a variety of

collision scenarios, but is frequently associated with parking (backing out of driveways, parallel street parking, or angled street parking). The City currently has angled street parking in several busy, commercial areas, including Front Street and Main Street. Angled parking can pose a significant safety hazard, as drivers have little visibility of the road behind them while backing out of parking spaces. This creates potential conflict for vehicles backing out with not only other vehicles traveling on the roadway, but also bicyclists traveling in the bike lane located between the angled parking and the vehicle travel lane. Figure 6 below is a photo of the angled parking located on Main Street.

Figure 5: Common Primary Collision Factors



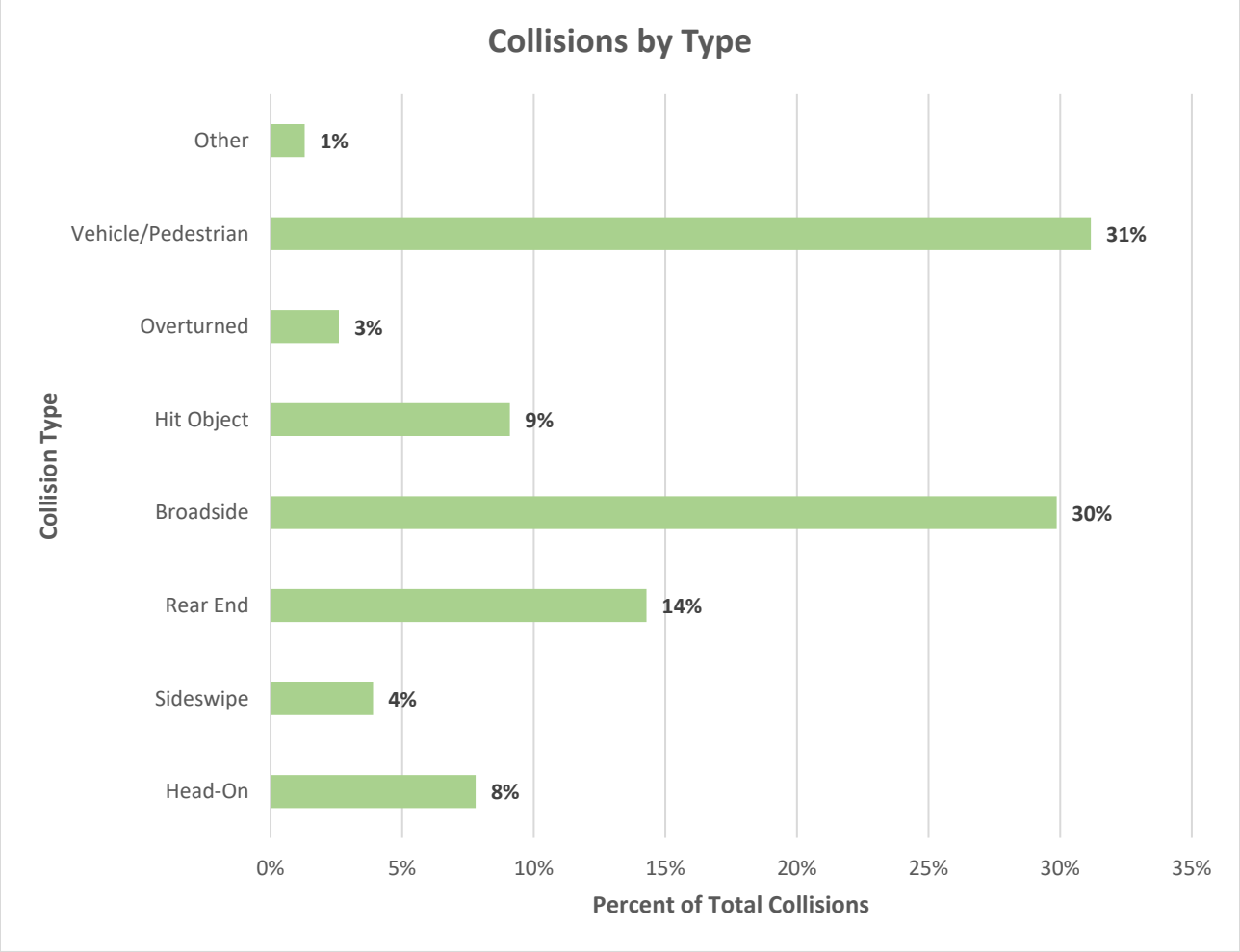
Source: Collision Reports 2016-2021.

Figure 6: Angled Parking on Main Street

UC Berkeley Transportation Injury Mapping System (TIMS)

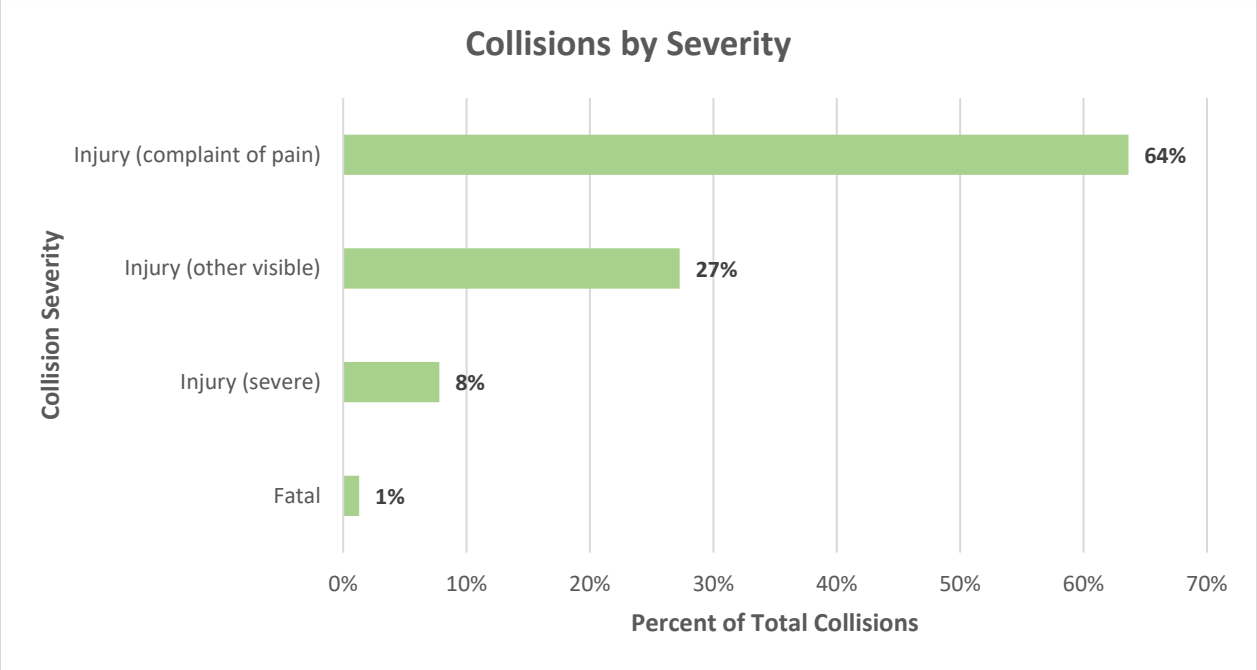
The Transportation Injury Mapping System (TIMS) is an online tool provided by the University of California Berkeley. The California Statewide Integrated Traffic Records System (SWITRS) Query and Map tool was utilized to review collision data within the City of Soledad from 2016 to 2020. Within the City, were 77 crashes reported in the SWITRS database within this time frame. These records provide further detail on collisions, including severity and injuries, pedestrian and bicyclist involvement, the type of collision, etc. This information was used in tandem with Police Department collision data to provide a more detailed picture of the traffic safety issues facing the Soledad community. Figure 7 below illustrates the frequency of different types of collisions as a percentage of total collisions. Vehicle/pedestrian and broadside collisions make up the largest percentage of total collisions, collectively accounting for over 60% of reported crashes. Figure 8 separates collisions by severity. Severe and fatal collisions made up 9% of the total reported collisions, while another 27% resulted in other visible injuries.

Figure 7: Collisions by Type



Source: UC Berkeley Transportation Injury Mapping System (TIMS) Data, Soledad 2016-2020.

Figure 8: Collisions by Severity



Source: UC Berkeley Transportation Injury Mapping System (TIMS) Data, Soledad 2016-2020.

7. PLANNING & POLICY

Miramonte Development

A new residential development will be built on the northern edge of the City of Soledad. To build the development, a sphere of influence amendment was required to expand City limits into unincorporated Monterey County. A Miramonte Specific Plan was adopted by the City of Soledad in 2018. The plan highlights the opportunity to enhance Soledad's image as an attractive residential city through the creation of diverse and attractive residential neighborhoods centered on parks and a commercial center. Figure 9 below shows the land use diagram for the development. Based on the anticipated mix of land uses, a population projection has been developed using U.S. Census Bureau data for Soledad for the low density and medium density housing, and custom estimates for the specialty housing for senior housing. The total population estimate is 9,712. The breakdown is included below in Table 2.

Table 2: Population Estimate

Land Use	Units	Persons per Unit	Population
Low Density Residential	1,318	4.2	5,536
Medium Density Residential	626	4.2	2,629
Senior Housing	134	1.7	228
Residential Study Area	314	4.2	1,319
Total	2,392	--	9,712

SOURCE: EMC Planning Group 2017, United States Census Bureau 2015.

NOTE: Low and medium density residential is based on U.S. Census Bureau data; Medium density residential includes land designated as Affordable Housing. Senior housing based on 70% couples and 30% singles.

The Miramonte Specific Plan also includes a circulation section. The circulation system is designed to provide a functional and efficient transportation network for automobiles, transit, bicyclists, and pedestrians. The street system is comprised of a network of arterial, collector, and local residential streets designed to accommodate traffic generated by plan area residents. All streets are public except for private driveways that may be developed within the commercial and medium density residential areas. Figure 10 below provides a Circulation Master Plan for streets within the development.

Figure 9: Miramonte Development Land Use Diagram

Figure 1-4

Miramonte Specific Plan Land Use Diagram

Miramonte Specific Plan

Figure 10: Circulation Master Plan

East Street and Metz Road Roundabout Project

The City constructed its first roundabout at the intersection of East Street and Metz Road. An Intersection Control Evaluation was conducted by Yamabe & Horn Engineering. The evaluation included a cost comparison of implementing a roundabout compared with a traffic signal. The analysis resulted in a benefit/cost ratio of 1.70 when comparing a roundabout to a traffic signal at this intersection over a life cycle of 20 years. The City completed project planning documents in 2020 and project was constructed in 2021.

Gabilan Drive Extension and Interchange Project

A Project Study Report was created by Caltrans in 2011 to assess the need for and value of modifications to the existing US 101/North Front Street interchange. The goal of the project would be to relieve existing traffic congestions, accommodate planned growth, and provide improved access from the US 101 to the northern area of the City of Soledad. The project would extend Gabilan Drive from San Vicente Road to Moranda Road. The US 101/Moranda Road/Front Street Ramps would be realigned to meet the Gabilan Drive extension. The Project Study Report identifies potential funding sources including local City funds, federal funds, and TAMC funds. However, funding has not yet been specifically allocated to this project.

8. EMPHASIS AREAS

Table 3: Emphasis Areas

	Location	Type	Traffic Safety Concern	Proposed countermeasure
1	H De La Rosa Sr St (4th St) at Nestles Rd	Intersection	• Failure to yield • Insufficient pedestrian infrastructure	• Center line pavement markings on Nestles Rd approaching intersection • Bulb outs & marked crosswalks for crossing H De La Rosa Sr St and crossing Nestles Rd at northern corner of H De La Rosa Sr St.
2	Front St at Nestles Rd	Intersection	• Speeding • Failure to yield	• Restripe crosswalks • Bulb outs at northeast and southeast corners
3	Front St at Oak St	Intersection	• Speeding • Failure to yield	• Bulb outs on east side of oak, north & south side of Front • Green bike box on Front St, southbound
4	Front St at East St	Intersection	• Speeding • Insufficient bicyclist infrastructure	• Crosswalks with bulb outs for crossing East St and Crossing Front St at northern corner of East St • Green bike boxes on Front St
5	Front St at Encinal St	Intersection	• One-way stop • Failure to yield to pedestrians	• Install RRFBs, yield markings, and signage
6	Front St at San Vicente Rd	Intersection	• Speeding • Failure to yield	• Evaluate yellow change interval and lead pedestrian interval timing • Bulb outs on Front Street
7	Front St	Midblock	• Unsafe backing out of angled parking • Inadequate pedestrian crossings • Speeding	• Add bike lane buffer from Nestles Rd to East St • Add sharrow road markings and “Share the Road” signs from East St to San Vicente Rd • Roadway width: 75 ft- 10’ parking lane, 6’ bike lane, 3’ buffer, 12’ travel lane, 13’ turning lane

8	Oak St at Palm Ave	Intersection	• Line of sight issues	• On southern side of Palm Ave, add following lengths of red curb:
				  ○ 40 ft west of Oak St
				  ○ 40 ft east of Oak St

9	Monterey St at Oak St	Intersection	• Speeding • Failure to yield	• Restripe crosswalks • Bulb outs at all four corners
10	Monterey St at Dixie St	Intersection	• Failure to yield • Inadequate pedestrian crossings	• RRFB and crosswalk on east side of Monterey

11	East St at Monterey St	Intersection	• Failure to yield	• Mini roundabout with flush central island that buses and trucks can traverse over to complete turning maneuvers (due to restricted intersection geometry). • See FHWA Guidance here: https://www.dot.state.mn.us/stateaid/trafficsafety/roundabout/fhwa-brochure.pdf
12	Benito St at Monterey St	Intersection	• Line of sight issues	• Mini roundabout
13	Oak St	Midblock	• Speeding	• Restripe roadway to accommodate two-way left turn lane • Roadway width: 55 ft- 10’ parking lane, 11’ travel lane, 13’ left turn lane • Add sharrow road markings and “Share the Road” signs
14	Monterey St	Midblock	• Speeding	• Add striped bike lane buffer from Sixth St to West St • Roadway width: 55 ft- 8’ parking lane, 5’ bike lane, 3’ buffer, 11’ travel lane
15	Market St	Midblock	• Speeding	• Add striped bike lane buffer from Dixi St to Soledad St and from Main St to West St • Roadway width: 55 ft- 8’ parking lane, 5’ bike lane, 3’ buffer, 11’ travel lane
16	Main St	Midblock	• Speeding • unsafe backing out of angled parking	• Add speed signage • Add “Watch for bicycles” signage by angled parking
17	West St	Midblock	• Speeding	• Road diet- south of Gabilan Dr restripe as two travel lanes with median • Double striped median from Gabilan Dr to North St • Two-way left turn lane from North St to Front St • Add Striped Bike lane buffer • Roadway width: 50 ft- 6’ bike lane, 3’ buffer, 11’ travel lane, 10’ median or left turn lane • Crosswalk and RRFB at south side of intersection at North St.
18	San Vicente Rd	Midblock	• Speeding	• Center and edge line pavement markings • Center and edge line rumble strips • Add speed signage
19	Gabilan Dr	Midblock	• Speeding	• Add striped bike lane buffer

				• Roadway width (east of Granada St): 62 ft- 8’ parking lane, 5’ bike lane, 3’ buffer, 11’ travel lane, 8’ left turn lane • Roadway width (west of Granada St): 60 ft- 5’ bike lane, 3’ buffer, 11’ travel lanes (two in each direction) • Roadway width (west of West St): 83 ft- 8’ parking lane (westbound only), 5’ bike lane, 3’ buffer, 11’ travel lanes (two in each direction), 15’ median
20	Gabilan Dr at San Vicente Rd	Intersection	• Speeding • Failure to yield	• Acquire right of way east side of San Vicente Rd, convert to roundabout
21	Metz Rd at Orchard Ln	Intersection	• Speeding • Failure to yield	• Intersection lighting (pattern of nighttime collisions)
22	Orchard Ln	Midblock	• Speeding • Line of sight issues for vehicles entering from side streets	• Striped bike lane buffer • Roadway width: 55-60 ft- 8-9’ parking lane (southbound only), 5’ bike lane, 3’ buffer, 11’ travel lane, 9-13’ two-way left turn lane • On western side of Orchard Ln, add following lengths of red curb: ○ 80 ft north of Entrada Dr ○ 40 ft south of Entrada Dr ○ 70 ft north of Santa Barbara ○ 25 ft south of Santa Barbara ○ 70 ft north of San Gabriel ○ 25 ft south of San Gabriel ○ 80 ft north of La Colina St ○ 20 ft south of La Colina St ○ 90 ft north of Santa Inez ○ 40 ft south of Santa Inez ○ 90 ft north of Las Flores St ○ 50 ft north of Ventura Ct ○ 30 ft south of Ventura Ct
23	Orchard Ln at Entrada Dr	Intersection	• Speeding • Failure to yield	• Marked crosswalk • Pedestrian crossing signage on Entrada Dr
24	Entrada Dr	Midblock	• Speeding	• Add midblock chokers • Speed limit signage
25	Prado Dr	Midblock	• Speeding	• Add midblock chokers • Speed limit signage • From Gabilan Dr to Las Flores St: remove bike lane on east side, add sharrow markings, add parking lane on west side to allow for curb extensions and marked crosswalk at Gabilan Dr

26	Vista De Soledad	Midblock	• Speeding	• Add midblock chokers • Speed limit signage
27	Terraza St	Midblock	• Speeding	• Extend existing curb extension on north side at Carmelo • Curb extensions on south and north sides at Madera St (narrow roadway width to 20 ft) • Midblock choker between Madera St and Carmelo (narrow roadway width to 20 ft and add speed table) • Add centerline with rumble strip in segments where road narrows at curb extensions
28	Toledo St	Midblock	• Speeding	• Midblock chokers between La Colina St and San Antonio, narrowing roadway to 20 ft • Midblock chokers between San Miguel and Las Flores St, narrowing roadway to 20 ft
29	Various Local Roads with Sharp Curves	Intersection /Midblock	• Speeding • Crosscutting on curve	• Centerline pavement marking • Centerline rumble strip

29. Various Local neighborhood roads with sharp, 90-degree curves:

- Prado Dr at Vida St
- Terraza St at Viento St
- Santa Cruz St at San Fernando
- Carmelo at Vida St
- Portola St at San Fernando
- San Jose St at San Juan Bautista
- Solano at San Luis Rey
- Cordoba St
- Granada Ct
- Granada St
- Higuera at Lopez St
- Lopez St at Soberanes
- Viejo Gabriel at Amador
- Goldenrod St at Larkspur St
- Rockrose St at Larkspur St
- Rockrose St at Brittlebrush St
- Franscioni St at Peverini St
- Christierson St at Anderson St
- Stephens St at Saavedra St
- Ortiz St at Gerbrant St
- Gerbrant St at Jimenez St
- Barrera St at Head St
- Valleyridge at Crestfield St

The map below illustrates the locations of the emphasis areas as well as the locations of the HSIP-funded improvements.

Figure 11: Emphasis Areas Map

Street Signs

In addition to the specific emphasis areas listed above, a City-wide issue is presented by the lack of retroreflectivity of City street signs. Street signs are essential for navigation and the current infrastructure presents an issue for nighttime roadway users. Not only is it conducive with roadway users getting lost, it also presents a safety concern if roadway users are distracted looking for signage. A city-wide proposed countermeasure for this safety issue is to recoat or replace the current street signs so that they are more easily visible in the dark. The FHWA's "2014 Traffic Sign Retroreflective Sheeting Identification Guide" will be consulted in determining suitable retroreflective sheeting for the City's street signs.

Field Review

In December 2021, MNS Engineers staff conducted a field review in conjunction with City of Soledad staff. The most common traffic safety issue throughout the City was speeding, largely attributed to wide roads. Wide, open roads encourage faster vehicle speeds. Despite having already added Class II bikeways to many of the City streets, vehicle travel lanes are still often 12 feet or wider and due to the high-speed traffic, Class II bike lanes are not sufficient to make bicyclists feel safe on busy roadways. According to the FHWA, lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations. The extra wide roadways in Soledad's commercial areas present an opportunity to implement protected bike lanes and traffic calming measures without having to widen the roads. When City roadways are resurfaced, they can be restriped to apportion the roadway to make them safer for drivers, pedestrians, and cyclists. For example, by adding a striped bike lane buffer, bicyclists will be better protected from vehicular traffic. The addition of bike lane buffers will narrow travel lanes and induce a traffic calming effect.

Placing new center-line striping, lighting and additional, consistent speed limit signage throughout the City will help inform and remind drivers who are unaware of the speed limit.

Pedestrian safety is also a major concern for the City of Soledad. Implementing pedestrian safety measures at intersections is a crucial part of creating a safe and comfortable experience for all roadway users. The City can expand its network of intersection safety countermeasures, including bulb outs, high-visibility crosswalks, advance stop bars, RRFBs, yield to pedestrian signage, etc. These countermeasures will continue to be implemented systemically throughout the City, prioritizing intersections with the greatest risk of collisions.

Approach to recommendations for countermeasures

The City is taking the following approach to improve local roadway safety:

1. Streets are considered as part of a network, so countermeasures create a pattern that drivers, pedestrians and cyclists are accustomed to, instead of being “spot treatments”. For example, narrowing the lanes on one street might divert traffic to another street. This plan may be used to influence a new set of standards that can be applied in certain areas of the City.

2. Safety countermeasures should address both night-time and day-time conditions.

3. The City can build on its experience of building a network of bulb outs and related improvements in the prior HSIP cycle.

4. Recommendations build on the existing and planned bicycle network.

5. Land-use and zoning along streets should complement recommendations for roadway design and vice-versa. The LRSP can provide a foundation for the direction of the City’s General Plan. The City may take into consideration concentrating future residential development and upgrading the “livability” of residential streets in the City’s central core bounded on the north and south by Front and Gabilan and to the east and west by East Street and San Vicente Road. The goal is to make the streets safer and more appealing to users of all modes.

Proposed Countermeasures

Below are in-depth analyses based on collision data and field review of several emphasis areas. These exemplify the need for the countermeasures specified in the table above.

BULB OUTS & CROSSWALKS

Locations:
1. H De La Rosa Sr St at Nestles Rd
2. Front St at Nestles Rd
3. Front St at Oak St
4. Front St at East St
6. Front St at San Vicente Rd
8. Monterey St at Oak St
21. Orchard Ln at Entrada Dr

Case Study: H De La Rosa Sr St (4th St) at Nestles Rd

Traffic Safety Concern: The intersection of H De La Rosa Sr St and Nestles Rd has been the location of 11 traffic collisions between 2016 and 2021, according to Soledad Police Department Collision Reports. It is a three-way-stop-controlled intersection and the main traffic safety concerns are vehicular failure to yield and insufficient pedestrian infrastructure. Nestles Rd does not have any center or edge line pavement markings and the width of the roadway is over 44 feet. These conditions lead to speeding and failure to yield. Additionally, there are not any marked crosswalks for pedestrians and the sidewalk corners are not very visible to oncoming traffic.

Proposed Countermeasures: The intersection of H De La Rosa Sr St and Nestles Rd, with proposed countermeasures, is shown below in Figure 12. The first proposed countermeasure is adding center line pavement markings on Nestles Rd approaching the intersection. This will reduce chances of lane departure and could also serve as a traffic calming measure. The second proposed countermeasure is adding bulb outs & marked crosswalks for H De La Rosa and the northern side of Nestles Rd. This will also have a traffic calming effect while simultaneously making pedestrians more visible to oncoming traffic.

Figure 12: H De La Rosa Sr Street at Nestles Road

BUFFERED BIKE LANES

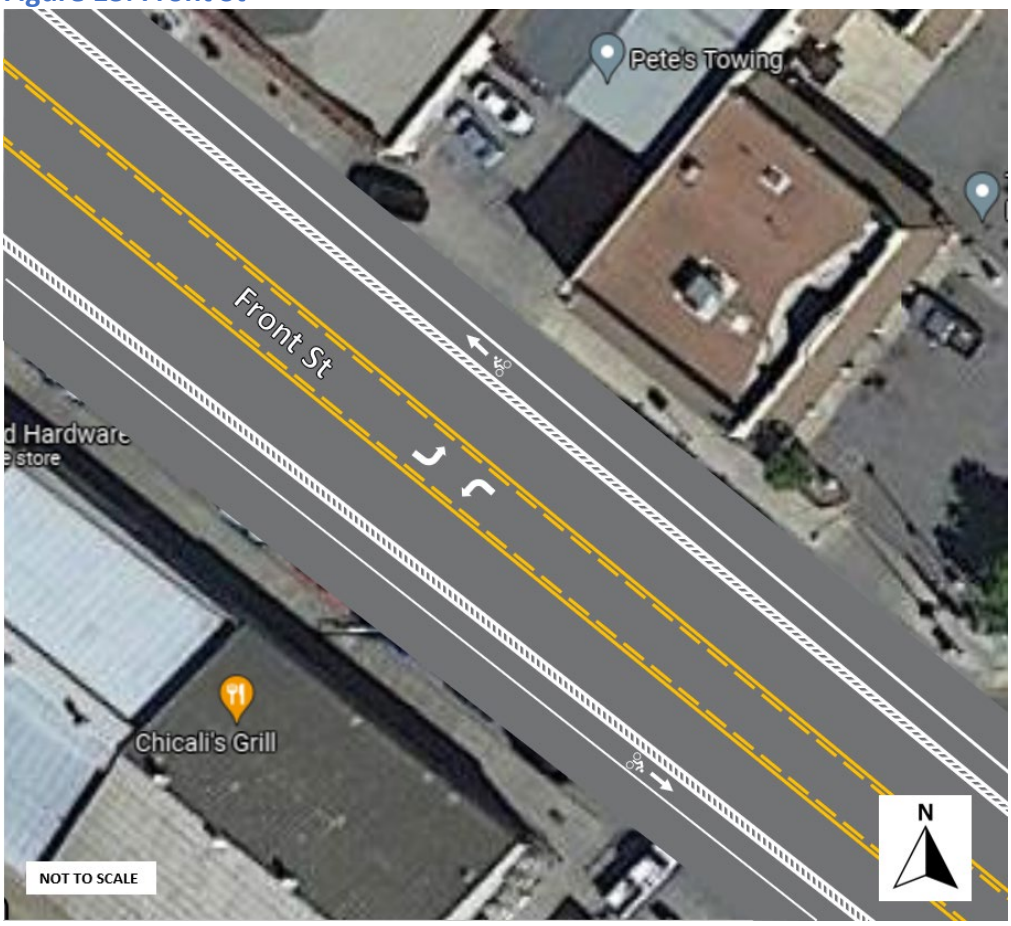
Locations:
7. Front St
12. Monterey St
13. Market St
15. West St
17. Gabilan Dr
20. Orchard Ln

Case Study: Front St

Traffic Safety Concern: Front St has been the location of 58 midblock traffic collisions between 2016 and 2021, according to Soledad Police Department Collision Reports. There are currently only marked bike lanes between Oak St and East St. Speeding is a concern in this segment, exacerbated by wide travel lanes. The roadway width of this section in 75 ft. This presents a safety concern for motorists, pedestrians, and bicyclists riding in the unprotected bike lanes.

Proposed Countermeasures: The proposed countermeasure for Front St is shown below in Figure 13. The proposed countermeasure is the addition of bike lane buffers. Not only will this provide additional protection for cyclists, but it will also have a traffic calming effect on vehicles by reducing the width of the travel lanes. The proposed lane widths are as follows: 10-foot parking lanes, 6-foot bike lanes, 3-foot bike lane buffers, 12-foot travel lanes, and one 13-foot two-way left turn lane.

Figure 13: Front St



BIKE BOXES

Locations:
3. Front St at Oak St
4. Front St at East St

Case Study: Front St at East St

Traffic Safety Concern: The intersection of Front St at East St has been the location of 7 traffic collisions between 2016 and 2021, according to Soledad Police Department Collision Reports. Primary collision factors included speeding and failure to yield. This presents a safety concern for all types of roadway users: motorists, bicyclists, and pedestrians.

Proposed Countermeasures: The proposed countermeasures for Front St at East St are shown below in Figure 14. The first proposed countermeasure is green bike boxes on Front St. Bike boxes provide a designated area at the head of a traffic lane at a signalized intersection. This provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase. The extension of the bike boxes into the intersection can further capture the attention of drivers, providing additional visibility for bicyclists. The other proposed countermeasure is bulb outs at the northwest corner of Front St and the northwest and northeast corners of East St.

Figure 14: Front St at East St

MEDIANS & TWO-WAY LEFT TURN LANES

Locations:
11. Oak St
15. West St

Case Study: West St

Traffic Safety Concern: West St has been the location of seven midblock traffic collisions and 17 intersection traffic collisions between 2016 and 2021, according to Soledad Police Department Collision Reports. The main traffic safety concern on West St is speeding.

Proposed Countermeasures: The proposed countermeasures for West St are shown below in Figure 15. The first proposed countermeasure is a road diet, reducing the roadway from four to two travel lanes. The road diet will extend from Gabilan Dr to Front St. From Gabilan Dr to North St, a double striped median will be utilized to narrow the travel lanes. From North St to Front St, a two-way left turn lane will replace the median. Additionally, a striped bike lane buffer will provide additional protection for the existing Class II bike lanes. A pedestrian & bicyclist crossing with RRFB is also proposed for south of the intersection at North St.

Figure 15: West Street

ROUNDABOUTS

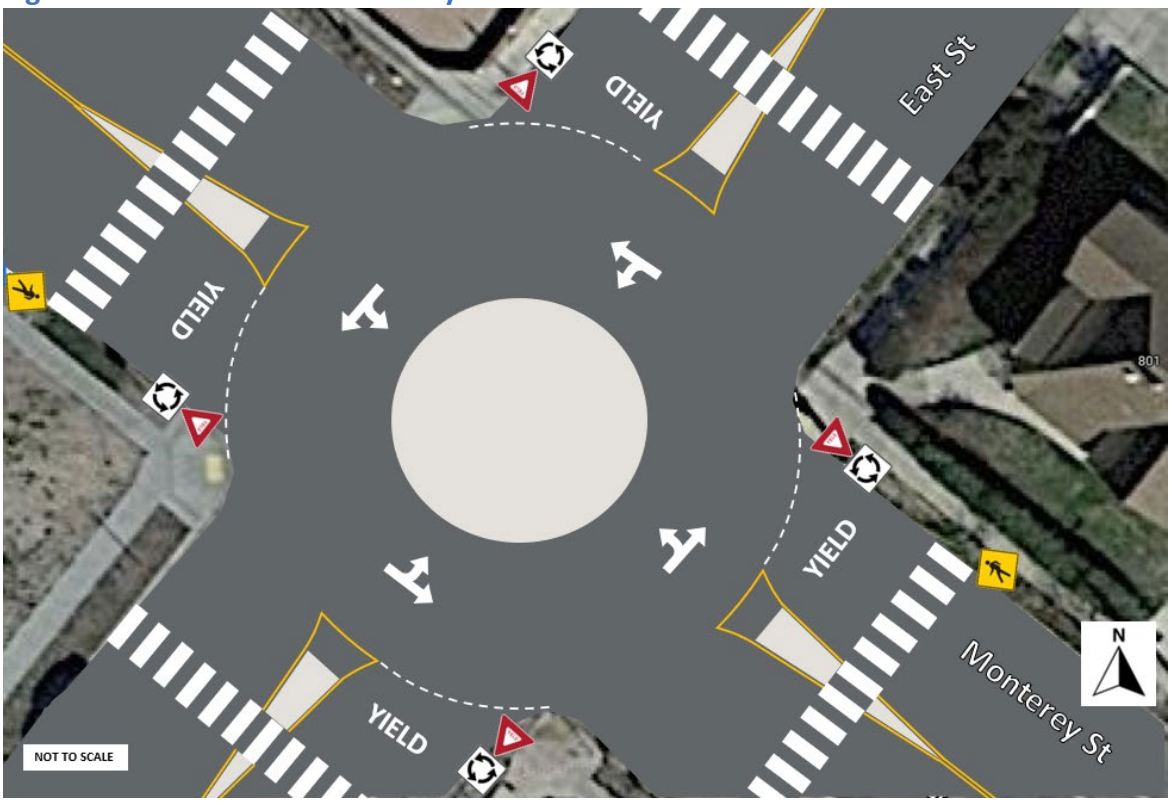
Locations:
10. East St at Monterey St
18. Gabilan Dr at San Vicente Rd

Case Study: East St at Monterey St

Traffic Safety Concern: The intersection of East St at Monterey St has been the location of 6 traffic collisions between 2016 and 2021, according to Soledad Police Department Collision Reports. It is an all-way stop-controlled intersection, and the main traffic safety concern is failure to yield. This also presents a safety concern for pedestrians, as approaching vehicles often do not yield to pedestrians.

Proposed Countermeasures: The proposed countermeasures for the intersection of East St and Monterey St are visualized in Figure 16 below. The proposed countermeasure is a roundabout. Roundabouts efficiently move traffic without the need for complete stops at stop signs or waiting at a traffic signal. Roundabouts can serve moderate traffic volumes with less delay than all-way stop-controlled intersections and provide fewer conflict points. Collisions at roundabouts tend to be less severe because of the speed constraints and elimination of left-turn and right-angle movements. Adequate pedestrian crossing signage, along with the proximity of the sidewalk to the vehicle travel lane will assist in making pedestrians more visible and remind drivers to be aware of pedestrians. Due to limited space at this intersection, the center island will need to be flush to allow for buses and trucks to complete turning maneuvers over top of the center island.

Figure 16: East Street at Monterey Street



CHOKERS

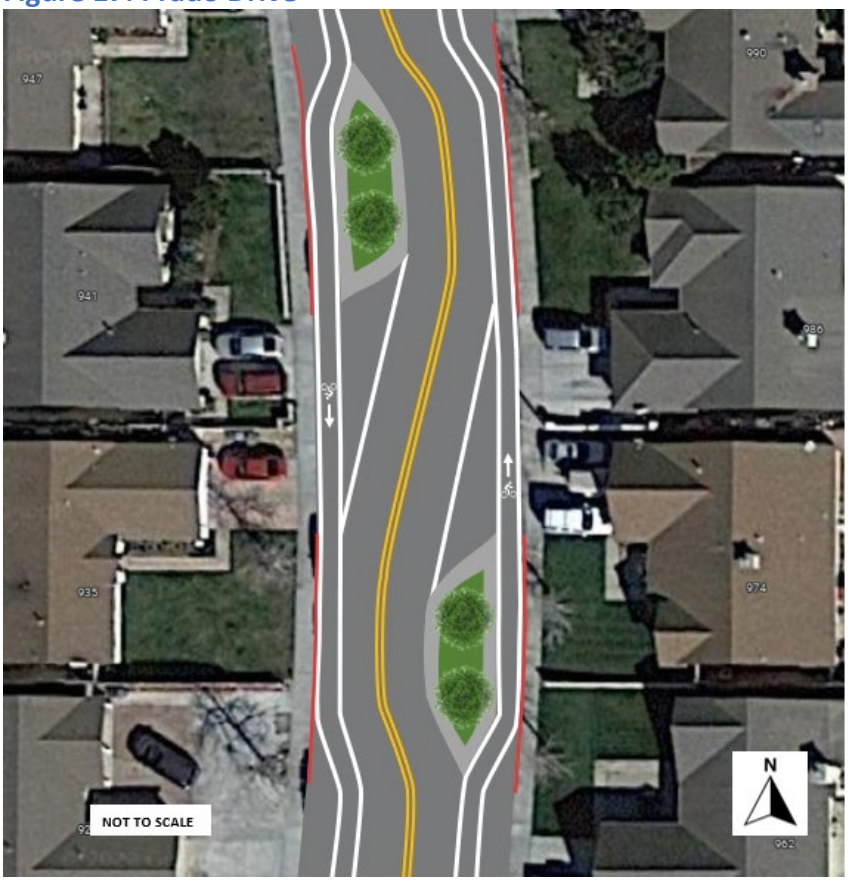
Locations:
22. Entrada Dr
23. Prado Dr
24. Vista De Soledad

Case Study: Prado Dr

Traffic Safety Concern: The main traffic safety concern on Prado Dr is speeding. High speeds are a safety concern for residents along Prado Dr and to all roadway users (pedestrians, bicyclists, and motorists). Because there are limited traffic controls along Prado Dr, vehicles can easily gain speed, despite the local speed limit being only 25MPH.

Proposed Countermeasures: The proposed countermeasures for Prado Dr are demonstrated below in Figure 17. The primary proposed countermeasures for Prado Dr are two sets of offset chokers (also known as pinch points or chicanes), spaced throughout the length of the roadway. One set will be located north of Estrella St and the other set will be located south of Estrella St (as shown below). Chokers will provide a visual que to motorists that the roadway is narrowing and they should slow down. While there are several options for the surface of the chokers (including vegetation or raised pavement), trees present additional benefits when planted in chokers. They enhance the visual cue to motorists that the roadway is narrowing by providing a vertical barrier, while also providing shade to pedestrians, as well as environmental and aesthetic benefits. Caution should be used in the selection and planting of trees to avoid raised sidewalks from root growth. Additional speed limit signage is also proposed for Prado Dr.

Figure 17: Prado Drive



CENTER & EDGE LINE PAVEMENT MARKINGS & RUMBLE STRIPS

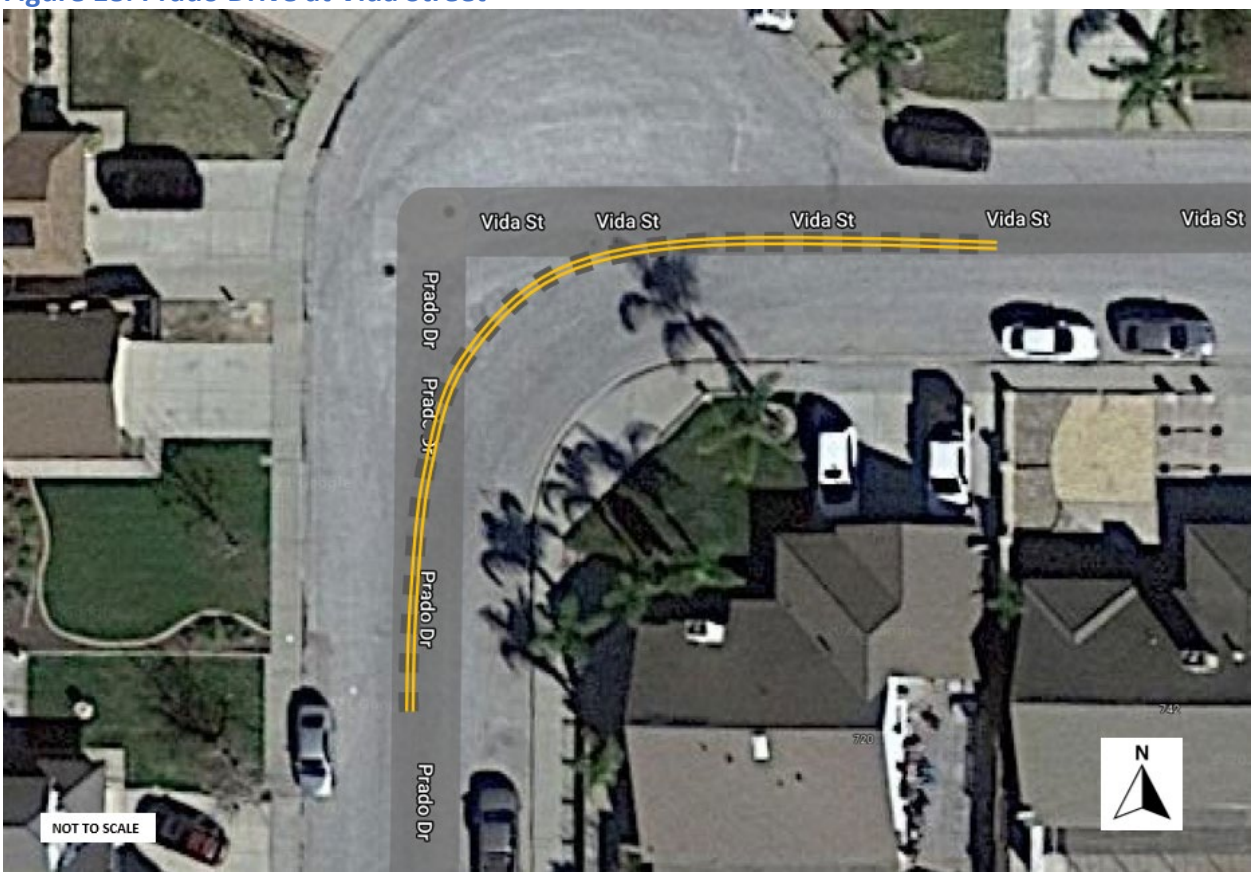
Locations:
1. Nestles Rd at H De La Rosa Sr St
16. San Vicente Rd
25. Local roads with sharp curves

Case Study: Various Local Roads with Sharp Curves—Prado Dr at Vida St

Traffic Safety Concern: There are numerous local roads with sharp, 90-degree turns that pose a traffic safety concern due to speeding and crosscutting on the curves. There are 23 of these curves identified throughout the City without any stop controls or centerline pavement markings.

Proposed Countermeasures: The proposed countermeasures for the sharp roadway curves are illustrated on Prado Dr at Vida St in Figure 18 below. The first proposed countermeasures are adding centerline pavement markings and centerline rumble strips for the length of the curve. This will help reduce crosscutting and could also have a traffic calming effect.

Figure 18: Prado Drive at Vida Street



SIGNAGE, RRFBs, & YIELD MARKINGS

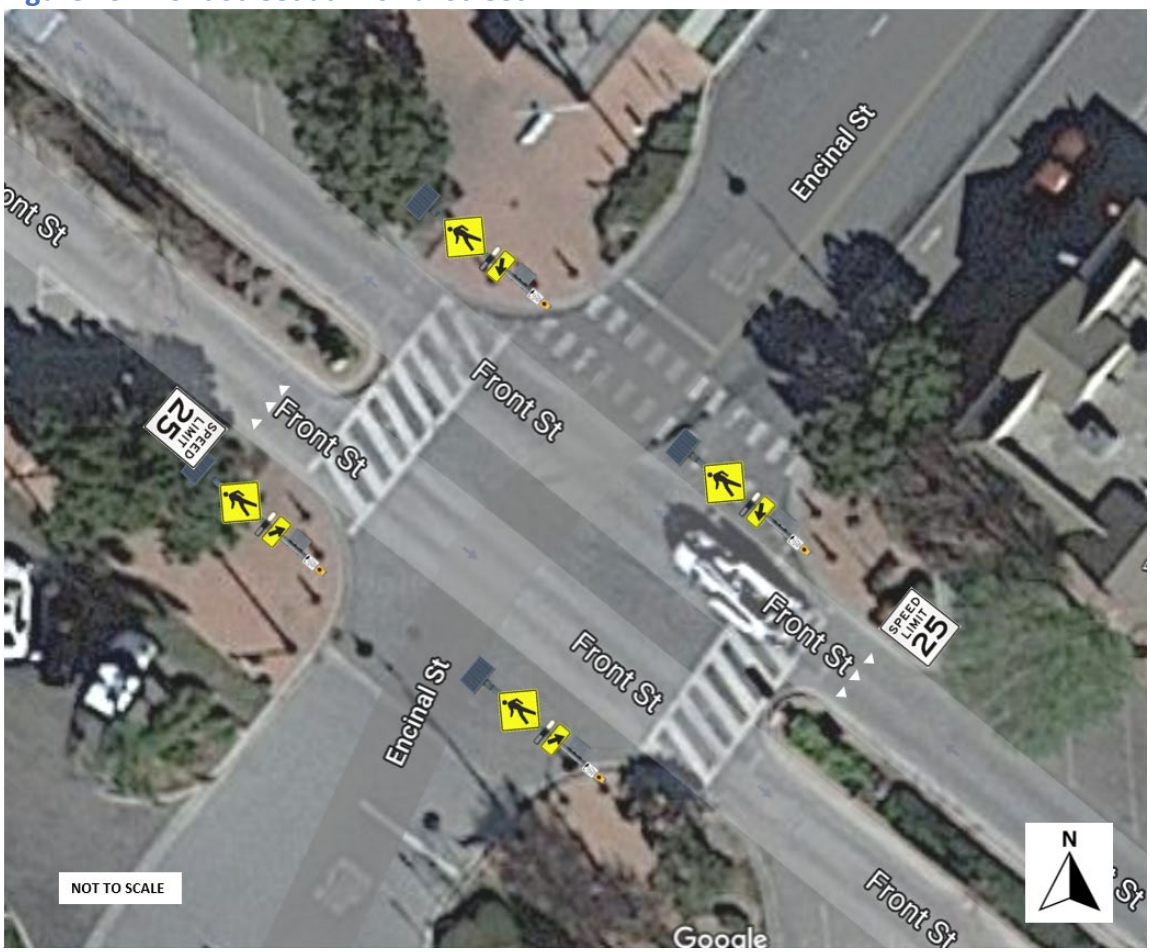
Locations:
5. Front St at Encinal St
14. Main St
16. San Vicente Rd
22. Entrada Dr
23. Prado Dr
24. Vista De Soledad

Case Study: Front St at Encinal St

Traffic Safety Concern: The intersection of Front St and Encinal St is a two-way stop-controlled intersection, with stop signs on Encinal St, but not on Front St. Despite the existing pedestrian infrastructure (marked crosswalks and curb extensions), vehicles traveling on Front St often speed through this intersection, failing to yield for pedestrians. The elevated speeds of vehicles traveling on Front St is not only a concern for pedestrians, but also other vehicles and bicyclists.

Proposed Countermeasures: The proposed countermeasures for Front St at Encinal St are shown below in Figure 19. The first proposed countermeasure is installing RRFBs on Front St to bring attention to pedestrians waiting to cross Front St. The second proposed countermeasure is adding yield pavement markings as an additional measure to slow down vehicles for pedestrians. The final countermeasure is to add speed limit signage on Front St as a reminder to drivers that the speed limit is 25MPH.

Figure 19: Front Street at Encinal Street



SYSTEMIC COUNTERMEASURES:

Below is a list of countermeasures that are particularly relevant to the traffic infrastructure and issues within the City of Soledad. Each of the following is an approved countermeasure listed in the 2020 Local Roadway Safety Manual (LRSM) created by Caltrans in conjunction with FHWA and SafeTREC. The No. columns below refer to the countermeasure number listed in the LRSM, while CRF refers to the Crash Reduction Factor.

ADD INTERSECTION AND SEGMENT LIGHTING			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
S01, NS01, R01	35-40%	20	100%
Description: This countermeasure should be used at signalized and unsignalized intersections as well as midblock segments where there are patterns of nighttime crashes. Providing roadway and intersection lighting improves the safety during nighttime conditions by (1) making drivers more aware of the surroundings, which improves drivers' perception-reaction times, (2) enhancing drivers' available sight distances to perceive roadway characteristic in advance of the change, and (3) improving non-motorist's visibility and navigation. Intersection lighting is of particular benefit to non-motorized users. Lighting not only helps them navigate the intersection, but also helps drivers see them better.			

IMPROVE SIGNAL HARDWARE			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
S02	15%	10	100%
Description: This countermeasure should be used in signalized intersections with a high frequency of right-angle and rear-end crashes occurring because drivers are unable to see traffic signals sufficiently in advance to safely negotiate the intersection being approached. Signal intersection improvements include new LED lighting, signal back plates, retro-reflective tape outlining the back plates, or visors to increase signal visibility, larger signal heads, relocation of the signal heads, or additional signal heads.			

INSTALL PEDESTRIAN COUNTDOWN SIGNAL HEADS			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
S17PB	25%	20	100%
Description: This countermeasure should be used at signalized pedestrian crossing with walk/don't walk indicators and where there has been pedestrian vs. vehicle crashes. A pedestrian countdown signal contains a timer display and counts down the number of seconds left to finish crossing the street. Countdown signals can reassure pedestrians who are in the crosswalk when the flashing "DON'T WALK" interval appears that they still have time to finish crossing.			

IMPLEMENT LEADING PEDESTRIAN INTERVAL			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
S21PB	60%	10	100%
Description: This countermeasure should be used in intersections with signalized pedestrian crossing that have high turning vehicles volumes and have had pedestrian vs. vehicle crashes. A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter an intersection 3-7 seconds before vehicles are given a green indication. With this head start, pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn left. LPIs provide (1) increased visibility of crossing pedestrians; (2) reduced conflicts between pedestrians and vehicles; (3) Increased likelihood of motorists yielding to pedestrians; and (4) enhanced safety for pedestrians who may be slower to start into the intersection.			

CONVERT INTERSECTION TO ROUNDABOUT			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
S16, NS04, NS05	Varies	20	100%
Description: This countermeasure should be used in intersections that have a high frequency of right-angle and left-turn type crashes. Whether such intersections have existing crash patterns or not, a roundabout provides an alternative to signalization. The primary target locations for roundabouts should be moderate-volume unsignalized intersections. Roundabouts provide an important alternative to signalized and all-way stop-controlled intersections. Modern roundabouts differ from traditional traffic circles in that they operate in such a manner that traffic entering the roundabout must yield the right-of-way to traffic already in it. Roundabouts can serve moderate traffic volumes with less delay than all-way stop-controlled intersections and provide fewer conflict points. Crashes at roundabouts tend to be less severe because of the speed constraints and elimination of left-turn and right-angle movements.			

INSTALL/UPGRADE PEDESTRIAN CROSSING AT UNCONTROLLED LOCATIONS			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
NS20PB, NS21PB, NS22PB, R37PB	25-35%	10-20	100%
Description: Adding pedestrian crossings can enhance pedestrian safety at locations noted as being problematic. Pavement markings delineate a portion of the roadway that is designated for pedestrian crossing. These markings will often be different for controlled verses uncontrolled locations. The use of "ladder", "zebra" or other enhanced markings at uncontrolled crossings can increase both pedestrian and driver awareness to the increased exposure at the crossing. Incorporating advanced "stop" or “yield" markings provides an extra safety buffer and can be effective in reducing the 'multiple-threat' danger to pedestrians. At many locations, a marked crosswalk alone may not be sufficient to adequately protect non-motorized users. In these cases, flashing beacons, curb extensions,			

advanced "stop" or "yield" markings, and other safety features should be added to complement the standard crossing elements. Rectangular Rapid Flashing Beacons (RRFBs) can enhance safety by increasing driver awareness of potential pedestrian conflicts and reducing crashes between vehicles and pedestrians at unsignalized intersections and mid-block pedestrian crossings. RRFBs feature pedestrian-activated flashing lights and additional signage that enhance the visibility of marked crosswalks and alert motorists to pedestrian crossings. It uses an irregular flash pattern that is similar to emergency flashers on police vehicles. RRFBs are installed at unsignalized intersections and mid-block pedestrian crossings.

INSTALL MEDIAN BARRIER OR RAISED MEDIAN			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R03, R08	25%	20	90-100%
Description: This countermeasure should be used in areas where crash history indicates drivers are unintentionally crossing the median and the cross-overs are resulting in high severity crashes. This strategy is designed to prevent head-on collisions by providing a barrier between opposing lanes of traffic. The variety of median barriers available makes it easier to choose a site-specific solution. The main advantage is the reduction of the severity of the crashes. Installing a raised median is a more restrictive approach in that it represents a more rigid barrier between opposing traffic.			

ADD TWO-WAY LEFT TURN LANE			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R13	30%	20	90%
Description: This countermeasure should be used on roadways having a high frequency of drivers being rear-ended while attempting to make a left turn across oncoming traffic. It can also be effective for drivers crossing the centerline of an undivided multilane roadway inadvertently. Two-way left-turn lanes provide a buffer between opposing directions of travel and separate left turning traffic from through traffic. They can also help to allow vehicles to begin to accelerate before entering the through-traffic lanes. They reduce the disruption of flow of through-traffic and reducing rear-end and sideswipe collisions.			

ROAD DIET (REDUCE 4 TRAVEL LANES TO 3 WITH TWO-WAY LEFT TURN LANE)			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R14	30%	20	90%
Description: This countermeasure should be used in areas noted as having a higher frequency of head-on, left-turn, and rear-end crashes with traffic volumes that can be handled by only 2 free flowing lanes. Using this strategy in locations with traffic volumes that are too high could result in diversion of traffic to routes less safe than the original four-lane design. The application of this strategy usually reduces the roadway segment speeds and serious head-on crashes. In many cases the extra pavement width can be used for the installation of bike lanes.			

INSTALL DELINEATORS, REFLECTORS, AND/OR OBJECT MARKERS			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R27	15%	10	100%
Description: This countermeasure should be used on roadways that have an unacceptable level of crashes on curves (relatively flat to sharp) during periods of light and darkness. Any road with a history of fixed object crashes is a candidate for this treatment, as are roadways with similar fixed objects along the roadside that have yet to experience crashes. If a fixed object cannot be relocated or made break-away, placing an object marker can provide additional information to motorists. Delineators, reflectors and/or object markers are intended to warn drivers of an approaching curve or fixed object that cannot easily be removed. They are intended to provide tracking information and guidance to the drivers. They are generally less costly than Chevron Signs as they don't require posts to place along the roadside, avoiding an additional object with which an errant vehicle can crash into			

INSTALL EDGE-LINES AND CENTERLINES			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R28	25%	10	100%
Description: Any road with a history of run-off-road right, head-on, opposite-direction-sideswipe, or run-off-road-left crashes is a candidate for this treatment -install where the existing lane delineation is not sufficient to assist the motorist in understanding the existing limits of the roadway. Depending on the width of the roadway, various combinations of edge line and/or center line pavement markings may be the most appropriate. Installing edge-lines and centerlines where none exist or making significant upgrades to existing lines (paint to thermoplastic, adding audible disks/bumps in the thermoplastic stripes, or adding RPMs) are intended/designed to help drivers who might leave the roadway because of their inability to see the edge of the roadway along the horizontal edge of the pavement or crossover the centerline of the roadway into oncoming traffic. New pavement marking products tend to be more durable, are all-weather, more visible, and have a higher retroreflectivity than traditional pavement markings.			

INSTALL EDGE-LINE AND CENTERLINE RUMBLE STRIPS/STRIPES			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R30, R31	15-20%	10	100%
Description: Center Line rumble strips/stripes can be used on virtually any roadway – especially those with a history of head-on crashes, while shoulder and edge line milled rumble strips/stripes should be used on roads with a history of roadway departure crashes. It is recommended that rumble strips/stripes be applied systematically along an entire route instead of only at spot locations. For all rumble strips/stripes, pavement condition should be sufficient to accept milled rumble strips. Special requirements may apply and care should be taken when considering installing rumble strips in locations with residential land uses or in			

areas with high bicycle volumes. Rumble strips provide an auditory indication and tactile rumble when driven on, alerting drivers that they are drifting out of their travel lane, giving them time to recover before they depart the roadway or cross the center line. Additionally, rumble stripes (pavement marking in the rumble itself) provide an enhanced marking, especially in wet dark conditions.

INSTALL BIKE LANES			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R32PB	35%	20	90%
Description: This countermeasure should be used on roadway segments noted as having crashes between bicycles and vehicles or crashes that may be preventable with a buffer/shoulder. Most studies present evidence that bicycle lanes provide protection against bicycle/motor vehicle collisions. Bicycle lanes provide marked areas for bicyclist to travel along the roadway and provide for more predictable movements for both bicyclist and motorist. Evidence also shows that riding with the flow of vehicular traffic reduces bicyclists' chances of collision with a motor vehicle. Locations with bicycle lanes have lower rates of wrong-way riding. In combination with this CM, better guidance signs and markings for non-motorized and motorized roadway users should be considered, including: sign and markings directing cyclists on appropriate/legal travel paths and signs and markings warning motorists of non-motorized uses of the roadway that should be expected.			

INSTALL SEPARATED BIKE LANES			
No.	**CRF**	**Expected Life (Years)**	**HSIP Funding Eligibility**
R33PB	45%	20	90%
Description: This countermeasure should be used on streets with high volumes of bike traffic and/or high bike-vehicle collisions, presumably in an urban or suburban area. Separation types range from simple, painted buffers and flexible delineators, to more substantial separation measures including raised curbs, grade separation, bollards, planters, and parking lanes. Separated bike lanes provide increased safety and comfort for bicyclists beyond conventional bicycle lanes. By separating bicyclists from motor traffic, "protected" or physically separated bike lanes can offer a higher level of comfort and are attractive to a wider spectrum of the public. In combination with this CM, better guidance signs and markings for non-motorized and motorized roadway users should be considered, including: sign and markings directing cyclists on appropriate/legal travel paths and signs and markings warning motorists of non-motorized uses of the roadway that should be expected.			

9. EVALUATION & IMPLEMENTATION

Performance Measures:

Measures the City can use to evaluate the success of the goals laid out in this plan include:

- Total number of injury collisions on City roads.
- Total amount of property damage caused by traffic collisions on City roads.
- Number of collisions within emphasis areas after proposed countermeasures are implemented.
- Total number of claims and lawsuits.
- Total amount of payments on settlements and judgments.

Collisions should be reported annually, and performance should be evaluated within the context of the latest 5-year annual average to normalize any random fluctuations in collisions on a year-to-year basis.

Updating the Plan:

This plan relies on collision data from 2016 through 2021. The City should review new collision data annually for key findings and performance measures to track progress. More substantial updates to the LRSP should be considered every five years. The City, in conjunction with safety partners, should assess the plan, consider new trends and technologies, and determine whether an update to the plan is necessary.

Funding Opportunities:

This plan lays out the City's priorities for transportation safety & identifies locations and countermeasures in order to reach the City's roadway safety goals. In doing so, this plan provides an important foundation to apply for funding assistance to implement the proposed roadway safety countermeasures.

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance. An adopted LRSP will be required for agencies to be eligible for upcoming Caltrans HSIP Cycle 11 funds.

Safe Streets and Roads for All

Safe Streets and Roads for All is a new, one-time competitive grant program authorized by section 24112 of the Bipartisan Infrastructure Bill. Sub-state municipal governments, MPOs, and tribes will be able to apply for grants to develop Vision Zero plans, or (if they already have a plan), for projects implementing that plan. The program has been appropriated $5 billion, to be separated into five years of the program, with $1 billion awarded each year.

Appendix A:

LIST OF ABBREVIATIONS

ADA	Americans with Disabilities Act
AMBAG	Association of Monterey Bay Area Governments
BCR	Benefit Cost Ratio (HSIP Funding Category)
Caltrans	California Department of Transportation
CA MUTCD	California Manual on Uniform Traffic Control Devices
CIP	Capital Improvement Plan
CRF	Crash Reduction Factor
FHWA	Federal Highway Administration
HSIP	Highway Safety Improvement Program
LRSP	Local Roadway Safety Plan
LRSM	Local Roadway Safety Manual
RRFB	Rectangular Rapid Flashing Beacon
SA	Set-Aside (HSIP Funding Category)
SafeTREC	Safe Transportation Research and Education Center at the University of California, Berkeley
SWITRS	Statewide Integrated Traffic Records System
TAMC	Transportation Agency of Monterey County
TIMS	Transportation Injury Mapping System

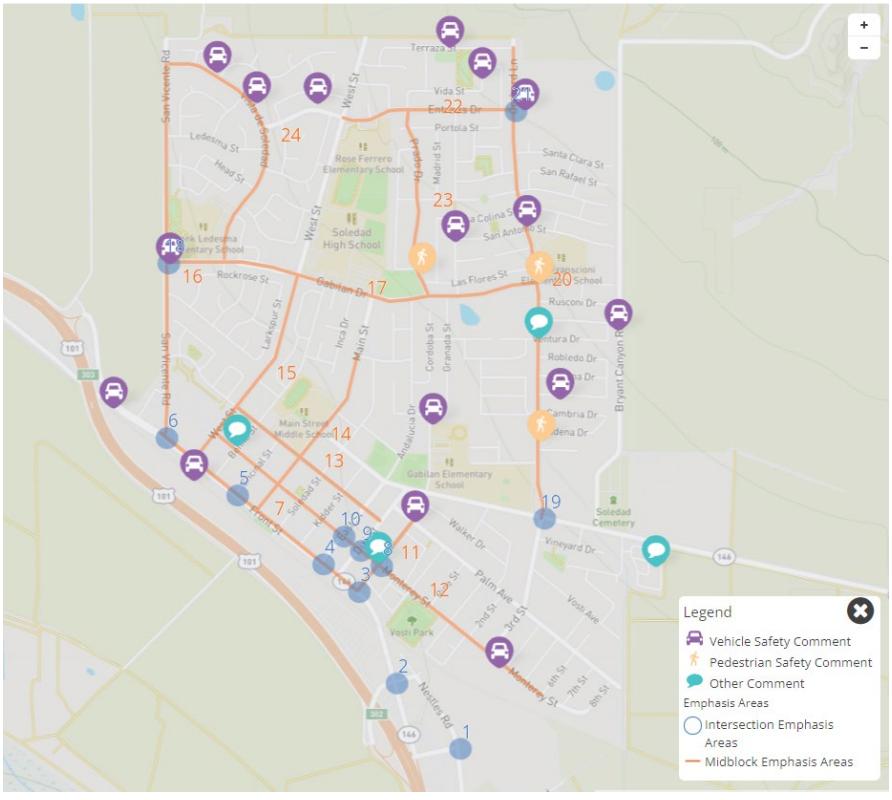
Appendix B:

CITY OF SOLEDAD LOCAL ROADWAY SAFETY PLAN
Public Engagement Summary

The City of Soledad conducted public engagement for the City's Local Roadway Safety Plan (LRSP) in order to gain community feedback on roadway safety issues within the City. The community feedback was gathered through an online engagement site (Social Pinpoint) featuring an interactive map and survey. There were 29 map comments and 28 survey responses, from a total of 41 unique stakeholders who participated. The engagement site was open to the public for three weeks, from 5/2/2022 to 5/22/2022. A flier was created (in both English and Spanish) to promote the engagement site (see Attachment 1). The flier was shared on the City's website and social media pages. It was also promoted on the Soledad Unified School District's social media and sent out to families via Parent Square.

Reoccurring themes amongst comments and responses have been color-coded as follows:
Blue – Speeding
Orange – Line of site issues
Green – Ped infrastructure (sidewalks and crosswalks)
Yellow – Lighting

INTERACTIVE MAP:



INTERACTIVE MAP COMMENTS:

Location	Type	Comment/Concern	Likes & Dislikes	Discussion Threads
Terraza St	Vehicle Safety	**Speeding** next to park, danger to pedestrians, requests speed bumps/stop signs	Likes (4)	*Comment 1:* "Yes!!"
Vida St at Carmelo	Vehicle Safety	Failure to yield, swerving to avoid cars pulling out of driveways, requests stop sign	Likes (2)	
Orchard Ln	Vehicle Safety	**Speeding**, long stretch of open road, concern for ped/bikes, requests stop signs/speed bumps	Likes (2)	
Orchard Ln	Vehicle Safety	**Speeding** north of San Antonio St, continues all the way to Terraza	Likes (2)	
Orchard Ln	Vehicle Safety	**Speeding**	Likes (4)	
Orchard Ln	Ped Safety	**Speeding**, concern for ped/bikes, requests traffic calming devices	Likes (3)	
Vista De Soledad	Vehicle Safety	**Speeding**, requests speed bumps or pinch points (2 identical comments)	Likes (2)	
Entrada Dr	Vehicle Safety	**Speeding** on curve west of West St, several cars have been hit, near school zone, requests speed bumps	Likes (4)	*Comment 1:* requests a stop sign at Entrada St & Mesa St, ped concern.
Toledo St	Vehicle Safety	**Speeding**	Likes (3)	
San Vicente Rd at Gabilan Dr	Vehicle Safety	Difficult to turn onto San Vicente, requests 3-way stop.	Likes (3) Dislikes (1)	
Prado Dr	Ped Safety	**Crosswalk** for students on southern end of Prado	Likes (5)	*Comment 1:* Speeding on Barcelona St, requests speed bumps
Gabilan Dr at Orchard Ln	Ped Safety	Traffic during school hours, student **safety for**	Likes (2)	

		crossing, requests traffic signal		
Orchard Ln at Ventura Dr	Vehicle Safety	**Line of sight** issues from Ventura Dr, **Speeding** on Orchard, requests 4-way stop	Likes (4)	*Comment 1*: need more stop signs throughout Orchard *Comment 2*: "I second this"
Summerfield Dr	Vehicle Safety	**Speeding**, requests speed bumps on neighborhood streets, concern for children playing outside	Likes (4)	
Walker Dr	Vehicle Safety	School drop off- vehicles block community center mailbox and block traffic flow in parking lot, requests red curb/no parking signs	Likes (1)	
Benito St at Monterey St	Vehicle Safety	**Line of sight** issues from Benito turning onto Monterey, requests 4-way stop	Likes (5)	*Comment 1*: "I agree, almost hit 2x here this week"
West St at Front St	Vehicle Safety	**Speeding**, **line of sight** issues -difficult to make left turn onto Front St	Likes (2)	
Palm Ave at Oak St	Vehicle Safety	**Line of sight** issues- left turn onto Palm Ave- "impossible to see oncoming traffic"	Likes (1)	
Oak St at Monterey St	Vehicle Safety	Backed up traffic, requests traffic light	Likes (2)	
Metz Rd	Other	Access to Los Coches from Metz Rd- alleviate traffic, provide access to 101 and shopping center	Likes (5)	
Monterey St	Other	Requests truck roads and signs be posted and guarded		

SURVEY RESPONSES:

Question 1: How important is traffic safety (including motorist, pedestrian, and bicyclist safety) to the wellbeing of the Soledad community?
(29 answers)

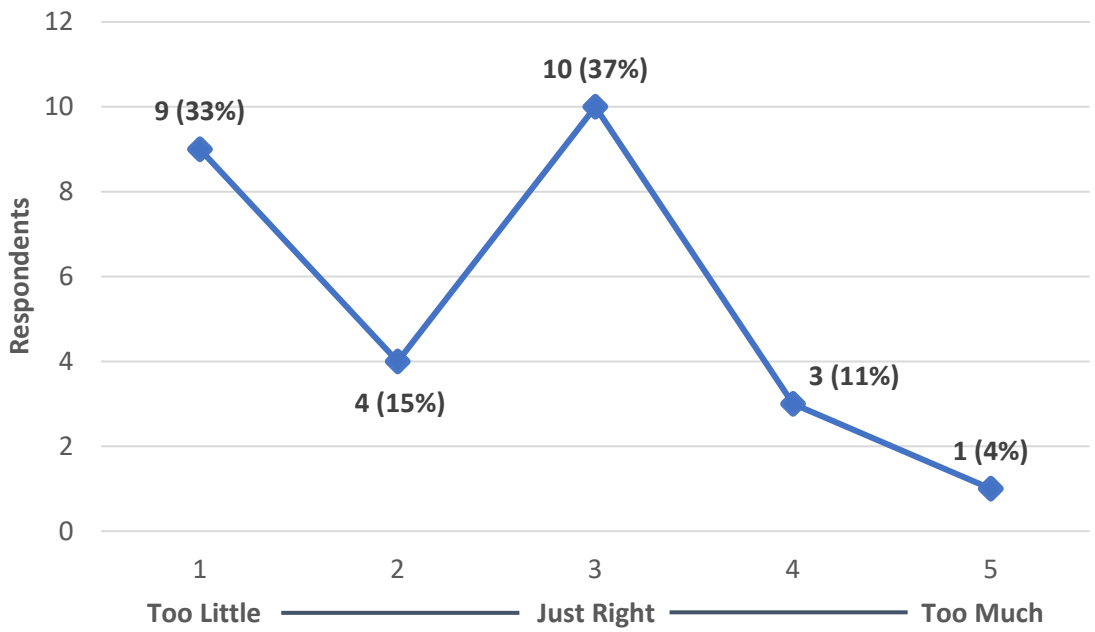
1. Unimportant (0) **0%**
2. Somewhat Important (2) **7%**
3. Very Important (27) **93%**

Question 2: What are your biggest traffic safety concerns? (Please rank from most to least concerning)
(27 answers)

1. **Pedestrian Safety and Infrastructure** (avg ranking: **3.24**)
2. **Speeding** (avg ranking: **3.10**)
3. Vehicle safety and infrastructure (avg ranking: **2.14**)
4. Driving under the influence (avg ranking: **1.79**)
5. Bicycle safety and infrastructure (avg ranking: **1.55**)

**The answer choice with the largest average ranking is the most preferred choice*

Question 3: How do you feel about the Police Department's level of traffic enforcement?
(27 answers)



Question 4: Provide any comments on the Police Department's role in traffic safety.
(12 answers)

1. No
2. Hi chase over limits and unsafe high risk to citizens and pedestrians
3. I rarely see the police patrolling or as much as they should be.
4. I think sometimes they need to enforce vehicles with the loud mufflers and high trucks. In addition, sometimes there are too many police for one car, I could see if the person caused accident or other but it takes away from them doing other important things. Just a thought.
5. Majority of Soledad Police Officers give too many warns and not enough citations
6. More visibility
7. Need to stop **cars going to fast**
8. sometimes polices stops people for not an appropriate reason and lets go of the people who should be pulled over.
9. There needs to be more police presence for traffic enforcement. Orchard lane is one of those streets. Also the city could benefit from having a traffic enforcement officer on a motorcycle. The presence of such an officer will make the other drivers mindful of their driving habits, nobody wants to get a ticket.
10. They do not monitor areas that should be, including neighborhoods that are commonly **used as raceways**, especially orchards lane. Also the highway is very unsafe and unmonitored.
11. They should know the laws too. I got pulled over for going 30mph in a 25 but there were no signs. He said there was. I went the next day and there was not any
12. Traffic is worst a few minutes before schools begin and at the end when school is over. Cars DO not follow rules, park at the drop off/ pick-up zones, will drop off their kids right in front of the signs posted (DO NOT drop off here) and they put their children in danger because they have to **cross from the school parking lot to the campus sidewalk**.

Question 5: Which of the following safety measures are most important to you? (Select up to three).
(29 answers)

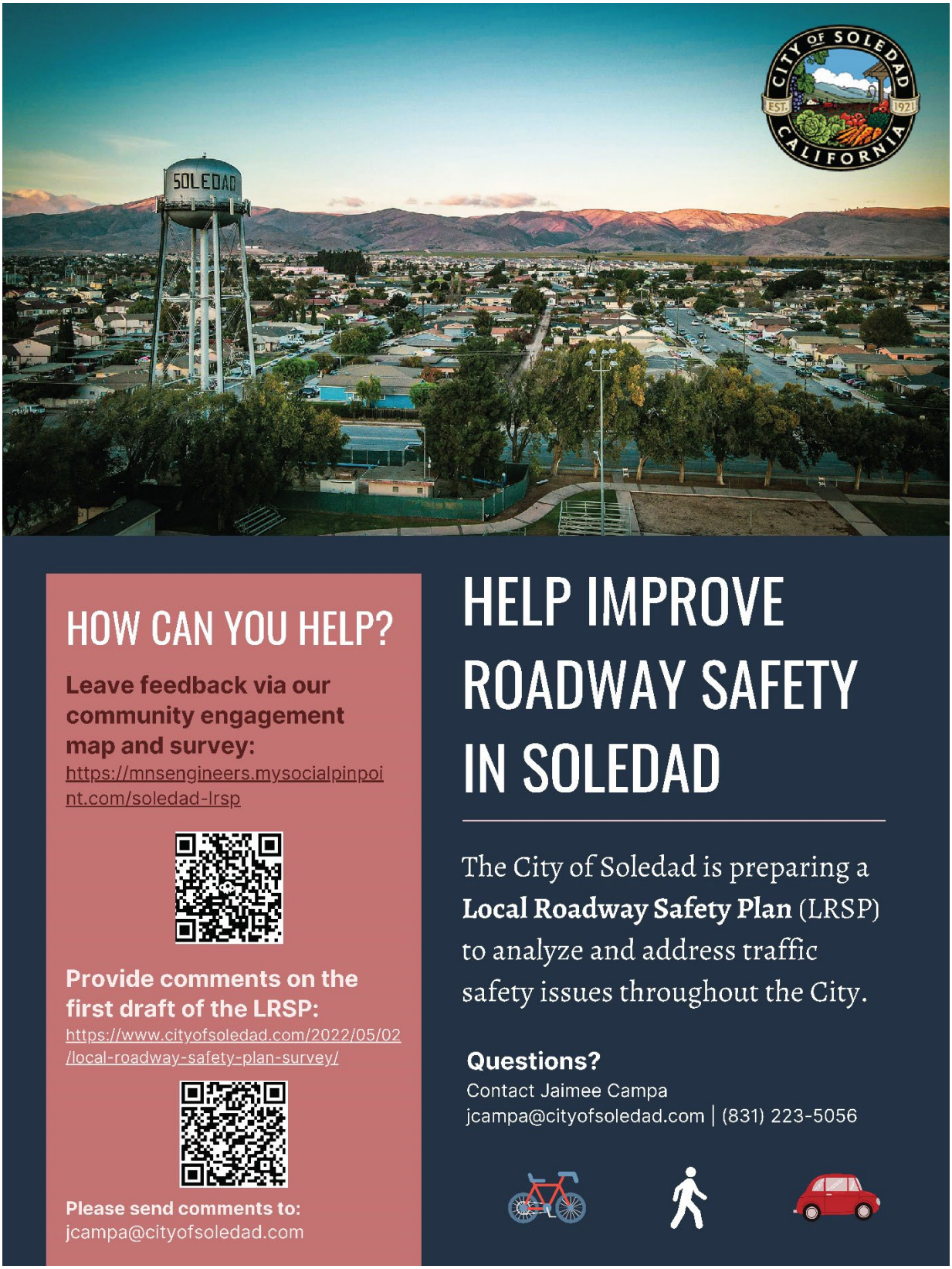
1. Improving intersection infrastructure (e.g. traffic signals, roundabouts, crosswalks, etc.) (16) – **55%***
2. **Implementing traffic calming measures** (slowing down vehicle speeds) (16) – **55%**
3. **Improving pedestrian infrastructure** (e.g. sidewalks, crosswalks, signage) (14) – **48%**
4. Improving safety in school zones (e.g. signage, traffic calming, crossing guards, intersection improvements) (13) – **45%**
5. Improving bicycle infrastructure (e.g. bike lanes, signage) (5) – **17%**
6. Addressing driving under the Influence (e.g. education, enforcement) (5) – **17%**
7. Other (describe) (3) – **10%**
    a. "City needs to even out the streets after doing work with pipes underground plus refill pot holes"
    b. "Heavy trucks running on residential areas, cutting roads to Metz and Monterey to 3rd St. oversize loads."
    c. "Improving SB 1200 blk Front St for cars trying to get onto Hwy 101 NB while red light at Front & H De La Rosa Sr."

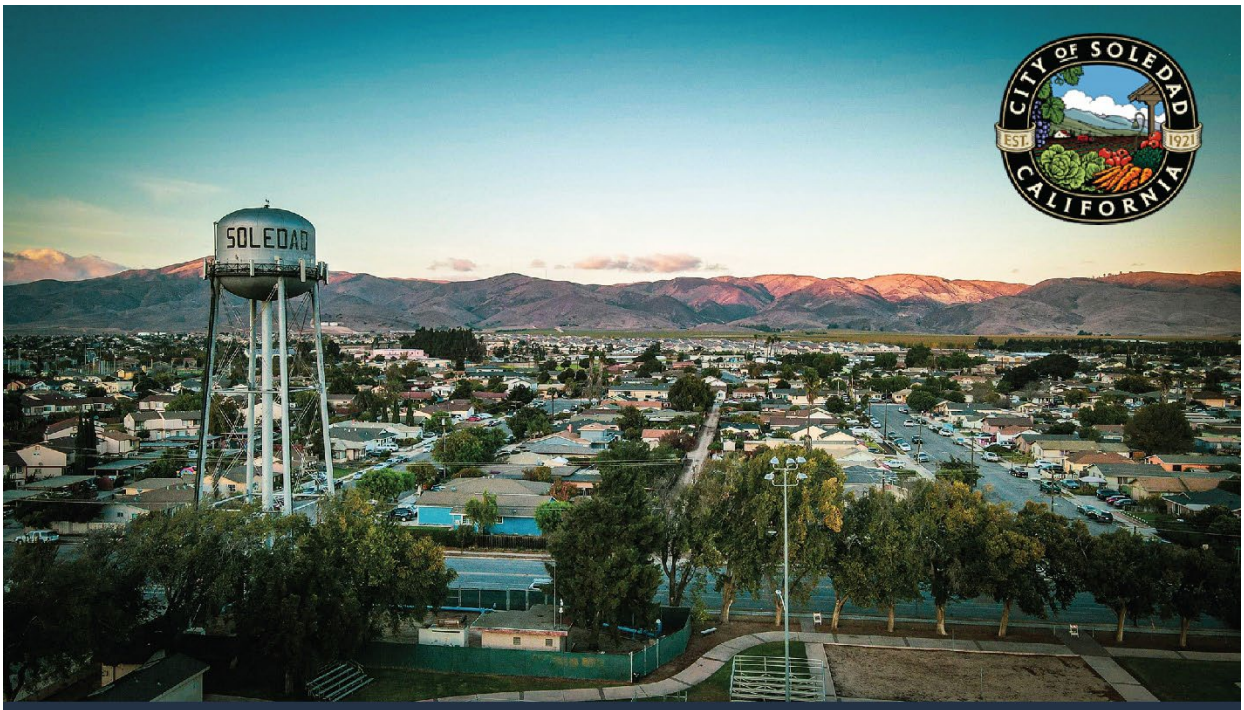
**Percentages reflect the percent of respondents who selected that choice as one of their 3 votes.*

Question 6: Are there any other roadway safety improvements you would like to see in the City of Soledad?
(17 answers)

1. Camaras, más iluminacion - (cameras, more **lighting**)
2. City should go around all streets and update **light bulbs of light posts**. There are many that are broken or out and streets get too dark.
3. Front St at H. De La Rosa Sr. cars going around standing traffic getting in NB Hwy 101.
4. high school and middle school walk times are so dangerous
5. I would like to see speed bumps on Barcelona Street. To many resident **speed** up and down the street. A lot of kids play and ride their bikes however I fear for the safety of the children because of the reckless driving. Speed bumps would heavily help reduce the speed of drivers on Barcelona Street.
6. I would love to see speed bumps on Terraza Street, West Street, Orchard Street. Cars **speed** as if it were a freeway!
7. Leveled **Sidewalks**
8. Open another road to foodsco. WE all have to go there . Town and traffic is growing
9. Pedestrian crosswalk **lighting** around school zones
10. Roads are becoming damaged and unkept, especially in older neighborhoods. There is also no education on modern traffic safety. For example, a newly installed roundabout, the only one in the city, is already damaged due to someone running into the curb.
11. **Speed** humps on 3rd St and other streets close to schools
12. Street signs not visible.
13. There needs to be a traffic light at the intersection of Orchard Lane, Mets Rd, and 3rd street by San Vicente Elementary School. Traffic gets out of hand here during peak hours. With the addition of the new Hartnell facility and the future park, I think it's long overdue.
14. Trying to get anywhere before school or right after is near impossible. There needs to be more cross guards so that students are safe as well as drivers get to where they need to be in a timely manner. The kids just continue to walk across the street sometimes for five minutes straight with no break in traffic.
15. Turning lanes on San Vicente Rd and addressing the busy traffic on Front St.
16. Ventura onto orchard is quickly becoming a busy turn. people **drive fast** done orchard and its **hard to see out with cars lined up** on the street. it needs a 4 way stop
17. Yes all **crosswalks** need flashing lights

ATTACHMENT 1





AYUDAR A MEJORAR LA SEGURIDAD VIAL EN SOLEDAD

La Ciudad de Soledad está preparando un **plan local de seguridad vial (LRSP)** para analizar y abordar los problemas de seguridad vial en toda la ciudad.

Preguntas?

Contacto Jaimee Campa
jcampa@cityofsoledad.com | (831) 223-5056

COMO PUEDES AYUDAR?

Deje comentarios a través de nuestro mapa y encuesta de participación comunitaria:
https://mnsengineers.mysocialpinpoint.com/soledad-lrsp

Proporcionar comentarios sobre el primer borrador del LRSP:
https://www.cityofsoledad.com/2022/05/02/local-roadway-safety-plan-survey/

Por favor envíe comentarios a:
jcampa@cityofsoledad.com

Appendix C

SAFETY COUNTERMEASURE EVALUATION FRAMEWORK

Design approach considers the entire **network of streets and how it works together**. For example, narrowing one street will divert traffic to other streets. Have to have all the streets consistent to the extent possible. Not just "spot treatments" for specific locations. Countermeasures are backed up by data and empirical research (ie: FHWA). Takes into account night-time and daytime safety considerations. Builds on prior planning efforts to build out, for example, the bicycle network as planned. Very important to keep in mind issue of land use and looking for ways to increase residential density in the center of the city. Take as anopportunity a way to define/harmonize the streets in the center of town - for example, major N-S streets south of Gabilan (Soledad, Main, Benito, West), along with key E-W streets like Monterey, Market.

Safety Countermeasures Evaluation Framework

Location	Proposed Countermeasure	Potential Effectiveness	Constructability	Maintenance	Typical Cost	Supports other efforts
H De la Rosa Sr. Street/4th St. at Nestles Rd.	bulb outs	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium (and not diffiucult) because has been done before in city	medium	high	yes - follows example of prior HSIP
	Center line pavement markings	LRSM: "Installing edge-lines and centerlines where none exists or making significant upgrades to existing lines are intended/designed to help drivers who might leave the roadway because of their inability to see the edge of the roadway along the horizontal edge of the pavement or crossover the centerline of the roadway into oncoming traffic." CRF: 25%	easy	medium	low	yes - general plan supports safety
	Marked crosswalks	LRSM: "Adding pedestrian crossings has the opportunity to enhance pedestrian safety at locations noted as being problematic." CRF: 25%	easy	medium	low	yes
Front St at Nestles Rd	re-stripe all crosswalks	LRSM: "Adding pedestrian crossings has the opportunity to enhance pedestrian safety at locations noted as being problematic." CRF: 25%	easy	medium	low	yes
	bulb outs	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium because has been done before in city	medium	high	yes

Front St at Oak St	Bulb outs	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium because has been done before in city	medium	high	yes - follows example of prior HSIP
	Green bike boxes	Nacto: "[a bike box] provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase." FHWA CMF Clearinghouse: 35% CRF	easy	medium	low	yes
Front St at East St	Bulb outs	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium because has been done before in city	medium	high	yes - follows example of prior HSIP
	Green bike boxes	Nacto: "[a bike box] provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase." FHWA CMF Clearinghouse: 35% CRF	easy	medium	low	yes
Front St at Encinal St.	RRFBs	LRSM: "RRFBs can enhance safety by increasing driver awareness of potential pedestrian conflicts and reducing crashes between vehicles and pedestrians at unsignalized intersections and mid-block pedestrian crossings." CRF: 35%	easy	medium	low	yes
	Yield markings	advance yield or stop markings and signs can reduce pedestrian crases up to 25%	easy	medium	low	yes
	2 Yield Here to Pedestrians signs	advance yield or stop markings and signs can reduce pedestrian crases up to 25%	easy	medium	low	yes

Front St at San Vicente	Bulb outs	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium because has been done before in city	medium	high	yes
	Evaluate yellow change interval timing	LRSM: "Certain timing, phasing, and control strategies can produce multiple safety benefits." CRF: 15%	medium	low	low	yes
	Evaluate pedestrian lead interval timing	LRSM: "A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter an intersection 3-7 seconds before vehicles are given a green indication. With this head start, pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn left." CRF: 60%	medium	low	low	yes
Front St	Add striped bike lane buffer from Oak St to East St	LRSM: "Separated bike lanes provide increased safety and comfort for bicyclists beyond conventional bicycle lanes. By separating bicyclists from motor traffic, "protected" or physically separated bike lanes can offer a higher level of comfort and are attractive to a wider spectrum of the public." CRF: 45%	difficult	medium	low	yes
	Add sharrow road markings and "Share the Road" signs from East St to San Vicente Rd	NACTO: "Among other benefits shared lane markings reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance."	easy	medium	low	yes
Oak St at Palm Ave	Remove parking and paint red curb next to intersection to improve sight distance.	LRSM: "Adequate sight distance for drivers at stop or yield-controlled approaches to intersections has long been recognized as among the most important factors contributing to overall safety at unsignalized intersections." CRF: 20%	easy	medium	low	yes

Monterey St at Oak St	Bulb outs	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium because has been done before in city	medium	high	yes
	re-stripe all crosswalks	LRSM: "Adding pedestrian crossings has the opportunity to enhance pedestrian safety at locations noted as being problematic." CRF: 25	easy	medium	low	yes
Monterey St at Dixie	Roundabout	Roundabouts result in 82% reduction in fatal and injury crashes.	difficult	medium	high	yes
Monterey St at East	Roundabout	Roundabouts result in 82% reduction in fatal and injury crashes.	difficult	medium	high	yes
Benito St at Monterey St	Roundabout	Roundabouts result in 82% reduction in fatal and injury crashes.	difficult	medium	high	yes
Oak St	Restripe for two 11' travel lanes, 13' two-way left turn lane, and 10' parking lanes. (55' wide st).	LRSM: "Two-way left-turn lanes provide a buffer between opposing directions of travel and separate left turning traffic from through traffic. They reduce the disruption of flow of through-traffic and reduce rear-end and sideswipe collisions." CRF: 30%	difficult	medium	low	yes
	Add sharrow road markings and "Share the Road" signs	NACTO: "Among other benefits shared lane markings reinforce the legitimacy of bicycle traffic on the street, recommend proper bicyclist positioning, and may be configured to offer directional and wayfinding guidance."	easy	medium	low	yes
Monterey St	Restripe from Sixth St to West St for two 11' travel lanes, 5' bike lanes, 3' buffers, and 8' parking lanes. (55' wide st).	LRSM: "Separated bike lanes provide increased safety and comfort for bicyclists beyond conventional bicycle lanes. By separating bicyclists from motor traffic, "protected" or physically separated bike lanes can offer a higher level of comfort and are attractive to a wider spectrum of the public." CRF: 45%	difficult	medium	low	yes

Market St.	Restripe from Dixi St to Soledad St and from Main St to West St for two 11' travel lanes, 5' bike lanes, 3' buffers, and 8' parking lanes. (55' wide st).	LRSM: "Separated bike lanes provide increased safety and comfort for bicyclists beyond conventional bicycle lanes. By separating bicyclists from motor traffic, "protected" or physically separated bike lanes can offer a higher level of comfort and are attractive to a wider spectrum of the public." CRF: 45%	difficult	medium	low	yes
Main St.	Speed signage	NACTO: "Communicating new speed limits via signage and markings is essential for effectively managing speeds."	easy	low	low	yes
	"watch for bicycles" signage by angled parking		easy	low	low	yes
West St.	Road diet (from four to two travel lanes)	LRSM: "The application of this strategy usually reduces the roadway segment speeds and serious head-on crashes. In many cases the extra pavement width can be used for the installation of bike lanes" CRF: 30%	difficult	medium	low	yes
	Restripe from Gabilan Dr to North St for two 11' travel lanes, 10' double striped median, 6' bike lane, 3' buffer. (50' wide st).	LRSM: "This strategy is designed to prevent head-on collisions by providing a barrier between opposing lanes of traffic. The main advantage is the reduction of the severity of the crashes." CRF: 25%	difficult	medium	low	yes
	Restripe from North St to Front St for two 11' travel lanes, 10' two-way left turn lane, 6' bike lane, 3' buffer. (50' wide st).	LRSM: "Two-way left-turn lanes provide a buffer between opposing directions of travel and separate left turning traffic from through traffic. They reduce the disruption of flow of through-traffic and reduce rear-end and sideswipe collisions." CRF: 30%	difficult	medium	low	yes

San Vicente Rd	Center and edge line pavement markings	LRSM: "Installing edge-lines and centerlines where none exists or making significant upgrades to existing lines are intended/designed to help drivers who might leave the roadway because of their inability to see the edge of the roadway along the horizontal edge of the pavement or crossover the centerline of the roadway into oncoming traffic." CRF: 25%	easy	medium	low	yes
	Center and edge line rumble strips	LRSM: "Rumble strips provide an auditory indication and tactile rumble when driven on, alerting drivers that they are drifting out of their travel lane, giving them time to recover before they depart the roadway or cross the center line." CRF: 20%	medium	easy	low	yes
	speed signage	NACTO: "Communicating new speed limits via signage and markings is essential for effectively managing speeds."	easy	easy	low	yes
Gabilan Dr	Restripe east of Granada St for 11' travel lanes, 8' two-way left turn lane, 5' bike lanes, 3' buffers, and 8' parking lanes (62' wide st).	LRSM: "Two-way left-turn lanes provide a buffer between opposing directions of travel and separate left turning traffic from through traffic. They reduce the disruption of flow of through-traffic and reduce rear-end and sideswipe collisions." CRF: 30%	difficult	medium	low	yes
	Restripe west of Granada St for 11' travel lanes (two in each direction), 5' bike lanes, 3' buffers, and 8' parking lanes (60' wide st).	LRSM: "Separated bike lanes provide increased safety and comfort for bicyclists beyond conventional bicycle lanes. By separating bicyclists from motor traffic, "protected" or physically separated bike lanes can offer a higher level of comfort and are attractive to a wider spectrum of the public." CRF: 45%	difficult	medium	low	yes
	Restripe west of West St for 11' travel lanes (two in each direction), 5' bike lanes, 3' buffers, 15' median, and 8' parking lanes (83' wide st).	LRSM: "Separated bike lanes provide increased safety and comfort for bicyclists beyond conventional bicycle lanes. By separating bicyclists from motor traffic, "protected" or physically separated bike lanes can offer a higher level of comfort and are attractive to a wider spectrum of the public." CRF: 45%	difficult	medium	low	yes

Gabilan Dr. at San Vicente	Roundabout	Roundabouts result in 82% reduction in fatal and injury crashes.	difficult	medium	high	yes
Metz Rd at Orchard Ln	Roundabout	Roundabouts result in 82% reduction in fatal and injury crashes.	difficult	medium	high	yes
Orchard Ln	Remove parking and paint red curb next to intersection to improve sight distance.	LRSM: "Adequate sight distance for drivers at stop or yield-controlled approaches to intersections has long been recognized as among the most important factors contributing to overall safety at unsignalized intersections." CRF: 20%	easy	medium	low	yes
	Restripe for 11' travel lanes, 5' bike lanes, 3' buffers, 9-13' two-way left turn lane, and 8-9' parking lane (southbound only) (55-60' wide st).	LRSM: "Two-way left-turn lanes provide a buffer between opposing directions of travel and separate left turning traffic from through traffic. They reduce the disruption of flow of through-traffic and reduce rear-end and sideswipe collisions." CRF: 30%	difficult	medium	high	yes
Orchard Lane at Entrada Dr.	Marked crosswalks	LRSM: "Adding pedestrian crossings has the opportunity to enhance pedestrian safety at locations noted as being problematic." CRF: 25%	easy	medium	low	yes
	Pedestrian crossing signage	advance yield or stop markings and signs can reduce pedestrian crases up to 25%	easy	medium	low	yes
Entrada Dr.	Midblock chokers	NACTO: "Offset curb extensions on residential or low volume downtown streets create a [choker] effect that slows traffic speeds considerably."	difficult	may be difficult with trees/landscaping	high	yes
	Speed limit signage	NACTO: "Communicating new speed limits via signage and markings is essential for effectively managing speeds."	easy	easy	low	yes
Prado Dr	Midblock chokers	NACTO: "Offset curb extensions on residential or low volume downtown streets create a [choker] effect that slows traffic speeds considerably."	difficult	may be difficult with trees/landscaping	high	yes
	Speed limit signage	NACTO: "Communicating new speed limits via signage and markings is essential for effectively managing speeds."	easy	easy	low	yes

Vista De Soledad	Midblock chokers	NACTO: "Offset curb extensions on residential or low volume downtown streets create a [choker] effect that slows traffic speeds considerably."	difficult	may be difficult with trees/landscaping	high	yes
	Speed limit signage	NACTO: "Communicating new speed limits via signage and markings is essential for effectively managing speeds."	easy	easy	low	yes
Terraza St	Curb Extensions	FHWA: "Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street". CRF: 35%	only medium because has been done before in city	medium	high	yes
	Midblock chokers	NACTO: "Offset curb extensions on residential or low volume downtown streets create a [choker] effect that slows traffic speeds considerably."	difficult	may be difficult with trees/landscaping	high	yes
Toledo St	Midblock chokers	NACTO: "Offset curb extensions on residential or low volume downtown streets create a [choker] effect that slows traffic speeds considerably."	difficult	may be difficult with trees/landscaping	high	yes
Various roads with sharp curves	Centerline pavement marking	"Enhanced delineation treatments can alert drivers to upcoming curves, the direction and sharpness of the curve, and appropriate operating speed"	easy	medium	low	yes
	Rumble strip for length of curve	LRSM: "Rumble strips provide an auditory indication and tactile rumble when driven on, alerting drivers that they are drifting out of their travel lane, giving them time to recover before they depart the roadway or cross the center line." CRF: 20%	medium	easy	low	yes