

Calaveras County Local Road Safety Plan



INTRODUCTION

In 2017, 18 people lost their lives in car accidents in Calaveras County. Human error continues to be the number one cause of car accidents. While people make mistakes, Calaveras County is committed to preventing those mistakes from costing a life. ***The next big wave of projects in Calaveras County will focus on road safety.*** This Local Road Safety Plan (LRSP or Plan) has been developed to provide an overview of safety strategies, projects and progress as the County works toward meeting the following goals:

1. 25% reduction in overall collisions by December 2023; and
2. 50% reduction in fatal and severe injury accidents by December 2025.

This document is updated annually to provide objective/quantifiable evidence of LRSP Implementation, and a means to evaluate progress. This LRSP was developed with input from several studies and safety partners. Updates will reflect changing local needs and priorities.

Calaveras County's LRSP includes the following elements:

- Safety measures applied using the 4E's – **Engineering, Enforcement, Education, and Emergency Medical Services.**
- Stakeholder engagement, and collaboration among municipal, county, Tribal, and State and/or Federal entities to leverage expertise and resources.
- Identification of target crash types, crash risk, and corresponding recommended proven safety countermeasures.
- Timeline and goals for implementation and evaluation.

VISION & GOALS

While local roads are less traveled than State highways, they have a much higher rate of fatal and serious injury crashes. Calaveras County's Vision, Mission and Goals for this LRSP mirror those of the California Strategic Highway Safety Plan (SHSP) as follows:

Vision: Calaveras County will have a safe transportation system for all users.

Mission: In partnership with the community, while protecting public resources, the County will apply the 4 E's to build and maintain a safe and efficient public infrastructure.

LRSP Goals: 25% collision reductions from 2023 thru 2025 with a 50% reduction in fatal accidents by December 2025.

Support for transportation safety is also identified as a priority in many other documents in Calaveras County including in the Calaveras County General Plan, Calaveras County Public Works Capital Improvement Program, the Calaveras County Regional Transportation Plan, the Calaveras County Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan, and the Calaveras County Systemic Safety Analysis Report.

SAFETY PARTNERS

Safety partners are a vital resource for acquiring and analyzing data, selecting focus locations, identifying countermeasures, developing priority projects and implementing this LRSP. The following list of partners were involved in the implementation of this plan:

- **CITIZENS!**
- County of Calaveras – Board of Supervisors, Sherriff’s Office, Public Works – Roads and Engineering Divisions, Planning
- Calaveras Council of Governments – Regional Planning and Transit
- Incorporated cities in Calaveras County (Angels Camp) – Council, Public Works, Planning, Police
- Caltrans
- California Highway Patrol
- Federal Highway Administration
- Federal Transit Administration
- US Forest Service
- US Bureau of Land Management
- School Districts

As part of the development of this Plan, the County is teaming with the City of Angels Camp Fire Department to obtain grant funding for emergency response pagers. These pagers will reduce response time, which is critical to saving lives after an accident.

PROCESS

A Systemic Safety Analysis Report (SSAR) was recently completed by the County which analyzed the entire roadway network using collision data from the Statewide Integrated Traffic Records System (SWITRS). The report provided an assessment of roadways throughout the County and identified a range of potential countermeasures to improve road safety. Through the SSAR and other developed plans, the County has identified the need for safety improvements to our transportation system and has begun to implement improvements using a systemic approach.

This is Calaveras County’s first LRSP. It was developed by reviewing information gathered in the aforementioned documents, analyzing the latest collision data and recommending proven safety countermeasures with timelines and goals for implementation and evaluation. The Plan will be updated periodically through a collaborative process involving the safety partners identified above.

EXISTING EFFORTS

As a result of the SSAR, Calaveras County has initiated several systemic safety improvement projects:

- Edge Delineators – A combination of traffic stripes and raised, non-reflective pavement markers are being installed to provide a tactile and audible warning to drivers departing from the roadway. Final design is complete and includes installation of delineators on curves with radii of less than 1,000 feet on major collector roads with high average-daily traffic (ADT) and high speeds. The project will be constructed in 2020.

- Road Safety Signing Audit – Roadside safety sign locations, sheeting, size, etc. have a dramatic effect on overall roadway safety (as represented in collision history). The County plans to begin auditing road safety signs on County roads, approximately 223 miles of roadway and 2,200 signs, in late 2019.
- Restriping Program – Upgrading traffic striping is a cost-effective method to improve roadway safety that addresses run-off-the-road, head-on, nighttime, and inclement weather-related crashes. Annual pavement striping is budgeted in 2019 on selected County-maintained roads to maintain the existing longitudinal striping and reflectivity.
- Guardrail Safety Audit and Upgrade – Guardrails reduce the severity of hit object crashes by redirecting vehicles away from steep embankments or fixed objects and dissipating energy prior to vehicle collision. As part of the SSAR, several guardrails were identified for replacement; the County is in the process of acquiring a design firm to complete construction documents for those guardrails. However, the SSAR did not assess all guardrails throughout the County, or the need for additional guardrails. A guardrail audit is being planned to identify guardrails throughout the county that are either damaged or do not meet current Caltrans standards (i.e. no transition railings, or end treatments that are not Caltrans approved).
- Road Improvements – For roadways with higher vehicle speeds, ADTs, and limited sight distance, installing location specific improvement reduces the amount of rear end, broadside and sideswipe crashes at uncontrolled intersections. O’Byrnes Ferry Road at Duchess Drive is a project with a high collision history scheduled for improvements later this year. Two separate studies are being conducted to determine the appropriate intersection controls on State Route 49 just south of San Andreas and along Hwy 26 at Olive Orchard Road.

DATA SUMMARY

Calaveras County maintains crash data from CHP. Data utilized for this LRSP includes crash data from the past three years, 2016-2018, Speed Zone Study Summary Reports (with speed limits), road maintenance records and citizen complaints to note any trends. Fortunately, ‘property damage only’ is the primary result of all collisions in Calaveras County, accounting for 64% of all collisions. Fatalities make up 2.2% of the collision results. A full breakdown of collision results is available in Table 1.

Table 1 - Collision Severity 2016-2018

	2018	2017	2016	3 Year Summary	3 Year %
Collisions By Injury Severity					
Fatal	4	8	4	16	2%
Severe Injury	26	21	7	54	8%
Other Visible Injury	23	27	30	80	11%
Complaint of Pain	32	43	37	112	16%
Property Damage Only	157	161	140	458	64%
Total	242	260	218	720	

Note: Collision data from State Highway collisions is excluded.

Improper turning and unsafe speeds are the primary causes of about 49% of the collisions in Calaveras County. Driving under the influence (15%) and unsafe speeds (13%) are also major concerns in Calaveras County. A full breakdown of primary collision factors is available in Table 2.

Table 2 – Primary Collision Factor 2016-2018

	2018	2017	2016	3 Year Summary	3 Year %
Collisions By Primary Collision Factor					
Auto R/W Violation	18	15	12	45	6%
Driving Under Influence	36	43	27	106	15%
Following Too Closely	1	2		3	< 1%
Hazardous Parking		1	3	4	< 1%
Improper Turning	122	118	110	350	49%
Other	1	1		2	< 1%
Other Hazardous Movement	3	1	1	5	< 1%
Other Than Driver or Ped	9	7	7	23	3%
Pedestrian Violation	3	1	2	6	< 1%
Traffic Signals and Signs		1	1	2	< 1%
Unknown		2	1	3	< 1%
Unsafe Speed	21	40	34	95	13%
Unsafe Starting or Backing	7	4	3	14	2%
Wrong Side of Road	21	24	17	62	9%
Total	242	260	218	720	

Note: Collision data from State Highway collisions is excluded.

Hitting objects is the primary collision type comprising about 58% of the collisions in Calaveras County. Overturned collisions are the next most common at about 13%. A full breakdown of primary collision types is available in Table 3.

Table 3 – Primary Collision Types 2016-2018

	2018	2017	2016	3 Year Summary	3 Year %
Collisions By Collision Type					
Broadside	16	16	15	47	7%
Head-On	12	12	11	35	5%
Hit Object	139	149	129	417	58%
Other	14	8	7	29	4%
Overturned	29	42	26	97	13%
Rear-End	7	13	10	30	4%

Sideswipe	22	17	19	58	8%
Vehicle - Pedestrian	3	3	1	7	1%
Total	242	260	218	720	

Note: Collision data from State Highway collisions is excluded.

Approximately 58% of all collisions in Calaveras County happen during the day. A full breakdown of primary collision times of day is available in Table 4.

Table 4 – Primary Collision Times of Day 2016-2018

	2018	2017	2016	3 Year Summary	3 Year %
Collisions By Time of Day					
Day	136	155	130	421	58%
Night	106	105	88	299	42%
Total	242	260	218	720	

Note: Collision data from State Highway collisions is excluded.

The 19% increase in total number of collisions from 2016 to 2017 is likely due to unusually severe weather events in Calaveras County during 2017. Collision data should be analyzed in future years to determine if any trends exist and to implement solutions to combat any increased collision activity.

FOCUS AREAS

The following Focus Areas describe priority issues where there is opportunity to improve based on crash data from the past three years, 2016-2018, Speed Zone Study Summary Reports (with speed limits), road maintenance records and citizen complaints.

Focus Area 1: Improper Turning and Broadside Collisions

- Improper turning is cited as the top primary collision factor between 2016 and 2018, with nearly 50% of all collisions.
- These types of collisions typically occur at intersections or with intersections with driveways.

Goal for Focus Area 1:

- In the short term, Calaveras County will address many of the identified areas throughout Calaveras County with the latest Road Safety and Signing Audit project that is currently in design. The addition and/or revision of signing at key locations have been proven to lower collision rates. Road Safety and Signing Audits could continue into the future with additional award of HSIP funds.
- Roadside vegetation management also continues to be implemented to improve sight distances at intersections.

Strategies for Focus Area 1:

- Project locations are determined by evaluating crash data, Speed Zone Study Summary Reports (with speed limits), road maintenance records and citizen complaints.

- Funding will be through the Highway Safety Improvement Program (HSIP) funds.
- Roadside vegetation management should continue and be expanded upon. Calaveras County in coordination with Calaveras County Office of Emergency Services and other engaged partners to pursue additional funding for future vegetation management. In addition to improved roadway safety, vegetation management also aligns with fuel reduction efforts to improve fire safety and community resiliency.
- The implementation of “My Calaveras County” citizen service request system should be utilized to identify and mitigate locations identified by the public through complaints and other service requests.

Focus Area 2: Unsafe Speeds, Object Impact

- Unsafe speed is cited as the third highest primary collision factor between 2016 and 2018 and object impact collisions is cited as the top collision type.
- These types of collisions can occur on windy and narrow roads throughout the County where vehicles drive at speeds unreasonable for road conditions. Object impact is frequently related to trees, utilities, or other obstacles adjacent to roadways or animals attempting to cross the road.

Goal for Focus Area 2:

- In the short term, Calaveras County will address many of the identified areas throughout Calaveras County with the Road Safety and Signing Audit and restriping program. The addition and/or revision of signing and high-visibility thermoplastic striping and at key locations have been proven to lower speeds and collision rates. Additionally, the Guardrail Upgrade project currently in design is intended to provide additional safeguards when road departure is inevitable.
- For locations where these countermeasures are ineffective, consider additional safety projects where feasible. Recovery zones, and improved roads and shoulders are potential solutions. While these solutions are frequently seen as a panacea by residents, real world applications suggest these improvements should be carefully considered before implementation.
- Low cost and high benefit safety solutions eligible for HSIP funding include additional Road Safety and Signage Audits, the use of High Friction Surface Treatments at high collision curve locations, and the installation of centerline rumble strips.
- Improve speed compliance by increasing law enforcement in areas of high speed, utilizing speed radar trailers, and ensuring enforceable speed limits.
- Increase public education on the dangers of speeding and driving distracted. Utilize NHTSA Speed Campaign Toolkit.

Strategies for Focus Area 2:

- Project locations are determined by evaluating crash data, Speed Zone Study Summary Reports (with speed limits) and citizen complaints.
- Funding for this project will be with Highway Safety Improvement Program (HSIP) funds.
- Enforcement locations are determined by evaluating crash data, Speed Zone Study Summary Reports (with speed limits) and citizen complaints. Calaveras County Public Works and the California Highway Patrol are the primary implementers of this strategy.

- Speed radar trailer placement on roads can temporarily assist in lowering speeds. Calaveras County Public Works is the primary implementer of this strategy.
- Increase public education efforts regarding the dangers of speeding and driving distracted. California Highway Patrol is the primary implementer of this strategy.

Focus Area 3: Driving Under the Influence

- Driving under the influence (DUI) is cited as the second highest primary collision factor between 2016 and 2018.

Goal for Focus Area 3:

- Increase public education of the dangers of DUI.
- Increase DUI checkpoints.

Strategies for Focus Area 3:

- Public education regarding the dangers of DUI could be increased. California Highway Patrol is the primary implementer of this strategy.
- The number of DUI checkpoints implemented in a year could be increased. California Highway Patrol is the primary implementer of this strategy.

Focus Area 4: Emergency Medical Services

Emergency medical response in rural areas is a primary concern. Transporting a patient to an emergency/trauma center within the “golden hour” is a key measure of the ability of emergency responders to reduce fatalities. The SHSP reports that 37 percent of fatal collisions in rural areas are 30 or more miles from an emergency/trauma center; whereas, 8 percent of fatal collisions in urban areas are 30 or more miles from an emergency/trauma center.

Goal for Focus Area 4:

- Additional outreach is needed with emergency responders in Calaveras County to study response times and document specific measures to improve response to crashes within the “golden hour”.
- Develop data identifying various ‘choke points’ or narrow roadway segments or bridges that can prevent large fire trucks and ambulances from responding to a fire or crash.

Strategies for Focus Area 4:

- Feedback from local first responders may be used to identify potential choke points throughout the County.
- Future traffic impact fee program development should include considerations for road safety.

EVALUATION & IMPLEMENTATION

This LRSP is a living document that should be updated regularly to utilize the latest data and detect trends. Calaveras County should also utilize the previously prepared Systemic Safety Analysis Report Program (SSARP) in conjunction with the LRSP when considering collision reduction countermeasures. Collision data can be used to evaluate the

success of the plan. A committee of safety partners may potentially be formed to periodically oversee implementation of the plan. The Calaveras County Department of Public Works will be the primary department responsible for updating this LRSP.