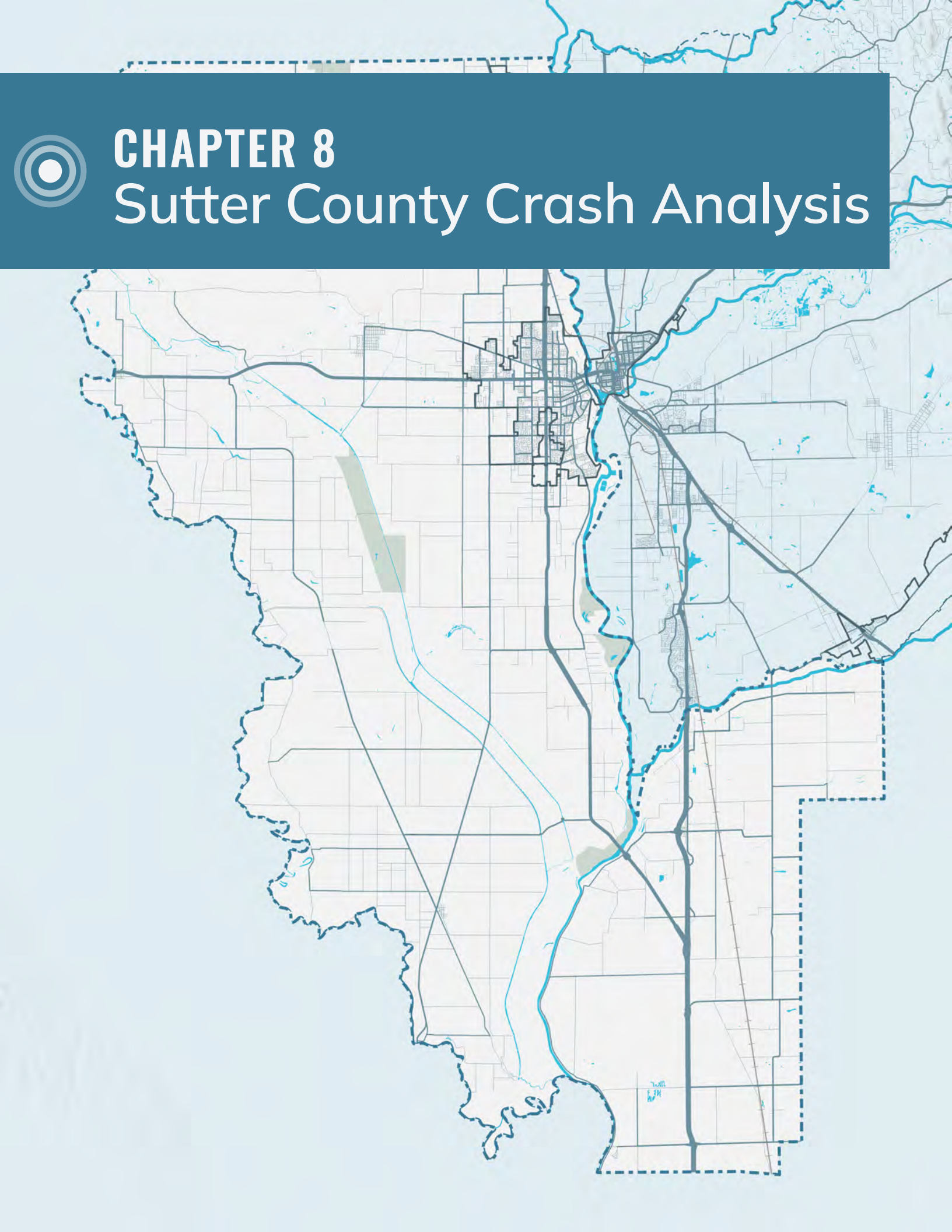




CHAPTER 8 Sutter County Crash Analysis

This Plan and Our Region

Introduction

Sutter County is a rural region situated in the heart of California's Sacramento Valley, with a population of 100,000. The terrain is predominantly flat and well-suited for agriculture, with vast expanses of farmland producing crops like rice, walnuts, and peaches. The county is bordered by the Feather River to the east and the Sacramento River to the west, both of which play important roles in irrigation and flood control. The Sutter Buttes add a unique natural landmark to the county.

Yuba City, the county seat, is the largest city in Sutter County. Sutter County is also home to the City of Live Oak and several rural communities including Sutter, Meridian, Nicolaus, Pleasant Grove, Rio Oso, and Robbins, among others. State Routes (SR) 99 and 20 serve as the primary corridors for freight movement throughout the county and regional travel, connecting Sutter County to the greater Sacramento Region.

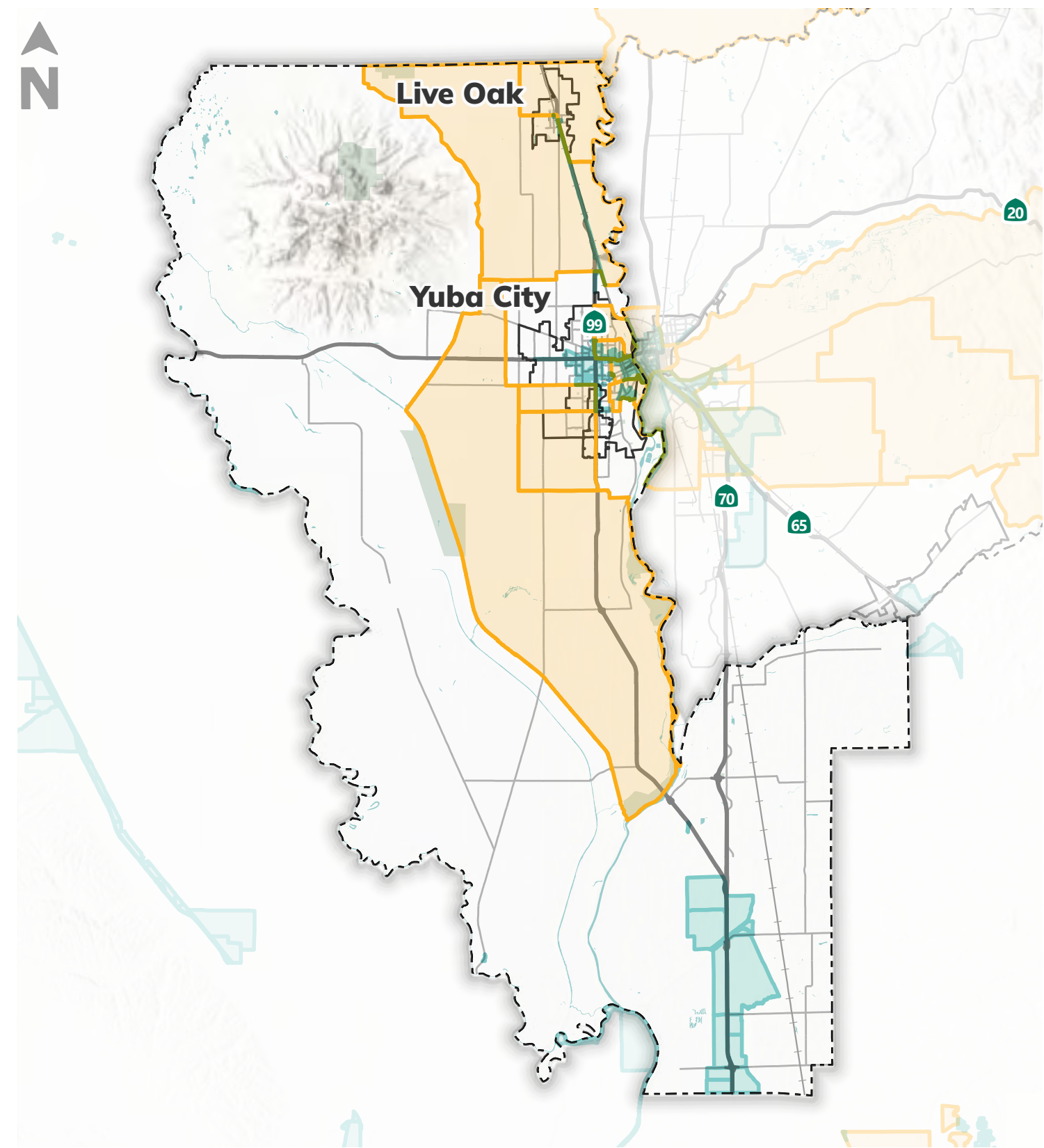
Communities of Concern

Sociodemographic data sources are helpful to better understand the community, as well as when applying for state and federal grant funding to implement infrastructure projects. Figure 8.1 shows locations in Sutter County that meet the criteria for two community metrics relevant to grant applications:

- Caltrans Transportation Equity Index (EQI) Transportation-Based Priority Populations: 8 percent of Sutter County's population meets Caltrans' threshold for Transportation-Disadvantaged status, compared to 16 percent statewide.
- USDOT Areas of Persistent Poverty and Historically Disadvantaged Communities: 51 percent of Sutter County's population lives in areas of persistent poverty and historically disadvantaged communities, compared to 28 percent statewide.

In CalEnviroScreen, which evaluates environmental burdens including air pollution, traffic density, and health vulnerabilities, Sutter County received a score of 29, where the state had a score of 23, indicating that the population of Sutter County experience higher levels of environmental impacts than the state as a whole.

Figure 8.1: Caltrans Transportation Equity Index & USDOT Areas of Persistent Poverty



Legend

- Caltrans Transportation Equity Index (EQI) Transportation-Based Priority Populations
- USDOT Areas of Persistent Poverty and Historically Disadvantaged Communities (APPHDC)

Plans

Sutter County has previously made commitments to roadway safety, as outlined in the Sutter County General Plan. Refer to **Appendix A** for a list of policies and goals supporting improving roadway safety.

Projects

There are numerous improvement projects currently underway or planned within unincorporated Sutter County.

The following roadway safety-related projects are planned on state facilities owned and operated by Caltrans:

- Install rumble strips, upgrade signing, striping, and guardrail, and install backplates with reflective borders on to traffic signals along SR 20 from the community of Meridian to the Feather River.
- Install traffic signal at the SR 20 and Humphrey Road intersection.
- Install backplates with reflective borders on to signal lights; install touch-free pedestrian signals; and upgrade curb ramps to American with Disabilities Act (ADA) standards at various locations throughout Sutter County on State Route 20 and State Route 99.
- Install centerline or shoulder rumble strips on SR 99 at various locations throughout Sutter County.
- Safety improvements on SR 99 near Lomo: Eliminate cross traffic access to SR 99 from Encinal Road/Live Oak Boulevard, add acceleration lanes in proximity to railroad crossing, and improve access to the Eager Road Interchange.
- Install audible pedestrian push-buttons, retroreflective back-plates on traffic signal heads, video/radar detection camera system, advanced warning flashing beacon system, and a pole foundation for a future signal installation for a future signal installation at the SR 99 and Riego Road intersection.
- Upgrade existing crosswalks and install pedestrian signs at the SR 99 and Bogue Road intersection.
- Install safety improvements at the SR 99 and Sankey Road intersection.
- Improvements at the SR 99 and Oswald Road intersection including site preparation, yellow flashing beacons installation, electrical work, signage upgrade, new traffic signal, and incidental work.
- Upgrade crosswalk at the Southbound SR 70 and Nicolaus Avenue intersection.
- Curve realignment on SR 113 near Knights Road.
- Improvements to the bridge crossing the Sutter Bypass at Verona on Garden Highway, including pavement upgrades, embankment repairs, striping, traffic control, and incidental work.

INJURY CRASH TOTAL

1,326

KSI CRASH TOTAL

301

Figure 8.2
Injury Crashes by Year, 2018 - 2023

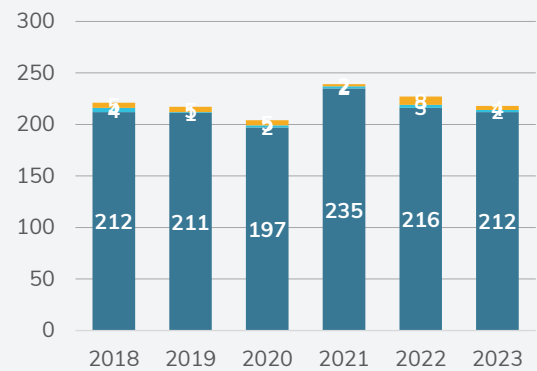
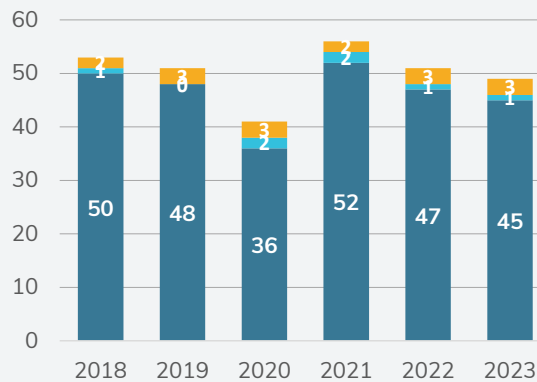


Figure 8.3
KSI Crashes by Year, 2018 - 2023



KSI = Killed or Severely Injured

- Vehicle-Only Crashes
- Bicycle-Involved Crashes
- Pedestrian-Involved Crashes

Crash Summary

This section summarizes key findings from the city's crash data obtained from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) database, for the years 2018 to 2023. The analysis includes all crashes that led to injury and excludes property-damage-only crashes.

Within the six-year period, Sutter County saw a total of 1,326 crashes that led to some degree of injury. 7 crashes involved bicyclists and 16 involved pedestrians. 301 crashes (23 percent of all injury crashes) resulted in a victim being Killed or Severely Injured (KSI).

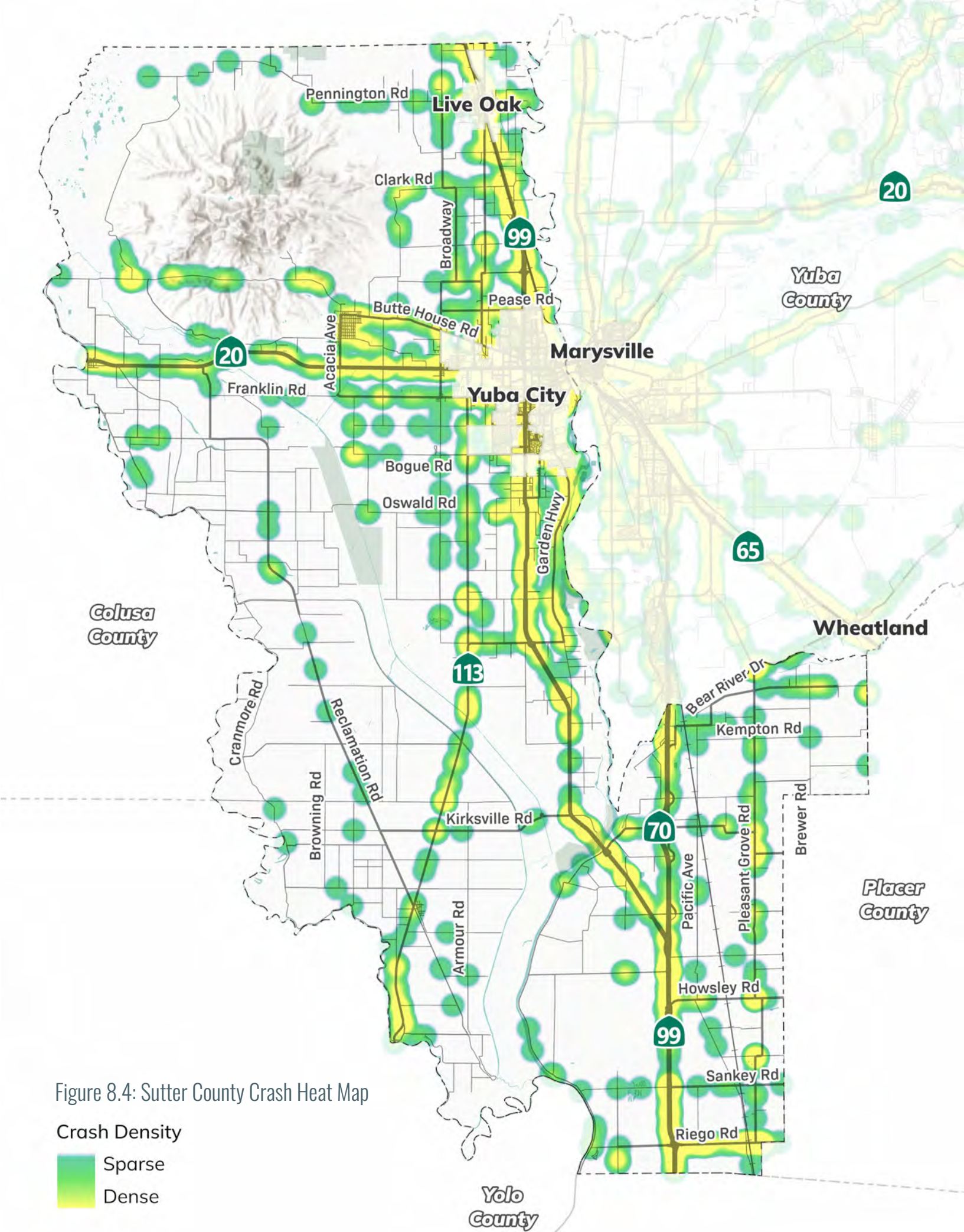


Figure 8.4: Sutter County Crash Heat Map

About KSI Crashes

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

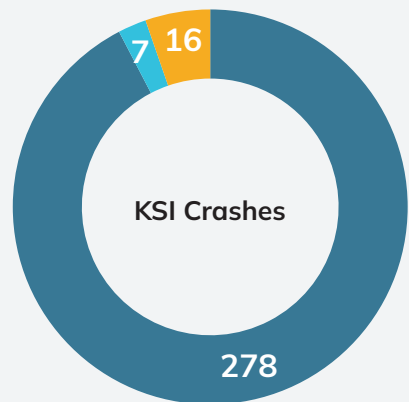
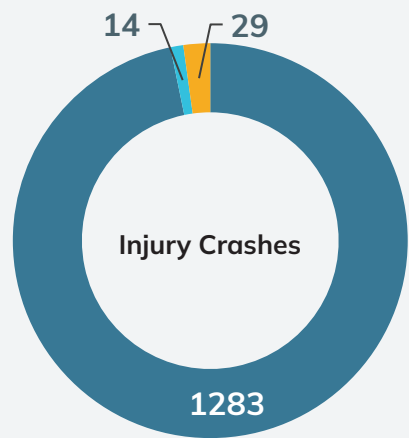
- Broken or fractured bones
- Dislocated or distorted limbs
- Severe lacerations
- Severe burns
- Skull, spinal, chest or abdominal injuries
- Unconsciousness at or when taken from the collision scene

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

KSI Summary

Out of 301 KSI crashes, 7 (2 percent) involved bicyclists, and 16 (5 percent) involved pedestrians. There was a total of 83 fatalities.

Figure 8.5
Crash Mode Share by Severity



- Vehicle-Only Crashes
- Bicycle-Involved Crashes
- Pedestrian-Involved Crashes

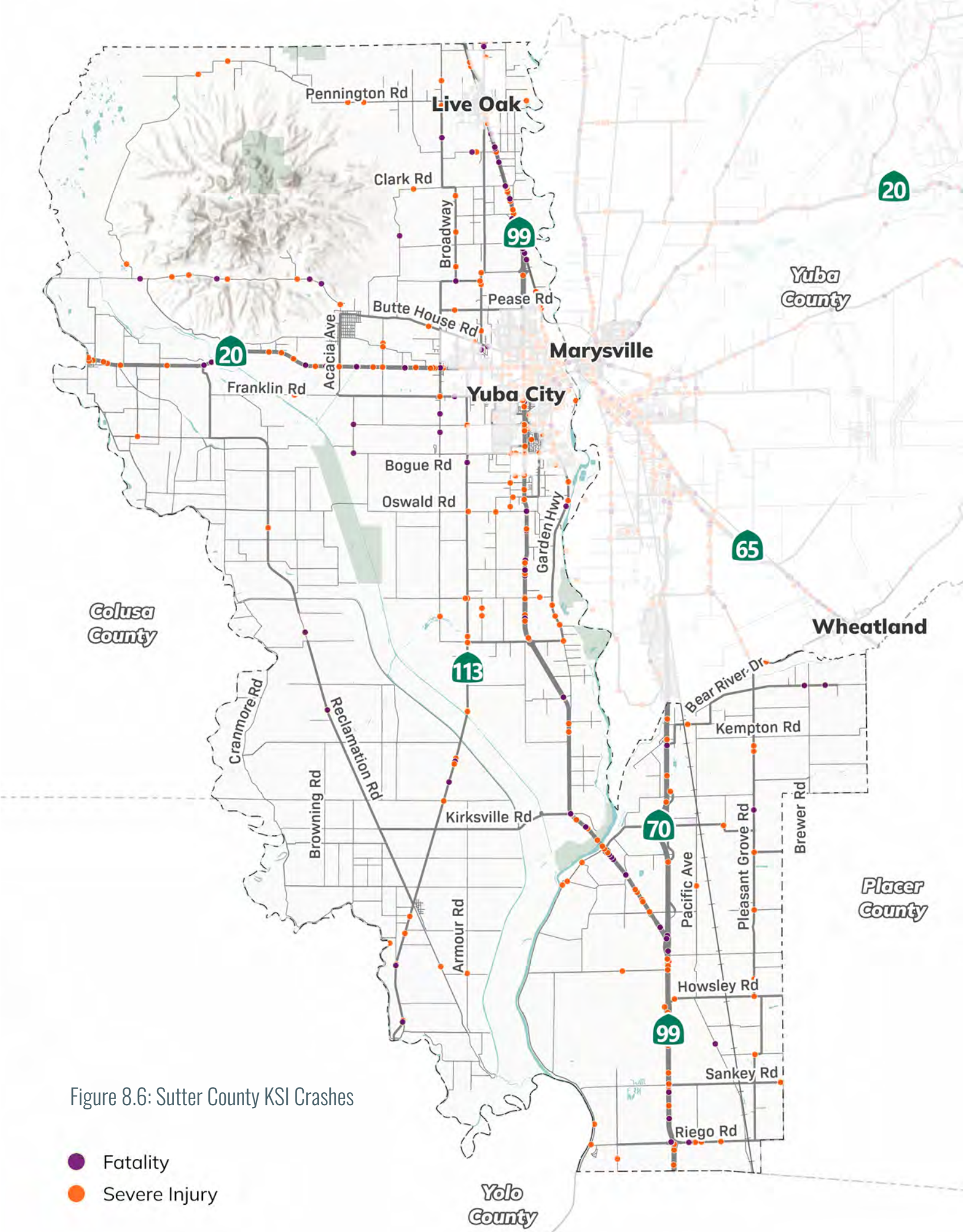


Figure 8.6: Sutter County KSI Crashes

- Fatality
- Severe Injury

Crashes by Crash Type

Overall, hit object (25 percent), rear end (22 percent), and broadside (20 percent) crashes were the most common crash types, making up 67 percent of all injury crashes. Similarly, among KSI crashes, hit object (26 percent) was also the most common type of crash, followed by broadside (17 percent), head-on (16 percent), and rear end (14 percent). Head-on collisions accounted for a disproportionately large share of KSI crashes—while they represented only 7 percent of all injury crashes, they made up 16 percent of KSI incidents.

Crashes by Primary Crash Factor

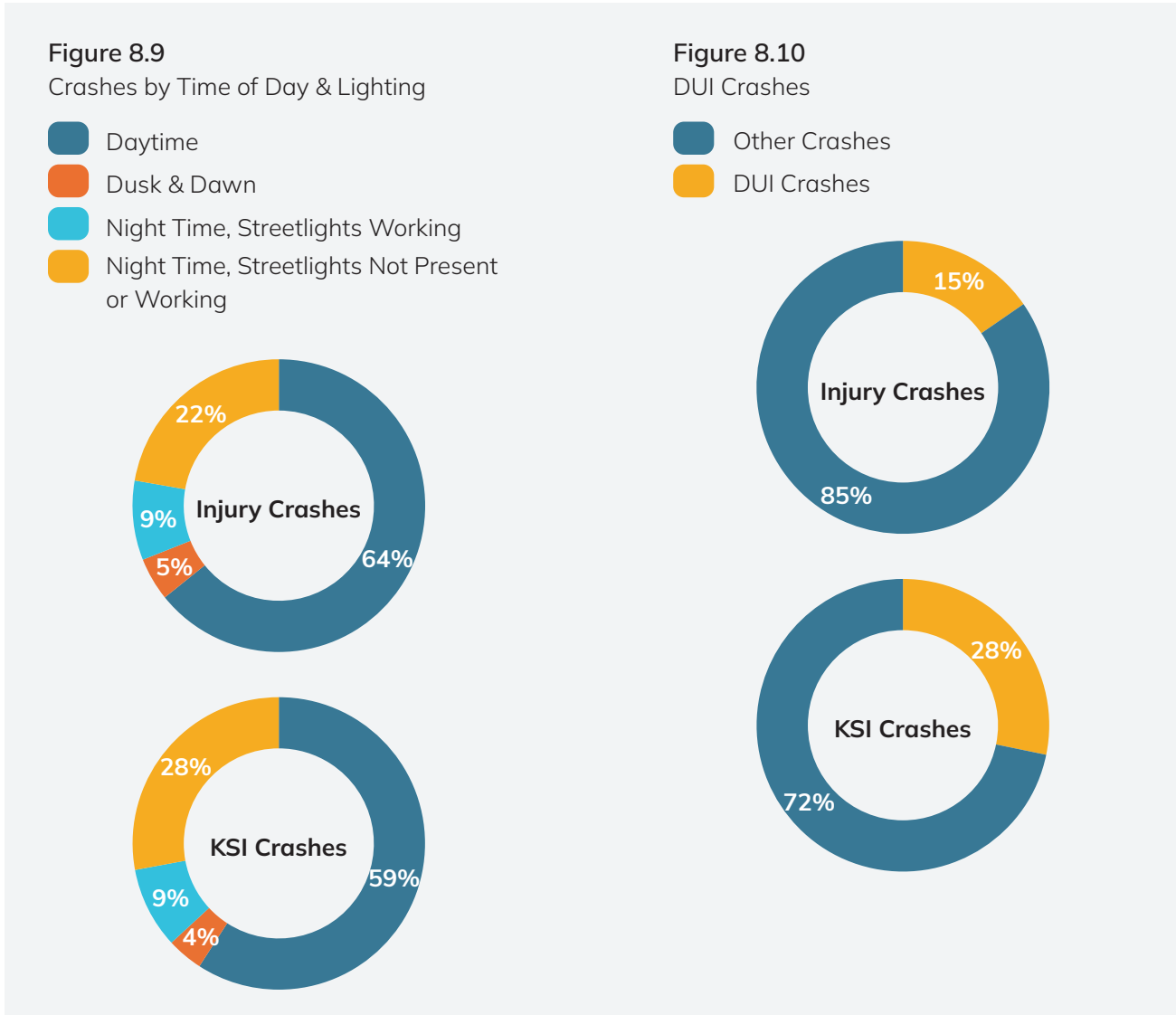
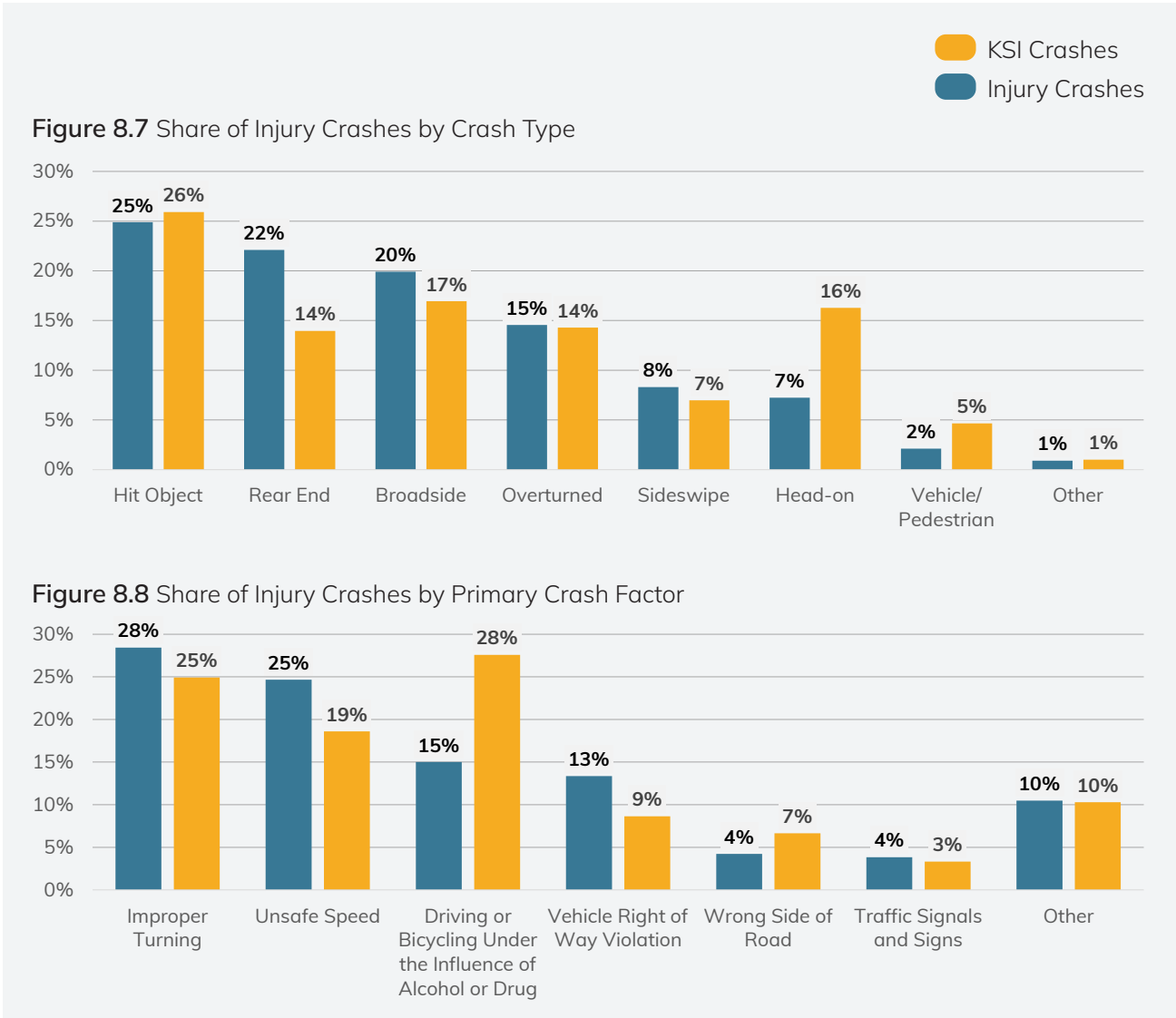
Unsafe speed (25 percent) was the leading reported primary cause of crashes resulting in injury, followed by improper turning (19 percent), and vehicle right of way violation (17 percent). Driving or bicycling under the influence (24 percent) was the leading reported primary cause of KSI crashes followed by improper turning (20 percent) and unsafe speed (17 percent).

Crashes by Time of Day and Lighting Condition

Overall, most crashes occurred in the daylight (64 percent), 9 percent occurred in the dark where streetlight was present, and 22 percent in the dark with no lighting. 59 percent of KSI crashes happened in the daytime, and a disproportionately greater share of KSI crashes occurred in the dark, even with streetlights present, at 37 percent compared to 31 percent of all injury crashes.

Driving Under the Influence

15 percent of all crashes resulting in injury involved someone driving under the influence of alcohol or drugs. Notably, this share was larger for KSI crashes, at 28 percent.



Safety Corridors

Safety corridors are the roadway segments within Sutter County that had the highest number of crashes resulting in severe injury or death (KSI) in the six-year study period. Priority safety corridors are the safety corridors that experienced the highest rate of KSI crashes, are adjacent to sensitive land uses, and have high potential for severe crashes and thus, should be prioritized for improvements.

The following is a list of Sutter County’s priority safety corridors and intersections as identified through a safety corridor systemic analysis, task force input, and community feedback. Figure 8.11 displays Sutter County’s network of safety corridors, which are shown in orange. Priority corridors are shown in red. Refer to **Appendix C** for a more detailed explanation of the safety corridor identification technical methodology.

Corridors

- State Route 99 from Franklin Road to Bogue Road
- Pass Road from West Butte Road to Acacia Avenue
- Township Road from Sunset Avenue to Daphne Lane
- George Washington Boulevard from Bogue Road to Tudor Road
- Nicolaus Avenue from Marcum Road to SR 70
- Pleasant Grove Road from Wheatland Road to Howsley Road
- Riego Road from SR 99 to Pleasant Grove Road

Intersections

- SR 99 and Bogue Road Intersection
- SR 99 and West Catlett Road Intersection

Priority Safety Corridors were identified to provide the list of locations for actionable next steps with additional study. Studies could include recommended engineering safety countermeasures with targeted improvements to address crash history or focused programs identified in the Action Plan chapter.

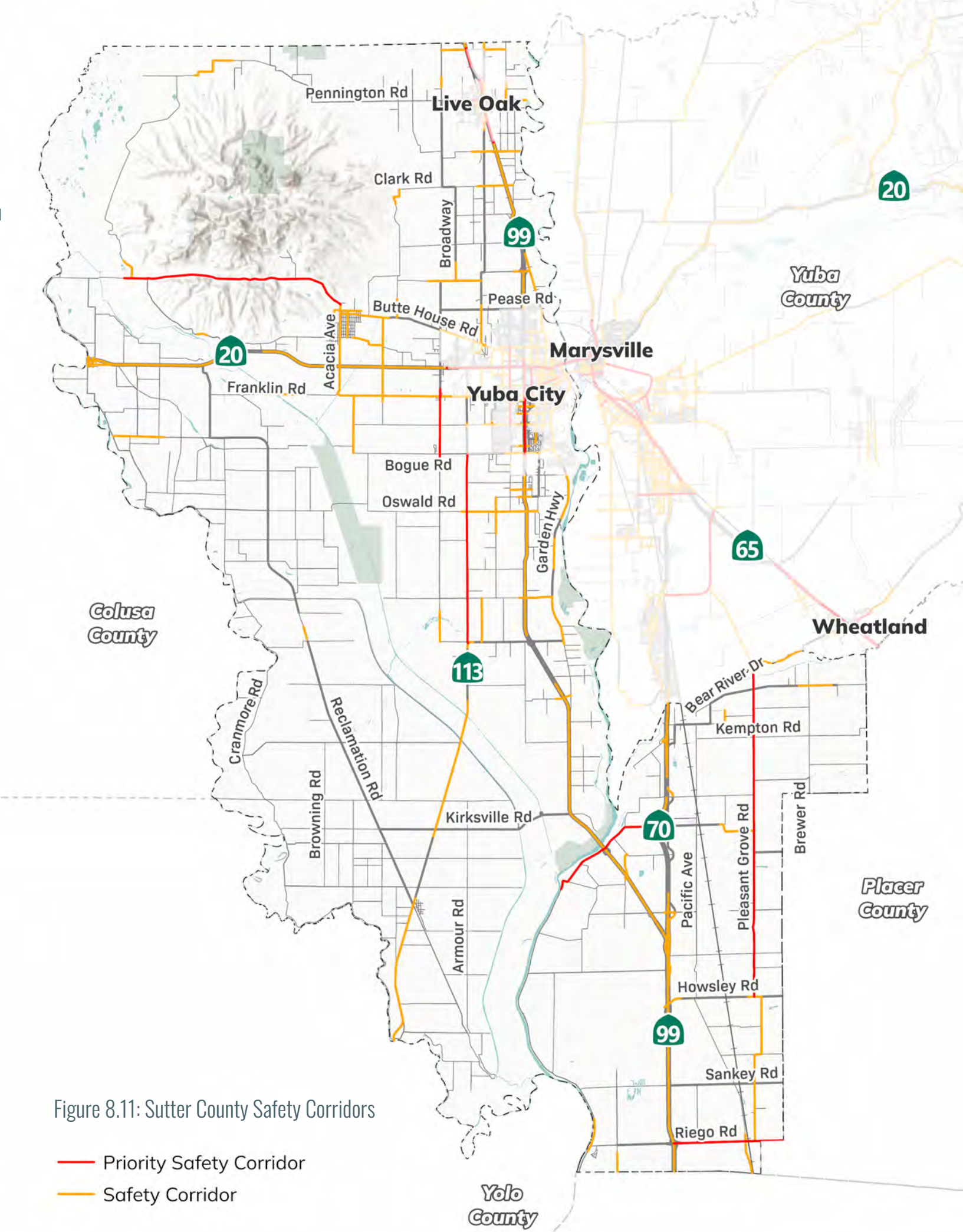


Figure 8.11: Sutter County Safety Corridors

- Priority Safety Corridor
- Safety Corridor

Community Snapshot

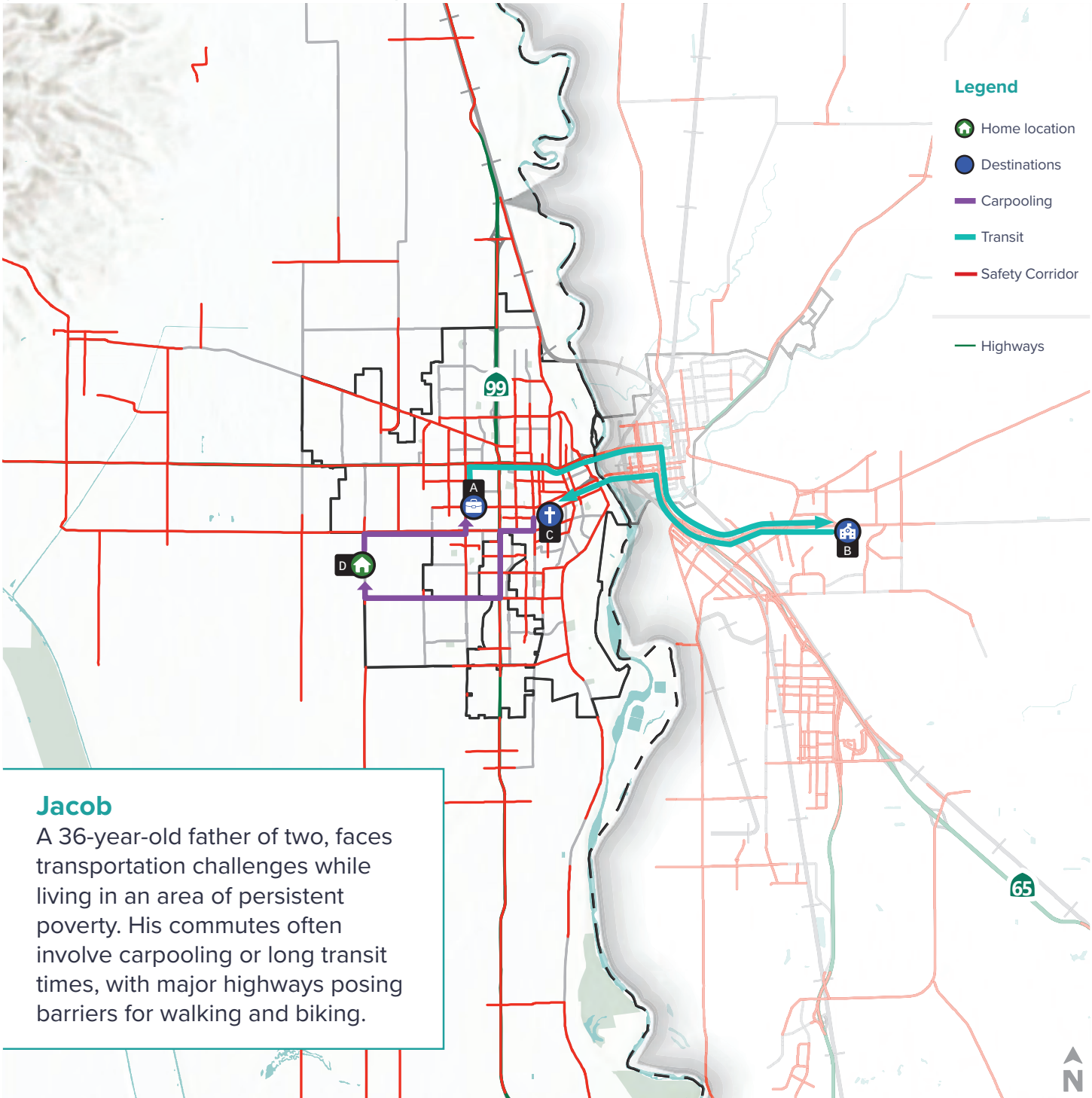
This community snapshot features Jacob, a fictional character created to illustrate the daily transportation challenges faced by a father without a personal vehicle in unincorporated Sutter County. The experiences of this character are based on census data as well as local lived experiences.



Jacob, a resident in unincorporated Sutter County, does not own a personal vehicle. Without access to a car, he must rely on walking, rides from others, and public transit, which can be unreliable and time-consuming. This lack of mobility limits his ability to access work and school, attend appointments, or manage daily responsibilities efficiently. Public transportation may not run frequently or reach all necessary destinations, further lengthening the time of his trips. The lack of safe infrastructure to support comfortable walking and cycling along major highways such as State Routes 20 and 99 also prevents Jacob from taking these modes to get around, unless necessary. Figure 8.12 shows the trips and travel modes taken to get to his destinations.

Although a majority of trips in unincorporated Sutter County are made by car (75 percent), a significant portion still travel on foot (18 percent). Jacob’s experience underscores the broader challenges of inadequate infrastructure and limited mobility options in underserved communities, and how pedestrians should be given greater consideration when planning and implementing safety improvements.

Figure 8.12: Sutter County Community Snapshot



Jacob
A 36-year-old father of two, faces transportation challenges while living in an area of persistent poverty. His commutes often involve carpooling or long transit times, with major highways posing barriers for walking and biking.



- A** Jacob carpools 3.2 miles to work at Sunsweet Growers Outlet with co-workers. A key challenge is navigating the busy Highway 20 along the way.
- B** For school, Jacob takes transit to Yuba College, a journey that takes over an hour. Jacob is thankful for a transit shelter but wishes the journey was a little quicker.
- C** To attend church at Templo de Alabanza, Jacob uses both transit and walking, which takes a little over 45 minutes. The most difficult portion of the trip is the additional time it takes to use transit in the area.
- D** Jacob would like to walk or bike back home but traveling along Highway 20 and crossing Highway 99 are too difficult and he elects to carpool with a friend.



Focus Areas

Six focus areas were identified through a systemic analysis of crash records to represent the most significant patterns behind injury crashes—and especially KSI crashes—in the region. These focus areas are identified with the letters “A” through “F” and each one is applicable to one, several, or all of the communities covered by this RSAP. Following each crash focus area is a set of potential countermeasures that should be considered for implementation to improve safety outcomes. **Appendix D** contains a more detailed summary of each countermeasure.

Sutter County’s traffic safety challenges can be understood through a subset of these focus areas:



FOCUS AREA C

Driving Under the Influence



FOCUS AREA B

Improper Turning Away from Intersections



FOCUS AREA B

Hit Object



FOCUS AREA C

Driving Under the Influence

INJURY CRASH STATISTICS

208 (16%) Total Crashes

87 (29%) KSI Crashes

Driving under the influence (DUI) is a significant contributor to injury crashes, especially and disproportionately to KSI crashes. Alcohol impairment was involved in 16 percent of unincorporated Sutter County's total crashes but accounted for 29 percent of KSI crashes. Figure 8.13 displays all DUI crashes within unincorporated Sutter County.

Most of the DUI crashes were concentrated along State Routes 20, 99, 70, and 113, in addition to some county roads: Pleasant Grove Road, Garden Highway, and Pass Road. Local law enforcement and public works staff identified the Amphitheater and Casino as probable influences in some areas. Friday, Saturday, and Sunday see higher crash frequency around 6pm to 3am, compared to other times of day and days of the week. Most

DUI crashes occurred on county and state facilities where there are posted speed limits of 55 MPH.

Hit object was the most common type of crash to result from DUI crashes and accounted for 38 percent of crashes; overturned (16 percent) and head-on crashes (13 percent) were the second and third most common crash types, indicating that lane and roadway departure were common occurrences moments before the crashes.

The most effective countermeasures for DUI crashes fall under non-engineering programs that target education and enforcement.

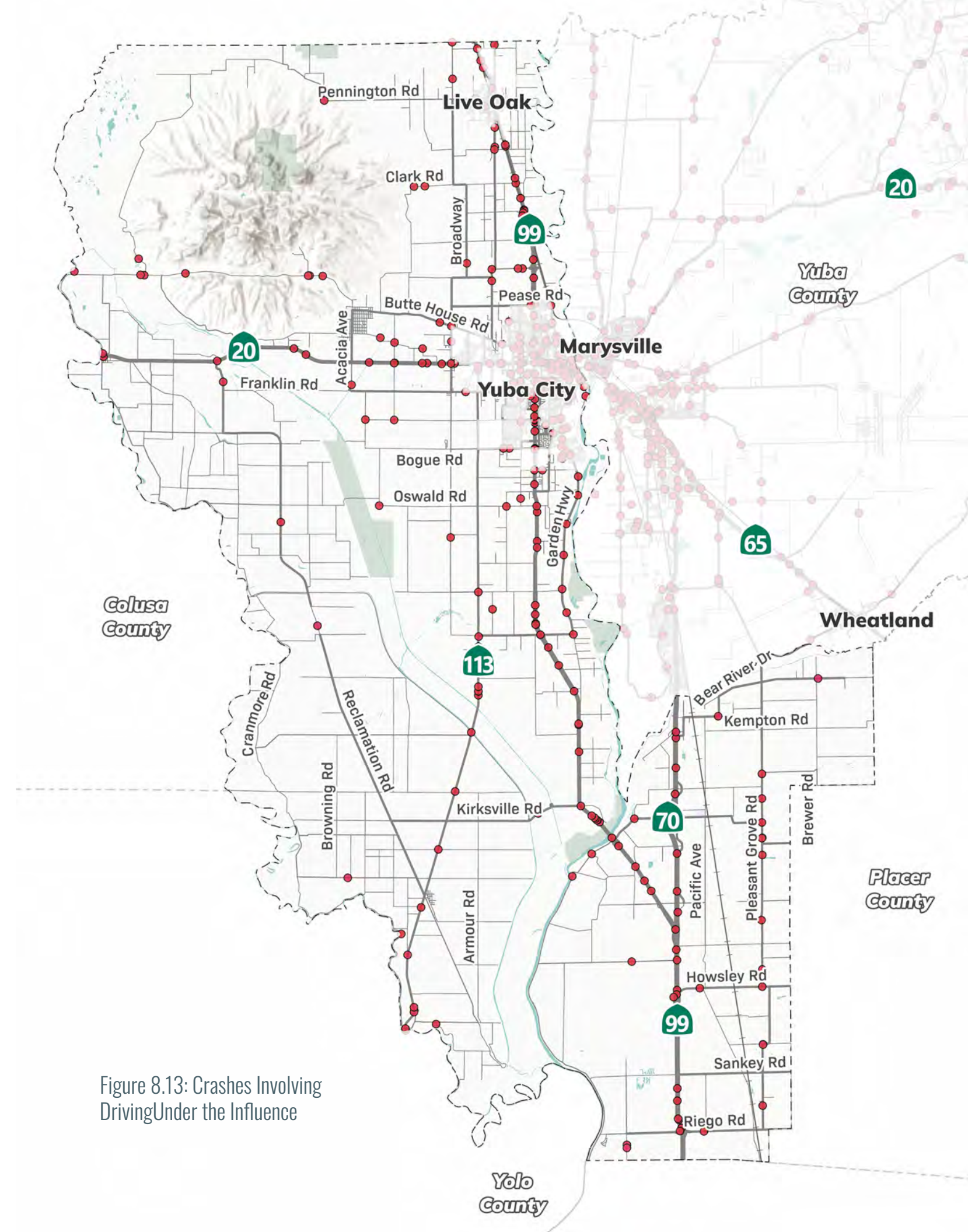
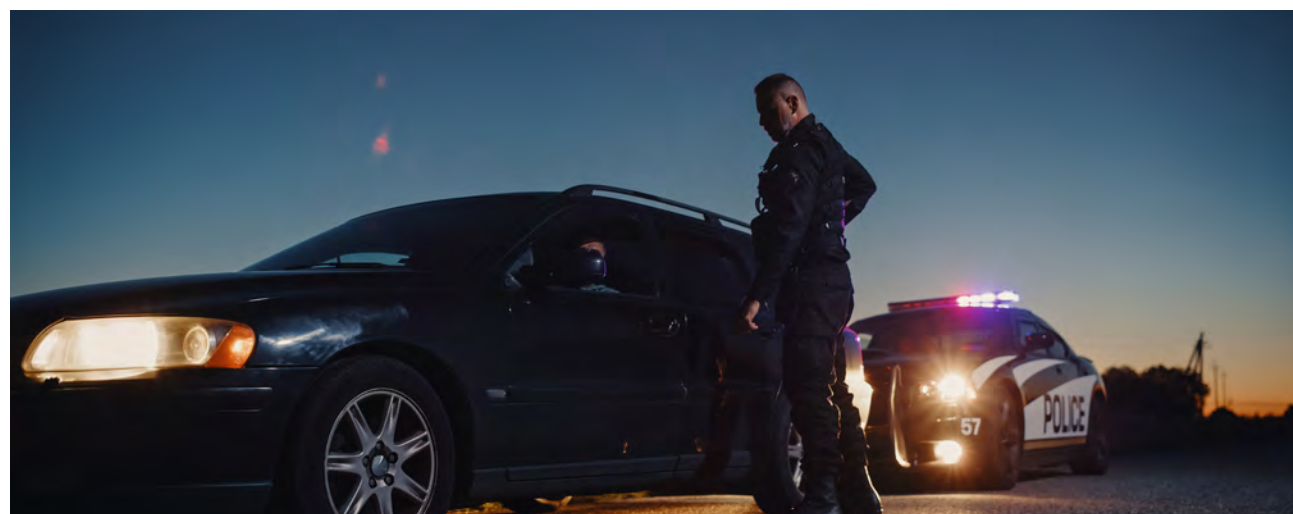


Figure 8.13: Crashes Involving Driving Under the Influence



FOCUS AREA E

Improper Turning Away from Intersections

INJURY CRASH STATISTICS

305 (23%) Total Crashes

66 (22%) KSI Crashes

Improper turning remains one of the leading primary contributors to crashes in unincorporated Sutter County. Moreover, most of them occurred away from an intersection, rather than at them. These improper turning crashes that occurred away from an intersection accounted for 23 percent of the county’s total injury crashes and 22 percent of its KSI crashes. Figure 8.14 displays the locations of these crashes.

Crashes under this focus area occurred mainly on regional corridors such as State Routes 20, 70, 99, and 113. They were highly concentrated along SR 99. Although less frequent, these crashes also occurred on county roads: Garden Highway, Pass Road, Pleasant Grove Road, and Riego Road. 45 percent of these crashes led to hit object and 37 percent to overturned. 85 percent of these crashes involved vehicles traveling at speeds exceeding 50 MPH. In



the moments leading up to them, 46 percent of parties that were at fault made an unsafe turning action and 28 percent ran off the road. This pattern could suggest that high-speed unsafe lane changes, erratic steering on roads, or distracted driving may have led to these crashes, and that a moderate amount led to roadway departures.

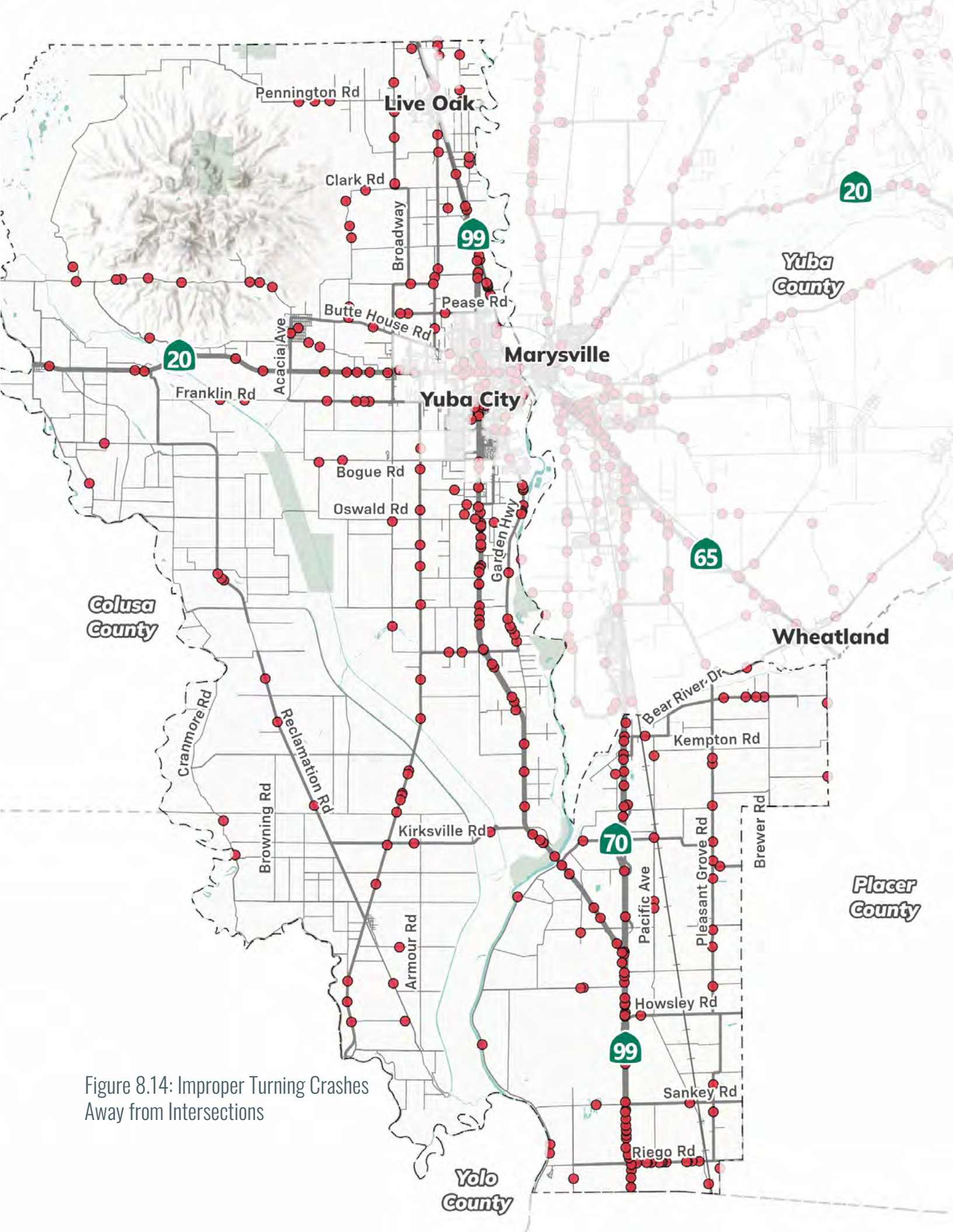


Figure 8.14: Improper Turning Crashes Away from Intersections

Sutter County

A combination of signage, roadway enhancements, and visibility improvements, such as rumble strips, curve warning signs, guardrails, and delineators, can help prevent unsafe turning and roadway departures by guiding drivers and providing recovery space. These countermeasures, especially when paired with speed limit reductions, reduce crash severity by lowering the kinetic energy transferred during high-speed impacts, helping prevent serious injuries.

Potential Countermeasures

- | | | | |
|---|--|---|------------------------------------|
|  | Rumble Strips |  | Guardrail |
|  | Safety Edge |  | Widen/Pave Shoulder |
|  | Create/Increase Clear Zone |  | Speed Limit Reduction |
|  | Curve Advance Warning Sign |  | Chevron Signs on Horizontal Curves |
|  | Delineators, Reflectors, and/or Object | | |





FOCUS AREA F

Hit Object

INJURY CRASH STATISTICS

330 (25%) Total Crashes

78 (26%) KSI Crashes

Hit-object crashes emerged as the most prevalent crash type in unincorporated Sutter County. This crash type makes up 25 percent of the county’s total injury crashes and 26 percent of its KSI crashes. As expected, 96% of all hit-object crashes involved only one party. Figure 8.15 displays all hit object crashes in unincorporated Sutter County.

Over two-thirds (68 percent) of this type of crash occurred on non-state facilities, in a more rural setting where the roads are narrow. Locations of many of these crashes include Pleasant Grove Road, Garden Highway, Pass Road, and Pennington Road. However, SR 99 also experienced a significant number of

hit object crashes. Most of the objects that were hit (85 percent) were fixed objects such as trees, utility poles, and sometimes fencing or some other barrier. 75 percent of hit object crashes involved vehicles that were traveling at speeds of 50 MPH or higher. Leading up to the crashes, 41 percent of at-fault vehicles made some unsafe turning movement, such as erratic steering wheel maneuvers, and 32 percent ran off the road.

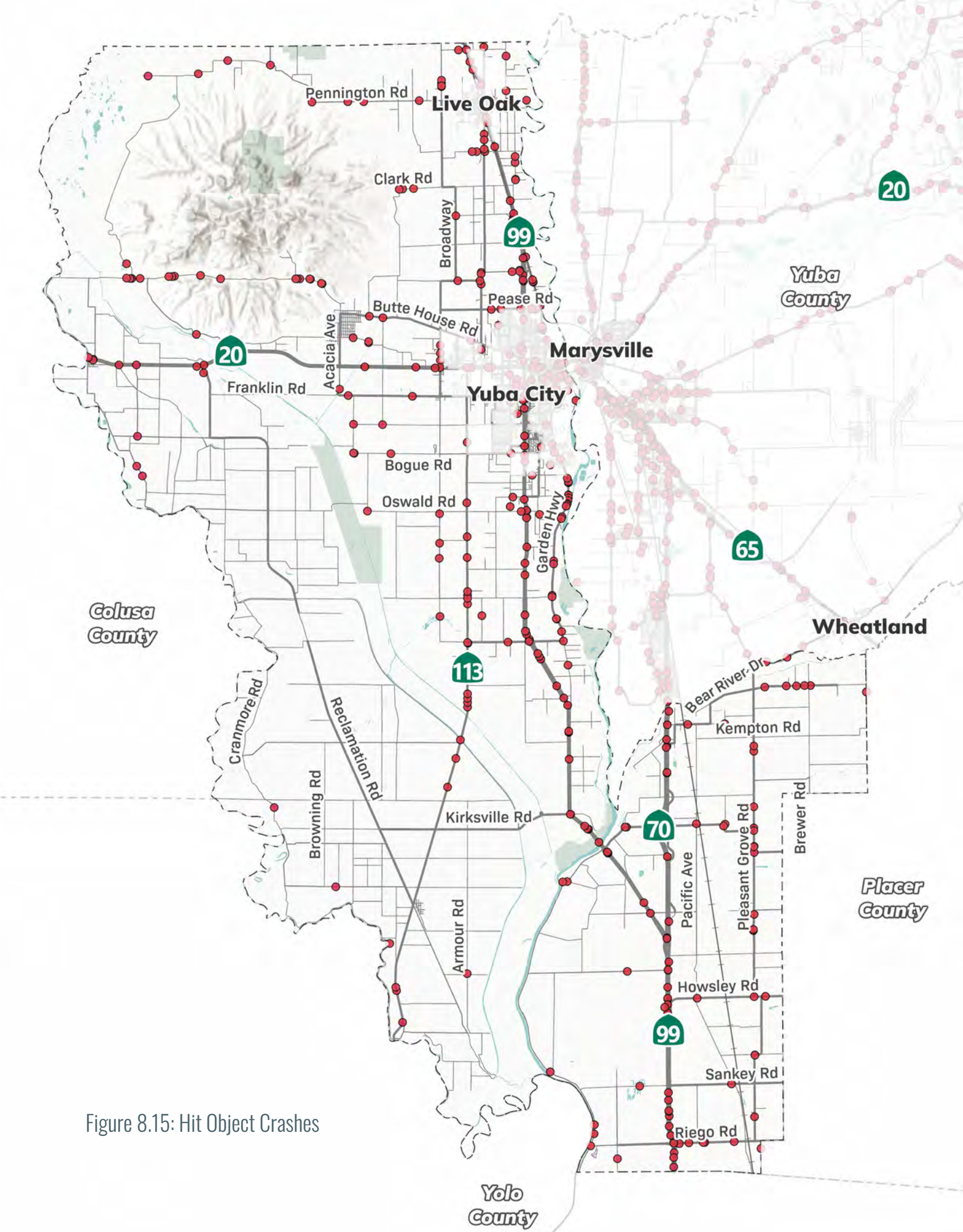
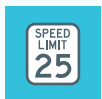


Figure 8.15: Hit Object Crashes

Sutter County

Countermeasures like guardrails, clear zone improvements, and widened or paved shoulders can help prevent crashes with objects and provide recovery space. Rumble strips, safety edge treatments, and delineators or reflectors enhance driver awareness and guidance, especially in low-visibility conditions. Speed limit reductions are especially critical, as lower speeds directly reduce the kinetic energy transferred during a crash, which in turn lowers the risk of severe injury or fatality.

Potential Countermeasures

	Delineators, Reflectors, and/or Object		Speed Limit Reduction
	Rumble Strips		Guardrail
	Safety Edge		Widen/Pave Shoulder
	Create/Increase Clear Zone		

