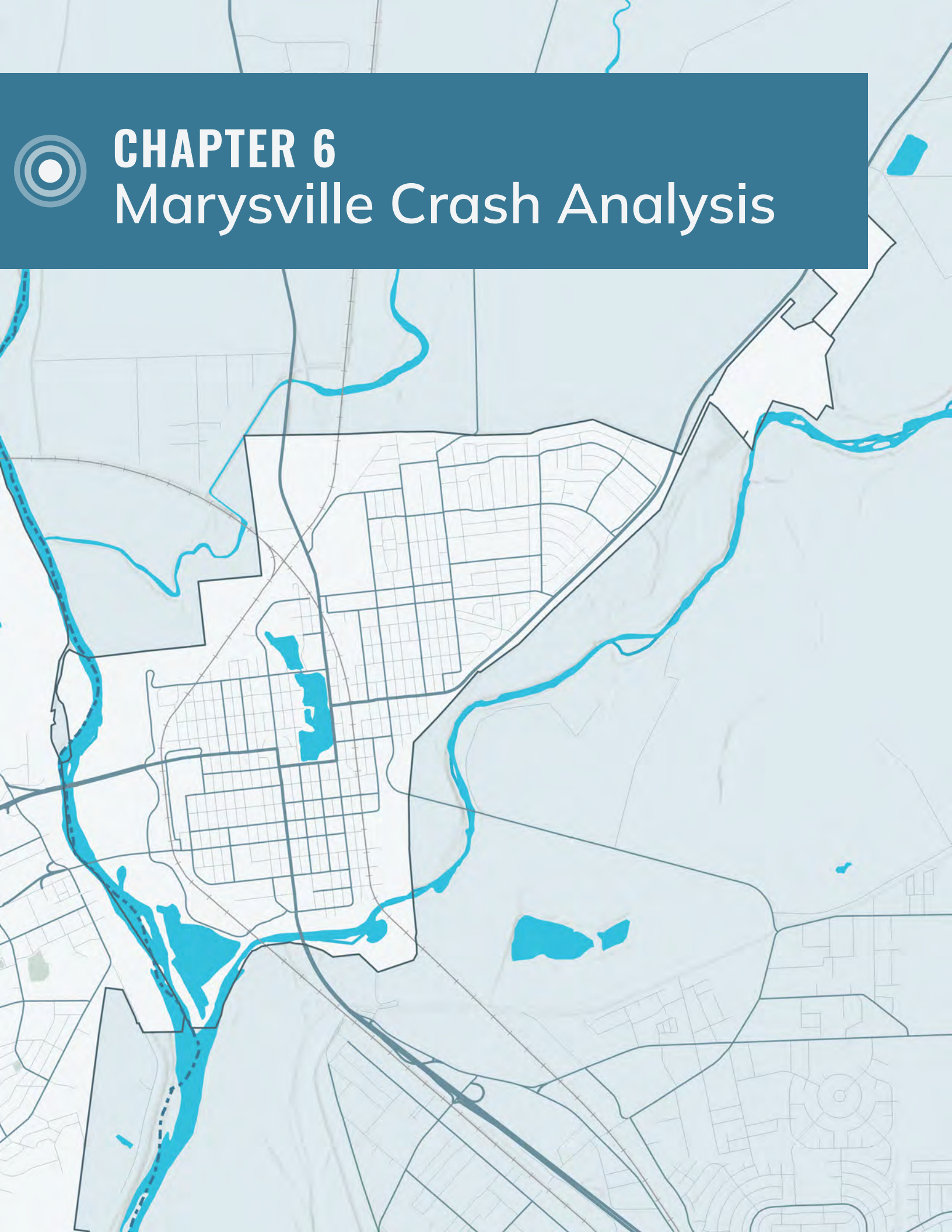




CHAPTER 6 Marysville Crash Analysis

This Plan and Our Region

Introduction

Marysville is the county seat of Yuba County, with a population of nearly 13,000. It lies near the confluence of the Yuba and Feather Rivers near Yuba City, which is located just across the Feather River to the west.

The city features a compact and historically rich urban layout, shaped by its riverfront location and legacy as a Gold Rush-era city. Ellis Lake, a central landmark, is in the heart of town. The western half of the city features an older, denser downtown, commercial areas, and community amenities. The eastern portion consists of schools, parks, and residential neighborhoods. State Route 20/10th Street, State Route 70/E Street, B Street, and 12th Street are the city's key corridors, connecting residents to key destinations throughout the city and around the region.

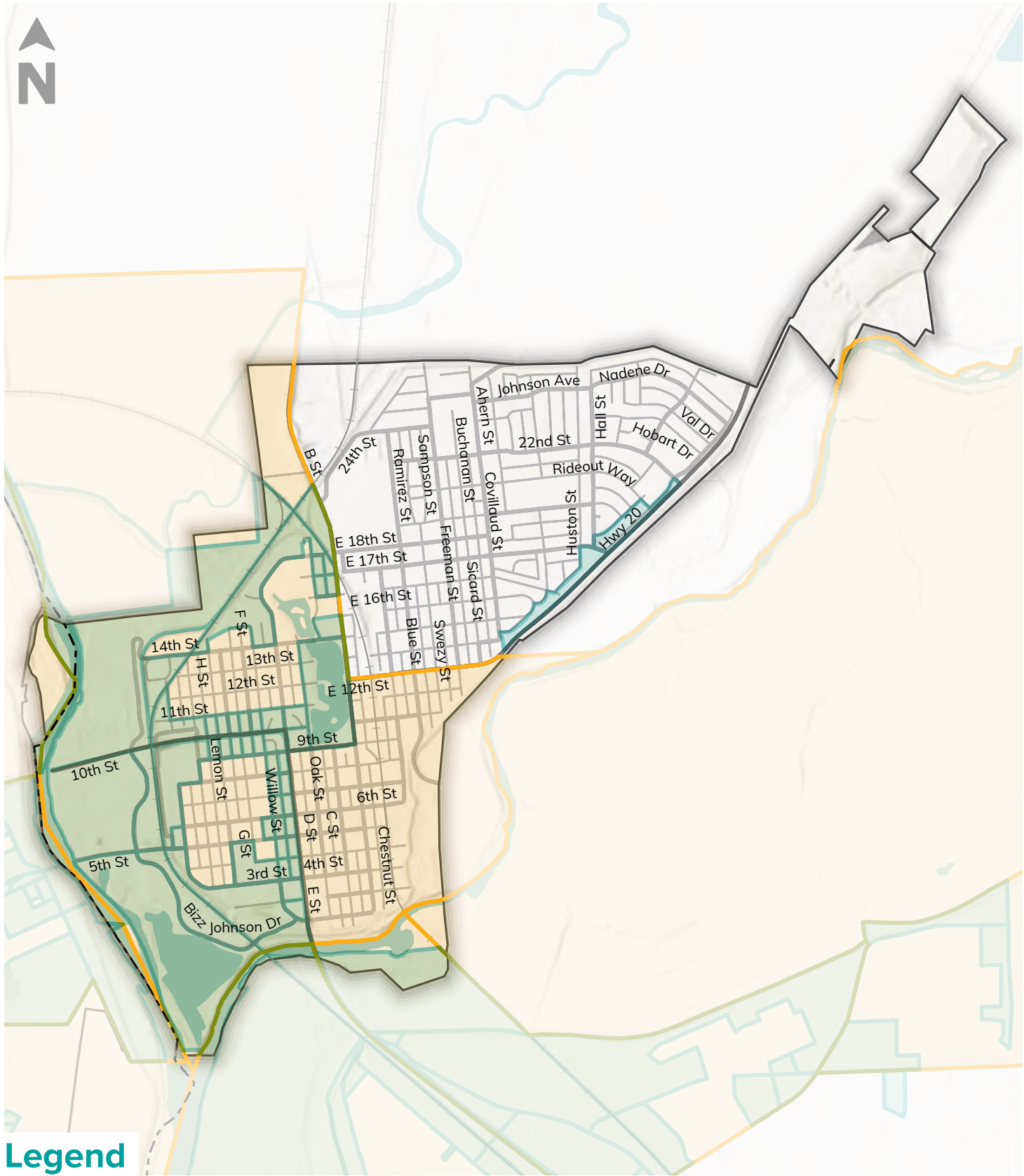
Communities of Concern

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 6.1 shows locations in Marysville that meet the criteria for two community metrics relevant to grant applications:

- Caltrans Transportation Equity Index (EQI) Transportation-Based Priority Populations: 10 percent of Marysville's population meets Caltrans' threshold for Transportation-Disadvantaged status, compared to 16 percent statewide.
- USDOT Areas of Persistent Poverty and Historically Disadvantaged Communities: 35 percent of Marysville'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, Marysville received a score of 42, where the state had a score of 23, indicating that the population of Marysville experience higher levels of environmental impacts than the state as a whole.

Figure 6.1: 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

Marysville has already demonstrated a commitment to roadway safety through the adoption of several plans, namely the Bicycle and Pedestrian Plan and the Local Roadway Safety Plan. The city's Bicycle and Pedestrian Plan establishes goals and policies to support a robust and safe network for people walking and biking, expanding access to community destinations, and supporting education and enforcement programs that encourage walking and biking. Similar to this Regional Safety Action Plan (RSAP), the Marysville Local Roadway Safety Plan identifies top crash patterns and locations and recommends countermeasures and projects to reduce crashes at top crash locations.

Refer to **Appendix A** for a comprehensive list of policies that support the city's safety goals.

Projects

There are numerous infrastructure improvement projects currently underway or planned in Marysville. The following roadway safety projects are planned on state and local roadway facilities:

- Extend striping, install traffic lighting and rumble strips, upgrade existing signs and "install headlight" signs along SR 20 between the Feather River and E Street, 9th Street between E Street and B Street, and B Street between 9th Street and 12th Street.
- Install signs, green pavement markings, and crosswalks to improve bicyclist and pedestrian safety on SR 20 between G Street and 9th Street, and 9th Street between E Street and D Street.
- Upgrade existing crosswalks to ladder-type crosswalks and install signs at the following intersections with E Street: 8th Street, 7th Street, 6th Street, 5th Street, 4th Street, and 3rd Street.
- Construct a second right turn lane from Southbound SR 70 to Westbound SR 20 at the 9th Street and B Street intersection.
- Install audible pedestrian push-buttons and retro-reflective border back-plates on traffic signal heads at the East 12th and Ramirez Street intersection.
- As part of the Binney Junction project along SR 70 between 14th Street and Cemetery Road, widen the rail underpass, construct wider sidewalks, curb ramps, and enhance bike access.

INJURY CRASH TOTAL

295

KSI CRASH TOTAL

39

Figure 6.2
Injury Crashes by Year, 2018 - 2023

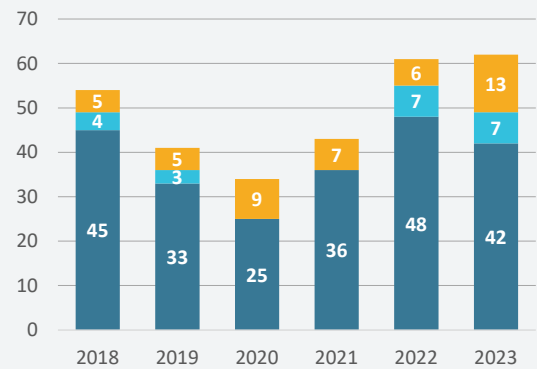
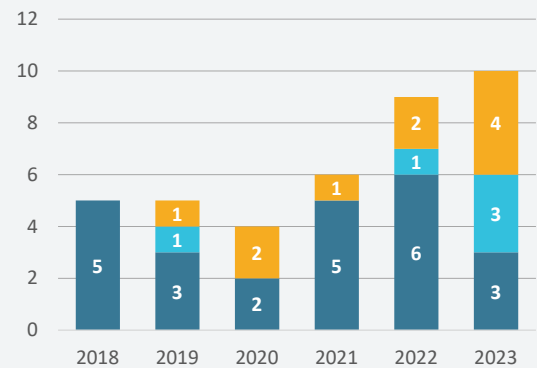


Figure 6.3
KSI Crashes by Year, 2018 - 2023



KSI = Killed or Severely Injured

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

Crash Summary

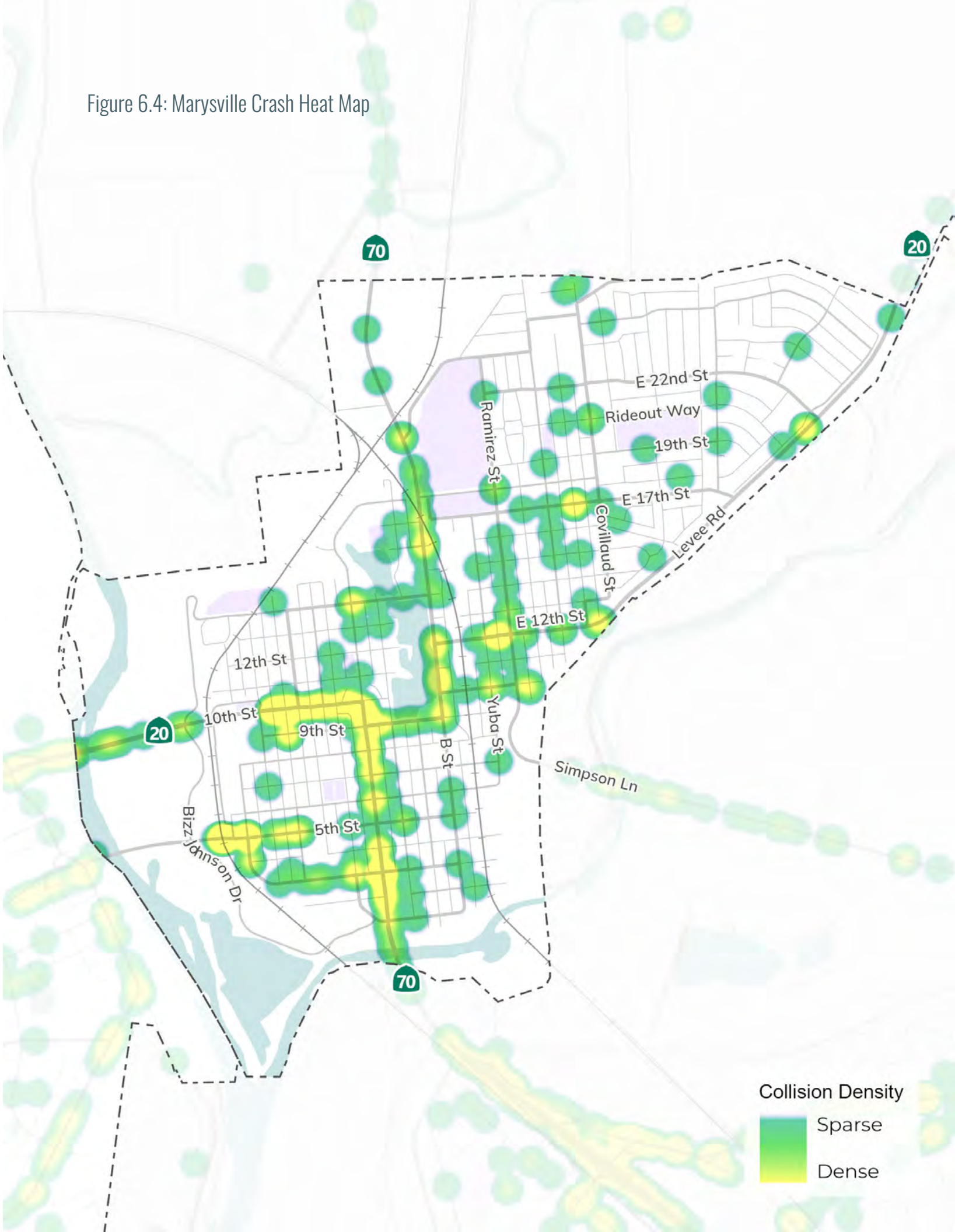
This section summarizes key findings from the city’s crash data obtained from the California Highway Patrol’s Statewide Integrated Traffic Records System (SWITRS) database, for the years 2018 to 2023. The analysis includes all crashes that led to injury and excludes property-damage-only crashes.

Within the six-year period, Marysville saw a total of 295 crashes that led to some degree of injury. 39 of those crashes involved at least one person being killed or severely injured (KSI). 21 crashes (seven percent of all injury crashes) involved bicyclists and 45 (15 percent) involved pedestrians.

Marysville saw a downward trend of overall crashes until the COVID pandemic, after which it experienced an uptick in overall crashes, specifically crashes involving bicycles. Post-2020, the share of bicycle- and pedestrian-involved KSI crashes disproportionately grew.

State Route 20 between H Street and E Street, a crash hotspot, saw 35 crashes in the six-year period, as SR 20 transitions from the freeway bridge to Downtown Marysville.

Figure 6.4: Marysville 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

39 of Marysville's injury crashes resulted in a victim being Killed or Severely Injured (KSI). There was a total of ten fatalities: one was a bicyclist, another a pedestrian, and eight that were a vehicle driver or passenger. As shown in Figure 6.5, KSI crashes involved a disproportionately larger share of pedestrians and cyclists, compared to all injury crashes.

Figure 6.5
Crash Mode Share by Severity

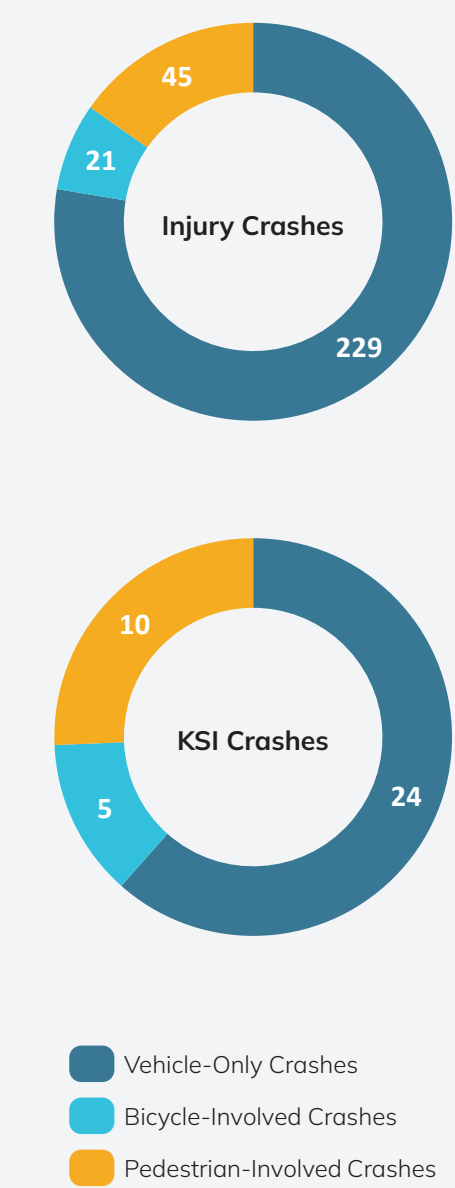


Figure 6.6: Marysville KSI Crashes



Crashes by Crash Type

Overall, broadside (37 percent), rear end (21 percent), and vehicle/pedestrian (15 percent) crashes were the most common crash types in Marysville, making up nearly three-fourths of all injury crashes. Broadside crashes are typically the result of a failure to yield to oncoming traffic that have the right of way. Similarly, broadside crashes account for 41 percent of KSI crashes, followed by vehicle/pedestrian (21 percent).

Crashes by Primary Crash Factor

Unsafe speed (25 percent), vehicle right of way (17 percent), and traffic signals and signs (14 percent) were the most common reported causes of crashes resulting in injury. SR 70, SR 20, and 3rd Street saw a majority of the unsafe speed crashes. Driving or bicycling under the influence (21 percent), unsafe speed (18 percent), and pedestrian violation (15 percent) were the leading causes of KSI crashes. A cluster of five KSI crashes occurred on SR 70 between 2nd and 3rd St. Four of these crashes were attributed to a ‘pedestrian violation.’

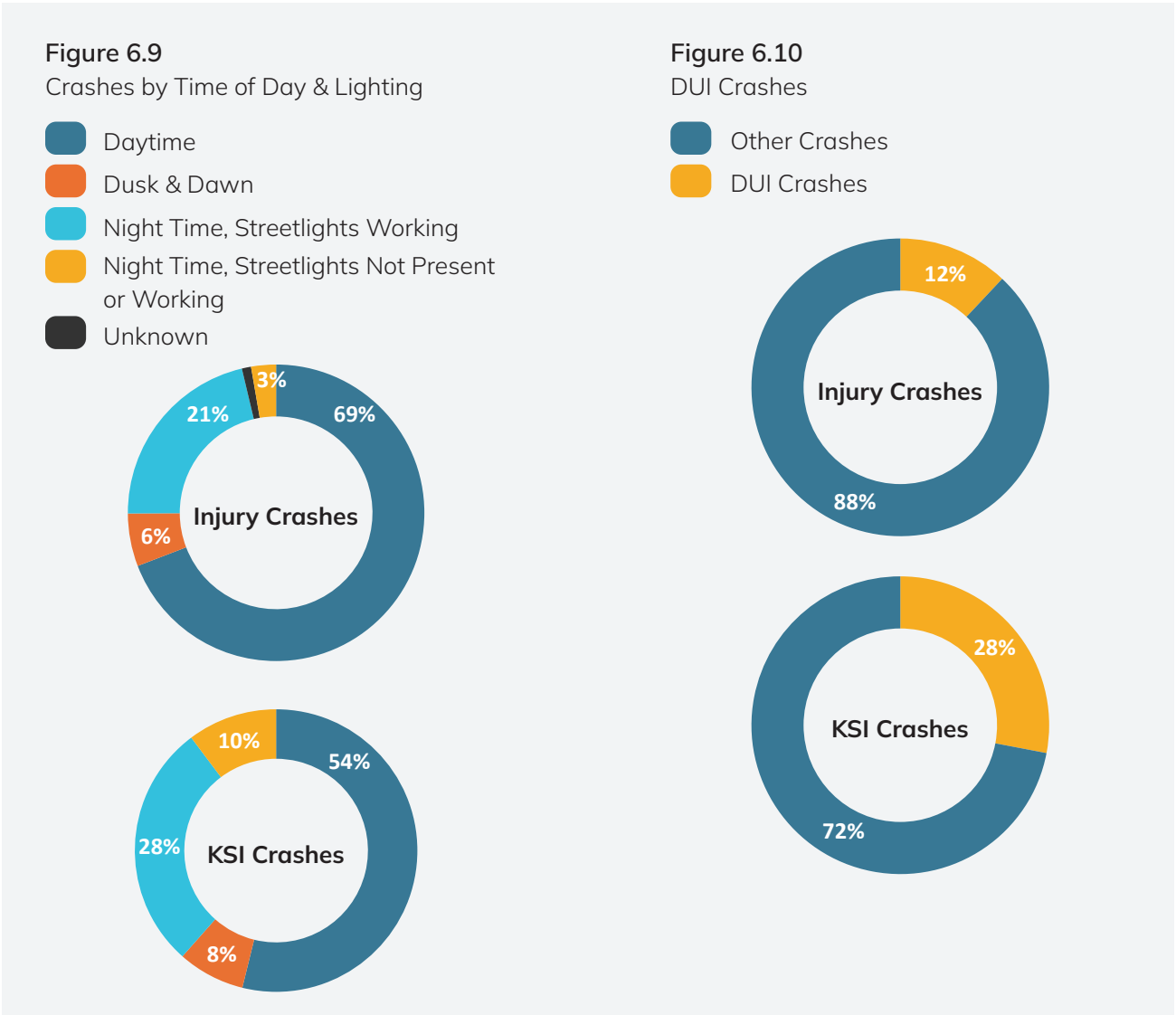
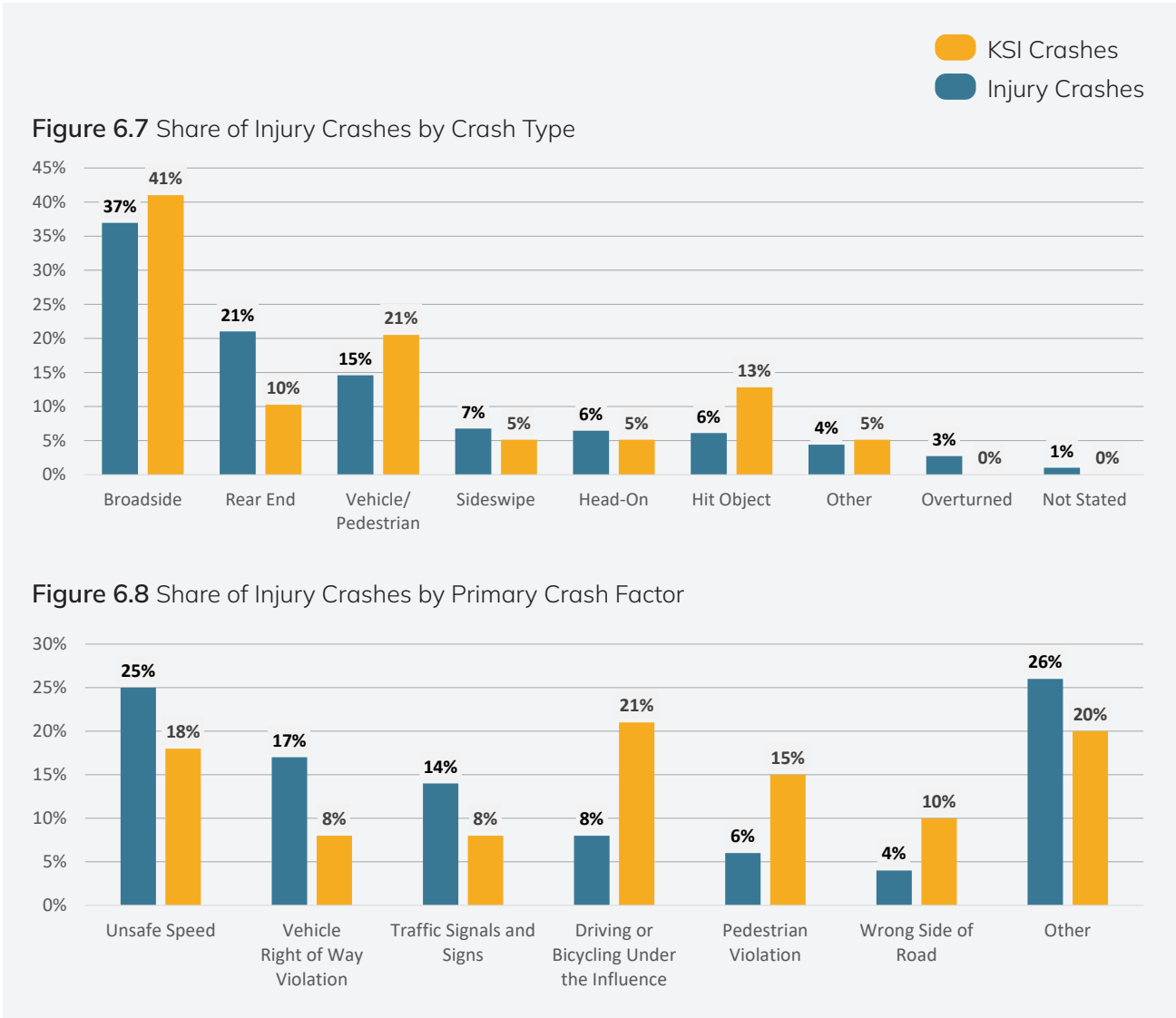
Crashes by Time of Day and Lighting Condition

Overall, most crashes occurred in the daylight (75 percent), 21 percent occurred in the dark where streetlight was present, and three percent in the dark where streetlight was not present or working properly. The segment of 5th Street between the underpass and Olive Street had two crashes that occurred under dark and no lighting conditions. A disproportionately greater share of KSI crashes occurred in the dark at areas lacking proper lighting, at 10 percent. There was also a larger share of KSI crashes happening in the

dark with streetlight present, at 28 percent compared to 21 percent for all crashes.

Driving Under the Influence

12 percent of all crashes resulting in injury involved someone driving under the influence of alcohol or drugs. Notably, 28 percent of KSI crashes involved a DUI.



Note: Lighting conditions for two crashes (1 percent) in Marysville were unreported.

Safety Corridors

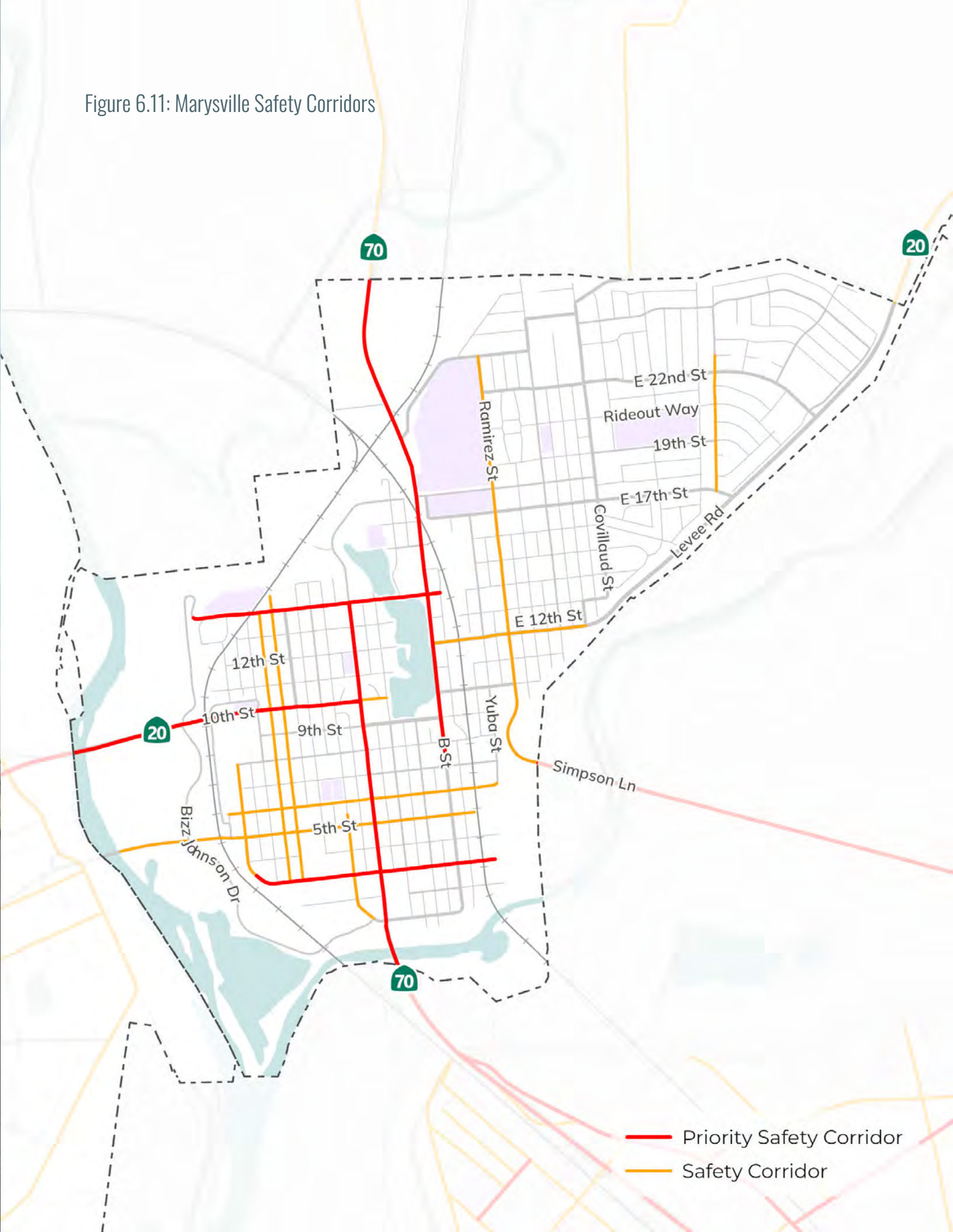
Safety corridors are the roadway segments within Marysville that had the highest number of crashes resulting in severe injury or death (KSI) in the six-year study period. Priority safety corridors are the safety corridors that experienced the highest rate of KSI crashes, are adjacent to sensitive land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

The following is a list of Marysville’s priority safety corridors as identified through a safety corridor systemic analysis, task force input, and community feedback. Figure 6.11 displays Marysville’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.

- 10th Street/SR 20 from the Feather River to E Street/SR 70
- E Street/SR 70 from 14th Street to the Yuba River
- B Street/SR 70 from the city boundary to 8th Street
- 14th Street from Biz Johnson Drive to B Street
- 3rd Street from J Street to A Street

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 6.11: Marysville Safety Corridors



Community Snapshot

This community snapshot features Ethan, a fictional character created to illustrate the daily transportation challenges faced by a father in Marysville. The experiences of this character are based on census data as well as local lived experiences.



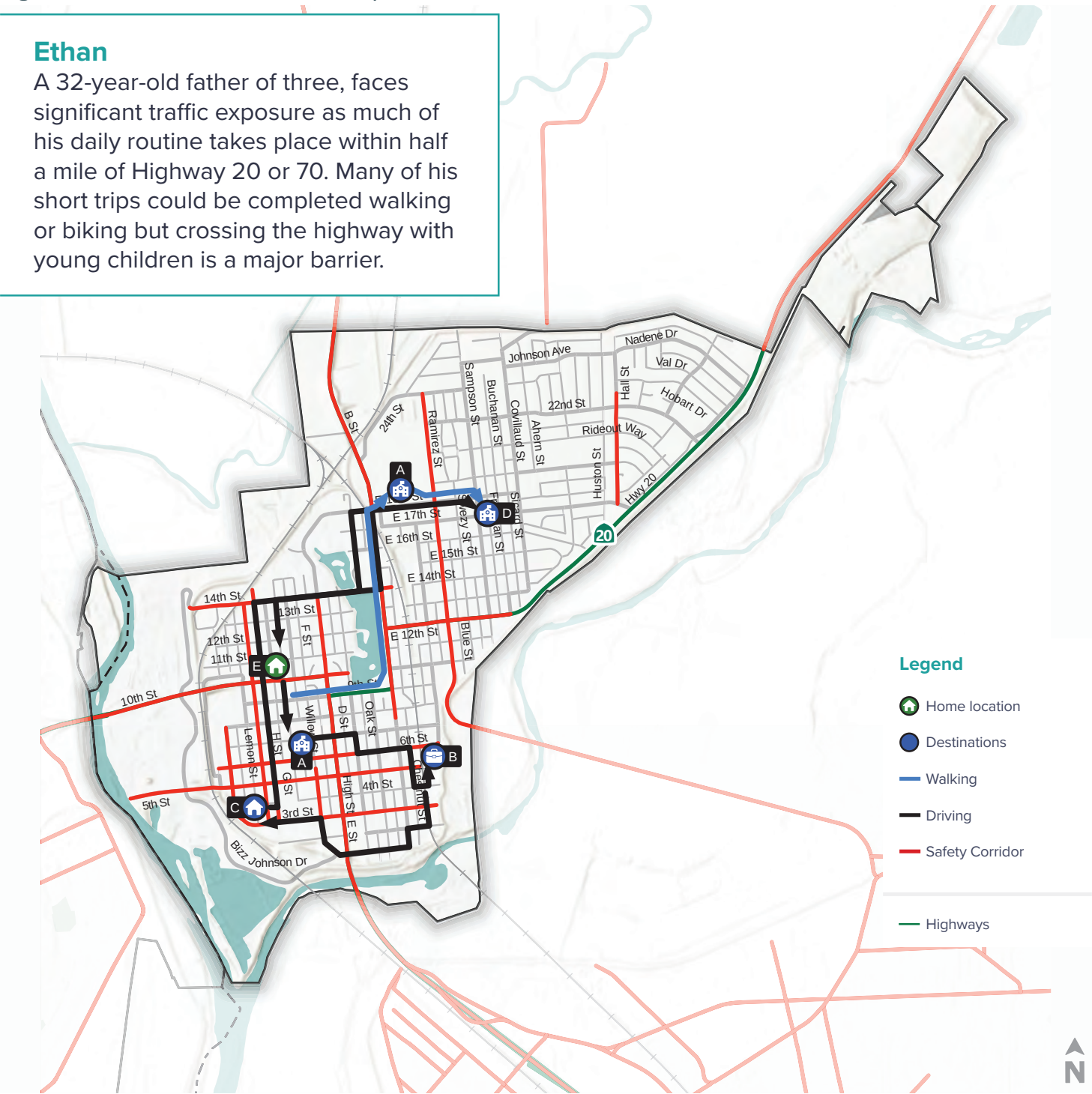
For Ethan, everyday travel presents a series of safety challenges that are shaped by the city’s roadway design and traffic conditions. Despite the short distances between his home, children’s schools, workplace, and family members’ homes, Ethan’s routine requires multiple crossings of State Routes 20 and 70, high-speed corridors that cut through the heart of the city. These highways, while essential for regional mobility, create significant barriers for local travel, especially for families with young children. Figure 6.12 describes Ethan’s routine in greater detail, highlighting some of the factors that influence travel choices for him and his children.

Ethan’s experience reflects the broader safety concerns faced by many Marysville residents, where short trips are often made by car not out of convenience, but out of necessity due to unsafe walking and biking conditions. Although a majority of trips are made by car (82 percent) a significant portion still travel by foot (15 percent). This mode share should be given greater consideration when planning and implementing safety improvements.

Figure 6.12: Marysville Community Snapshot

Ethan

A 32-year-old father of three, faces significant traffic exposure as much of his daily routine takes place within half a mile of Highway 20 or 70. Many of his short trips could be completed walking or biking but crossing the highway with young children is a major barrier.



A Ethan drives his two youngest children a third of a mile to Covillaud Elementary School, while his oldest walks to Marysville High School and across Highway 70. Ethan would let his kids walk this distance if they didn't need to cross Highway 20.

B After dropping off his kids, he travels a quarter mile to work at Pacific Gas and Electric. This short trip is complicated by the need to cross Highway 70.

C After work, Ethan picks up his youngest kids from their grandmother's house, again facing the challenge of crossing Highway 20.

D Ethan drives 1.9 miles to pick up his high schooler from a friend's house, with his two youngest kids in tow. This trip involves crossing both Highway 20 and Highway 70.

E On the way home, a 1.5-mile drive, Ethan and his three children must navigate multiple crossings of both Highway 20 and Highway 70.



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.

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



FOCUS AREA A
Crashes on State Highways Serving as
Main Streets



FOCUS AREA B
Right-of-Way Issues at Intersections



FOCUS AREA C
Driving Under the Influence



FOCUS AREA D
Crashes Involving People Walking and
Biking



FOCUS AREA A

Crashes on State Highways Serving as Main Streets

INJURY CRASH STATISTICS

163 (55%) Total Crashes

25 (64%) KSI Crashes

State Route 20 and State Route 70, which run directly through Marysville, serve not only as regional connectors but also as primary streets within the city. These roads are designed for mobility and speed, yet they also function as main streets within the city and pass through areas where people live, shop, walk, and bike. The result is a mismatch between the functional design of the roadway and downtown/city environment, contributing to elevated crash rates.

In the six-year study period, 163 injury crashes occurred on SR 70 and SR 20 in Marysville, which equates to roughly one crash resulting in injury every 13 days.

Overall, the types of crashes that resulted on these state highways that double as main streets in Marysville are mostly broadside (32 percent) and rear end (21 percent) crashes.

Although these were the most common crash types, hit object crashes (7 percent) under this focus area made up a disproportionately larger share of KSI crashes (16 percent of KSI crashes). The vehicles in these crashes were hitting fixed objects such as trees and poles on the side of the road.

- Crashes were particularly common on the following segments:
- 10th Street (SR 20) between I Street and D Street
 - B Street (SR 20 and SR 70) between 9th Street and East 12th Street
 - E Street (SR 70) between 3rd Street and 1st Street.

There were also clusters at the following intersections with SR 70: 4th, 6th, 7th, and 8th Streets.



Figure 6.13: Crashes on State Highways Serving as Main Streets



Marysville

The following countermeasures can improve safety along highway main streets by slowing vehicle speeds, organizing traffic flow, and reducing conflict points between drivers, pedestrians, and bicyclists. Treatments like bike lanes, sidewalks, medians, and lighting

enhance visibility and protection for vulnerable users like pedestrians and bicyclists, while speed management and intersection controls help lower the likelihood and severity of crashes. Together, these strategies can create safer conditions for all roadway users.

Potential Countermeasures

- 

Traffic Signal
- 

Close Slip Lane
- 

Advance Stop Bar
- 

Driveway Consolidation
- 

Bike Lane
- 

Separated Bikeways
- 

Speed Limit Reduction
- 

Advanced Dilemma Zone Detection
- 

All-Red Signal Time
- 

Retroreflective Tape on Signals
- 

Roundabout
- 

Slow Turn Wedge
- 

Lane Narrowing
- 

Directional Median Openings to Restrict Left Turns
- 

Buffered Bike Lanes
- 

Speed Feedback Sign
- 

Street Lighting
- 

Flashing Yellow Turn Phase
- 

Speed Sensitive Rest in Red Signal





Ellis Lake in Marysville



FOCUS AREA B

Right-of-Way at Intersections



INJURY CRASH STATISTICS

89 (30%) **Total Crashes**

6 (15%) **KSI Crashes**

89 crashes were recorded at intersections where the primary contributing factor was a right-of-way violation. These incidents predominantly stemmed from drivers failing to yield to oncoming or cross traffic that legally possessed the right-of-way. In many cases, motorists either misjudged the speed and distance of approaching vehicles or did not come to a complete stop at the appropriate

distance from the main thoroughfare. As a result, the majority of these crashes culminated in broadside, or T-bone, crashes—an especially dangerous type of crash. Broadside crashes are often severe due to the limited protection on the sides of vehicles, highlighting the importance of right-of-way compliance at intersections.



Marysville

Most of these crashes occurred in downtown Marysville on SR 20 and 70, and scattered along I, J, F, and 5th Streets. A concentration of crashes occurred on 10th Street/SR 20 east of Ellis Lake. Intersection right-of-way issues were prevalent throughout much of downtown Marysville, especially on high-traffic streets like 10th Street, 5th Street, and 12th Street.

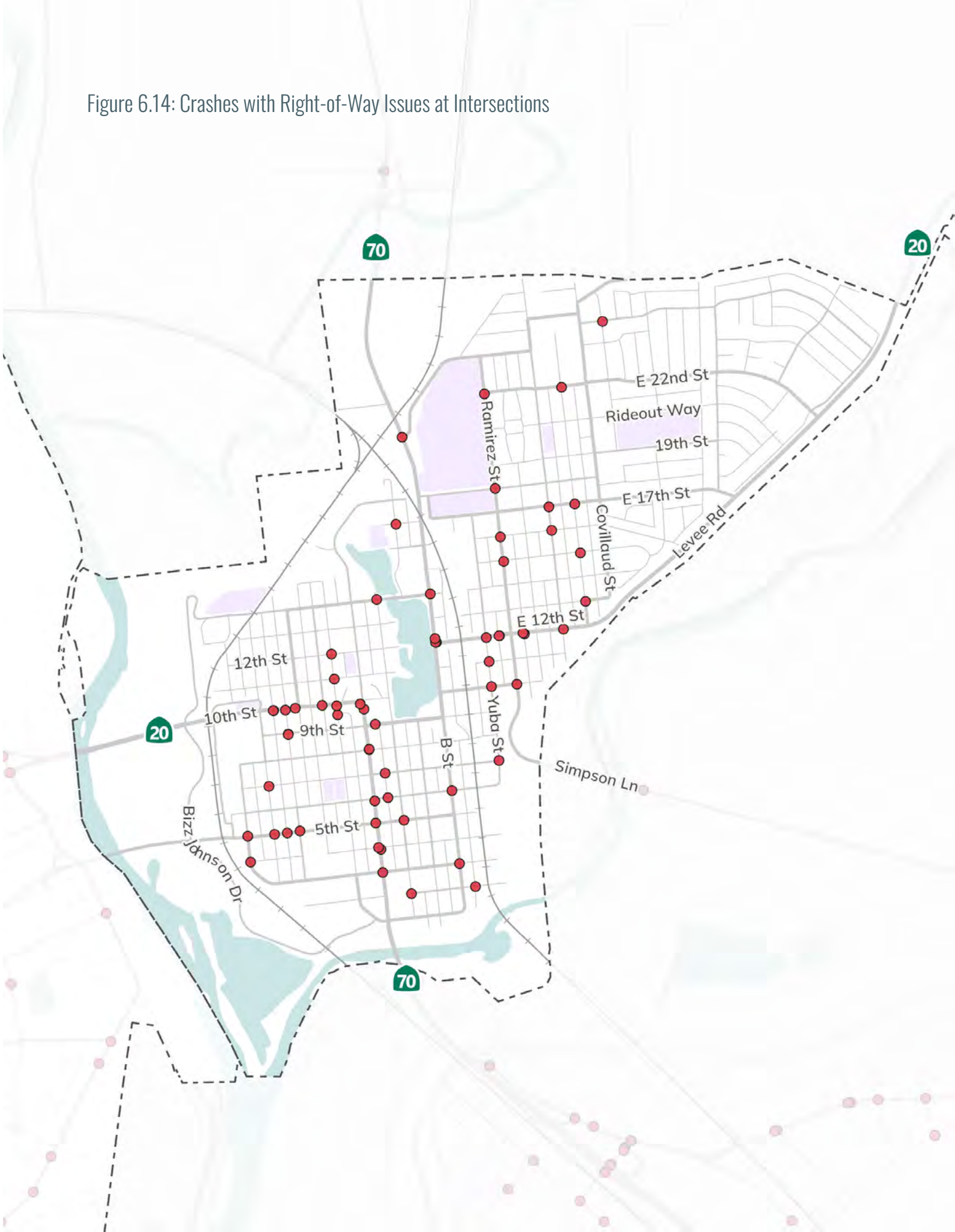
The following countermeasures directly target right-of-way issues by making intersections

safer, more predictable, and easier to navigate. Treatments such as roundabouts, traffic signals, and protected left turns mitigate crash risks by clarifying priority, and design features like lane narrowing and intersection tightening further slow vehicles down to reduce impact upon collision. High-visibility crosswalks, bike lanes, and pedestrian beacons enhance visibility of vulnerable roadway users and right-of-way compliance.

Potential Countermeasures

- | | | | |
|---|--|---|-------------------------------------|
|  | Roundabout |  | Traffic Signal |
|  | Neighborhood Traffic Circle |  | Close Slip Lane |
|  | Intersection Reconstruction and Tightening |  | Slow Turn Wedge |
|  | Advance Stop Bar |  | Centerline Hardening |
|  | Raised Median |  | Lane Narrowing |
|  | Road Diet |  | Through Bike Lane at Intersection |
|  | Rectangular Rapid Flashing Beacon |  | Pedestrian Hybrid Beacon |
|  | High-Visibility Crosswalk |  | Bicycle Signal/Exclusive Bike Phase |
|  | Advanced Dilemma Zone Detection |  | Protected Left Turns |
|  | Flashing Yellow Turn Phase |  | All-Red Signal Time |

Figure 6.14: Crashes with Right-of-Way Issues at Intersections





FOCUS AREA C

Driving Under the Influence

INJURY CRASH STATISTICS

36 (12%)	Total Crashes	11 (28%)	KSI Crashes
----------	---------------	----------	-------------

Driving under the influence remains a leading cause of severe and fatal crashes in Marysville, with impaired driving incidents disproportionately contributing to the city’s most serious roadway outcomes. While DUI-related crashes account for only 12 percent (36 crashes) of all crashes in Marysville, they represent 28 percent (11 crashes) of KSI crashes. Figure 6.12 illustrates all DUI crashes that occurred within Marysville.

A concerning trend in DUI-related crashes is the high incidence of vehicle-pedestrian crashes, which account for 19 percent of DUI

crashes, followed by broadside (17 percent), and head-on collisions (17 percent). DUI crashes tend to pose a greater risk to those involved; one-fourth of DUI crashes where a driver hit a person walking resulted in severe injury or death. There is a notable concentration of these crashes around the downtown core along SR 20 and SR 70, 5th Street, and 3rd Street.

Addressing DUI-related crashes most effectively requires non-engineering strategies, particularly those focused on education and enforcement.



Figure 6.15: Crashes Involving Driving Under the Influence





FOCUS AREA D

Crashes Involving People Walking and Biking

INJURY CRASH STATISTICS

66 (22%) Total Crashes

15 (38%) KSI Crashes

Pedestrians and bicyclists are among the most vulnerable users on Marysville’s roadways. While they represent a smaller share of overall traffic, they are involved in 22 percent of all crashes in the city, and account for an alarming 38 percent of KSI crashes. These incidents disproportionately affect pedestrians, who are involved in two-thirds of all crashes involving vulnerable road users.

The high volume of traffic in areas where people live, shop, walk, and bike play a role in the frequency of crashes on key corridors in the city. The majority of crashes involving people that were walking and biking occurred along SR 20 and 70, in central Marysville near downtown and commercial districts. Crashes were also observed along I, J, and F Streets,

though less frequently. Notable hotspots include SR 20 between H Street and Orange Street, and SR 70 between 3rd Street and 1st Street, where crash concentrations are especially high. The rest of the crashes took place further east of Ellis Lake, primarily along SR 70, as well as on 10th Street and Hall Street.

Fatalities and severe injuries were concentrated at the following locations:

- E Street (SR 70) between 3rd Street and 2nd Street
- 3rd Street between H Street and E Street (SR 70)
- 10th Street (SR 20 between) between G Street and E Street (SR 70)



Figure 6.16: Crashes Involving People Walking and Biking



Marysville

The leading contributing factors behind these crashes were attributed to drivers failing to yield at crosswalks, pedestrians crossing outside of designated crossing areas, speeding, and vehicles/bicycles traveling on the wrong side of the road. At the

The following countermeasures can reduce risks for crashes involving pedestrians and bicyclists by making them more visible to drivers, creating dedicated or protected spaces for their use, and providing safer and more frequent opportunities to cross busy roads.

Potential Countermeasures

- | | | | |
|---|---|---|-------------------------|
|  | Rectangular Rapid Flashing Beacon |  | Shared-Use Path |
|  | High-Visibility Crosswalk |  | Separated Bikeway |
|  | Pedestrian Hybrid Beacon |  | Buffered Bike Lanes |
|  | Leading Pedestrian Interval and Pedestrian Recall |  | Green Conflict Striping |
|  | Co-Locate Bus Stops and Pedestrian Crossings |  | Bike Lane |
|  | Curb Extensions |  | Add Sidewalk |

