LOCAL ROAD SAFETY PLAN

Executive Summary   **2023**

consor

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INTRODUCTION

What is a Local Road Safety Plan?

A path toward achieving the City's Vision Zero goal to eliminate traffic fatalities and severe injuries by 2035 while increasing safe, healthy, and equitable mobility for all by recommending changes based on data.

An approach to refocusing roadway design and operations on anticipating human mistakes and lessening impact forces to reduce collision severity and save lives.

A recommendation for transportation infrastructure improvements, public awareness education, and traffic enforcement to eliminate all severe and fatal traffic injuries.

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What Is Included in the Plan?

1. Overview of Collisions in Davis

2. Who Is Involved in Collisions?

3. When Are Collisions Occurring?

4. What Type of Collisions Are Occurring?

5. Where Are Collisions Occurring?

6. Proposed Recommendations to Eliminate Severe & Fatal Collisions

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Where Is the Data from?

Statewide Integrated Traffic Records System (SWITRS)
A uniform collection, reporting, and retrieval of traffic collision data.

SWITRS data only includes collisions where people were injured or killed on Davis local streets. Property damage collisions are not included in the data set.

Limitations:

- The data only includes police-related collisions and may not reflect those involving someone who is uncomfortable reporting their collision or did not have the time or motivation to make the report.

- The collision data does not capture "near miss" collision situations.

- Collisions outside of Davis local streets, including Interstate 80 and Highway 113 were not included in the dataset.
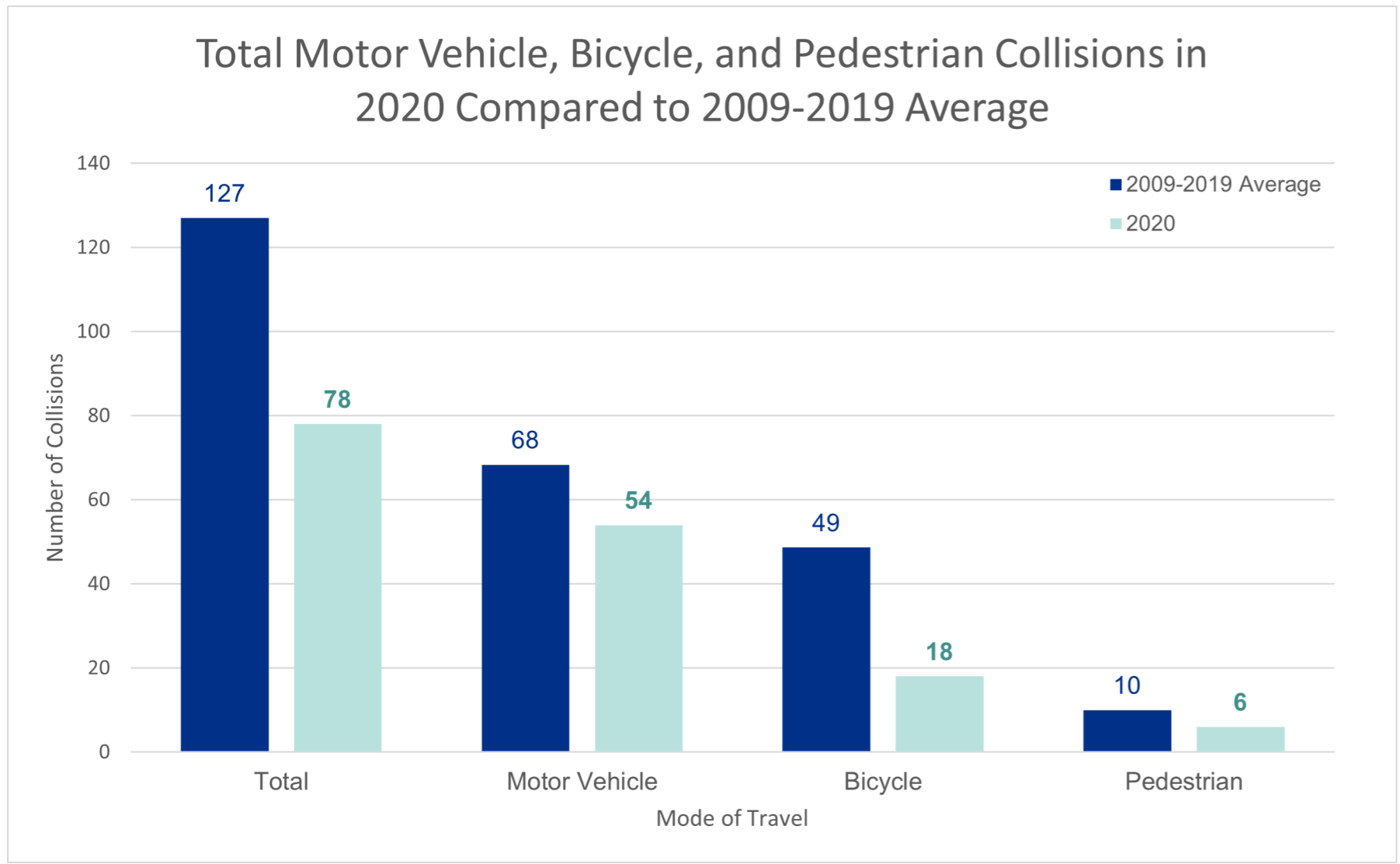
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Collision Severity

The terms KSI and Not KSI are used throughout this report and refer to the severity of the collision. The data is broken out by severity of injury to better understand trends of who is involved, when, what type, and where severe and fatal collisions occur.

KSI = killed or severely injured

Not KSI = complaint of pain or visible injury

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Exclusion of 2020 Data

In March 2020, Yolo County and the State of California issued a stay-at-home order to reduce the spread of COVID-19.

Total Motor Vehicle, Bicycle, and Pedestrian Collisions in 2020 Compared to 2009-2019 Average

Legend:
- 2009-2019 Average
- 2020

Data values (2009-2019 Average / 2020):
- Total: 127 / 78
- Motor Vehicle: 68 / 54
- Bicycle: 49 / 18
- Pedestrian: 10 / 6

Y-axis: Number of Collisions
X-axis: Mode of Travel

Bicycling Counts Oct. 1-31st at 3rd Street and University Ave

2019
118,494

2020
29,337

72% decrease in 2020 compared to 2019

Including the 2020 data into this report would have affected the overall averages and potentially impacted data trends.

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COLLISION OVERVIEW

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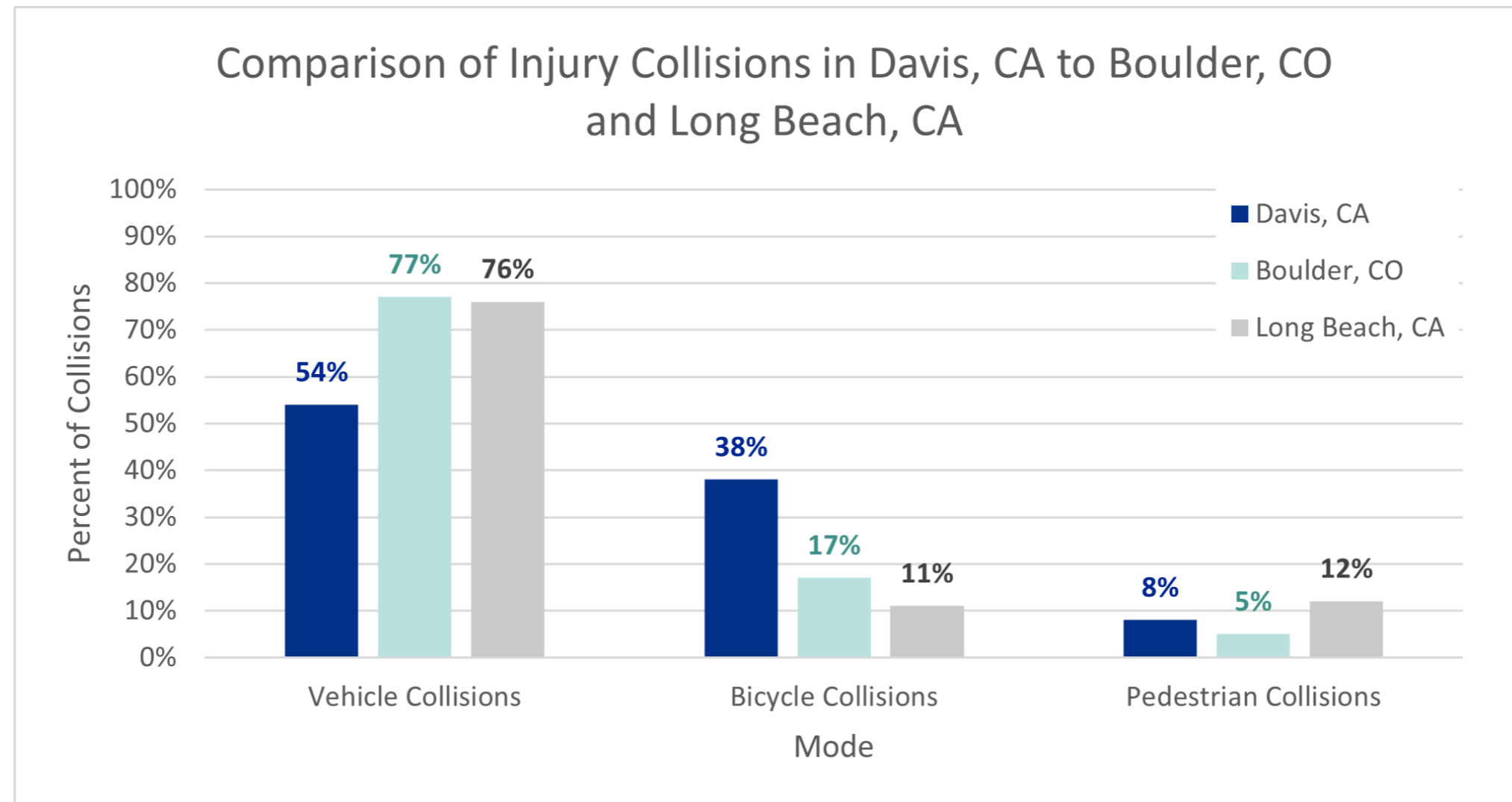# Overview of Collisions in Davis

Injury Severity by Year
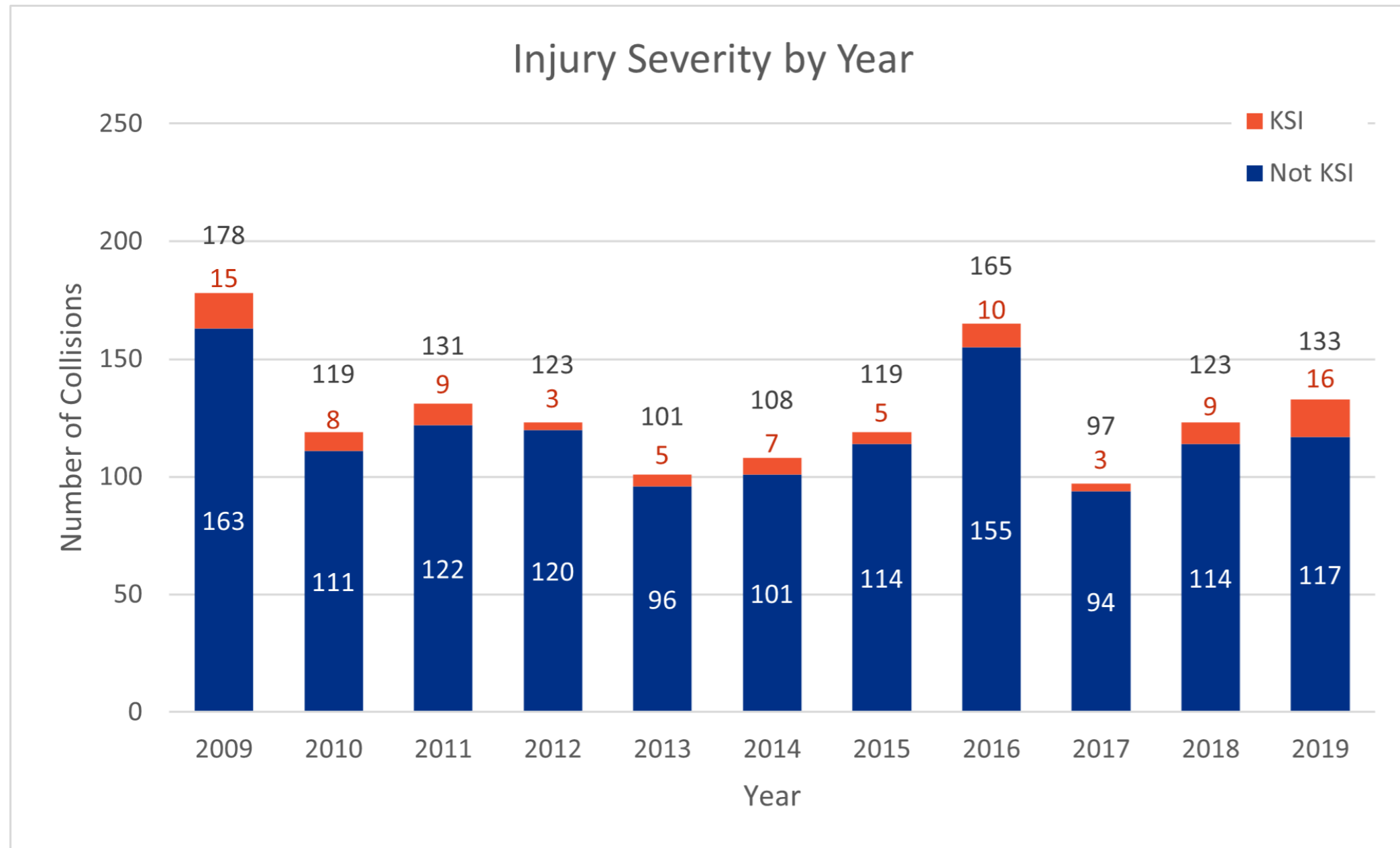
Between 2009 and 2019 there were 1,397 collisions with 2,536 people involved.

90 collisions resulted in a severe injury or fatality.

Comparison of Davis Collision Data with Similar Cities

Compared to Boulder and Long Beach, the City of Davis had proportionately fewer vehicle collisions and double the bicycle collisions.

Comparison of Injury Collisions in Davis, CA to Boulder, CO and Long Beach, CA

- Davis, CA
- Boulder, CO
- Long Beach, CA

Vehicle Collisions: Davis 54%, Boulder 77%, Long Beach 76%
Bicycle Collisions: Davis 38%, Boulder 17%, Long Beach 11%
Pedestrian Collisions: Davis 8%, Boulder 5%, Long Beach 12%

Percent of Collisions

Mode

WHO IS INVOLVED IN COLLISIONS?
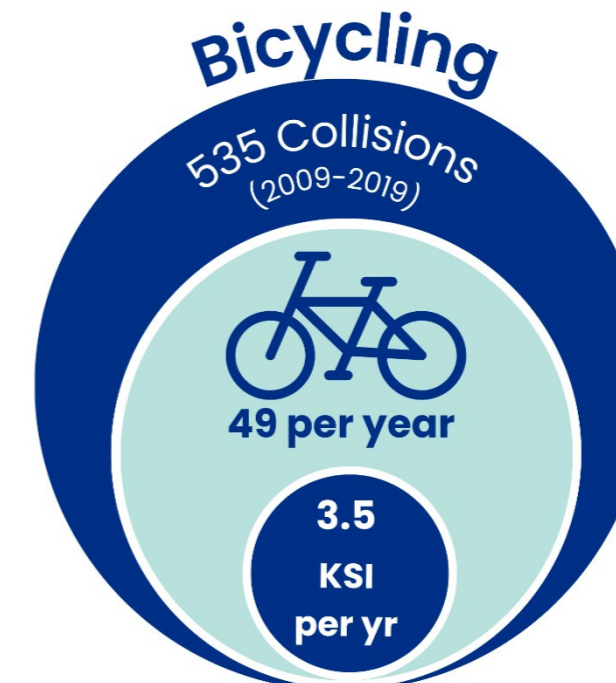
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Who is Involved in Collisions?

Users

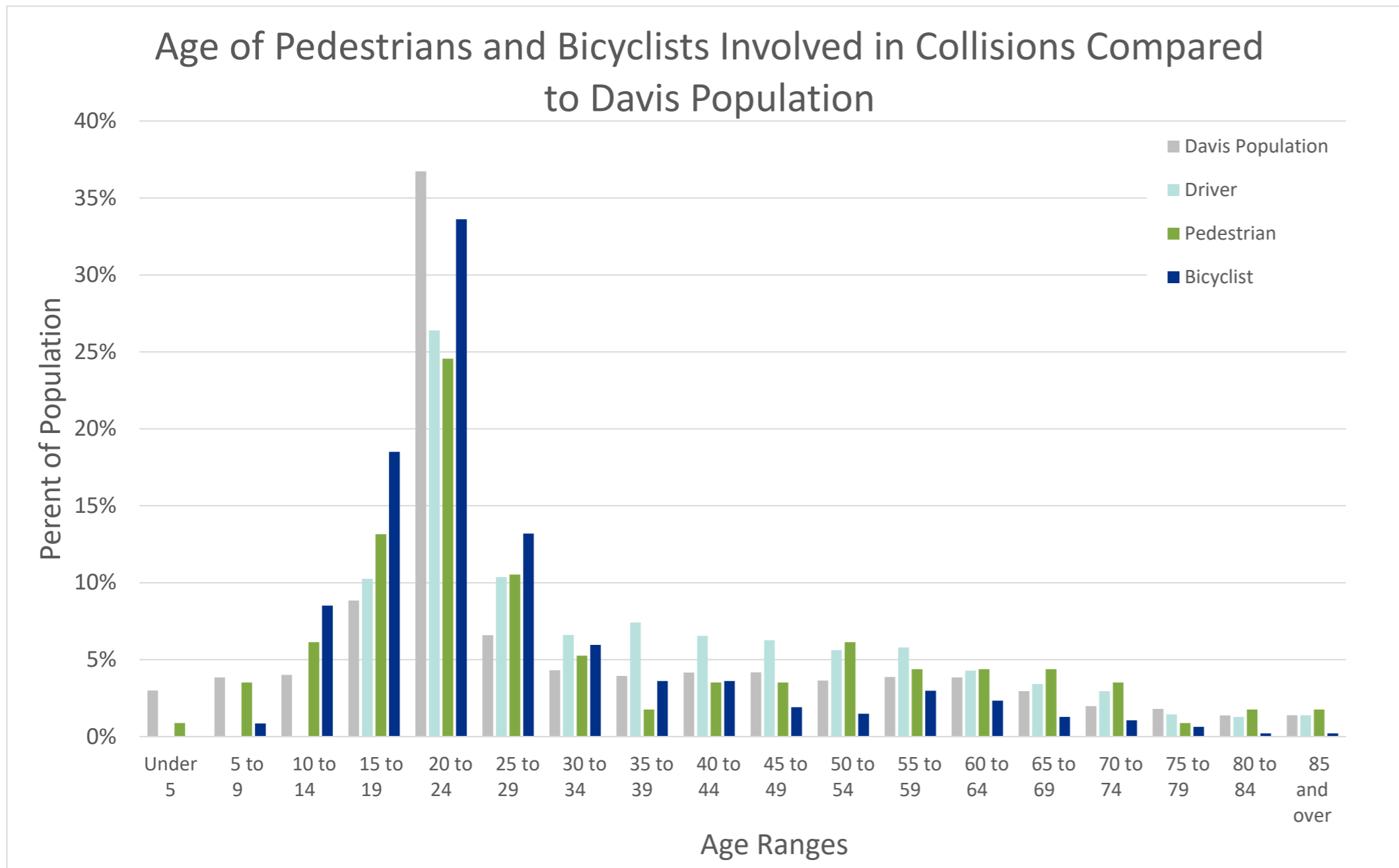## Percentage of Collisions by Travel Mode Involved Between 2009 and 2019
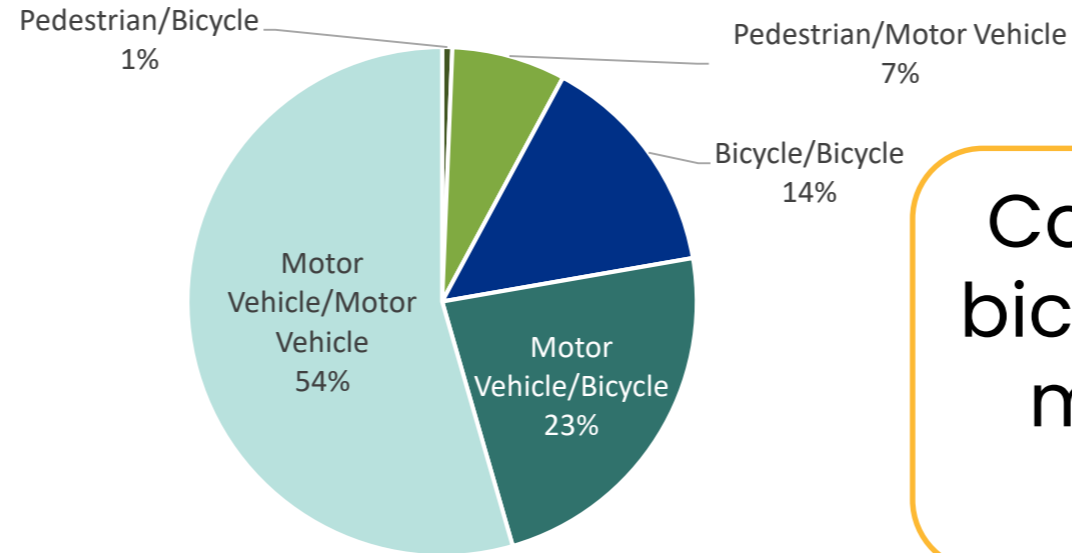
Almost 20% of pedestrian collisions resulted in severe and fatal injuries.

Pedestrian/Bicycle
1%

Pedestrian/Motor Vehicle
7%

Bicycle/Bicycle
14%

Motor Vehicle/Motor Vehicle
54%

Motor Vehicle/Bicycle
23%

Comparatively, only 7% of bicycle collisions and 4% of motor vehicle collisions were severe or fatal.

Driving
752 Collisions
(2009–2019)

68 per year

2.8 KSI per yr

Walking
110 Collisions
(2009–2019)

10 per year

2 KSI per yr

Bicycling
535 Collisions
(2009–2019)

49 per year

3.5 KSI per yr

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Who is Involved in Collisions?

Age of Drivers

Age of Pedestrians and Bicyclists Involved in Collisions Compared to Davis Population

41% of the Davis population of driving age is between the ages of 20 and 24 years old. This age group accounts for:
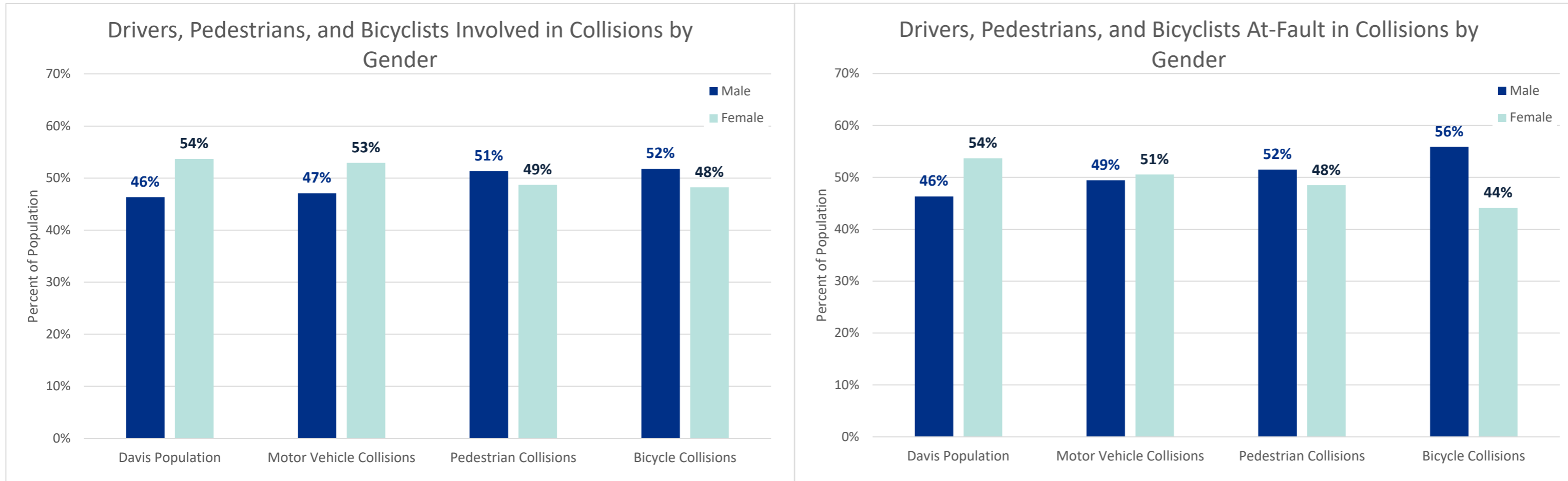
34% of all bicycle collisions

26% of all driver collisions

25% of all pedestrian collisions

Who Is Involved in Collisions?

Alcohol Use

33% OF DAVIS FATALITIES CAUSED BY ALCOHOL USE

10% of all collisions involved alcohol

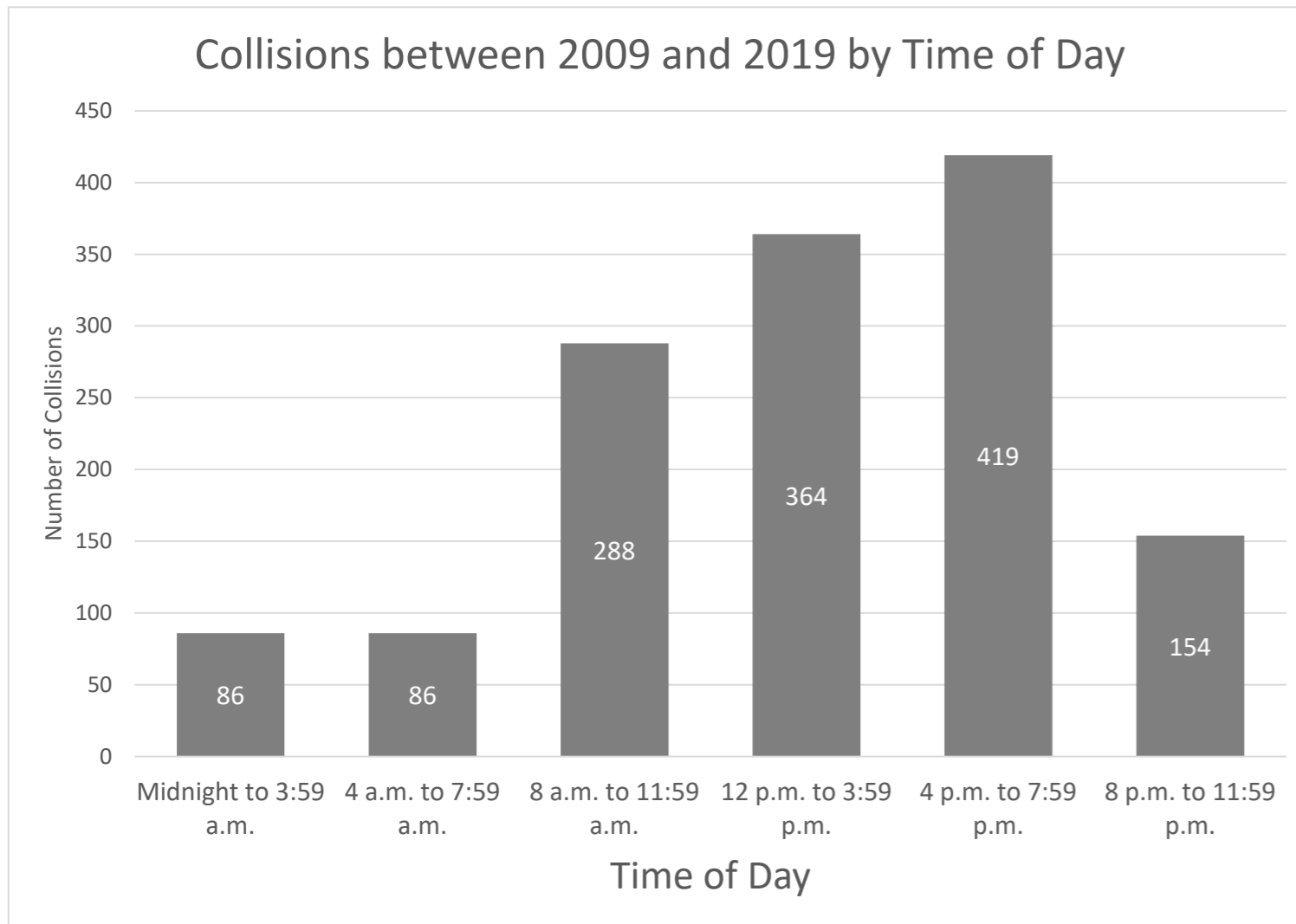21% of all KSI collisions involved alcohol

14% of all collisions that involved alcohol resulted in a KSI

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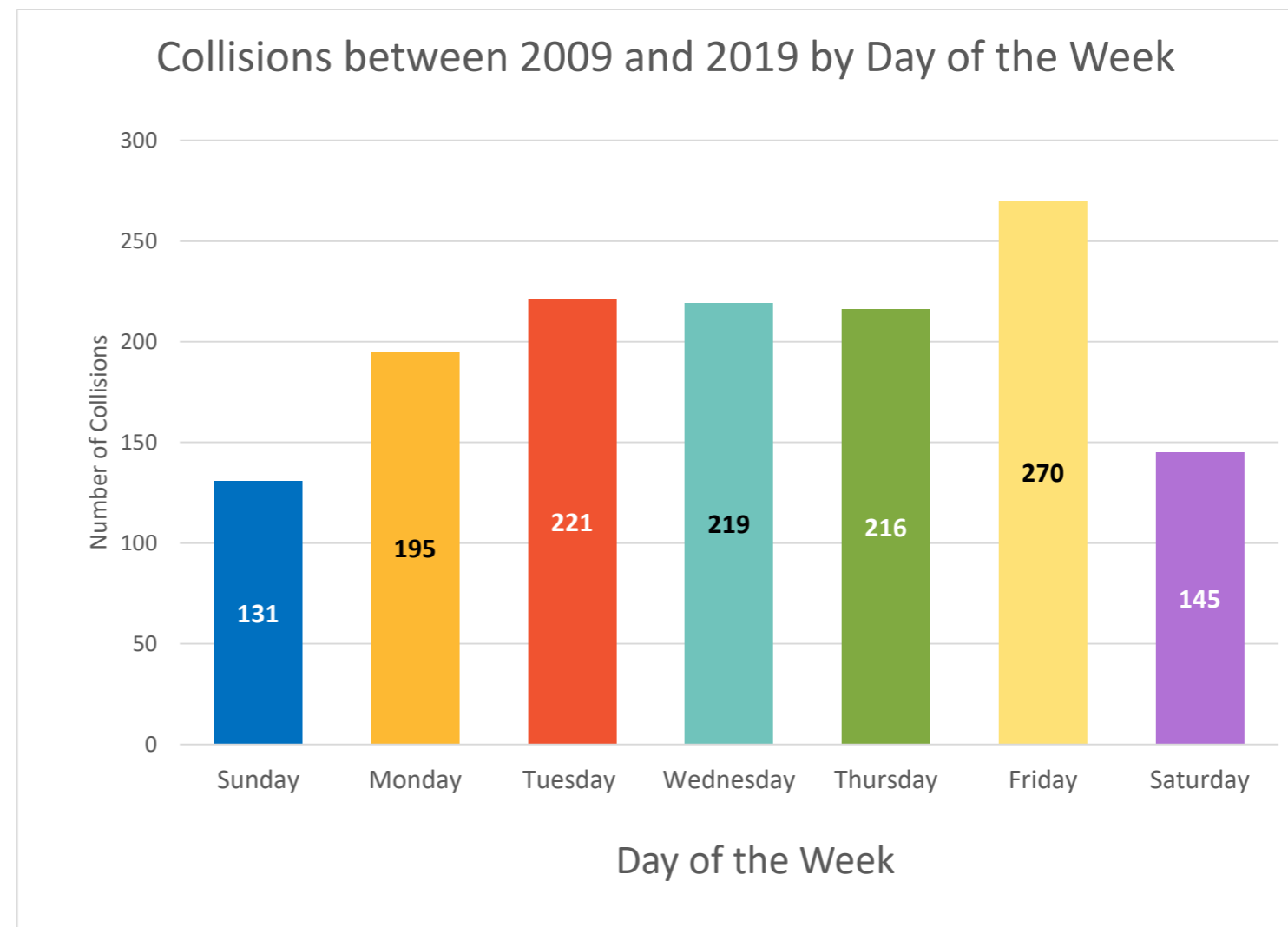# WHEN ARE COLLISIONS OCCURING?

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When Are Collisions Occurring?

Trends by Day of the Week and Time of Day

Collisions between 2009 and 2019 by Time of Day

Similarly to national data, collisions occur most often between 4 p.m. – 8 p.m.
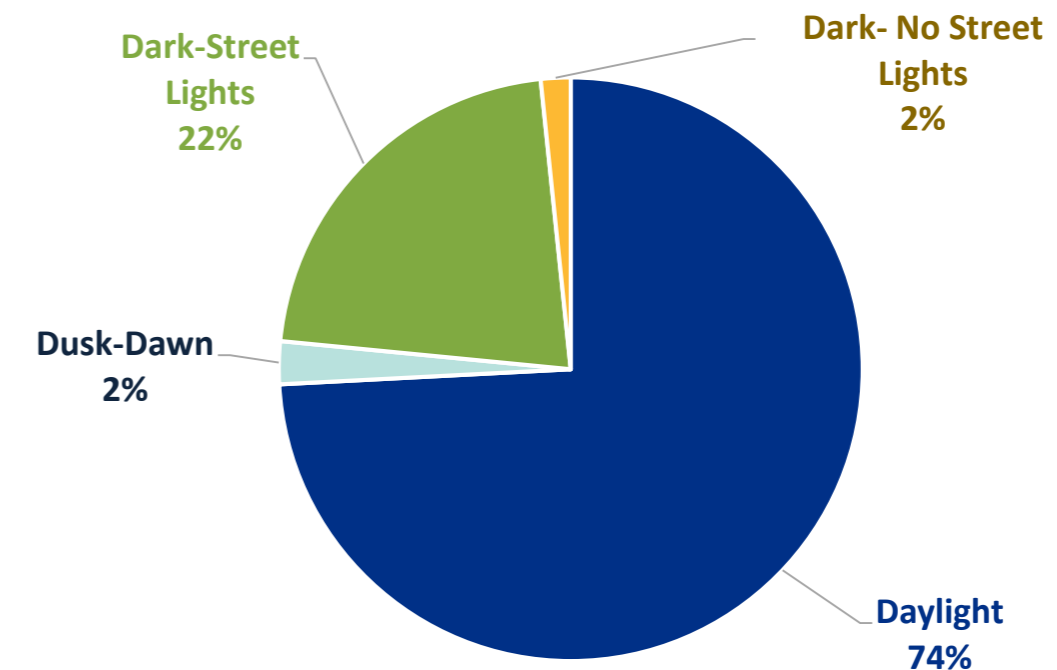

Collisions between 2009 and 2019 by Day of the Week

Collision rates are higher on weekdays and occur most often on Fridays.

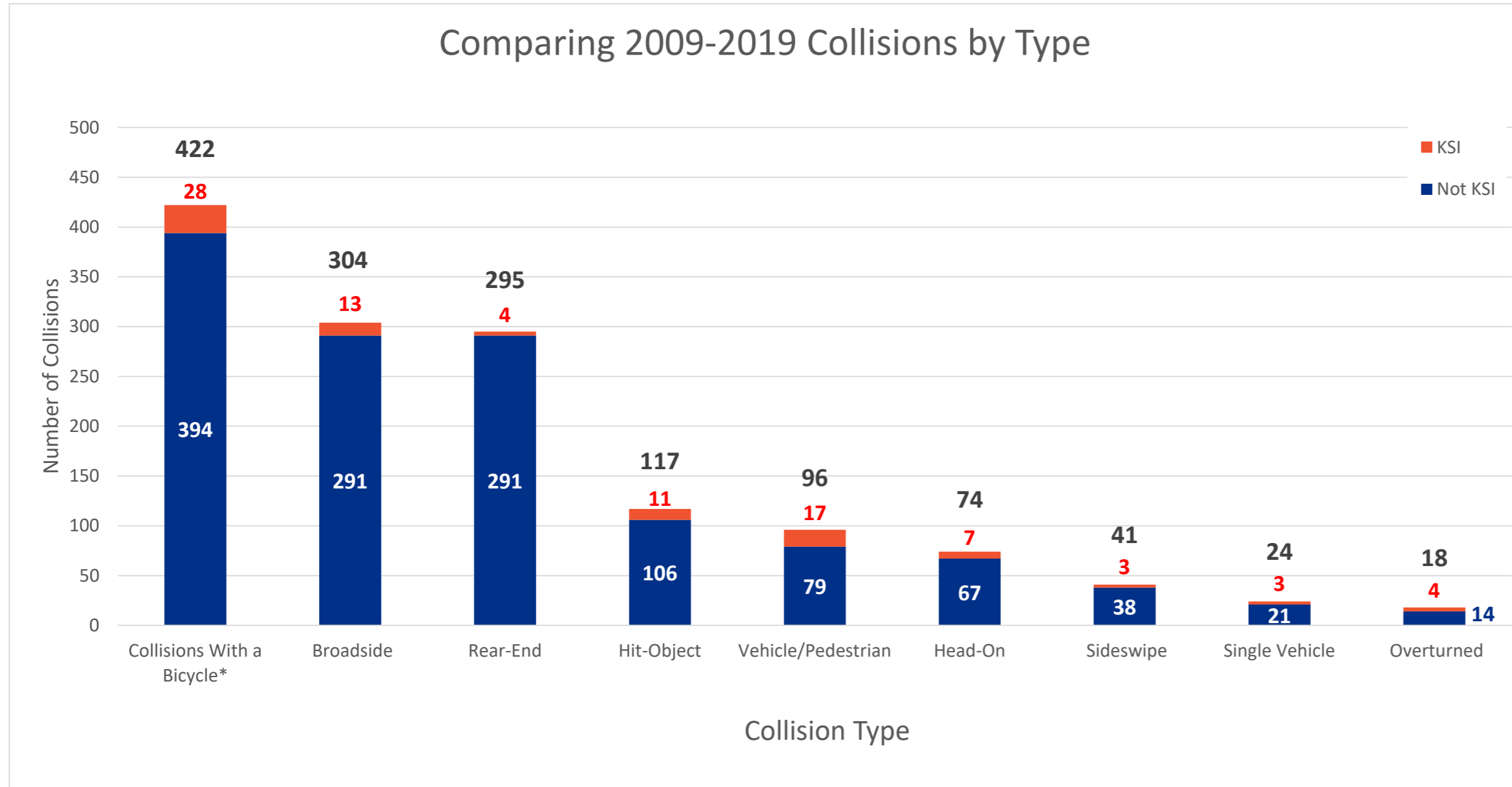# When are Collisions Occuring?

Weather & Lighting

On average in Davis, there are 267 sunny days and 66 rainy days a year. As a result, most collisions happen on days with clear skies.

WHAT TYPE OF COLLISIONS ARE OCCURING?

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What Type of Collisions Are Occurring?

Collision Type

Comparing 2009-2019 Collisions by Type

KSI = Killed or Severely Injured

Collisions with a bicycle, broadside, and rear-end collisions accounted for 73% of collisions in Davis.

Note: 422 bicycle collisions were counted as 'Collisions with a Bicycle'. An additional 113 bicycle collisions were counted as a broadside, rear-end, hit-object, head-on, sideswipe, or overturned collision. There were six collisions that were unclassified and not included in these categories.

What Type of Collisions Are Occurring?

Collision Types

Though there were high volumes of broadside and rear-end collisions, these collision types were not among the top KSI collision types.

Collision Types with Highest Proportion of KSI Collisions

KSI = Killed or Severely Injured

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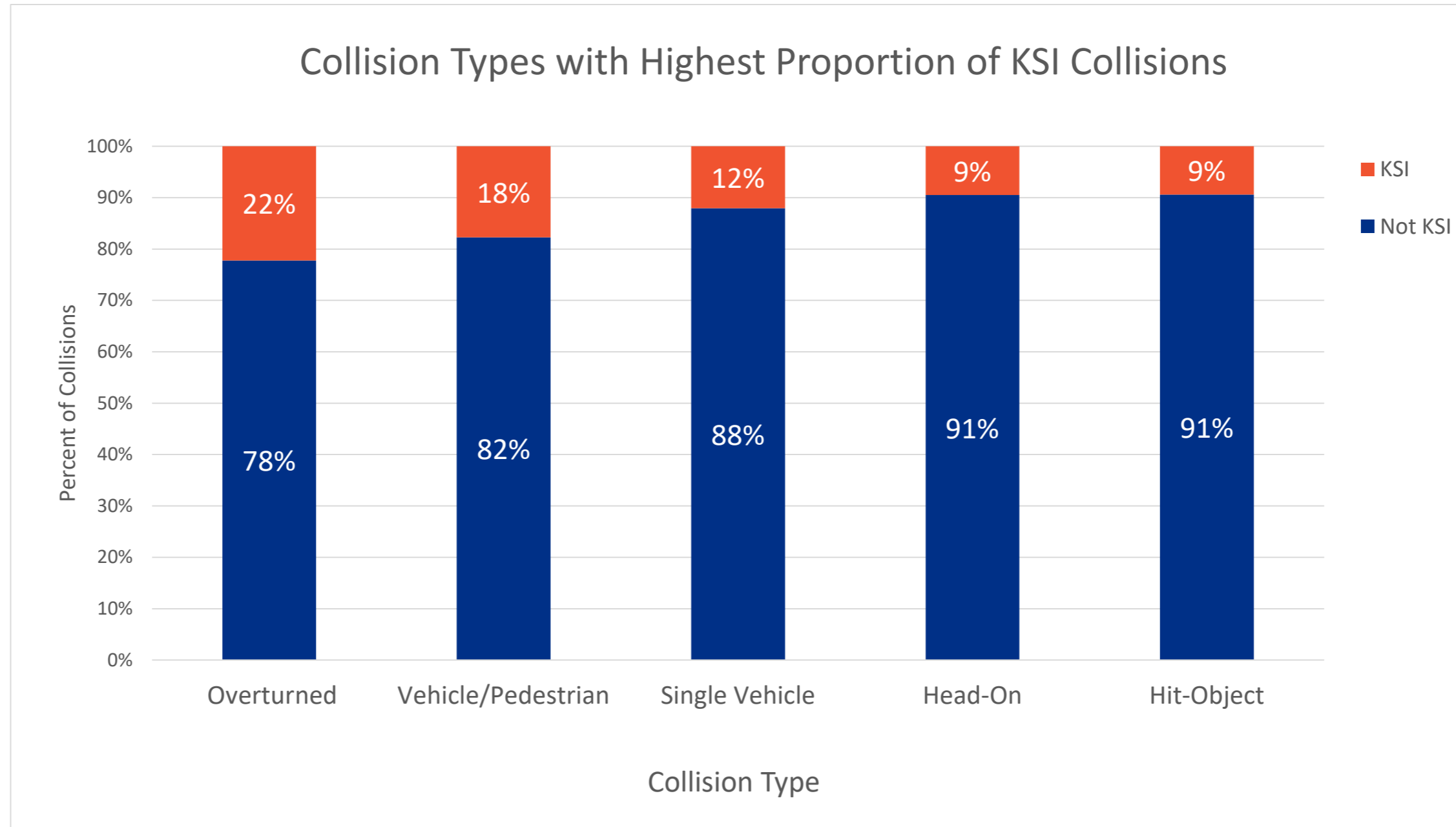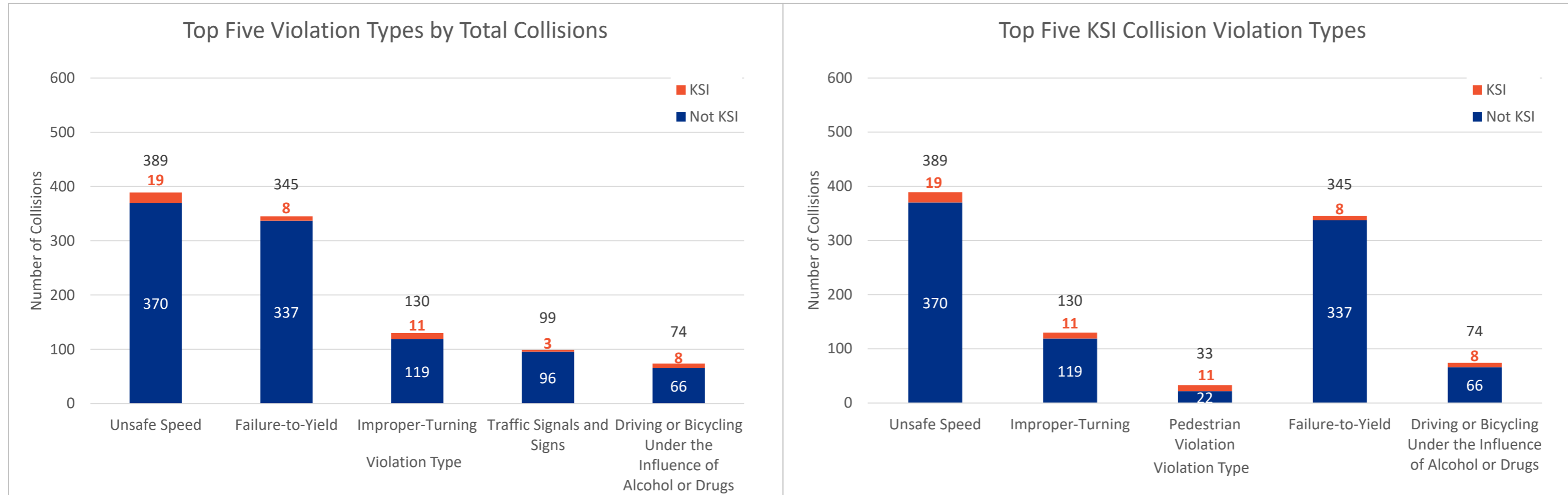
What Type of Collisions Are Occurring?

Violation types

> Unsafe speed, failure-to-yield, and improper-turning were the top violation types for both total collisions and KSI collisions.
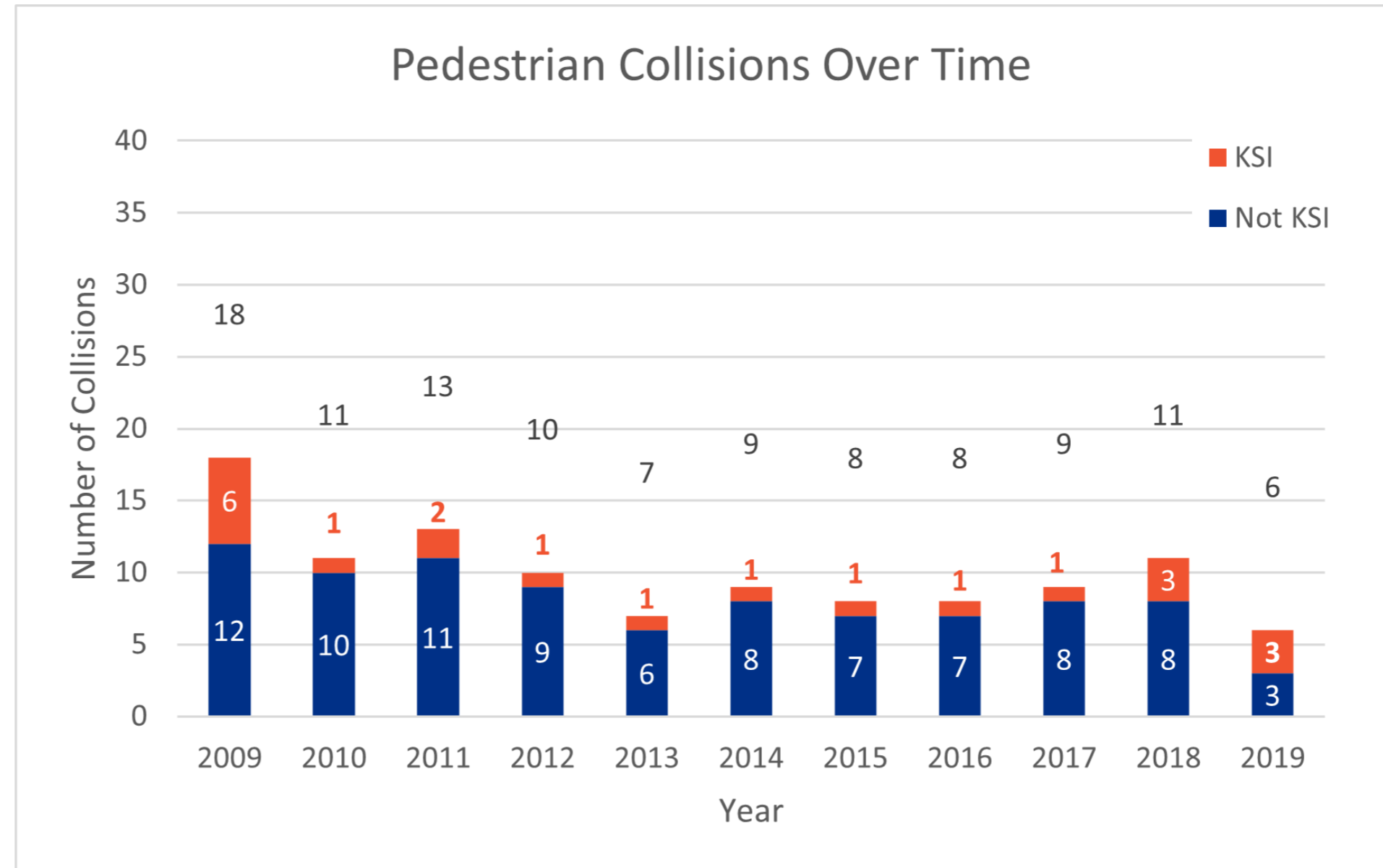

> Pedestrian violations did not result in many overall collisions, but had a high proportion of KSI collisions.

What Type of Collisions Are Occurring?

Pedestrian

Almost half (45 percent) of the pedestrian collisions in Davis occurred when the pedestrian was crossing in the crosswalk at an intersection. Pedestrians in the road (including the shoulder) accounted for about 20 percent of pedestrian collisions. Sixteen percent of pedestrian collisions were when pedestrians were crossing not in crosswalks.

Pedestrian Collisions Over Time

Number of Collisions vs. Year

Legend: KSI (orange), Not KSI (blue)

Year	Not KSI	KSI	Total
2009	12	6	18
2010	10	1	11
2011	11	2	13
2012	9	1	10
2013	6	1	7
2014	8	1	9
2015	7	1	8
2016	7	1	8
2017	8	1	9
2018	8	3	11
2019	3	3	6

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What Type of Collisions Are Occurring?

Bicycle

Bicycle Collisions Over Time
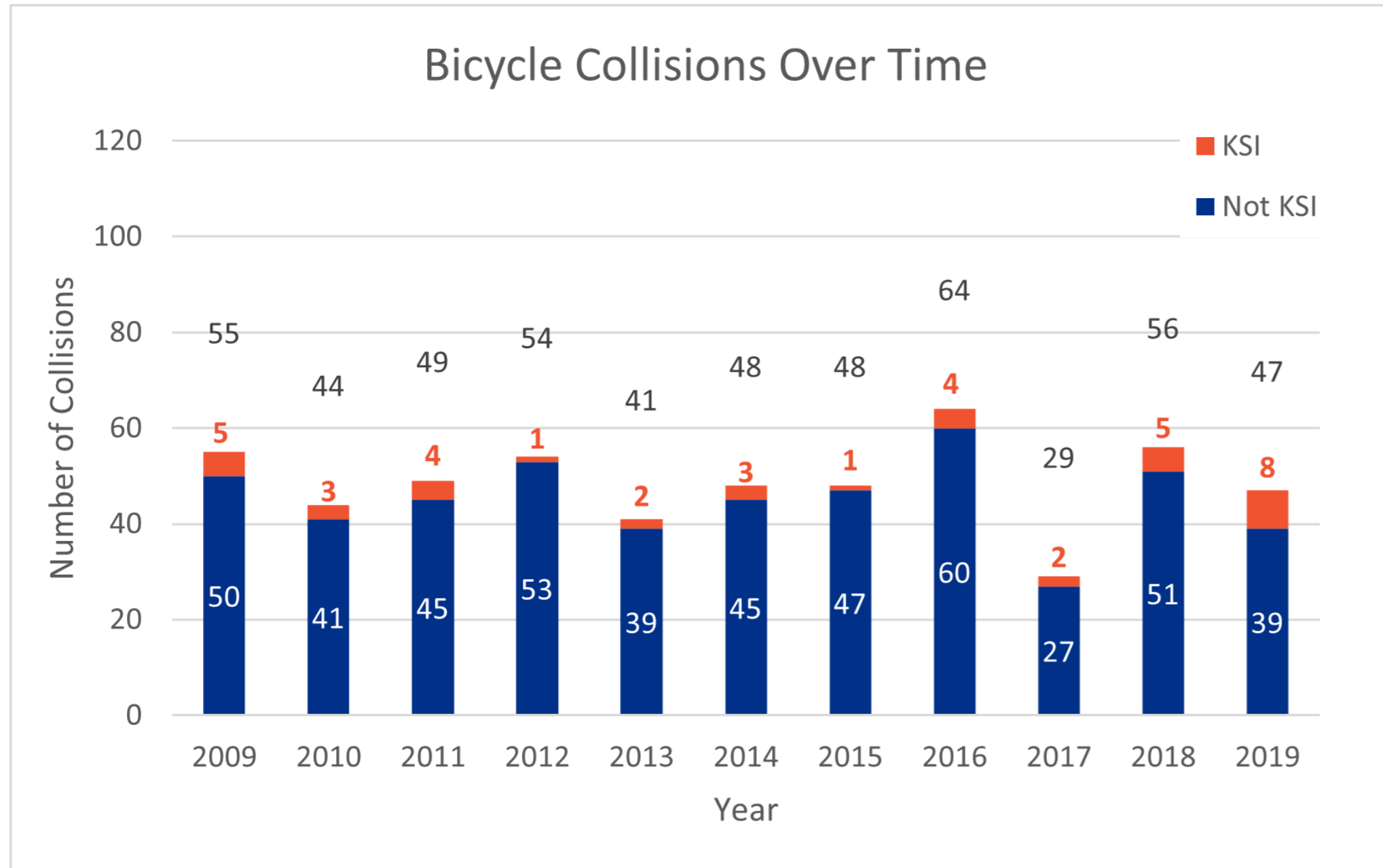
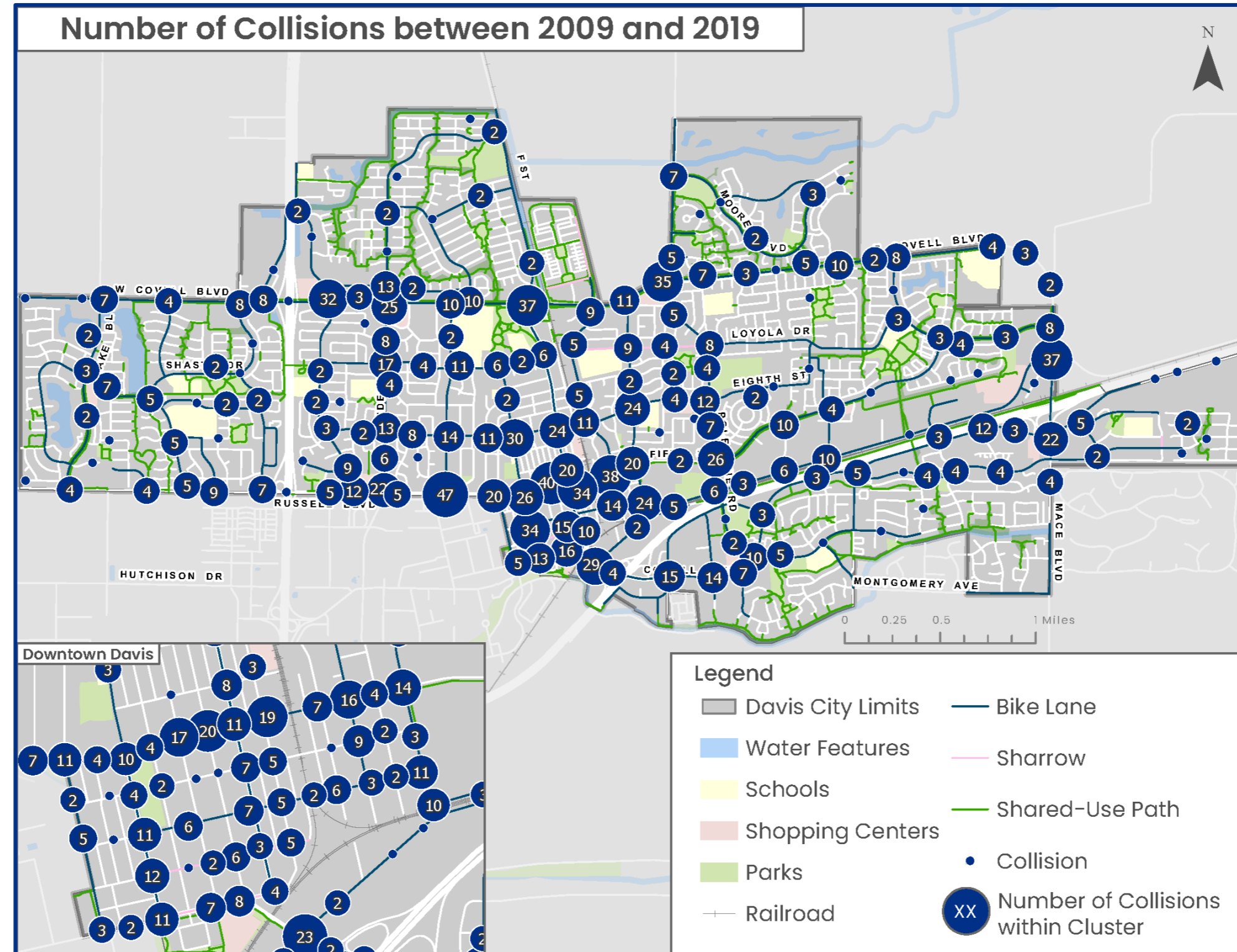On average, there are 29 bicycle collisions at intersections and 19 bicycle collisions along road segments per year. Even though almost 20 percent more collisions are occurring in intersections compared to road segments, the total number of KSI collisions is almost the same.

WHERE ARE COLLISIONS OCCURING

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Where Are Collisions Occurring?

Total Collisions

Number of Collisions between 2009 and 2019

Where Are Collisions Occurring?

KSI Collisions

Number of KSI Collisions between 2009 and 2019

KSI = Killed or Severely Injured

Legend
- Davis City Limits
- Water Features
- Schools
- Shopping Centers
- Parks
- Railroad
- Bike Lane
- Sharrow
- Shared-Use Path
- KSI Collision
- XX # of KSI Collisions within Cluster

Downtown Davis

Where Are Collisions Occurring?

High Injury Network
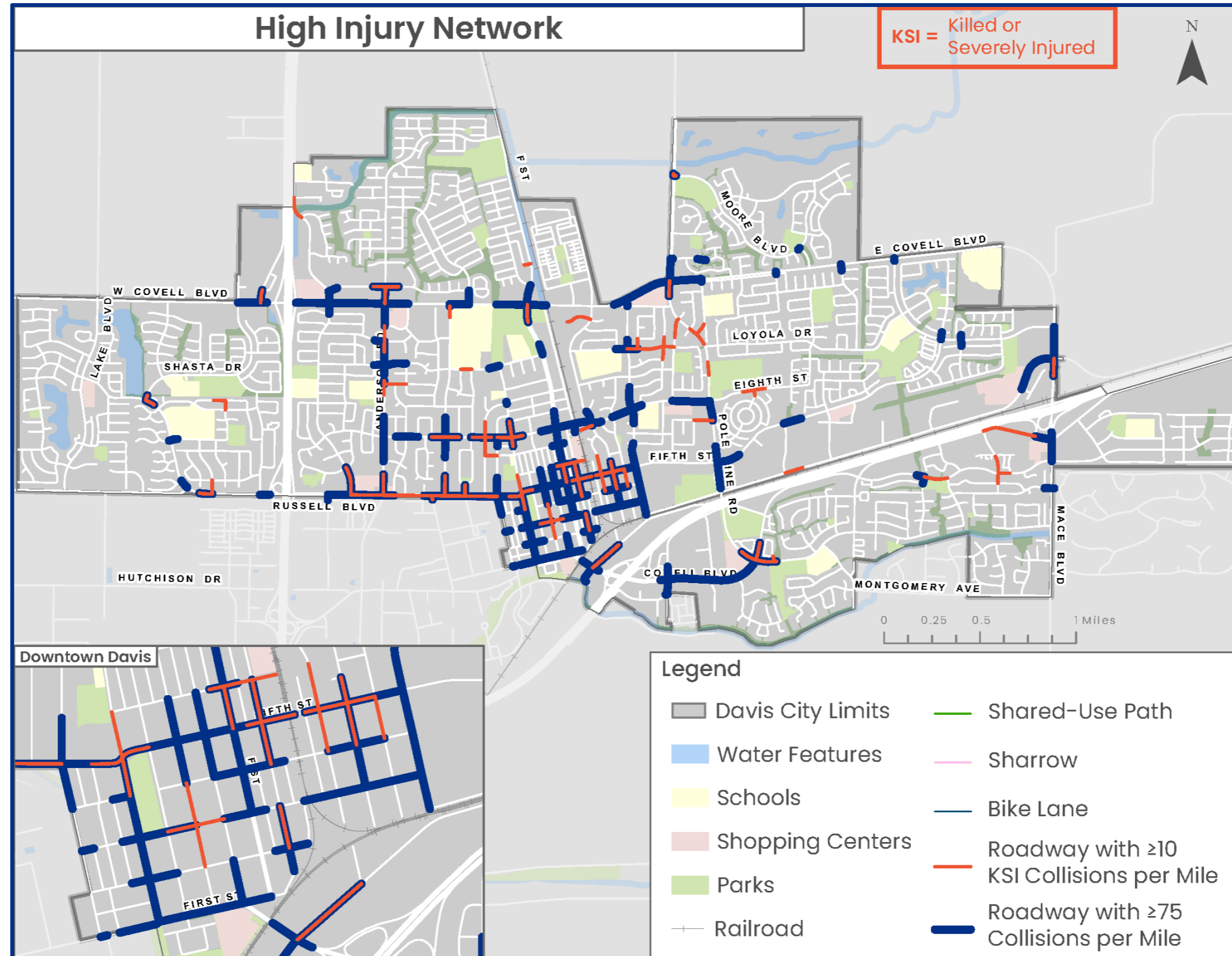
Where Are Collisions Occurring?

Fatalities

Fatalities between 2009 and 2019
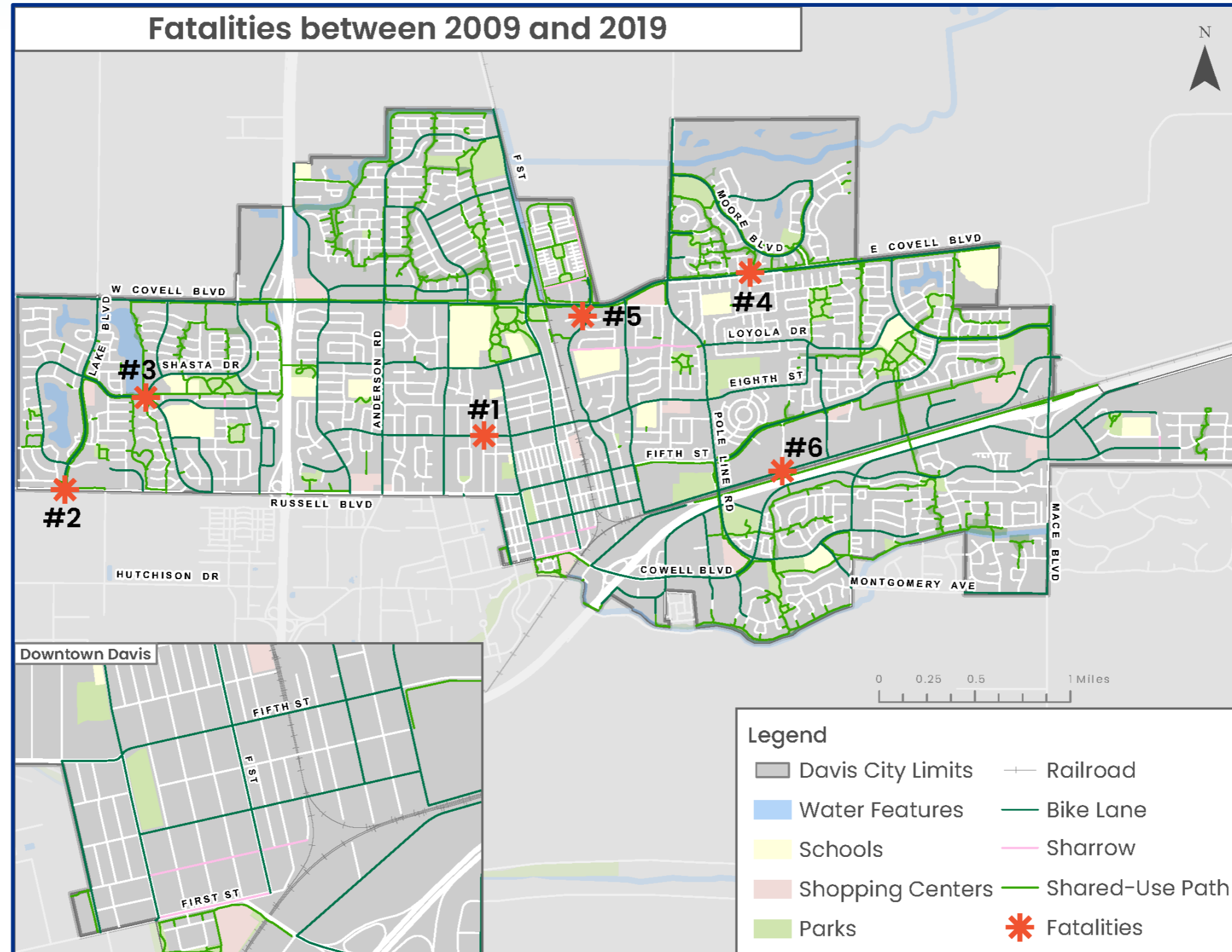
Where Are Collisions Occurring?

Vehicle Only Collisions

Number of Vehicle Only Collisions between 2009 and 2019
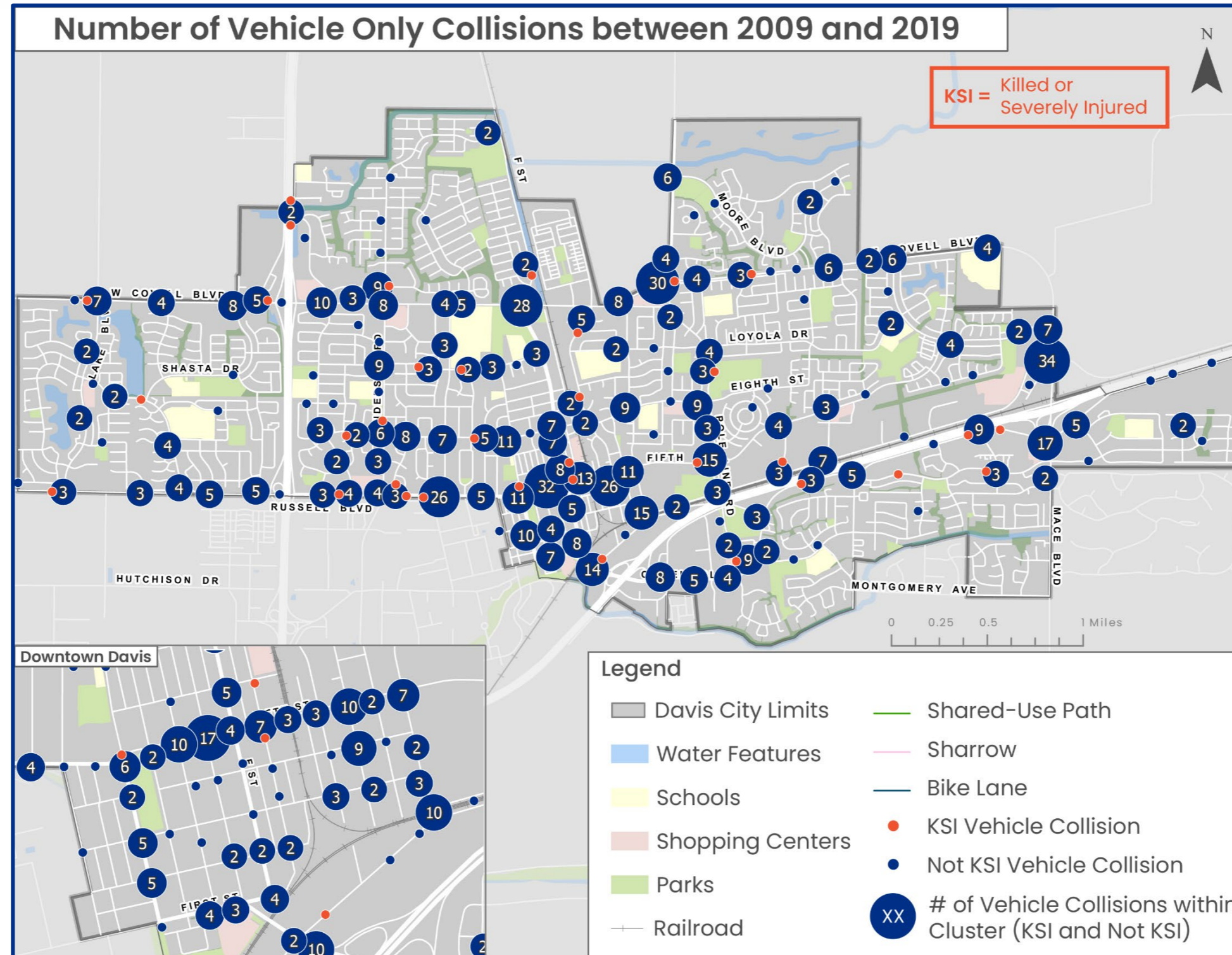
Where Are Collisions Occurring?

Bicycle Collisions

Number of Bicycle Collisions between 2009 and 2019

KSI = Killed or Severely Injured
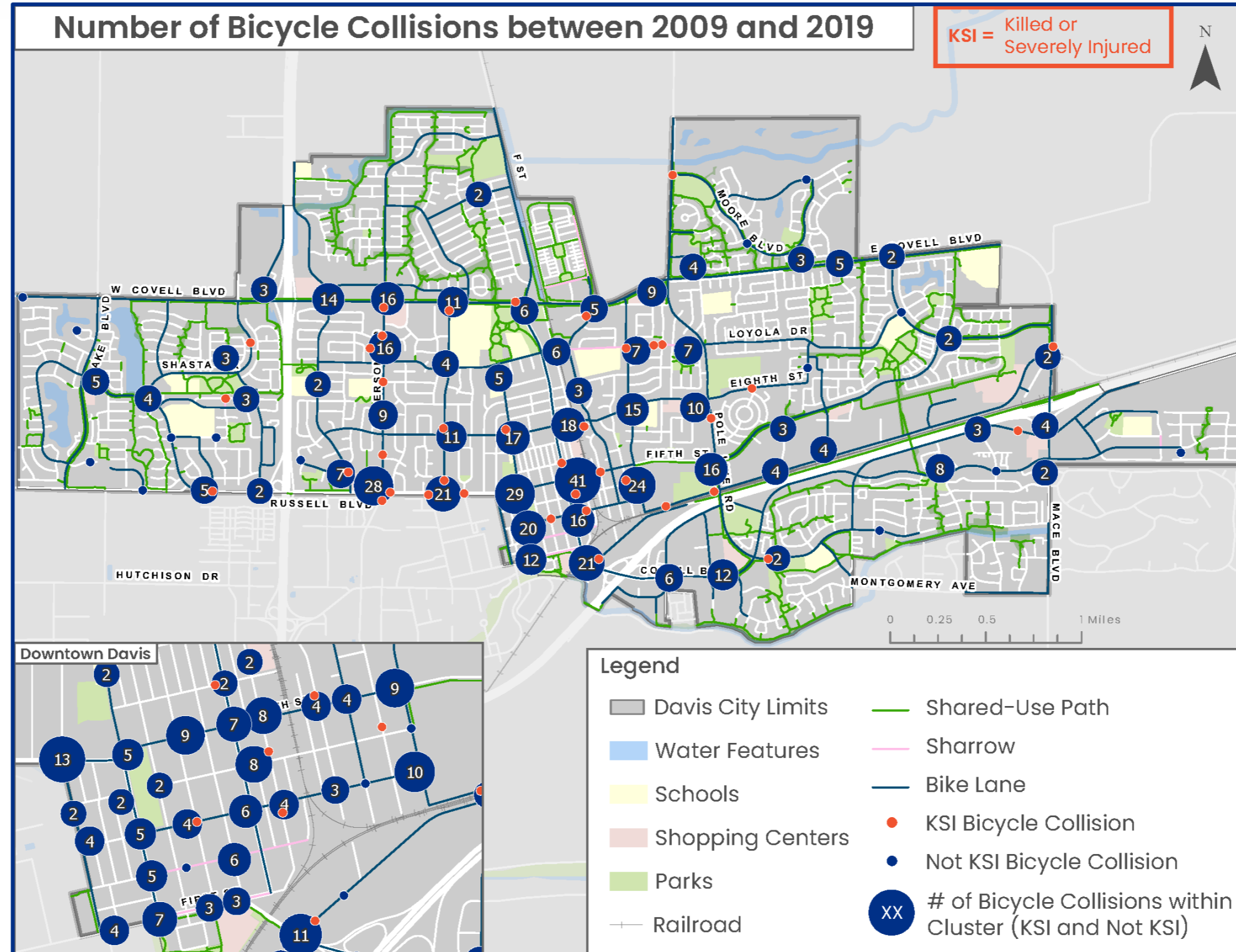
Where Are Collisions Occurring?

Pedestrian Collisions

Number of Pedestrian Collisions between 2009 and 2019

KSI = Killed or Severely Injured

Legend
- Davis City Limits
- Water Features
- Schools
- Shopping Centers
- Parks
- Railroad
- Shared-Use Path
- Sharrow
- Bike Lane
- KSI Pedestrian Collision
- Not KSI Pedestrian Collision
- XX # of Pedestrian Collisions within Cluster (KSI and Not KSI)
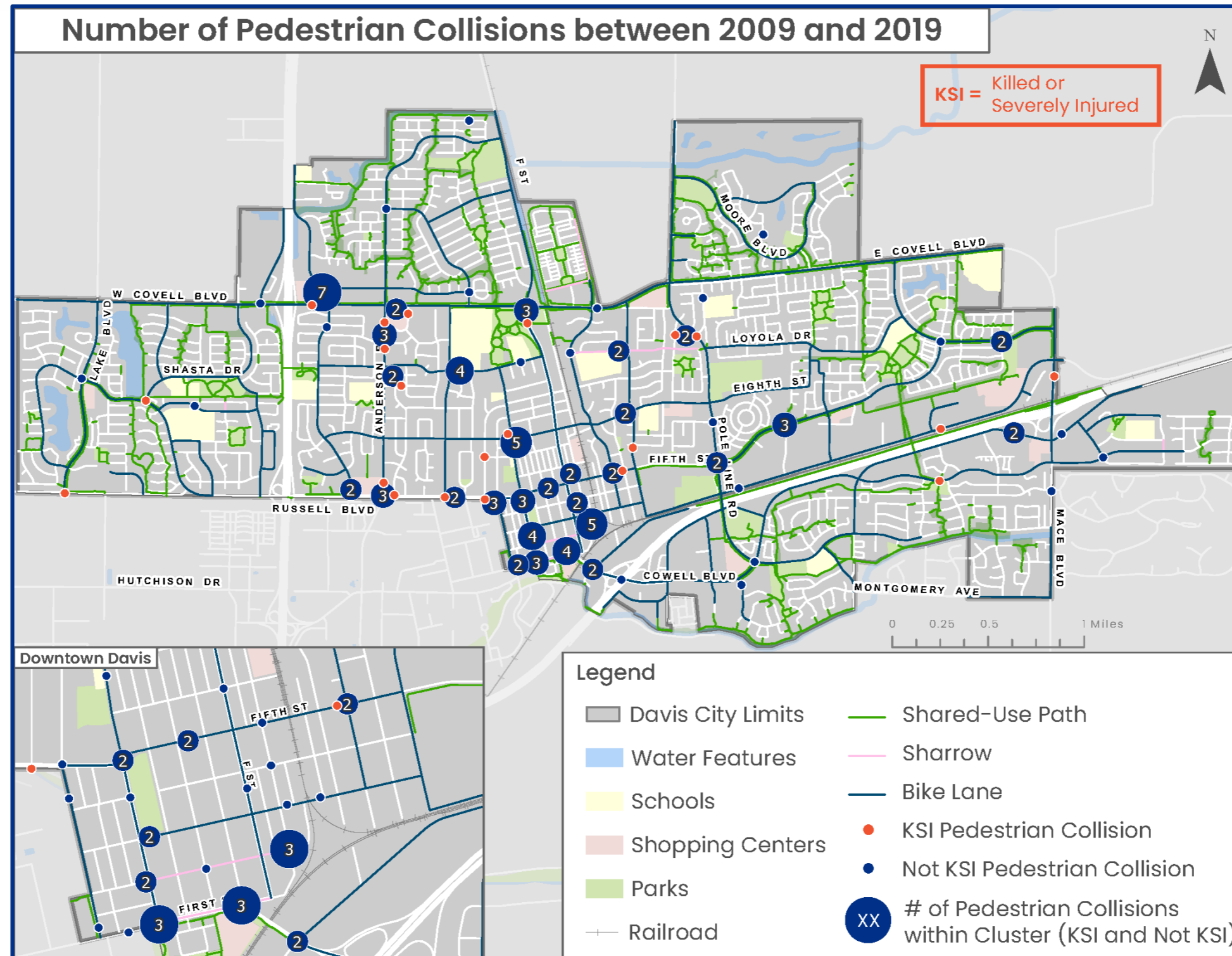
Where are Collisions Occurring?

Priority Intersections

Top Collision Locations between 2015 and 2019

Downtown Davis

Legend
- Davis City Limits
- Water Features
- Schools
- Shopping Centers
- Parks
- Railroad
- Shared-Use Path
- Sharrow
- Bike Lane
- Top Bicycle Collision Location
- Top Pedestrian Collision Location
- Top Signalized Intersection Collision Location
- Top Unsiganlized Intersection Collision Location
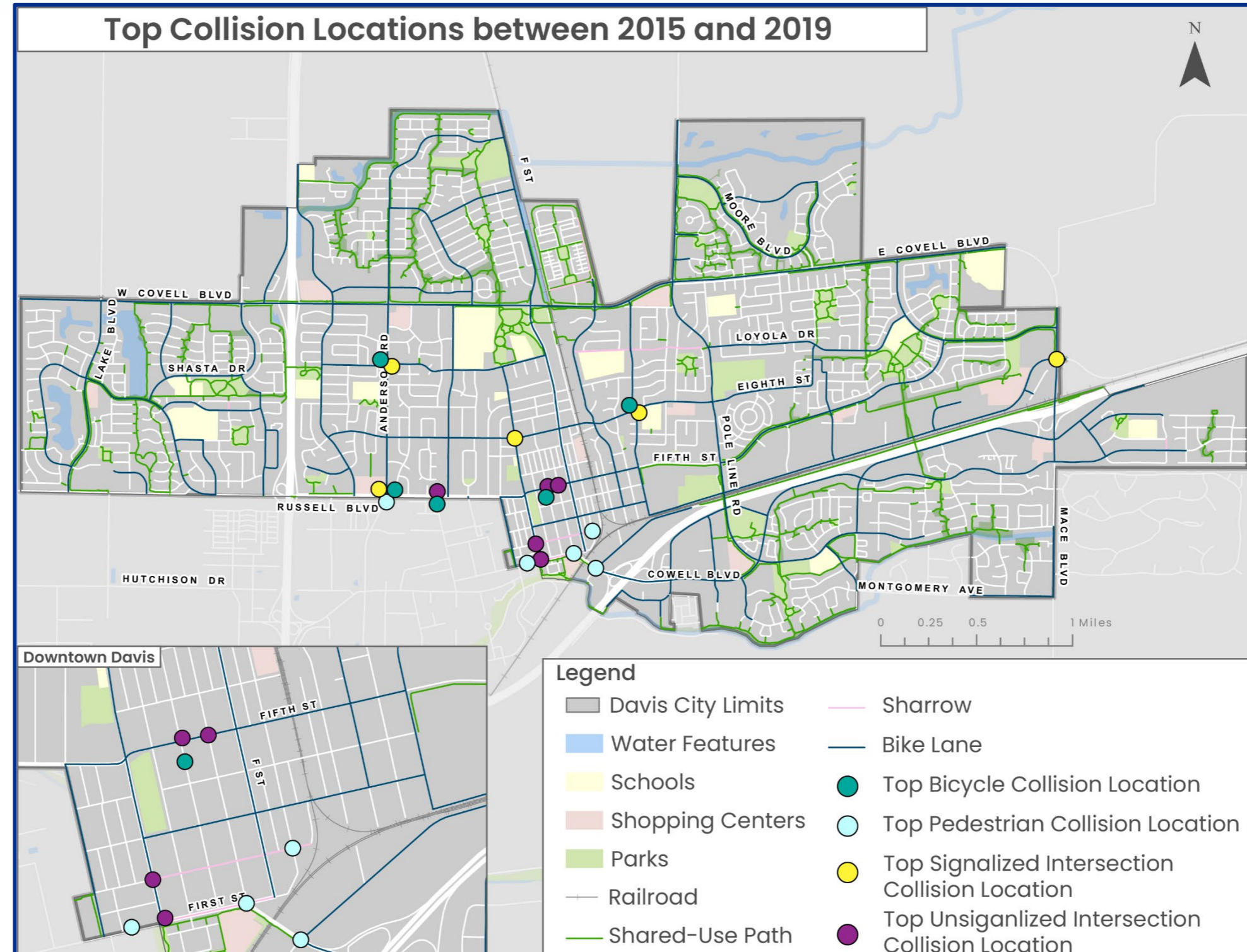
RECOMMENDATIONS

Prioritized Recommendations

Location	Recommendation	Short-Term	Mid-Term	Long-Term
Citywide	Conduct additional analysis of bicycle & pedestrian crashes of people ages 10-17.		X	
Citywide	Conduct further analysis and community engagement with equity communities to better understand and address safety concerns.		X	
Citywide	Obtain ADT data for roadways.		X	
Citywide (systemic)	Evaluate existing uncontrolled pedestrian crossings for enhanced signage.			X
Citywide (systemic)	Evaluate existing uncontrolled pedestrian crossings for installation of Rectangular Rapid Flashing Beacons (RRFBs).			X
Citywide (systemic)	Evaluate existing signalized intersections for improvements to traffic signal visibility by installing retroreflective back-plates, replacing 8-inch heads with 12-inch heads, and adding additional signal heads.			X
Citywide (systemic)	Evaluate existing signalized intersections to identify locations for installation of pedestrian countdown signal heads at traffic signals.			X
Citywide (systemic)	Evaluate existing signalized intersections to identify locations for installation of Leading Pedestrian Intervals (LPI).			X
Citywide (systemic)	Develop a plan for installation locations of separated bike lanes.			X

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Program & Policy Recommendations

Programs & Policies	Recommendation	Short-Term	Mid-Term	Long-Term
Training	Provide safety related training and support for staff responsible for street design and enforcement activities.	X		
Reduce and eliminate impaired driving	Post education and outreach at alcohol-serving establishments. Encourage rideshare and other services as alternatives to impaired driving.	X		
Improve data	Improve data collection and reports on cell phone use and distractions. Collect traffic volume data for motor vehicles, bicycles, and pedestrians.	X		
Improve data	Conduct further analysis of the data. Create a policy for the collection and retention of collision data.	X		
Street Standards	Update street standards to design for safer streets.		X	
Speed feedback signs	Increase use of speed feedback signs.		X	

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Program & Policy Recommendations

Programs & Policies	Recommendation	Short-Term	Mid-Term	Long-Term
Enforcement officers	Increase the number of enforcement officers to number recommended by best practices.			X
JHS and HS education	Develop education programs for JHS and HS about safe driving, biking, and walking.			X
UC Davis partnerships	Partner with UC Davis on transportation education and outreach campaigns.			X
Improvements in aging communities	Increase pedestrian crossing times, improve lighting, and install signs with larger font.			X
Improvements in non-English-speaking communities	Install universal signs. Create materials in languages people can read.			X
Improvements in disabled communities	Install universal signs. Increase pedestrian crossing times, improve lighting, and install signs with larger font. Improve ADA access and crossings.			X

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