

CHAPTER 6.6: CITY OF WACO

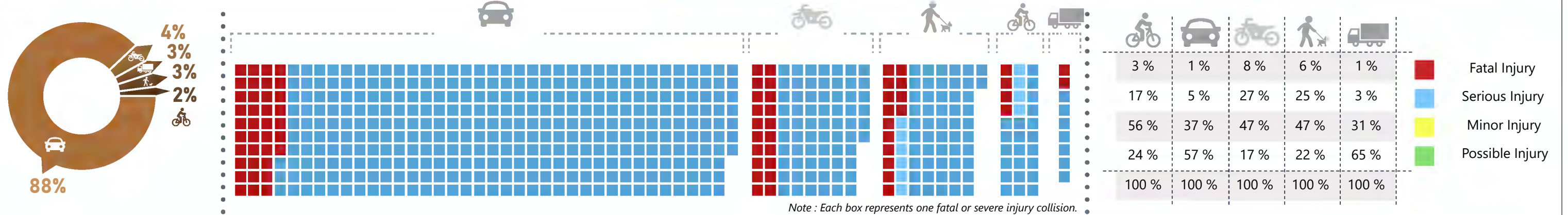
INTRODUCTION

Waco is a city in central Texas along the Brazos River and I-35, halfway between Dallas and Austin. It is the county seat of McLennan County. The city has an estimated population of 138,486 according to the 2020 census. This chapter provides information on the City of Waco's collision statistics from 2014 to 2023. A total of 7,159 collisions occurred on Waco streets in the last 10 years, including 77 fatalities and 495 serious injuries. TxDOT roadways within Waco city limits had 4,995 collisions during the same period, with 49 fatalities and 314 serious injuries. The majority of injury collisions in both City and TxDOT rights-of-way involved possible injuries, with 54 percent each in the City and TxDOT right-of-way.

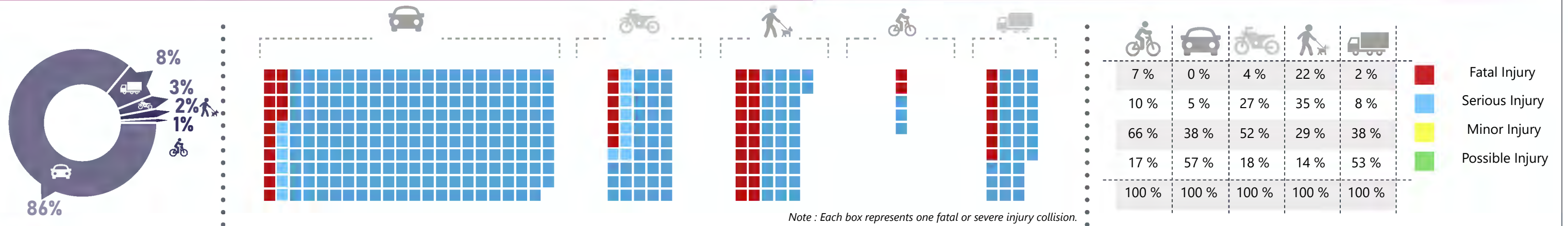


COLLISIONS 2014 TO 2023		CITY		TxDOT	
Total Collisions		7159	100 %	4995	100 %
Fatal Injury		77	1.08 %	49	0.98 %
Serious Injury		495	6.91 %	314	6.29 %
Minor Injury		2711	37.87 %	1923	38.50 %
Possible Injury		3876	54.14 %	2709	54.23 %
Total Persons Involved		10819	100 %	7936	100 %
Fatal Injury		79	0.73 %	53	0.67 %
Serious Injury		586	5.42 %	369	4.65 %
Minor Injury		3731	34.49 %	2843	35.82 %
Possible Injury		6423	59.37 %	4671	58.86 %

COLLISIONS BY MODE - CITY



COLLISIONS BY MODE - TxDOT



The following summary provides information on the number of collisions, persons injured, and the proportion of persons involved in collisions based on mode of transportation, age group, and gender. It also draws comparisons between collisions on Waco city streets, TxDOT facilities, and McLennan County across various categories. On city streets in Waco, there were a total of 7,159 collisions, resulting in 10,819 persons injured. In comparison, TxDOT reported a total of 4,995 collisions resulting in 7,936 persons injured within Waco city limits. Please note that Farm to Market roads are included as city streets within the City of Waco collision analysis.

This section also identifies several major collision trends on Waco city streets, including broadside collisions, hit object collisions, right-of-way violations by automobiles, and collisions involving unsafe speeds. On TxDOT roadways, the prominent trends were broadside collisions, rear end collisions, unsafe speed violations, and right-of-way violations by automobiles. A detailed summary analyzing these collision trends is provided in the Collision Profile section of this chapter.

The pie charts below compare the severity of collisions on roadways with different speed limits. Of the speed limits examined, the charts indicate that roads with a 70 mph speed limit accounted for the highest proportion of severe injury collisions while roads with 65 mph accounted for the highest proportion of fatal injury collisions.

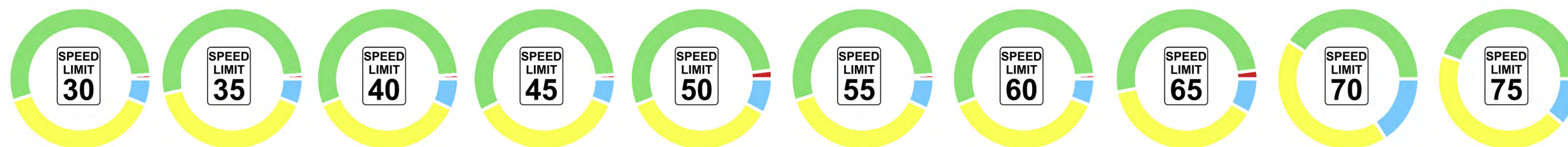
CITY OF WACO VS. McLENNAN COUNTY COLLISIONS - RELATIVE SHARES

CITY		TxDOT		McLENNAN COUNTY	
MODE					
Bicycle	2 %	Bicycle	1 %	Bicycle	1 %
Car	88 %	Car	86 %	Car	85 %
Motorcycle	3 %	Motorcycle	3 %	Motorcycle	4 %
Pedestrian	3 %	Pedestrian	2 %	Pedestrian	3 %
Truck	3 %	Truck	8 %	Truck	7 %
FIRST HARMFUL EVENT					
Motor Vehicle in Transport	75 %	Motor Vehicle in Transport	85 %	Motor Vehicle in Transport	72 %
Fixed Object	13 %	Fixed Object	10 %	Fixed Object	17 %
Overtaken	5 %	Pedestrian	2 %	Overtaken	4 %
MANNER OF COLLISION					
Broadside	53 %	Broadside	44 %	Broadside	42 %
Hit Object	25 %	Rear End	34 %	Hit Object	28 %
Rear End	16 %	Hit Object	15 %	Rear End	24 %
Sideswipe	3 %	Sideswipe	6 %	Sideswipe	5 %
VIOLATION CATEGORY					
Automobile Right-of-Way	31 %	Unsafe Speed	24 %	Unsafe Speed	23 %
Unsafe Speed	17 %	Automobile Right-of-Way	19 %	Automobile Right-of-Way	22 %
Traffic Signals and Signs	14 %	Traffic Signals and Signs	16 %	Traffic Signals and Signs	12 %
Distracted Driving	6 %	Following Too Closely	8 %	Distracted Driving	8 %
Driving/ Bicycling under Influence	5 %	Distracted Driving	6 %	Other Improper Driving	6 %
Other Unforeseen Reasons	5 %	Other Unforeseen Reasons	5 %	Other Unforeseen Reasons	6 %
LOCATION					
Intersection	72 %	Intersection	64 %	Intersection	59 %
Roadway	28 %	Roadway	36 %	Roadway	41 %
LIGHTING					
Daylight	70 %	Daylight	75 %	Daylight	70 %
Dark, Lighted	20 %	Dark, Lighted	18 %	Dark, Lighted	16 %
Dark, Not Lighted	8 %	Dark, Not Lighted	5 %	Dark, Not Lighted	11 %

CITY	TxDOT
7159	4995
TOTAL COLLISIONS	TOTAL COLLISIONS
10819	7936
TOTAL PERSONS INJURED	TOTAL PERSONS INJURED

	CITY				TxDOT			
	MODE	MODE	MODE	MODE	MODE	MODE	MODE	MODE
Bicycle	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %
Car	0 %	4 %	31 %	57 %	0 %	4 %	33 %	57 %
Motorcycle	0 %	1 %	1 %	0 %	0 %	1 %	1 %	0 %
Pedestrian	0 %	1 %	1 %	1 %	0 %	0 %	0 %	0 %
Truck	0 %	0 %	0 %	1 %	0 %	0 %	1 %	1 %
AGE								
Below 15	0 %	0 %	3 %	7 %	0 %	0 %	3 %	6 %
15 - 65	1 %	5 %	29 %	47 %	1 %	4 %	30 %	47 %
Above 65	0 %	0 %	3 %	5 %	0 %	0 %	3 %	5 %
GENDER								
Male	1 %	3 %	16 %	25 %	0 %	3 %	16 %	23 %
Female	0 %	2 %	18 %	35 %	0 %	2 %	20 %	35 %

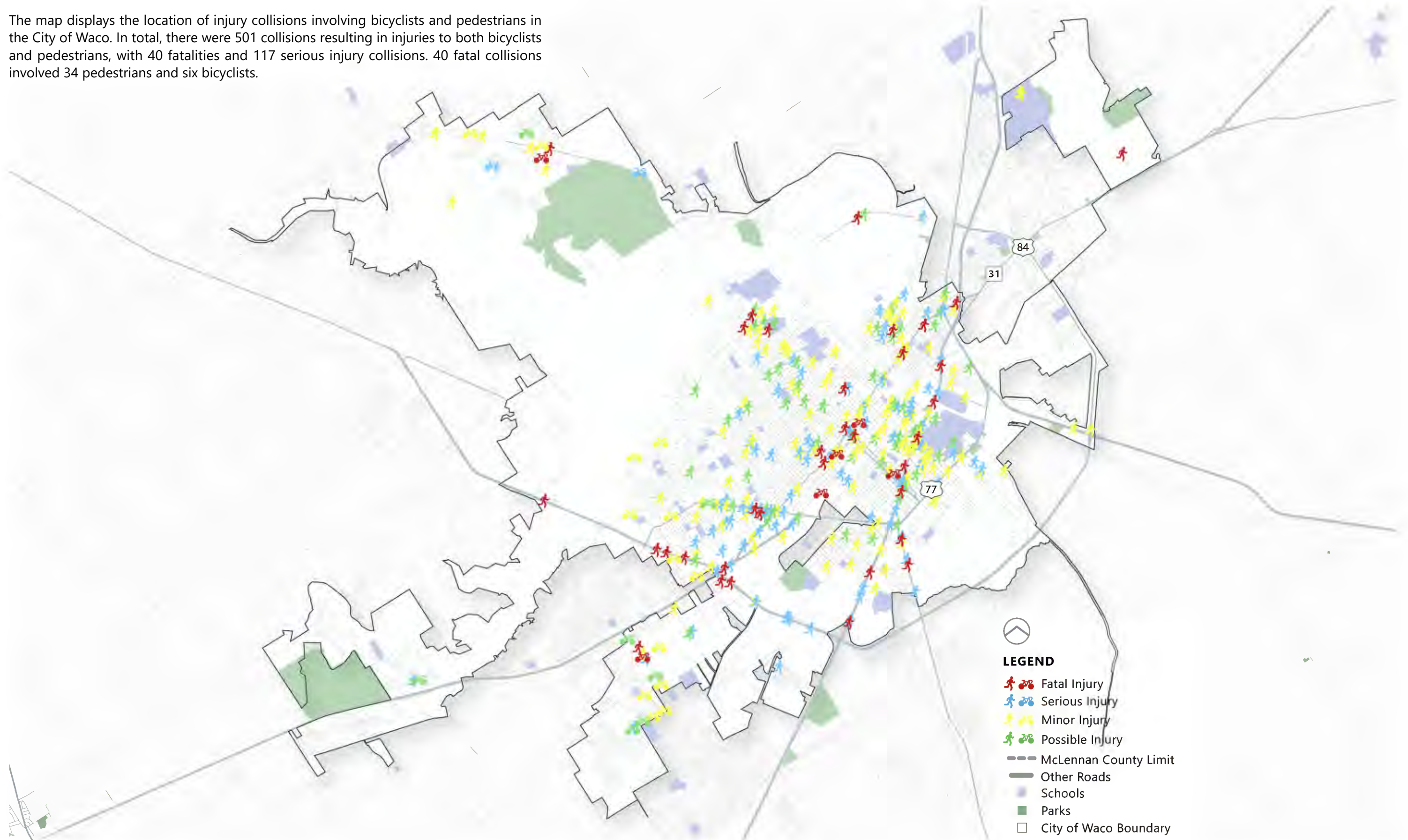
SPEED LIMIT



- Fatal Injury
- Serious Injury
- Minor Injury
- Possible Injury

BICYCLE & PEDESTRIAN COLLISION BY SEVERITY

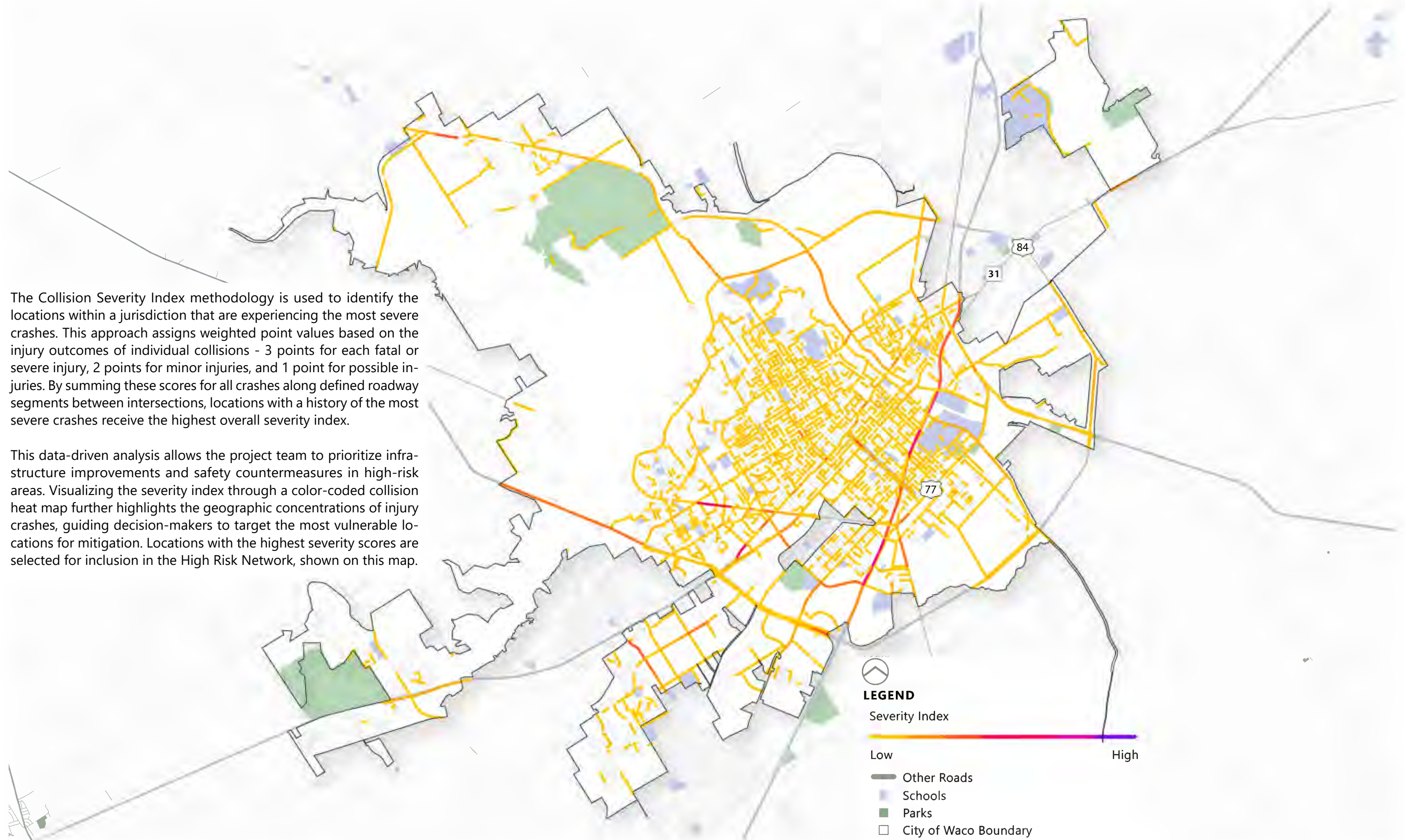
The map displays the location of injury collisions involving bicyclists and pedestrians in the City of Waco. In total, there were 501 collisions resulting in injuries to both bicyclists and pedestrians, with 40 fatalities and 117 serious injury collisions. 40 fatal collisions involved 34 pedestrians and six bicyclists.



SEVERITY INDEX

The Collision Severity Index methodology is used to identify the locations within a jurisdiction that are experiencing the most severe crashes. This approach assigns weighted point values based on the injury outcomes of individual collisions - 3 points for each fatal or severe injury, 2 points for minor injuries, and 1 point for possible injuries. By summing these scores for all crashes along defined roadway segments between intersections, locations with a history of the most severe crashes receive the highest overall severity index.

This data-driven analysis allows the project team to prioritize infrastructure improvements and safety countermeasures in high-risk areas. Visualizing the severity index through a color-coded collision heat map further highlights the geographic concentrations of injury crashes, guiding decision-makers to target the most vulnerable locations for mitigation. Locations with the highest severity scores are selected for inclusion in the High Risk Network, shown on this map.



LEGEND

Severity Index

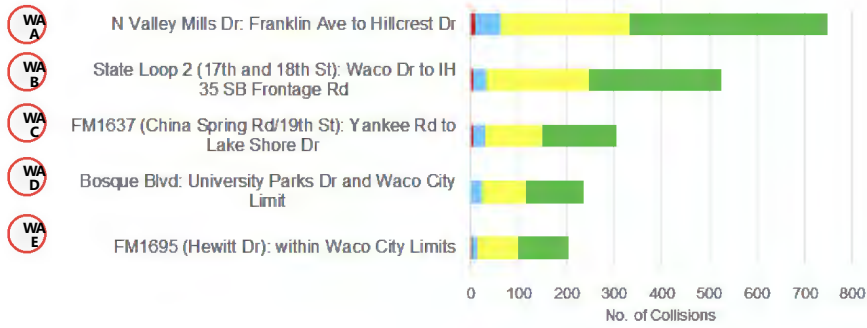
Low High

- Other Roads
- Schools
- Parks
- City of Waco Boundary

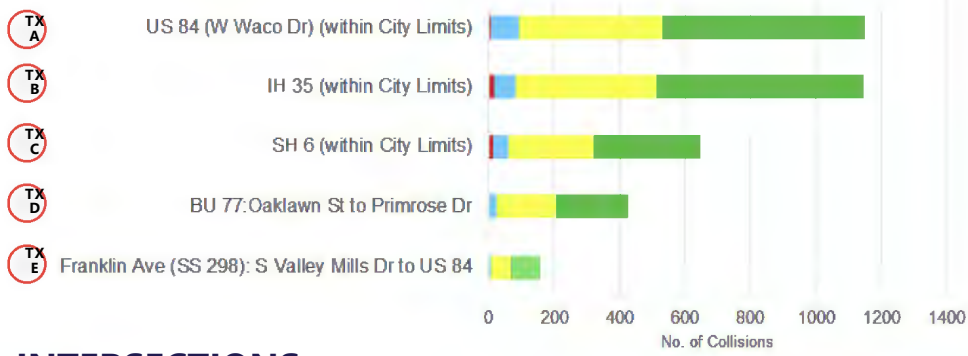
ROADWAYS & INTERSECTIONS

This section lists high risk roadway segments and intersections within the City of Waco. The accompanying graph depicts the name and limits of each roadway along with the number of collisions categorized by severity at that location. A severity index methodology was utilized to identify these high risk spots. This methodology assigns 3 points for each fatal or severe injury collision, 2 points for each minor injury collision, and 1 point for each possible injury collision.

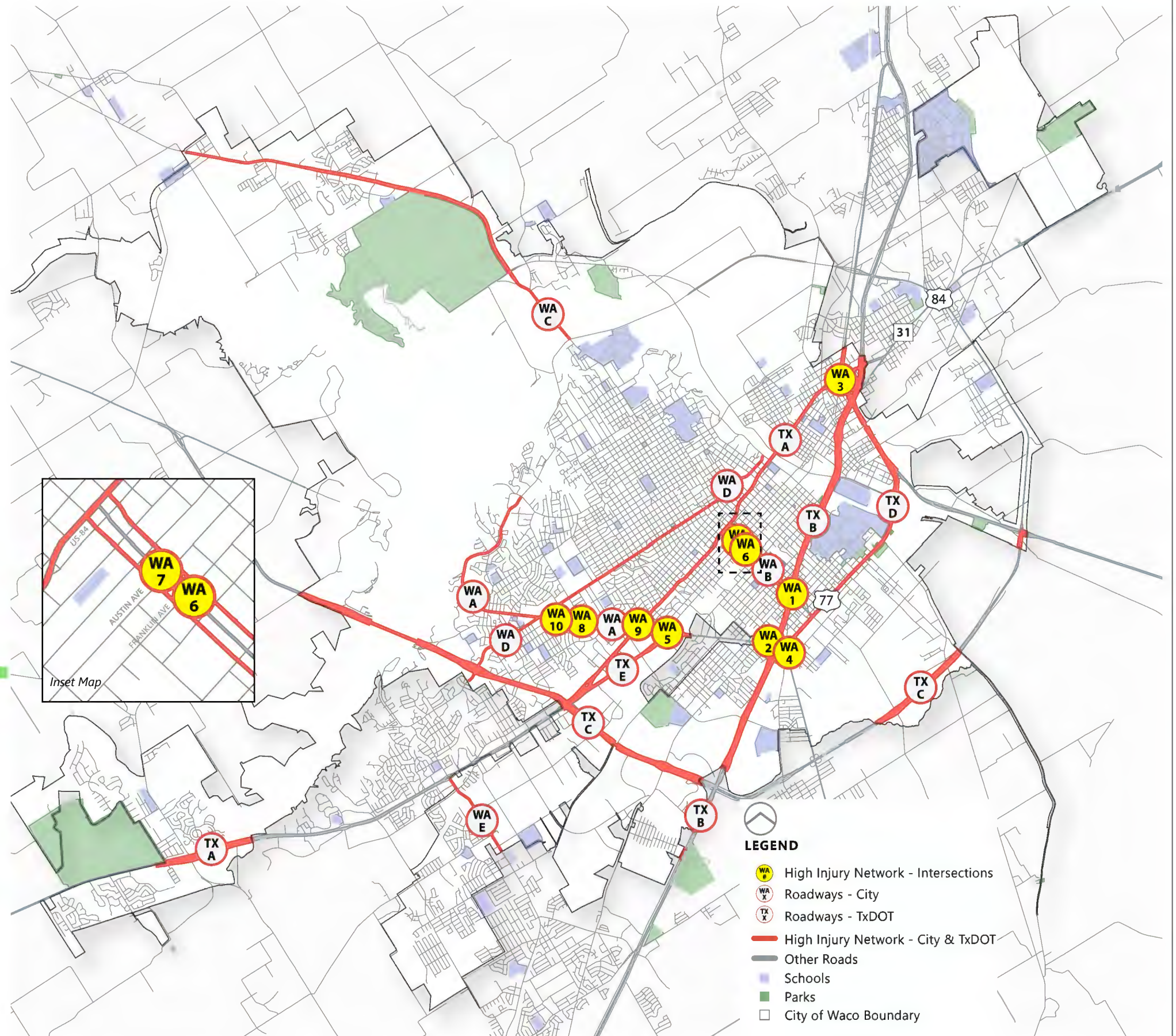
ROADWAYS



TxDOT ROADWAYS

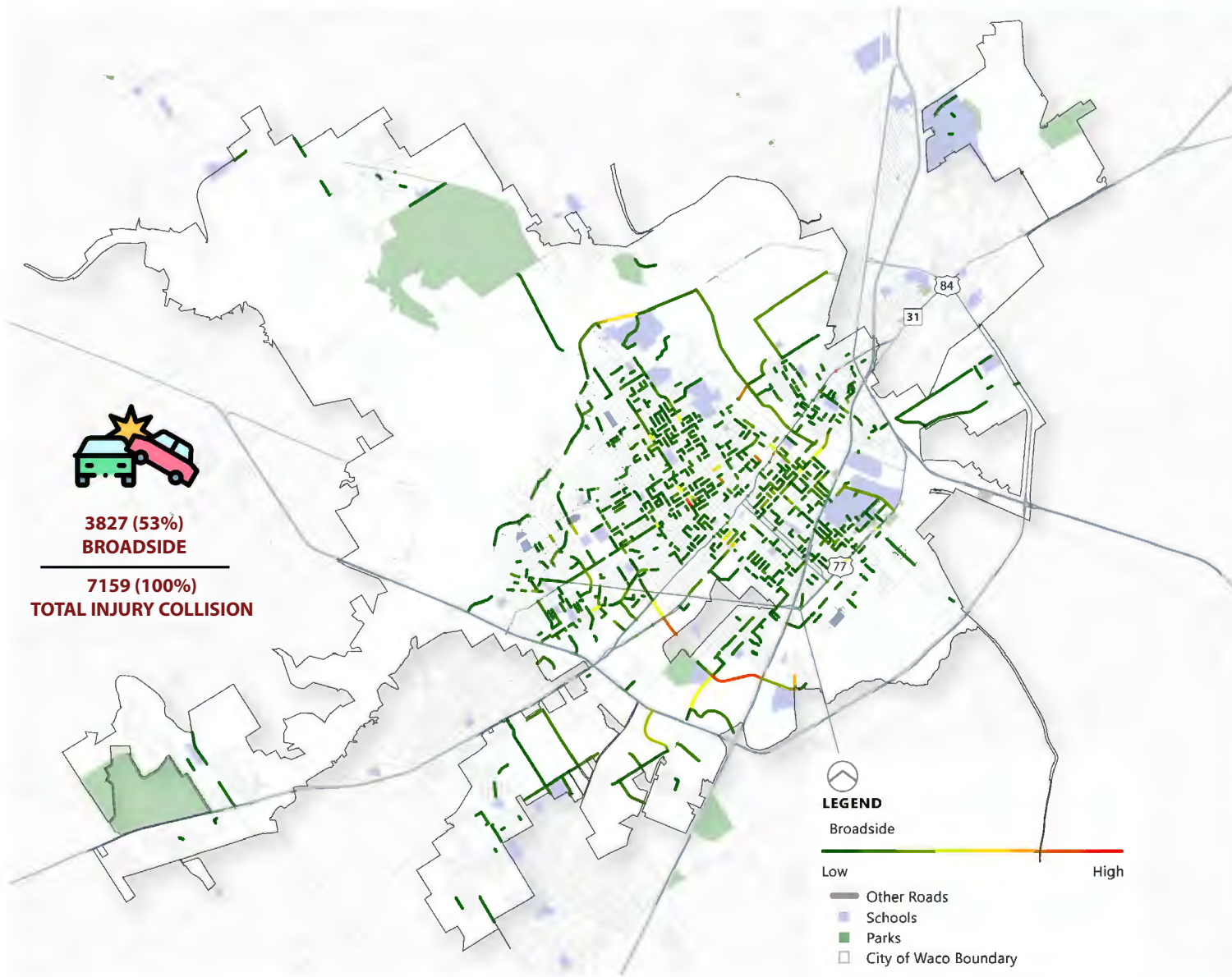


INTERSECTIONS



PROFILES - CITY

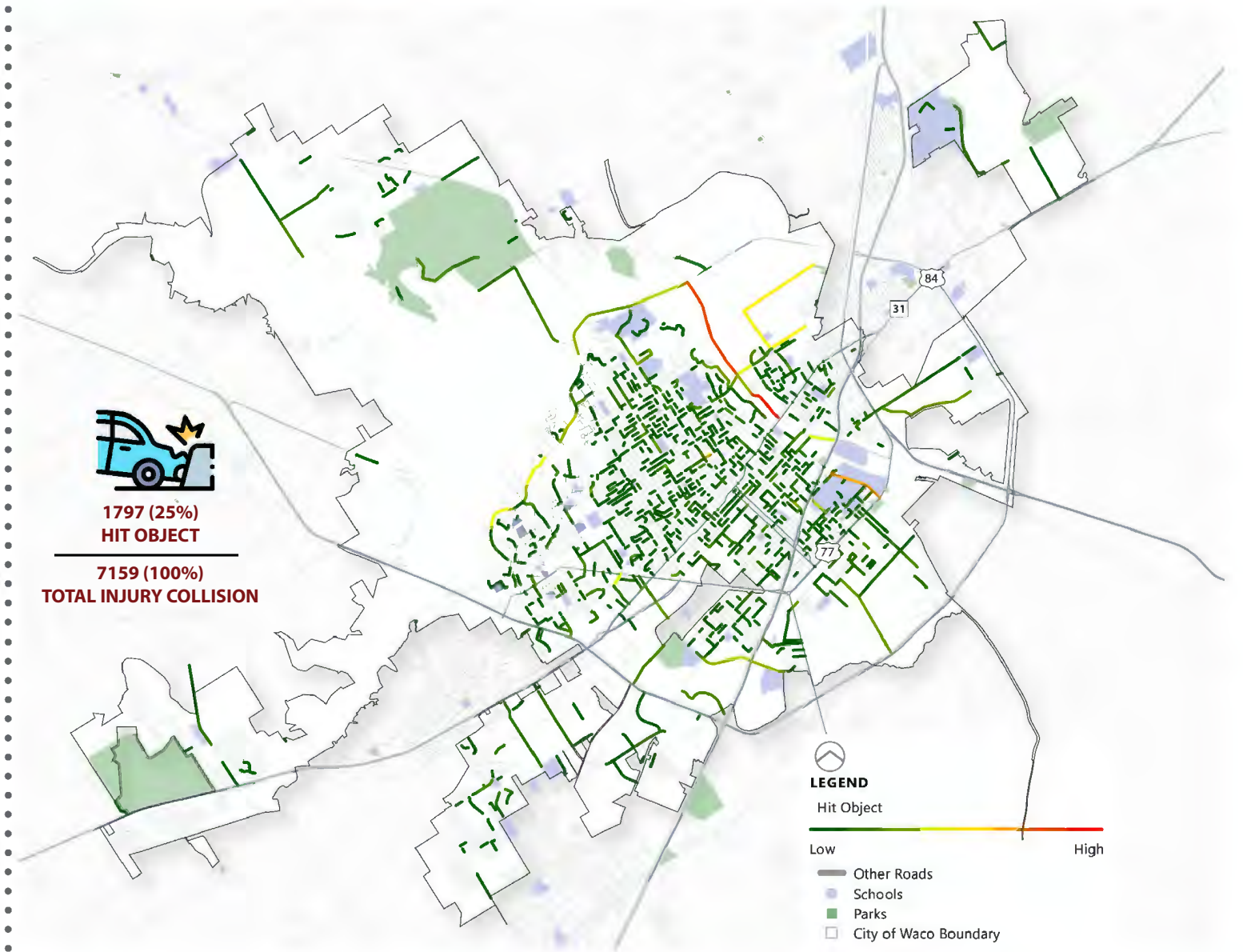
PROFILE 1 - BROADSIDE



**3827 (53%)
BROADSIDE**
**7159 (100%)
TOTAL INJURY COLLISION**

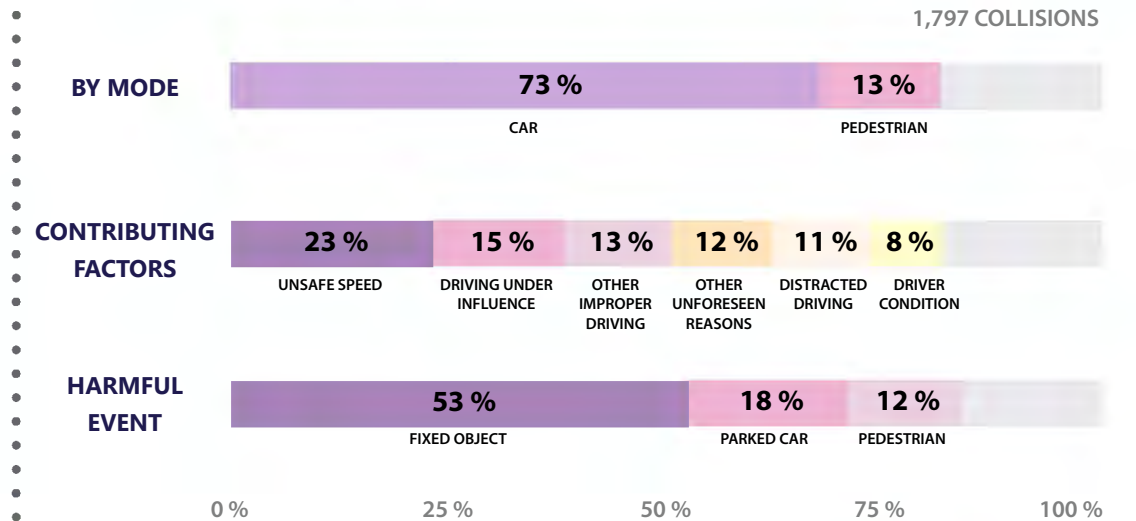
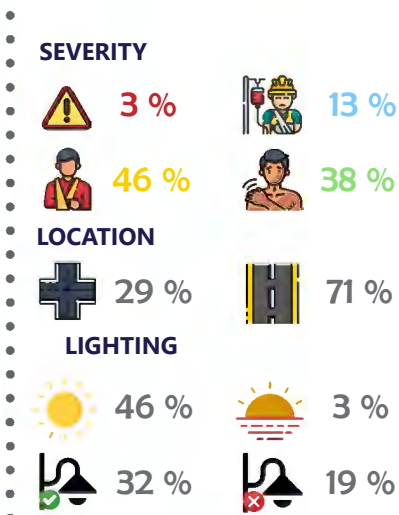
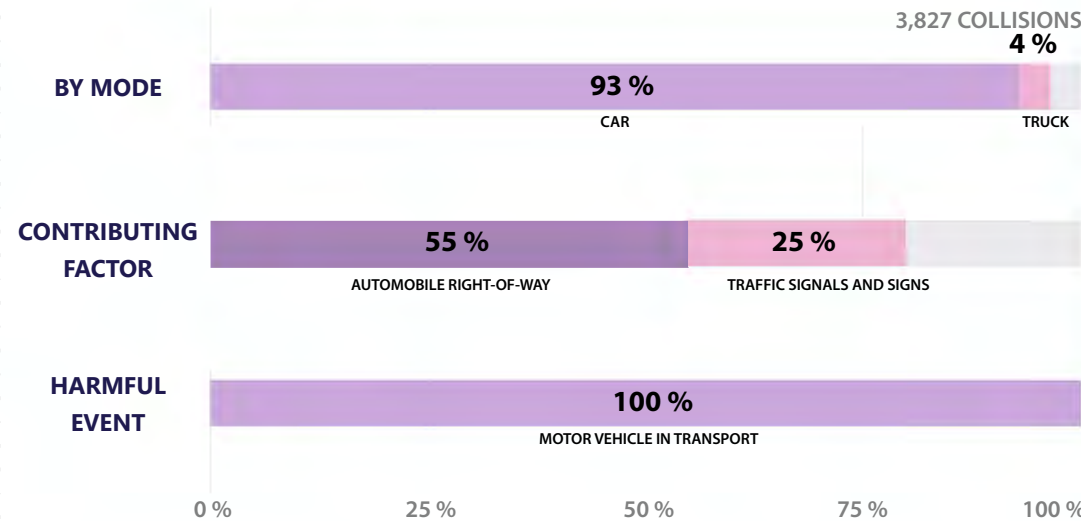
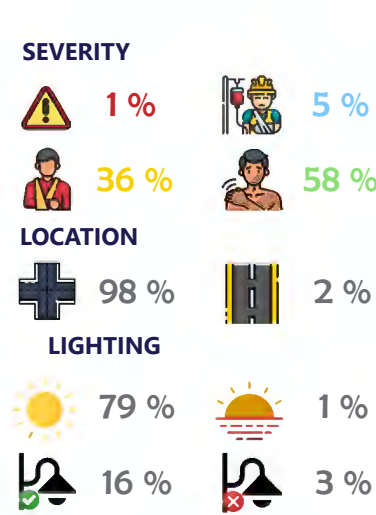
LEGEND
Broadside
Low High
Other Roads
Schools
Parks
City of Waco Boundary

PROFILE 2 - HIT OBJECT



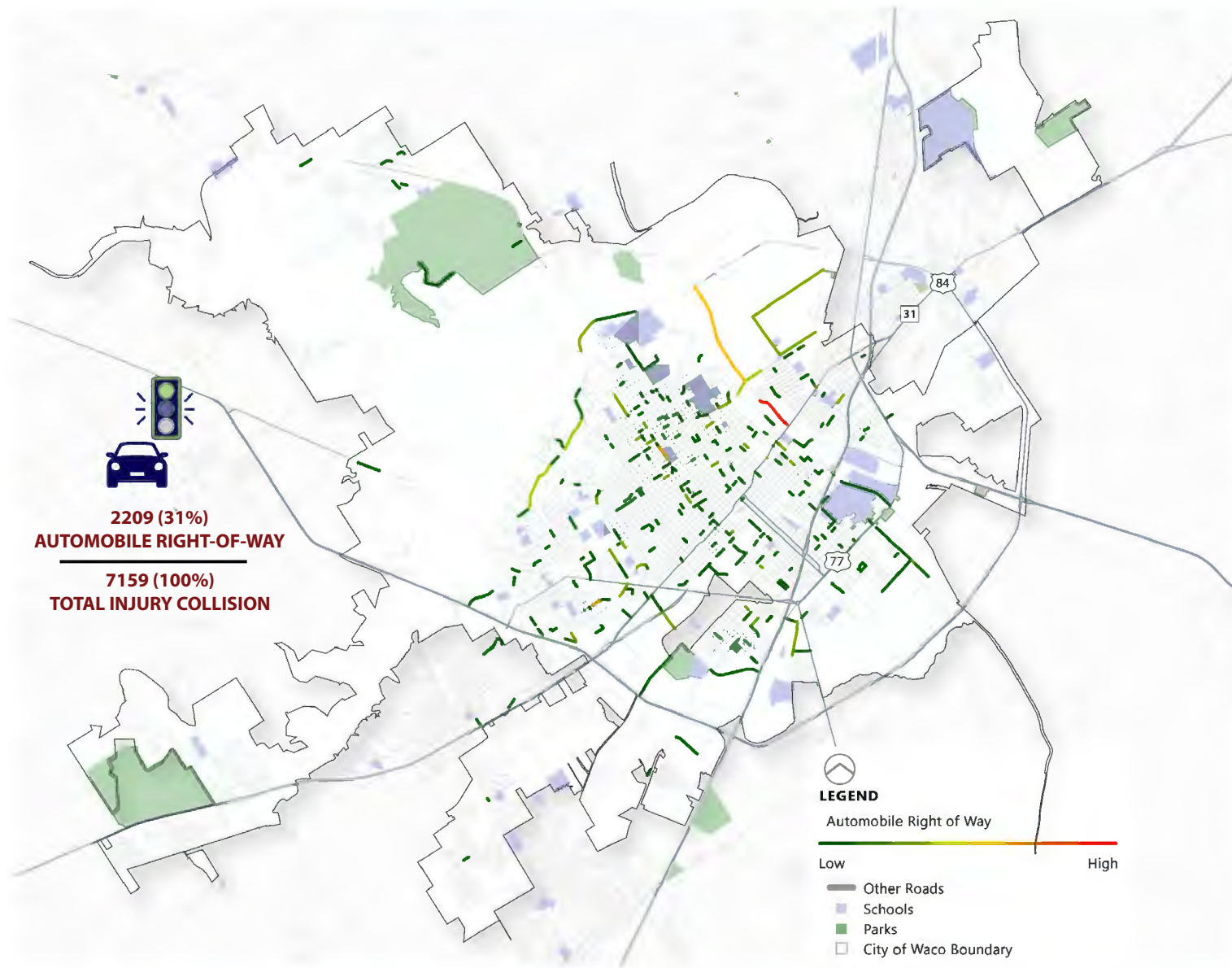
**1797 (25%)
HIT OBJECT**
**7159 (100%)
TOTAL INJURY COLLISION**

LEGEND
Hit Object
Low High
Other Roads
Schools
Parks
City of Waco Boundary

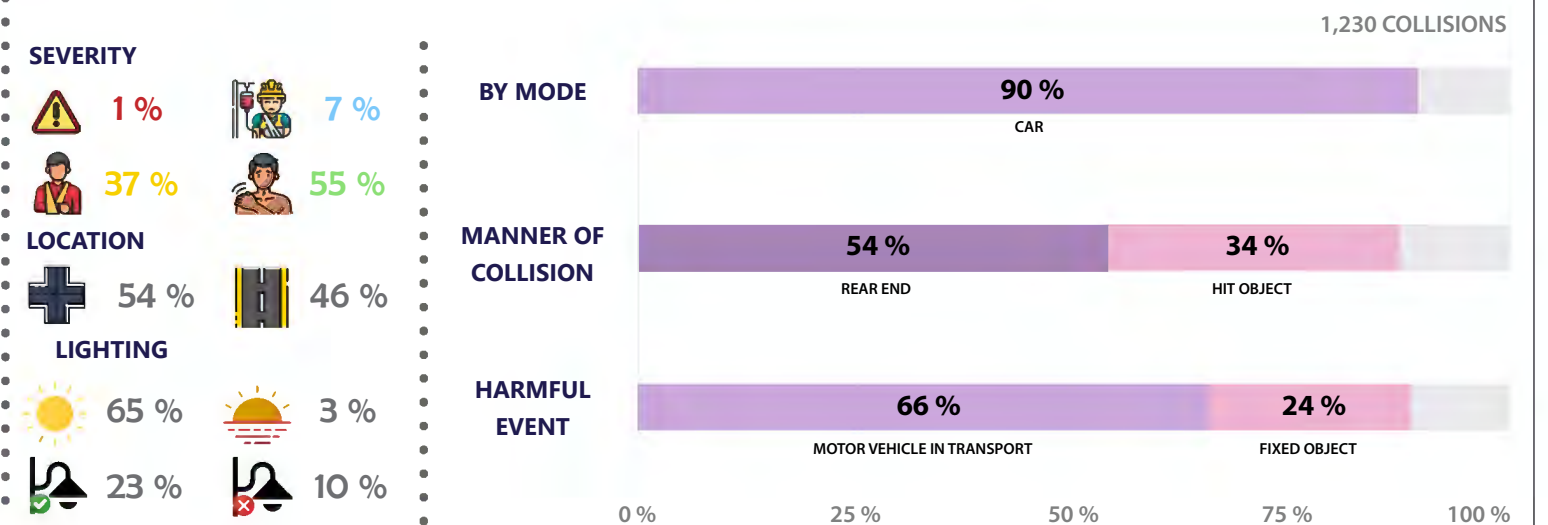
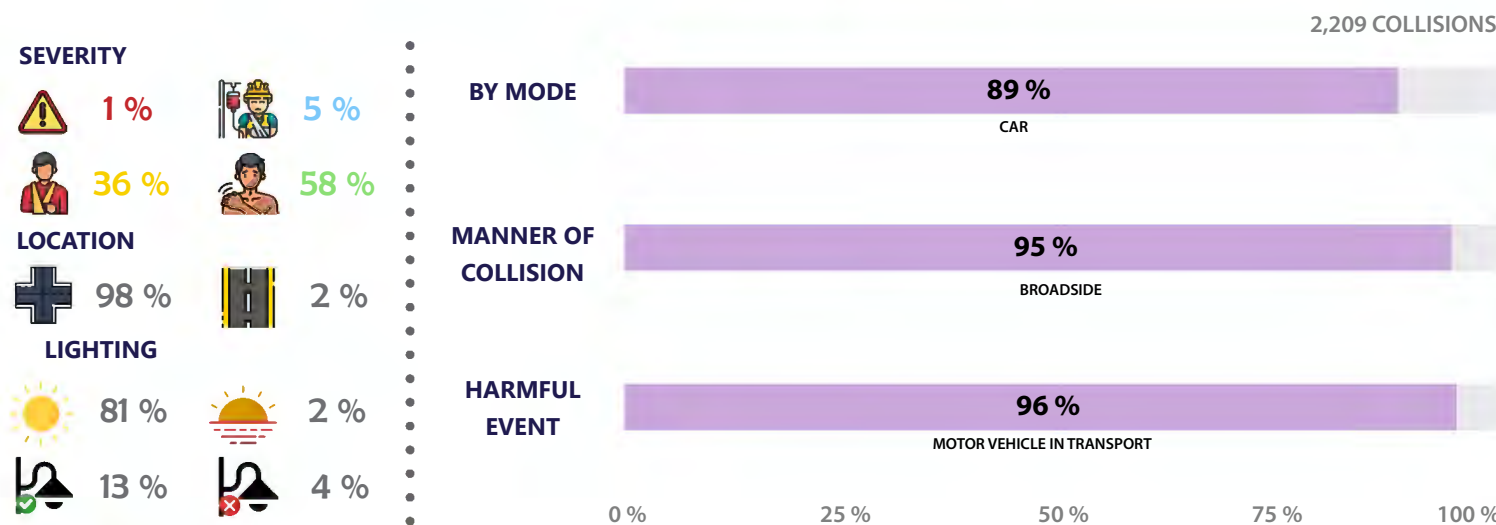
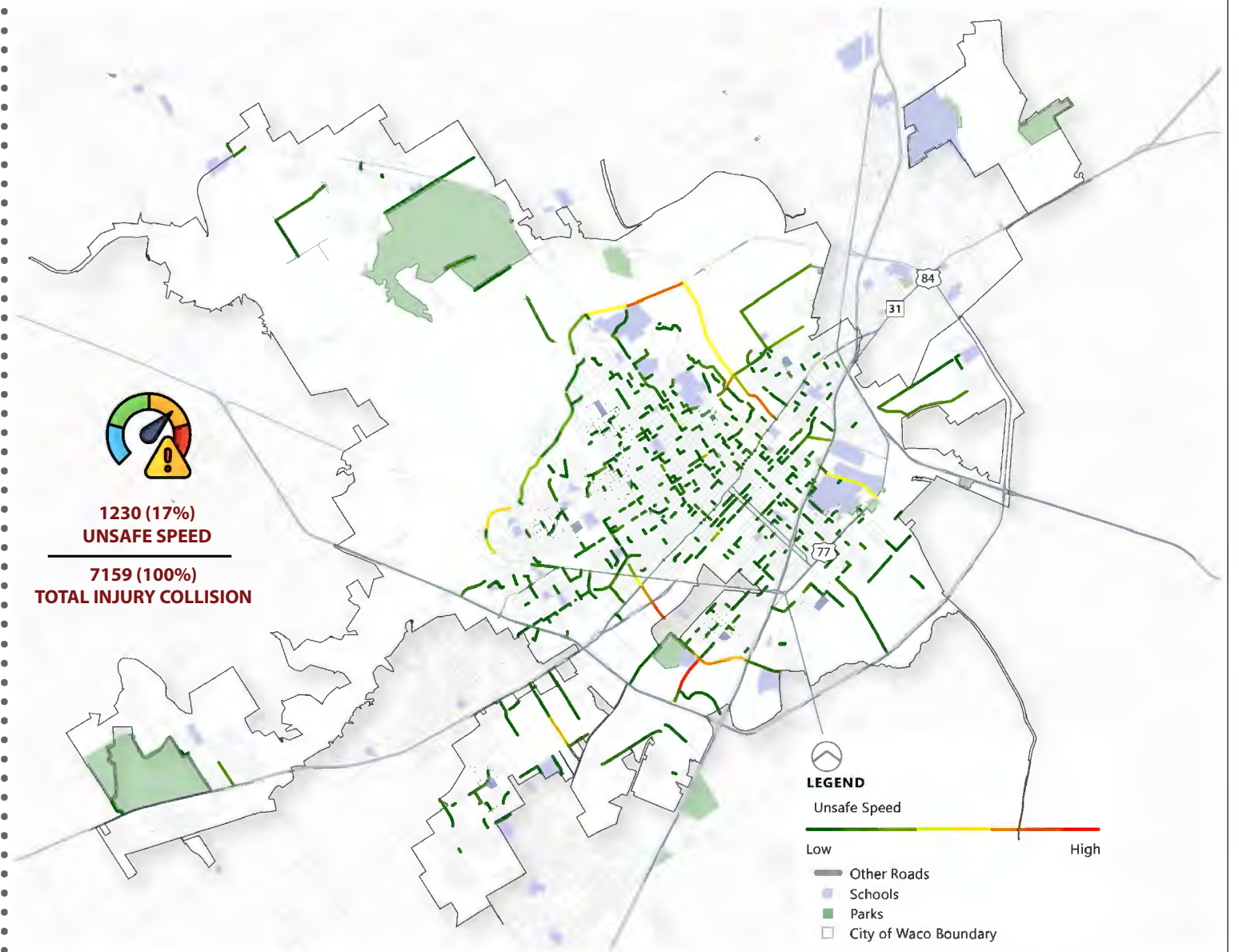


PROFILES - CITY

PROFILE 3 - AUTOMOBILE RIGHT-OF-WAY

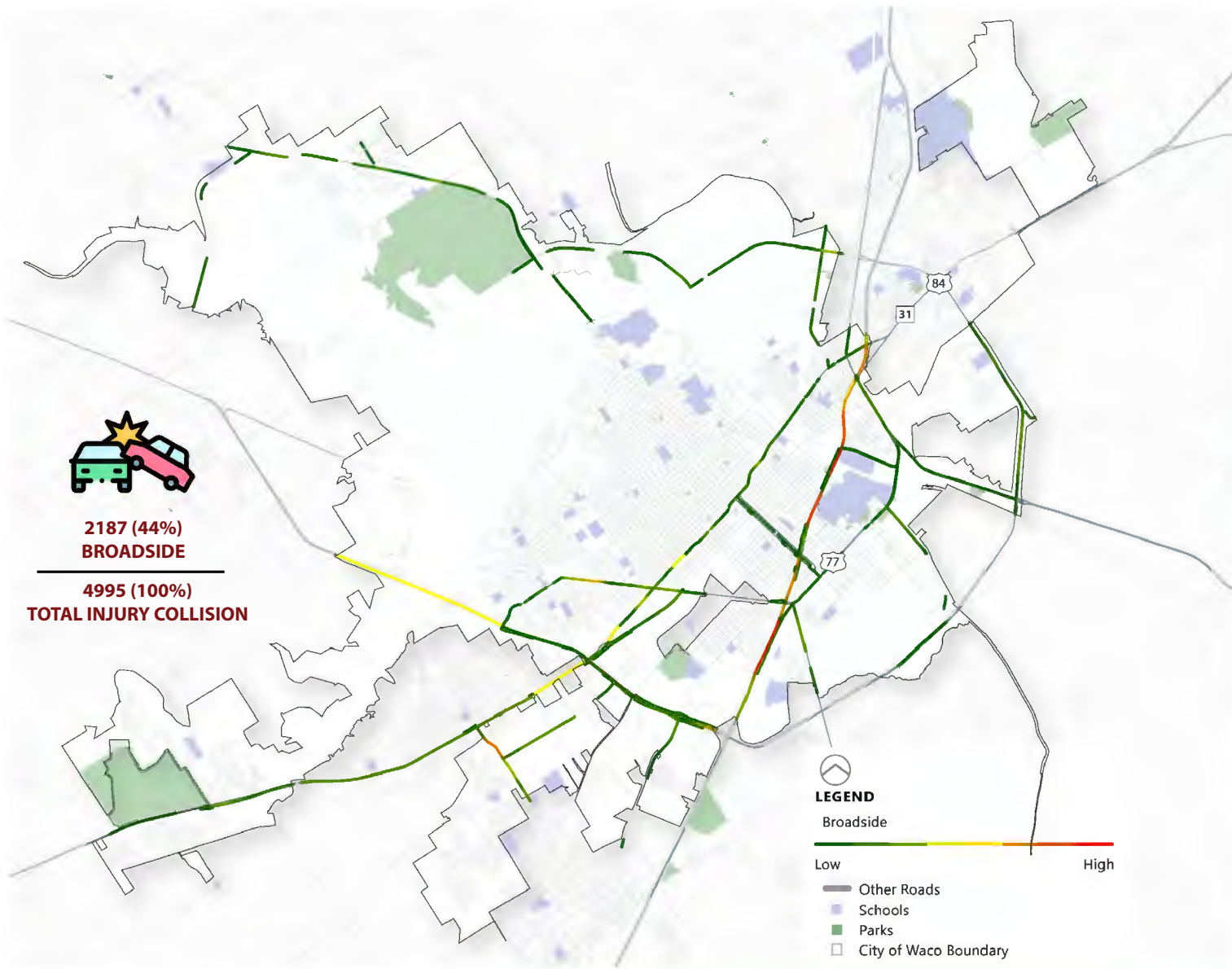


PROFILE 4 - UNSAFE SPEED



PROFILES - TXDOT

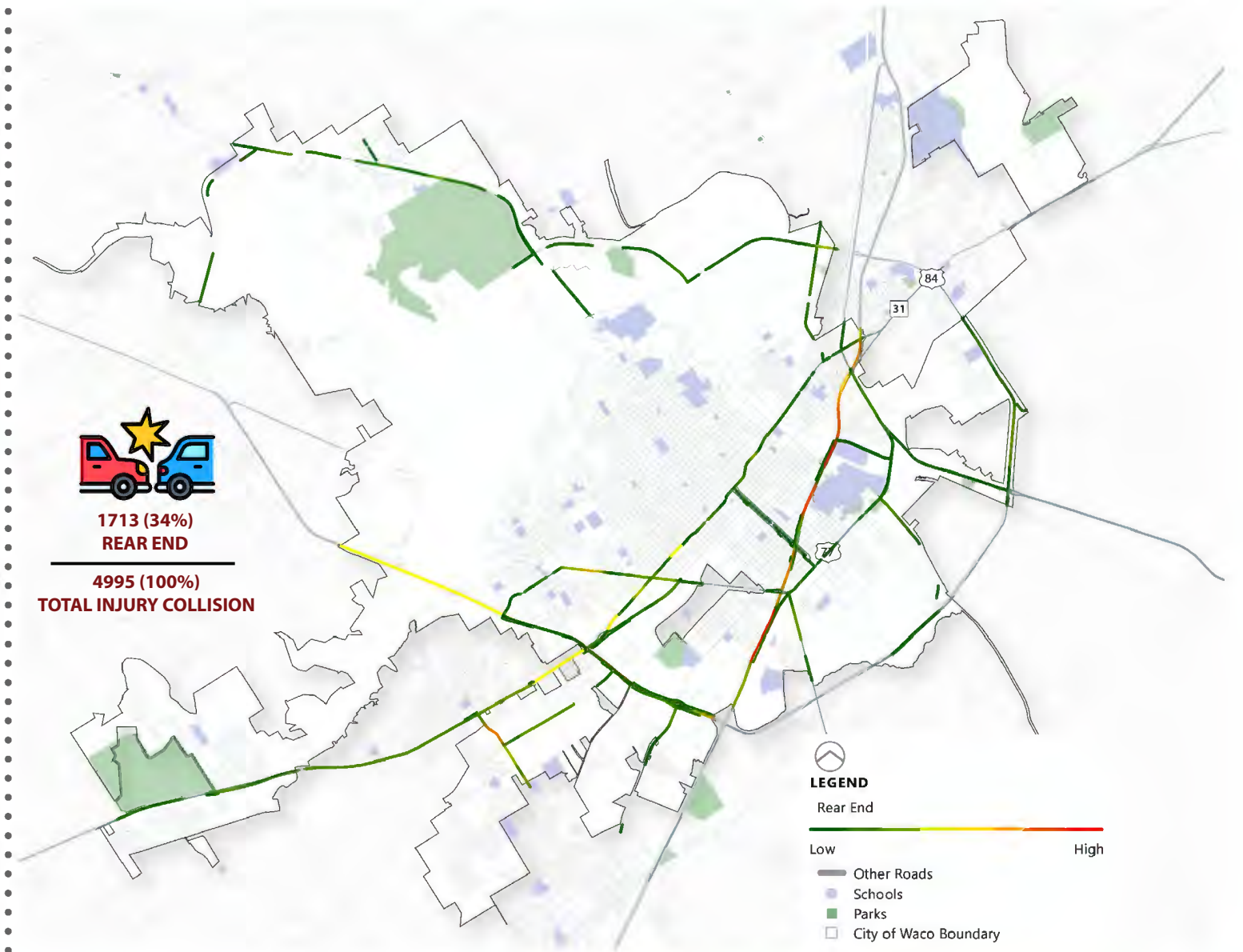
PROFILE 1 - BROADSIDE



**2187 (44%)
BROADSIDE**
**4995 (100%)
TOTAL INJURY COLLISION**

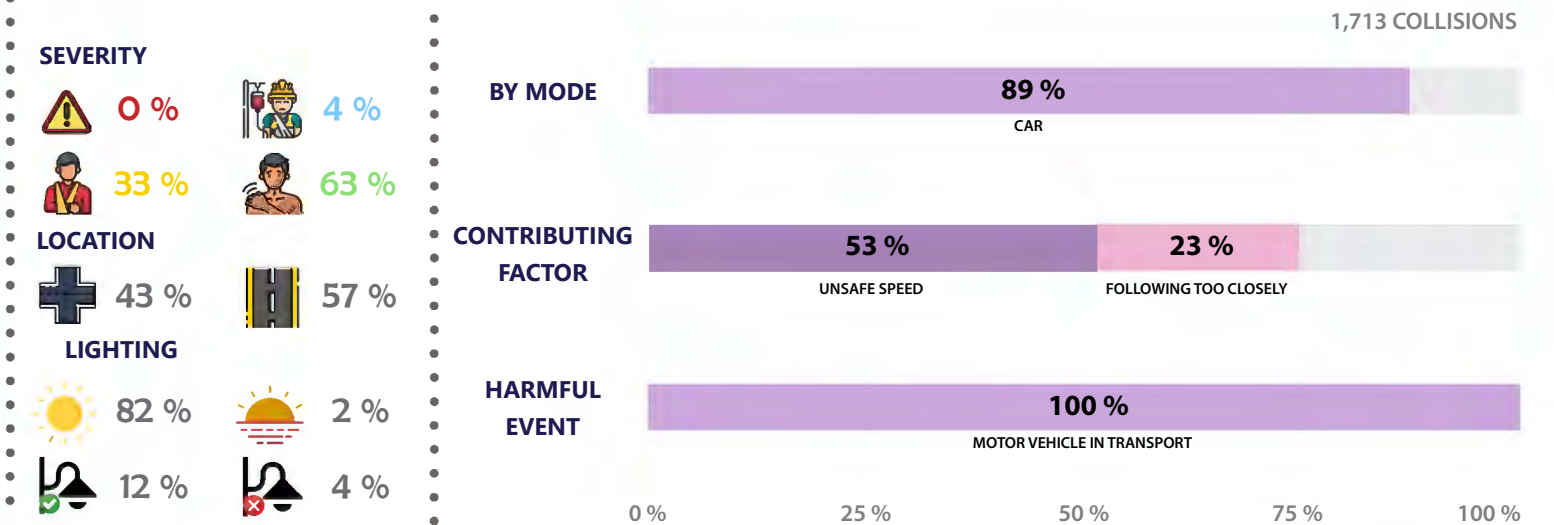
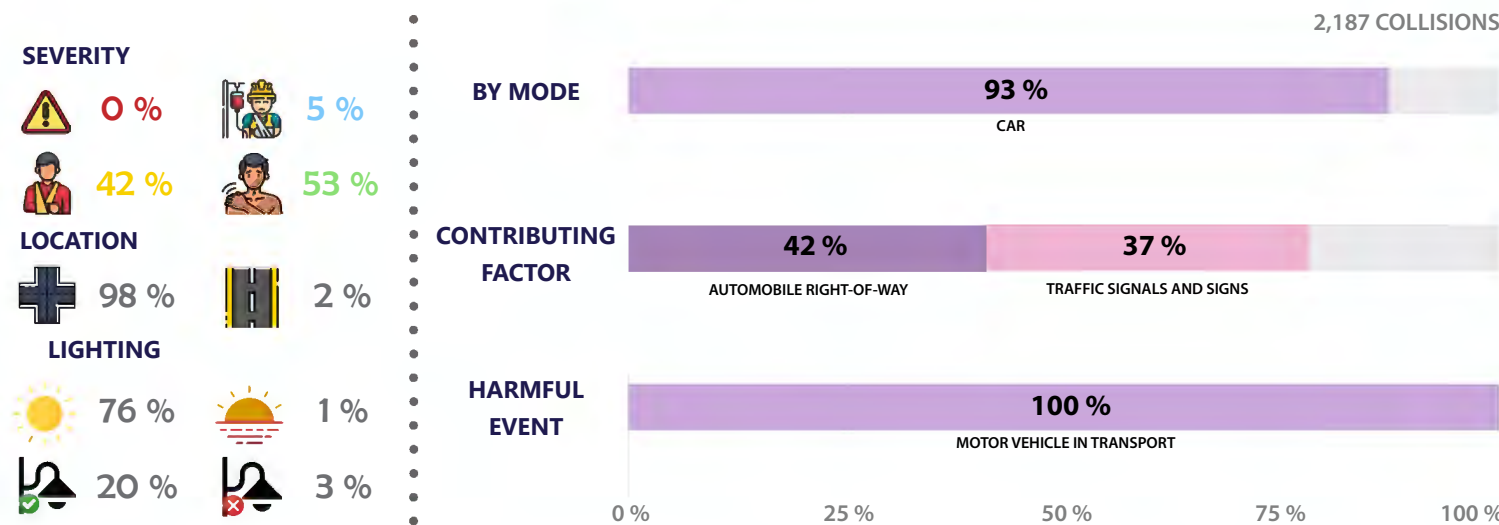
LEGEND
Broadside
Low High
Other Roads
Schools
Parks
City of Waco Boundary

PROFILE 2 - REAR END



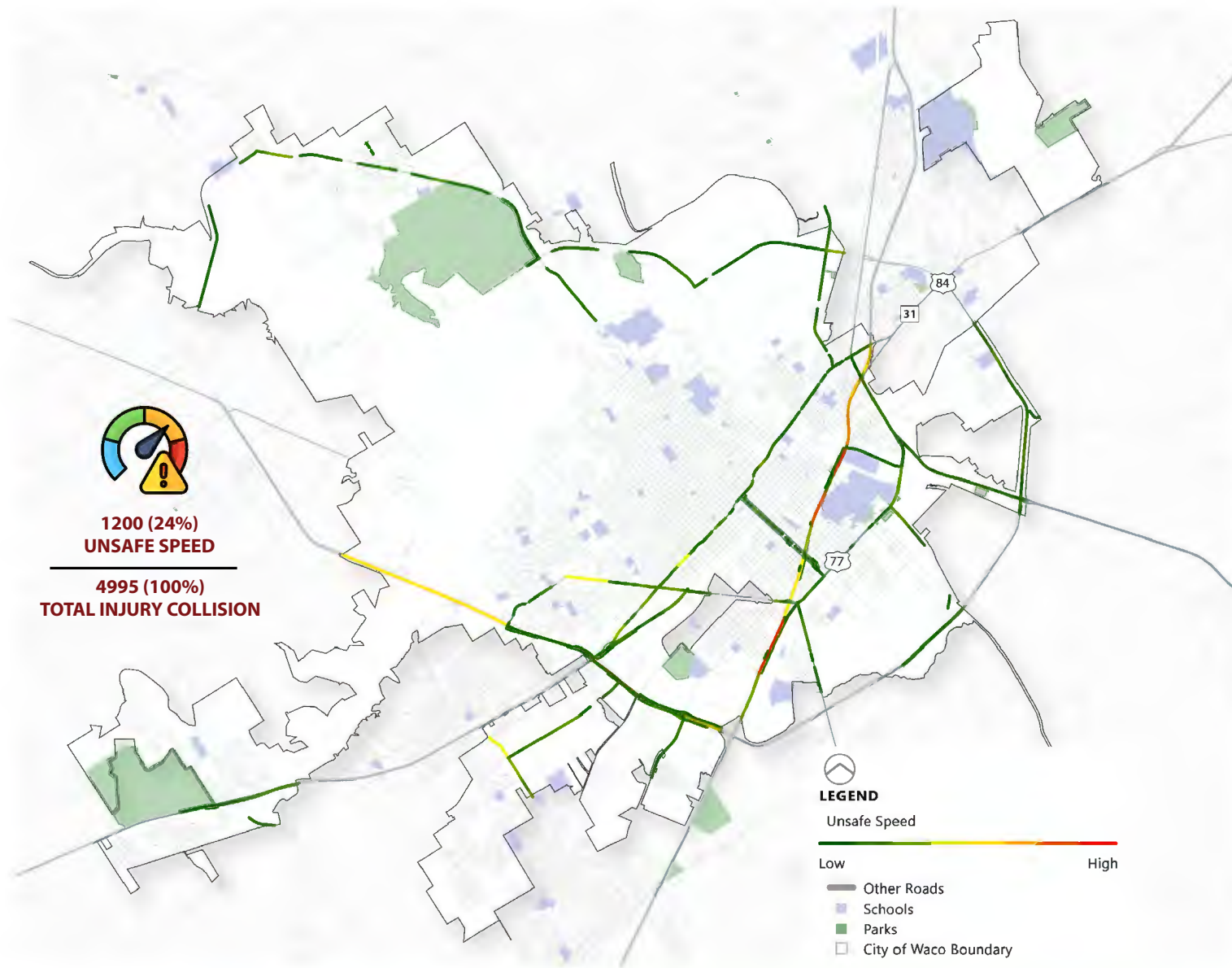
**1713 (34%)
REAR END**
**4995 (100%)
TOTAL INJURY COLLISION**

LEGEND
Rear End
Low High
Other Roads
Schools
Parks
City of Waco Boundary

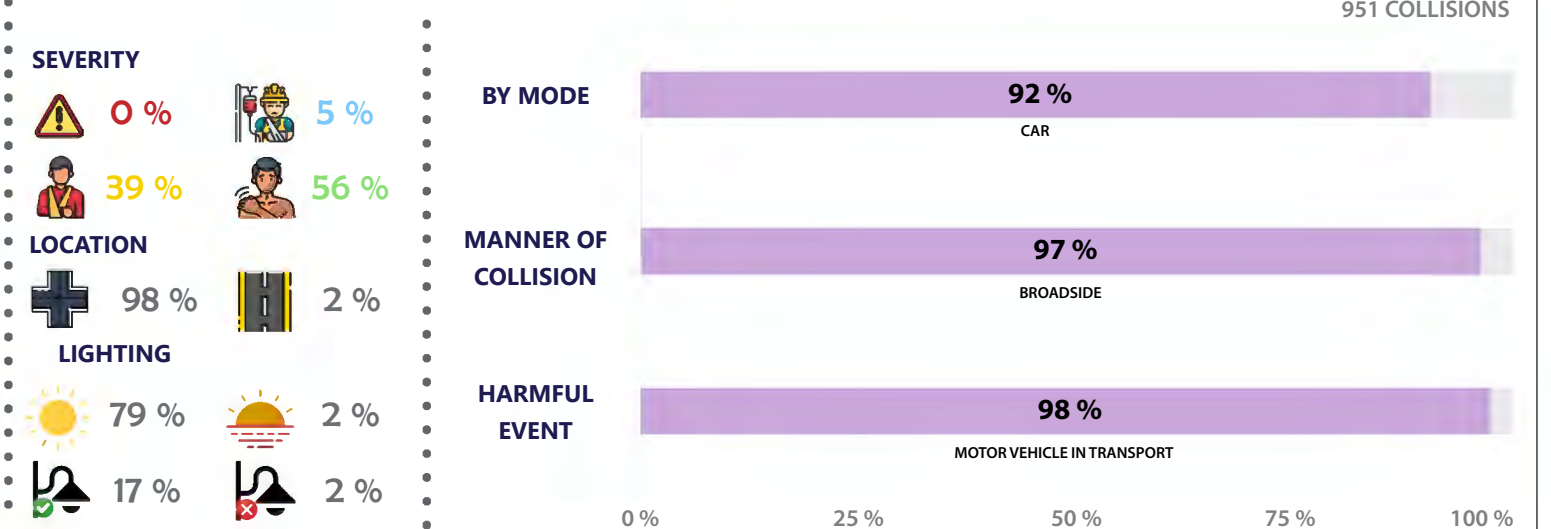
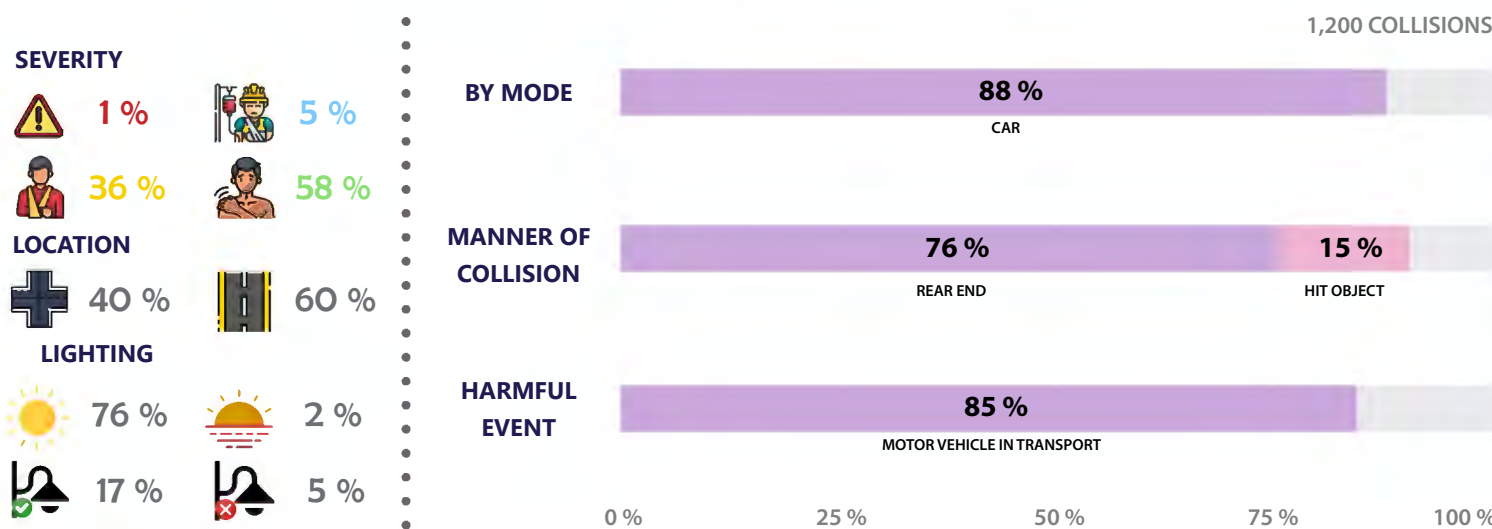


PROFILES - TXDOT

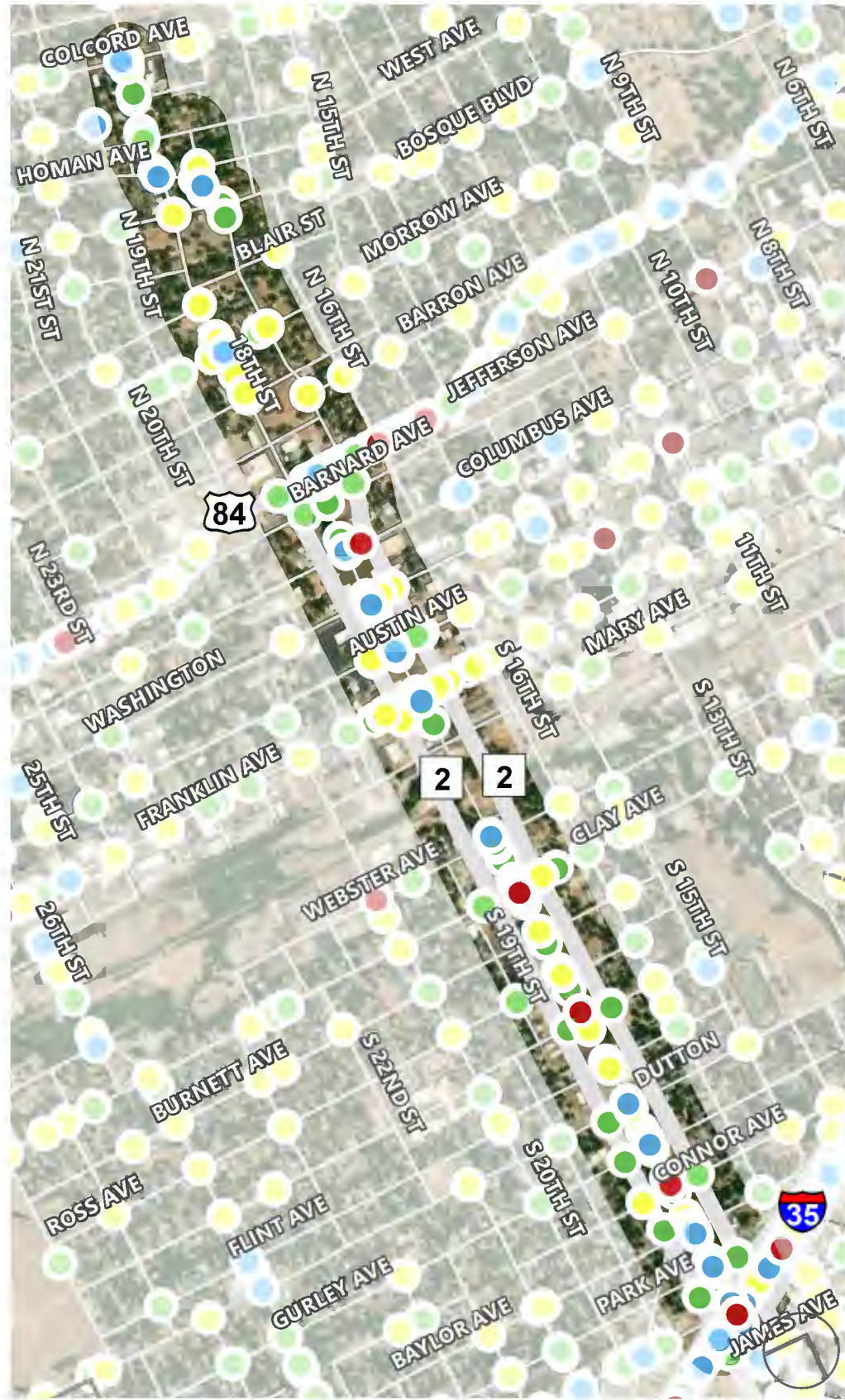
PROFILE 3 - UNSAFE SPEED



PROFILE 4 - AUTOMOBILE RIGHT-OF-WAY



PROJECT 1: 17TH & 18TH STREET- CORRIDOR SAFETY IMPROVEMENTS



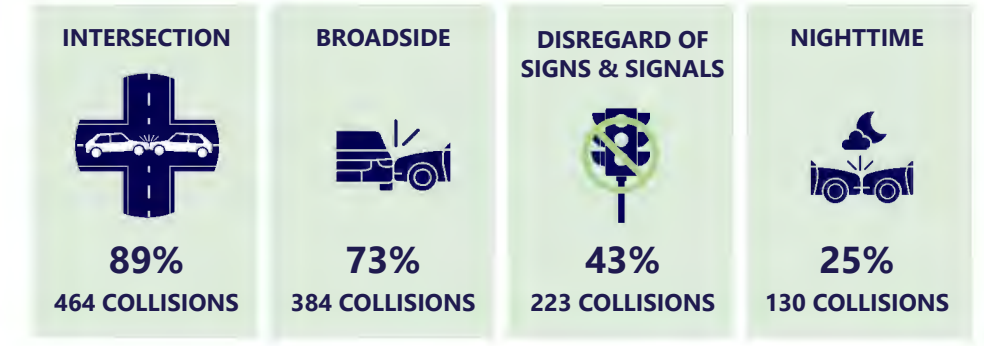
● Fatal Injury
 ● Serious Injury
 ● Minor Injury
 ● Possible Injury

State Loop 2 (17th & 18th Street), a three-lane minor arterial where 17th Street serves northbound traffic and 18th Street serves southbound traffic, runs through commercial, residential, and industrial areas from Colcord Drive to IH 35 Southbound Frontage Road. The speed limits vary from 30 mph to 55 mph along the corridor. This corridor passes by schools including West Avenue Elementary School, Waco Montessori School, Bell's Hill Elementary School, and Cesar Chavez Middle School.

INJURY COLLISION STATISTICS



TRENDS



EXISTING CONDITIONS



Existing Condition:
N 17th St at Morrow Ave facing north



Existing Condition:
N 18th St at Blair St facing south

ESTIMATED COST OF IMPROVEMENT

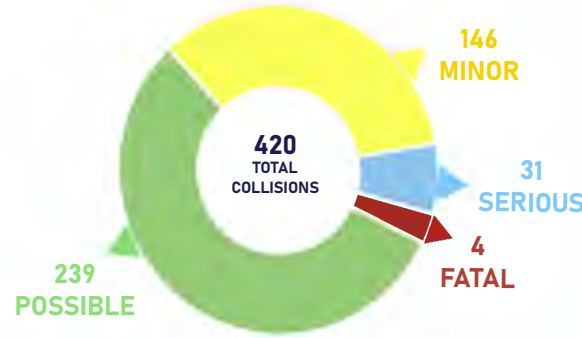
1: 17TH & 18TH ST- CORRIDOR SAFETY IMPROVEMENTS		
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Install Buffered Bike Lane	17th St from Bosque Blvd to IH 35	\$213,200
Install Sidewalk	17th St from Bosque Blvd to IH 35	\$5,160,900
Lane Reduction	18th St from Homan Ave to Colcord Ave	\$24,400
Fill Sidewalk Gaps	18th St from Homan Ave to Colcord Ave	\$587,700
Install Street Lighting	17th St and 18th St from Colcord Ave to IH 35	\$1,350,100
	CONTINGENCY COST	\$1,467,300
	ENGINEERING COST	\$3,081,300
	TOTAL COST	\$11,884,900



FM 1637 (China Spring Road, N 19th Street and N 18th Street), a four-lane minor arterial with a center two-way left turn lane, provides access to a mix of commercial, residential, and agricultural areas from Steinbeck Bend Drive to US-84 (Waco Drive). The speed limits vary, with 30 mph through more populated areas and 55 mph in less developed sections along the corridor. This corridor is close to several schools, including Premier High School of Waco, McLennan Community College, Cedar Ridge Elementary School, and North Waco Elementary School.

INJURY COLLISION STATISTICS

- 16
- 5
- 13
- 370
- 16



TRENDS

BROADSIDE	INTERSECTION	NIGHTTIME	HIT OBJECT
57%	35%	27%	22%
241 COLLISIONS	148 COLLISIONS	113 COLLISIONS	92 COLLISIONS

EXISTING CONDITIONS



Existing Condition:
FM-1637 at Stewart Dr facing north



Existing Condition:
FM-1637 at N 4th St facing west

ESTIMATED COST OF IMPROVEMENT

2: FM 1637- CORRIDOR SAFETY IMPROVEMENTS

IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Install Street Lighting	From Steinbeck Bend Dr to Lake Shore Dr	\$488,800
Install Median		\$2,980,800
Install Median	18th St and 19th St from Lake Shore Dr to Vivian Ave	\$4,356,200
Fill Sidewalk Gaps & Install Street Lighting	Herring Ave from 18th St to 4th St	\$1,860,100
Install Street Lighting	18th St and 19th St from Lake Shore Dr to Herring Ave	\$621,000
Fill Sidewalk Gaps & Speed Feedback Signs	18th St and 19th St from Lake Shore Dr to Herring Ave	\$5,461,900
Install Bike Lane	4th St from Herring Ave to US 84 (Waco Dr)	\$70,000
Install Street Lighting & Sidewalk & Parking Striping	4th St and 5th St from Herring Ave to US 84 (Waco Dr)	\$4,532,800
	CONTINGENCY COST	\$4,074,400
	ENGINEERING COST	\$8,556,100
	TOTAL COST	\$33,002,100

■ Fatal Injury
 ■ Serious Injury
 ■ Minor Injury
 ■ Possible Injury

PROJECT 3: HEWITT DRIVE- COMPLETE STREETS MULTIMODAL PROJECT



● Fatal Injury
 ● Serious Injury
 ● Minor Injury
 ● Possible Injury

Hewitt Drive, a four-lane minor arterial with a center two-way left turn lane, provides access to commercial and industrial areas. The speed limit is set at 45 mph along the entire corridor. Hewitt Drive provides primary access to Midway Middle School.

INJURY COLLISION STATISTICS

- 3
- 2
- 11
- 180
- 8



TRENDS

INTERSECTION	REAR END	BROADSIDE	AUTOMOBILE ROW
74%	47%	46%	32%
151 COLLISIONS	95 COLLISIONS	93 COLLISIONS	65 COLLISIONS

EXISTING CONDITIONS



Existing Condition:
Hewitt Dr at La Village Ave facing south

Existing Condition:
Hewitt Dr at Chapel Rd facing north



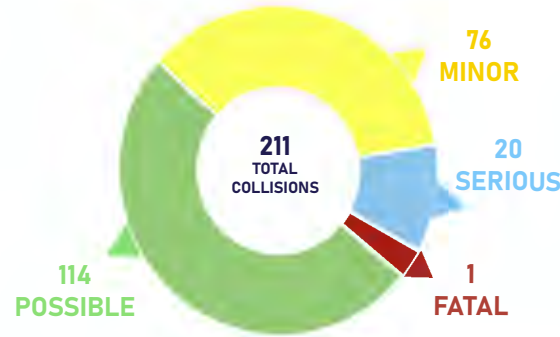
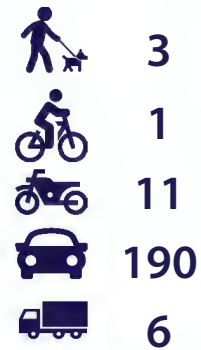
ESTIMATED COST OF IMPROVEMENT

3: HEWITT DR- COMPLETE STREETS MULTIMODAL PROJECT		
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Access Management and Install Median		\$2,416,200
Speed Feedback Signs		\$34,500
Install Street Lighting	From Regal Dr to Waco Dr	\$678,500
Install Sidewalk		\$2,872,300
Complete Streets Multimodal Project		\$7,877,500
	CONTINGENCY COST	\$2,775,800
	ENGINEERING COST	\$5,829,200
	TOTAL COST	\$22,484,000

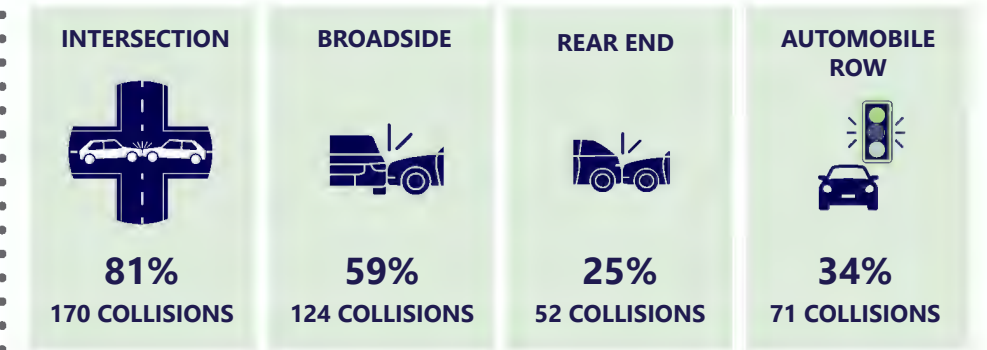


Bosque Boulevard, a four-lane undivided major arterial, provides access through commercial and residential developments from N Valley Mills Drive to Rambler Drive. The speed limit is set at 35 mph along the corridor. Bosque Boulevard is within 0.25 mile of Parkdale Elementary School, Eagle Christian Academy, and Harmony Science Academy.

INJURY COLLISION STATISTICS



TRENDS



EXISTING CONDITIONS



Existing Condition:
Bosque Blvd at N New Rd facing west



Existing Condition:
Bosque Blvd at Lake Air Dr facing east

ESTIMATED COST OF IMPROVEMENT

4: BOSQUE BLVD- CORRIDOR SAFETY IMPROVEMENTS		
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Install Median and Access Management	From N Valley Mills Dr to Colonial Ave	\$4,641,500
Fill Sidewalk Gaps	From N Valley Mills Dr to Rambler Dr	\$1,544,500
Fill Sidewalk Gaps	From N Valley Mills Dr to Rambler Dr	\$2,306,900
	CONTINGENCY COST	\$1,698,600
	ENGINEERING COST	\$3,567,100
	TOTAL COST	\$13,758,600

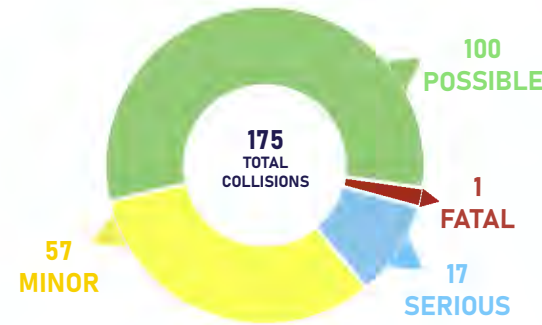
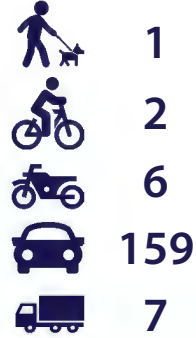
■ Fatal Injury
 ■ Serious Injury
 ■ Minor Injury
 ■ Possible Injury

PROJECT 5: S NEW ROAD- CORRIDOR SAFETY IMPROVEMENTS

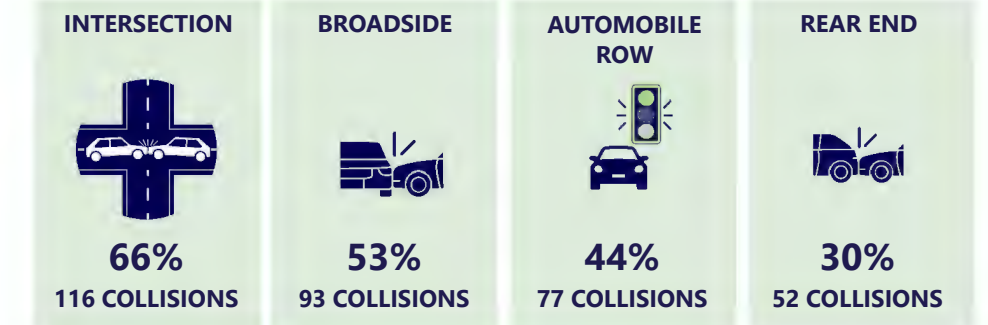


S New Road, a four-lane major arterial with a center two-way left turn lane, provides access through commercial and residential areas from Franklin Avenue to Old Robinson Road. The speed limit is set at 45 mph along the corridor. This corridor provides access to University High School and the Waco ISD Stadium.

INJURY COLLISION STATISTICS



TRENDS



EXISTING CONDITIONS



Existing Condition:
S New Rd at Creekview Dr facing west

Existing Condition:
S New Rd at Rolando Ave facing east



ESTIMATED COST OF IMPROVEMENT

5: S NEW RD- CORRIDOR SAFETY IMPROVEMENTS		
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Pedestrian Connectivity Improvements (Sidewalk and Crosswalks)	S New Rd from Franklin Ave to Old Robinson Rd & Beverly Dr from New Rd to Industrial Ave	\$4,556,300
Install Median		\$4,953,600
Install Striping Upgrades	S New Rd from Franklin Ave to Old Robinson Rd	\$152,200
Install Street Lighting		\$143,800
	CONTINGENCY COST	\$1,961,200
	ENGINEERING COST	\$4,118,500
	TOTAL COST	\$15,885,600

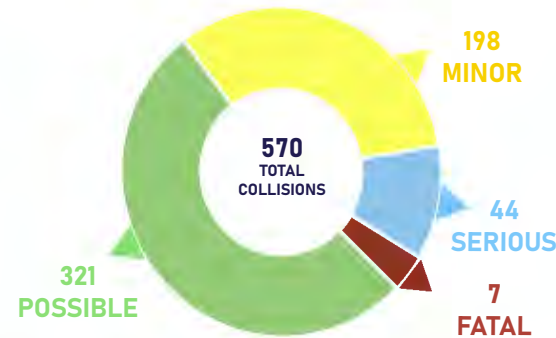
■ Fatal Injury
 ■ Serious Injury
 ■ Minor Injury
 ■ Possible Injury

PROJECT 6: N VALLEY MILLS DRIVE- COMPLETE STREET IMPROVEMENTS

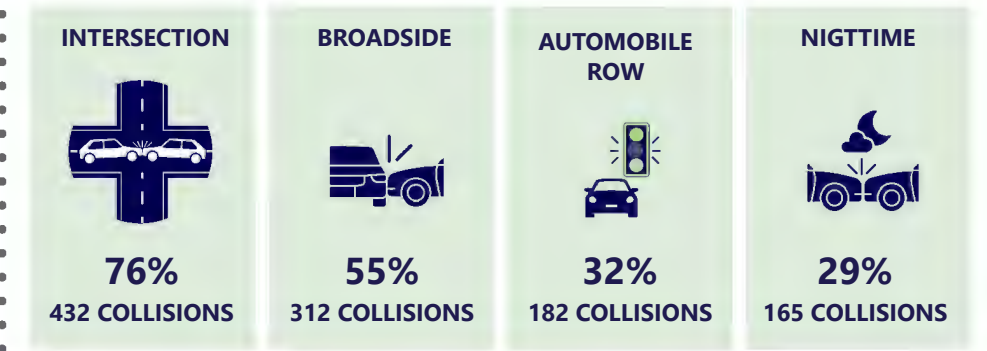
N Valley Mills Drive, a four-to six-lane minor arterial with a center two-way left turn lane, runs through a mix of commercial and residential areas from Bishop Drive to Franklin Avenue. The speed limits vary, set at 40 mph from Bishop Drive and New Road and 55 mph between New Road and Franklin Avenue. Schools- including the Valor Preparatory Academy, Eagle Christian Academy, and Harmony Science Academy- are within 0.25 mile of this corridor.

INJURY COLLISION STATISTICS

- 15
- 6
- 26
- 511
- 12



TRENDS



EXISTING CONDITIONS



Existing Condition:
N Valley Mills Dr at Sanger Ave facing west

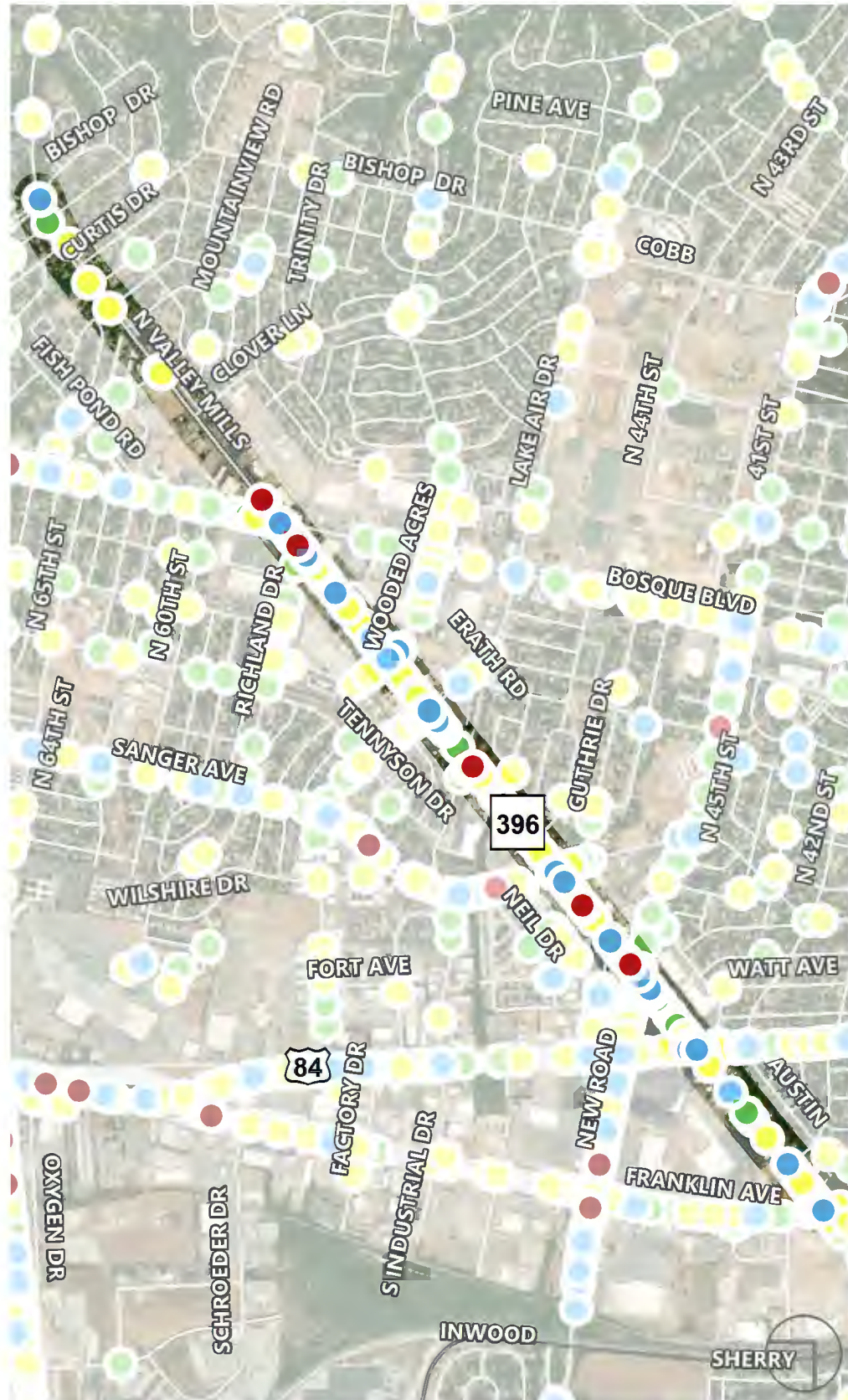
Existing Condition:
N Valley Mills Dr at Clover Ln facing east



ESTIMATED COST OF IMPROVEMENT

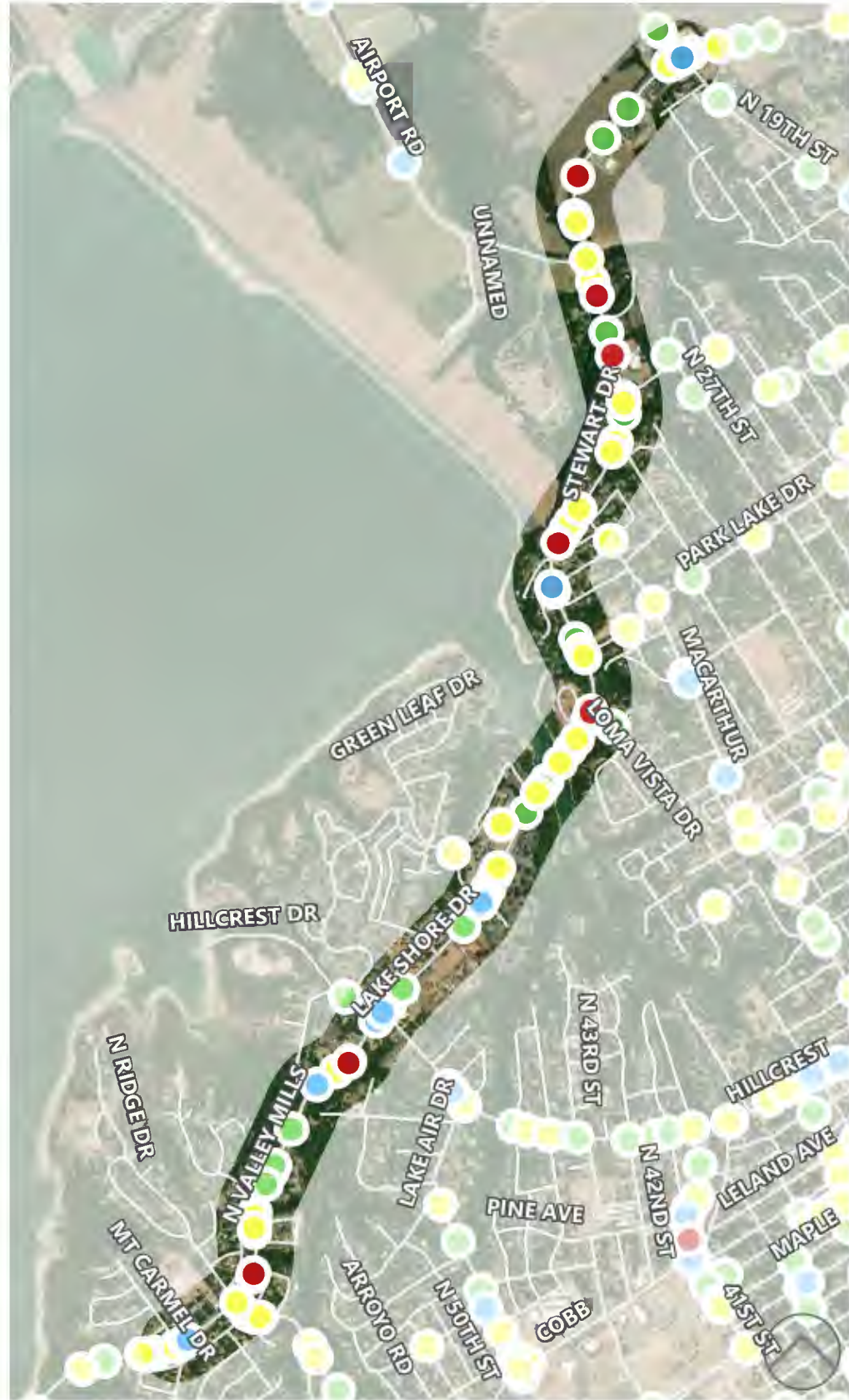
6: N VALLEY MILLS DR- COMPLETE STREET IMPROVEMENTS

IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Road Diet		\$558,900
Access Management and Install Medians		\$3,747,700
Street Lighting	N Valley Mills Dr from Bishop Dr to Franklin Ave	\$1,069,500
Speed Limit Reduction		\$3,800
Pedestrian Connectivity Improvements (Sidewalk and Crosswalks)		\$4,739,700
	CONTINGENCY COST	\$2,024,000
	ENGINEERING COST	\$4,250,300
	TOTAL COST	\$16,393,900



■ Fatal Injury
 ■ Serious Injury
 ■ Minor Injury
 ■ Possible Injury

PROJECT 7-A: LAKE SHORE DRIVE- CORRIDOR SAFETY IMPROVEMENTS

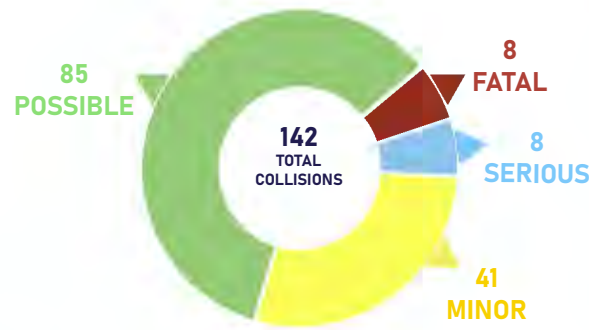


● Fatal Injury
 ● Serious Injury
 ● Minor Injury
 ● Possible Injury

Lake Shore Drive, a four-lane minor arterial with a center two-way left turn lane, runs through a mix of commercial and residential areas from Mt Carmel Drive to N 19th Street. The speed limits vary, set at 40 mph from Mt Carmel Drive and Hillcrest Drive and 50 mph between Hillcrest Drive and N 19th Street. Lakeshore Drive is within 0.25 mile of Vanguard Preparatory School.

INJURY COLLISION STATISTICS

- 3
- 1
- 6
- 129
- 3



TRENDS

INTERSECTION	BROADSIDE	NIGHTTIME	HIT OBJECT
54%	39%	37%	33%
77 COLLISIONS	55 COLLISIONS	53 COLLISIONS	47 COLLISIONS

EXISTING CONDITIONS



Existing Condition:
Lake Shore Dr at Airport Rd facing north



Existing Condition:
Lake Shore Dr at Park Lake Dr facing south

ESTIMATED COST OF IMPROVEMENT

7-A: LAKE SHORE DR- CORRIDOR SAFETY IMPROVEMENTS		
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Shared Use Path		\$3,606,800
Bridge Improved Pedestrian Access		\$110,400
Install Median	From N 19th St to Mt Carmel Dr	\$8,245,000
Install Street Lighting		\$1,547,900
Improve Sight Distance		\$31,100
	CONTINGENCY COST	\$1,958,600
	ENGINEERING COST	\$4,113,100
	TOTAL COST	\$15,864,600

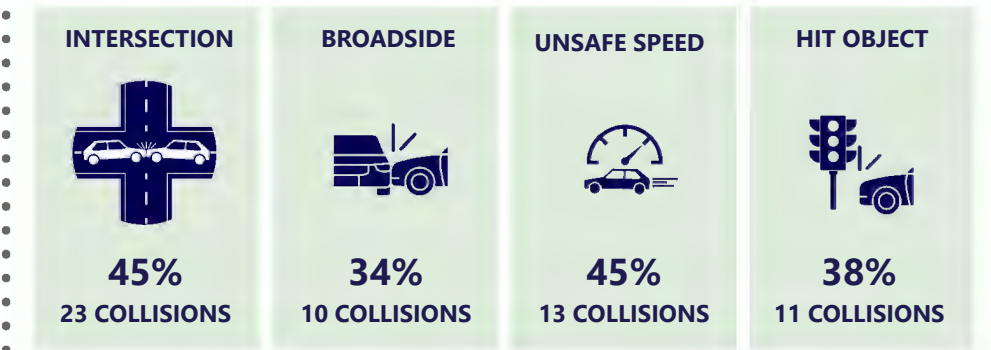
Lake Shore Drive/N Valley Mills Drive, a two-lane undivided minor arterial, runs through a mix of residential and recreational areas from Mt Carmel Drive to Bishop Drive. The speed limit is set at 40 mph. Lakeshore Drive is within 0.25 miles of Vanguard Preparatory School.

INJURY COLLISION STATISTICS

- 0
- 1
- 3
- 24
- 1



TRENDS



EXISTING CONDITIONS



Existing Condition:
N Valley Mills Dr at La Porte Dr facing west

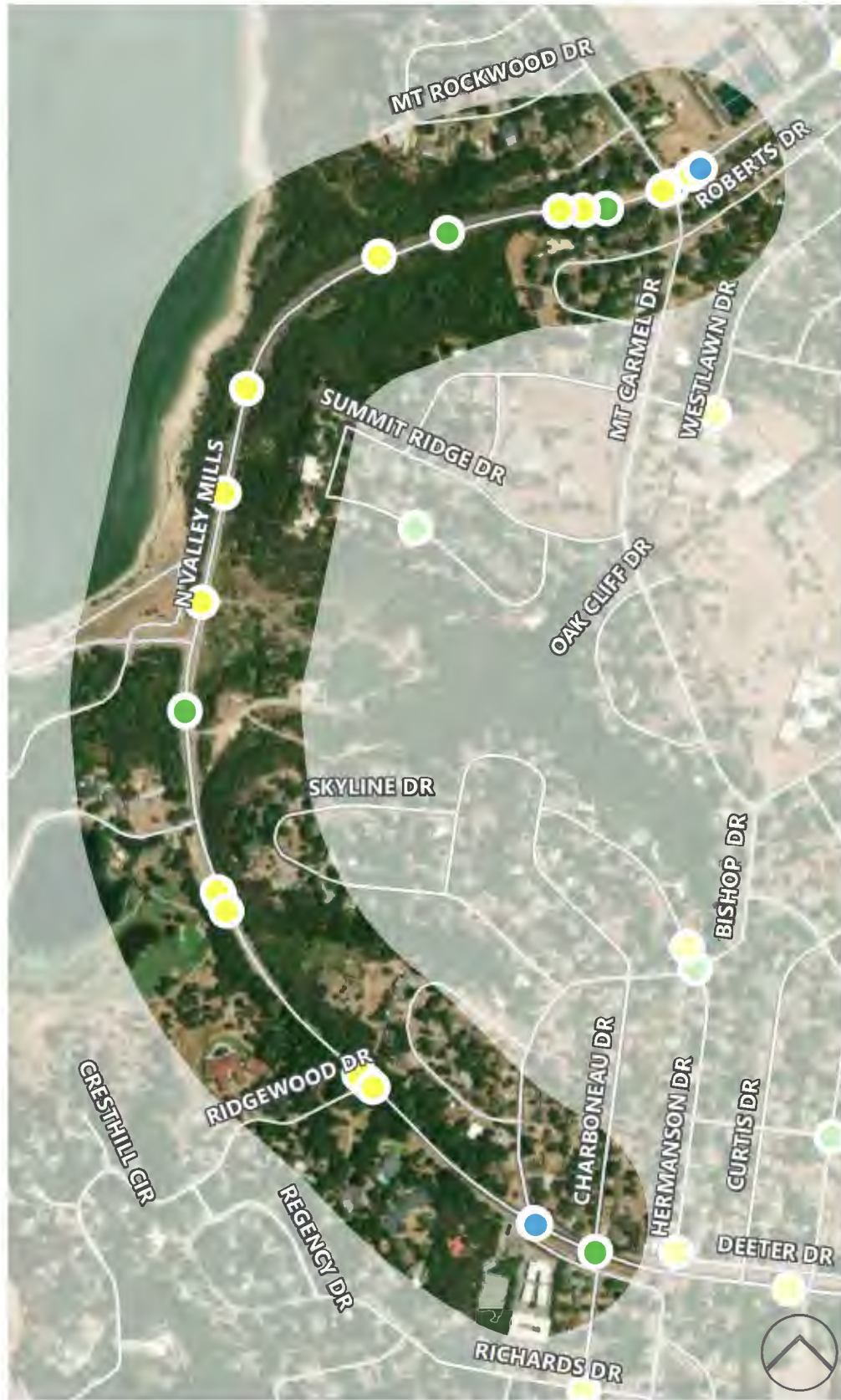


Existing Condition:
N Valley Mills Dr at Hanover Dr facing east

ESTIMATED COST OF IMPROVEMENT

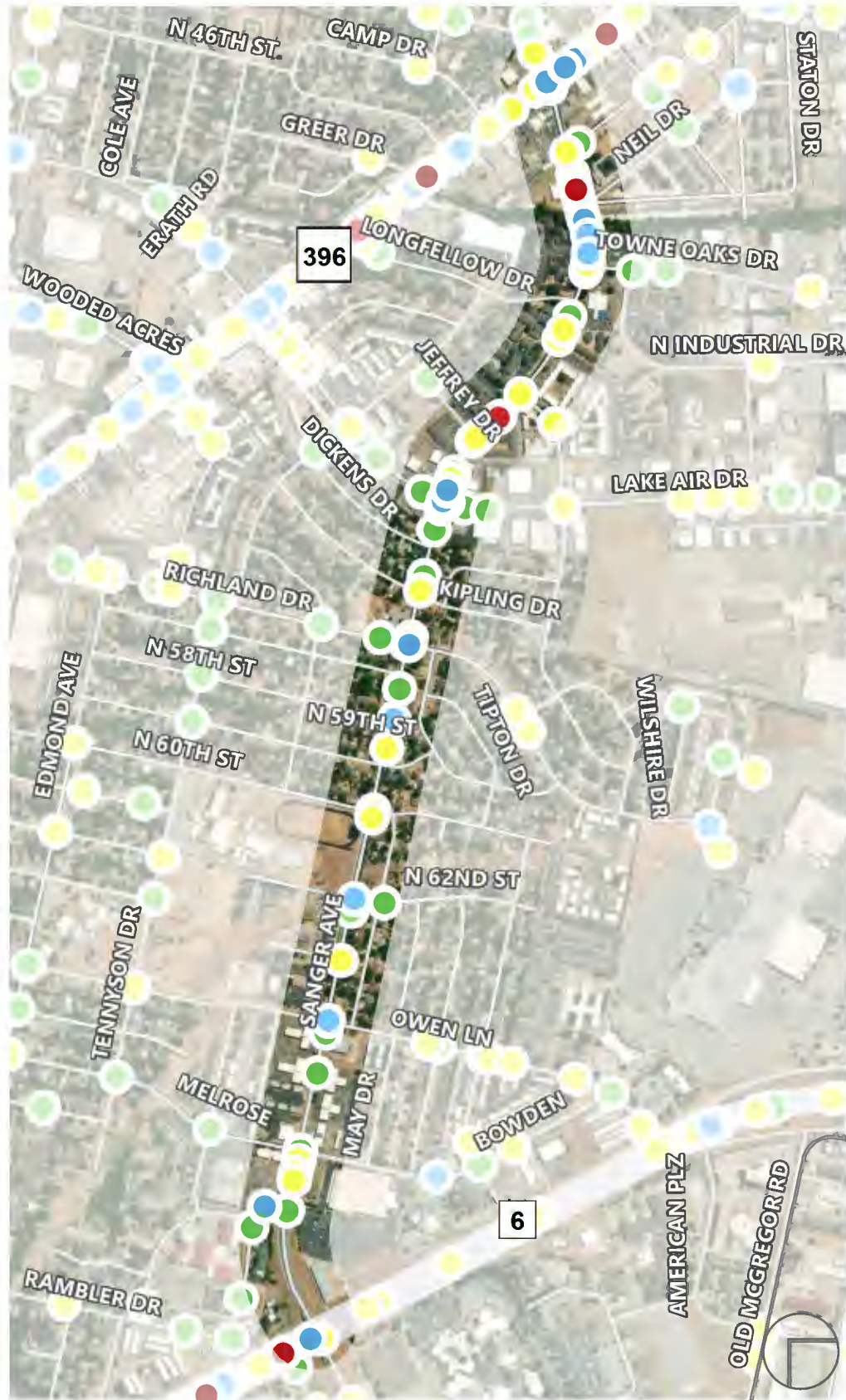
7-B: LAKE SHORE DR/N VALLEY MILLS DR- CORRIDOR SAFETY IMPROVEMENTS

IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Install Street lighting		\$201,300
Minor Streets Sight Distance Improvements	Mt Carmel Dr to Bishop Dr	\$15,000
Install Speed Feedback Sign		\$34,500
	CONTINGENCY COST	\$50,200
	ENGINEERING COST	\$105,400
	TOTAL COST	\$406,400



■ Fatal Injury
 ■ Serious Injury
 ■ Minor Injury
 ■ Possible Injury

PROJECT 8: SANGER AVENUE SAFETY IMPROVEMENTS



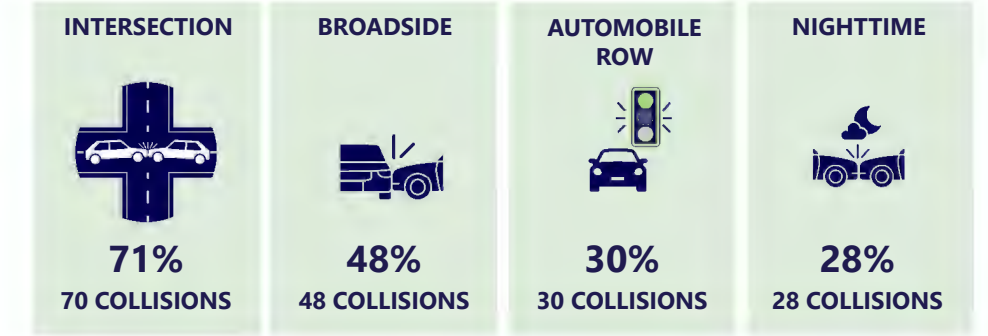
■ Fatal Injury
 ■ Serious Injury
 ■ Minor Injury
 ■ Possible Injury

Sanger Avenue, a four-lane minor arterial, provides access through a mix of commercial and residential areas from State Highway 6 to N Valley Mills Drive. The speed limit is set at 30 mph along the corridor. Sanger Avenue provides access to Tennyson Middle School.

INJURY COLLISION STATISTICS



TRENDS



EXISTING CONDITIONS



Existing Condition:
Sanger Ave at Towne Oaks Dr facing east

Existing Condition:
Sanger Ave at N 60th St facing west



ESTIMATED COST OF IMPROVEMENT

8: SANGER AVENUE- SAFETY IMPROVEMENTS		
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Road Diet Improvements		\$232,500
Fill Sidewalk Gaps		\$3,747,000
Speed Feedback Signs	Sanger Ave from SH 6 to N Valley Mills Dr	\$34,500
Access Management		\$3,479,500
Install Street Lighting		\$393,300
	CONTINGENCY COST	\$1,577,400
	ENGINEERING COST	\$3,312,500
	TOTAL COST	\$12,776,700

THIS PAGE IS INTENTIONALLY LEFT BLANK