

City of
Fort Collins

VISION **>>** ZERO

Vision Zero Action Plan
*Annual Evaluation and
Roadway Safety Update*

October 2024

The City of Fort Collins is in the process of making all its documents more accessible. While much progress has been made, some of the more technical and/or graphical elements of this document may be inaccessible for some people. If you would like assistance in reviewing this document, please contact the City of Fort Collins Traffic Operations Department at 970-221-6630. Please know that the City is happy to assist you and do not hesitate to reach out.

Prepared By:



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INTRODUCTION

The City of Fort Collins is a vibrant city of 170,000 people nestled against the foothills of the Rocky Mountains about an hour’s drive north of Denver. This outdoor oriented community is home to Colorado State University and its 33,000 students. The area is known for its high-tech companies, innovation, entrepreneurialism, and beer and bike culture. The Old Town area in the city is a unique, lively downtown with residential areas, historic buildings, retail shops, museums, theaters, and restaurants.

ROADWAY SAFETY

Like other cities, Fort Collins experiences roadway crashes. With an average of almost 3,000 reported crashes each year, the impact of traffic crashes touches every aspect of the physical and emotional well-being of a community including families, workplaces, emergency responders, neighborhoods, livelihoods, mobility and more. In Fort Collins in 2023 alone, the annual societal cost of these crashes was \$230 million. Improving roadway safety by reducing the number and severity of crashes is a priority.

Safety Matters

In 2023, there were 93 crashes involving a serious injury or fatality in Fort Collins

MOVING TOWARDS VISION ZERO

The City of Fort Collins has been reviewing crash records on an annual basis for many years, and beginning in 2015 compiled the information into an annual Roadway Safety Report.

In late 2016, the City of Fort Collins became the first public local entity to join the Colorado Department of Transportation’s (CDOT) Moving Towards Zero Deaths initiative. In the spring of 2023, the City adopted a *Vision Zero Action Plan*. The plan outlines the City’s commitment to prioritizing data-driven safety projects that improve transportation safety for everyone moving about the City.



The City has set a goal:

By 2032 no one dies or is seriously injured while traveling in Fort Collins.

This annual document is an evaluation of the efforts of previous years. It serves as the continuous evaluation of progress towards Vision Zero and the implementation of goals in the Fort Collins Vision Zero Action Plan. It identifies how the City is using the national best practice System-Based Transportation Safety Approach to address all aspects of Fort Collins’ transportation. The report compiles traffic crash and safety information and tracks trends on public streets within Fort Collins. It analyzes intersection safety, evaluates safety on the High Injury Network, and evaluates previous work to identify project outcomes in terms of improving safety. The final section discusses specific next steps and provides safety-based work items for the City in the coming year.



System-Based Transportation Safety Approach

Improving roadway safety requires commitment and contributions from everyone. City departments including Traffic Operations, FCMoves,

Engineering, Police Services, Streets and others play a vital role in a comprehensive roadway safety improvement program. Other jurisdictions, such as Larimer County and the Colorado Department of Transportation (CDOT) are also important partners as crashes occur on jurisdictional boundaries, or along state highways in the City.

The residents of the community and everyone using the transportation system through any mode also play a critical role in supporting safety. Everyone has a right to travel around Fort Collins safely, and everyone has a responsibility to contribute towards that end. This document provides information that can be used for education and messaging to the greater Fort Collins community.

Finally, Fort Collins has invested in many planning documents and programs, including the Transportation Master Plan, the Active Modes Plan, and the Capital Improvement Plan. The Vision Zero Action Plan and this annual report provide concurrent guidance on utilizing a safety lens for all projects.

SAFETY SNAPSHOT

This section of the report provides an overview of general safety data for the City of Fort Collins. Unless otherwise noted, the data represents a compilation or average of the most recent five years of data (2019-2023).

Notes:

- See Appendix A for explanation of the data.
- See Appendix B for definition and visual depictions of various crash types.

CRASH DATA AND TRENDS

Total crash and serious injury / fatal crash number in the city are shown in **Figure 1** below.

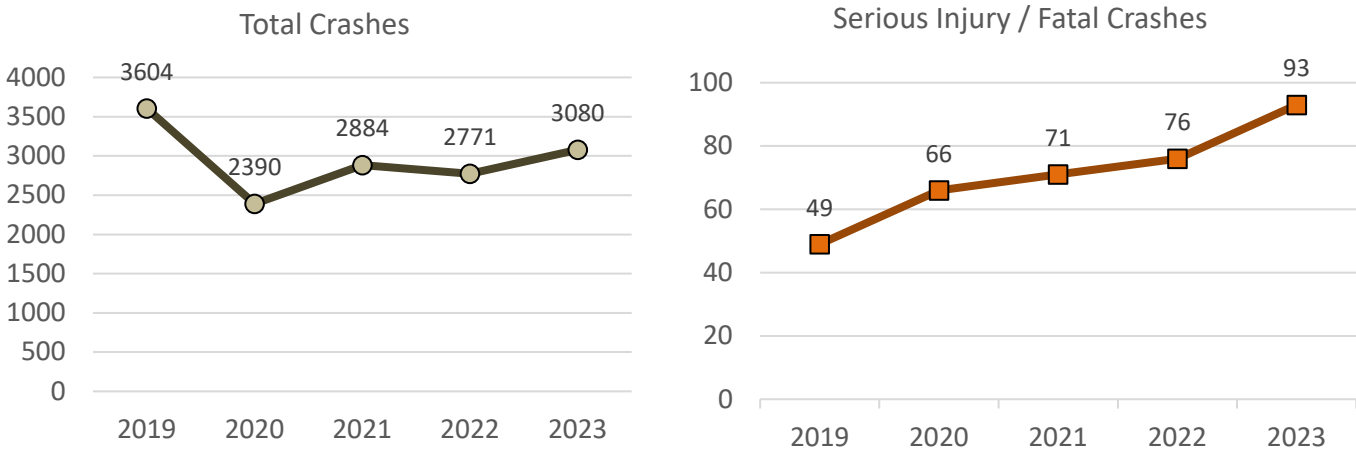


Figure 1. Five Year Crash Trends

There has been a significant increase in serious injury / fatal crashes in the last five years. This is a concerning trend, and one that is a focus for the community and the City to address.

This type of trend is not unique to Fort Collins. Nationally, crash trends have been increasing for a number of years, and especially during the pandemic, serious injury and fatal crashes saw a significant increase despite lower traffic volumes. When compared to statewide data, the increase in serious injury/fatal crashes in Fort Collins follows a similar trend. **Figure 2** shows serious injury and fatal crash trends on a normalized scale (-5 to +5).

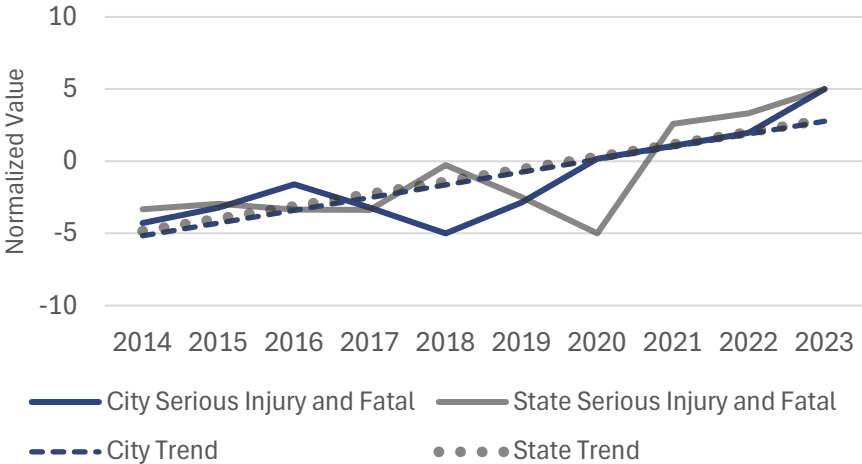


Figure 2. Ten Year Crash Trend Comparison Fort Collins to Colorado

Other contributing factors include the fact that as Fort Collins annexes roadways on its periphery, crashes that occur in those areas are now counted as City crashes. Therefore, the increase in serious injury/fatal crashes may be partially due to the change in the area being reported as Fort Collins crashes. Examples of locations include some of the roadways in proximity to I-25 interchanges.

Travel Modes

Figure 3 shows how vulnerable road users (those traveling on motorcycles, bicycles, and pedestrians) are disproportionately represented in serious injury and fatal crashes.

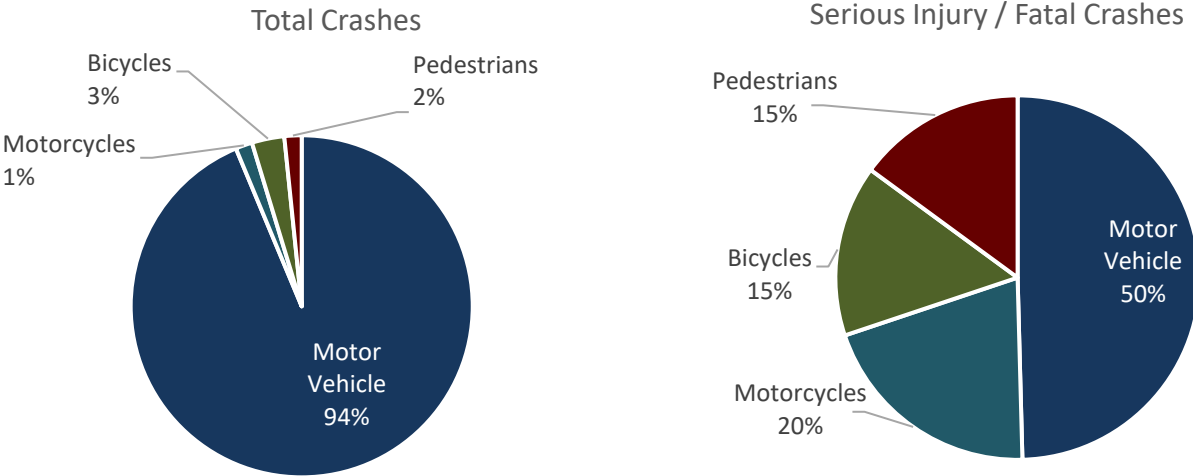


Figure 3. Travel Modes for Total Crashes and Serious Injury / Fatal Crashes

Vulnerable Road Users

Serious injury and fatal crash trends by mode of travel for vulnerable road users are shown in **Figure 4**. All modes of travel for vulnerable road users are experiencing increasing trends.

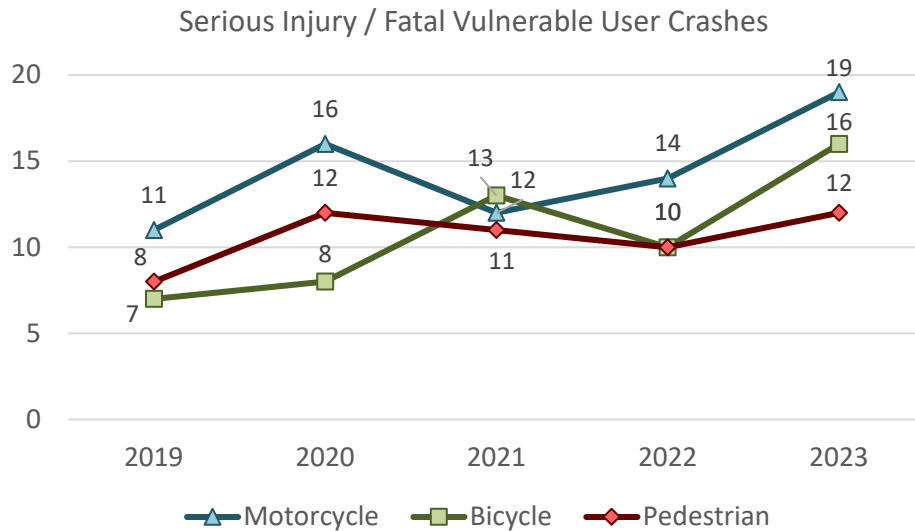


Figure 4. Vulnerable User Crash Trends

Fatal Crashes

The trend in fatal crashes is shown in **Figure 5**. Partially due to the small number of crashes, there can be significant variability in the numbers from year to year. The overall percentage of modes involved in fatal crashes during the past five years are shown in **Figure 6**. Their locations are shown in **Figure 7**.

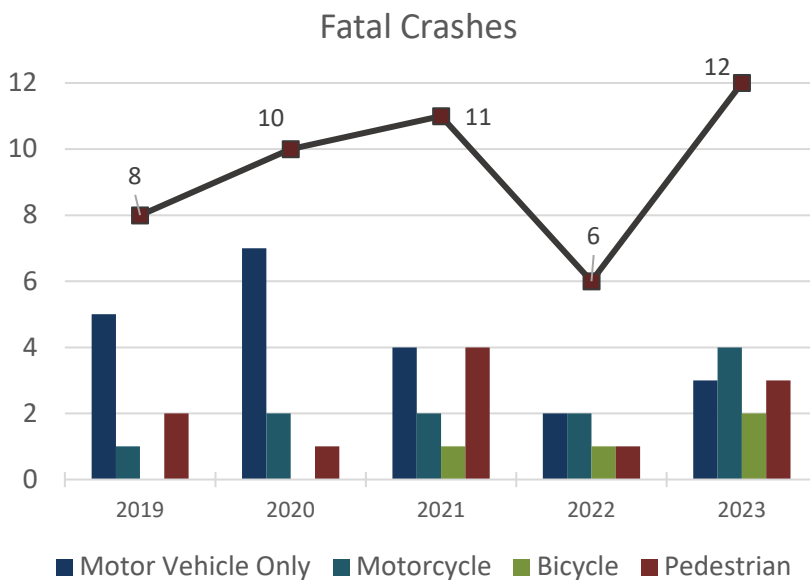


Figure 5. Fatal Crash Trends

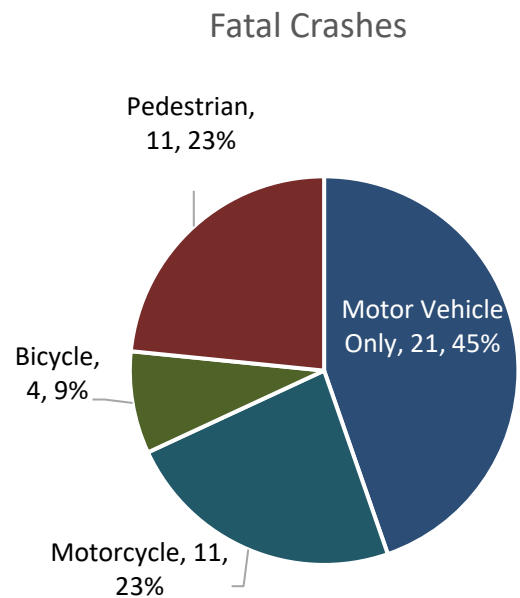


Figure 6. Modes of Travel Involved in Fatal Crashes

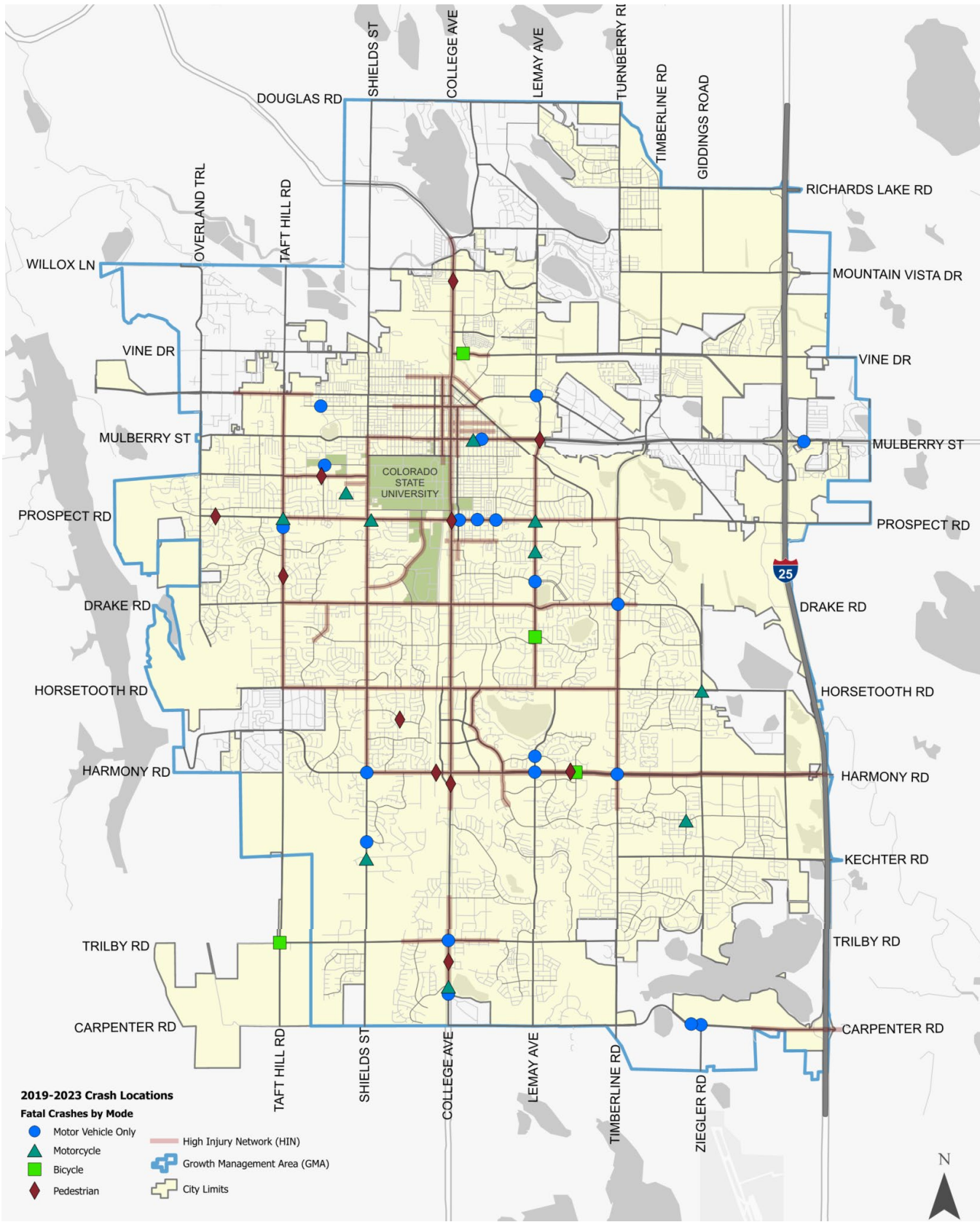


Figure 7. Location and Mode of Travel in Fatal Crashes

While each crash is unique and often has several contributing factors, an exploration of the data identifies some common themes among the crashes by mode. These themes are not intended to place blame, but rather to better understand risk and locations of interest, and target safety improvements, educational outreach and/or enforcement areas. Details on the takeaways and other themes are shown below. Note that some crashes are included in more than one category so the total may exceed 100%.

Table 1. Fatal crashes involving only motor vehicles:

Theme	# crashes in last 5 years	Percent of crashes
Fatal crashes involving only motor vehicles	21	
• Intersection crashes	12	57%
○ Signalized intersection	6	28%
○ Unsignalized intersection	6	28%
• Single vehicle run off the road	7	33%
• Approach turn crashes (4 at signalized)	5	24%
• Significant speeding (up to 126 mph)	5	24%
• Medical events prior to the crash	5	24%
• Alcohol / DUI related	5	24%

Table 2. Fatal crashes involving motorcycles:

Theme	# crashes in last 5 years	Percent of crashes
Fatal crashes involving motorcycles	11	
• Male gender of motorcyclist	10	91%
• Intersection crashes	7	63%
○ Signalized intersection	2	18%
○ Unsignalized intersection	3	27%
○ Roundabout (both single vehicle)	2	18%
• Nighttime crashes	6	54%
• Alcohol / DUI related	5	45%
• Significant speeding (2 @100 mph)	5	45%
• Single vehicle run off the road	4	36%

Table 3. Fatal crashes involving bicycles:

Theme	# crashes in last 5 years	Percent of crashes
Fatal crashes involving bicycles	4	
• Crashes in the daylight	4	100%
• Intersection crashes	4	100%
○ Signalized intersection	1	20%
○ Unsignalized intersection	3	75%

Table 4. Fatal crashes involving Pedestrians:

Theme	# crashes in last 5 years	Percent of crashes
Fatal crashes involving pedestrians	11	
• Nighttime crashes	8	72%
• Non-intersection (mid-block)	8	72%
• Involved pedestrian darting into road or laying in road	8	72%
• Intersection crashes	3	27%
○ Signalized intersection	0	0%
○ Unsignalized intersection	3	27%

The most frequent / common themes involved with fatal crashes are summarized in **Table 5** below for each mode of travel.

Table 5. Summary of Common Themes in Fatal Crashes:

<p><u>Motor Vehicle Only</u></p> <ul style="list-style-type: none"> Intersections Single vehicle Speeding Medical events Alcohol / DUI 	<p><u>Motorcycle</u></p> <ul style="list-style-type: none"> Intersections Nighttime (dark) Alcohol / DUI Significant speeding Single vehicle
<p><u>Bicycle</u></p> <ul style="list-style-type: none"> Daytime Unsignalized intersections 	<p><u>Pedestrian</u></p> <ul style="list-style-type: none"> Nighttime (dark) Non intersection (midblock)

Serious Injury / Fatal Crash Types

There are six crash types that make up 77% of all serious injury / fatal crashes. They are shown in **Figure 8**.

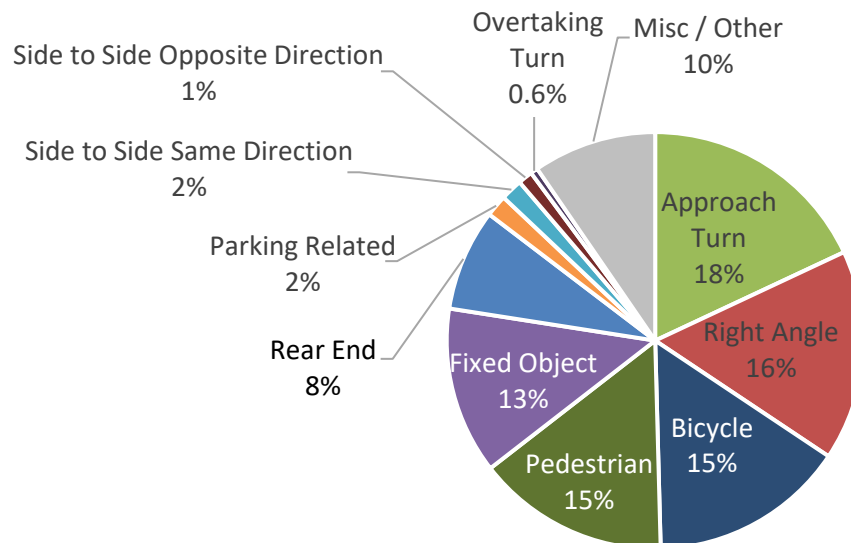


Figure 8. Serious Injury / Fatal Crash Types

Intersection Crashes

Intersections remain the most prevalent crash locations. Seventy percent (70%) of all serious injury / fatal crashes occur at intersections. The type of crashes that occur at intersections are shown in **Figure 9**.

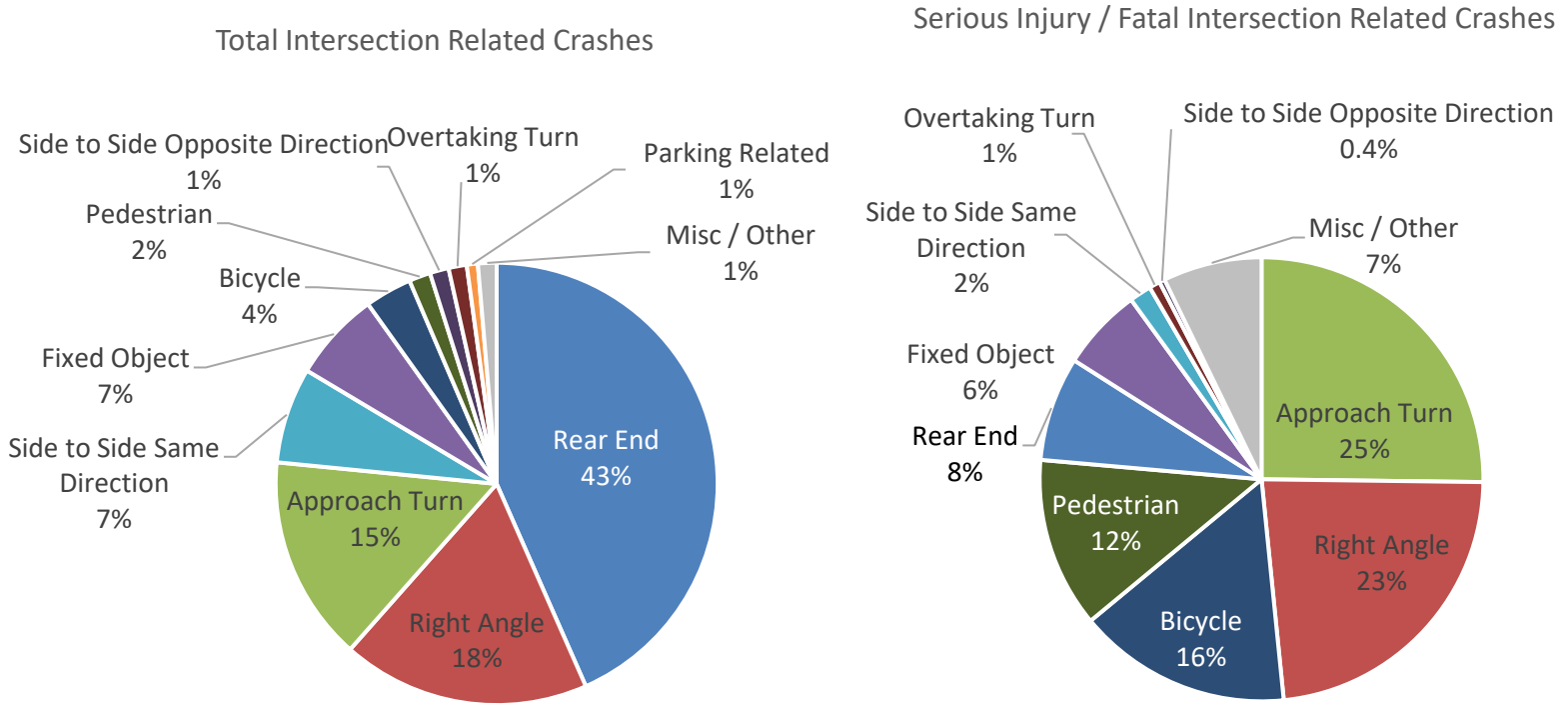


Figure 9. Crash Type for Intersection Crashes

Crash Location and High Injury Network

A map of crash location for serious injury / fatal crashes in the last five years is shown in **Figure 10**.

The map also shows the High Injury Network (HIN). The Vision Zero Action Plan for the City of Fort Collins adopted in 2023 identified street segments with the greatest share of serious injury / fatal crashes. Those streets have been designated as the HIN. The HIN represents 8% of the streets in Fort Collins and is the location of 52% of all serious injury / fatal crashes. The HIN are road segments that are especially targeted for safety focus.

Table 6. Crashes on the High Injury Network

	Citywide Crashes	Crashes on HIN
Total serious injury / fatal crashes	355	183 (52%)
Fatal crashes	47	29 (61%)

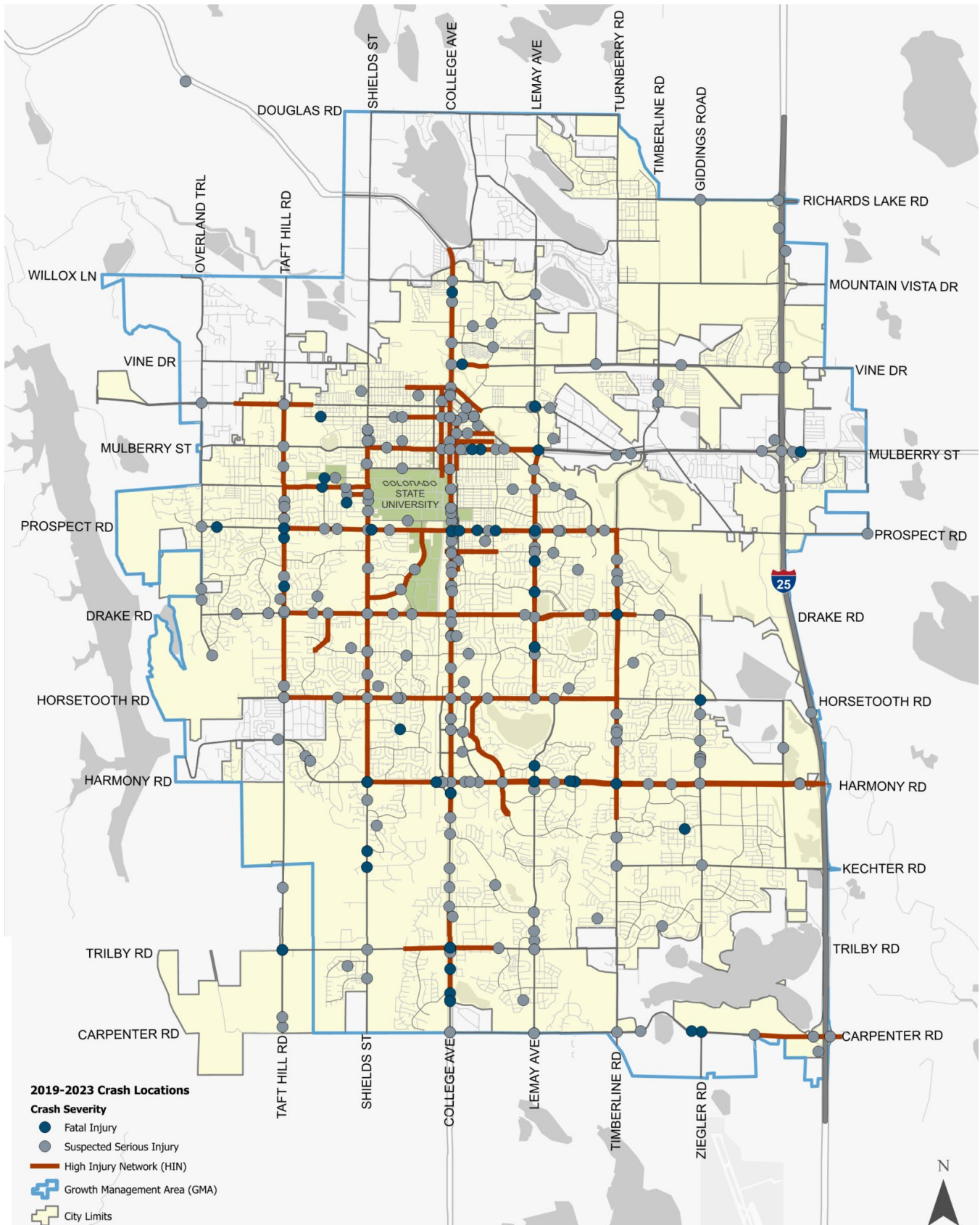


Figure 10. HIN and Location of Serious Injury / Fatal Crashes 2019-2023

ECONOMIC IMPACT

The economic costs of crashes in Fort Collins are estimated to be \$230 million each year (See **Table 7**). Crash costs include monetary losses associated with medical care, emergency services, property damage, and lost productivity. They also include future costs such as insurance premiums, and costs related to the reduction in the quality of life due to injuries. Crash costs use figures determined by the Federal Highway Administration and are adjusted to reflect 2023 values.

Societal cost of crashes
in Fort Collins in 2023:
\$230 million

The extraordinary high costs related to traffic crashes speaks to the profound impact - both personally and financially - that crashes have on those involved, their friends, family, coworkers and the broader community. Note that the small number of fatal crashes has a higher societal cost than thousands of property damage only crashes.

Crash Severity	Number of Crashes	Cost Per Crash	Societal Cost
Property Damage Crashes	2,243	\$ 12,900	\$ 28,934,700
Possible Injury Crashes	378	\$ 79,500	\$ 30,051,000
Non-Incapacitating Injury Crashes	366	\$ 141,000	\$ 51,606,000
Incapacitating Injury Crashes	82	\$ 386,000	\$ 31,652,000
Fatal Crashes	12	\$ 7,277,600	\$ 87,331,200
Total	3,081		\$ 229,574,900

Table 7. Economic Impact of Traffic Crashes in Fort Collins, 2023

COMPARISON TO OTHER CITIES

Knowing how Fort Collins crash trends compare to other communities helps identify progress and which communities to look to for effective strategies. The most consistent way to compare Fort Collins' crash frequency with that of other cities is to compare the fatal crash rate (crashes per 100,000 population). Fatal crashes are used for this comparison as they are most consistently reported due to federal reporting requirements. **Tables 8 and 9** are sorted by fatal crash rate and compare Fort Collins to other cities in Colorado and also other peer cities nationwide with similar populations (90,000 to 200,000).

It is important to note that because fatal crashes are rare, there are relatively low numbers to use in the analysis, which can result in some volatility in the results. Therefore, there can be significant swings in the crash rate as the number of fatal crashes varies from year to year.

The City of Fort Collins has a lower fatal crash rate than most of its comparable Colorado counterparts and is about average when compared against similar cities nationwide.

Colorado Cities							
City	Population	Fatal Crashes, 2019 - 2023					Fatal Crash Rate (Crashes/Year/ 100,000 Pop.)
		2019	2020	2021	2022	2023	
Boulder	107,295	2	4	4	1	3	2.6
Arvada	121,414	3	4	2	5	6	3.3
Fort Collins	174,000	8	10	11	6	12	5.4
Greeley	110,831	4	12	2	5	10	6.0
Avg. CO Cities	126,169	8.8	8.2	8.8	9.0	10.8	7.1
Thornton	145,990	13	8	9	13	9	7.1
Westminster	113,600	5	5	8	13	10	7.2
Longmont	98,630	12	5	9	7	5	7.7
Lakewood	158,656	19	11	18	17	20	10.7
Pueblo	113,969	13	15	16	14	22	14.0

Table 8. Fatal Crash Rate Comparison to Other Colorado Cities

Peer Cities							
City	Population	Fatal Crashes, 2018 - 2022*					Fatal Crash Rate (Crashes/Year/ 100,000 Pop.)
		2018	2019	2020	2021	2022	
Bellevue, WA	151,574	1	4	4	1	3	1.7
Naperville, IL	150,418	1	3	2	5	2	1.7
Overland Park, KS	201,709	2	9	7	5	6	2.9
Olathe, KS	145,536	6	6	3	4	5	3.3
Coral Springs, FL	134,394	3	4	8	7	5	4.0
Broken Arrow, OK	117,911	7	3	4	9	4	4.6
Fort Collins, CO	174,000	9	8	10	11	6	5.1
Cedar Rapids, IA	137,896	9	9	5	6	9	5.5
Avg. Peer Cities	132,280	6.5	6.2	8.5	9.0	9.7	5.9
San Angelo, TX	100,372	5	3	9	10	8	7.0
Richardson, TX	117,528	5	5	9	7	18	7.5
Norman, OK	130,046	9	5	12	10	20	8.6
Boca Raton, FL	97,422	10	6	11	15	15	11.7
Springfield, MO	170,188	18	15	27	27	25	13.2

Table 9. Fatal Crash Rate Comparison to Similar Peer Cities Nationwide

Data sources:

- Colorado crash data is from the Colorado Department of Transportation (CDOT).
- Crash data for communities outside Colorado (peer cities) was obtained from the National Highway Traffic Safety Administration's Fatal Accident Reporting System (FARS) which contains data through 2022.
- Population estimates are from the U.S. Census.

INTERSECTION EVALUATION

Total crash numbers at locations can be informative – on a ‘heat map’ for example. However, because vehicle volumes and other elements at specific locations vary widely, it is difficult to draw relevant and comparative conclusions from total crashes alone. Therefore, an additional analysis is conducted that allows for a data-based intersection comparison so that mitigation efforts can be targeted to places where more severe crashes are occurring than what would be expected based on traffic volumes and other characteristics. These intersections are good candidates for interventions and can have a strong impact on reducing crashes.

The effort follows the national best practice outlined in the *Highway Safety Manual* (HSM) published by the Transportation Research Board (TRB) and the American Association of State Highway and Transportation Officials (AASHTO). The procedure is a statistical process that utilizes inputs including crash numbers, severity, vehicle volumes, roadway geometry and type of control (such as signals or stop signs) at a location. The analysis then accounts for the somewhat random nature of crashes, and the outcome is an evaluation of intersection safety that can be compared from one location to another. It identifies locations that have a higher-than expected crash frequency where there is likely the most opportunity for reduction of crashes. Details on methodology, models, and costs are included in Appendix C. The result of the analysis is provided in two forms:

EXCESS CRASH COSTS

The analysis identifies the expected number of crashes at a particular intersection given the inputs and compares that against the actual number of crashes. The difference in expected crashes and actual crashes can be monetized as ‘excess crash costs’. This is the annual cost associated with crashes that are above the expected number of crashes for an intersection and provides an indication of locations with unusually high numbers of crashes. Locations with high excess crash costs may have significant potential for reducing crashes. Intersection statistics can also be compared against one another. A more detailed explanation of the methodology is in Appendix C.

LEVEL OF SERVICE OF SAFETY (LOSS)

While excess crash cost is a quantitative approach that provides a specific number (dollar amount), CDOT uses a similar analysis and reports results in a more qualitative fashion called Level of Service of Safety (LOSS). LOSS is calculated for both total crashes as well as fatal/injury crashes (FI). LOSS is reported on a scale of 1-4.

- LOSS 1 and 2 reflect locations with less than expected crashes (below the 50th percentile).
- LOSS 3 reflects locations with above average number of crashes (above the 50th percentile).
- LOSS 4 reflects locations with above the 80th percentile number of crashes.

Locations that are identified as LOSS 3 and 4 indicate the highest potential for crash reduction with a mitigating project. Intersections with a crash history that fall into LOSS 1 and 2 may still have a pattern that can be mitigated but may result in lower crash reduction than similar efforts at intersections with a higher LOSS.

The reporting of the LOSS analysis gives the City information needed to determine locations that may score favorably in the review process for CDOT safety funds.

INTERSECTION COMPARISON

The analysis for excess crash costs and LOSS was completed for 307 intersections in Fort Collins using three years of data (2021-2023). The results of excess crash costs and CDOT LOSS are shown in **Table 10** for the 50 intersections with the greatest excess crash costs and the most potential for improvement.



Note that since fatal and injury (FI) crashes have higher crash costs associated with them, the ranking method gives more weight to locations with more severe crashes compared to locations with primarily “fender benders”. The table also identifies whether an intersection is on the High Injury Network identified in the Vision Zero Action Plan (and shown in **Figure 10** on Page 9).

Table 10. Top 50 Intersections by Excess Crash Costs

	Rank	Facility ID	Intersection		Excess Expected Crash Cost (\$)	Level of Service of Safety (LOSS)		Notes	High Injury Network
			North-South Street	East-West Street		LOSS Total Crashes	LOSS Fatal & Injury Crashes		
Top 10 intersections	1	10	College	Drake	\$324,427	LOSS 3	LOSS 4	Capital Project in design	Yes
	2	59	Lemay	Drake	\$256,678	LOSS 3	LOSS 4	Capital Project in design/red light cameras install	Yes
	3	143	Timberline	Carpenter	\$253,738	LOSS 4	LOSS 4	Capital Project in design	no
	4	145	Timberline	Harmony	\$226,931	LOSS 3	LOSS 3		Yes
	5	162	Lemay	Harmony	\$213,841	LOSS 3	LOSS 4		Yes
	6	80	Mason	Harmony	\$208,108	LOSS 4	LOSS 4		Yes
	7	25	College	Mulberry	\$196,532	LOSS 3	LOSS 3		Yes
	8	35	College	Troutman	\$186,085	LOSS 4	LOSS 4	Signal Improvements completed 2024	Yes
	9	8	College	Columbia	\$179,844	LOSS 4	LOSS 4	Signal Improvements in design	Yes
	10	9402	Lemay	Carpenter	\$179,739	LOSS 3	LOSS 4		no
Next 15 intersections	11	18	College	Kensington	\$178,421	LOSS 4	LOSS 4		Yes
	12	119	Shields	Prospect	\$154,762	LOSS 3	LOSS 3	Planned Protected Intersection TCPSS	Yes
	13	9380	Timberline	Lincoln	\$135,805	LOSS 4	LOSS 4	Capital Project in design	no
	14	1	Boardwalk	Harmony	\$130,594	LOSS 3	LOSS 3	Protected Left Turns 2019	Yes
	15	6171	Edinburgh	Drake	\$122,312	LOSS 4	LOSS 4		Yes
	16	4	College	Boardwalk	\$111,567	LOSS 4	LOSS 3		Yes
	17	144	Timberline	Drake	\$111,189	LOSS 3	LOSS 3		Yes
	18	55	JFK	Harmony	\$110,698	LOSS 3	LOSS 3		Yes
	19	101	Remington	Mulberry	\$104,971	LOSS 4	LOSS 4		Yes
	20	19	College	Laporte	\$102,318	LOSS 4	LOSS 4		Yes
	21	69	Lemay	Riverside	\$99,021	LOSS 3	LOSS 3	Grant funding obtained for signal improvements	Yes
	22	137	Taft Hill	Horsetooth	\$93,343	LOSS 3	LOSS 3	Capital Project completed 2023	Yes
	23	15	College	Harvard	\$89,301	LOSS 4	LOSS 3	Signal Improvements in design	Yes
	24	9994	Taft Hill	Trilby	\$83,602	LOSS 4	LOSS 4	Signal installed 2023	no
	25	134	Taft Hill	Drake	\$83,389	LOSS 4	LOSS 3	Anticipated changes with Taft project	Yes
	26	7219	Shields	Pitkin	\$83,115	LOSS 4	LOSS 4		Yes
	27	140	Taft Hill	Prospect	\$80,479	LOSS 3	LOSS 3		Yes
	28	5329	College	Plum	\$80,234	LOSS 4	LOSS 4		Yes
	29	37	College	Willox	\$78,423	LOSS 3	LOSS 3		Yes
	30	7290	College	Mason/Palmer	\$73,596	LOSS 3	LOSS 3		Yes
31	6666	Mason	Horsetooth	\$73,086	LOSS 4			Yes	
32	124	Shields	Swallow	\$71,208		LOSS 3		Yes	
33	6473	Ziegler	Horsetooth	\$72,366	LOSS 3	LOSS 3		no	
34	9542	College	Smokey	\$68,737	LOSS 4	LOSS 4	Will be RIRO. New signal at College/Bueno	no	
35	125	Shields	Trilby	\$68,507	LOSS 4	LOSS 3		no	
36	8835	Timberline	Kechter	\$67,540	LOSS 4	LOSS 3	Capital Project completed 2023	no	
37	108	Shields	Drake	\$67,249	LOSS 3	LOSS 3		Yes	
38	118	Shields	Plum	\$65,968	LOSS 3	LOSS 3		Yes	
39	25924	Redwood	Suniga	\$65,765	LOSS 4	LOSS 4	Change in control in 2024	no	
40	231	Peterson	Mulberry	\$65,210	LOSS 4	LOSS 4		Yes	
41	14	College	Harmony	\$64,708	LOSS 3			Yes	
42	15033	College	Rutgers	\$62,478	LOSS 4	LOSS 3		Yes	
43	116	Shields	Mountain	\$59,709	LOSS 4	LOSS 4		no	
44	23	College	Monroe	\$59,484	LOSS 4	LOSS 3		Yes	
45	9986	Mathews	Mulberry	\$59,072	LOSS 4	LOSS 4		Yes	
46	109	Shields	Elizabeth	\$58,604	LOSS 4			Yes	
47	193	Stover (East Int.)	Prospect	\$57,712	LOSS 4	LOSS 4		Yes	
48	8656	Shields	Richmond	\$55,759	LOSS 4	LOSS 4		Yes	
49	6417	Timberline	Vine	\$54,210	LOSS 4	LOSS 3	Signal installation planned	no	
50	13	College	Fossil Creek	\$53,219		LOSS 3		no	

Legend:
10 high priority locations for review Shading reflects
Additional 15 locations with potential for crash reduction LOSS 4
Recently Improved - safety being monitored
Project In Process

TRENDS IN INTERSECTION SAFETY

In addition to identifying intersections with higher-than-expected crash numbers and severity, reviewing crash trends can identify changing conditions and safety at specific locations. **Table 11 and 12** list the change in excess crash costs both positively and negatively.

As noted earlier, the base calculation includes three years of data (2021-2023) and the comparison is against the previous three years of data (2018-2020). The comparisons take into account the volume changes related to COVID. Locations with the most positive safety trends are shaded green (**Table 11**), while locations with increasing excess crash costs (worsening safety trend) are shaded in red (**Table 12**). Note that in locations with few crashes, a single injury/fatal crash can create a pronounced swing in excess crash costs. In these cases, judgment is needed to determine whether a trend is significant or not.

Table 11. Top 15 Intersections With Improving Safety Trends

Current Rank	Facility ID	Intersection		Crash Trends 2018 - 2020 vs. 2021 - 2023 Change in Crash Cost
		North South Street	East-West Street	
76	34	College	Trilby	-\$526,757
41	14	College	Harmony	-\$478,376
n/a	16	College	Horsetooth	-\$364,990
n/a	149	Timberline	Prospect	-\$345,211
14	1	Boardwalk	Harmony	-\$332,221
88	111	Shields	Horsetooth	-\$331,755
n/a	74	Lemay	Vine	-\$286,117
5	162	Lemay	Harmony	-\$161,441
n/a	7	College	Cherry	-\$154,208
12	119	Shields	Prospect	-\$147,209
52	110	Shields	Harmony	-\$138,282
n/a	146	Timberline	Horsetooth	-\$128,494
38	118	Shields	Plum	-\$122,431
7	25	College	Mulberry	-\$117,179
74	240	Timberline	Custer	-\$110,458

Note: Ranks listed as n/a indicate that location is not in the top 187 intersections in Fort Collins

All of the intersections with improving safety trends are signalized intersections. Some of the trends may be related to the random variation of crashes over time or low volumes, while others may involve a specific improvement. For instance, Lemay / Vine is seeing improved safety due to the opening of the Lemay overpass.

For locations with a worsening crash trends, they may also reflect random variation over time or low vehicular volumes that create a pronounced swing in excess costs with a single serious injury or fatal crash but may also be the result of some type of emerging pattern or trend. These locations may be targeted for additional review and potential field safety audits to identify potential countermeasures.

Table 12. Top 15 Intersections With Worsening Crash Trends

Current Rank	Facility ID	Intersection		Crash Trends 2018 - 2020 vs. 2021 - 2023 Change in Crash Cost
		North South Street	East-West Street	
9	8	College	Columbia	\$149,944
13	9380	Timberline	Lincoln	\$135,805
16	4	College	Boardwalk	\$109,883
17	144	Timberline	Drake	\$107,120
20	19	College	Laporte	\$101,933
10	9402	Lemay	Carpenter	\$91,071
4	145	Timberline	Harmony	\$86,518
26	7219	Shields	Pitkin	\$82,168
15	6171	Edinburgh	Drake	\$72,663
32	124	Shields	Swallow	\$71,208
39	25924	Redwood	Suniga	\$65,765
23	15	College	Harvard	\$63,586
22	137	Taft Hill	Horsetooth	\$62,743
28	5329	College	Plum	\$61,835
24	9994	Taft Hill	Trilby	\$61,337

VISION ZERO SAFETY EFFORTS

The City of Fort Collins is committed to reducing the number and severity of crashes, and the Vision Zero Action Plan together with this annual evaluation guides the process. The City’s FCMoves Department manages a comprehensive spreadsheet to track Vision Zero Transformative Actions and Supporting Actions. The spreadsheet is updated on an ongoing basis and is available upon request from the FCMoves Department.

RECENT VISION ZERO ACCOMPLISHMENTS

There have been a number of recent projects completed in the City that support transportation safety. Some projects are targeted safety countermeasures to address a specific crash trend, while others may be projects with goals in addition to safety, such as comfort and mobility for vulnerable road users, or travel efficiency to reduce emissions. A few examples are listed by project category and year of installation. Before / after comparison is best done with several years of data, so projects as far back as 2020 are included.

Infrastructure Projects

2023

- Taft Hill / Horsetooth – capital intersection project
- South Timberline from Harmony to Trilby - capital roadway project
- Taft Hill / Trilby – new signal
- Lemay / Suniga – new signal

2022

- Lemay / Vine – overpass completed



- Hampshire / W Drake - new bicycle / pedestrian signal
- Kechter Road at Zach Elementary School – street restriping
- E. Elizabeth / McHugh Street from Lemay to Riverside - added buffered bike lanes
- E. Pitkin Street from College to Stover - advisory bike lane
- Old Mill Road from County Fair to Kechter - added bike lanes and parking removal
- Corbett Drive from Saddle Creek to Kechter - buffered bike lanes and parking removal
- Lemay / Boltz - Converted pedestrian signal to HAWK

2021

- Lemay Avenue overpass over BNSF railroad and Vine Drive
- Shields Street and Magnolia Avenue bicycle / pedestrian signal
- Hampshire and Drake bicycle / pedestrian signal
- Lemay and Columbia bicycle / pedestrian signal
- Ponderosa / Elizabeth - Bicycle / pedestrian signal with new crosswalks
- State Highway 1 and Douglas Road signalization
- Maxwell at CR 42C RRFB

2020

- Taft Hill / Puerta Verde – Rectangular Rapid Flash Beacon (RRFB)
- Ponderosa / Elizabeth – RRFB (Bicycle / pedestrian signal with new crosswalks)
- Woodbridge / Elizabeth – RRFB

Signal Projects

2023-2024

- Citywide left turn phasing review
 - College / Swallow N-S protected left turns
 - College / Carpenter SB protected left turn
 - Taft / Horsetooth SB protected left turn
 - College / Troutman N-S protected left turns
 - Timberline / Horsetooth WB protected left turn
- Shields / Drake pedestrian protected phasing
- Signal remodels / added signal heads / new flashing yellow arrows
 - College / Swallow
 - College / Troutman
 - Shields / Stuart
 - Timberline / Kechter
- Updated signal timing (clearance intervals)

2021-2023

- Added reflective backplates at eight locations
- Signal remodels / added signal heads / new flashing yellow arrows
 - College / Mulberry
 - Riverside / Mulberry
 - Timberline / Mulberry
 - Lemay / Magnolia
 - Lemay / Lincoln
- Added leading pedestrian intervals at signals throughout the city
- Added additional time to pedestrian phases at signals throughout the City
- Replaced older pedestrian signal heads with countdown heads at five locations
- Protected crosswalks from left turning vehicles
 - College / Cherry E-W crosswalks
 - Lemay / Magnolia E-W crosswalks
 - Shields / Trilby west leg crosswalk

2020

- College / Trilby Protected left turns (N-S)
- Signal remodels / added signal heads / new flashing yellow arrows



- College / Foothills
- College / Highway 1
- College / Swallow
- Ziegler / Council Tree

Safety Evaluations - 2023

- Conducted safety audits at 11 intersections identified in 2022 crash analysis work as high priority for safety improvements
- Completed five school transportation operations and safety audits with detailed recommendations.
- Conducted four Vision Zero site visits with community members.

Education and Training - 2023

- Hosted ThinkBike Workshop with Dutch Cycling Embassy to learn principles of improving safety and comfort for bicyclists.
- Held a one-day training on access management for City staff.
- Ran back-to-school traffic safety messaging ads on radio stations.

Enforcement

2023

- Lemay / Drake (E-W) red light camera
- Shields / Harmony (N-S) red light camera

2020

- Shields / Mulberry (E-W) red light camera
- Shields / Prospect (N-S) red light camera

Tracking Progress

- Completed a crash dashboard for information and data transparency to be used by City staff (and now available publicly).

TRACKING AND MEASURING SAFETY IMPROVEMENTS

A key component to a safety toolbox is the ongoing monitoring and continuous safety evaluation of the City's transportation system. In addition to annual data gathering and review shown earlier in this report, monitoring specific efforts/initiatives for their effectiveness and impact on safety can inform future actions and projects.

Before and after evaluations are most informative when a sufficient amount of time has passed following the improvement to provide an adequate amount of 'after' data. Typically, this could be as long as three years. With this approach, before/after studies can be done on projects completed in 2020 (or before) such that after data reflects 2021-2023.

In some cases, before/after studies can be done on more recent projects especially if there were a number of crashes each year and the improvement was a targeted countermeasure.

Finally, there are projects that are completed with a safety perspective that are done pro-actively to support mobility, comfort, and build infrastructure that reflects current best practices for safety. These locations may not have a 'before' crash history, and as such projects will not technically show a crash reduction. They are, however, still an important component of safe transportation in Fort Collins.

Recent Project Evaluations

College / Trilby North-South Protected Left Turns - 2020

In 2020, the north and south left turn phasing on College Avenue for vehicles to turn left onto Trilby Road was changed from 'protected permitted' (a green arrow followed by permissive turning on a gap) to 'protected only' (green, yellow and red arrows only). The change was to address approach turn (left turn) crashes.

Before (2017-2019)
22 approach turn crashes (including 6 injury and 1 fatal crash)

After (2021-2023)
2 approach turn crashes (including 1 injury)

College / Trilby
90% decrease in crashes
6 fewer crashes each year

Boardwalk / Harmony East West Protected Left Turns - 2020

In 2020, the east and west left turn phasing on Harmony for vehicles to turn left onto Boardwalk was changed from 'protected permitted' (a green arrow followed by permissive turning on a gap) to 'protected only' (green, yellow and red arrows only). The change was to address approach turn crashes.

Before (2017-2019)
14 approach turn crashes (including 2 injury)

After (2021-2023)
3 approach turn crashes (including 1 injury)

Boardwalk / Harmony
78% decrease in crashes
3.5 fewer crashes each year

College / Horsetooth Capital Improvement Project- 2018

The intersection of College Avenue at Horsetooth was rebuilt in 2018. The goals of the project were to provide enhanced mobility and improved safety for people using all modes of travel. This included adding additional turn lanes, improving bike facilities, and creating a protected crossing time for bikes / pedestrians on the north leg.

The outcome brought the intersection up to current best practices in design, reduced emissions, increased comfort for vulnerable road users, and **significantly improved safety**. Intersection capital improvement projects are an important countermeasure for safety.

Before (2015-2017)
180 crashes (including 15 injury)

After (2021-2023 - timeframe selected to avoid COVID year)
63 crashes (including 2 injury)

College / Horsetooth
65% decrease in crashes
86% decrease in injury crashes
39 fewer crashes each year



State Highway 1 and Douglas Road Signalization - 2021

The intersection of State Highway 1 and Douglas Road is within the growth management area of Fort Collins. This was a collaborative effort to signalize the intersection to improve safety among CDOT, Larimer County and the City of Fort Collins. The goal was to address approach turn and right-angle crashes.

Before (2018-2019)
9 crashes (including 3 injury)

After (2022-2023)
3 crashes (including 1 injury)

SH1 / Douglas Rd
67% decrease in crashes
3 fewer crashes each year

ONGOING EFFORTS / NEXT STEPS

Each year, City staff uses the information in this report to undertake a variety of projects that support transportation safety. Continued implementation of various adopted plans (including the Transportation Master Plan, and Active Modes Plan) are a guide. In addition, a specific safety-based focus includes the following ongoing efforts:

Infrastructure

- LaPorte Avenue corridor improvements to improve multi-modal facilities
- West Elizabeth Bus Rapid Transit (BRT) project that also includes significant bicycle and pedestrian improvements.
- Power Trail crossing of Harmony Road
- Installation of separated bike lanes on Centre Avenue
- Complete Lake Street demonstration project.
- Highway Safety Improvement Program (HSIP) funding for improvements at Prospect / Welch, Riverside / Lemay and seven Harmony Road intersections.
- Continued work on design/construction of a variety of intersection capital improvement projects.
- Continue identifying non-compliant pedestrian pushbuttons in historically underserved neighborhoods to be replaced.

Planning

- Received \$964,480 Safe Streets for All funding to study bicycle safety improvements for arterials in Northwest Fort Collins.
- Received \$1.7 million Safe Street for All funding to study Harmony Road intersections

Policies and Programs

- Update and refine City policy on the setting of speed limits with Vision Zero in mind.
- Update the High Injury Network (HIN) to reflect current crash trends

Analysis and Operations

- Continued work on safety audits at locations of concern
- Continued work with the school district on Safe Routes to School and Transportation Safety Audits at schools.
- Efforts to address data glitches as data is processed and evaluated.

Enforcement

- Additional red-light cameras and explore implementation of automated speed enforcement



APPENDIX A

EXPLANATION OF DATA

The source for crash information is the City of Fort Collins Traffic Operations Department traffic crash database. The department works cooperatively with Fort Collins Police Services to obtain electronic copies of reports for all crashes on public streets. This includes all crashes investigated and reported by Fort Collins Police Services.

Traffic Operations staff reviews each crash report to ensure that data is as complete, accurate, and consistent as possible. Crash narratives are used to further detail some of the fields.

Population data used in this report was from the U.S. Census Bureau. The Colorado Department of Revenue provided data showing the number of licensed drivers by age in Fort Collins.

There are some crashes that are not included in the data. This includes:

- Crashes on private property (such as grocery store parking lots),
- Crashes that go unreported. This includes crashes on the trail system, or crashes that do not involve a motor vehicle (i.e., single bicycle crashes, or crashes between a pedestrian and bicyclist). Pedestrian crashes that do not involve an injury are also often not reported.
- Some crashes that occur along jurisdictional boundaries if other agencies respond (although efforts are made to add data from others when known),
- Non-injury crashes reported only to the State (such as during 'accident alert' status during bad weather) are not being captured by Fort Collins Police Services, and therefore not included in the analysis.

As new technology is deployed such as micromobility devices, scooters and e-bikes, the consistency with which that information is captured on a crash report varies. The detailed review and quality control done by Traffic Operations staff helps to identify those types of crashes, but it should be noted that fully understanding details may be difficult as they are not always captured on the crash form.

Most of the analyses represent five years of data, from 2019 to 2023. Some instances are noted and may only include three years of analysis, 2021-2023.



APPENDIX B

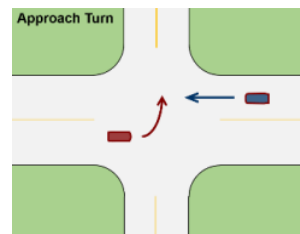
TYPES OF CRASHES

Throughout the document, there is detailed discussion and analysis regarding a variety of crash types. The most frequently noted crash categories are listed below with an explanation and definition for each one. Some are depicted in the diagrams at right. Note that all crashes reported involve some type of motor vehicle.

Crash reports will often indicate “front to side” collisions (also known as broadside). As indicated in the definitions and the diagrams, the circumstances related to the front of a vehicle striking the side of another vehicle can vary, and the mitigation to address these collisions may be very different depending on the type of crash. More detailed descriptions (approach turn, right angle, and overtaking turn) are explained below and used in this report.

Approach Turn

Two vehicles traveling in opposite directions, one turns left (or attempts a U-turn) in front of the oncoming vehicle and is struck.



Bicycle

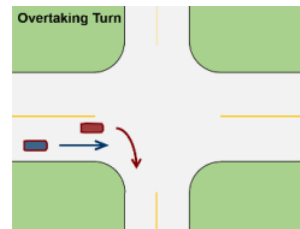
Any crash that involves a bicyclist and a motor vehicle.

Fixed Object

A single vehicle crash where a fixed object other than a parked vehicle is struck. This includes items such as a curb, median, or other roadside feature such as tree, fence, or utility pole.

Overtaking Turn

Two vehicles traveling in the same direction, the front vehicle turns right or left and is hit as the following vehicle tries to pass on the right or left. When this type of crash involves a bicycle traveling straight and a vehicle making a right turn, it is also known as a ‘right hook’ crash.

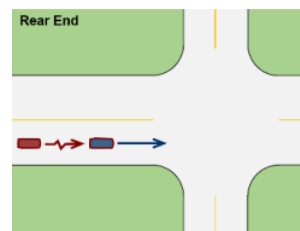


Parking Related

Any crash involving a parked vehicle or a vehicle entering/leaving a parking space.

Pedestrian

Any crash that involves a pedestrian and a motor vehicle.



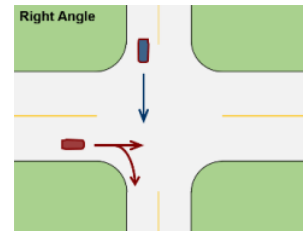
Rear End

Two vehicles traveling in the same direction, leading vehicle struck by following vehicle.



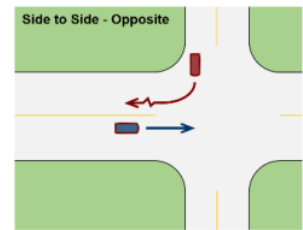
Right Angle

Two vehicles traveling on perpendicular streets one fails to yield or passes a traffic control device and strikes the other.



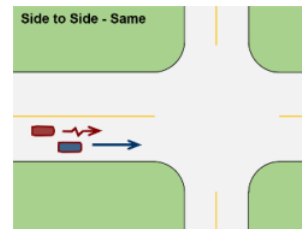
Sideswipe Opposite Direction (also side to side opposite)

Two vehicles traveling in opposite directions, one veers into the wrong lane and strikes the side of the other car. This often occurs where a vehicle waiting at a STOP sign or traffic signal is struck by a vehicle turning right from a perpendicular road (frequently during icy conditions).



Sideswipe Same Direction (also side to side same)

Two vehicles traveling the same direction, one vehicle veers into the other striking it in the side (usually due to improper lane changes).



Other

Other crashes that do not fit into any other category.

Crash Type Diagrams



APPENDIX C

INTERSECTION EVALAUTION ANALYSIS DETAILS

Information in the intersection evaluation section of the report is used to identify specific locations with the anticipated highest potential for crash reduction. The analysis is conducted to identify intersections where there are more crashes than expected considering traffic volumes, roadway geometry, type of traffic control, and crash severity.

INTERSECTIONS BY EXCESS CRASH COST

To identify locations with the most potential for crash reduction, it is important to use methods that account for crash severity, traffic volumes, roadway geometry, and type of control at intersections as those factors have an impact on the number of crashes at a given location.

It is also necessary to acknowledge that even though traffic crashes are partially deterministic (i.e., factors affecting crash potential can be controlled), crashes are, to some extent, random events. This random nature of crashes can make it more difficult to determine if a location is truly a problem versus a location where normal variation led to a high crash frequency during the analysis period. To identify locations that warrant further investigation it is helpful to use a methodology that accounts for the somewhat random nature of crashes.

In 2010 the Transportation Research Board (TRB) and the American Association of State Highway and Transportation Officials (AASHTO) published the *Highway Safety Manual* (HSM). The HSM includes a statistical approach that considers traffic volumes and intersection types while also accounting for the natural fluctuation of data called regression to the mean. The result is the identification of locations that have a higher-than-expected crash frequency even after accounting for random variation.

Crash Prediction Models

The method in the Highway Safety Manual that is applied for this evaluation uses crash prediction models to predict the number of crashes (both total and injury/fatal crashes) at each location given traffic volumes, roadway geometry, and type of control at each intersection. The predictions are then compared to the actual number of crashes at each location (adjusted to account for regression to the mean). The more the actual adjusted number of crashes exceeds the number of predicted crashes (expressed as excess crash cost) the more likely it is that a location might benefit from targeted improvements.

Several crash prediction models were considered including those found in the Highway Safety Manual 1st edition, models developed for the Colorado Department of Transportation (CDOT) in 2009, and models developed for CDOT in 2018. Model results were compared to actual Fort Collins crash data and the models that best matched the data in each intersection category were selected for use (see table on next page).

Once the comparison between model predicted and actual crashes is completed, the numbers can be monetized into 'excess crash costs'. This is the cost of crashes above the model predictions for an intersection and provides an indication of the potential benefit of reducing crashes. Crash costs are weighted by severity and based on information provided in the Highway Safety Manual (Table 4A-1), adjusted to 2023 dollars, and consider Fort Collins' proportion of severe crashes. The costs include monetary losses associated with medical care,



emergency services, property damage and lost productivity. They also include costs related to reduction in quality of life that is related to injuries. See table below for the costs used in this report.

Prediction Model Used in Intersection Analysis

Number of Legs *	Type of Control	Model Used
3	Stop Controlled	CDOT 2018
4	Stop Controlled	CDOT 2018
3	Signalized	CDOT 2018
4	Signalized	CDOT 2009 (total crashes) 2018 (injury crashes)
All	Roundabout	NCHRP 888

2023 Crash Costs

Severity of Crash	Cost
Property Damage Only	\$ 12,900 /crash
Fatal / Injury	\$ 79K - \$141K /crash

Source of cost:
Highway Safety Manual

* Legs: Segments of roadway approaching an intersection

ANNUAL EVALUATION AND ROADWAY SAFETY UPDATE

EXECUTIVE SUMMARY



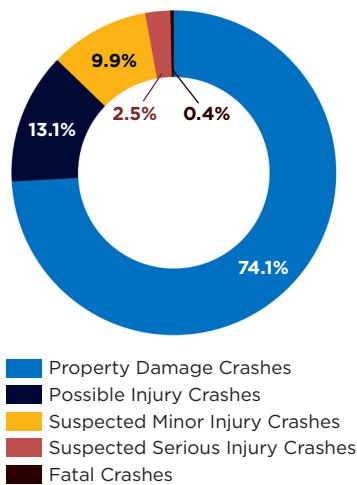
The City of Fort Collins is committed to roadway safety and has joined the Colorado Department of Transportation's Moving Towards Zero Deaths initiative. The City adopted its first Vision Zero Action Plan in the spring of 2023. Making progress towards Vision Zero requires a multi-faceted, collaborative effort that utilizes all available strategies through various departments, other partners, and the entire community. The **Annual Evaluation and Roadway Safety Update** (available at fcgov.com/traffic) reviews and analyzes reported crash data that informs the Vision Zero Action Plan. The report identifies locations, patterns, causes, and trends in roadway safety, discusses safety performance of previous projects, and identifies a detailed work plan to reduce the number and severity of crashes in Fort Collins.

OVERALL CRASHES AND SEVERITY

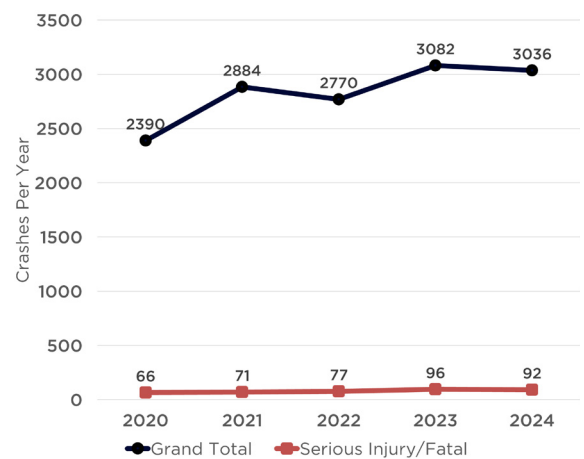
Compared to 2023 (one year ago), total crashes are **down 1.4%** and serious injury/fatal crashes are **down 4%**.

- ✓ The city experiences an average of about **2,800 reported traffic crashes** each year.
- ✓ In 2024, there were **92 crashes involving a serious injury or fatality**.
- ✓ The overall annual societal cost in Fort Collins of these crashes is **\$211 million**.
- ✓ **74%** of crashes do not involve an injury.

OVERALL CRASH SEVERITY



FIVE-YEAR CRASH TREND (2020-2024)



CRASH LOCATION

8% of Fort Collins roadways are in the High Injury Network and **59%** of serious injury/fatal crashes occur on the High Injury Network.

- ✓ **Arterials** (major roadways) are the priority corridors for safety improvements as they **see the highest number of crashes** (especially serious injury/fatal crashes), and many are identified as being on the 'High Injury Network'.
- ✓ **Intersections and driveways** are the locations of **greatest risk** on the transportation system with 71% of all serious injury/fatal crashes occurring at an intersection, driveway, or alley access.
- ✓ A statistical evaluation of three years (2022-2024) of intersection crash data identified locations where more crashes are occurring than what would be expected given volumes, geometrics, control, etc. The top intersections are in the table to the right.

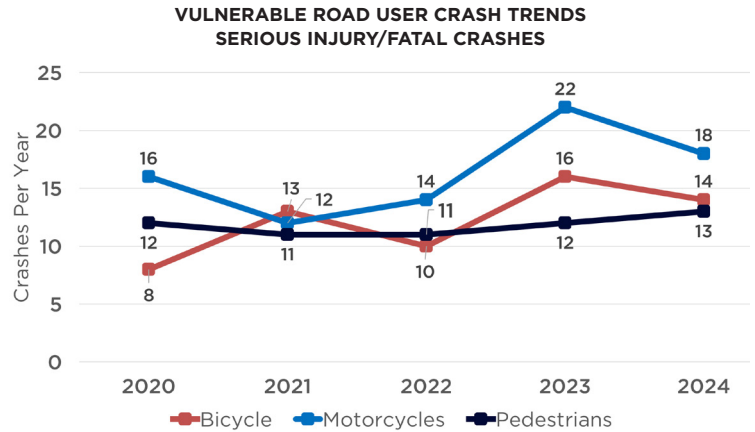
INTERSECTIONS WITH MORE CRASHES THAN EXPECTED

	N/S Street	E/W Street	Notes
1	College	Drake	Project in design, automated enforcement
2	Timberline	Carpenter	Project in design, roundabout
3	Mason	Harmony	Priority for safety audit
4	Timberline	Harmony	Automated enforcement, priority for safety audit
5	Ziegler	Horsetooth	Project in design
6	Timberline	Lincoln	Project in design
7	Shields	Prospect	Project in design, protected intersection
8	Lemay	Harmony	Priority for safety audit
9	Taft Hill	Drake	Priority for safety audit
10	College	Kensington	Priority for safety audit

VULNERABLE ROAD USERS

Vulnerable road users are involved in **7%** of all crashes but **50%** of serious injury/fatal crashes.

- ✓ **Crashes involving vulnerable road users** (people riding bicycles, walking, or using motorcycles) tend to be **more severe** than those involving only motor vehicles.
- ✓ There was a **decrease in serious injury/fatal crashes** for people riding bicycles or motorcycles in the past year.

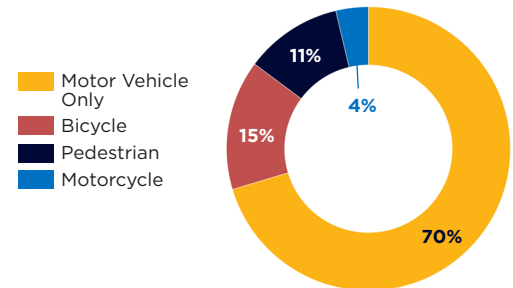


CRASHES INVOLVING YOUTHS

Crashes involving school aged students (ages 0-17) are of particular interest due to 'safe routes to school' impacts.

- ✓ Most youth crashes involve motor vehicles. **Young drivers** (ages 15-19) account for 5% of all licensed drivers but **are at fault in almost 15% of all crashes**.
- ✓ **Crashes involving young bicyclists or pedestrians are at a five-year low**. 80% of crashes involving young bicyclists and pedestrians involve middle school or high school ages.

SERIOUS INJURY/FATAL CRASHES INVOLVING YOUTHS



RECENT IMPROVEMENTS

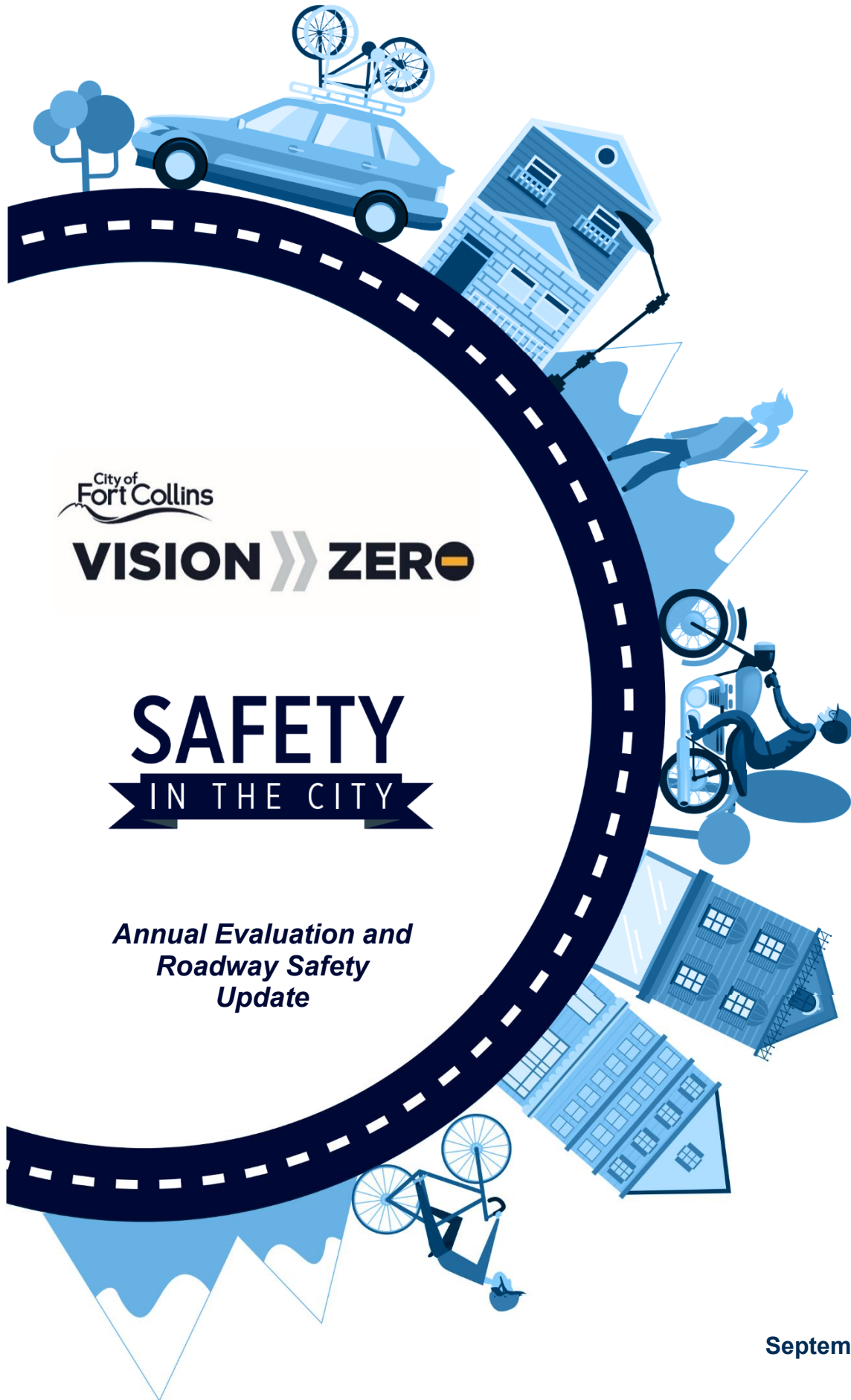
The City is continually pursuing opportunities to improve safety. Some projects can be low cost (signal phasing), while others may involve capital construction funding. Recent projects, and their safety benefit include those shown in the table to the right.

N/S Street	E/W Street	Crash Reduction	Notes
Taft Hill	Trilby	2 crashes/year 40% reduction	Intersection signalization
College	Swallow	2 crashes/year 67% reduction	Protected left turn - signal timing
College	Carpenter	2 crashes/year 70% reduction	Protected left turns - signal timing
College	Troutman	6 crashes/year 85% reduction	Protected left turns - signal timing

NEXT STEPS IN ROADWAY SAFETY

The City's adopted Vision Zero (VZ) Action Plan outlines the principles and guiding strategies in the City's efforts to reduce the number and severity of crashes. This annual Roadway Safety Report provides data and analysis to accompany the VZ plan and identifies the specific locations and detailed crash trends from which to develop annual work program to support VZ actions related to physical, operational, and planning safety improvements. The current work plan includes:

- Completing full **safety audits at top intersections**.
- **Continued pursuit of funding** and design for top capital projects.
- Incorporating **safety and consideration of High Injury Network** into current planning and future projects.
- Collaboration on **education and enforcement** activities.
- Continued emphasis on the **safety of vulnerable road users** including projects to reduce crash risk.



City of
Fort Collins

VISION » ZERO

SAFETY

IN THE CITY

*Annual Evaluation and
Roadway Safety
Update*

September 2025

The City of Fort Collins is in the process of making all its documents more accessible. While much progress has been made, some of the more technical and/or graphical elements of this document may be inaccessible for some people. If you would like assistance in reviewing this document, please contact the City of Fort Collins Traffic Operations Department at 970-221-6630. Please know that the City is happy to assist you and do not hesitate to reach out.

Prepared By:



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Appendix A: Explanation of Crash Data

Appendix B: Definition and Visual Depiction of Various Crash Types

Appendix C: Intersection Evaluation Methodology

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INTRODUCTION

The City of Fort Collins has taken traffic safety seriously for decades through designing for traffic safety in road construction projects, systemically encoding safety in traffic operations and traffic enforcement. However, despite these efforts, an average of 80 people experienced a serious injury or lost their life every year from 2020 through 2024. Not only do these tragic events contribute to immeasurable personal loss, but they also put elevated pressure on the local emergency response, and concerns about roadway safety can discourage the use of active modes, affecting communitywide health and mobility and our ability to meet climate goals.

In late 2016, the City of Fort Collins became the first public local entity to join the Colorado Department of Transportation’s (CDOT) Moving Towards Zero Deaths initiative. Then in 2023 Fort Collins completed and adopted a Vision Zero Action Plan that includes a formal commitment to reducing and eventually eliminating serious injury and fatal crashes. The stated vision for the city is:

By 2032 no one dies or is seriously injured while traveling in Fort Collins.

The Action Plan used a data-driven approach to analyze crash trends and identified the High Injury Network (HIN), the 8% of streets in Fort Collins that account for 59% of all serious injury/fatal crashes in the city. The Plan outlines specific actions for the next ten years to achieve Vision Zero. Vision Zero takes the Safe System approach to prioritize safety in decision-making. The Safe System Approach builds and reinforces multiple layers of protection to prevent crashes from happening and minimize harm when crashes do occur, focusing on both human mistakes AND human vulnerability.

Since 2015, the city has analyzed crash trends in its annual Safety in the City report. Safety in the City now also reports progress of implementation of the Vision Zero Action Plan. The report compiles traffic crash and safety information and tracks trends on public streets within Fort Collins. It analyzes intersection safety, evaluates safety on the High Injury Network and evaluates previous work to identify project outcomes in terms of improving safety. The final section discusses specific next steps and recommends safety-based work items for the city in the coming year.

Fort Collins has invested in many plans and programs that interface with traffic safety, including the Transportation Master Plan, the Active Modes Plan and the Capital Improvement Plan. The Vision Zero Action Plan and the Safety in the City report provide concurrent guidance for all projects from these plans and programs.

Improving roadway safety requires commitment and contributions from everyone. City departments including Traffic Operations, FC Moves, Engineering, Police Services and Streets play a vital role in a comprehensive roadway safety improvement program. Other jurisdictions such as Larimer County and CDOT are important partners as crashes occur on jurisdictional boundaries or along state highways in the city. Finally, the residents of the community and everyone using the transportation system through any mode play a critical role in ensuring safety.

Everyone has a right to travel around Fort Collins safely and everyone has a responsibility to contribute towards that end. This document provides information that can be used for planning, operations, education and messaging to the greater Fort Collins community.



US Department of Transportation
Safe System Approach

Safety Matters

In 2024, there were 92 crashes involving a serious injury or fatality in Fort Collins

SAFETY SNAPSHOT

Information below provides an overview of general safety data for the City of Fort Collins. Unless otherwise noted, the data represents a compilation or average of the most recent five years of data (2020-2024). Crashes include those that occurred within the city limits in the public right-of-way (not on private property such as parking lots).

Notes:

- See **Appendix A** for explanation of the data.
- See **Appendix B** for definitions and visual depictions of various crash types.

CRASH DATA AND TRENDS

Total crash and serious injury/fatal crash numbers in the city are shown in **Figure 1** below.

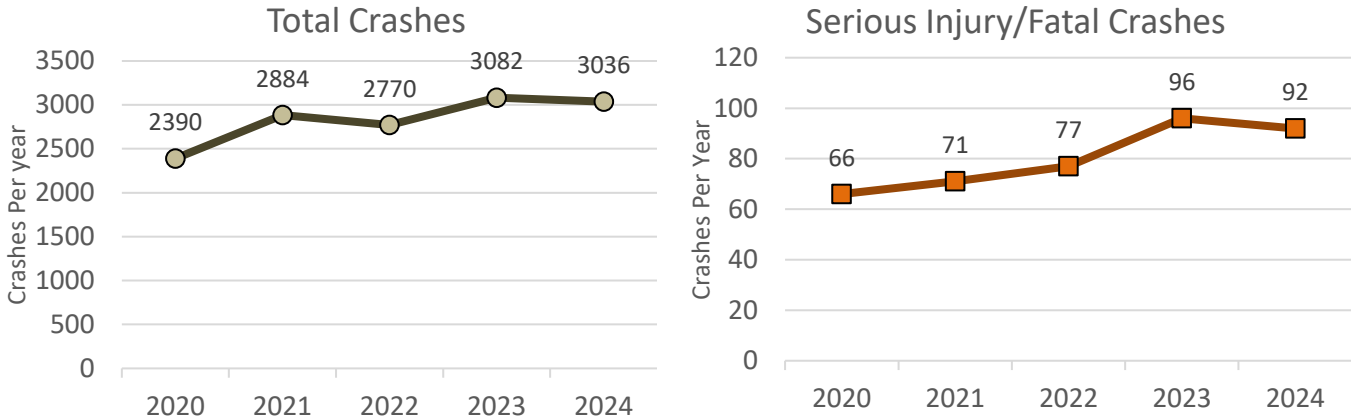


Figure 1. Five Year Crash Trends

Both total crashes and serious injury/fatal crashes have slightly decreased from 2023 after experiencing several years of increasing numbers.

One noted area of interest is to review a longer-term trend for serious injury/fatal crashes. A ten-year trend is shown in **Figure 2**.

The increasing crash trends are similar to those on a state and national level. (Note that 2020 was an atypical year due to the pandemic.) There are several contributing factors:

- Some increase in crashes is typical in areas of growth. The

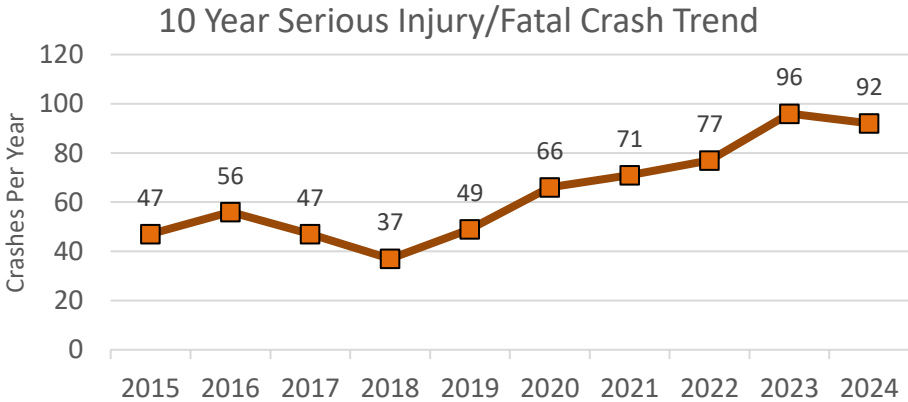


Figure 2. Ten-Year Trend for Serious Injury/Fatal Crashes

population of Fort Collins increased 10% during the past ten years resulting in increased vehicle miles traveled.

- Some crash trends may be affected by annexations that result in crashes that occur on those roadways becoming part of the crash database. Total centerline miles of road in Fort Collins have increased 8% in the past ten years. Examples of newly annexed areas include some of the roadways in proximity to I-25 interchanges.

Regardless of the various factors, the increasing trend of serious injury/fatal crashes is of significant concern and is the focus of the Vision Zero plan.

Travel Modes

Figure 3 shows how vulnerable road users (those traveling on motorcycles, bicycles and pedestrians) are disproportionately represented in serious injury and fatal crashes.

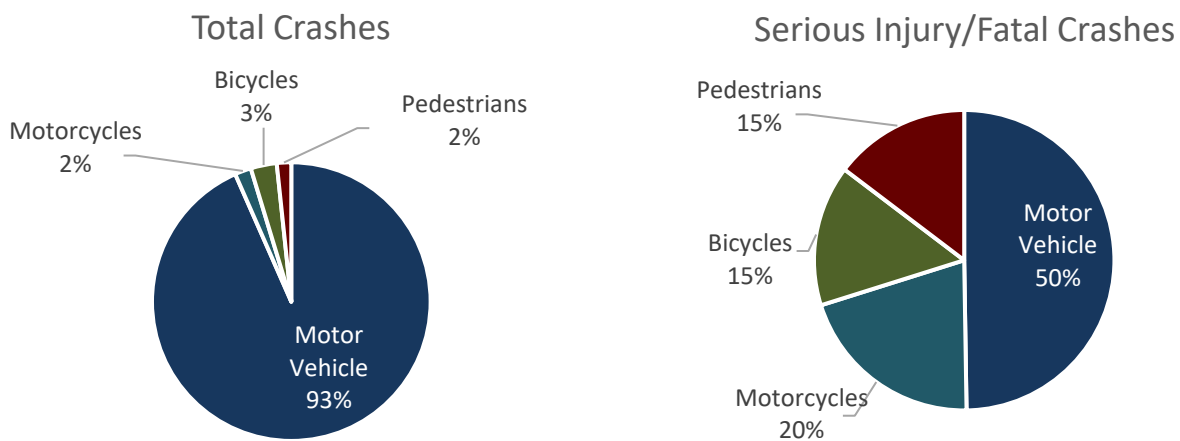


Figure 3. Travel Modes for Total Crashes and Serious Injury/Fatal Crashes

Figure 4 shows how the mode split shown above (which is an average over five years) has trended during that period. In general, the percent of serious injury/fatal crashes involving motor vehicles only is slightly up, while the percent for pedestrians is slightly down.

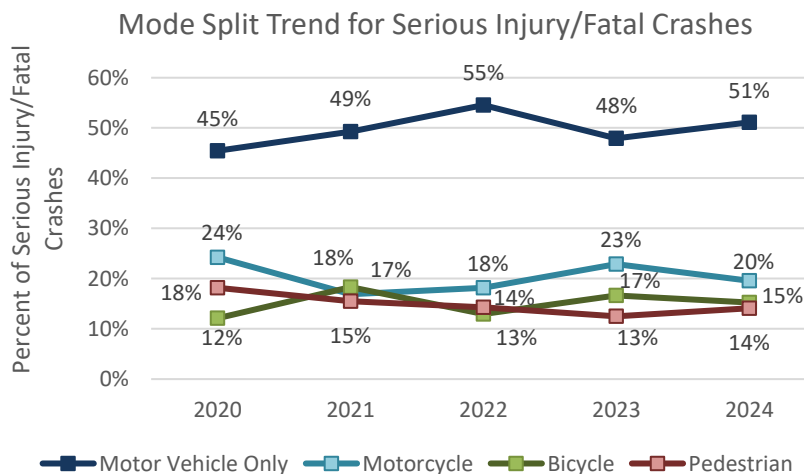


Figure 4. Mode Split Trend for Serious Injury/Fatal Crashes

Vulnerable Road Users

Serious injury and fatal crash trends by mode of travel for vulnerable road users are shown in **Figure 5**. After increases in 2023, there was a decrease in 2024 for bicycle and motorcycle crashes.

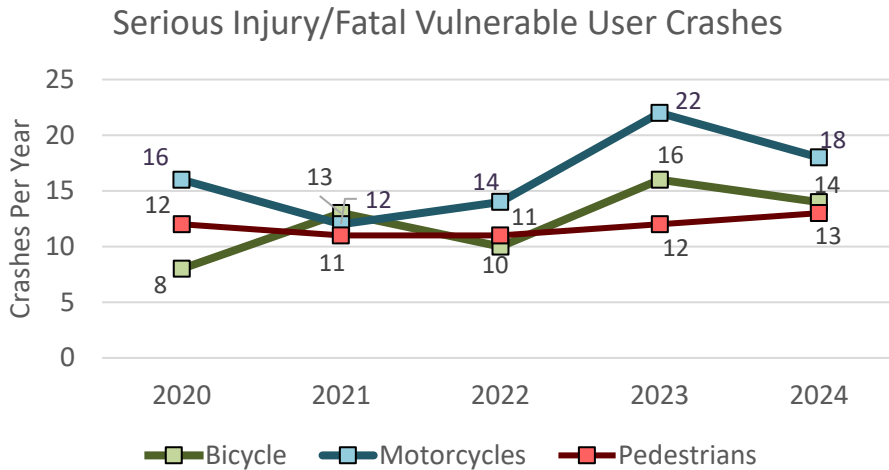


Figure 5. Vulnerable User Crash Trends

Crashes Involving Youth

Overall, young people may be more often involved in crashes than older adults. Drivers up to the age of 26 are overrepresented in crashes (when comparing percent crashes against percentage of driver’s licenses). Crashes involving school aged students (ages 0-17) are of particular interest due to their impact on safe routes to school. Analysis of youth information below includes crashes involving young pedestrians, young bicyclists, or young motor vehicle drivers (or motorcyclists). The data does not include youths that are passengers in vehicles involved in a crash.

Figure 6 shows the trends in crashes that involve youths. There were no crashes that resulted in a youth being fatally injured in the past five years.

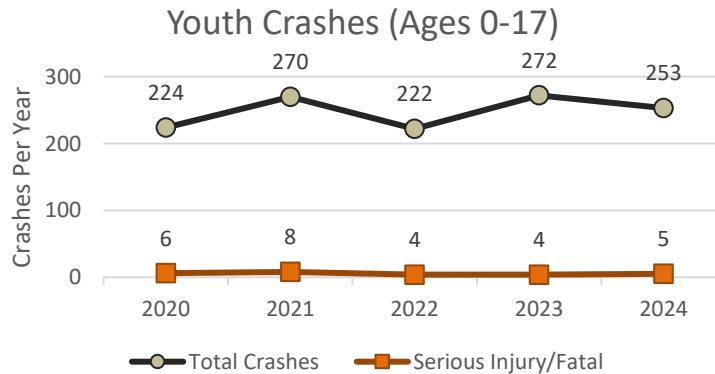


Figure 6. Crashes Involving Youths

The mode split for crashes involving youths is shown in **Figure 7**. Most of these crashes involve young drivers. Using five years of data, the average number of crashes per year involving youth are:

- 233 motor vehicle only crashes (3.8 of which involved a serious injury)
- 10.2 bicycle crashes (0.8 of which involved a serious injury)
- 4.6 pedestrian crashes (0.6 of which involved a serious injury)
- 0.2 motorcycle crashes (0.2 of which involved a serious injury)

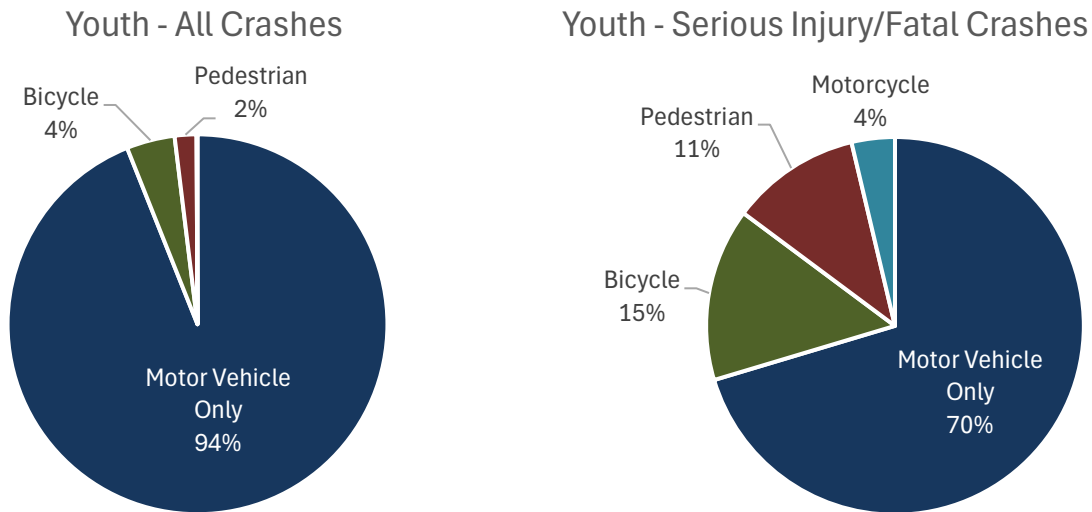


Figure 7. Mode Split for Crashes Involving Youths

Trends for crashes involving youths are shown in **Figure 8** for each mode. There was only one crash involving a youth on a motorcycle (it occurred in 2023 and resulted in a serious injury). Crashes involving both young bicyclists and pedestrians are at five-year lows.

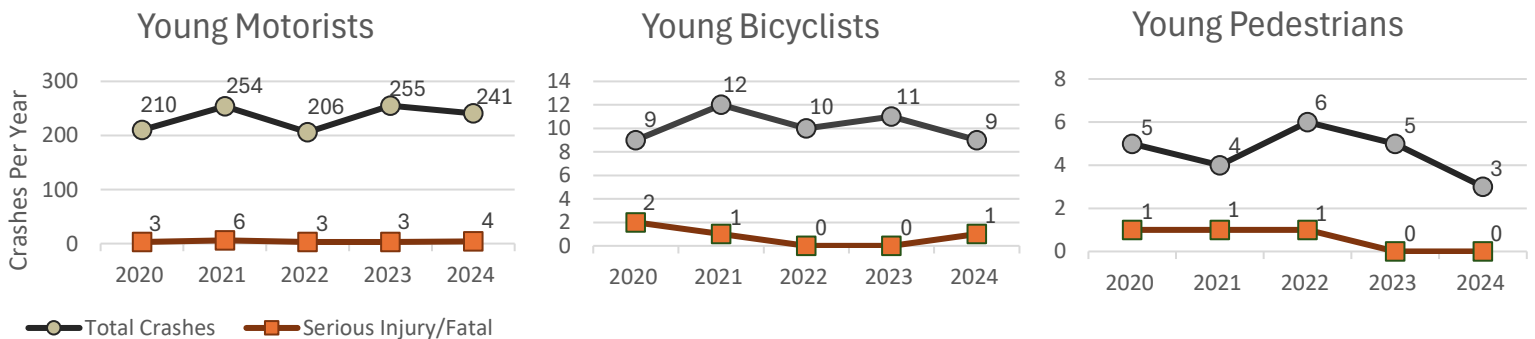


Figure 8. Trends for Crashes Involving Youths by Mode

Additional information related to the 51 young bicyclists and 23 young pedestrians involved in crashes in the last five years is shown below. **Figure 9** shows the age of those individuals, and **Figure 10** shows the time of day when these crashes occurred. Items of note for crashes involving young bicyclists or pedestrians include:

- More than 80% are in middle school or high school (ages 12-17).

- The crashes occur most often between 3–5 p.m. (30%) and 7-9 a.m. (19 %). Although crash data often does not specify the origin or destination of the parties involved, these times correspond to school start/dismissal times.
- Eighty-four percent (84%) occur at intersections or driveways.
- Sixty-six percent (66%) are classified as right-angle crashes. (See **Appendix B** for crash type descriptions). Conflicts between right-turning vehicles and bicyclists riding against traffic is a common type of conflict.

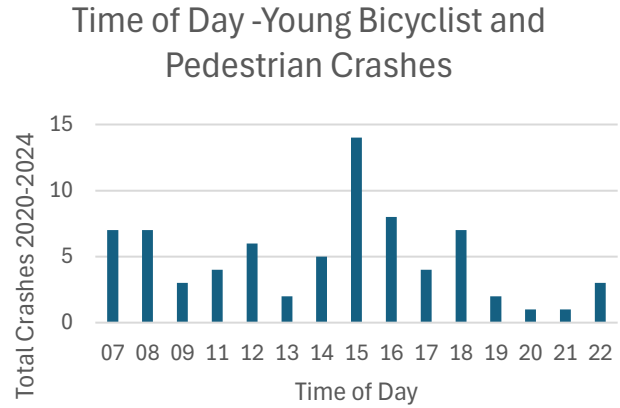
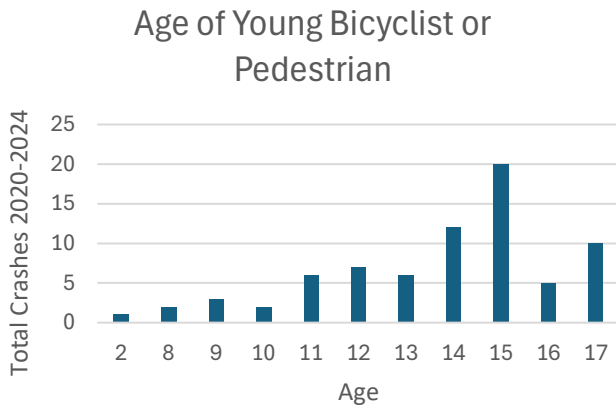


Figure 9. Age of Young Bicyclist/Pedestrian

Figure 10. Time of Day-Young Bicyclist/Pedestrian Crash

Fatal Crashes

The trend in fatal crashes is shown in **Figure 11**. Partially due to the small number of crashes, there can be variation in the numbers from year to year. This volatility is typical and not outside of the variation that is expected. The goal is to see a general downward trend over time.

The percentage of fatal crashes by mode during the past five years are shown in **Figure 12**. Their locations are shown in **Figure 13**.

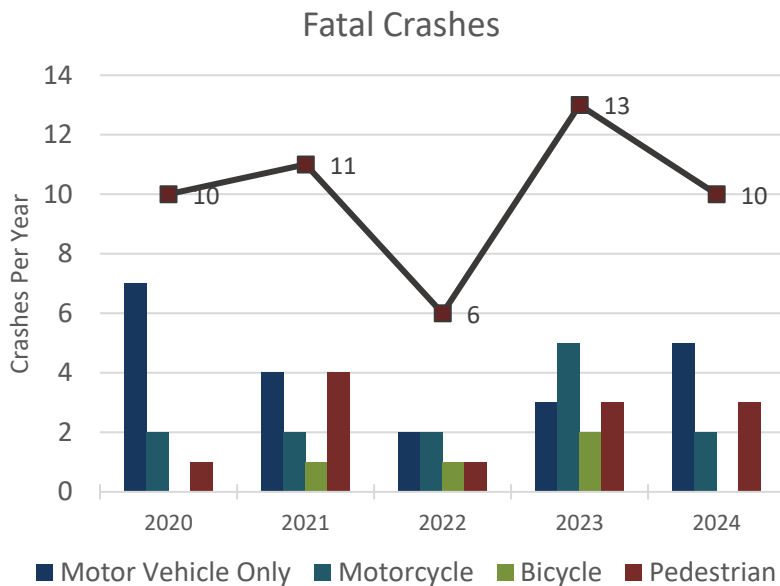


Figure 11. Fatal Crash Trends

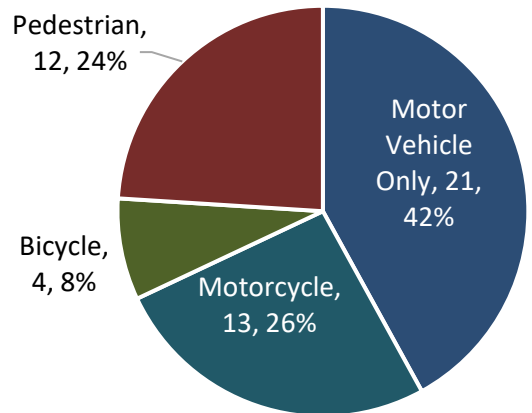


Figure 12. Modes of Travel Involved in Fatal Crashes

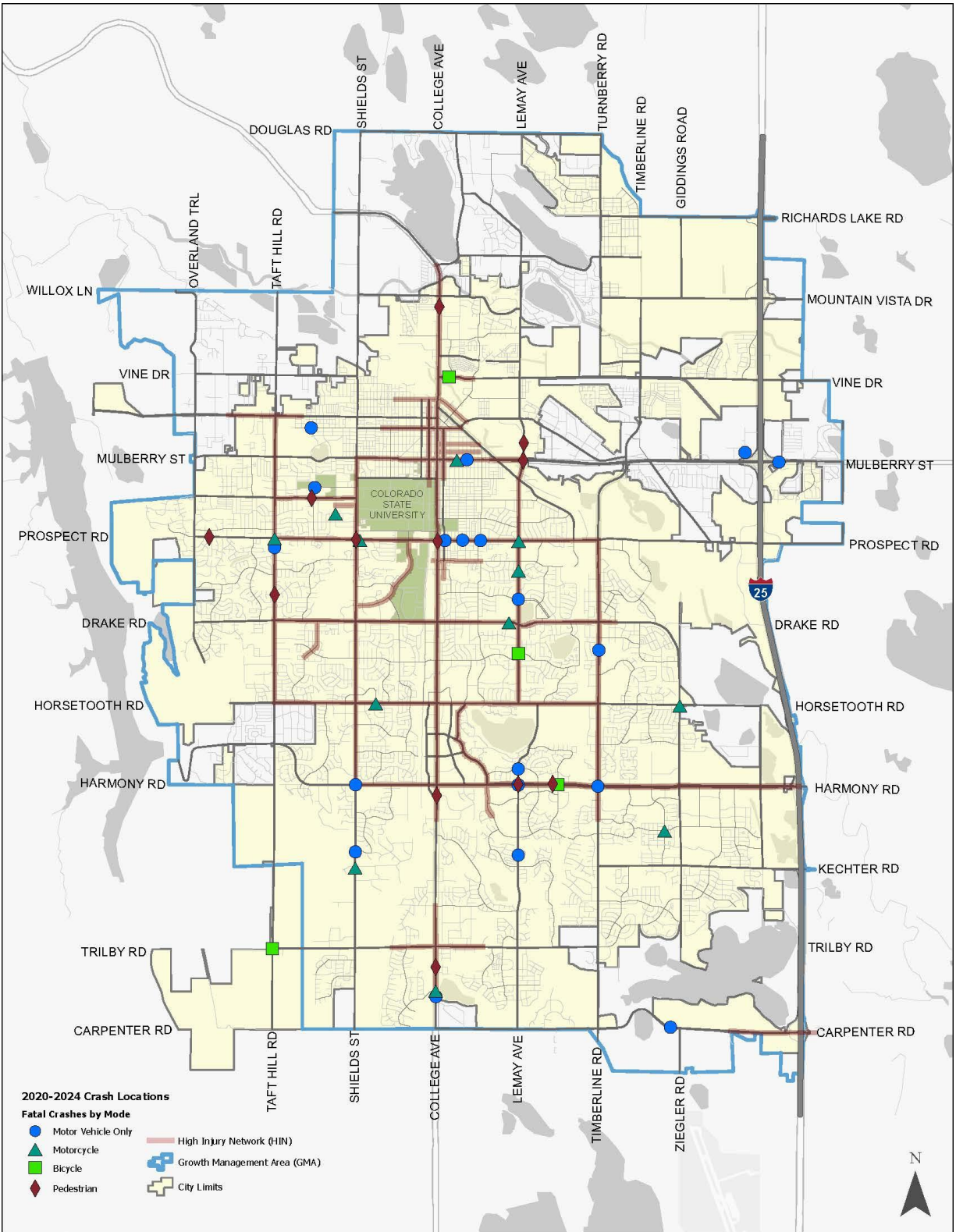


Figure 13. Location and Mode of Travel in Fatal Crashes

While each crash is unique and often has several contributing factors, an exploration of the data identifies some common themes among the crashes by mode. These themes are not intended to place blame, but rather to better understand risk and locations of interest, and target safety improvements, educational outreach and/or enforcement areas.

The most frequent themes (or contributing factors) involved with fatal crashes are summarized in **Table 1** below for each mode of travel. The themes are listed in order of occurrence, meaning the most frequent themes are listed first. Some crashes involve more than one theme.

Table 1. Summary of Common Themes in Fatal Crashes:

<p>Motor Vehicle Only</p> <ul style="list-style-type: none"> Intersections Single vehicle Speeding Medical events Alcohol/DUI 	<p>Motorcycle</p> <ul style="list-style-type: none"> Intersections Nighttime (dark) Alcohol/DUI Significant speeding Single vehicle
<p>Bicycle</p> <ul style="list-style-type: none"> Daytime Unsignalized intersections 	<p>Pedestrian</p> <ul style="list-style-type: none"> Nighttime (dark) Non intersection (midblock)

Serious Injury/Fatal Crash Types

There are six types of crashes that make up 84% of all serious injury/fatal crashes. They are shown in **Figure 14**. Definitions of crash types are included in **Appendix B**. Because of the special interest in vulnerable road user crashes, those involving a bicycle or pedestrian are shown separately. All other crash types involve motor vehicles only (or motorcycles).

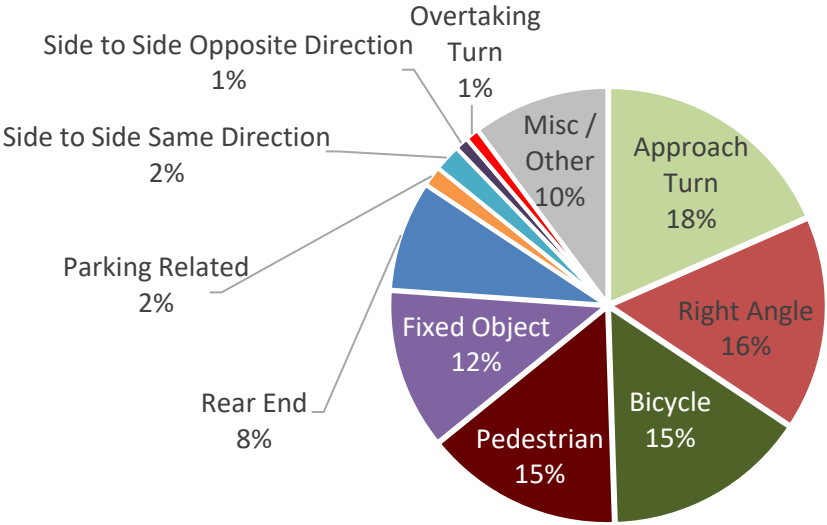


Figure 14. Serious Injury/Fatal Crash Types

Intersection Crashes

Intersections remain the most common crash locations. Seventy-one percent (71%) of all serious injury/fatal crashes occur at intersections. The type of crashes that occur at intersections are shown in **Figure 15**. The most frequent intersection crash types are not necessarily the most frequent severe crash types; for example, rear end is the most common crash type for total crashes but is less common among severe crashes, while bicycle and pedestrian crashes are more common as severe crashes than as total crashes. While any crash is undesirable, the Vision Zero goal is to eliminate severe crashes.

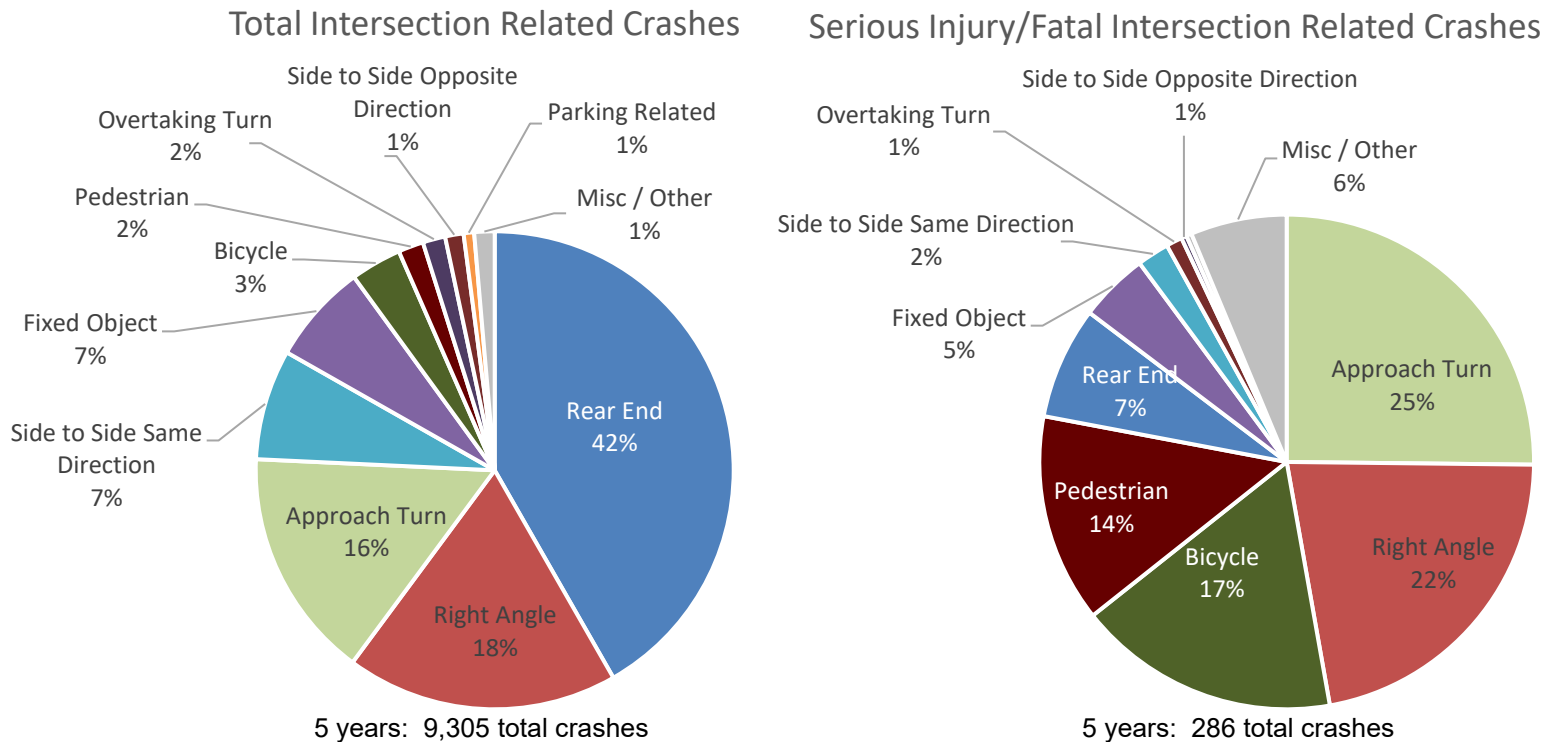


Figure 15. Crash Type for Intersection Crashes

Crash Location and High Injury Network

A map of crash location for serious injury/fatal crashes in the last five years is shown in **Figure 16**.

The map also shows the High Injury Network (HIN). The Vision Zero Action Plan for the City of Fort Collins adopted in 2023 identified street segments with the greatest share of serious injury/fatal crashes. Those streets have been designated as the HIN.

The HIN represents 8% of the streets in Fort Collins and is the location of 59% of all serious injury/fatal crashes. The HIN are road segments that are especially targeted for safety focus.

Table 2. Crashes on the High Injury Network

	Citywide Crashes	Crashes on HIN
Total serious injury/fatal crashes	402	238 (59%)
Fatal crashes	50	32 (64%)

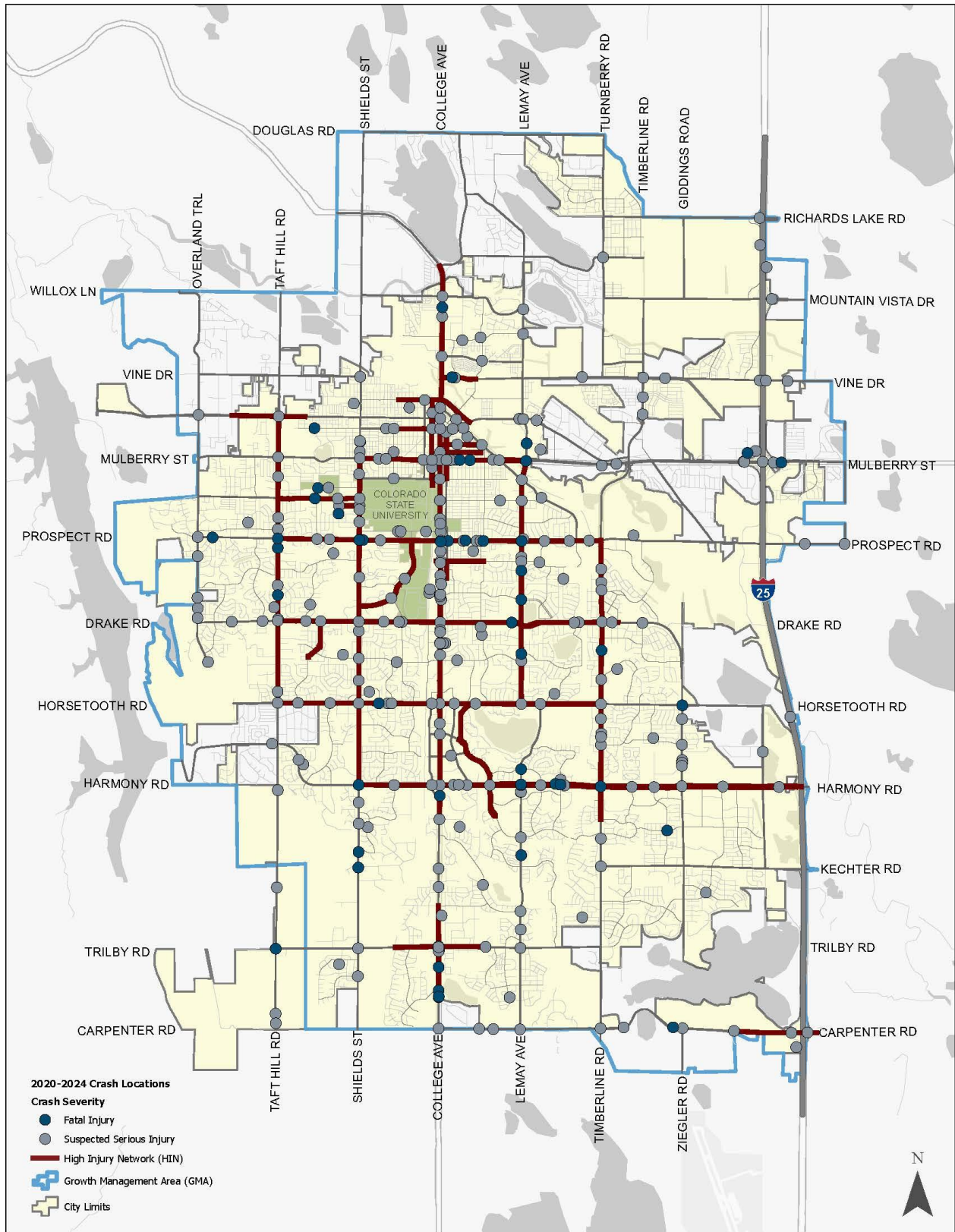


Figure 16. HIN and Location of Serious Injury/Fatal Crashes 2020-2024

ECONOMIC IMPACT

Using figures determined by the Federal Highway Administration and published in the Highway Safety Manual, an estimation of economic costs associated with crashes in Fort Collins can be made. The annual societal cost of traffic crashes in Fort Collins is about \$211 million. See **Table 3**. The crash costs shown are adjusted to reflect 2024 values. Crash costs include monetary losses associated with medical care, emergency services, property damage and lost productivity. They also include costs related to the reduction in the quality of life related to injuries.

Total societal cost of crashes in Fort Collins in 2024:
\$211 million

A study completed by the National Highway Traffic Safety Administration (NHTSA) identified who pays the costs of the economic impact of crashes. The NHTSA study found that society at large pays for about 75% of all costs incurred for traffic crashes. Those costs are passed on to the public through insurance premiums, taxes, direct out of pocket payments for goods/services and increased medical costs.

Crash Severity	Number of Crashes	Cost Per Crash	Societal Cost
Property Damage Crashes	2,288	\$ 13,300	\$ 30,430,400
Possible Injury Crashes	359	\$ 82,200	\$ 29,509,800
Non-Incapacitating Injury Crashes	297	\$ 145,900	\$ 43,332,300
Incapacitating Injury Crashes	82	\$ 399,300	\$ 32,742,600
Fatal Crashes	10	\$ 7,543,400	\$ 75,434,000
Total	3,036		\$ 211,449,100

Table 3.
Economic Impact of Traffic Crashes in Fort Collins, 2024

COMPARISON TO OTHER CITIES

Knowing how Fort Collins crash trends compare to other communities helps identify progress and which communities to look to for effective strategies. The most consistent way to compare Fort Collins’ crash frequency with that of other cities is to compare the fatal crash rate (crashes per 100,000 population). Fatal crashes are used for this comparison as they are most consistently reported due to federal reporting requirements. **Tables 4 and 5** are sorted by fatal crash rate and compare Fort Collins to other cities in Colorado and also other peer cities nationwide with similar populations (90,000 to 200,000).

Because fatal crashes are rare, there are relatively low numbers to use in the analysis, which can result in some volatility in the results. Using a rolling 5-year annual average helps to smooth out year-to-year swings.

The City of Fort Collins has a lower fatal crash rate than most of its comparable Colorado counterparts and is about average when compared against similar cities nationwide.

Colorado Cities							
City	Population	Fatal Crashes, 2020 - 2024					Fatal Crash Rate (Crashes/Year/ 100,000 Pop.)
		2020	2021	2022	2023	2024	
Boulder	106,803	4	5	1	5	3	3.4
Arvada	121,873	4	2	5	5	6	3.6
Longmont	99,818	6	7	7	5	6	6.2
Fort Collins	170,376	10	11	8	14	10	6.2
Westminster	114,832	5	8	11	11	6	7.1
Greeley	114,363	12	2	5	11	14	7.7
Average CO Cities	124,500	8.3	8.9	9.0	11.2	11.7	7.8
Thornton	124,402	9	11	12	7	18	9.2
Lakewood	156,868	12	18	17	20	21	11.2
Pueblo	111,166	13	16	15	23	21	15.8

Table 4. Fatal Crash Rate Comparison to Other Colorado Cities

Peer Cities							
City	Population	Fatal Crashes, 2019 - 2023					Fatal Crash Rate (Crashes/Year/ 100,000 Pop.)
		2019	2020	2021	2022	2023	
Bellevue, WA	151,764	4	4	1	3	1	1.7
Naperville, IL	150,060	3	2	5	2	3	2.0
Olathe, KS	147,779	6	3	4	5	5	3.1
Overland Park, KS	198,789	9	7	5	6	7	3.4
Coral Springs, FL	134,484	4	8	7	5	3	4.0
Broken Arrow, OK	119,194	3	4	9	4	5	4.2
Fort Collins, CO	170,376	8	10	11	8	14	6.0
Cedar Rapids, IA	136,468	9.0	5.0	6.0	9.0	12.0	6.0
Average Peer Cities	140,361	6.2	8.5	9.0	10.0	9.4	6.3
San Angelo, TX	98,234	3	9	10	8	4	6.9
Richardson, TX	118,363	5	9	7	18	11	8.4
Norman, OK	130,046	5	12	10	20	13	9.2
Boca Raton, FL	96,684	6	11	15	15	15	12.8
Springfield, MO	172,455	15	27	27	27	29	14.5

Table 5. Fatal Crash Rate Comparison to Similar Peer Cities Nationwide

Data sources:

- Colorado crash data is from the Colorado Department of Transportation (CDOT).
- Crash data for communities outside Colorado (peer cities) was obtained from the National Highway Traffic Safety Administration's Fatal Accident Reporting System (FARS) which contains data through 2023.
- Population estimates are from the U.S. Census.

INTERSECTION EVALUATION

Because vehicle volumes and other elements at specific intersections vary widely, it is difficult to draw relevant and comparative conclusions from just crash numbers at each location. Therefore, a more sophisticated analysis is conducted that allows for a data-based intersection comparison to find locations where more severe crashes are occurring than would be expected when considering traffic volumes and other intersection characteristics. These intersections are good candidates for interventions and improvements can have a strong impact on reducing crashes citywide, working towards the goal of zero.

The analysis follows the national best practice outlined in the *Highway Safety Manual* (HSM) published by the Transportation Research Board (TRB) and the American Association of State Highway and Transportation Officials (AASHTO). The procedure is a statistical process that utilizes inputs including crash numbers, severity, vehicle volumes, roadway geometry and type of control at a location. The analysis accounts for the somewhat random nature of crashes, and the outcome is an evaluation of intersection safety that can be compared from one location to another. It identifies locations that have a higher-than expected crash frequency where there is likely the most opportunity for reduction of crashes. As always, the goal is zero crashes, but this methodology allows for systematic evaluation of the crashes that are occurring. Details on methodology, models and costs are included in **Appendix C**. The result of the analysis is provided in two forms, each of which is explained below.

EXCESS CRASH COSTS

The analysis identifies the expected number of crashes at an intersection given the inputs and compares that against the actual number of crashes. The difference in expected crashes and actual crashes can be monetized as 'excess crash cost'. This is the annual cost associated with crashes that are above the expected number of crashes for an intersection and provides an indication of locations with unusually high numbers of crashes. Locations with high excess crash costs may have significant potential for reducing crashes. Locations of differing volumes and geometric elements can also be compared against one another using excess crash costs. A more detailed explanation of the methodology is in **Appendix C**.

LEVEL OF SERVICE OF SAFETY (LOSS)

While excess crash cost is a quantitative approach that provides a specific number (dollar amount), CDOT uses a similar analysis and reports results in a more qualitative fashion called Level of Service of Safety (LOSS). LOSS is calculated for both total crashes as well as fatal/injury crashes (FI). LOSS is reported on a scale of 1-4.

- LOSS 1 and 2 reflect locations with less than the expected number of crashes (below the 50th percentile).
- LOSS 3 reflects locations with above average number of crashes (above the 50th percentile).
- LOSS 4 reflects locations with above the 80th percentile number of crashes.

Locations that are identified as LOSS 3 and 4 indicate the highest potential for crash reduction with a mitigating project. Intersections with a crash history that fall into LOSS 1 and 2 may still have a pattern that can be mitigated but may result in lower crash reduction than similar efforts at intersections with a higher LOSS.

The reporting of the LOSS analysis gives the city information needed to determine locations that may score favorably in the review process for CDOT safety funds.

INTERSECTION COMPARISON AND TRENDS

The analysis for excess crash costs and LOSS was completed for 307 intersections in Fort Collins using three years of data (2022-2024). The results of excess crash costs and CDOT LOSS are shown in **Table 6** for the 50 intersections with the greatest excess crash costs and the most potential for improvement.



Table 6. Top 50 Intersections by Excess Crash Costs

	Rank	Facility ID	Intersection		Excess Crash Cost (\$)	Level of Service of Safety (LOSS)		Notes	Change in Rank		High Injury Network
			North-South Street	East-West Street		LOSS Total Crashes	LOSS Fatal & Injury Crashes		Last Year's Rank	Change in Rank since 2024	
Top 10 intersections	1	10	College Av	Drake Rd	\$318,297	LOSS 3	LOSS 4	CPID - new automated speed enforcement	1	0	Yes
	2	143	Timberline Rd	Carpenter Rd	\$291,639	LOSS 4	LOSS 4	CPID - will convert to roundabout	3	1	No
	3	80	Mason St	Harmony Rd	\$287,079	LOSS 4	LOSS 4		6	3	Yes
	4	145	Timberline Rd	Harmony Rd	\$286,831		LOSS 4	New automated speed enforcement	4	0	Yes
	5	6473	Ziegler Rd	Horsetooth	\$240,844	LOSS 4	LOSS 4	CPID and development potential	32	27	No
	6	9380	Timberline Rd	Lincoln Av	\$236,498	LOSS 4	LOSS 4	CPID	13	7	No
	7	119	Shields St	Prospect Rd	\$224,513	LOSS 3	LOSS 3	CPID: Protected intersection planned	12	5	Yes
	8	162	Lemay Av	Harmony Rd	\$219,193	LOSS 3	LOSS 4		5	-3	Yes
	9	134	Taft Hill Rd	Drake Rd	\$212,213	LOSS 4	LOSS 3		25	16	Yes
	10	18	College Av	Kensington Av	\$186,131	LOSS 4	LOSS 4		11	1	Yes
Next 15	11	108	Shields St	Drake Rd	\$145,757	LOSS 4	LOSS 3		37	26	Yes
	12	6171	Edinburgh St	Drake Rd	\$143,957	LOSS 4	LOSS 4		15	3	Yes
	13	59	Lemay Av	Drake Rd	\$131,998	LOSS 3	LOSS 3	CPID - new red light cameras and automated s	2	-11	Yes
	14	69	Lemay Av	Riverside Av	\$131,613	LOSS 3	LOSS 3	Recent funding for signal improvements	21	7	Yes
	15	101	Remington St	Mulberry St	\$117,126	LOSS 4	LOSS 4	Signal Improvements in design	19	4	Yes
	16	7290	College Av	Mason St/Palmer Dr	\$115,920	LOSS 4	LOSS 4		30	14	Yes
	17	15033	College Av	Rutgers Av	\$111,902	LOSS 4	LOSS 4		42	25	Yes
	18	6666	Mason St	Horsetooth Rd	\$110,584	LOSS 4	LOSS 3		31	13	Yes
	19	8	College Av	Columbia Rd	\$108,244	LOSS 4	LOSS 3	Signal Improvements in design	9	-10	Yes
	20	5329	College Av	Plum St	\$105,143	LOSS 4	LOSS 4		28	8	Yes
	21	35	College Av	Troutman Pkwy	\$104,501	LOSS 3	LOSS 3	Signal Improvements completed 2024	8	-13	Yes
	22	6417	Timberline Rd	Vine Dr	\$99,520	LOSS 4	LOSS 4	Signal Installation in Progress	49	27	No
	23	25	College Av	Mulberry St	\$98,839	LOSS 3	LOSS 3	Signal rebuilt with FYA E/W in 2022	7	-16	Yes
	24	149	Timberline Rd	Prospect Rd	\$98,015		LOSS 3		0	-24	Yes
	25	19	College Av	Laporte Av	\$89,553	LOSS 3	LOSS 3		20	-5	Yes
	26	55	JFK Pkwy	Harmony Rd	\$87,336	LOSS 3	LOSS 3		18	-8	Yes
	27	33	College Av	Swallow Rd	\$86,916		LOSS 3	Recent signal timing improvements (N/S left tur	87	60	Yes
	28	195	Welch St	Prospect Rd	\$83,192	LOSS 4	LOSS 3	Potential project through Active Modes Plan	57	29	Yes
	29	73	Lemay Av	Trilby Rd	\$82,989	LOSS 3	LOSS 3		106	77	No
	30	24	College Av	Mountain Av	\$80,982	LOSS 4	LOSS 3		98	68	Yes
	31	139	Taft Hill Rd	Mulberry St	\$75,791	LOSS 3	LOSS 3		61	30	Yes
	32	91	McMurry Av	Harmony Rd	\$74,764	LOSS 3	LOSS 3		86	54	Yes
	33	9402	Lemay Av	Carpenter Rd	\$72,958	LOSS 4	LOSS 3		10	-23	No
	34	1	Boardwalk Dr	Harmony Rd	\$71,597	LOSS 3	LOSS 3		14	-20	Yes
	35	7219	Shields St	Pitkin St	\$68,821	LOSS 3	LOSS 4		26	-9	Yes
36	25924	Redwood Dr	Suniga Dr	\$67,812	LOSS 4	LOSS 4	Converted to all way STOP	39	3	No	
37	15	College Av	Harvard St	\$64,701	LOSS 4	LOSS 3		23	-14	Yes	
38	37	College Av	Willox Ln	\$63,926	LOSS 3	LOSS 3	Recent pedestrian protection	29	-9	Yes	
39	9994	Taft Hill Rd	Trilby Rd	\$63,094	LOSS 4	LOSS 3	Signal Installed 2024	24	-15	No	
40	84	Mason St	Mulberry St	\$56,553		LOSS 3		0	-40	Yes	
41	71	Lemay Av	Stuart St	\$56,211		LOSS 3		0	-41	Yes	
42	125	Shields St	Trilby Rd	\$55,700	LOSS 3	LOSS 3		35	-7	No	
43	137	Taft Hill Rd	Horsetooth Rd	\$54,572	LOSS 3	LOSS 3	Recent signal timing improvements (N/S left tur	22	-21	Yes	
44	110	Shields St	Harmony Rd	\$53,105	LOSS 3	LOSS 3	Recent signal timing improvements (FYA for E/	52	8	Yes	
45	90	McClelland Dr	Drake Rd	\$52,544	LOSS 4	LOSS 3		51	6	Yes	
46	193	Stover St (East Int	Prospect Rd	\$51,646	LOSS 4	LOSS 3		47	1	Yes	
47	13721	Timberline Rd	Nancy Gray Av	\$50,859		LOSS 3		0	-47	Yes	
48	62	Lemay Av	Horsetooth Rd (East	\$50,145	LOSS 3	LOSS 3		84	36	Yes	
49	6591	College Av	Lake St	\$48,079	LOSS 4	LOSS 3		83	34	Yes	
50	6614	Academy Ct	Prospect Rd	\$47,821	LOSS 3	LOSS 4		73	23	Yes	

Legend:

- 10 high priority locations for review
- Additional 15 locations with potential for crash reduction
- Recently Improved - safety being monitored
- Project In Process

- Shading reflects LOSS 4
- LOSS: Level of Service of Safety Only LOSS 3 and 4 shown
- CPID: Capital Project In Design
- FYA: Flashing Yellow Arrow

- Improving safety
- Increasing crash trends

Excess Crash Cost: Monetized evaluation of locations with actual crashes higher than expected.



Note that since fatal and injury (FI) crashes have higher crash costs associated with them, the ranking method gives more weight to locations with more severe crashes compared to locations with primarily “fender benders”. This approach is aligned with the Vision Zero goal of moving towards zero serious injury and fatal crashes.

The LOSS columns indicate locations with LOSS 3 or 4. These are locations with above average number of crashes and highest potential for crash reduction. Blank cells in those columns indicate LOSS 1 or 2, which are locations with less than expected crashes.

In the columns labeled “Change in Rank” the information identifies the location’s rank from last year (using 2021-2023 data), and the relative change in rank from last year to this year. This provides an indication of locations with improving safety (shaded in green), and those with increasing crashes (shaded in red). Note that in some cases, judgement is needed to determine whether the change reflects a trend and whether it is significant. For instance, in locations with relatively few crashes, a single injury crash can create a pronounced swing in excess crash costs. Likewise, locations with lower vehicular volumes can show a distinct swing in excess crash costs.

Finally, the table also identifies whether an intersection is on the High Injury Network identified in the Vision Zero Action Plan (and shown in **Figure 16** on page 14).

The table identifies information about locations that are currently in the process of being improved, recently improved and therefore are being monitored for improved safety and locations that would be high priority locations for review. Evaluations of these locations would include detailed review of crash patterns, and identification of potential countermeasures. Results can be used to inform future project scopes.



VISION ZERO SAFETY EFFORTS

The City of Fort Collins is committed to reducing the number and severity of crashes. The Vision Zero Action Plan together with this annual evaluation guides the process. The City's FC Moves Department manages a comprehensive spreadsheet to track Vision Zero Transformative Actions and Supporting Actions. The spreadsheet is updated on an ongoing basis and is available upon request from the FC Moves Department.

RECENT VISION ZERO ACCOMPLISHMENTS

There have been a number of recent projects completed in the city that support transportation safety. Some projects are targeted efforts to address a specific crash issue, while others may be projects with goals in addition to safety, such as comfort and mobility for vulnerable road users, or travel efficiency to reduce emissions. Examples of work completed in 2024 are listed below by project category.

Corridor or Capital Infrastructure Projects

- Laporte Avenue capital corridor multimodal improvements including raised separated sidepaths from Fishback Avenue to Sunset Street.
- Centre Avenue separated bike lanes from Worthington Circle to Bay Drive.

Minor Intersection Improvements

- Miles House Avenue and Drake Road pedestrian refuge island.
- Centre Avenue median refuge islands at Spring Creek Trail and at Phemister/Rolland Moore Drive.
- City Park Avenue and Mulberry Street intersection improvements.
- Prospect Road and Riverside Avenue raised crosswalk in the channelized right turn lane.
- Canyon Avenue at Magnolia Street and Sherwood Avenue quick build curb extensions and intersection reconfiguration.
- Oak Street at Whedbee Street curb extensions.
- Stuart Street and Stover Street curb extensions.
- Wabash Street and Benthaven Street curb extensions.

Signal Projects and/or Intersection Control

- New signals
 - Lemay Avenue and Buckingham Street (with flashing yellow arrows all directions).
 - College Avenue and Bueno Street (with flashing yellow arrows all directions).
 - College Avenue and Suniga Road (with flashing yellow arrows all directions).
- Signal Remodels and upgrades
 - Worthington Avenue and Drake Street (flashing yellow arrows all directions).
 - College Avenue and Troutman Parkway (flashing yellow arrows all directions).
 - Greenfields Drive and Mulberry Street (flashing yellow arrows for NB and WB, protected only left turn phasing for SB and EB).
- Redwood Street and Suniga Road all way STOP.

School Transportation Safety Evaluations

- Continued efforts at various Poudre School District facilities. Observations, evaluations and recommendations made at five schools: Kruse and Johnson elementary schools, Blevins and Webber middle schools, and Rocky Mountain High School.



Neighborhood Traffic Mitigation Projects

- Installed 15 speed humps and one raised crosswalk.
- Deployed speed trailer to 30 locations.

Striping and/or Pavement Marking Projects for Improved Bike Lanes

- Harmony Road (Timberline Road to West I-25 frontage road). This included green bike lane crossing markings at Snow Mesa Drive, Corbett Drive and McMurry Avenue. This sets up the corridor for the potential of future separated bike lanes.
- Research Boulevard (Centre Avenue to north of Drake Road).
- City Park Avenue (Mulberry Street to Birch Street).
- Laporte Avenue (Fishback Avenue to Wood Street).
- Manhattan Avenue (Horsetooth Road to Troutman Parkway).
- Stover Street (Stuart Street to Drake Road).
- Vine Drive (9th Street To I-25).
- Kechter Road (Strauss Cabin Road to I-25).
- Swallow Road (Shields Street to College Avenue).
- Trilby Road (Timberline Road to Westchase Road), Old Mill Road (County Fair Road to Harvest Park Lane).

Education

The city's Safe Routes to School program focuses on transportation-safety education for K-12 students as well as infrastructure improvements benefiting youth. The program educates more than 5,000 students annually through a curriculum taught primarily during physical-education classes at local schools. The curriculum provides age-appropriate lessons on bicycling and pedestrian safety and includes on-street "Rules of the Road" bicycling practice starting at the sixth-grade level. Younger students may also receive on-street and on-trail practice in preparation for school-sponsored bike field trips and after-school bike clubs.

The FC Moves Adult Education program also educates Fort Collins residents on traffic safety, including the Bicycle Friendly Driver course.

Enforcement

Prior to 2023, automated speed enforcement could only be used in certain areas using a mobile van. Red light cameras were also allowed at signalized intersections. In 2023, the Colorado General Assembly expanded the ability to use automated enforcement.

Fort Collins City Council passed Ordinance No 098, 2024 which amended the Fort Collins Traffic code to implement a new Automated Vehicle Identification System (AVIS). The change allows automated detection of violations occurring in school zones, within residential neighborhoods, within designated maintenance, construction or repair zones, adjacent to municipal parks or along designated speed corridors.

Council adopted 21 speed corridors, primarily including the arterial road system. (The 30-day warning period will be followed by citations beginning in 2025 using units that are moveable.) Six intersections that previously had red light cameras were expanded to include speed enforcement (beginning in early 2025).

TRACKING AND MEASURING SAFETY IMPROVEMENTS

A key component to a safety toolbox is ongoing monitoring and continuous safety evaluation of the city's transportation system. In addition to annual data gathering and review shown earlier in this report, monitoring specific efforts/initiatives for their effectiveness and impact on safety can inform future actions and projects.

An important component to the tracking of projects is that the city completed a safety dashboard to be utilized by city staff and the public.

Projects completed in 2023 in locations with a concerning crash history and at least one full year of available 'after' data are listed below in **Table 7** together with the before/after comparison. The data shows that improvements with a measurable reduction in crashes are possible. The most impactful projects are typically intersection projects at higher volume locations.

Table 7. Monitoring Recent Safety Specific Improvements

Location	Improvement	Before Crashes	After Crashes	Percent Reduction
Taft Hill Road and Horsetooth Road	Capital intersection project (intersection rebuilt including southbound protected left turns)	10.7 /year total 3.0 /year injury	9.0 /year total 1.0 /year injury	16 % total 67 % injury
Taft Hill Road and Trilby Road	New signal	5.0 /year total 3.0 /year injury	3.0 /year total 1.0 /year injury	40 % total 67 % injury
College Avenue and Swallow Road	Northbound and southbound protected left turns	3.0 approach turn crashes /year	1.0 approach turn crashes /year	67 %
College Avenue and Carpenter Road	Southbound protected left turns	3.3 approach turn crashes /year	1.0 approach turn crashes /year	70 %
College Avenue and Troutman Parkway	Northbound and southbound protected left turns	6.7 approach turn crashes /year	1.0 approach turn crashes /year	85 %

Other projects that have been completed may have been undertaken as part of a systemic initiative, with efforts that are proactive. This includes the ongoing effort related to the implementation of the Transportation Master Plan and Active Modes Plan. Those projects would not necessarily show a decrease in crashes as they were completed prior to a crash history becoming evident. Typical examples of these types of projects are pavement marking projects to improve bike lanes along roadway segments. They remain an important component of the Vision Zero Action Plan and various safety initiatives undertaken by the city.



ONGOING EFFORTS/NEXT STEPS

Each year, city staff uses the information in this report to inform the work program for coming years. Projects are identified that support transportation safety. Continued implementation of various adopted plans (including the Transportation Master Plan and Active Modes Plan) is a guide.

Current efforts by various departments are listed below. They represent the breadth of work being completed in Fort Collins and the continuing focus on safety and mobility improvements.

Planning Level Projects, Policies and Standards

- Safer Streets Northwest Study funded by federal Safe Streets for All (SS4A) grant.
- A review of Shields Street from Mountain Avenue to Mulberry Street to consider a road diet and separated bike lanes.
- Harmony Road study to develop concepts for safety improvements funded by a SS4A grant.
- Lake Street improvements including separated bike lanes funded by a SS4A grant.
- An audit of city standards and policies to align with the Vision Zero Action Plan funded by a SS4A grant.

Implementation of School Review Recommendations

- Implementation of school review recommendations at Zach Elementary (including a full signal and rectangular rapid flashing beacon) through CDOT Safe Routes to School grant.
- Implementation of school review recommendations at Irish Elementary through a CDOT Safe Routes to School grant.

Intersections, Signal Projects and Pedestrian Crossing Improvements

- Signalization at Ziegler Road and William Neal Parkway.
- Signal upgrade at Remington Street and Mulberry Street.
- Various pedestrian crossing upgrades including hybrid beacons and RRFBs at several locations.
- Design of a protected intersection at Prospect Road and Shields Street.

Key Trail Connections

Trail projects, while serving the general public, also provide new levels of safety and convenience for K-12 students to and from school.

- Power Trail completion with Harmony Road underpass.
- Siphon overpass at Union Pacific Railroad connecting Mail Creek Trail to Power Trail.



APPENDIX A

EXPLANATION OF DATA

The source for crash information is the City of Fort Collins Traffic Operations Department traffic crash database. The department works cooperatively with Fort Collins Police Services to obtain electronic copies of reports for all crashes on public streets. This includes all crashes investigated and reported by Fort Collins Police Services.

Traffic Operations staff reviews each crash report to ensure that data is as complete, accurate, and consistent as possible. Crash narratives are used to further detail some of the fields.

Population data used in this report was from the U.S. Census Bureau. The Colorado Department of Revenue provided data showing the number of licensed drivers by age in Fort Collins.

There are some crashes that are not included in the data. This includes:

- Crashes on private property (such as grocery store parking lots),
- Crashes that go unreported. This includes crashes on the trail system, or crashes that do not involve a motor vehicle (i.e., single bicycle crashes, or crashes between a pedestrian and bicyclist). Pedestrian crashes that do not involve an injury are also often not reported.
- Some crashes that occur along jurisdictional boundaries if other agencies respond (although efforts are made to add data from others when known),
- Non-injury crashes reported only to the State (such as during 'accident alert' status during bad weather) are not being captured by Fort Collins Police Services, and therefore not included in the analysis.

As new technology is deployed such as micromobility devices, scooters and e-bikes, the consistency with which that information is captured on a crash report varies. The detailed review and quality control done by Traffic Operations staff helps to identify those types of crashes, but it should be noted that fully understanding details may be difficult as they are not always captured on the crash form.

Most of the analyses represent five years of data, from 2020 to 2024. Some instances are noted and may only include three years of analysis, 2022-2024.



APPENDIX B

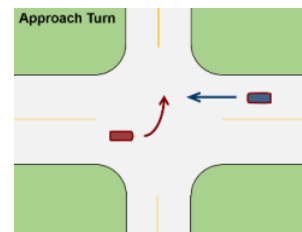
TYPES OF CRASHES

Throughout the document, there is detailed discussion and analysis regarding a variety of crash types. The most frequently noted crash categories are listed below with an explanation and definition for each one. Some are depicted in the diagrams at right. Note that all crashes reported involve some type of motor vehicle.

Crash reports will often indicate “front to side” collisions (also known as broadside). As indicated in the definitions and the diagrams, the circumstances related to the front of a vehicle striking the side of another vehicle can vary, and the mitigation to address these collisions may be very different depending on the type of crash. More detailed descriptions (approach turn, right angle, and overtaking turn) are explained below and used in this report.

Approach Turn

Two vehicles traveling in opposite directions, one turns left (or attempts a U-turn) in front of the oncoming vehicle and is struck.



Bicycle

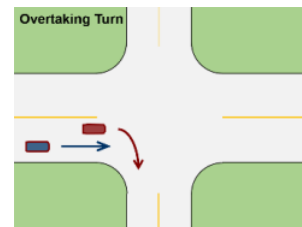
Any crash that involves a bicyclist and a motor vehicle.

Fixed Object

A single vehicle crash where a fixed object other than a parked vehicle is struck. This includes items such as a curb, median, or other roadside feature such as tree, fence, or utility pole.

Overtaking Turn

Two vehicles traveling in the same direction, the front vehicle turns right or left and is hit as the following vehicle tries to pass on the right or left. When this type of crash involves a bicycle traveling straight and a vehicle making a right turn, it is also known as a ‘right hook’ crash.

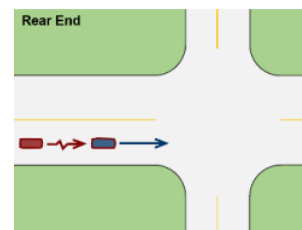


Parking Related

Any crash involving a parked vehicle or a vehicle entering/leaving a parking space.

Pedestrian

Any crash that involves a pedestrian and a motor vehicle.



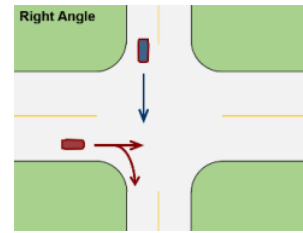
Rear End

Two vehicles traveling in the same direction, leading vehicle struck by following vehicle.



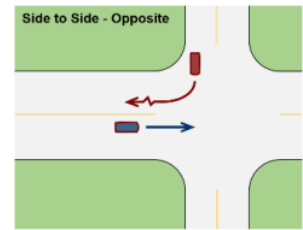
Right Angle

Two vehicles traveling on perpendicular streets one fails to yield or passes a traffic control device and strikes the other.



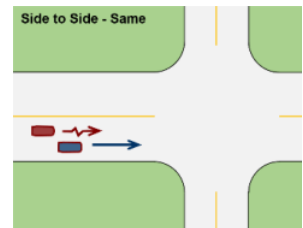
Sideswipe Opposite Direction (also side to side opposite)

Two vehicles traveling in opposite directions, one veers into the wrong lane and strikes the side of the other car. This often occurs where a vehicle waiting at a STOP sign or traffic signal is struck by a vehicle turning right from a perpendicular road (frequently during icy conditions).



Sideswipe Same Direction (also side to side same)

Two vehicles traveling the same direction, one vehicle veers into the other striking it in the side (usually due to improper lane changes).



Other

Other crashes that do not fit into any other category.

Crash Type Diagrams



APPENDIX C

INTERSECTION EVALUATION

ANALYSIS DETAILS

Information in the intersection evaluation section of the report is used to identify specific locations with the anticipated highest potential for crash reduction. The analysis is conducted to identify intersections where there are more crashes than expected considering traffic volumes, roadway geometry, type of traffic control, and crash severity.

INTERSECTIONS BY EXCESS CRASH COST

To identify locations with the most potential for crash reduction, it is important to use methods that account for crash severity, traffic volumes, roadway geometry, and type of control at intersections as those factors have an impact on the number of crashes at a given location.

It is also necessary to acknowledge that even though traffic crashes are partially deterministic (i.e., factors affecting crash potential can be controlled), crashes are, to some extent, random events. This random nature of crashes can make it more difficult to determine if a location is truly a problem versus a location where normal variation led to a high crash frequency during the analysis period. To identify locations that warrant further investigation it is helpful to use a methodology that accounts for the somewhat random nature of crashes.

In 2010 the Transportation Research Board (TRB) and the American Association of State Highway and Transportation Officials (AASHTO) published the *Highway Safety Manual* (HSM). The HSM includes a statistical approach that considers traffic volumes and intersection types while also accounting for the natural fluctuation of data called regression to the mean. The result is the identification of locations that have a higher-than-expected crash frequency even after accounting for random variation.

Crash Prediction Models

The method in the Highway Safety Manual that is applied for this evaluation uses crash prediction models to predict the number of crashes (both total and injury/fatal crashes) at each location given traffic volumes, roadway geometry, and type of control at each intersection. The predictions are then compared to the actual number of crashes at each location (adjusted to account for regression to the mean). The more the actual adjusted number of crashes exceeds the number of predicted crashes (expressed as excess crash cost) the more likely it is that a location might benefit from targeted improvements.

Several crash prediction models were considered including those found in the Highway Safety Manual 1st edition, models developed for the Colorado Department of Transportation (CDOT) in 2009, and models developed for CDOT in 2018. Model results were compared to actual Fort Collins crash data and the models that best matched the data in each intersection category were selected for use (see table on next page).

Once the comparison between model predicted and actual crashes is completed, the numbers can be monetized into 'excess crash costs'. This is the cost of crashes above the model predictions for an intersection and provides an indication of the potential benefit of reducing crashes. Crash costs are weighted by severity and based on



information provided in the Highway Safety Manual (Table 4A-1), adjusted to 2024 dollars, and consider Fort Collins' proportion of severe crashes. The costs include monetary losses associated with medical care, emergency services, property damage and lost productivity. They also include costs related to reduction in quality of life that is related to injuries. See table below for the costs used in this report.

Prediction Model Used in Intersection Analysis

Number of Legs *	Type of Control	Model Used
3	Stop Controlled	CDOT 2018
4	Stop Controlled	CDOT 2018
3	Signalized	CDOT 2018
4	Signalized	CDOT 2009 (total crashes) 2018 (injury crashes)
All	Roundabout	NCHRP 888

2024 Crash Costs

Severity of Crash	Cost
Property Damage Only	\$ 13,300 /crash
Fatal/Injury	\$ 82K - \$146K /crash

Source of cost:
Highway Safety Manual

* Legs: Segments of roadway approaching an intersection