

Calgary Safer Mobility Plan – Annual Briefing 2023

Introduction

Many of us have experienced near misses or minor fender benders that effect our mobility experience, but the impact of a mistake on our streets can be much more severe. In 2022, 457 people were seriously injured, and 16 people died in collisions on our roadways. As of November 2023, 19 people have tragically been killed in collisions this year so far. The post pandemic increase in travel and exposure is likely a contributing factor, and more deliberate action is needed to counteract these shifts.



...Mobility free of major injuries and fatalities

Our 2019-2023 Safer Mobility Plan (SMP) outlines the long-term **vision of mobility free of major injuries and fatalities** with the short-term target of **25% reduction by 2023**. Reaching this target is dependent on many factors that influence the outcome, and we are continuing to work towards reducing harm on our roadways through data driven and evidence-based approaches, and increasing collaboration across disciplines and community-based programs. We have begun work to deliver the next 2024-2028 Safer Mobility Plan as the first joint plan between City of Calgary and Calgary Police Service to strengthen our partnership in the delivery of safety programs.

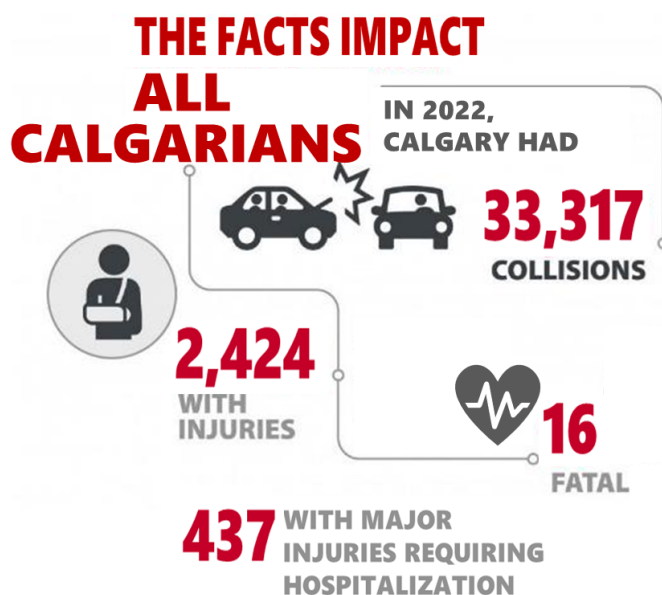
Collision Statistics

Calgary Safer Mobility Plan Indicator Statistics 2022

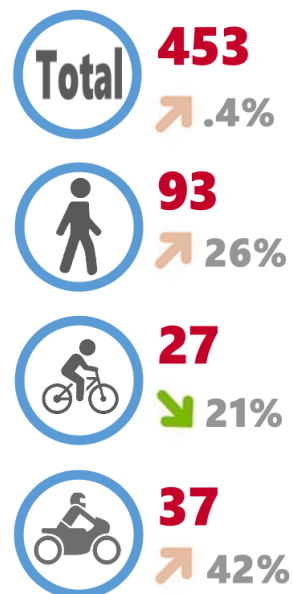
	2020	2021	2022	% Change (Year over Year)	2019-2021 Average	2022	% Change (3-year Average)
Fatal Collisions	24	14	16	14	19	16	-16
Major Injury Collisions	424	401	437	9	436	437	0
Pedestrian Involved Fatality+Major Injury Collisions	88	93	120	29	95	120	26
Bicyclist Involved Fatality+Major Injury Collisions	40	29	27	-7	34	27	-21
Motorcyclist Involved Fatality+Major Injury Collisions	29	21	37	76	26	37	42

In 2022, there were 16 fatal collisions (14 in 2021), 2,424 injury collisions (2,094 in 2021) and 30,877 property damage only collisions (24,483 in 2021) on Calgary roads. The 2022 societal cost of these

collisions was estimated to be \$1.2 billion. Pedestrians were involved in 4 fatal collisions (8 in 2021), and 116 major injury collisions (85 in 2021), while cyclists were involved in 27 major injury collisions (29 in 2021), with no fatal cyclist collisions (also 0 in 2021).



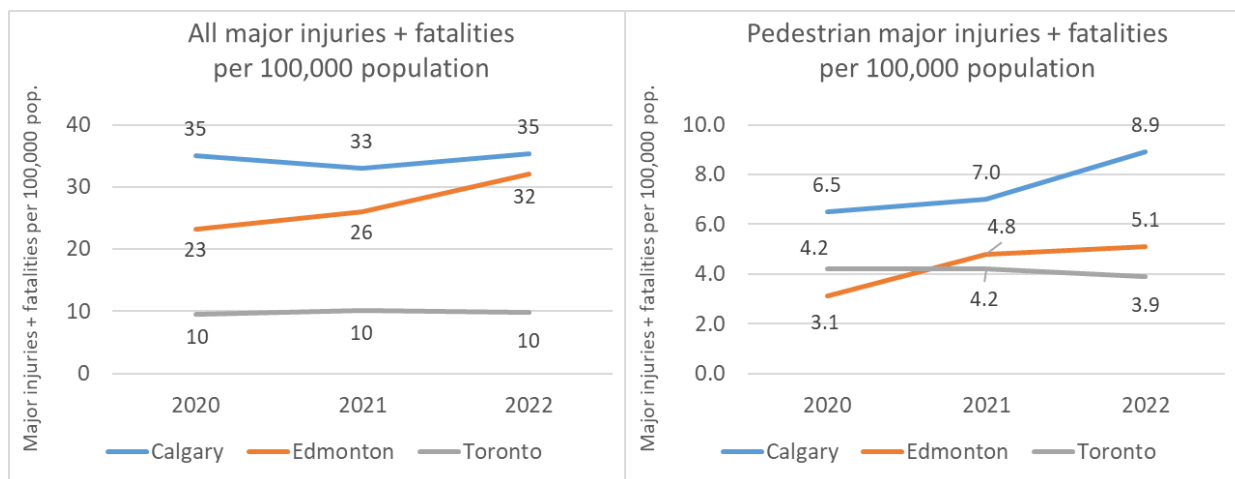
Major Injury and Fatal Collisions



Compared to the 2019-2021 annual average

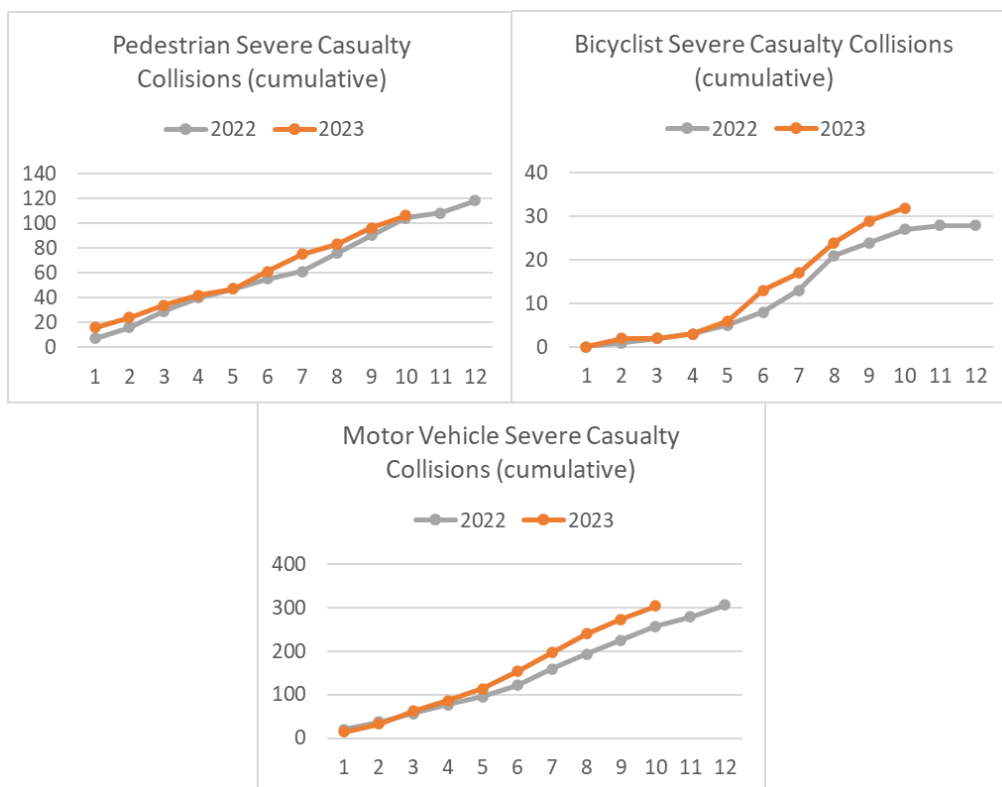
For comparison purposes, selected cities are shown in the table below, using the most recently available comparable data. While Calgary's performance has been relatively stable when considering all major collisions, pedestrian related major injury incidents have been increasing post-pandemic and further action is needed to close the gap to other major Canadian cities.

Summary of Traffic Injuries and Fatalities for Various Canadian Cities



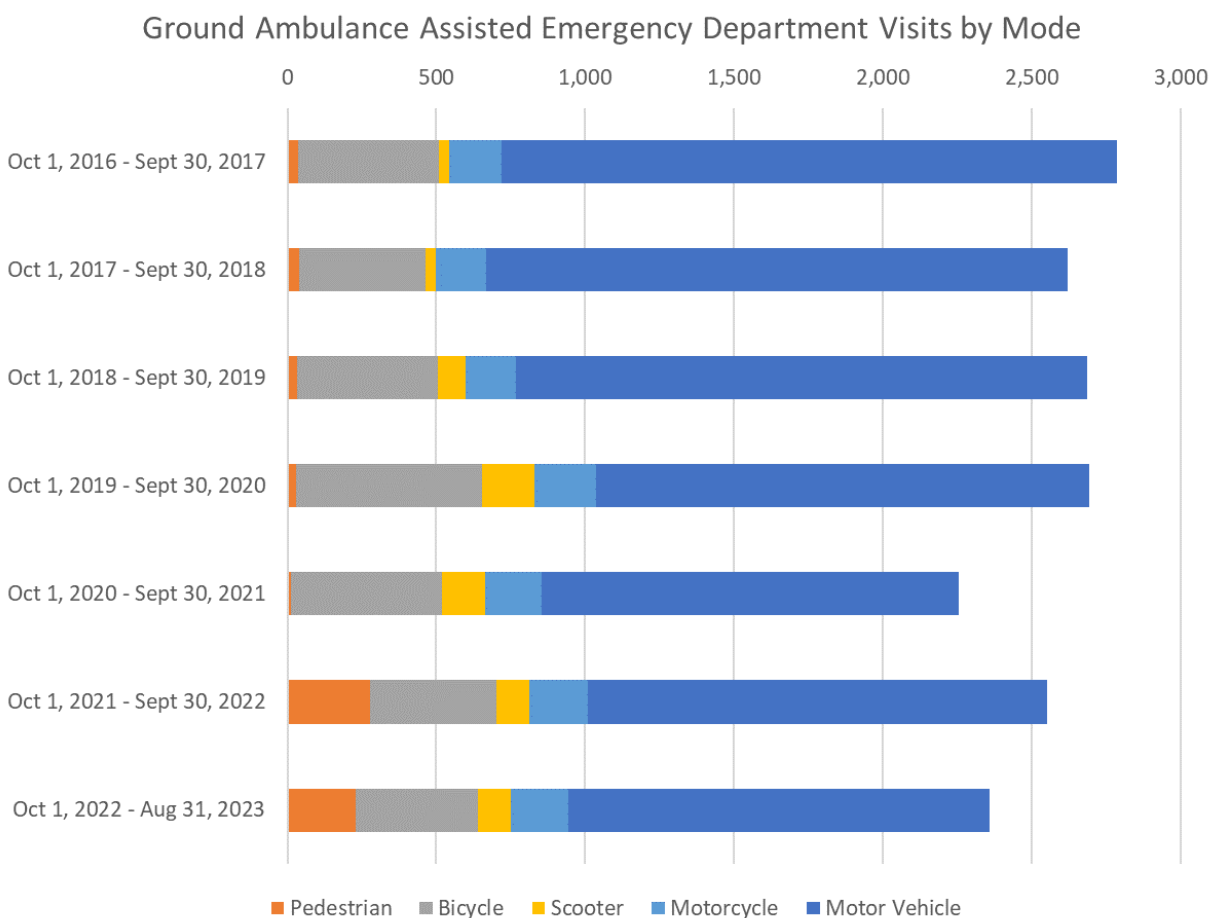
Based on preliminary data for the current year (2023), casualty collisions are generally trending slightly higher to 2022 for motor vehicle and bicyclist categories, however, the pedestrian category is trending above previous years. This may be related to decreased travel demand during the pandemic that is now increasing.

Cumulative Casualty Collisions (Fatal and Major Injury), Jan 2022 to Oct 2023



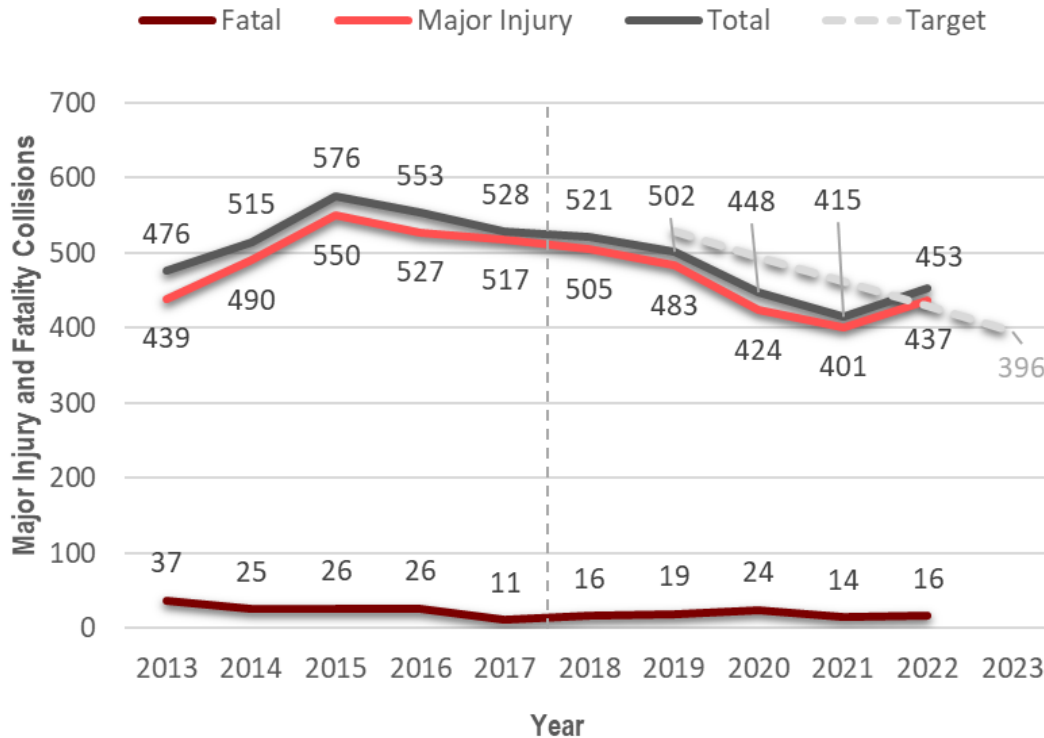
As police reported collisions only include incidents involving motor vehicles, the data provides little insight into collisions between two active modes or single bicycle/scooter incidents. Another indicator of safety is Alberta Health Services (AHS) data for all users including pedestrians, bicycle and scooter incidents that resulted in ambulance assisted hospital admissions shown below. The data shows that emergency department visits for active modes increased since the beginning of the pandemic while motor vehicle occupant visits decreased. In addition, bicyclist incidents account for 19% of emergency department visits, the highest category after motor vehicles and this proportion is significantly higher than the bicyclist proportion of police reported collisions indicating many bicyclist collisions may go unreported. In 2021/2022 there were approximately 110 emergency department visits resulting from a scooter incidents accounting for 4% of visits.

Summary of Alberta Health Services Emergency Department Visits (Oct 2016-Aug 2023)



Focus Area Targets

Target #1: Major Injury and Fatality Collision Target

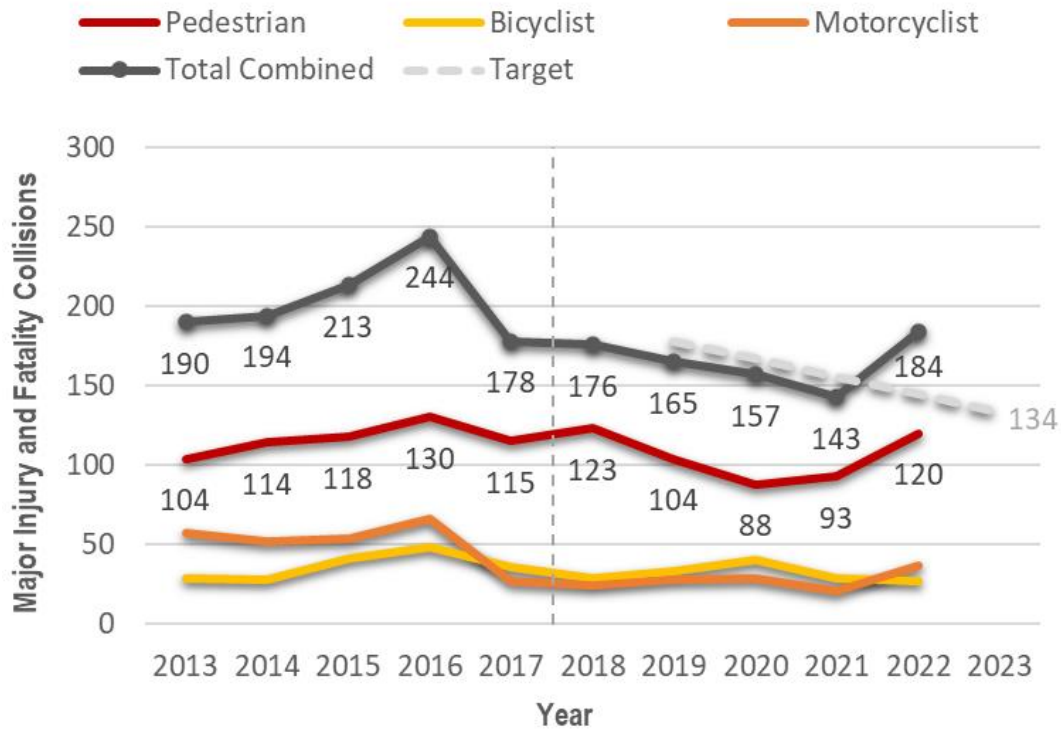


Target: 25% reduction in major injury and fatality collisions

Baseline: 528 major injury and fatality collisions (2017)

Progress summary: This briefing presents 2022 collision statistics and progress towards the targets for actions taken prior to 2022. In 2022, we had a notable increase in major injury collisions compared to previous year. This is mainly driven by the return to pre-pandemic conditions and traffic volumes. The longer-term trend has been decreasing with 14% fewer major injury collisions in 2022 compared to 2017. Fatal collisions increased by 14% year over year but are down by 16% when compared to a 3-year average.

Target #2: Vulnerable Road User Collision Target



Target: 25% reduction in major injury and fatality collisions

Baseline: 178 major injury and fatality collisions (2017)

Progress summary: Major injury collisions involving vulnerable road users reached a 5 year high in 2022. This is mainly driven by an increase in pedestrian and motorcyclist collisions, with a slight decrease in cyclist collisions.

Update on Neighbourhood Speed Limit Reduction

City of Calgary reduced unposted speed limit from 50 km/h to 40 km/h on May 31, 2021. Improving safety outcomes in neighbourhoods through lower operating speeds, was the main goal of the change and the approach taken was a low-cost, high-compliance option aimed at aligning speed limits with observed behaviour. Although this change was not anticipated to result in large changes in speed, it was viewed as a first step on the way to safer speeds.

Collision data are presented in the Table below for 2016 to 2022 to summarize five calendar years of 'before' data and one full calendar year of 'post implementation' data; 'casualty' refers to injury and fatal collisions combined. This data indicates an increase in casualty collisions on all classifications of roadways. It is also notable that the number of casualty collisions in 2022 is higher than the 5-year average for all roadway classifications except for Collector roadways and Skeletal roadways.

Total Casualty Collisions by Roadway Classification: 2016 to 2022

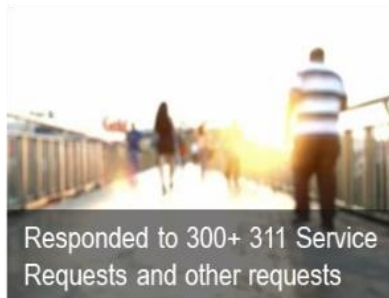
Year	2016	2017	2018	2019	2020	5-year before average	2022
Residential	140	139	152	170	134	147	187
Collector	406	370	373	402	300	370	356
Urban Boulevards	236	289	267	195	178	233	258
Arterial	779	779	738	703	541	708	734
Skeletal	653	708	619	576	410	593	548
Other	245	378	374	339	280	323	343

Notes: "Other" includes all Calgary Transportation Plan (CTP) roadway classifications not otherwise included in this study. Casualty collisions include both fatal and injury traffic collisions. Reported collisions used in this study occurred on the City of Calgary road network, private property and parking lot collisions were excluded. "Collector" includes Collector, Primary Collector, Activity Centre Street and Neighbourhood Boulevard CTP Road Classes. Casualty collisions during the second half of the year are often higher than the first half of the year with more summer and fall travel at higher speeds.

The changes to casualty collisions related to the speed limit change are likely muted by the more significant impact of travel pattern and behaviour changes due to the pandemic. Collision data can be influenced by many variables, and a longer period is required to draw stronger conclusions about the influence of these changes to better isolate the effect of the speed limit change. We will continue to monitor this as more data becomes available and post-pandemic travel behaviours continue to stabilize.

2023 Accomplishments and Planned Actions for 2024

2024 was a busy year with significant achievements by many groups throughout the organization. Highlighted below is a selection of actions that have been undertaken in 2023 through our regular ongoing programs and as specific initiatives.



- **Safer Mobility Plan 2024-2028.** We have been working with Calgary Police Service on the development of the first unified plan as core partners working towards safer mobility and reducing harm on our roadways. The new plan will be built on our past successes and principles of continuous improvements and expanding collaboration with our partners and communities. We anticipate completion in 2024.
- **Maze gate removal.** To improve accessibility for Calgarians, we are in the process of removing maze gates across the city. The work is delivered by our Maintenance crews and we are prioritizing locations with prior requests. We are aiming to complete approximately 100 removals by the end of 2023 and continue in 2024.
- **Speed Limit Reduction Program.** In 2021, the City of Calgary reduced the standard speed limit from an unposted 50 km/h to 40 km/h. Currently citizens continue to request speed reductions for

other roadways posted at 50 km/h. The criteria originally developed for the residential speed reduction are being used to review these locations. Moreover, we have undertaken a pilot to better understand the impact of reducing posted speed at locations that are on the boundary of what is currently considered appropriate for reduction. In 2023, 77 streets have been requested for a speed limit reduction of which data collection and review was completed at 35 locations with 31 approved for reduction to 40 km/h.

- **Mobility Safety Education Tool Kit.** We developed a new educational resource for elementary-aged children and families, the Mobility Safety Education Tool Kit. The kit currently includes a new webpage, the Calgary in motion! Activity Book, Conversation Guide and Crosswalk Safety Video. In 2024, we will work to further expand our programs through partnership with schools to target distribution of activity books to one grade level annually, expand “Staying Safe on City Streets” video series, translate resources into additional languages, and develop resources for older students (high schools).



- **Speed Hump Guidelines and Pilot.** Existing speed humps were installed through the process outlined in the 2003 Traffic Calming Policy which has now been replaced with the 2022 Neighbourhood Streets Policy. We are currently developing a new process for evaluation of citizen requests. Thus far we have begun an extensive literature review and consulted with several jurisdictions about their practices and policies. The pilot to install speed humps is being developed for 2024. We received 81 speed hump requests in 2023.
- **Left turn calming** (also called centerline hardening) is a temporary intersection treatment that reduces left turning vehicle speeds and improves pedestrian safety. Temporary rubber speed bumps and plastic posts are placed on the road centerline, which encourage drivers to make slower turns and pay more attention to their surroundings. We implemented left turn calming at three signalized intersections between Fall 2022 and Summer 2023. Since the treatments were installed, improvements in driver behavior were observed at all project locations. We are currently monitoring, collecting data on potential issues and treatment effectiveness.

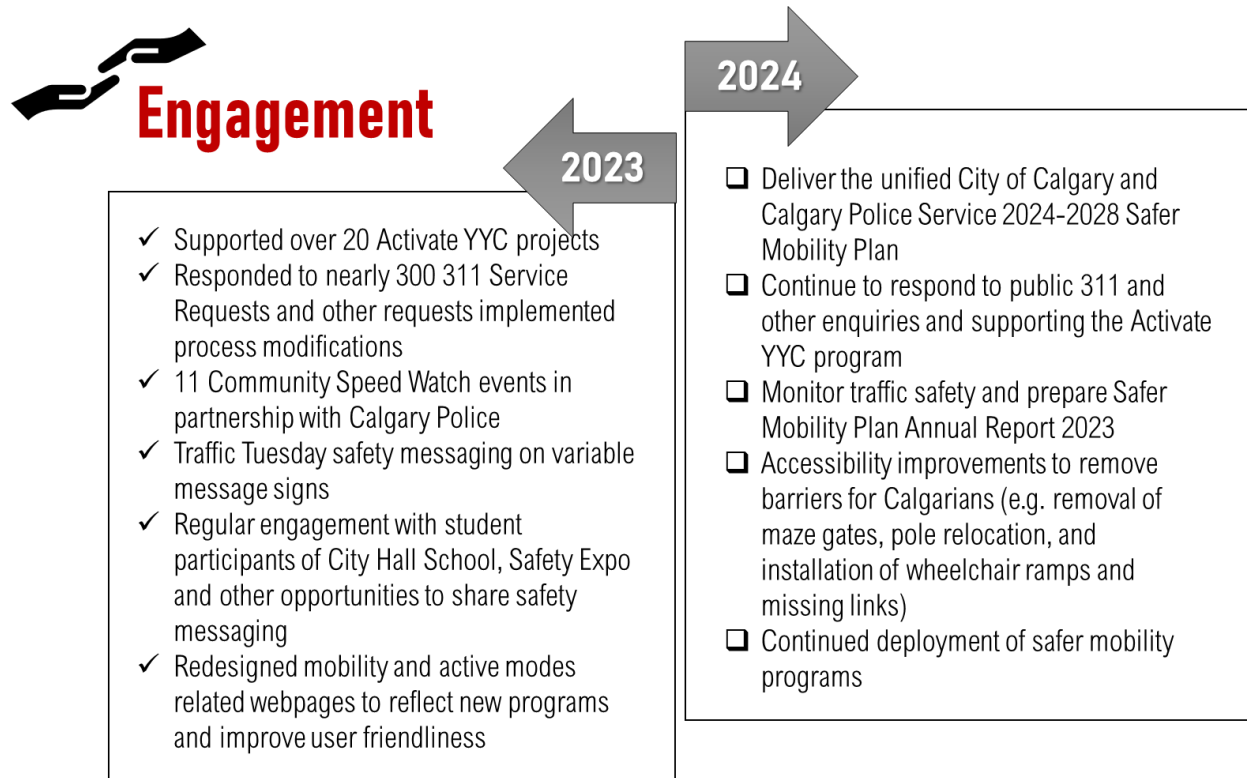
- **Pedestrian signal guidelines update.** Signals and Mobility Safety are collaborating on the development of a policy to systemically standardize pedestrian signal operations and safety experience at intersections. The policy is driven by our goal to achieve safer outcomes for vulnerable road users. The guiding principle is achieving a network wide impact through relatively low-cost proven interventions to improve pedestrian safety. This work will focus on refining pedestrian walk and clearance intervals and other operational features (right turn on red restrictions, leading pedestrian intervals, turn protection, and pedestrian scramble) to improve pedestrian safety. A draft of the policy is expected by the second quarter of 2024.

The 2023 achievements and planned actions for 2024 are identified for each area of focus. With more work to do, our focus in 2024 will be on implementing proven safety countermeasures, collaborating with our partners, and identifying new programs to create systemic change and gain momentum towards Vision Zero. Some new initiatives and upcoming actions are outlined below.



Engagement

The management of the SMP is primarily done through the collaborative teams of the SMP. One of the main actions is to report on the progress of the plan annually and to re-assess the SMP at the end of the 2019-2023 period, once data is available.



Engineering

In 2022 we were able to make progress on a number of important projects and initiatives that change the environment to reduce collisions. Projects with highest collision reduction potential particularly among more severe collisions were prioritized, including roadway geometry improvements, high entry angle right turns (smart rights), and pedestrian safety improvements. Highlights are included in the following figure.



Engineering

2023

Studies to support evidence-based approach:

- ✓ In-Service Road Safety Reviews and video-based conflict analysis at 12 locations
- ✓ Collision Reviews, Safety Assessments, and checks

Pedestrian crosswalk improvements:

- ✓ 15 new traffic signals
- ✓ 7 Rectangular Rapid Flashing Beacons (RRFBs)
- ✓ 8 new overhead flashers and begun upgrade of all existing locations with side-mounted beacons
- ✓ 25 marked/signed crosswalks
- ✓ 358 temporary curbs at 73 locations
- ✓ Street lighting improvements

Targeted, cost-effective safety improvements (Safety Improvements Capital Program) for example:

- ✓ Kensington Road NW between 14 Street and Crowchild Trail
- ✓ Barlow Trail & 39 Avenue NE
- ✓ Blackfoot Trail & Heritage Drive SE
- ✓ Braeside Drive & 24 Street SW
- ✓ Macleod Trail and 58 Avenue SW
- ✓ 52 Street & 44 Avenue NE
- ✓ 17 Avenue & 4 Street SW
- ✓ Canyon Meadows Drive and 6 Street SW
- ✓ Southland Drive and Fairmont Drive SE

Implementation of roadside improvements including median barriers and bridge pier protection:

- ✓ Macleod Trail and Spiller Rd SE

Signal phasing/timing improvements:

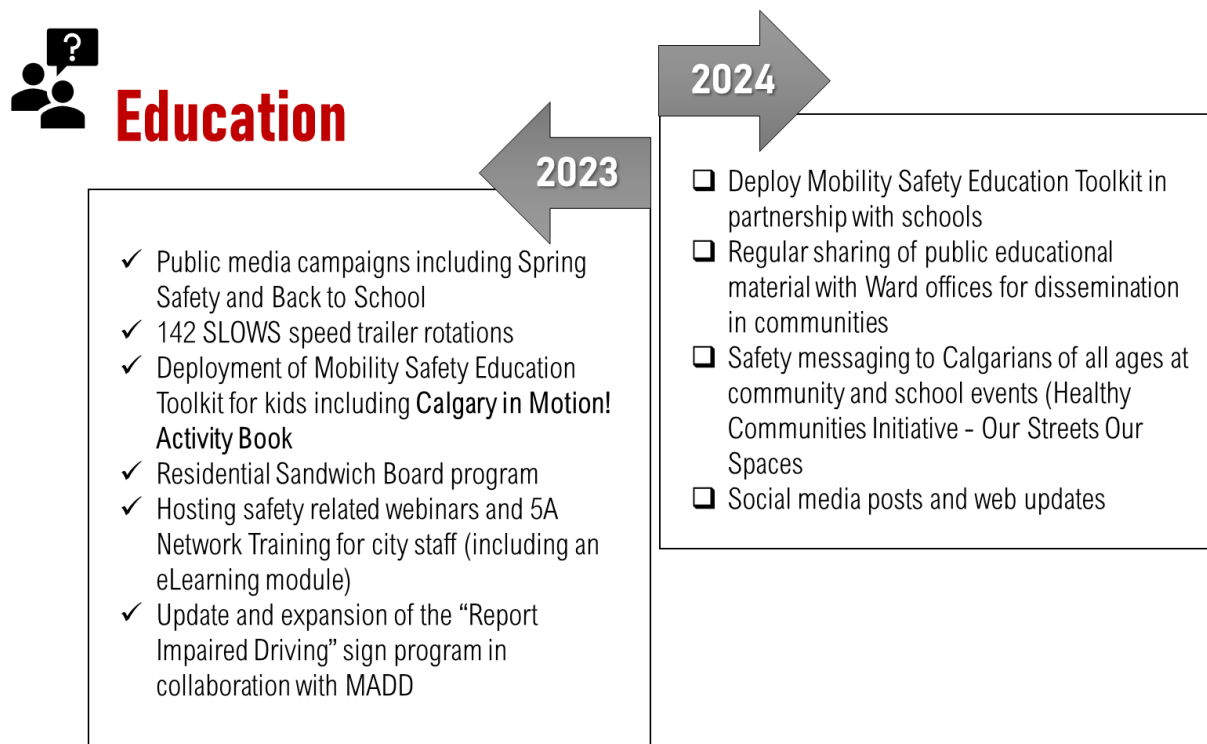
- ✓ Protected left turns
- ✓ Leading Pedestrian Intervals and Split Phases
- ✓ Ongoing traffic safety support and coordination of programs.

2024

- ❑ Implementation of safety review recommendations using permanent and temporary measures
- ❑ Implementation of In-Road Pedestrian Signs Program
- ❑ Continued implementation of improvements with projects at:
 - Macleod Trail S median barrier
 - 14 Street NW pedestrian safety improvements
 - Curb extensions at crosswalks
 - 36 Street & Memorial Drive right turns
 - 90 Avenue & 24 Street SW right turn
 - 64 Avenue & Centre Street N right turns
- ❑ Traffic signal and crosswalk improvements and update of the pedestrian signal policy
- ❑ Continued implementation of the Active and Safe Routes to School Program
- ❑ Identify high severity injury corridors and improvement options.
- ❑ Continued implementation of the Speed Limit Reduction program

Education

Public education and communication is needed to raise awareness of road safety issues and promote safe behaviours, with the goal of reducing frequency and severity of collisions.



Enforcement

We continue to work closely with Calgary Police Service as a key partner to achieve our traffic safety targets.



Enforcement

2023

- ✓ Calgary Police Service deployment of high-visibility targeted enforcement
- ✓ Participation in CPS Collision Reconstruction review meetings and sharing of collision data analysis
- ✓ Safer Mobility Operations Team meetings to facilitate collaboration and coordination in the delivery of community improvements and initiatives
- ✓ Coordination of speed trailer deployment with speed enforcement
- ✓ Coordination on safety improvements near schools through the Safe Student Travel Advisory Group (SSTAG) with education/enforcement support from CPS

2024

- ☐ 2024-2028 Safer Mobility Plan development in partnership with Calgary Police
- ☐ Emergency response coordination improvements between CPS and Traffic Management Centre (TMC) and information sharing
- ☐ Continued collaboration in delivery of mobility safety programs

Evaluation and Innovation

Evaluation and innovation are key components of traffic safety and enable evidence-based assessment of the effectiveness of strategies and help in finding new solutions to longstanding problems.



Evaluation & Innovation

2023

- ✓ Pilot of temporary tactile walking surface indicators (TWSIs) at 'smart right channelized right turns
- ✓ Speed hump pilot to better understand the best use for deployment in Calgary
- ✓ Pilot Centreline Hardening at signalized intersections (in progress)
- ✓ Pilot of Accessible Pedestrian Signals (APS) at Overhead Flashers (in progress)
- ✓ Collision reduction evaluations to understand the impacts of countermeasures

2024

- ☐ Continue to evaluate speed impacts and collision reduction of mitigation measures and elements of the roadway environment to better understand their impact on safety
- ☐ Exploring opportunities to collaborate with partners to broaden safety data and understanding of incidents and near misses for all modes of travel (e.g. CapaCITY research program)
- ☐ Evaluate new signal hardware technologies to improve user experience such as accessible pedestrian signal features
- ☐ Pilot new and expand the use of proven countermeasures (speed humps, centreline hardening, in-street pedestrian signs, and others)