

# STRATEGIC ROAD SAFETY PLAN

## 2023 ANNUAL REPORT

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The [Strategic Road Safety Framework \(SRSF\)](#), adopted by Regional Council in July 2018, is the Halifax Regional Municipality's initial road safety framework that aims to reduce fatalities and injuries on roadways within the region. The Framework is based on a towards zero approach, with the aim to reduce transportation fatalities and injuries to zero by the year 2038. The Framework also sets a short-term goal of a 20 per cent reduction of fatal and injury collisions by the end of 2023. With the five-year framework concluding at the end of 2023, a new Road Safety Strategy will be developed for council approval in 2024, to build and improve upon the work achieved within the 2018 SRSF.

This report presents the progress made in the 2022/2023 fiscal year, outlines the actions and countermeasures for the 2023/2024 Strategic Road Safety Plan, and introduces the next proposed Road Safety Strategy.

# 1. Road Safety Update

In 2022, 11 fatal collisions and 768 injury collisions occurred on municipal and provincial roads within Halifax Regional Municipality. **Table 1** presents the annual fatal and injury collision statistics from 2018 to 2022.

TABLE 1: FATAL AND INJURY COLLISIONS (2018 - 2022) ✓

YEAR	TOTAL COLLISIONS	FATAL COLLISIONS	INJURY COLLISIONS	FATAL + INJURY COLLISIONS	FATAL + INJURY COLLISIONS PER 100,000 POPULATION	% REDUCTION FATAL + INJURY FROM BASELINE	% TRAFFIC REDUCTION DURING COVID-19 PANDEMIC**
2018	6,057	18	750	768	178.6	-	-
<b>BASELINE*</b>				806	185.2		
2019	6,225	18	825	843	191.8	-	-
2020	4,575	8	634	642	143.1	22.7%	21.4%
2021	5,049	15	724	739	161.4	12.8%	11.7%
2022	5,157	11	776	787	163.8	11.6%	8.3%

\* Baseline is average of 2018 and 2019 data

\*\* Annual traffic volume reduction in comparison to 2019 traffic volumes on the Halifax Harbour Bridges.

Data is drawn from closed collision files received from Halifax Regional Police and Royal Canadian Mounted Police as of April 13, 2023.

Future reports may vary.

2022 recorded the second lowest number of fatal collisions since the plan's inception, surpassed only by 2020, an unusual year due to the effects of the Covid-19 pandemic on traffic volumes. Unfortunately, while fatal collisions were lower, collisions resulting in injuries increased slightly over 2021 totals, keeping the rate of total fatal and injury collisions per 100,000 population nearly consistent with the 2021 rate. While the fatality and injury (F&I) collision rate has decreased since the inception of the plan in 2018, more effort is required to continue to bring the rate down further. It is also noted that benefits related to road safety upgrades which have already been implemented may take time to be reflected in the collision data, and the cumulative effort of work to date should be assessed against the trend over multiple years, rather than a single year of data.

**Figure 1** below, charts the fatal and injury collisions per 100 000 population, showing the trendline to meet Council's goal of a 20% reduction in fatal and injury collisions by 2023.

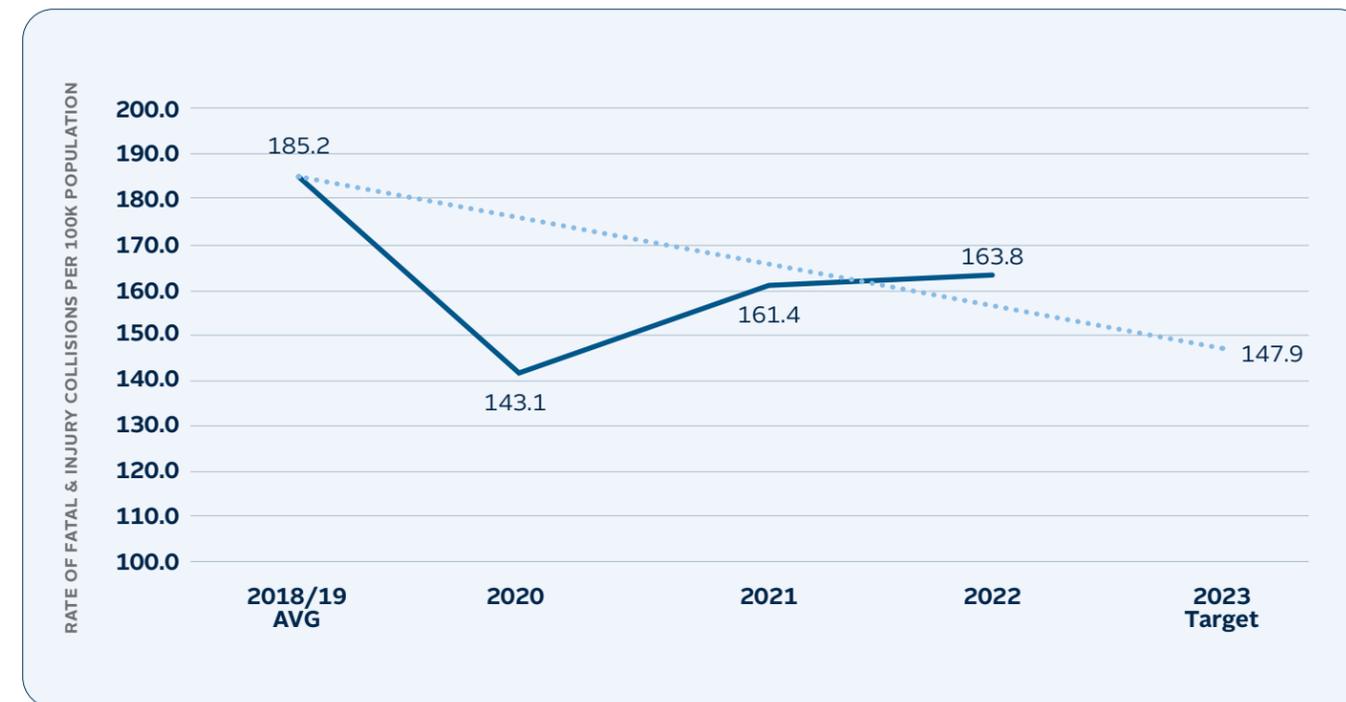


FIGURE 1: ROAD SAFETY PROGRESS, COLLISION RATE PER 100K POPULATION ✓

Staff has reached out to other Canadian jurisdictions to seek comparison data for fatal and injury collision rates. Comparable data requested were the number of collisions resulting in at least one injury or fatality, on municipal and provincial roads within the city's jurisdiction (including provincial controlled access highways) and the population of the corresponding region. At the time of preparing this report, most jurisdictions contacted were not yet able to provide finalized fatal and injury collision statistics for 2022.

Data accuracy and consistency were cited as reasons why other jurisdictions were not prepared to provide final numbers for this report. Staff have committed to keeping in touch with colleagues nationwide to continue comparing fatal and collision rates as data becomes available.

As staff have discovered that most jurisdictions across the country do not release annual collision data for a significant period of time after the reporting year, we will be considering the same approach in the future to allow adequate time for all collision files to be closed and checked for accuracy.



Figure 2 provides fatal and injury collisions for 2018 through 2022, normalized by 100,000 population.

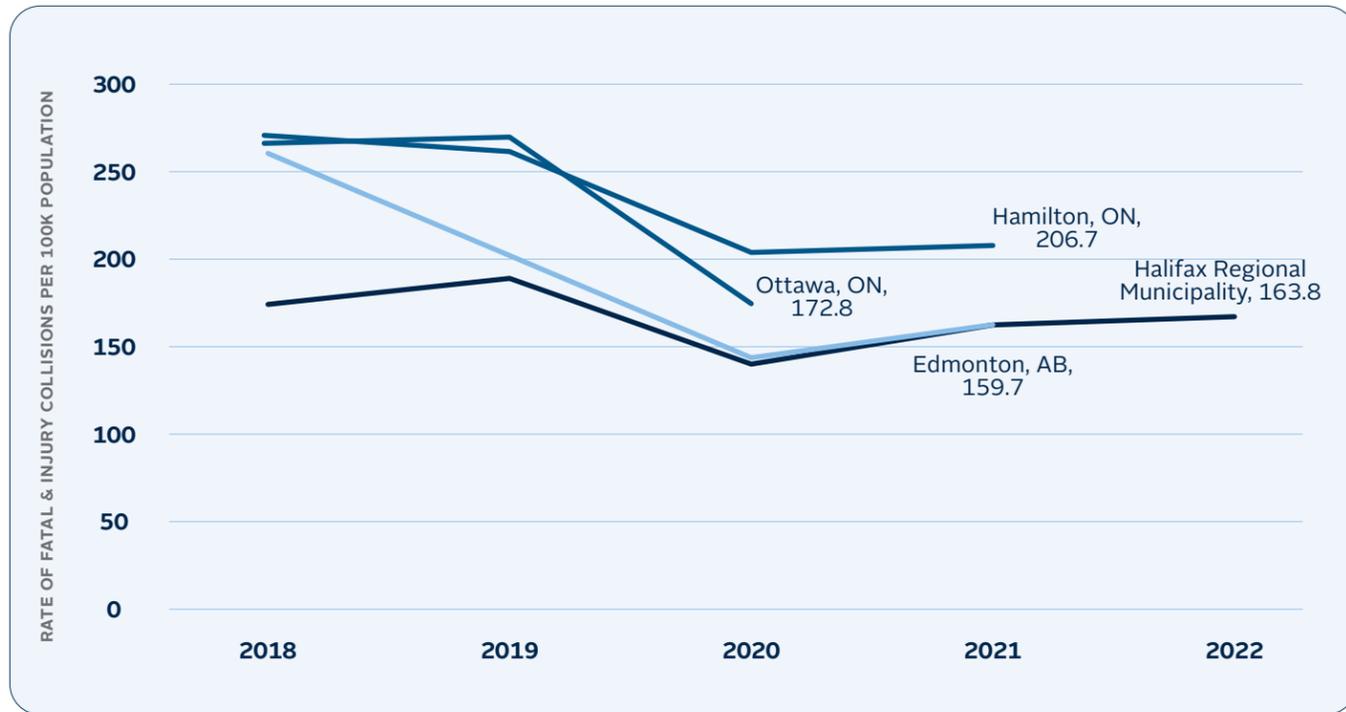


FIGURE 2: RATE OF FATAL & INJURY COLLISIONS PER 100,000 POPULATION: COMPARISON OF CANADIAN CITIES



## 2. Breakdown of Collision Data

To better understand the dynamics of road safety within the municipality, annual collision data is analyzed to identify trends, and to see where efforts may be focused to move towards our road safety goals. Each breakdown presented is based on closed collision files from Halifax Regional Police and Halifax District RCMP, and future reports may vary slightly as further collision files are closed or as errors in collision files are corrected.

Figure 3 displays the type and jurisdiction of each of the 11 fatal collisions that occurred in 2022. This assessment identified three collision types. The most frequent was single vehicle, where the vehicle left the roadway due to driver inattention, excessive speed for the conditions, driver impairment by drugs or alcohol, medical distress or a combination thereof. The other two collision types included multi-vehicle incidents and a single mid-block event where a pedestrian was struck while crossing the road outside of a crosswalk.

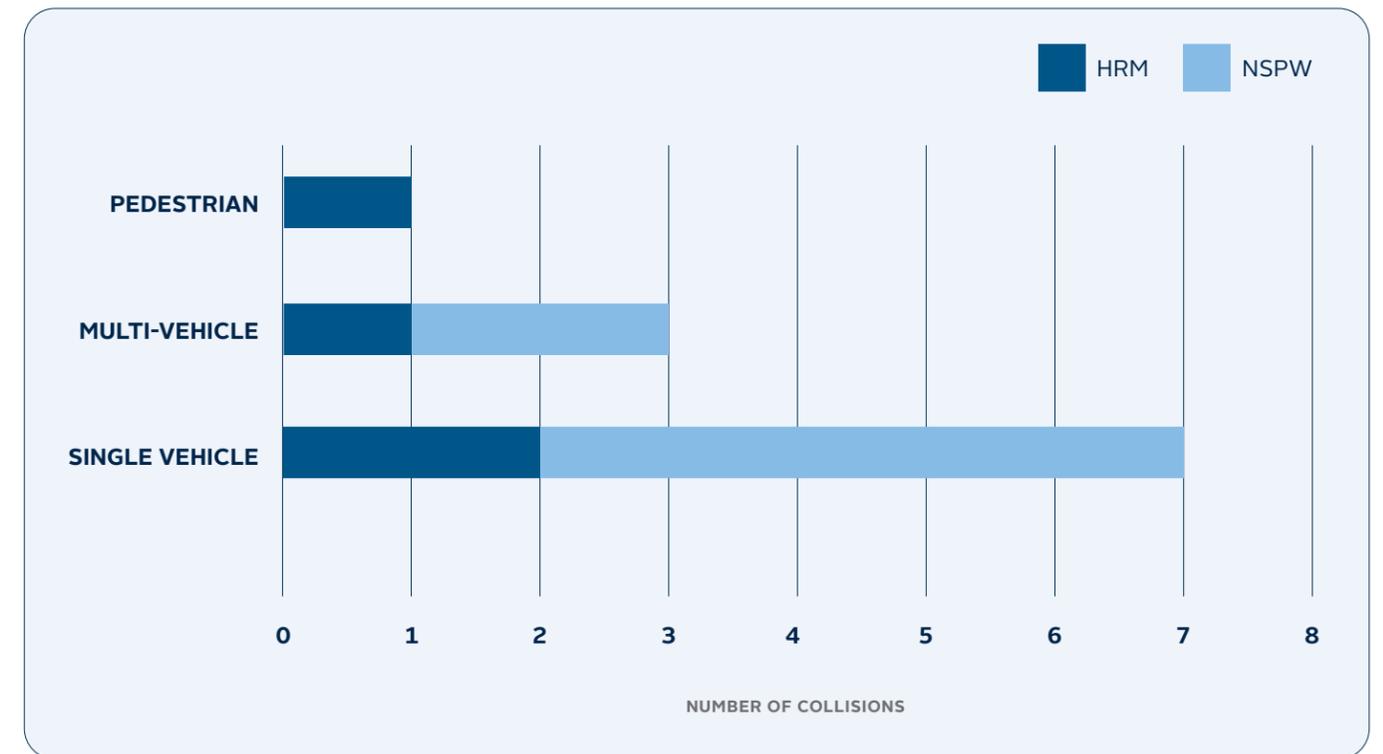


FIGURE 3: 2022 FATAL COLLISIONS BY TYPE AND JURISDICTION

The Halifax region has a wide range of road types and contexts, from urban and suburban streets - operated by the municipality - to rural and controlled access highways operated by Nova Scotia Public Works.

Figure 4 presents a comparison of all collisions that occurred in 2022, based on collision severity type and road ownership as of 2022. While only 18 per cent of all 2022 collisions occurred on provincial roads, 64 per cent of collisions resulting in at least one fatality occurred on provincial roads. This included three fatal collisions on 100 series highways within the Halifax region, three fatal collisions on rural secondary highways and one fatal collision at a provincial urban highway interchange. For collisions resulting in injuries, the distribution between municipal and provincially owned roads experiences a similar distribution as all recorded collisions.

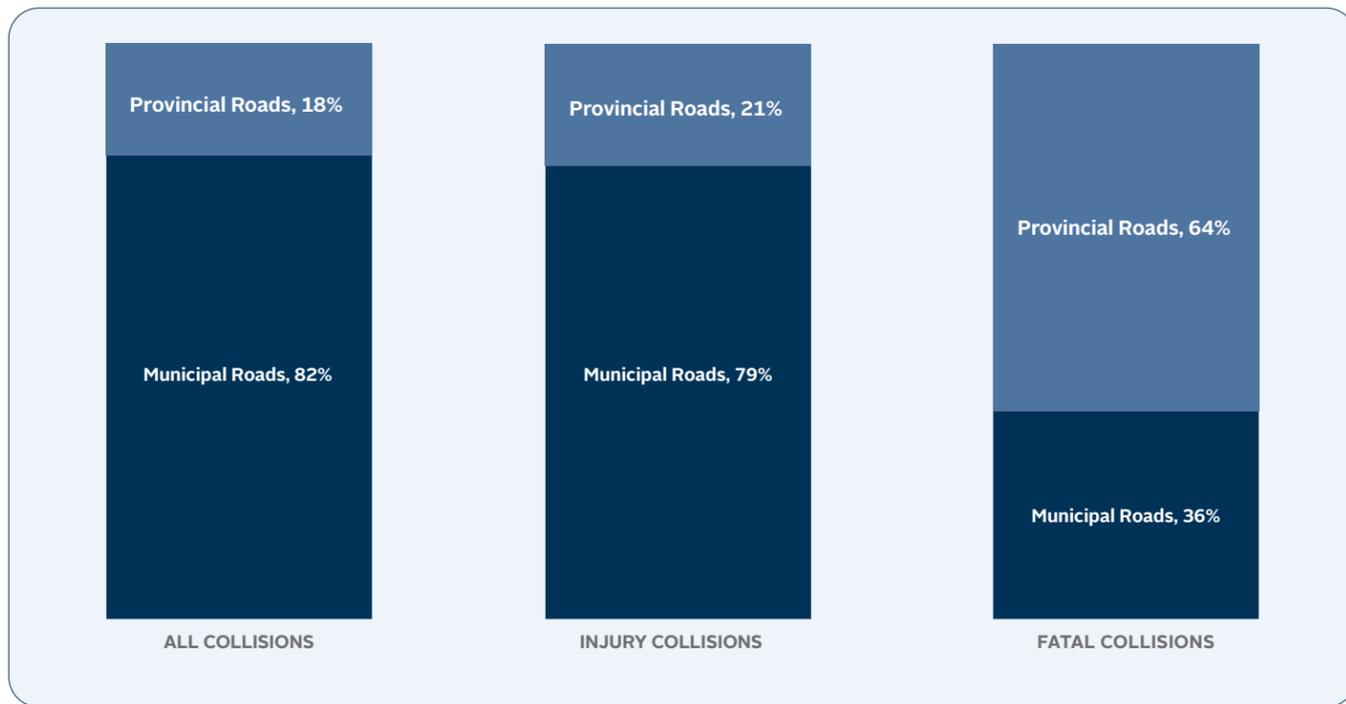


FIGURE 4: BREAKDOWN OF 2022 COLLISIONS BY MUNICIPAL AND PROVINCIAL OWNED ROADS

The *Strategic Road Safety Framework* identifies seven emphasis areas for which collisions are to be tracked and countermeasures targeted. Collisions in these seven emphasis areas are tracked to determine trends and to help identify where more resources may be needed to have the greatest impact on improving road safety. **Figure 5** presents the number of fatal and injury collisions for each emphasis area, since the inception of the Road Safety Framework in 2018. It is important to note there is crossover between emphasis areas (i.e. one collision could occur at an intersection, as well as involve aggressive driving and a pedestrian), therefore these values do not add up to the total number of fatal and injury collisions presented above.

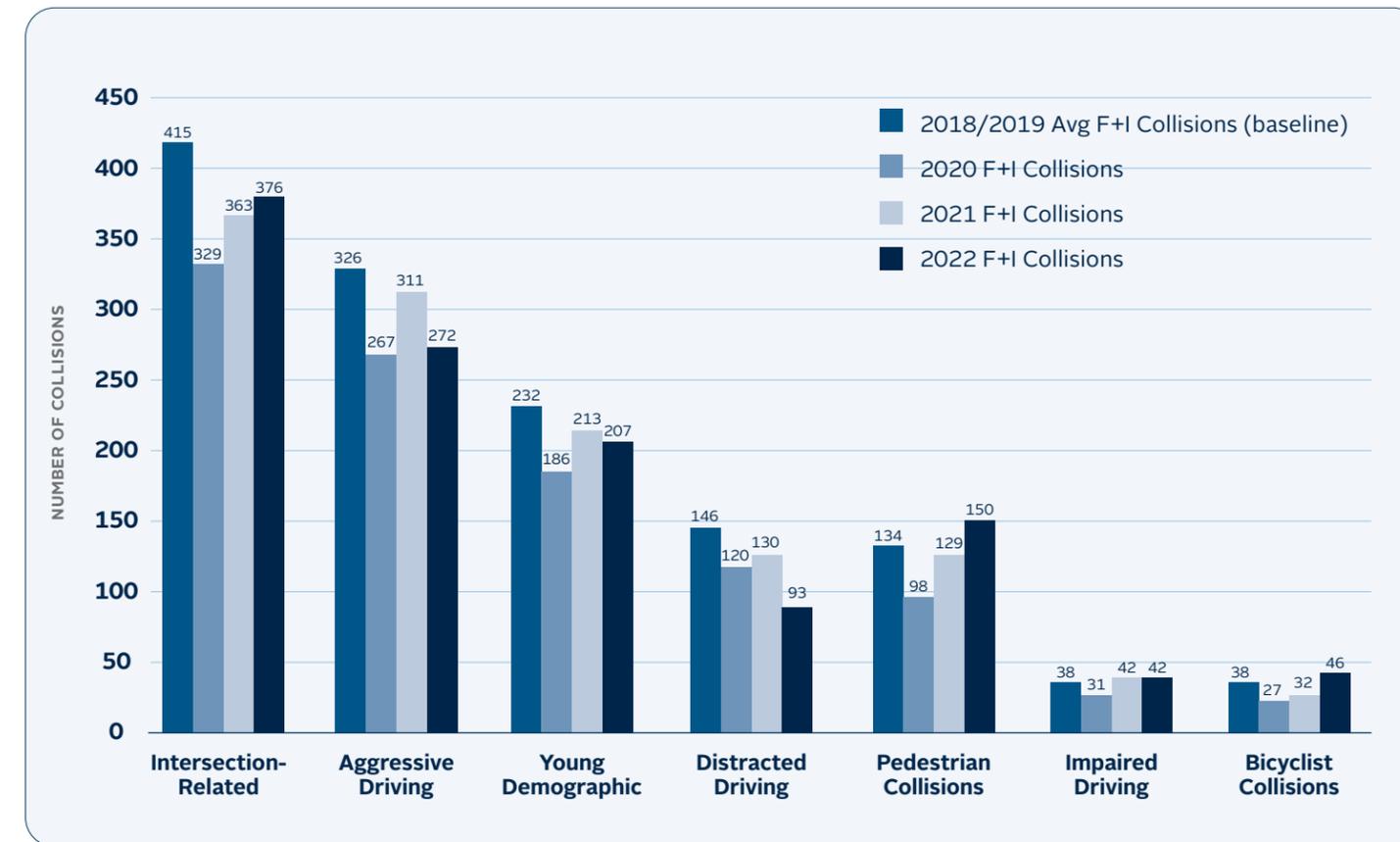


FIGURE 5: FATAL AND INJURY COLLISIONS – ALL EMPHASIS AREAS (2018-2022)

There are three emphasis areas related to enforceable driver behaviour: aggressive driving, distracted driving, and impaired driving. These emphasis areas are identified as contributing factors in 42 per cent of fatal and injury collisions in 2022. These behaviours also contribute to collisions in other emphasis areas including pedestrian and intersection related collisions. Aggressive driving, which encompasses behaviours such as exceeding the posted speed limit, excessive speed for conditions, improper passing, following too closely and failing to yield right-of-way, is implicated in 27 per cent of fatal and injury collisions in 2022. Enforcement as well as effective communication to encourage a culture of safer driving behaviours, will be critical measures to reduce this subset of fatal and injury collisions.

The number of collisions related to aggressive, distracted and impaired driving continues to make up a significant percentage of fatal and injury collisions and indicates that municipal road safety goals cannot be achieved through engineering measures alone. Education and enforcement efforts are critical elements of successful road safety programs and are necessary particularly for shifting these driver behaviours. **Figure 6** breaks down 2022 fatal and injury collisions by the contributing driver behaviours and actions which were identified in the collision report.



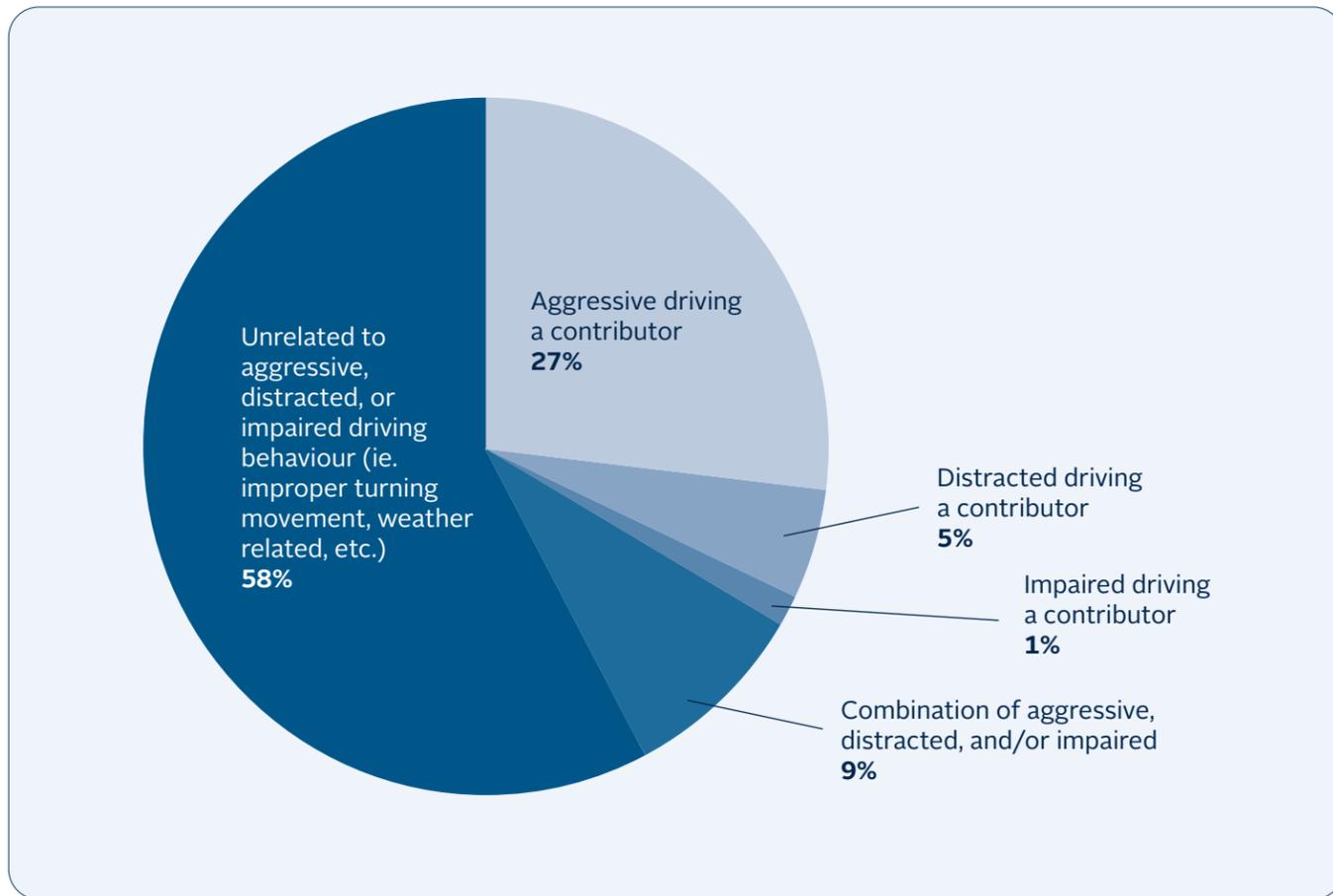


FIGURE 6: FATAL AND INJURY COLLISIONS – AGGRESSIVE, DISTRACTED AND IMPAIRED EMPHASIS AREAS (2022) ^

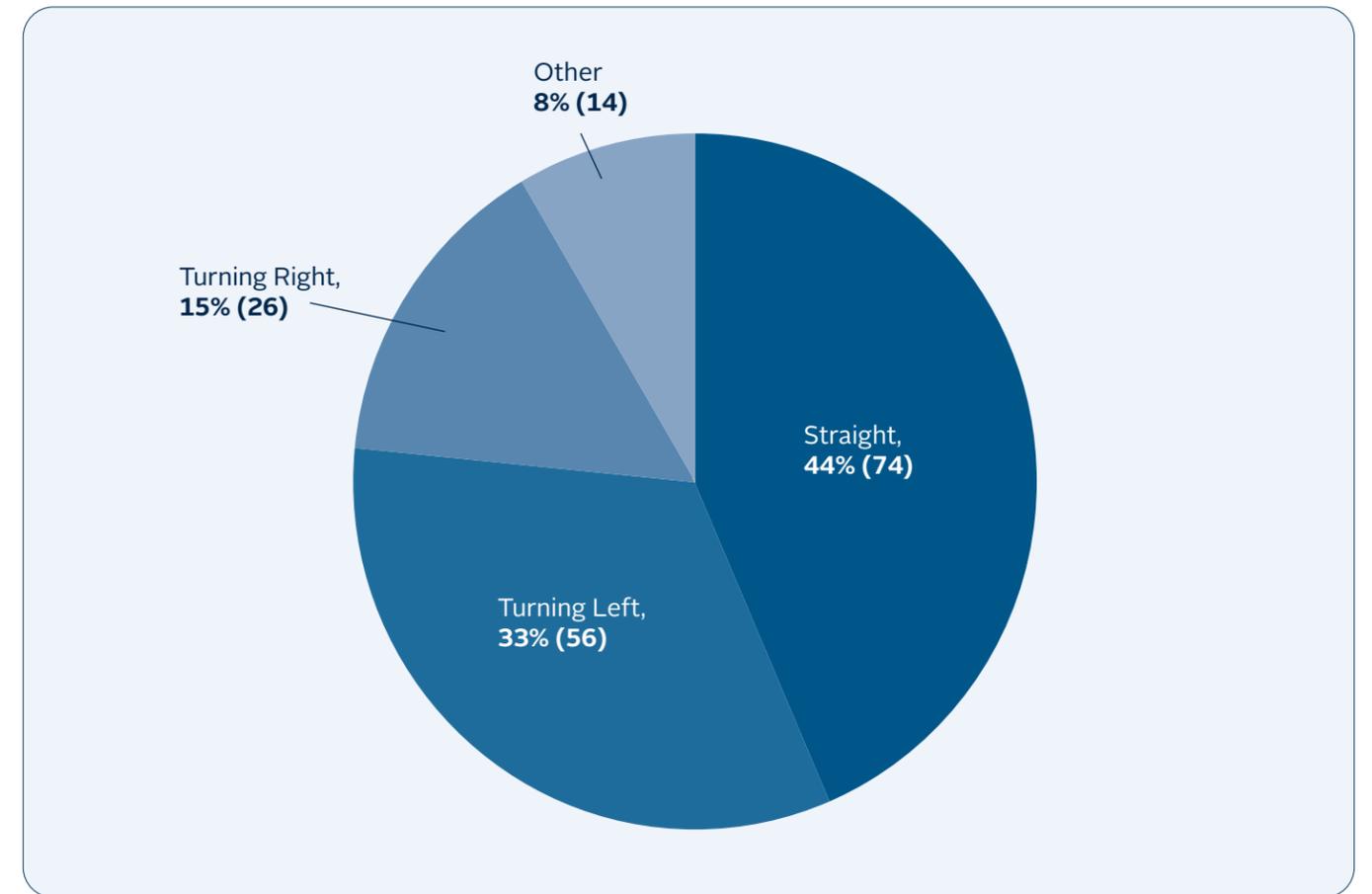
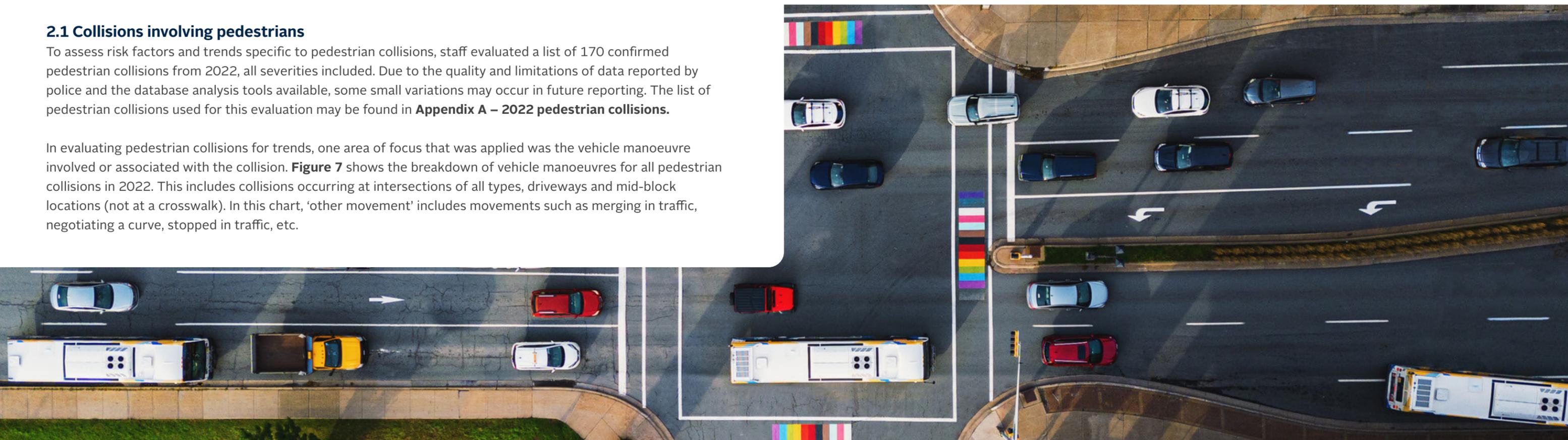


FIGURE 7: PEDESTRIAN-VEHICLE COLLISIONS BY VEHICLE MANOEUVRE, ALL LOCATIONS (2022) ^

## 2.1 Collisions involving pedestrians

To assess risk factors and trends specific to pedestrian collisions, staff evaluated a list of 170 confirmed pedestrian collisions from 2022, all severities included. Due to the quality and limitations of data reported by police and the database analysis tools available, some small variations may occur in future reporting. The list of pedestrian collisions used for this evaluation may be found in **Appendix A – 2022 pedestrian collisions**.

In evaluating pedestrian collisions for trends, one area of focus that was applied was the vehicle manoeuvre involved or associated with the collision. **Figure 7** shows the breakdown of vehicle manoeuvres for all pedestrian collisions in 2022. This includes collisions occurring at intersections of all types, driveways and mid-block locations (not at a crosswalk). In this chart, 'other movement' includes movements such as merging in traffic, negotiating a curve, stopped in traffic, etc.



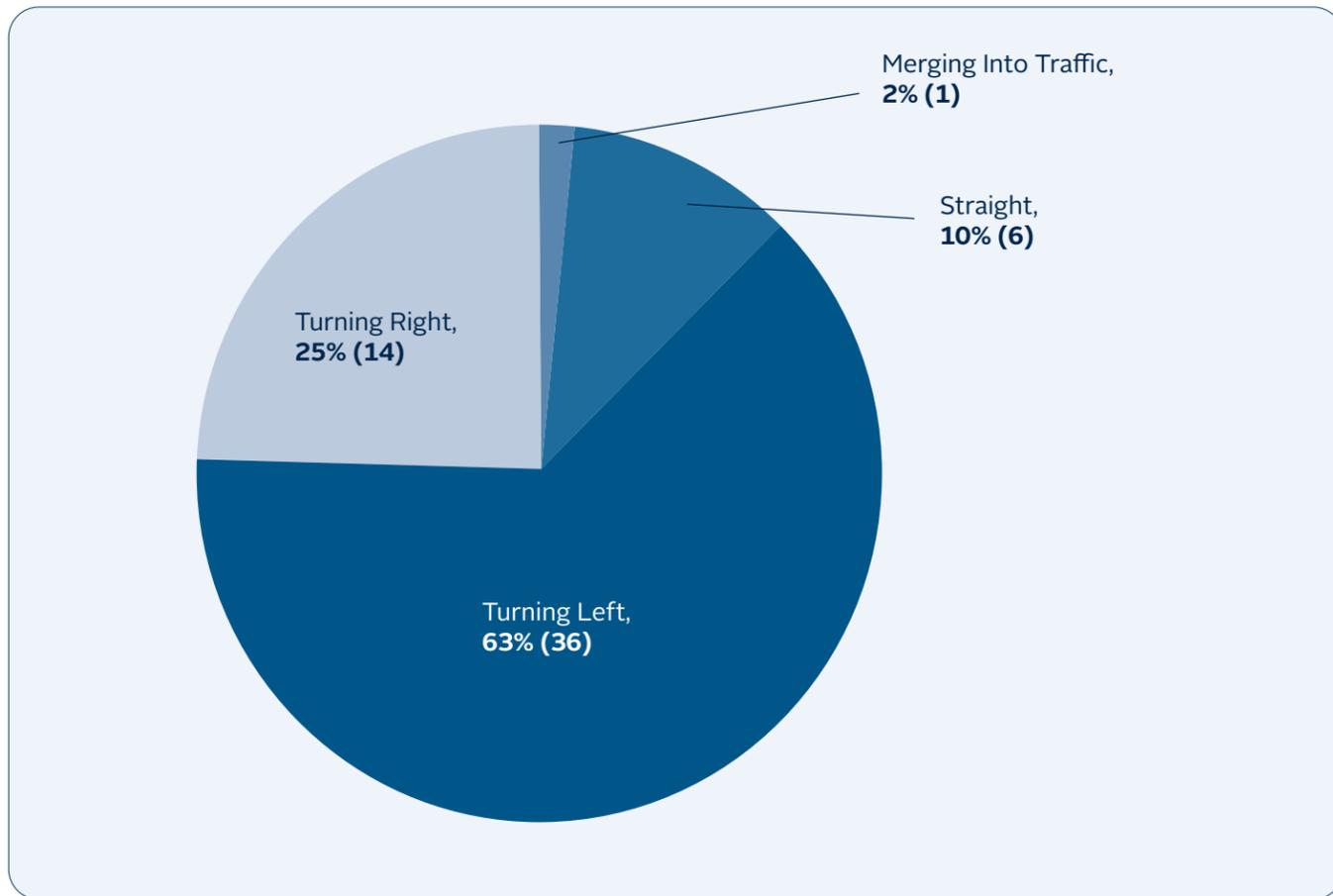


FIGURE 8: PEDESTRIAN-VEHICLE COLLISIONS BY VEHICLE MANOEUVRE, SIGNALIZED INTERSECTIONS (2022)

Figure 8 shows the breakdown of vehicle manoeuvres associated with pedestrian collisions that occurred at signalized intersections only.

To assess the types of infrastructure where pedestrian collisions occurred in 2022, staff have evaluated and classified a traffic control type for each of the pedestrian collisions. The number of pedestrian collisions that occurred at each traffic control type in 2022 are presented in Figure 9. Note, that for this chart the collision is classified by the traffic control type that was present for the vehicle involved in the collision and not the overall intersection. For example, where there is a rectangular rapid flashing beacon (RRFB) on the major street with a marked crosswalk and stop control on the side street, the control type may be either RRFB or stop control depending on the collision configuration. Traffic control type may in some cases differ from the type listed in the police report, where further investigation was able to confirm a different traffic control type for the vehicle involved. Staff have made their best efforts to definitively determine the circumstances of each collision, however in some cases where it was challenging to confirm the type of traffic control from the details of the collision report, collisions were classified as an 'unconfirmed' traffic control type.

For reference, traffic control types presented in Figure 9 include:

- **Marked crosswalk (basic)** - includes RA-3 and RA-4 crosswalks
- **Marked crosswalk (beacon)** - includes RRFB and RA-5 crosswalks
- **Mid-block crossing (unmarked)** - occurs between intersections where there is no marked crosswalk and pedestrians do not have the right-of-way
- **Private/parking lot** - includes collisions that occurred within a parking lot or private property
  - o These are incorrectly tagged as municipal right-of-way and should be removed from the database
- **Roadway/shoulder** - includes locations where there was no active crossing of a pedestrian
  - o for example, a pedestrian may have been standing on the side of the road
- **Sidewalk/driveway** - includes collisions where a pedestrian was on the sidewalk or crossing a driveway opening
- **Stop control** - includes two-way stops and all-way stops for the vehicle where pedestrians may have a marked or unmarked crossing
- **Traffic signal** - includes locations with traffic signals as a control device and may include collisions that occur within the right-turn channel of the signalized intersection
- **Uncontrolled** - includes locations where there is no traffic control for the vehicle (free flow) but the driver must yield to pedestrians in a marked or unmarked crosswalk

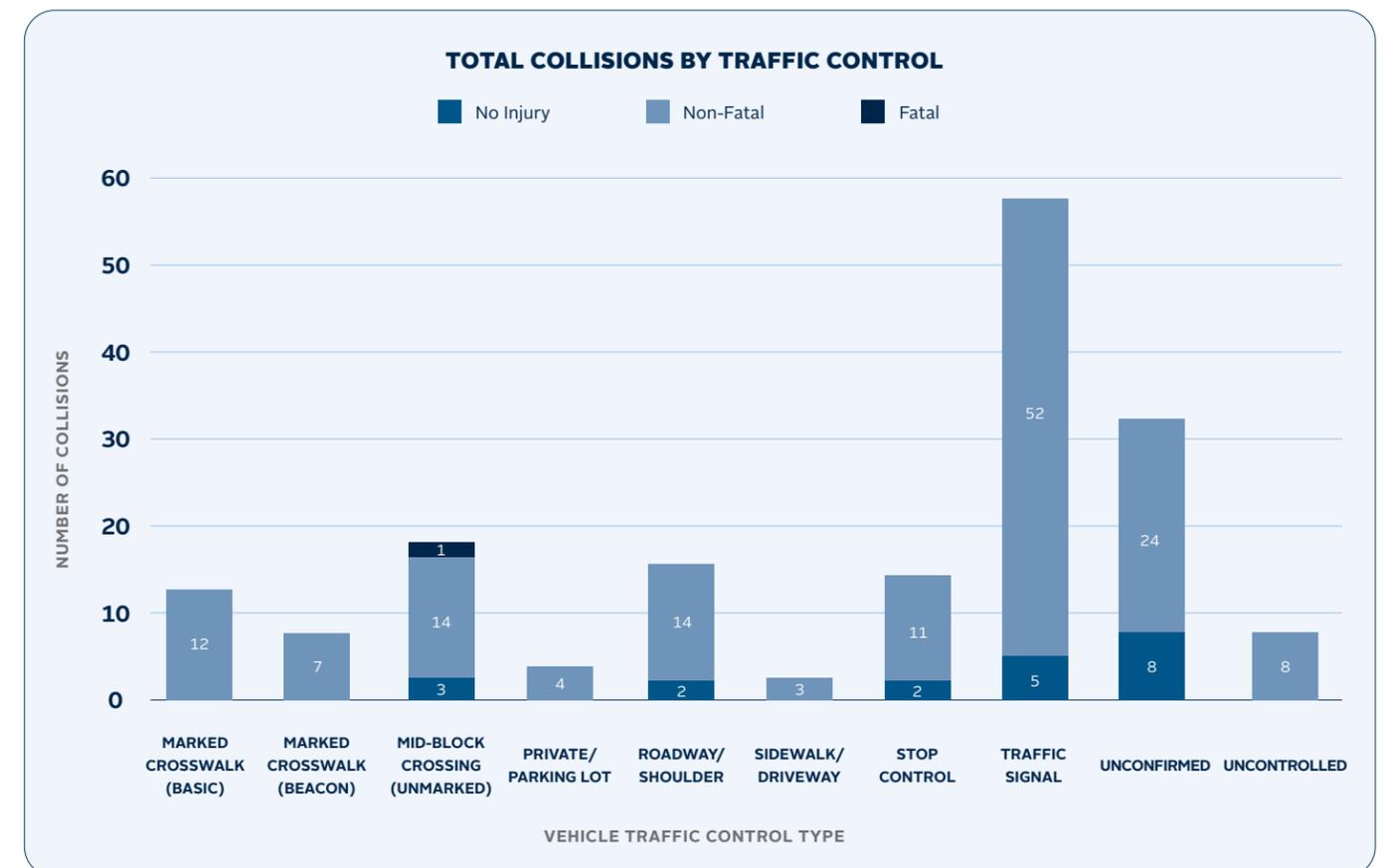


FIGURE 9: PEDESTRIAN-VEHICLE COLLISIONS BY TRAFFIC CONTROL TYPE/LOCATION (2022)

While evaluating the 2022 pedestrian collisions, a relatively high frequency of pedestrian-vehicle collisions (four) was confirmed to be at the intersection of Sackville Street at Brunswick Street. All four of these pedestrian-vehicle collisions involved a vehicle making a left turn manoeuvre at the intersection. A leading pedestrian interval (LPI) has recently been installed at this intersection to improve the visibility of pedestrians for turning vehicles at the intersection. The intersection will be monitored to determine the effectiveness of this countermeasure.

Other pedestrian-vehicle collisions that occurred in 2022 appear to be spread throughout the region, with a higher density occurring in the urban core.

## 2.2 Collisions involving cyclists

Similar to the evaluation of pedestrian collisions, staff evaluated a list of 73 confirmed cyclist-involved collisions from 2022, all severities included. As with the pedestrian collisions, note that some small variations may occur in future reporting. The list of cyclist collisions used for this evaluation is included in **Appendix B – 2022 Cyclist Collisions**.

**Figure 10** presents a breakdown of cyclist-involved collisions by non-cyclist vehicle manoeuvres. In this chart, 'other' includes additional vehicle manoeuvres that may have occurred such as merging into traffic, negotiating a curve, etc.

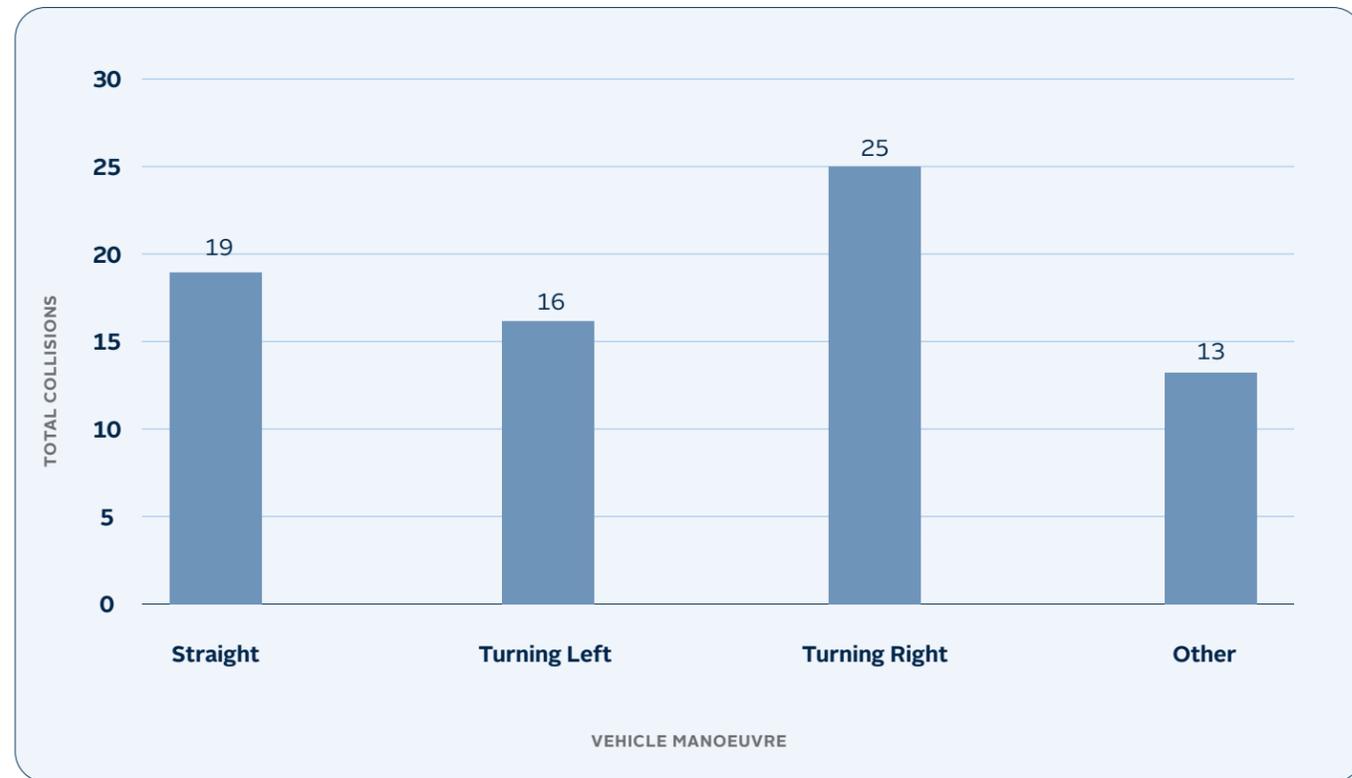
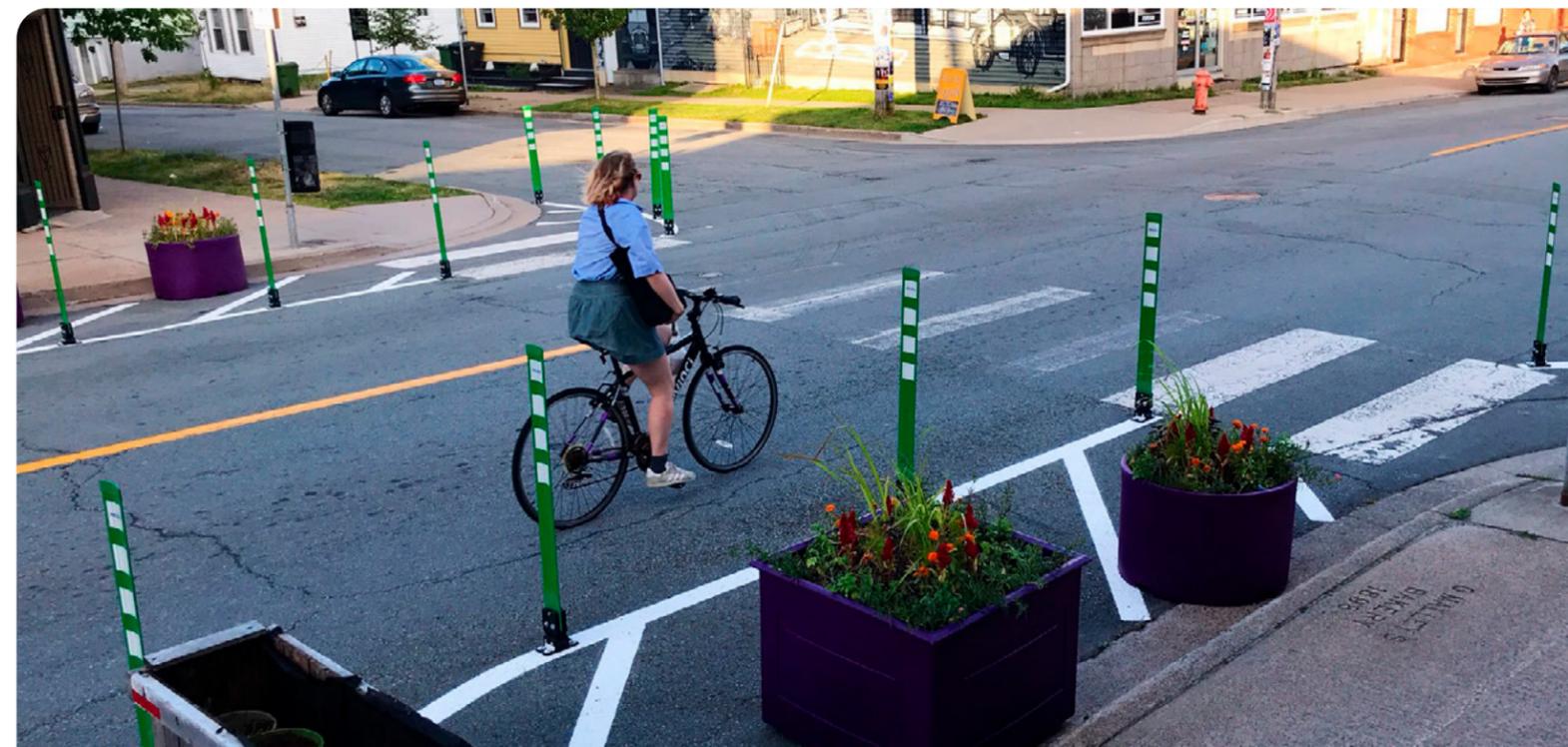


FIGURE 10: CYCLIST-VEHICLE COLLISIONS BY VEHICLE MANOEUVRE (2022)

To assess which types of infrastructure cyclist collisions occurred at in 2022, collisions were classified by traffic control type and by cycling facility type. **Figure 11** and **Figure 12** present the collisions broken down by each of these classifications, respectively. 'Roadway' refers to non-intersections, side of road, etc. 'Uncontrolled' refers to free-flow movement of vehicles such as turning onto a minor street from a major street. In Figure 11, 'Other' includes additional traffic control types such as all-way stop control, roundabouts, yield control, etc. In Figure 12, 'Other' includes unknown status of bike facility, unable to confirm or a cyclist on the sidewalk.



FIGURE 11: CYCLIST-VEHICLE COLLISIONS BY TRAFFIC CONTROL TYPE (2022)



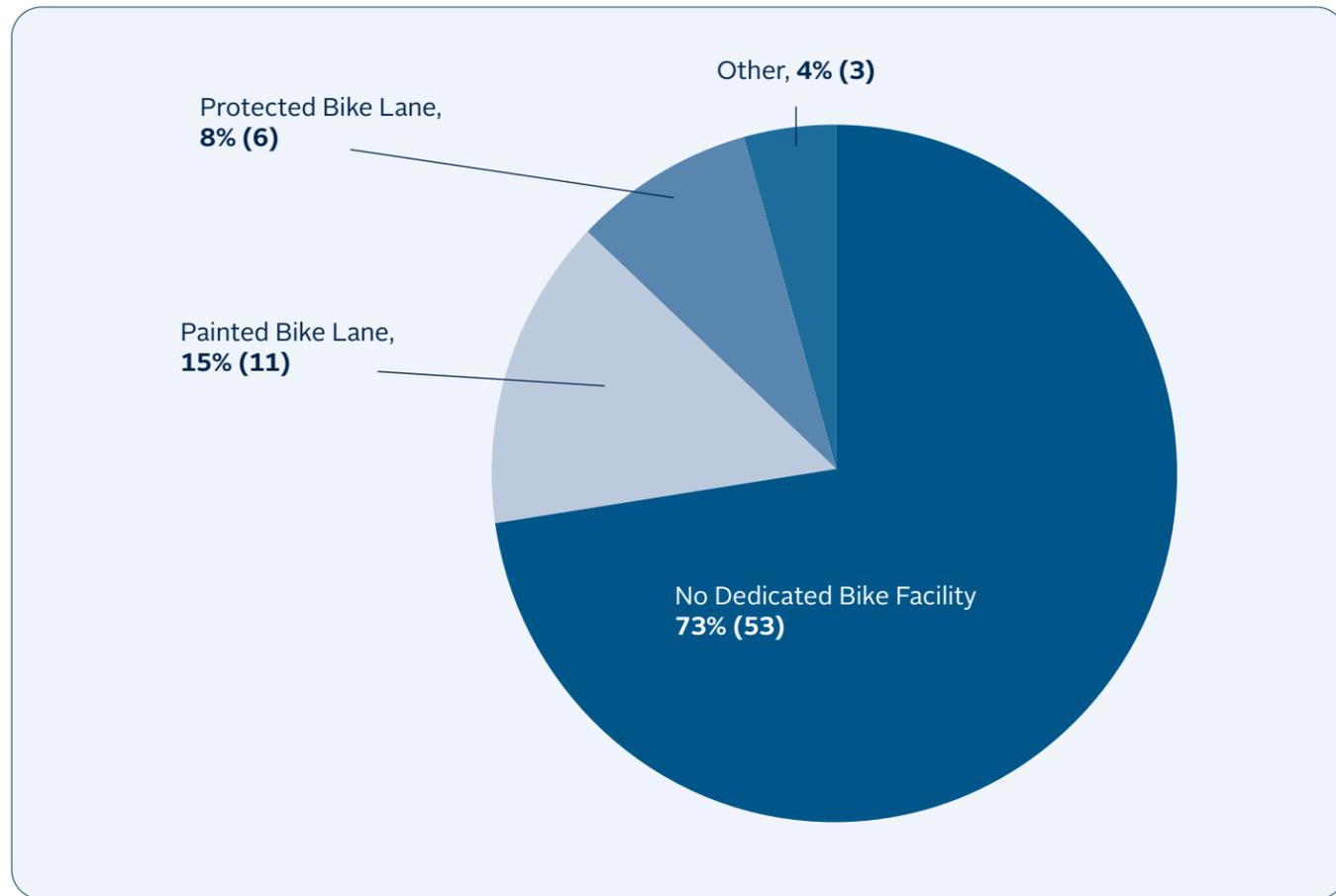


FIGURE 12: CYCLIST-VEHICLE COLLISIONS BY CYCLING FACILITY TYPE (2022) ^

While evaluating the cyclist collisions, there were three locations that experienced two collisions each in 2022:

- Windsor Street at Willow Street
- Alderney Drive at Kings Wharf Place
- Robie Street at Coburg Road

Collision types varied and there was no previous collision history experienced at any of these locations. Other cyclist-vehicle collisions that occurred in 2022 appear to be spread throughout the region with a higher density occurring in the urban core.



# 3. Strategic Road Safety Plan, 2022/23

## 3.1 Engineering

Engineering countermeasures in 2022/23 continued to build and expand on existing programs and practices established in previous years. **Table 2** presents the target and completion values of engineering countermeasures in 2022/23.

TABLE 2: ENGINEERING COUNTERMEASURES - TARGET AND COMPLETED (2022/23) ✓

ACTION ITEM	2022/23 TARGET	2022/23 COMPLETED	COMMENTS
<b>LEADING PEDESTRIAN INTERVALS (LPI)</b>	20	23	
<b>RECTANGULAR RAPID FLASHING BEACONS (RRFB)</b>	20	58	
<b>ACCESSIBLE PEDESTRIAN SIGNALS (APS)</b>	15	13	Two outstanding locations prepared for installation, pending arrival of required parts.
<b>TRAFFIC CALMING INSTALLATIONS</b>	91	80	80 traffic calming projects were completed during the 2022 construction season, with another 13 projects carried forward and added to the proposed number for 2023/24.
<b>40 KM/H NEIGHBOURHOODS</b>	7	9	New neighbourhoods in 2022/23 included: <ul style="list-style-type: none"> <li>• Heritage Hills</li> <li>• Erindale Estates</li> <li>• Harbourview Area</li> <li>• Dartmouth Flower Streets</li> <li>• Central Spryfield</li> <li>• Governors Brook</li> <li>• Beechville Estates</li> <li>• Eaglewood</li> <li>• Ridgevale</li> </ul>
<b>ADVANCE YIELD LINES</b>	5	5	Five new locations included: <ul style="list-style-type: none"> <li>• Pleasant Street at Civic 300</li> <li>• Lacewood Drive at Braeside Lane</li> <li>• Nantucket Avenue at Green Road</li> <li>• Old Sambro Road at Schnare Street</li> <li>• Young Street and Monaghan Drive</li> </ul>
<b>CONCRETE CURB EXTENSIONS</b>	18	17	
<b>TACTICAL TEMPORARY CURB EXTENSIONS</b>	19	5	
<b>PROTECTED BIKE LANES (KM)</b>	0.66	0.66	
<b>MULTI-USE PATHWAYS (KM)</b>	1.39	1.35	
<b>SIDEWALK – RENEWAL (KM)</b>	3.9	2.9	Three locations carried over to 2024. Includes only full renewals, and not where spot repairs were completed.
<b>SIDEWALK – NEW (KM)</b>	3.59	1.41	New sidewalks tied to paving projects carried over to 2023/24

In addition to the ongoing engineering countermeasures presented in **Table 2**, the Road Safety team and partners worked on the engineering countermeasures detailed below.

### Intersection Pilot Projects & MicroTraffic Evaluations

Two new intersection countermeasures were piloted in 2022, drawn from the recommendations of the intersection video analytics study completed by an engineering consultant, *MicroTraffic*, in 2021.

The first of the two countermeasures piloted in 2022 was high visibility ‘zebra’ crosswalk markings, shown in **Figure 13**. While zebra crosswalk markings are not new to the municipality, 2022 was the first year where they were used at signalized intersections. High-visibility crosswalk markings were installed at six locations in 2022:

- Lacewood Drive at Dunbrack Street
- Lacewood Drive at Parkland Drive
- Main Street at Major Street
- Oxford Street at Chebucto Road
- Oxford Street at Quinpool Road
- Portland Street at Eisener Blvd



FIGURE 13: HIGH VISIBILITY CROSSWALK MARKINGS AT MAIN STREET AND MAJOR STREET, 2022 ✓

The second new countermeasure was left-turn traffic calming, shown in **Figure 14**. This countermeasure added vertical deflections (speed bumps), extending the centreline of the road in a manner that encourages tighter turns and reduced turning speeds for left-turning traffic. Left-turn traffic calming design plans were created, with installation of measures in October and seasonal removal in December prior to the first snowfall. The locations of left-turn traffic calming included:

- South Park Street at Spring Garden Road
- Joseph Howe Drive at Dutch Village Road
- Lacewood Drive at Dunbrack Street
- Main Street at Major Street
- Lacewood Drive at Parkland Drive



FIGURE 14: LEFT TURN CALMING AND HIGH VISIBILITY CROSSWALK MARKINGS AT LACEWOOD DRIVE AND PARKLAND DRIVE, REGENCY PARK DRIVE, 2022 ^

Following the installation of both pilot projects, video was collected to assess the effectiveness of these new countermeasures compared to the results of the original video analytics conducted at these locations prior to countermeasure installation. Results from this follow up analysis will be used to inform future use of these countermeasures.

#### **Speed Display Signs (SDS)**

In 2022, the SDS program was expanded to support a new model of installing two signs per district for a total of 32 signs. Note, that this inventory does not include signs installed under the separate traffic calming program. Signs will continue to be relocated twice per year as resources permit. This approach will also seek feedback from Councillors when selecting new locations for speed display signs. Installation locations must still meet municipal guidelines for the use of speed display signs and staff will make a recommendation for the highest priority locations for Councillor input.

#### **School Zone Traffic Calming**

Traffic calming in school zones continued to be a priority for the traffic calming program in 2022, in accordance with the goal to implement traffic calming in all school zones. In the 2022 construction season, vertical deflections were installed in 18 school zones.

School zone traffic calming pilots were also initiated within two school zones where typical vertical deflections could not be installed due to road grade and/or street classification. These school zone pilot projects included painted 'SCHOOL' markings on the pavement near the regulatory school zone signage at the entrance to the school zone (**Figure 15**). Additional pilots are planned for 2023 that will include the use of Speed Display Signs and flashing beacon enhanced school zone signage.



FIGURE 15: PAINTED 'SCHOOL' MARKINGS, PILOT ON PENHORN DRIVE, 2022 ^

The status of traffic calming at all schools in the municipality are presented in **Figure 16**.

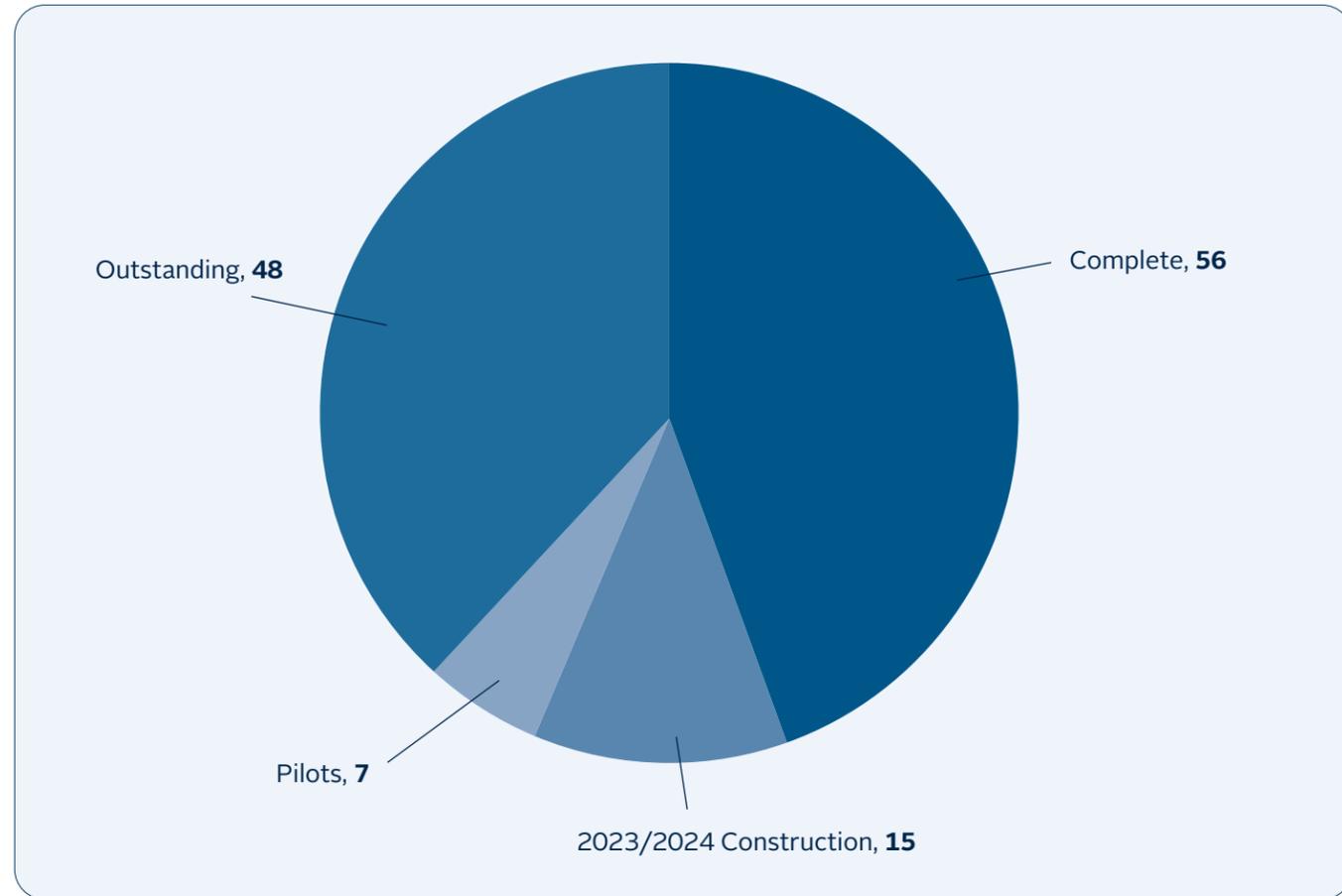


FIGURE 16: SCHOOL ZONE TRAFFIC CALMING ^

### **Speed Cushions**

The first on-street installation of speed-cushions was implemented as a pilot project in 2022. Speed cushions were installed at six locations on Robie Street between Stairs Street and Wells Street, as shown in **Figure 17**. Data collected after installation showed speed reductions ranging from 4km/h - 8km/h along the corridor, with no significant change in overall vehicle volumes.

Winter operations staff were asked to provide feedback on the impact of the speed cushions over the 2022/23 winter season. Concerns were noted with snow clearing equipment unable to remove snow between the humps, leaving an eventual trail of snow from other vehicles driving through. This results in crews having to revisit the site to clear again.

Constructability of these measures also presented a challenge, with a relatively intensive construction method compared to speed humps/tables. Staff are continuing to work on refining a standard detail to improve overall constructability for future projects.



FIGURE 17: SET OF SPEED CUSHIONS ON ROBIE STREET, 2022 ^

### **Raised Crosswalks**

Raised Crosswalks (**Figure 18**) were installed at four locations in 2022:

- Colby Drive at Delta Drive
- Auburn Drive at Bradorian Drive
- Arklow Drive at George Bissett Elementary School
- Southgate Drive at Ravines Drive

After construction was complete, staff met with stakeholders from the visually impaired community at two of the raised crosswalk locations to solicit feedback on the new infrastructure to help refine and improve the design for future installations. Data is also being collected to assess the effectiveness of the raised crosswalks in reducing vehicle speed at each of the locations.



FIGURE 18: RAISED CROSSWALK INSTALLED ON AUBURN DRIVE, 2022 ^

### RA-5 Crosswalks

New RA-5 crosswalks with pedestrian activated beacons were installed in three locations in 2022:

- Dentith Road at the shopping plaza
- Washmill Lake Drive at Grandhaven Boulevard
- Larry Uteck Boulevard at Amesbury Gate (north)

### Corridor Speed Management

Speed limit reductions were undertaken on nine roads, based on corridor speed limit reviews.

#### Reduced from 80km/h to 70km/h:

- Hammonds Plains Road, between Pockwock Road and Northwood Road

#### Reduced from 70km/h to 60 km/h:

- Cole Harbour Road, between Ritcey Crescent and Ross Road
- Hammonds Plains Road, between Farmers Dairy Lane and Pockwock Road
- Beaver Bank Road, between Windgate Drive and Kinsac Road
- Windgate Drive, between Beaver Bank Road and Windsor Junction Road
- St. Margarets Bay Road, between Civic 5507 and Mason Point Road

#### Reduced from 60km/h to 50km/h:

- Portland Street, between Spring Avenue and Portland Hills Drive
- Lacewood Drive, between Radcliffe Drive and Hwy 102
- Hammonds Plains Road, between Symonds Road and Farmers Dairy Lane
- Hammonds Plains Road, between Scholars Road and St Margarets Bay Road
- Fall River Road, between Highway 2 and Garden View Drive
- Kinsac Road, between Beaver Bank Road and Silver Leaf Drive

### 3.2 Education

The road safety education campaign for 2022/23 used organic social media posts that focused primarily on showcasing specific road safety infrastructure changes the municipality is making. **Figure 19** shows the web traffic to municipal road safety webpage, indicating significant spikes in traffic in August and September of 2022.

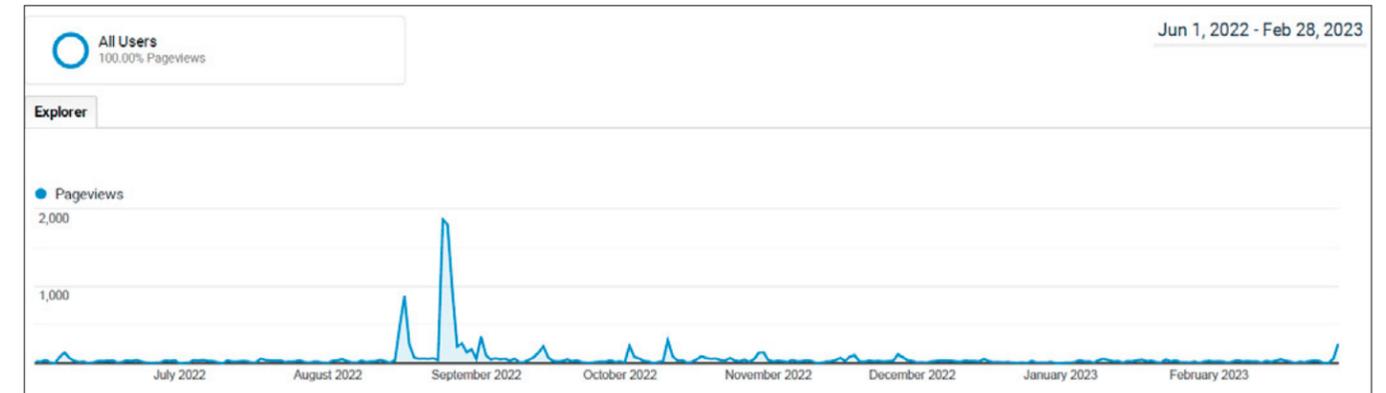


FIGURE 19: WEBSITE TRAFFIC TO HALIFAX.CA/ROADSAFETY IN 2022 ^

This spike in online traffic during late August and September is a result of the following social media posts, including:

- A new Traffic Calming Administrative Order (AO) to better balance emphasis on all road users when considering which streets should receive traffic calming features
- Left-turn traffic calming which is intended to slow vehicle speeds and tighten the turn radius of vehicles when turning left
- Zebra crosswalks at six locations as part of a pilot project
- Speed limit changes in neighbourhoods
- Speed cushions as a pilot project

When compared to 2021, halifax.ca/roadsafety saw an 18.96 per cent increase in website traffic overall and a 25.94 per cent increase in time on page, meaning users are staying longer to read and potentially learning more. These metrics demonstrate that sharing posts about what we are doing to improve road safety perform better in every regard versus awareness messaging.

### 3.4 Enforcement

As demonstrated in **Figure 6**, enforcement plays a critical role in achieving road safety goals in the municipality. Halifax Regional Police and Halifax District RCMP both have active members on the Road Safety Steering Committee and have committed to moving the priority of road safety forward. Enforcement is a pillar of the framework, addressing the behavioural emphasis areas such as aggressive driving, impaired driving, and distracted driving, which make up 42 per cent of fatal and injury collisions in 2022.

In 2022, Halifax Regional Police and Halifax District RCMP worked together to create a reporting structure for enforcement statistics, which is consistent between the two organizations. Traffic enforcement reports for both organizations are found in **Appendix C - 2022 Traffic Enforcement Statistics**.

# 4. Strategic Road Safety Plan 2023/24

## 4.1 Engineering

The new capital budget approved by Regional Council for road safety improvements in 2023/24 is \$5,500,000 - representing the largest investment in the road safety improvements budget to date. **Figure 20** presents the Road Safety Improvements budget allocations over the last several years of the Framework. Details on the 2023/24 Road Safety Improvements capital budget can be found in the [2023/24 Capital Plan](#).

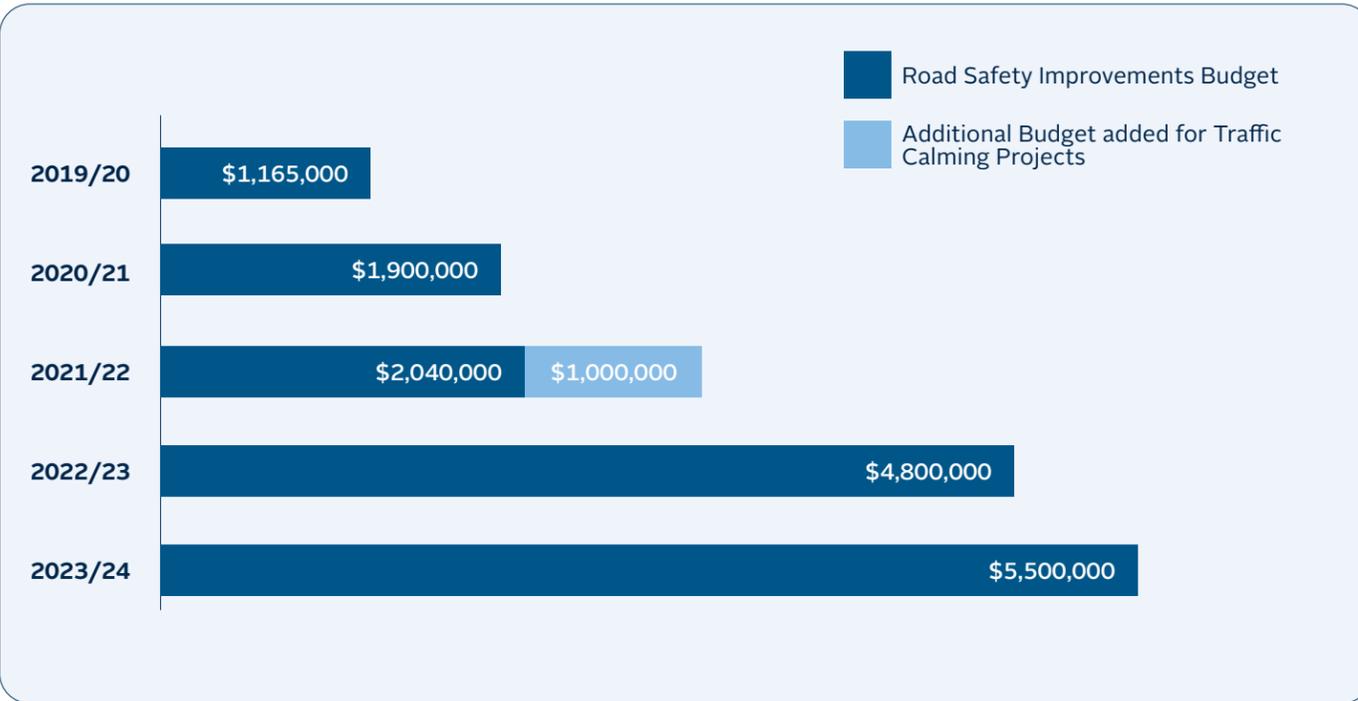


FIGURE 20: ROAD SAFETY IMPROVEMENTS APPROVED BUDGETS, 2019/20 – 2023/24

Traffic Management will continue to expand the installation of traffic safety countermeasures such as leading pedestrian intervals (LPI), rectangular rapid flashing beacons (RRFB), accessible pedestrian signals (APS), advanced yield lines at multi-lane marked crosswalks, neighbourhood speed limit reductions and traffic calmed streets. The municipality will also continue to make improvements to pedestrian and bicycle facilities through the implementation of the Integrated Mobility Plan (IMP), the Active Transportation Priorities Plan and the adoption of a complete streets design philosophy. The Tactical Urbanism program will test pilot projects to enhance the pedestrian and bicycle realms in advance of street recapitalization projects. Specific installation targets for 2023/24 are identified in **Table 5**.

TABLE 5: PLANNED ENGINEERING COUNTERMEASURES 2023/24

ACTION ITEM	2023/24 TARGET
LEADING PEDESTRIAN INTERVALS (LPI)	20
RECTANGULAR RAPID FLASHING BEACONS (RRFB)	49
ACCESSIBLE PEDESTRIAN SIGNALS (APS)	15
TRAFFIC CALMING INSTALLATIONS	81
40 KM/H NEIGHBOURHOODS	10
ADVANCE YIELD LINES	5
CONCRETE CURB EXTENSIONS	28
TACTICAL TEMPORARY CURB EXTENSIONS	14
PROTECTED BIKE LANES (KM)	2.5
LOCAL STREET BIKEWAY (KM)	5.9
MULTI-USE PATHWAYS (KM)	1.8
SIDEWALK - RENEWAL (KM)	2.5
SIDEWALK - NEW (KM)	1.5



Further to the countermeasures and improvements presented in **Table 5**, work will be undertaken on the following road safety projects:

### Intersection Improvements

The work plan for road safety Improvements in 2023/24 identifies upgrades to several intersections. Included in the work plan are the following projects:

- Oxford Street at Jubilee Road; Traffic Signal Design
- St Margaret's Bay Road at Timberlea Village Parkway; Traffic Signal Design
- Herring Cove Road at Drysdale Road; New Traffic Signal Installation
- Spring Avenue at Portland Street; Traffic Signal Modification
- Lacewood Drive at Dunbrack Street; Traffic Signal Modification
- Connaught Avenue at Almon Street; Traffic Signal Replacement / Upgrade
- Larry Uteck Boulevard at Amesbury Gate (south); New RA-5 Crosswalk

#### Key Actions:

- Road safety will support the design and installation of upgrades and new infrastructure, as outlined in the 2023/24 Road Safety Improvements detailed work plan

### Top Ten Priority Intersections

Traffic Management will develop road safety action plans for the ten highest priority intersections in the municipality. Prioritization of intersections is based primarily on the number of fatal and injury collisions over the last five years, with other factors including number of pedestrian fatal & injury collisions, previous road safety studies and improvements, and integration with other Municipal projects considered. The top ten priority intersections identified by Traffic Management are presented in **Table 6**. Due to the quality and limitations of data reported by police and the database analysis tools available, note that some small variations may occur in future reporting. Additional notes and annual collision numbers are included in **Appendix D – Top Ten Priority Intersections**.

TABLE 6: TOP TEN PRIORITY INTERSECTIONS FOR ROAD SAFETY IMPROVEMENTS, 2023-2027

INTERSECTION	VEH F+I <sup>1</sup>	PED F+I	BIKE F+I	TOTAL F+I
Burnside Dr at Wright Ave	13	0	0	13
Bayers Rd at Connaught Ave	13	0	0	13
Albro Lake Rd at Victoria Rd	7	5	0	12
Bayers Rd at Joseph Howe Dr and Dutch Village Rd	8	4	0	12
Mumford Rd at Halifax Shopping Centre	2	8	1	11
Burnside Dr at Commodore Dr and Ronald Smith Ave	10	0	1	11
Bedford Highway at Hammonds Plains Rd	8	0	1	9
Portland St at Spring Ave and Portland Estates Blvd	9	0	0	9
Dutch Village Rd (N) at Joseph Howe Dr	9	0	0	9
Chebucto Rd at Connaught Ave	4	3	1	8

<sup>1</sup>F+I refers to fatal and injury collisions.

Collision data which was categorized as an intersection collision was used to determine the frequency of fatal + injury collisions over the period from 2018-2022. Collisions that were categorized as non-intersection collisions were not included in this review. The intersection vs non-intersection collision category is included in the collision report prepared by police.

The top ten fatal and injury collision intersections for vulnerable road users only (pedestrians and cyclists) over the period from 2018-2022 are included in **Table 7** for reference only.

TABLE 7: TOP TEN FATAL & INJURY COLLISION LOCATIONS FOR VULNERABLE ROAD USERS, 2018-2022

INTERSECTION	PED F+I <sup>1</sup>	BIKE F+I	TOTAL F+I
Mumford Rd at Halifax Shopping Centre	8	1	9
Oxford St at Quinpool Rd	6	0	6
Albro Lake at Victoria Rd	5	0	5
Albro Lake at Wyse Rd	5	0	5
Brunswick St at Sackville St	5	0	5
Baker Dr at Norm Newman Dr	4	0	4
Bayers Rd at Joseph Howe Dr and Dutch Village Rd	4	0	4
Brunswick St at Cogswell St	4	0	4
Dentith Rd at Herring Cove Rd	4	0	4
Jubilee Rd at Oxford St	4	0	4

<sup>1</sup>F+I refers to fatal and injury collisions.

Collision data which was categorized as an intersection collision was used to determine the frequency of fatal + injury collisions over the period from 2018-2022. Collisions that were categorized as non-intersection collisions were not included in this review. The intersection vs non-intersection collision category is included in the collision report prepared by police.

#### Key Actions:

- Perform Road Safety reviews at each of the ten priority intersections.
  - Reviews will include conflict analysis through video analytics
- Develop an implementation plan and timeline for the ten priority intersections over the next five years, with consideration given to integration with other municipal projects

### Protected turning movements

Protected turning movements will be integrated into the road safety program as a potential safety-enhancing countermeasure, to be considered when performing road safety reviews at signalized intersections.

#### Key Actions:

- Staff will prepare a plan for implementing protected turning movements at intersections identified in the June 2022 report *Protected Turn Movements for Pedestrian Safety*
- Consider the use of protected turning movements in the development of the road safety action plans for each of the top ten intersections presented in Table 6

### High Visibility Crosswalks at Signalized Intersections

Through a grant received from the *Federal Active Transportation Fund*, Traffic Management will undertake a research project to evaluate the safety impacts of installing high visibility (zebra) crosswalk markings at signalized intersections.

*Key Actions:*

- Paint high visibility crosswalk markings at a select group of study intersections, with before and after video data collected
- Analyze video to obtain data regarding pedestrian-vehicle conflicts at study intersections
- Develop evidence-based guidelines for future use of high-visibility crosswalks, based upon the findings of this research project

### School Zone Traffic Calming

Traffic Management will continue to prioritize traffic calming in school zones.

*Key Actions:*

- Install vertical deflections in 15 school zones in the 2023/24 construction season
- Pilot speed display signs and flashing beacons at 5 school zones in the 2023/24 year
  - one additional pilot to be conducted within a school zone on a provincial road within the municipality
- Review the results of the 2022 school zone pilot projects (on-road pavement markings)
- Determine how to proceed with outstanding school zones on streets that are ineligible for vertical deflections

### Road Safety Open Data

Staff has been working to develop a new public traffic calming app, which will put more information regarding traffic calming requests in resident's hands.

*Key Actions:*

- Publish the traffic calming application, which will allow residents to easily look up a street's request status for traffic calming

### 4.2 Review of 2018-2023 Strategic Road Safety Framework

With the end of the 2018-2023 *Strategic Road Safety Framework* (SRSF) nearing, staff will perform a high-level review of the original SRSF, evaluating its strengths and areas for improvement. The results of this will inform the development of the next guiding document for the road safety program. A report will be presented to Council in the fall of 2023.

*Key Actions:*

- Conduct a review of original SRSF, assessing the overall successes and shortcomings
- Staff will prepare a report to present to Council in the fall of 2023

### 4.3 Development of Road Safety Strategy 2024

Staff is beginning to undertake the development of the successor to the *2018 Strategic Road Safety Framework*. A scope has been drafted for a proposed Road Safety Strategy (RSS), which will continue the municipality's commitment to the towards zero approach and set out guiding principles and performance indicators to inform and measure the work of the Road Safety Program.

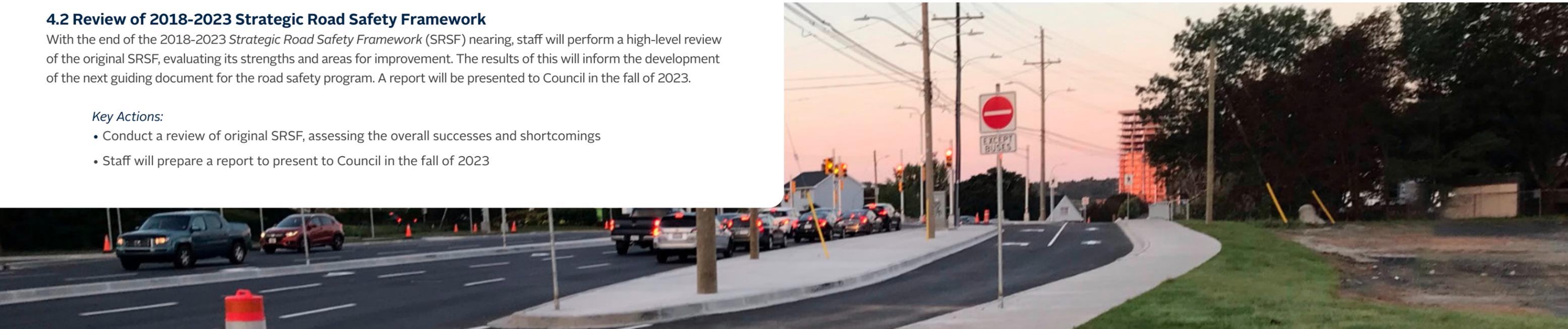
The proposed Road Safety Strategy will not have a pre-determined end date, unlike the previous SRSF, and will make use of the annual reports already being produced by the Road Safety group to identify specific annual plans and projects and to report on progress and performance indicators for accountability. It is proposed that this guiding strategic document include the following components:

- a vision statement for the Road Safety Program, incorporating a towards zero approach
- guiding principles for decision making, including which factors will be evaluated or prioritized when planning road safety projects
- identifications of focus areas for road safety efforts and investments, based on a review of five years of collision data, 2018-2023 (Intersections, Speed Management, Pedestrians, Schools, etc.)
- a commitment to incorporating advancements in emerging technologies
- a set of meaningful, measurable performance indicators; for which goals and outcomes will be reported on in Road Safety Annual Reports to measure progress and to continue to have desirable outcomes

Staff expect that the Road Safety Strategy will be prepared to be presented to the HRM Transportation Standing Committee in April of 2024, with succession to Regional Council for approval.

### 4.4 Education

The 2023/24 communications strategy will continue with the approach of the 2022/23 strategy, leveraging internal resources such as municipally owned communications channels. The strategy will focus on generating awareness of new infrastructure that contributes to road safety and highlighting specific road safety behaviours. Road Safety staff rely heavily on assistance from the Corporate Communications team to facilitate educational components as we do not have the expertise or staffing capacity to manage campaigns.





#### 4.5 Engagement

To enhance engagement activity, staff are creating a new Road Safety External Stakeholder Committee. The intent of the new committee is to gain direct feedback from external stakeholders on road safety priorities to be considered within future road safety plans.

The list of proposed stakeholders includes those who were previously engaged in the initial development of the Strategic Road Safety Framework as well as a few additional organizations:

- CNIB
- Walk n' Roll Halifax
- Crosswalk Safety Society of Nova Scotia
- Halifax Cycling Coalition
- Ecology Action Centre
- CAA (Canadian Automobile Association)
- Young Drivers of Canada
- Safety Services NS
- Canadian Paraplegic Association (Nova Scotia)
- Nova Scotia Association of Black Social Workers
- It's More Than Buses
- Bicycle Nova Scotia
- Halifax Regional Trails Association

Meetings will be scheduled twice per year to align with an opportunity for input on annual plans, as well as a mid-year check-in. The first meeting of this committee is anticipated to be held in the spring of 2023.

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#### 4.6 Equity

Through the development of the next Road Safety Strategy for 2024, staff will explore equity lenses which may be applied to collision data and road safety improvement programs. Current best practice in road safety recognizes that there is often an inequity of harm, for groups which include, among others, age, income level, cultural background and gender. A preliminary review of other Canadian jurisdictions with Road Safety Strategies will serve as a starting point for municipal staff to identify practical applications of equity lenses in the Road Safety Strategy. This work will require coordination with other Road Safety Stakeholders, both inside and outside of the municipality, to identify available data and community knowledge which can help to target road safety programs in a more equitable manner. Particularly, staff will be seeking more details from police collision reports to better understand the demographic trends in collision history.

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#### 4.7 Enforcement

Enforcement efforts will continue to target high-risk behaviours determined to be contributing to fatal and injury collisions. Together, the Halifax Regional Police (HRP), the RCMP and the rest of the Road Safety Steering Committee will work towards identifying data-driven enforcement efforts to target higher risk behaviours and locations.

Aggressive driving actions continue to be a priority for enforcement efforts for both HRP and RCMP. Data from Traffic Management will be shared to help focus speed enforcement in areas that contribute to fatal and injury collisions, taking into consideration neighbourhood and Councillor concerns.

Impaired and distracted driving will continue to be priorities for enforcement for both Halifax Regional Police and Halifax District RCMP. The proactive approach to identifying and intercepting for enforcement of impaired driving will continue.



**HALIFAX**