

# The Regional Municipality of York

Committee of the Whole  
Transportation Services  
September 8, 2022

Report of the Commissioner of Public Works

## Annual Traveller Safety Report

### 1. Recommendation

Council receive this report for information.

### 2. Summary

This report provides Council with a summary of collision statistics for Regional roads, based on 2021 and preceding years. Safety programs were implemented throughout the year and a Traveller Safety Plan (Plan) is currently under development.

Key Points:

- Collisions on Regional roads decreased by 7% in 2021 and are expected to rise as traffic volumes return to pre-COVID-19 pandemic levels
- Improper driving behaviour is the leading cause of motor vehicle collisions
- Safety initiatives have been implemented to help increase road user awareness and safety for all travellers
- A Traveller Safety Plan is being developed in collaboration with road safety partners and residents will also have an opportunity to provide input

### 3. Background

#### **Collision data is gathered across the Regional road network to understand traveller behaviours, collision patterns and respond to key issues**

The [Traveller Safety Report](#), prepared annually, provides a summary of collisions that have occurred on Regional roads. The report identifies patterns and trends that inform decisions on implementation of traveller safety programs and initiatives.

Collision information is collected from provincial motor vehicle accident reports, completed by York Regional Police, and provided to the Region for collision analyses. The process to obtain and compile the collision information takes up to eight months. Staff complete the

analyses and annually shares a summary of the preceding year's collision statistics with Council (Attachment 1).

## 2022 Transportation Master Plan identifies traveller safety as a key focus area

Traveller safety was consistently identified as a top concern based on feedback received in developing the 2022 Transportation Master Plan (2022 TMP). As a result, safety for all travellers is a focus area requiring more immediate action and exploration over the next term of Council through development of a Traveller Safety Plan. This Plan will be based on the Safe System Approach (see Figure 1) and build on feedback heard through development of the 2022 TMP. It will include a more specific safety-focused engagement plan, web-based repository of traffic data, exploration and expansion of current and new road safety measures, and an action plan for each type of traveller.

## Safe System Approach to traveller safety is current best practice

The Safe System Approach (Figure 1), as defined by the Institute of Transportation Engineers, provides a comprehensive framework for achieving the Vision Zero goal of zero fatalities and serious injuries. It emphasises cultural and systemic changes, aiming to transform traditional road safety plans to proactively focus on preventing and eliminating fatal and serious injury collisions on roads, having regard for the most vulnerable road users.

The Safe System Approach recognizes the interdependence of safe system components: Safe Roads; Safe Speeds; Safe Road Users; and Safe Vehicles and actions that can be taken to improve results across these components. Many jurisdictions around the world, including in Canada and the United States, are applying the Safe System Approach to road safety plans.

**Figure 1**  
**Safe System Approach**



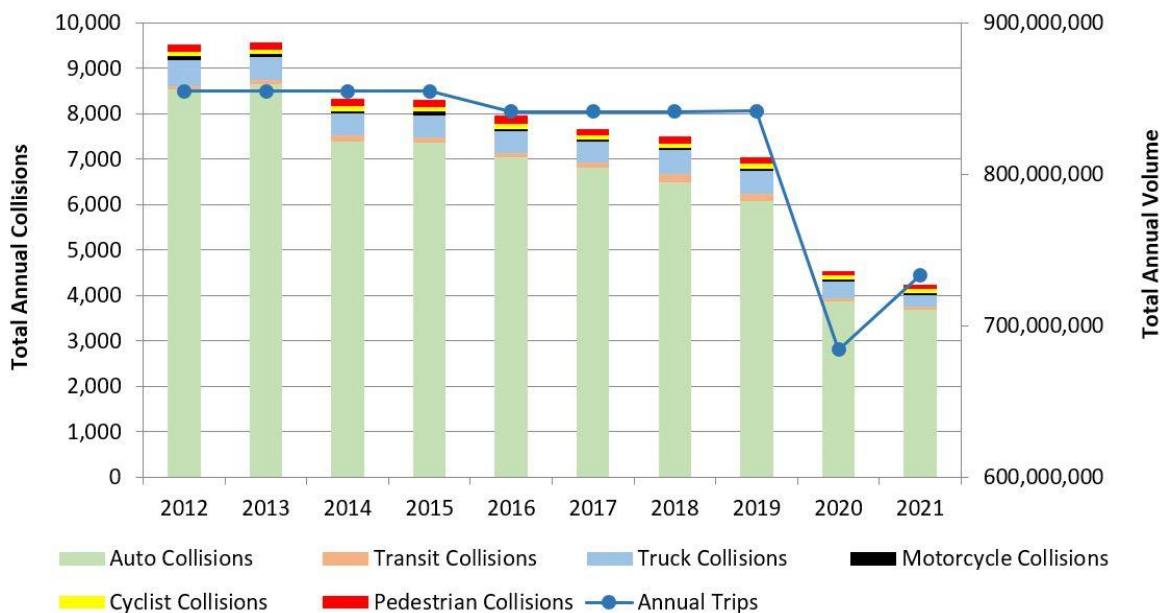
Source: [parachute.ca/visionzero](http://parachute.ca/visionzero)

## 4. Analysis

### Collisions on Regional roads down by 7% in 2021 and anticipated to rise as traffic volumes increase post-COVID-19 pandemic

A review of collision statistics over the last decade reveals overall collisions have decreased on Regional roads. This trend continued through 2021 and is consistent with the decline in the total number of collisions across the province. In 2021, there were about 4,200 collisions on the Regional road network, which includes 21% injury collisions. Total collisions in 2021 decreased by about 7% compared to 2020 (Figure 2). Collisions are anticipated to rise as traffic volumes increase post-COVID-19 pandemic.

**Figure 2**  
**Annual Collisions by Type of Traveller**



Note: Total Annual Volume is derived from the average number of daily trips made in the Region and is based on Transportation Tomorrow Survey studies and the Region's permanent count station data

### Driver behaviour is the leading cause of motor vehicle collisions

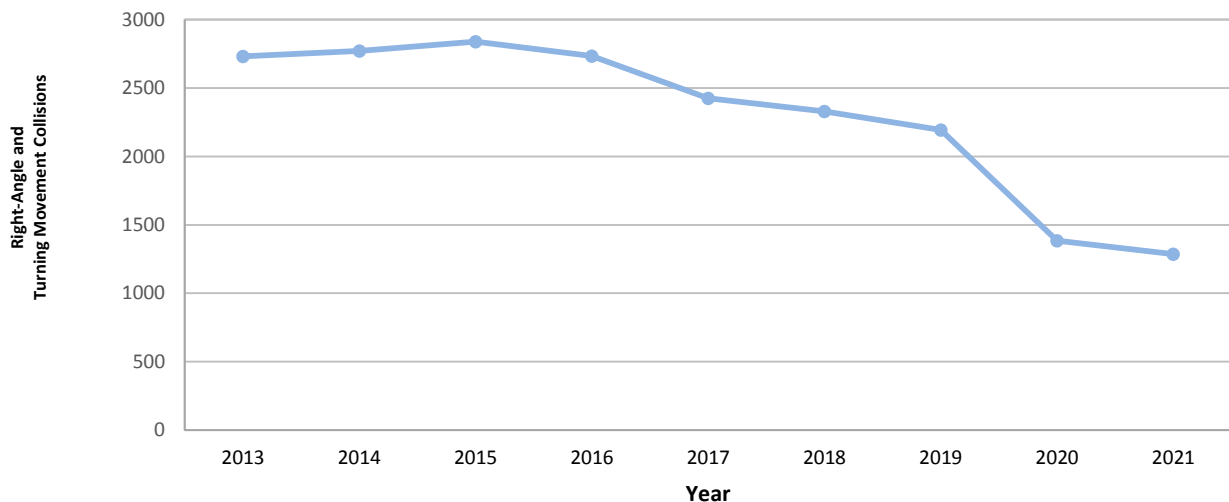
Overall factors contributing to collisions may be related to traveller behaviours, roadway geometrics and condition, vehicle factors that contribute to collision avoidance and survivability, and environmental conditions, such as snow, ice, rain and wind. According to the U.S. Federal Highway Administration, human factors, such as traveller behaviours, are found to be the most significant, contributing to 95% of all motor vehicle collisions.

## Award-winning safety programs have been implemented to encourage safe driving behaviour and help increase safety for all travellers

Recognizing a need to change driving behaviours is crucial to increasing safety for all travellers. Various safety programs have been implemented to help address and encourage safe driving behaviours:

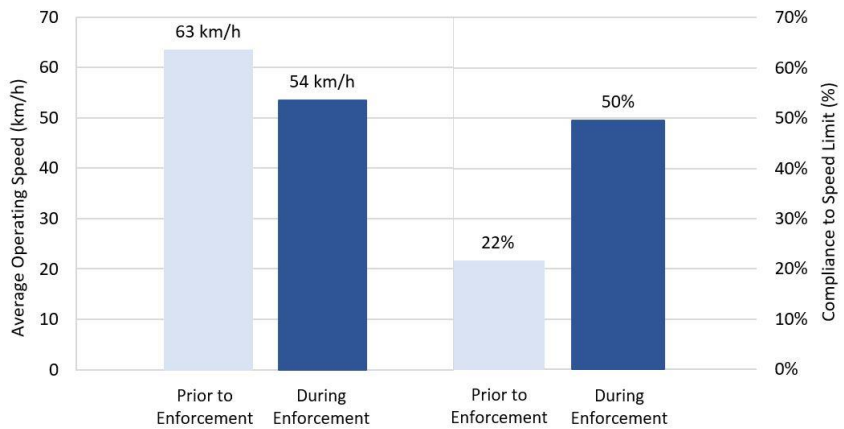
- **Red light cameras** – The Region currently operates red light cameras at 40 signalized intersections. Since implementation of the program, a Region-wide reduction of about 50% has occurred in right-angle and turning movement collisions at signalized intersections (Figure 3). Building on the success of the program, staff proposed expanding to 55 intersections by 2026 and include all associated costs, staff resources and potential revenues in the multi-year 2023-2026 budget submission.

**Figure 3**  
**Right-angle and Turning Movement Collisions**  
**at Signalized Intersections**



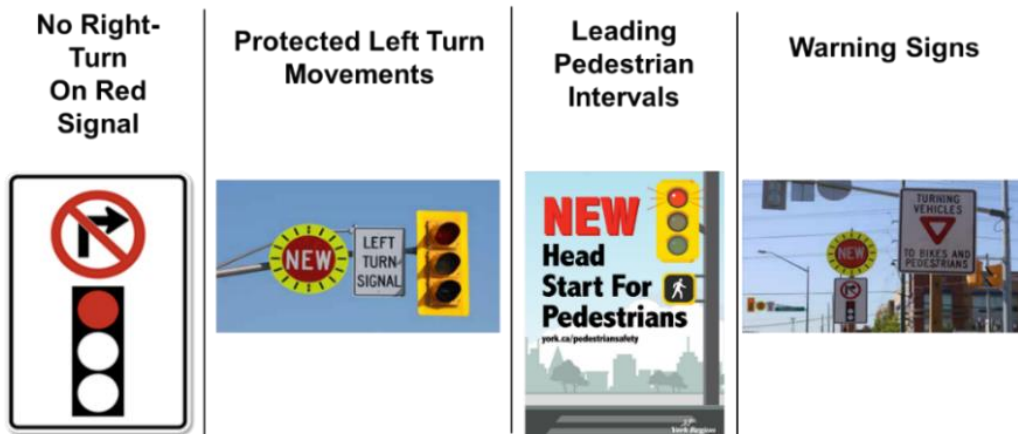
- **Automated speed enforcement** – The Region currently operates one mobile automated speed enforcement camera on Regional roads. Results show average compliance more than doubled and average operating speeds decreased by 9 km/h (Figure 4). In [June 2022](#), Council approved an expansion plan to add two mobile cameras in 2022/2023. Sixty additional fixed cameras, between 2024 and 2026 to align with commencement of administrative penalty system operations, are subject to budget approval.

**Figure 4**  
**Average Speed and Compliance**  
**in Automated Speed Enforcement Locations**



- Pedestrian and cyclist safety measures** – Operational safety measures (Figure 5) were implemented and evaluated at four pilot intersections to help reduce conflicts between drivers, pedestrians and cyclists. As collisions and conflicts were successfully reduced, measures are being expanded in 2022/2023 to six additional intersections in the Cities of Markham and Vaughan. The Region was recognized for these initiatives in 2022, receiving the 2021 Ministry of Transportation Ontario Road Safety Initiative of the Year Award and 2022 Transportation Association of Canada Road Safety Achievement Award.

**Figure 5**  
**Operational Safety Measures**



- School Zone Speed Limit Reduction** – In [May 2021](#), Council approved a 10 km/h school zone speed limit reduction and consistent school zone maximum speed signage (Figure 6) to include the times, days and months, informing motorists when the lower speed limit is in effect. This initiative has helped improve enforcement, allowed use of automated speed enforcement and enhanced protection of the most vulnerable road users.

**Figure 6**  
**School Zone Maximum Speed Sign**



- **Designation of Community Safety Zones in all School Zones** – In [May 2012](#), Council approved designation of Community Safety Zones in all school zones on the Regional road network. Community Safety Zones are intended to help change driving behaviour, including reducing speed and distracted driving, and increasing safety on roads. Fines are increased for traffic offences occurring within a designated Community Safety Zone (Figure 7).

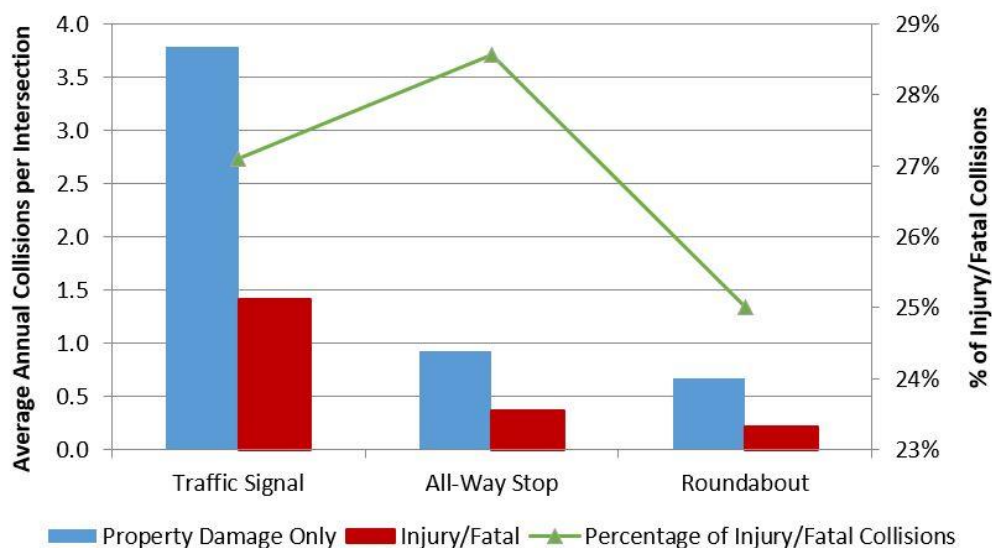
**Figure 7**  
**Community Safety Zone Sign**



- **Roundabouts** – The Region currently has three roundabouts to address mobility needs at York/Durham Line and Durham Regional Road 5 in the City of Markham, Ninth Line and Bayberry Street in the Town of Whitchurch-Stouffville and Lloydtown-Aurora Road and Keele Street in the Township of King. Studies have shown roundabouts have demonstrated greater safety performance in comparison to intersections controlled by traffic signals and all-way stops (Figure 8). The Region will continue to consider roundabouts when reviewing intersection improvement opportunities.

**Figure 8**

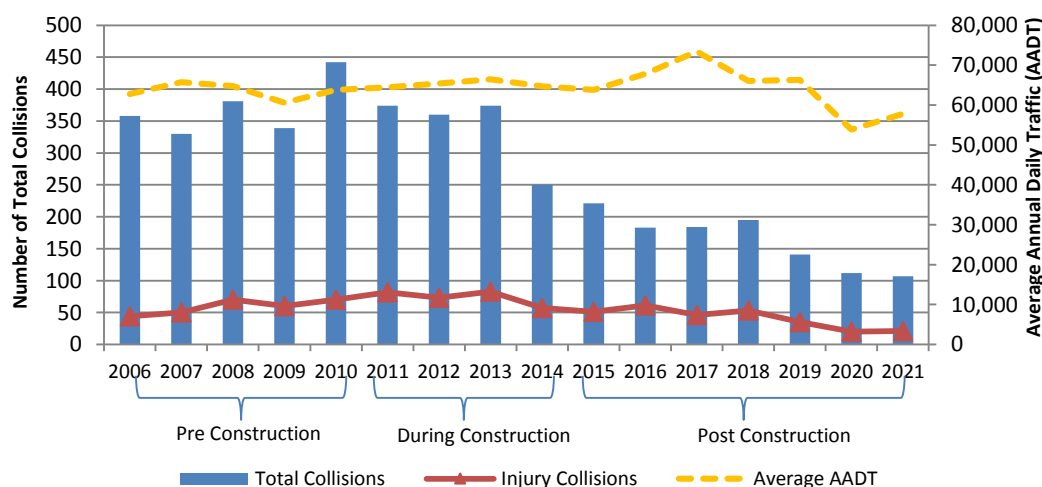
**Collisions at Traffic Signals, All-Way Stops and Roundabouts**



- Bus Rapidways** –The Region has bus rapidways on Highway 7, Davis Drive and Yonge Street, Centre Street. Safety measures associated with bus rapidway operations, including restricted access from side streets, regulatory speed limit reductions, transit signal phasing, protected left turn movements, cycle lanes/tracks, audible pedestrian signals, two-stage pedestrian crossings and enhanced markings and signs, show positive safety results for travellers of all modes. Total collisions on Highway 7 between Bayview Avenue and South Town Centre Boulevard, where the Region’s first bus rapidway was completed in 2014, have reduced by more than 60% following implementation of the bus rapidway with injury collisions also decreasing (Figure 9).

**Figure 9**

**Collisions Along Highway 7 East Bus Rapidway 2006-2021**



## In collaboration with road safety partners, the Region is developing a Traveller Safety Plan

The Region is developing a Traveller Safety Plan, incorporating new data and science that will enable a better understanding of human behaviour as it relates to travellers and determining impacts on and prevention of collisions and severity. The focus of the Plan is to understand changing traveller behaviours and establishing a traffic safety and social culture as per the National Cooperative Highway Research Program. This approach recognizes traffic safety culture-based strategies can be more effective, sustainable and measurable when aligning traffic safety culture and actions of road users.

Terms of Reference for the Plan have been developed in collaboration with road safety partners (Figure 10). A consultant will be retained to assist with development of this comprehensive, quantified, multi-year (2023-2027) Traveller Safety Plan. The Plan will be presented to Council in fall 2023.

**Figure 10**  
**Road Safety Partners**



## To encourage a traveller safety culture, an action plan will be developed for each type of traveller

The Plan will include detailed implementation actions for each type of traveller to encourage a traveller safety culture. Traveller types include pedestrians, cyclists, micromobility (e.g., scooters, small delivery vehicles, motor vehicles, trucks, transit and motorcycles). Key deliverables include:

- Develop a Regional traffic data warehouse and safety analytical tools – The foundation of the Plan is to develop a web-based, Regional data warehouse, including Regional and local traffic and collision data. The data warehouse will include safety analytical tools, such as traffic control identification and predication, risk exposure indexes, countermeasure selection, overrepresentation of collision types and cost-benefit analysis.
- Conduct data-driven, evidence-based analysis to develop a risk exposure index – Incorporate, correlate and migrate new data sources, such as public health records, connected vehicle data and human factors science, to prioritize and identify potential quantitative measures to address traveller behaviours.



- Identify quantified countermeasures – Identify a suite of quantified new initiatives, technology and measures to address safety priorities on Regional and local roads through engineering, enforcement, engagement, evaluation and education.
- Design and plan safer streets – Incorporate industry best practice road safety design and planning principles into the design review process for major and minor road works, including development of a proactive evaluation process for municipalities to identify candidate intersections for roundabouts (new intersection control and retrofit traffic signal applications).
- Expand existing safety measures and programs – Identify opportunities and develop guidelines and warrants for expanding existing safety measures and programs, such as speed feedback signs, automated speed enforcement, red light cameras, centreline delineators, etc.
- Develop key performance indicators – Establish an evaluation and monitoring program, including a matrix of key performance indicators, to measure successes for each traveller type with the goal of reducing injury and fatal collisions.

### **Residents will have an opportunity to provide input on the Traveller Safety Plan**

In fall 2022, the Plan will be communicated to York Region residents through various means, including social media, on-street signage, York.ca and media advisories.

Community engagement will be vital to inform a comprehensive Plan that addresses resident concerns. The Region intends to launch a public opinion survey and host an online open house with a mapping portal where residents can provide input during development of the Plan in early 2023.

## **5. Financial**

The cost for developing the Traveller Safety Plan is included in the approved 2022 Public Works Traffic Safety Program Improvements Capital Budget and Outlook.

The Plan will identify partnership opportunities and grants from all levels of government, agencies and private organizations that may be accessed to help implement/fund components of the Plan.

## **6. Local Impact**

### **The Region and its road safety partners share a goal of increasing road user awareness and safety and reducing collisions causing fatal and serious injuries**

The Traveller Safety Plan is being developed in partnership with all nine local municipalities to ensure a consistent approach in enhancing safety for all travellers on Regional and local roads. Neighbouring regions, Mothers Against Drunk Driving, pedestrian and cyclist

advocacy groups, seniors' groups, York Region Accessibility Advisory Committee and emergency services will be engaged to provide input during development of the Plan.

### **Local municipalities may benefit from a Regional collision data warehouse**

The foundation of the Plan includes a Regional data warehouse that will benefit local municipalities to access Region-wide collision data and safety performance reporting. This will assist staff in reporting annually to Council on safety performance of the local and Regional road networks.

## **7. Conclusion**

Collision data is regularly analyzed across the Regional road network to understand traveller behaviours and collision patterns to assist in determining measures to help increase safety.

Overall collisions on Regional roads decreased by 7% in 2021 and are expected to rise as traffic volumes return to pre-pandemic levels. Driver behaviour is the leading cause of motor vehicle collisions. To increase safety for all travellers, various safety programs have been implemented to help address and encourage safe driving behaviours.

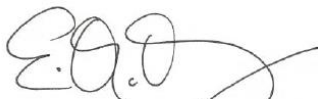
The Region, in collaboration with road safety partners, is developing a multi-year (2023-2027) Traveller Safety Plan to encourage a traveller safety culture. Implementation actions will be developed for each type of traveller using a data-driven, evidence-based approach. Residents will be informed of the Plan and provided engagement opportunities through both an online public opinion survey and an open house with a mapping portal, where residents can provide input during development of the Plan.

The Traveller Safety Plan will be presented to Council in late fall 2023.

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For more information on this report, please contact Joseph Petrunaro, Director Roads and Traffic Operations, at 1-877-464-9675 ext. 75220. Accessible formats or communication supports are available upon request.

Recommended by:



**Erin Mahoney, M. Eng.**  
Commissioner of Public Works

Approved for Submission:



**Bruce Macgregor**  
Chief Administrative Officer

August 26, 2022  
Attachment (1)  
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