



Case Study Series

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Vision Zero: Implementation Experiences in Three Canadian Urban Communities

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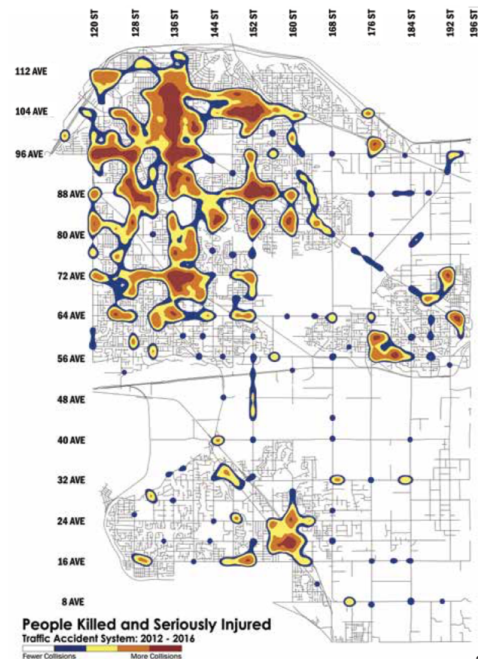
*Parachute Vision Zero has launched a series called **Word on the Street**; one of the elements of the series is a quarterly Case Study that will feature a variety of issues and examples of Vision Zero from across Canada and around the world. We hope that these practical, evidence-based case studies will help educate, inform and inspire those who are interested in getting to zero.*

This case study explores the experiences, challenges and solutions of three communities in Canada that are considering, planning or implementing Vision Zero: Surrey, B.C., the Region of Durham in Ontario, and Kingston, Ont.

Surrey, B.C.

Why now?

With a population of about 560,000 people, Surrey, B.C., is one of the fastest growing cities in Canada and is also the largest geographically in the Metro Vancouver area. Surrey has seen a 26 per cent increase in road injuries in the past 10 years and has become the municipality with the highest number of road fatalities in the province of British Columbia. In 2017, 21 people were killed on Surrey's roads and 14,500 were injured. A disproportionate number of those were youths, seniors, Indigenous people and low-income people. As well, figures show that only five per cent of Surrey's roads account for approximately 65 per cent of all collision injuries and that 80 per cent of all collisions happen at intersections. Distracted driving was the leading cause of collisions (33 per cent), followed by impaired driving (16 per cent) and speed (17 per cent).



GIS map of Surrey showing KSI collision frequency. Source: Vision Zero Surrey Safe Mobility Plan 2019-2023.



Source: *Vision Zero Surrey Safe Mobility Plan (2019-2023)*.

Shabnem Afzal, Surrey's road safety manager, said "it was the data" that led the municipality to embrace Vision Zero. "We looked at the collision data and mapped the data to find causal factors and hot spots to understand the extent of the issue," Afzal said. "This was our call to action. The need to act was driven by the transportation department and professionals in the field proactively acting." Afzal said the City of Surrey believes that "even one death on our streets is too many."

"It was the data. This was our call to action."

What have they done?

Surrey will adopt the safe systems approach based on four pillars: Safe Roads, Safe Road Users, Safe Speeds and Safe Vehicles. Afzal said the system refers to victims of harm (pedestrians, cyclists and motorcyclists), locations of harm (roads or intersections with high numbers of collisions causing injuries) and perpetrators of harm (risky drivers).

Afzal said Surrey uses various types of data to prioritize high-risk locations of harm and will regularly review its data to determine high-collision areas that require evidence-based road safety interventions. As well, it has developed a hot spot map, a GIS

(geographic information system) map showing locations of deadly collisions and those that resulted in serious injury, with high concentrations shown in red and low concentrations in blue. Surrey also has video technology at all intersections with traffic signals to record collisions and it analyses the video footage to learn more about them.

Surrey worked closely with and consulted partners and agencies to develop its [Vision Zero Safety Mobility Plan](#). It held stakeholder sessions, conducted market research and solicited community opinions and residents' feedback. City Council approved the plan on January 25, 2019, with a goal of a minimum 15 per cent reduction in collisions that result in deaths and serious injuries in the next five years.



Source: Vision Zero Surrey Safe Mobility Plan (2019-2023).

In February 2019, the city officially launched the Vision Zero plan and held British Columbia's first Vision Zero summit that brought together international experts to share their experiences.

Afzal said Surrey continues to implement road safety campaigns, "safe mobility culture surveys" and its digital strategy to assess impact, shift attitudes and "build a public narrative around safe mobility for all." It is working with universities to evaluate and look at countermeasures to ensure that the countermeasures implemented have maximum impact.

She said the city has already identified the top 50 intersections to focus on—a minimum of 10 in each year of the five-year plan. Surrey will continue to work closely with its partners and stakeholders to implement this plan.

What the city has to say

We asked **Shabnem Afzal**, Surrey's road safety manager, a few questions about Surrey's implementation experiences:

Parachute: *What are the most important steps to take (or consider) before implementing Vision Zero?*

Afzal: You have to first look at the data and it has to be from a reliable source. You have to map it to see the characteristics of collisions. Secondly, you have to reach out to your community and stakeholders. You need commitment because delivering road safety is a shared responsibility. As well, you need to engage civic leaders to endorse the Vision Zero approach. The priorities might be about congestion for them, so it's a matter of educating civic leaders as well. In the public consultations we asked people what impacts their daily lives and more than 80 per cent indicated that road safety is a critical issue to their safety. We can use this public support for action to help support Vision Zero.

Parachute: *What do you foresee (or what has been) the biggest challenges with the implementation of Vision Zero? What is needed to overcome these challenges?*

Afzal: A specific challenge we've faced is the ongoing engagement of civic leaders. We recently elected a new mayor and council, so it was a matter of having to get endorsements all over again. There is also a challenge of being able to demonstrate the nature of data (such as specific location data) and linking that data to the severity of collisions or linking health data and collision data. In general, the biggest challenges are: 1) budget and resources to implement a plan and 2) safe mobility. To

“What would make things easier...you need a national program, federal leadership.”

overcome these, you need to engage and get endorsements from civic leaders. You need to integrate and identify safety in all aspects and systems when you make decisions. You have to involve all departments, and work together city-wide making upstream decisions in planning and development in terms of impacts on road safety. And you

have to look at the data, which is so important. We were successful in getting endorsements and increased awareness with our first Vision Zero summit held in Surrey this year. What would make things easier, and to overcome these challenges, you need a national program, federal leadership.

Parachute: *How can we address the social equity issues?*

Afzal: To address equity issues you need to look at the data and research first. You need to know why. You need to know characteristics first before you can address any issues. As well, you have to work with partners to get health data. Surrey looked at the provincial health officer report, and we uncovered more from the health folks. Surrey is also a member of the Indigenous Traffic Safety Committee, which is helping with policy drafting. You have to look at how you invest your resources and ask: is it used in an equitable way?

Parachute: *What is needed to make Vision Zero a success?*

“This is not just a grand statement or gesture; it is a true mission.”

Afzal: You need evidence and research to back up decisions. A lot of commitment and passion is required and you have to have the knowledge that the work being done saves lives. This is not just a grand statement or gesture; it is a true mission. You have to engage, advocate and implement. All I’m talking about takes leadership. You need evidence, monitoring, evaluation in order to turn theory or what’s academic into reality.

Parachute: *What would you like the public, politician, and other countries considering Vision Zero to know?*

Afzal: People need to start somewhere. We shouldn’t deter people. You don’t need a purist notion to implement Vision Zero. Every jurisdiction is different. We aren’t the same and we can’t expect others to act the same. Some jurisdictions can’t act the same way as a country like Sweden.

Also, we need federal leadership and to prioritize areas with high-injury collisions.

We know how to prevent fatalities and serious injuries from road collisions. We know it’s preventable and unacceptable and that safe mobility is a human right. The picture

right now is totally unacceptable based on all the progress we've made. Why is this still the case? Partners must come together and act on one goal because every life matters.

Region of Durham

Why now?

The Region of Durham east of Toronto has an estimated population of 660,000 and an average of 20 fatal collisions and 1,600 injuries a year. Recognizing that a “broader-based approach was required,” and looking at other jurisdictions who have taken a similar approach, the region has developed a road safety plan consistent with Vision Zero principles.



Source: Region of Durham Vision Zero.

The Strategic Road Safety Action Plan Project was initiated in 2017. “The concept of Vision Zero, to change the culture of safety and strive to reach a zero-fatality goal, was in line with what we wanted to achieve,” said Amanda Spencer, project manager for Durham Vision Zero. She said that by collaborating with other road safety partners rather than working in isolation, the region would be able to work more efficiently and effectively to reach the long-term goal of zero. Spencer said the goal for the first five years (2019-2023) is to reduce fatal and injury collisions by a minimum of 10 per cent.

What the data shows

Durham in collaboration with numerous and diverse stakeholders, as well as consideration of public input, have come to initiate the development of their Strategic Road Safety Action Plan, which is evidence-based, using collision data from 2012-2016.

The data showed that approximately 1,000 fatal and injury-related collisions occurred at intersections, with emphasis areas also being aggressive driving, distracted driving, young drivers (ages 16-25), pedestrians, cyclists, impaired driving and commercial vehicles. The region's plan will also prioritize school zones.

What have they done?

Durham's Vision Zero focuses on the 5 E's to address road safety: Engineering, Enforcement, Education, Evaluation and Engagement. In developing their Strategic Road Safety Action Plan, the region reviewed road safety literature and its programs and policies, analyzed the data, set vision and goals, prioritized areas of emphasis, engaged the public and held three workshops in consultation with stakeholders. Interventions were also proposed in the workshops, and were reviewed in consultation with CIMA+, a Canadian consulting firm, to identify gaps. Of interest, their 2019 regional roads budget was approved and has increased from 2018, with various countermeasures including roundabouts, intersection improvements, widening of roads, road-bridge-structure rehabilitation, overpasses and traffic control-related projects planned.



Source: Durham Regional Police Twitter.

Regional Council approved the Strategic Road Safety Action Plan on April 24, 2019. Durham had its official launch of Durham Vision Zero on May 29, 2019. After they initiate a communications plan and assemble a task force and an implementation committee, Durham is now moving forward with selecting countermeasures to implement in 2019.



Source: Ajax Pickering Road Watch.

What the region has to say

We asked **Amanda Spencer**, the project manager for Durham Vision Zero, a few questions about Durham's implementation experiences:

Parachute: *In your opinion, what are the most important steps to take (or consider) before implementing Vision Zero?*

Spencer: Given that Vision Zero is evidence-based, I think it is critical to have a fairly high confidence level in your collision data for network screening purposes and a good working relationship with your police services.

“It is critical to have a fairly high confidence level in your collision data.”

Parachute: *What do you foresee (or what has been) the biggest challenges with implementation of Vision Zero? What is needed to overcome these challenges?*

Spencer: We are early in the implementation portion of Vision Zero but I think our biggest challenges will soon be resources and managing the various countermeasures. I think it will be about prioritizing tasks, meeting with our road safety partners regularly to ensure good communication and continuing to monitor and evaluate the improvements we move forward with.

Parachute: *What is needed to make Vision Zero a success?*

Spencer: I would say that having strong working relationships with all your road safety partners is paramount, as well as support from your respective council, including one or two key champions, will go a long way in the success of Vision Zero.

“Support from your respective council, including one or two key champions, will go a long way in the success of Vision Zero.”

Kingston

Why now?

Kingston, Ont., a city of about 125,000 people on Lake Ontario, sees on average three traffic fatalities and 300 injuries per year. In 2016, a report was presented to City Council recommending red light cameras, but council asked the City of Kingston to develop an overall road safety strategy. Kingston is “developing a strategic road safety plan based on the Vision Zero model,” and plans public outreach and consultation with various community groups, partners and local stakeholders, according to Deanne Green, the manager, traffic division, of the city’s Transportation Services.

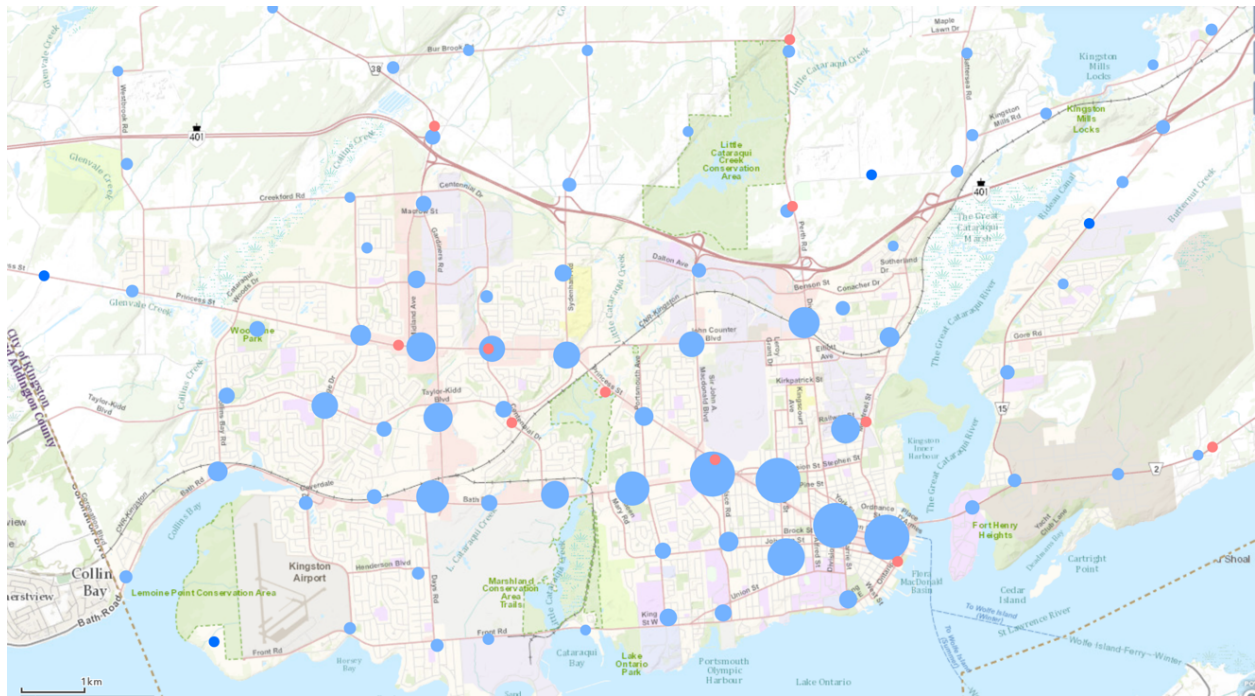


Source: City of Kingston Vision Zero.

Kingston’s goal over the next 20 years is for zero traffic fatalities, zero serious-injury collisions and zero collisions with vulnerable users altogether. Their five-year plan is to have a 10 per cent reduction in serious collisions. The plan will also identify emphasis areas such as intersections, cyclists, pedestrians, aggressive driving, young drivers, impaired driving and distracted driving.

What the data shows

Kingston has a collision map based on five years of data (2012-2016), which is also being used to inform the Vision Zero Road Safety Plan. The map plots the number of injuries and fatalities by year and can be filtered to indicate whether the injured person was a pedestrian, cyclist or motorcyclist. The collision data also show that the highest number of collisions occur at intersections and that red light running, aggressive younger drivers and distracted drivers are contributors.



Collision map showing injuries (blue) and fatalities (red).

Source: City of Kingston Vision

What have they done?

Research and background work started June 2017 for the Road Safety Plan, in collaboration with CIMA+ and Kingston city staff. The collision data was reviewed and analyzed in detail followed by educational awareness raising for the public. A Road Safety Advisory Group was established, including road safety partners, cyclist groups and school board. Additionally, there continues to be a dedicated Kingston Police traffic unit to handle community road safety complaints, and to enforce and educate.

Kingston has approved its capital budget for 2019 and finalized its Active Transportation Implementation Plan (2019-2023), which will support intersection and crossing upgrades, transit signal priorities, road and sidewalk maintenance, and infrastructure planning.

Three workshops (in October 2017, April 2018 and September 2018) and an open house (October 2017) were held to build on the road safety plan. A public online survey was conducted from October to December 2017 to understand the public's concerns. Five pop-up Vision Zero engagement events were held from November 2017 to June 2018 and an open website was set up to answer the public's questions and to discuss road

safety concerns. Further outreach to engage the community regarding some of the proposed road safety measures will be held later in 2019.

Countermeasures such as policy changes, photo radar, red light cameras, and more enforcement for speeding issues, are being discussed but require political will, time and resources which are limited. However, according to Green, the implementation of road safety strategies has already begun even though a draft plan has not yet been formally adopted by council. That is planned for later in 2019 after the public is given time to comment. She said that road safety, cycling and pedestrian safety have already been prioritized and that in recent years she has seen a huge shift among partners and the public in prioritization of road users and active transportation (e.g., safe school routes for children and how they could facilitate that). A couple of new initiatives that the city has in place based on priorities are:

- 1) Installation of “bike boxes” at intersections to help cyclists be more visible and to make left turns safer for cyclists. Bike Boxes are vivid green painted areas located at intersections with traffic signals.
- 2) More separated cycling facilities (e.g. combination of raised cycle tracks and multi-use pathways) will be in place and flexible posts are being installed along key bike lanes to reduce vehicle speeds and draw further attention to the bike lane;
- 3) Assessing school crossings for potential upgrades such as intersection pedestrian signals.

Green said they expect to take a report to council toward the end of the year that asks for a decision on the red-light camera program with a proposed implementation date of January 2022.

The [draft Road Safety Plan](#) can be found on the City’s website and will be posted to allow the public to review and comment until June 24th of this year.

What the City has to say

We asked **Deanna Green**, manager of the traffic division of the city's Transportation Services, a few questions about Kingston's implementation experiences:

Parachute: *In your opinion, what are the most important steps to take (or consider) before implementing Vision Zero?*

Green: You have to have various departments understand and support Vision Zero and co-ordinate work plans. For example, when a road is being designed, various staff need to collaborate to think about the impact of the design on pedestrians and cyclists. From a Vision Zero and road safety strategy, you have to rethink road design and assess what's best long-term for all users, especially vulnerable users. Vehicle movement can no longer be the priority for road design, especially at intersections.

Parachute: *What do you foresee as the biggest challenges with implementation of Vision Zero? What is needed to overcome these challenges?*

Green: One of the biggest challenges with implementation is that some people expect to see results immediately.

The public needs to understand that these strategies are long-term and that

we have to wait at least five years from implementation to begin to see progress and to really be able to measure effectiveness. In the meantime, we will be providing the public with annual updates.

“Some people expect to see results immediately [but] these strategies are long-term.”

Parachute: *What is the public saying?*

Green: The public is mirroring the data. There are concerns in the city with respect to road safety. Speeding in residential areas is a key concern, and so is red light running.

Some people also say that we should change the Vision Zero name because it is unrealistic. But when we get them to think about their loved ones and that no deaths or injuries are acceptable among them, we help the public get a better understanding that there are no

“There are no acceptable targets other than zero. No loss of life on our roads is acceptable. The vision has to be zero.”

acceptable targets other than zero. No loss of life on our roads is acceptable. The vision has to be zero.

Parachute: *What would you like the public, politicians, or other countries considering VZ or wanting to implement Vision Zero, to know?*

Green: You have to be prepared to defend some tough changes and decisions required to improve road safety. You need political support. You need to engage residents early, help them understand, and gather support for road safety initiatives. For instance, automated enforcement tools such as red-light cameras can be “unpopular.” Some members of the public have a hard time supporting this, so education -- providing the right information and getting the right message out -- is very important.