



TRANSPORTATION SERVICES
CITY OF TORONTO



MAYOR, CITY OF TORONTO



As our city grows, helping people move around quickly and efficiently is vital to our success and our continued quality of life. We need people to be able to get where they need to go, by road, by transit, by foot and by bike.

But most importantly, we need everyone to get to their destinations safely.

As Mayor of the City of Toronto, I have a responsibility to keep everyone safe. And that means combatting the deaths and injuries that are happening on our roads, in every part of our city and for a variety of reasons.

Through Toronto's first Road Safety Plan, our city has committed to Vision Zero – an acknowledgement that deaths and serious injuries on our roads are preventable and unacceptable and a goal to eliminate them completely.

The City of Toronto will work collaboratively with partnering agencies to ensure that people can travel safely and comfortably around the city as pedestrians, cyclists, transit users and drivers.

Together, we will implement a variety of road safety measures from engineering and enforcement to education and technological enhancements. We will work to protect our most vulnerable road users including seniors and children and engage the public in combatting this unnecessary and tragic loss of life.

When it comes to road safety, I have an important role to play, but so do you. We can all do our part to keep each other safe and to reduce the number of collisions that occur across Toronto. So please: slow down, avoid distractions and obey the rules of the road. Let's keep each other safe.

A handwritten signature in black ink, which appears to read "John Tory". The signature is fluid and stylized, with a large loop at the end.

John Tory

Mayor, City of Toronto

CHIEF OF POLICE, TORONTO POLICE SERVICE



Toronto's Vision Zero Plan is a strategic, five year (2017-2021) action plan that is data-driven and collaborative focusing on over 50 measures across 4 major pillars – engineering, enforcement, technology and education.

The Toronto Police Service is a partner in this effort and continues working to make sure your travels are safe ones by supporting these new initiatives and focusing on long term strategies to reduce the number of collisions and fatalities occurring in the City of Toronto.

These initiatives are driven to be specific, measurable, attainable relevant and timely. Vision Zero will become a reality through hard work and the support from you in the community.

The members of the Toronto Police Service are committed to you, and will continue to work hard each and every day doing our part to make your community a safe one, with fundamental message that fatalities and serious injuries on our roads are preventable and we must strive to reduce traffic-related deaths and injuries to ZERO.

Together, we will achieve the goal of Vision Zero through the many partnerships and shared resources of everyone involved.

Sincerely,

A handwritten signature in black ink that reads "Mark Saunders". The signature is written in a cursive, flowing style.

Mark Saunders, O.O.M.

Chief of Police
Toronto Police Service

CHAIR, PUBLIC WORKS AND INFRASTRUCTURE COMMITTEE



Each and every life lost on our streets is one too many.

In early 2015, as the newly appointed Chair of Public Works and Infrastructure, I spearheaded the development of a comprehensive and city-wide Vision Zero Plan for Toronto.

I was and remain committed to ensuring that Torontonians are safe as they move around our incredible city – whether they be pedestrians, cyclists, transit users or drivers.

For the first time in our city's history, we have an ambitious and aggressive plan to make our streets safer for all who use them.

The City of Toronto is committed to Vision Zero and accepts its fundamental message: fatalities and serious injuries on our roads are preventable, and we must strive to reduce traffic-related deaths and injuries to zero.

With over 50 measures across four major pillars – engineering, enforcement, technology and education – Toronto's Vision Zero Road Safety Plan is strategic, data-driven and collaborative.

The Plan prioritizes the safety of pedestrians, statistically our most vulnerable road users, through a range of initiatives from the creation of

Pedestrian Safety Corridors and Senior Safety Zones with lower speed limits to physical modifications at intersections.

Improved designs of roadways and intersections are already underway in Toronto, and the Vision Zero Road Safety Plan is going to build on, complement and expand these efforts as we develop site-specific solutions to address changing realities in our city, including a growing population of seniors.

City Council's recent adoption of the Vision Zero Road Safety Plan is the first step to safer streets. As we move forward with putting into action the safety improvements outlined in the pages before you, neighbourhoods and communities will continue to be our touchstone. The City has committed to establishing a Road Safety Committee and bringing together various city divisions, external organizations and advocacy and community groups as we work towards our Vision Zero goal.

Together, we can – and will – ensure the safety and well-being of Torontonians on our streets.

A handwritten signature in black ink that reads "Jaye Robinson". The signature is fluid and cursive, with the first name "Jaye" being more prominent.

Jaye Robinson

Chair of Public Works and Infrastructure,
City Councillor, Ward 25 – Don Valley West

GENERAL MANAGER, TRANSPORTATION SERVICES



As the new General Manager of Transportation Services, I strongly support and am committed to advancing the Vision Zero Road Safety Plan launched by Mayor Tory and Councillor Robinson. Improvements in how we design our streets, enforce traffic laws and educate our road users can dramatically improve safety and are proving effective in cities across the globe. The Vision Zero Road Safety Plan represents our commitment as City builders and policy-makers to investing in safety measures that will save lives and reduce serious injuries.

The Vision Zero Road Safety Plan is a bold pledge to improve safety across our city using a data-driven and targeted approach, focusing on the locations where improvements are most needed. The Plan addresses safety for the most vulnerable users of our transportation system—pedestrians, school children, older adults and cyclists. Based on what we know about the factors that contribute to serious injury and fatality crashes, the plan will also focus on aggressive and distracted driving, and safety for motorcyclists.

In 2017, you will see changes in neighbourhoods across the city including new Senior Safety Zones, enforcement and education tools that address speeding along corridors and in spot locations, filling in missing sidewalk links, installing protected bicycle lanes, adding more red light cameras, improving crossings at intersections through signal

timing, adding accessible signals and design improvements that reduce crossing distances and slow the speed of turning vehicles.

Key to our success will be the strength of our partnerships. Through collaboration with other agencies, orders of government, stakeholder groups and members of the public we will continue to develop new solutions and identify emerging concerns to effectively improve the safety of our transportation system.

The Vision Zero Road Safety Plan is just the beginning – I am dedicated to making continuous improvements and always striving for safer roads in Toronto. I also ask for your commitment to help us achieve Vision Zero by following the rules of the road, no matter how you're travelling. Be predictable and look out for each other. And remember that the decisions you make on the road today can have life altering effects on you and our community as a whole.

A stylized, handwritten signature in black ink, consisting of a large, sweeping 'B' followed by a series of loops and a long, horizontal stroke extending to the right.

Barbara Gray

General Manager of Transportation Services
City of Toronto

MEDICAL OFFICER OF HEALTH, TORONTO PUBLIC HEALTH



The way we travel can profoundly affect our health. As the Medical Officer of Health for the City of Toronto, I have a vision of all people of all ages and abilities walking and cycling to get around. Walking and cycling, both forms of active transportation, provide a wonderful opportunity for us to be physically active. It also helps to reduce road congestion, is environmentally friendly and can contribute to reductions in greenhouse gas emissions.

The Vision Zero Road Safety Plan offers us a unique opportunity to work together to make our roads safer and communities healthier. Currently, Toronto's injury rates, because of motor vehicle collisions, are significantly higher than most other major Canadian cities. People who walk and cycle are at a higher risk of injury and death as a result of collisions with motor vehicles.

Encouraging people to choose walking or cycling more often, requires making changes to our habits. This is not as simple as choosing one mode of transportation over the other. Encouraging people to try a new activity, such as walking or cycling, is much more complicated. Cultural practices, health inequalities, social influences, emotions and attitudes all come into play when we choose our modes of travel.

Promoting and enabling active transportation in Toronto is about normalizing walking and cycling and about expanding the array of safe travel choices. Toronto Public Health is committed to developing evidence-informed policy decisions on active transportation, building knowledge and skills in the community, and collaborating and working with key stakeholders throughout the city.

A safer, more walkable community will require working together towards common goals and this is why Toronto Public Health is excited to collaborate on the Vision Zero Road Safety Plan. As more people travel on foot and by bicycle, it will help to promote the activities and encourage others to try it. It will also help to create a more livable, socially inclusive and healthy city.

A stylized, handwritten signature in black ink that reads "Eileen".

Eileen de Villa, MD, MBA, MHSc, CCFP, FRCPC
Medical Officer of Health
Toronto Public Health





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INTRODUCTION

TORONTO AND ROAD SAFETY

Toronto is the largest city in Canada and the fourth largest city in North America, with over 2.8 million people who call it home. Toronto's diverse economy hosts nearly 1.6 million jobs, and generates 10% of Canada's gross domestic product. On a typical weekday, residents and visitors make over three million trips to destinations in the city. Toronto's streets play a role in all of these trips.

Toronto's streets are vibrant and include a mix of activities across the entire right-of-way. Sidewalks are host to pedestrians, sidewalk cafés, transit shelters, street trees, bicycle parking and utilities such as fire hydrants and poles, just to name a few. The roadway is a place where automobiles, buses, streetcars, and cyclists travel, but it's also the place where street festivals, parades, parking, and major utility work takes place.

Whether you're a cyclist, driver or pedestrian, you rely on our roads and transportation infrastructure to get you safely to your destination. Balancing the needs and safety of all road users is a difficult task, but it's also something that Toronto has been excelling at.

Transportation Services has focused on road safety for many years through a variety of initiatives. Compared to the top 10 largest North American cities, Toronto's fatality rate is among the lowest, however, it is important that we continue to make advancements in road safety so that as more and more people use our system, we can continue to improve upon the safety of all of our road users.

FATALITY COLLISION RATE FOR TEN LARGEST CITIES IN NORTH AMERICA			
CHICAGO	1.29	PHILADELPHIA	2.44
NEW YORK	1.47	HOUSTON	2.68
SAN JOSE	2.17	DALLAS	3.20
SAN DIEGO	2.32	SAN ANTONIO	3.69
LOS ANGELES	2.44	PHOENIX	4.36
TORONTO		1.82	

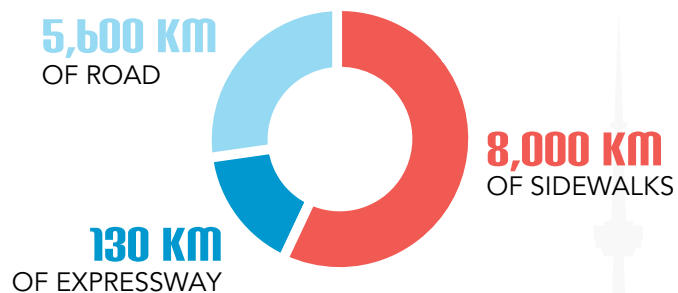
Source: National Highway Traffic Safety Administration, Traffic Safety Facts 2014, Rate per 100,000 Population

Quick Street Facts

 **2.8 million**
PEOPLE CALL TORONTO HOME

 **3 million**
PEOPLE MOVE ABOUT
TORONTO EVERYDAY

 **1.6 million**
PEOPLE WORK IN TORONTO



 **900 km**
CYCLE NETWORK

 **480**
PEDESTRIAN CROSSOVERS

 **2,300**
TRAFFIC SIGNALS

 **26,300**
INTERSECTIONS

 **970**
BRIDGES AND CULVERTS

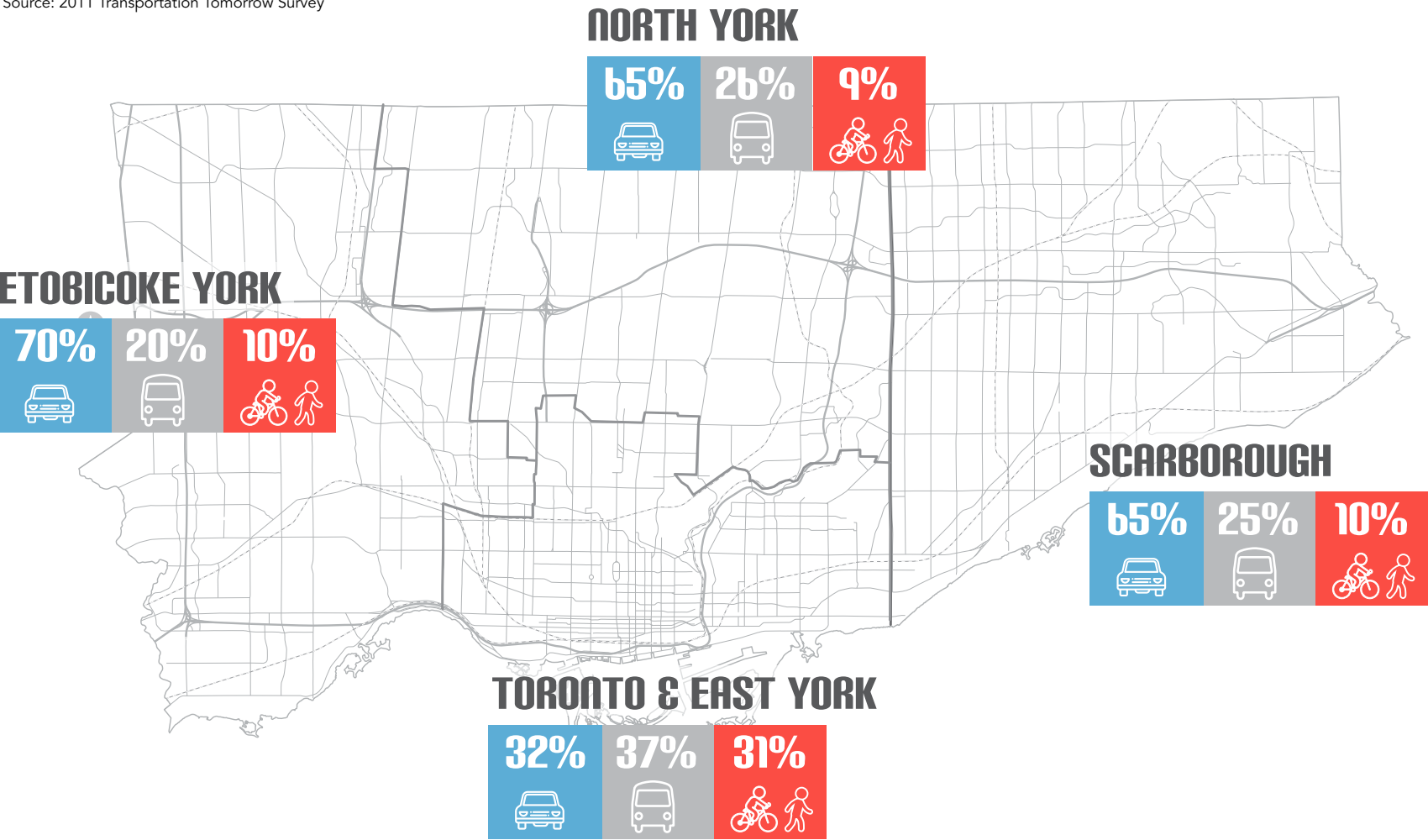
 **1 million**
TRAFFIC SIGNS

 **9,500**
STREETS



How do Torontonians get around on our streets?

Source: 2011 Transportation Tomorrow Survey





VISION ZERO PHILOSOPHY

The Vision Zero approach to road safety is to eliminate fatalities and serious injuries in our transportation system, because no loss of life is acceptable. A Vision Zero approach is based on the principle that people make mistakes and the transportation system needs to be designed and operated in a way that caters to human error in order to eliminate fatalities and serious injuries.

Vision Zero began in Sweden in 1997. Since then, Sweden has seen significant decreases in traffic-related deaths. Anticipating that people will make mistakes, Sweden's "safe system" approach prioritizes safety by creating safe roads, slowing speeds, improving vehicle design, educating people and enforcing laws to support safer behaviour on the roads.

Based on Sweden's success, numerous cities have adopted similar policies in order to create thriving, safe and healthy communities. Through Toronto's Vision Zero Road Safety Plan, we commit to working together to eliminate traffic deaths and make our streets safe for everyone in the City, no matter where you live and how you choose to travel.

VISION ZERO - SHIFTING THE FOCUS

Historically, road safety analyses focused on a reduction in all collisions including less serious collision types such as property-damage-only collisions. In contrast, Vision Zero plans focus on reducing the collisions that result in death and serious injuries (injuries where a person is admitted to a hospital), called "killed and seriously injured" or KSI collisions.

The Vision Zero Road Safety Plan also looks at KSI collisions to identify areas of concern and measure our progress. KSI collisions involving vulnerable road users, such as pedestrians, cyclists and motorcyclists are disproportionately higher than all other modes of transportation and accounted for 74% of all KSI collisions in Toronto over the last five years. A switch to a KSI approach is beneficial because it places a greater emphasis on vulnerable road users and recognizes that the factors and circumstances that differentiate a fatal collision from a serious injury are often marginal.

How are Torontonians killed or seriously injured (KSI) on our streets?

Source: Toronto Police Services



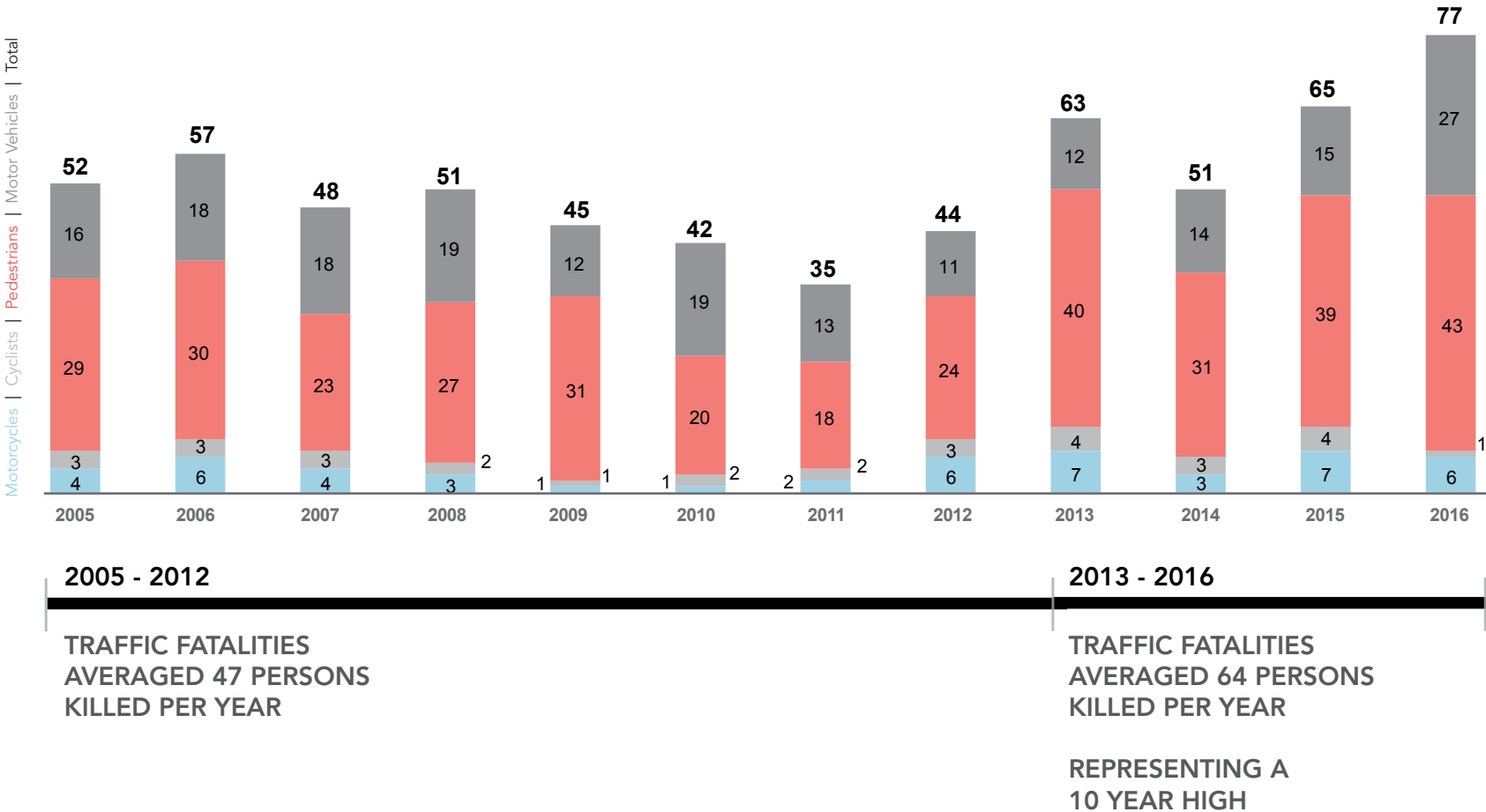
WHY NOW?

Transportation Services continuously makes improvements that have proven to be effective in addressing road safety. However, despite the fact that overall traffic collisions in Toronto have been stable for over a decade, we have seen a recent increase in traffic-related fatalities - most notably pedestrians, cyclists and older adults. This trend has emphasized the need for a comprehensive and coordinated road safety strategy that will further protect vulnerable road users and reduce the number of collisions resulting in death and serious injury.

Deaths and serious injuries are not inevitable. They are preventable.

It is estimated that approximately 90 per cent of traffic-related collisions involve human error. Drivers of motorized vehicles have an elevated responsibility for driving carefully as motor vehicles are the predominant cause of fatalities and serious injuries. However, all road users have a role to play when Vision Zero is the goal. In addition to the engineering improvements, educational campaigns and enforcement strategies proposed in the Vision Zero Road Safety Plan, achieving the Vision Zero goal will also require actions everyone can take – as drivers, cyclists or pedestrians – to reduce the risk of fatal and serious injury collisions.

Total Traffic Fatalities in Toronto, Jan. 1, 2005 - Dec. 31, 2016





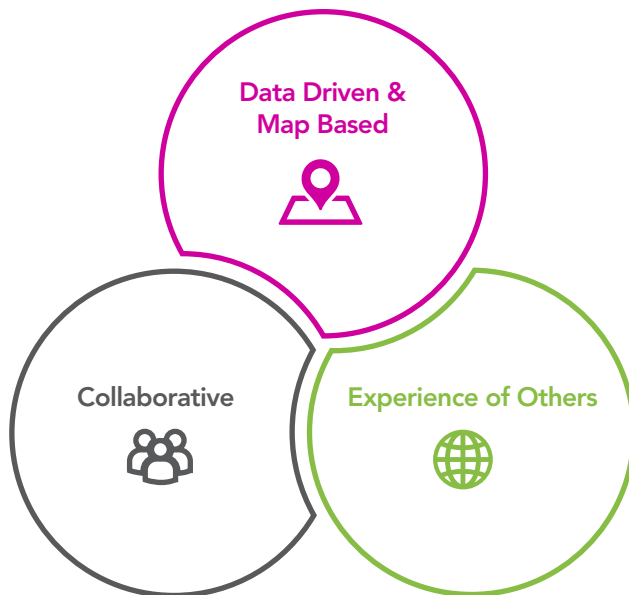
TAKING ACTION

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TAKING ACTION

VISION STATEMENT:

The City of Toronto, with the commitment of all partners, aims to eliminate fatalities and serious injuries on city streets to create a safe and healthy city.



DEVELOPING THE PLAN

The Vision Zero Road Safety Plan was developed through data-driven and map-based decision making, leveraging the experience of other North American cities that have adopted Vision Zero strategies and through collaboration with a number of local partners who traditionally support and undertake road safety initiatives independently.

Data Driven and Map Based Decision Making:

The Vision Zero Road Safety plan is anchored in evidence-based analysis of traffic collision data that helps to identify the real issues affecting road safety as seen through long-term trends and location mapping. This analysis helps us to target where the issues exist and prioritize the deployment of the mitigating safety measures.

Leveraging the Experience of Others:

Toronto gained inspiration from the Vision Zero movement that started in Sweden and looked at the best practices used in other North American Vision Zero cities to refine the strategy and adequately assess the level of investment and resources required to deliver on the plan.

Collaborative Approach:

The Vision Zero Road Safety Plan was developed through a collaborative approach with the assistance of partner agencies, external stakeholders and advocacy groups and the public. Their feedback helped identify key components of the Vision Zero Road Safety Plan including the emphasis areas.

IMPLEMENTATION

Over the past two decades, in an effort to continuously improve road safety in Toronto, there have been many initiatives and safety measures implemented by the various partner agencies. The Plan was developed in collaboration with the agencies below, all of which have declared their commitment to sharing responsibility and lending support to the Plan, including leading implementation and knowledge sharing. These partner agencies include Toronto Police Service, Toronto Public Health, the Disability, Access and Inclusion Advisory Committee, CARP (formerly the Canadian Association of Retired Persons), the Canadian Automobile Association (CAA), Cycle Toronto, Walk Toronto, Toronto District School Board (TDSB), Toronto Catholic District School Board (TCDSB), Sunnybrook Health Sciences Centre, the Rider Training Institute and the Toronto Centre for Active Transportation.

The Plan also calls for the creation of a Vision Zero Road Safety Committee, comprised of representatives from all partner agencies. The committee will meet quarterly to provide updates, review progress, re-assess priorities, plan future actions and discuss and resolve issues.





HOW WILL WE ACHIEVE VISION ZERO?

Vision Zero is a long-term strategy. Making changes to infrastructure and traffic-safety culture takes time. However, we will get there through improvements to Engineering, Education, Technology and Enforcement.



Engineering Safety Measures target the design and operation of city streets to prevent collisions from occurring while also minimizing the impact that human error can have in causing collisions.



Technological Safety Measures will employ technical solutions to improve road safety. Initiatives such as passive detection, automated enforcement and enhanced data analysis will be utilized.



Education Safety Measures will raise awareness and improve the understanding of issues we face and include targeted interventions.

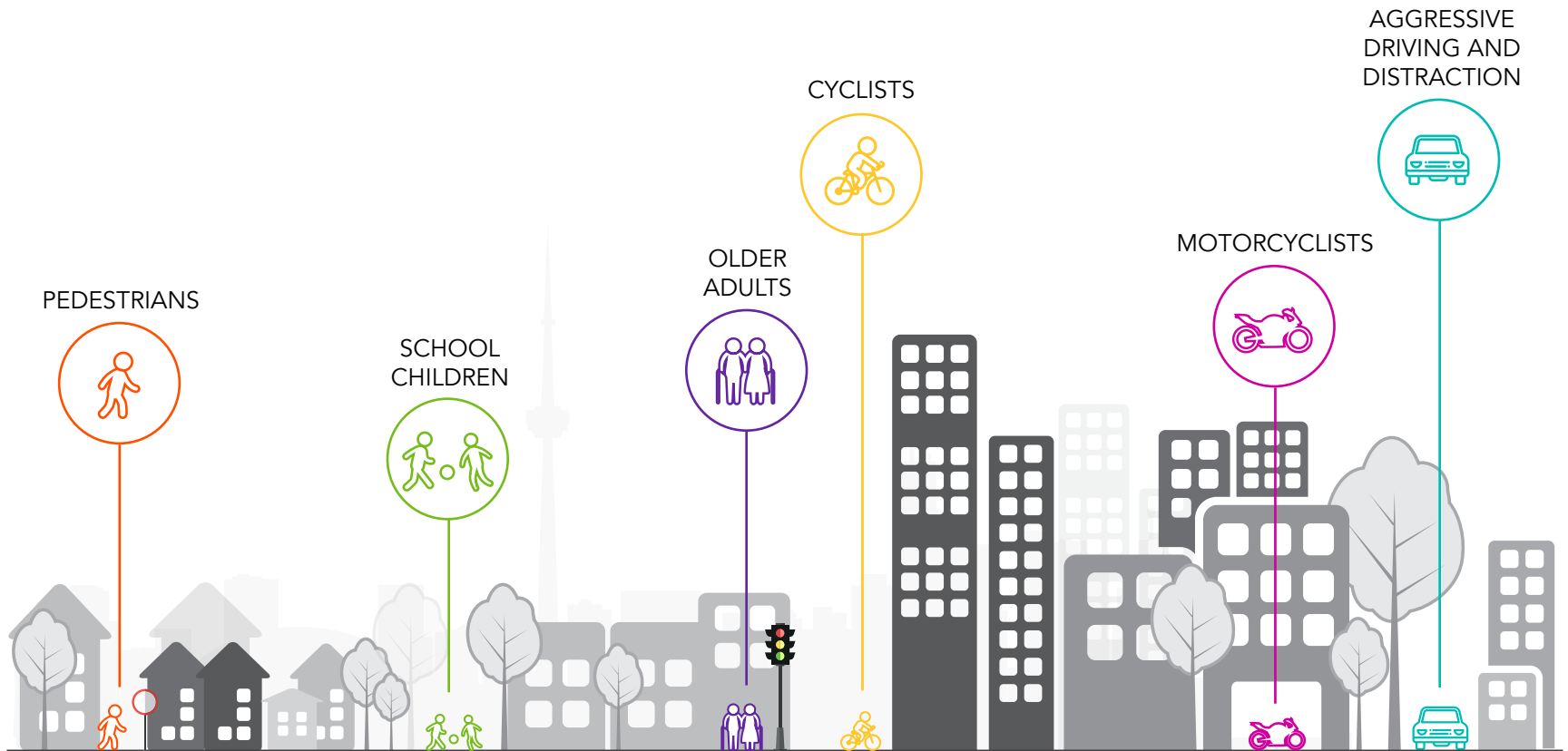


Enforcement Activities will be done in collaboration with Toronto Police Service and the Ontario Provincial Police. These initiatives will continue to build on the most efficient and effective uses of our limited enforcement resources to improve road safety.

WHAT ARE OUR EMPHASIS AREAS?

The Vision Zero Road Safety Plan identifies and addresses six emphasis areas, which were determined through collision data analysis, public engagement and Council direction. They include Pedestrians, School Children, Older Adults, Cyclists, Motorcyclists and Aggressive Driving and Distraction.

For each of these emphasis areas, the plan outlines existing, enhanced and new safety measures that includes engineering, education, enforcement and technology programs and initiatives.





ACTION PLAN

- 24** PEDESTRIANS
- 30** SCHOOL CHILDREN
- 35** OLDER ADULTS
- 40** CYCLISTS
- 46** MOTORCYCLISTS
- 50** AGGRESSIVE DRIVING AND DISTRACTION



EMPHASIS AREA 1: PEDESTRIANS

A pedestrian is seriously injured or killed every 3 days on Toronto's roads.

Pedestrian collisions involve any person that is not riding in a vehicle or on a bicycle.

26%

OF COLLISIONS INVOLVING PEDESTRIANS IN THE LAST 5 YEARS OCCURRED MIDBLOCK

18%

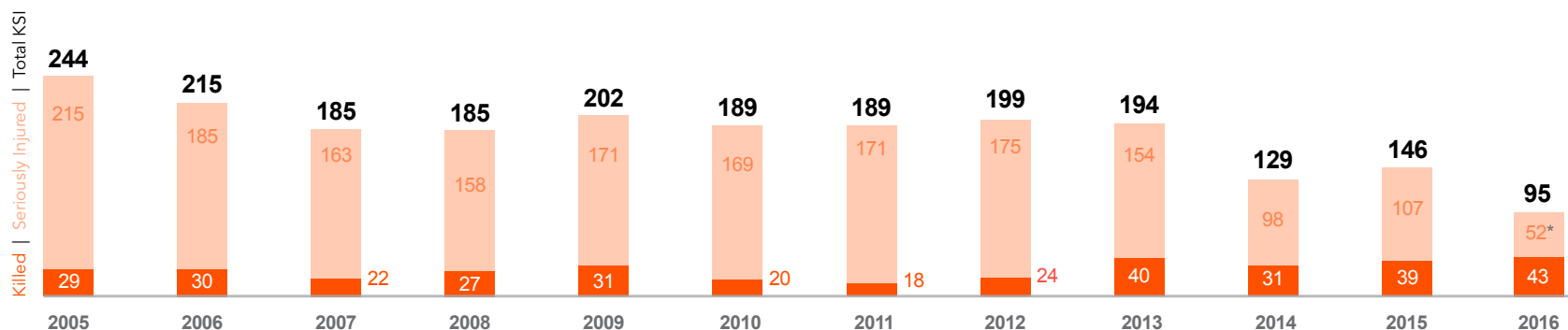
OF PEDESTRIANS IN THE LAST 5 YEARS WERE STRUCK BY A VEHICLE TURNING LEFT AT AN INTERSECTION

15%

OF PEDESTRIANS IN THE LAST 5 YEARS WERE STRUCK WHILE AT A PEDESTRIAN CROSSOVER

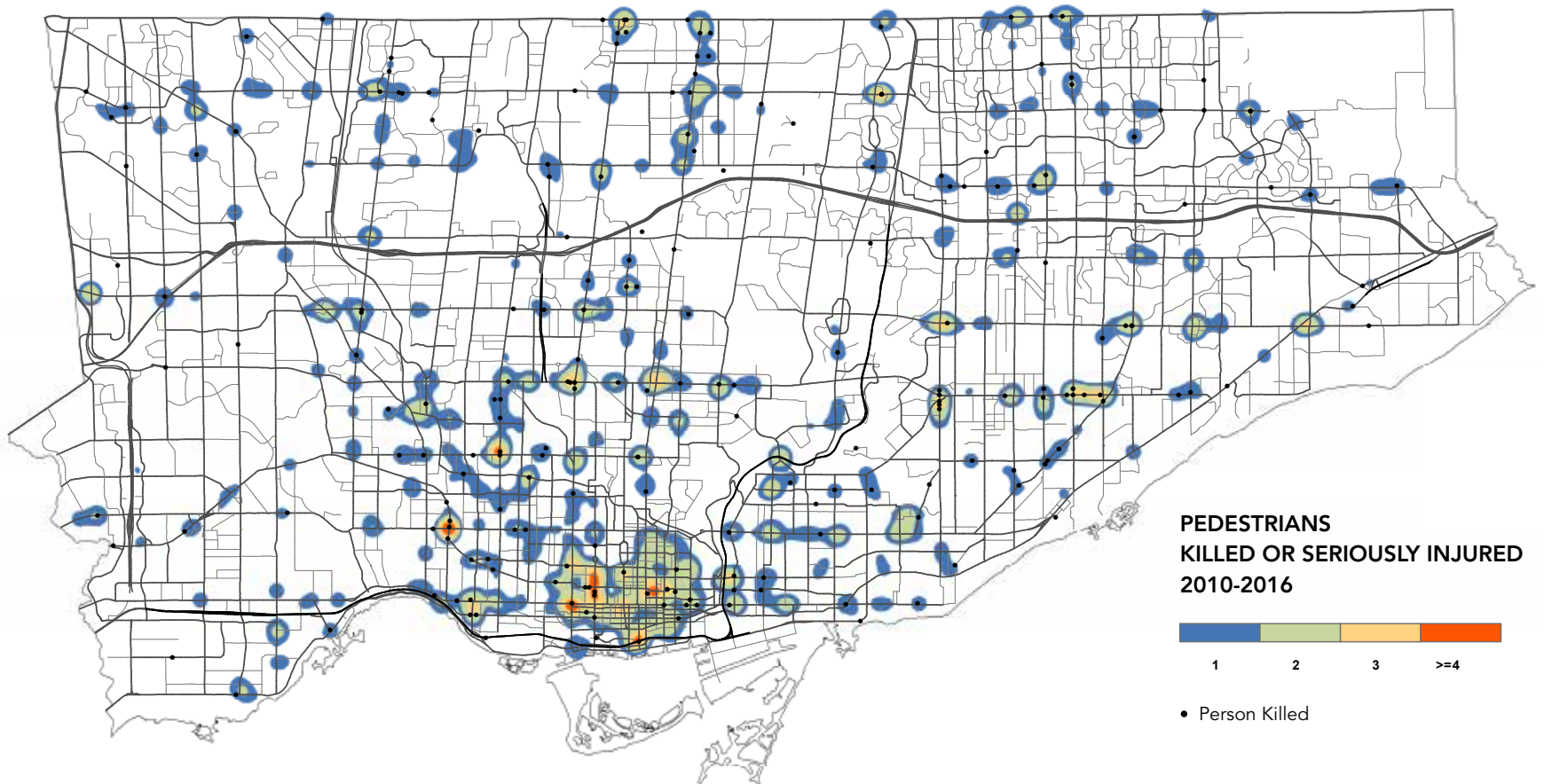
Between 2005 and 2016, there were 2,172 pedestrians killed or seriously injured in a collision with a motor vehicle.

Corridors within the city exhibiting high killed or serious injury collisions will be prioritized and targeted for pedestrian safety improvements such as speed reductions, shortened crossing distances, no-right-turns on red, advance greens for pedestrians, fully protected left-turns and police enforcement for compliance with traffic rules that affect pedestrian safety. These measures will improve pedestrian safety by reducing crossing distances, making the pedestrian crossing more accessible and reducing vehicle conflicts with pedestrians.



Pedestrians Killed in Toronto, January 1, 2005 - December 23, 2016

*Pedestrians Seriously Injured in Toronto, January 1, 2005 - June 1, 2016



EXISTING SAFETY MEASURES

SPEED LIMIT REDUCTIONS

Speed limits have been reduced from 50 km/h to 40 km/h and in some places from 40 km/h to 30 km/h.

PEDESTRIAN COUNTDOWN SIGNALS

Installed at all signalized crossings, the countdown device indicates the number of seconds remaining for a pedestrian to complete a crossing.

PEDESTRIAN CROSSOVER (PXO) ENHANCEMENTS

Improvements to pedestrian crossovers including the addition of pavement markings, zebra striping and larger amber beacons were made at key locations.

"MARCH BREAK MARCH SAFE" CAMPAIGN

Organized by the Toronto Police Service, this campaign is designed to promote the education, awareness and enforcement strategies intended to heighten awareness of pedestrian safety during March Break.

"STAY FOCUSED STAY SAFE" CAMPAIGN

Led by the Toronto Transit Commission, this campaign targets various pedestrian issues such as jaywalking and night time visibility.

"STEP UP BE SAFE" CAMPAIGN

Developed by the Toronto Police Service, this education and enforcement campaign coincides with Daylight Savings Time and focuses on motorists, cyclists and pedestrians who commit offences near pedestrian crossovers.

ENHANCED EXISTING SAFETY MEASURES

The following existing safety measures will be enhanced, and are described on the next few pages:

- Accessible Pedestrian Signals (APS)
- Annual Sidewalks Capital Program
- Zebra Crossing Pavement Markings
- Advance Green for Pedestrians

NEW/ENHANCED SAFETY MEASURES

PEDESTRIAN SAFETY CORRIDORS

Using a variety of safety measures such as targeted speed limit reductions, signal timing adjustments and enhanced pedestrian crosswalk markings (zebra markings), Pedestrian Safety Corridors will reduce safety risks for pedestrians.

PEDESTRIAN STREET LIGHTING IMPROVEMENTS

Working with Toronto Hydro, street lighting will be reviewed at locations with high pedestrian volumes and areas that are particularly prone to pedestrian involved collisions for opportunities to improve street lighting.



AUTOMATED PEDESTRIAN DETECTION

A study will review the effectiveness and practicality of automated pedestrian detectors. These technologies can be used to optimize intersection operations and improve safety by reducing conflicts between vehicles and pedestrians.

PAVEMENT MARKING IMPROVEMENTS

Standards for pavement markings such as stop bars and crosswalk widths will be reviewed. Additional and improved markings will provide better guidance of safety hazards to drivers and improved visibility of vulnerable road users.



ACCESSIBILITY IMPROVEMENTS

A review of intersections and mid-block crossings will be conducted to identify locations where new City standards can be implemented. This will improve accessibility for people with disabilities.

ADVANCE GREEN FOR PEDESTRIANS

Selected intersections will display the pedestrian "walk" signal a few seconds earlier than the green signal for vehicles, providing pedestrians a head start into the intersection. This will help to increase pedestrian visibility and reduce the likelihood of left turn collisions with pedestrians.

NEW/ENHANCED SAFETY MEASURES



NEW CORNER RADIUS DESIGN

Using Toronto's award winning Curb Radii Design Guidelines, key intersections will be selected for improved corner radii. Smaller corner radii result in shorter pedestrian crossing distances and times, and deter drivers from making right turns at higher speeds.



ACCESSIBLE PEDESTRIAN SIGNALS (APS)

These devices use audible tones and vibration to advise pedestrians with low or no vision when they have the right-of-way to cross.

NO RIGHT-TURN-ON-RED PROHIBITION

No right-turn-on-red prohibitions will be implemented at key locations where right turns on red lights have been found to be a contributing factor to pedestrian KSI collisions. These restrictions protect pedestrians within the right-of-way from vehicles making a right turn across their path.



MISSING LINKS SIDEWALK PROGRAM

The existing Missing Links Sidewalk Program will be enhanced with a policy to install sidewalks in areas that have no sidewalks or sidewalks on only one side of the road during road reconstruction. Connected and continuous sidewalks provide a safer and more accessible walking environment.

ROAD SAFETY AUDITS AT HIGH-RISK LOCATIONS

In areas with high KSI collisions, in-depth safety reviews will be conducted to identify immediate deficiencies and issues and determine appropriate short-term and long-term remedial actions.

NEW/ENHANCED SAFETY MEASURES

LOCAL ROAD PEDESTRIAN CROSSOVER PILOT

Staff will explore the possibility of introducing new types of pedestrian crossovers on local roads. Pedestrian crossovers offer greater protection for pedestrians through standardized pavement markings, roadside signage and rapid flashing beacons and are enforceable by police.

REMOVAL OF RIGHT TURN SLIP LANES

Intersections with right turn slip lanes exhibiting a history of pedestrian collisions will be prioritized to have slip lanes removed and replaced with reduced curb radii. Removal of right turn slip lanes reduces the crossing distance for pedestrians, minimizes conflicts between vehicles, pedestrians and cyclists and slows vehicles making right turns.

FORMATION OF VISION ZERO ROAD SAFETY COMMITTEE

Representatives from key partner agencies as well as key external stakeholders and advocacy groups will oversee the roll-out of Vision Zero and meet to provide updates, review progress, re-assess priorities and plan future actions.



ENHANCED ENFORCEMENT STRATEGIES

Police enforcement will focus on locations based on a data driven analysis of intersections. Enhanced enforcement will improve safety by promoting compliance with traffic rules and deterring dangerous behaviours.

PEDESTRIAN EDUCATION AND AWARENESS INITIATIVES

A communications strategy using social media, print media articles, online videos, bus shelter/TTC advertising and a new Vision Zero website will be developed to support pedestrian safety campaigns.



EMPHASIS AREA 2: SCHOOL CHILDREN

A child is seriously injured or killed every 17 weeks on their way to or from school on Toronto's roads.

School children are pedestrians and cyclists between the ages of 4 and 19 travelling to and from school.

20

SCHOOL CHILDREN
WERE STRUCK BY A
VEHICLE IN THE LAST
5 YEARS

35%

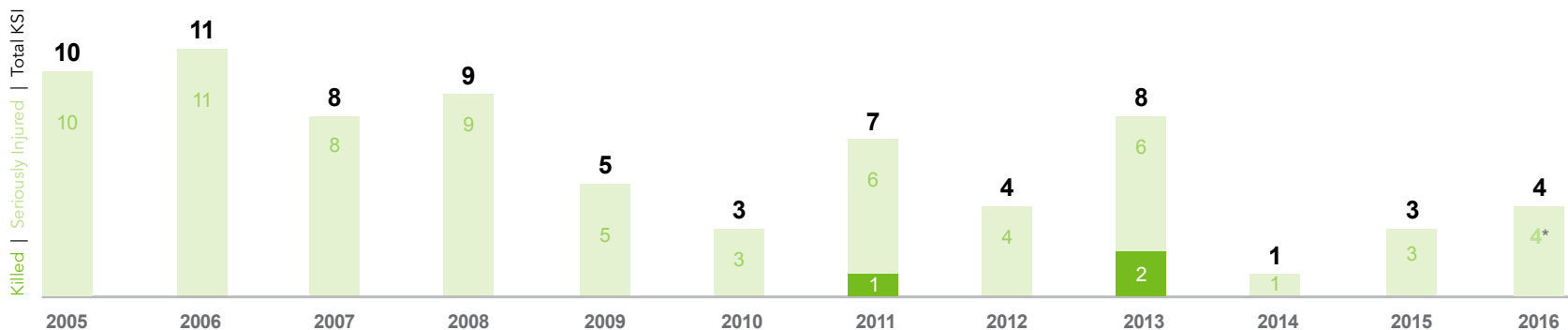
OF SCHOOL CHILDREN
IN THE LAST 5 YEARS
WERE STRUCK WHILE AT A
PEDESTRIAN CROSSOVER

20%

OF COLLISIONS
INVOLVING SCHOOL
CHILDREN IN THE LAST
5 YEARS HAPPENED
MIDBLOCK

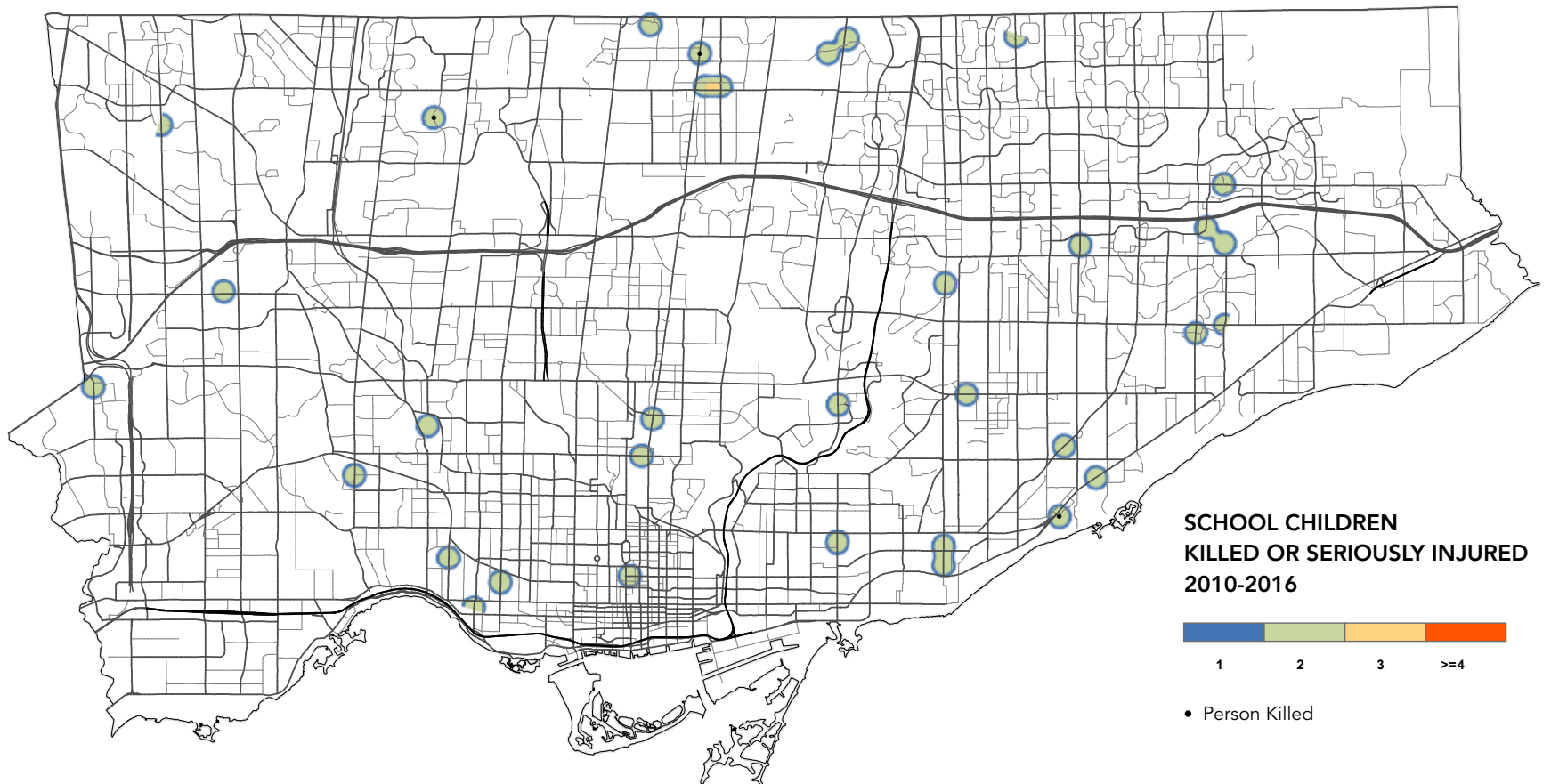
Between 2005 and 2016 there were 3 school children killed and 70 seriously injured in a collision with a motor vehicle.

Schools will be identified within a 1 km radius of a killed or serious injury collision involving a school child and will be prioritized for an in-depth review to see if there are opportunities for safety improvements such as enhanced pavement markings and signage, "Watch Your Speed" driver-feedback signs, police enforcement targeting safety concerns for school children or other enhanced safety improvements both within the school zone and along pre-designated active and safe routes to school.



School Children Killed in Toronto, January 1, 2005 - December 23, 2016

*School Children Seriously Injured in Toronto, January 1, 2005 - June 1, 2016



EXISTING SAFETY MEASURES

CAA SCHOOL SAFETY PATROL PROGRAM

This program is aimed at protecting and educating elementary school children on safe practices for crossing streets.

"YOUTH IN CONTROL" (YIC) LEADERSHIP PROGRAM

Organized by Toronto Public Health, this peer-based education program provides information on safer driving strategies.

BICYCLE HELMET INITIATIVE

Organized by Toronto Public Health, this campaign promotes helmet use and wheel safety.

ENHANCED EXISTING SAFETY MEASURES

The following existing safety measures will be enhanced, and are described on the next few pages:

- School "Watch Your Speed" Program Driver Feedback Signs
- Adult School Crossing Guard Program
- School Zone Safety Strategy
- School Travel Planning Pilot Initiative
- Cycling And Pedestrian Safety Curriculum Support

NEW/ENHANCED SAFETY MEASURES



CREATION OF "SCHOOL SAFETY ZONES"

School Safety Zones will be developed and will include a variety of measures such as lower speed limits, improved street lighting, leading pedestrian intervals, mid-block crossings, increased enforcement, improved pavement makings, flashing signage and/or public awareness campaigns, among other possible improvements. These measures will promote greater attention to and respect for traffic laws.



SCHOOL "WATCH YOUR SPEED" PROGRAM DRIVER FEEDBACK SIGNS

This initiative will be expanded to include permanent speed display signs exclusively in school zones. The signs will encourage greater compliance with lower driving speeds in school zones.



AUTOMATED ENFORCEMENT ADVOCACY AND PILOT

Permitting approval from the Province of Ontario, automated speed enforcement will be piloted in School and Community Safety Zones. Priority will be given to school zones with confirmed speeding issues and a prevalence of collisions involving school children.

SCHOOL CROSSING GUARD PROGRAM

In partnership with Toronto Police Service, the adult school crossing guard program will be reviewed to consider existing warrants and the use of volunteers to expand the program. Crossing guards donning protective equipment and a stop paddle provide protection for children by increasing visibility of pedestrians in a crosswalk.

NEW/ENHANCED SAFETY MEASURES

SCHOOL TRAVEL PLANNING (STP) AND ACTIVE AND SAFE ROUTES TO SCHOOL

This community-based initiative promotes active transportation during daily commutes to and from school. It brings together community stakeholders to identify travel issues to develop and pilot possible solutions. Increasing active transportation in a school zone can reduce vehicular traffic congestion and safety risks around schools.

SCHOOL ZONE REVIEWS AND ENHANCEMENTS

A review of pick-up/drop-off traffic management programs at schools will identify and implement potential improvements. The reviews and corrective actions will reduce risks around schools by ensuring that the proper traffic control devices are in place and in good condition.



ENHANCED ENFORCEMENT STRATEGIES

Police enforcement will focus on offenses related to pedestrian crossovers, school zone speed limits, intersections, school crossing guards, stopped school buses and parking regulations near schools. Enhanced enforcement will improve safety by promoting compliance with traffic rules and deterring dangerous road user behaviour.

EDUCATION AND AWARENESS INITIATIVES

Messaging materials such as colouring books, artwork contests, free bicycle bells, reflective slap bracelets and zipper pulls with printed safety messaging will be developed to promote basic skills and safe behaviours for school-aged children.





EMPHASIS AREA 3: OLDER ADULTS

An older adult is seriously injured or killed every 5 days on Toronto's roads.

Older adults are defined as people over the age of 55.

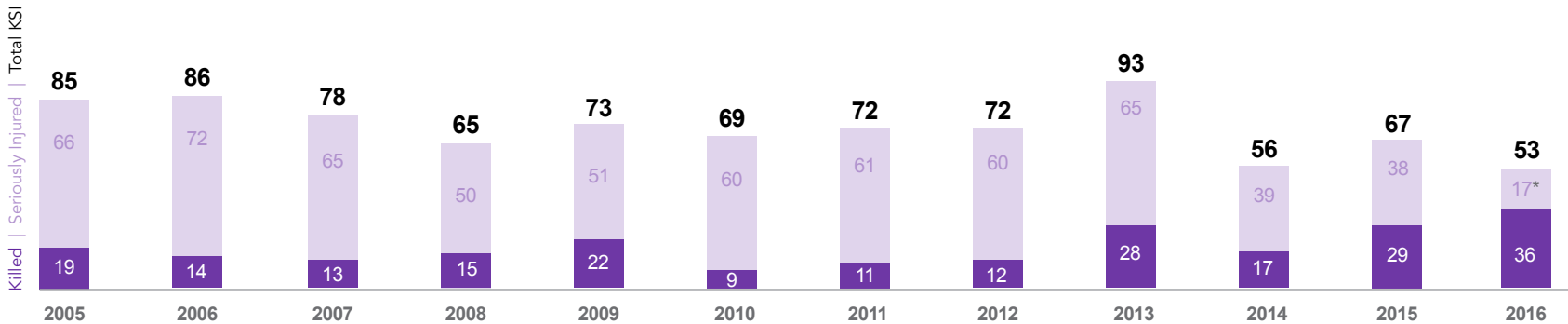
24%
OF COLLISIONS INVOLVING AN OLDER ADULT IN THE LAST 5 YEARS OCCURRED MIDBLOCK

19%
OF OLDER ADULTS IN THE LAST 5 YEARS WERE STRUCK BY A VEHICLE TURNING LEFT AT AN INTERSECTION

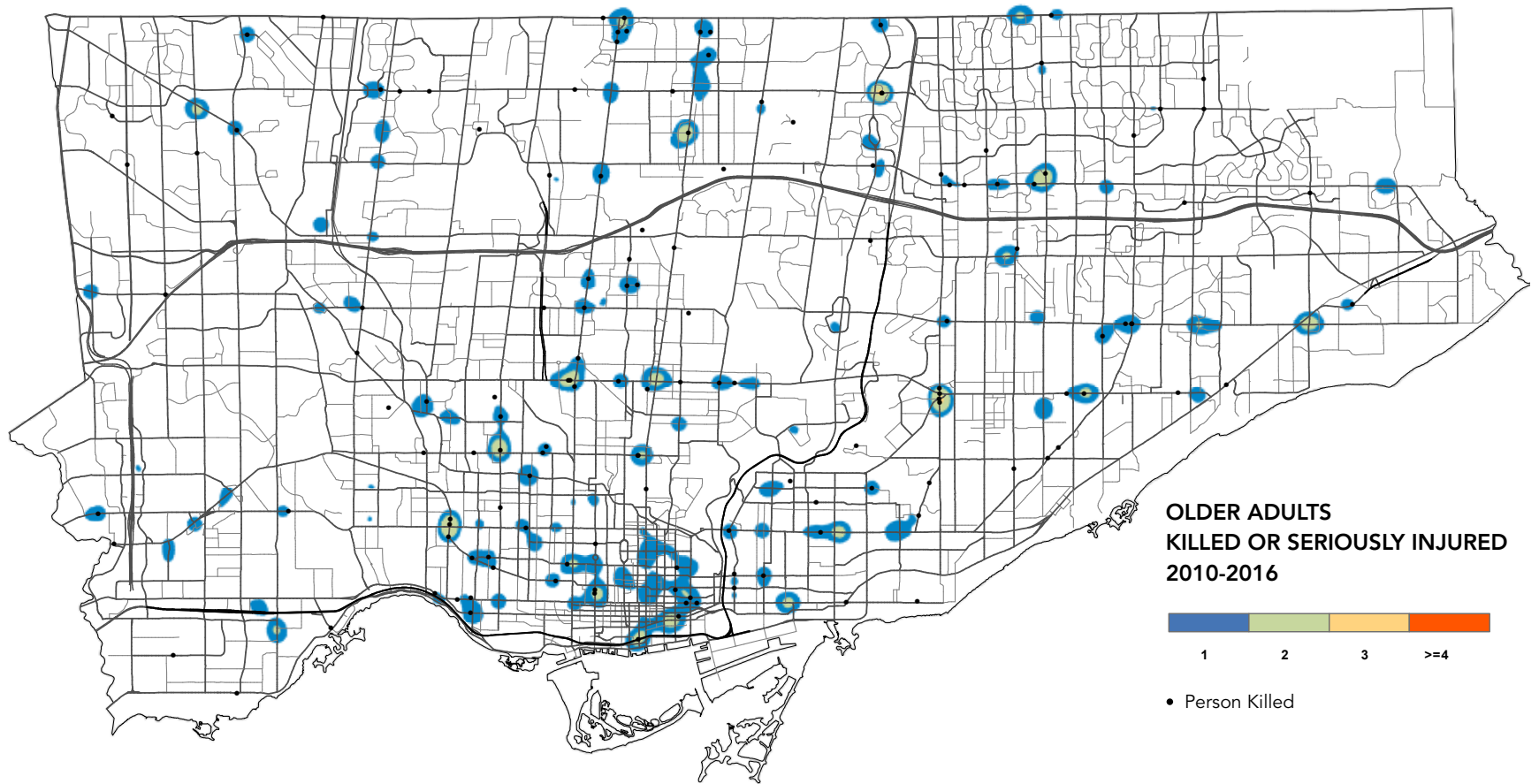
14%
OF OLDER ADULTS IN THE LAST 5 YEARS WERE STRUCK WHILE AT A PEDESTRIAN CROSSOVER

Between 2005 and 2016, there were 869 seniors killed or seriously injured in a collision with a motor vehicle.

Special consideration will be given at locations exhibiting killed or serious injury collisions where there are higher concentrations of senior pedestrians living and interacting. These areas will be prioritized and targeted for speed reductions, increased walk times at traffic signals, enhanced pavement markings, "Watch Your Speed" driver-feedback signs and police enforcement for aggressive driving behaviours that affect senior pedestrians.



Older Adults Killed in Toronto, January 1, 2005 - December 23, 2016
*Older Adults Seriously Injured in Toronto, January 1, 2005 - June 1, 2016



EXISTING SAFETY MEASURES

iNAVIGAIT CAMPAIGN

Led by Sunnybrook Health Sciences Centre, this pedestrian safety program works to ensure the safety of seniors on Toronto's streets.

PRIORITY SNOW REMOVAL PROGRAM

Seniors over the age of 65 can request snow clearing service for the sidewalks outside of their home.

TORONTO SENIORS STRATEGY

Focusing on equity, respect, inclusion and quality of life, the Seniors Strategy identifies specific actions that can be implemented to improve senior road safety.

BRINGING AN AWARENESS OF SENIOR SAFETY ISSUES TO THE COMMUNITY (B.A.S.S.I.C.):

Members of this group deliver safety seminars and symposiums and produce a safety calendar to improve road safety for seniors.

ENHANCED EXISTING SAFETY MEASURES

The following existing safety measures will be enhanced, and are described on the next few pages:

- Lower Walking Speeds At Traffic Signals
- Mid-Block Pedestrian Crossings
- Senior Driving Education Presentations

NEW/ENHANCED SAFETY MEASURES



CREATION OF SENIOR SAFETY ZONES

Senior Safety Zones will be developed and will include a variety of measures such as lower speed limits, improved street lighting, advance green for pedestrians, Watch Your Speed™ driver feedback signs, red light cameras, sidewalk extensions, additional crossing opportunities, increased enforcement and improved pavement markings, among other possible improvements. These measures will promote greater attention to and respect for traffic laws.

INCREASED CROSSING TIMES

A program will be developed to re-time signals near facilities for older adults to allow more time for road crossings. Longer walk signal times reduce the risk of an older adult pedestrian being unable to finish crossing during a signal cycle.

NEW SENIOR CITIZENS STRATEGY

Led by City Planning, updates to the Senior Citizens Strategy will include the identification of road safety measures that can be implemented to improve safety of senior citizens.

REDUCED CROSSING DISTANCE

Curb extensions will be installed to reduce crossing distances on local and collector roads in areas frequented by older adults. Curb extensions slow down traffic and provide greater visibility for pedestrians.

NEW MID-BLOCK CROSSINGS

Pedestrian crossing warrants will be revised to include standards for a maximum distance between traffic signals and a review of collision history. New mid-block crossings will be prioritized towards collision prone locations and areas frequented by older adults. Mid-block crossings provide greater protection for vulnerable road users than uncontrolled crossings.

ENHANCED ENFORCEMENT STRATEGIES

Enhanced enforcement will take place in areas frequented by older adults and will target dangerous driving. Other older adult safety measures such as new mid-block pedestrian crossings will also receive enforcement support. This will improve safety by promoting compliance with traffic rules and deterring dangerous road user behaviour.

EDUCATION AND AWARENESS INITIATIVES FOR OLDER ADULTS

Public education and training materials such as printed brochures and posters, bus shelter advertisements and presentation materials for public health nurses will be developed to build skills, educate and raise awareness of the safety risks and leading causes of collisions for older adults.



EMPHASIS AREA 4: CYCLISTS

One cyclist is seriously injured or killed in a collision every 8 days on Toronto's roads.

Cyclist collisions involve a motor vehicle striking a person riding a bicycle.

16%

OF COLLISIONS INVOLVING A CYCLISTS IN THE LAST 5 YEARS HAPPENED BY A VEHICLE TURNING LEFT ACROSS A CYCLISTS PATH

15%

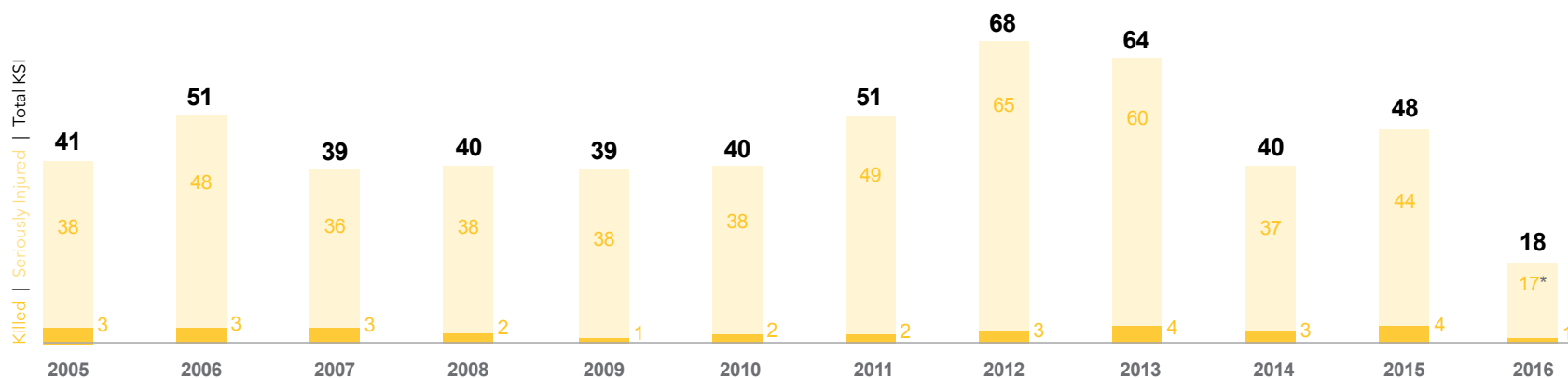
OF CYCLISTS IN THE LAST 5 YEARS WERE IN A COLLISION AT AN INTERSECTION, LANEWAY OR DRIVEWAY

12%

OF CYCLISTS IN THE LAST 5 YEARS WERE SIDESWEPT BY A VEHICLE

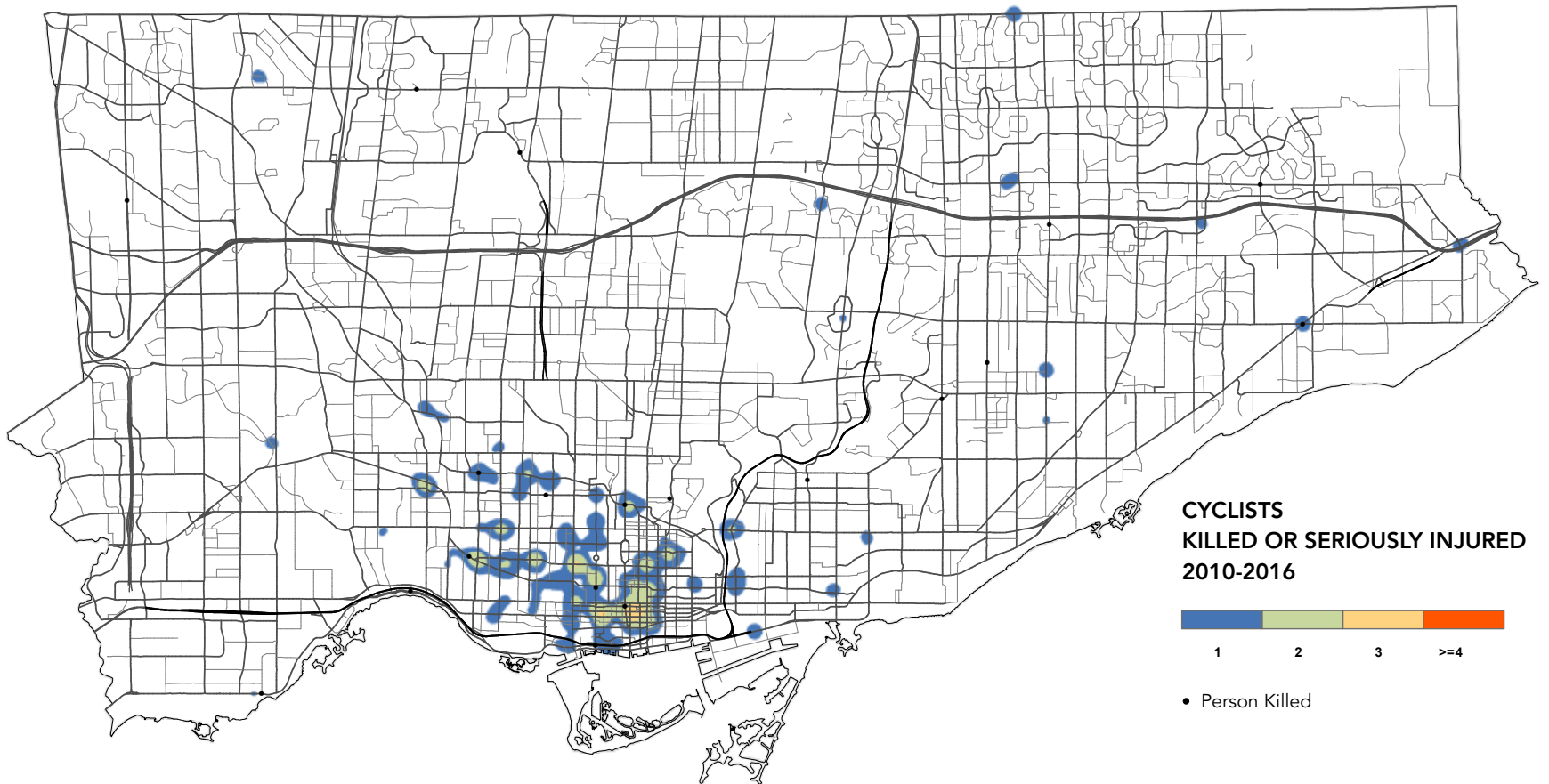
Between 2005 and 2016, there were 539 cyclists killed or seriously injured in a collision with a motor vehicle.

In depth reviews will be conducted at locations exhibiting high killed or serious injury collisions involving cyclists along existing cycle tracks to see if there are any opportunities to enhance the existing cycling facilitates to improve safety. Such initiatives include the implementation of cyclist signals, bike boxes, advance green for cyclists and police enforcement targeting behaviours that impact cyclist safety such as dooring and improper use of bicycle lanes.



Cyclists Killed in Toronto, January 1, 2005 - December 23, 2016

*Cyclists Seriously Injured in Toronto, January 1, 2005 - June 1, 2016



EXISTING SAFETY MEASURES

GREEN CYCLING AREAS

Green pavement markings installed at or near intersections highlight potential conflict areas between cyclists and motor vehicles.

TORONTO CYCLISTS HANDBOOK

Produced by Cycle Toronto, this handbook teaches inexperienced cyclists about traffic laws and safe cycling habits.

HELMET SAFETY EDUCATION VIDEOS

Videos provide information about the importance of wearing helmets in preventing head injuries in cyclists.

SPACE TO CYCLE CAMPAIGN

Led by the Toronto Police Service, this educational campaign targets motorist and cyclist behaviour that puts cyclists at risk.

"STAY SAFE, STAY BACK" CAMPAIGN

This campaign promotes safer interaction between cyclists and large trucks.

ENHANCED EXISTING SAFETY MEASURES

The following existing safety measures will be enhanced, and are described on the next few pages:

- Automated Cyclist Detection
- Bike Boxes
- Cycle Tracks
- Signalized Crossings for Cyclists

NEW/ENHANCED SAFETY MEASURES



CYCLE TRACKS

In June 2016, Council approved the Ten Year Cycling Network Plan that proposes a significant expansion in the Cycle Track network. Cycle tracks are lanes for bicycles that are adjacent to the roadway, but separated from vehicular traffic. Cycle tracks help improve cyclist safety by providing greater separation from cars than traditional bike lanes.



AUTOMATED CYCLIST DETECTION

These technologies can be used to optimize intersection operations and improve safety by reducing the risk of a cyclist being unable to clear an intersection before conflicting vehicular traffic proceeds.



ADVANCE GREEN FOR CYCLISTS

This feature will allow cyclists to proceed through an intersection a few seconds earlier than vehicles in order to increase drivers' visibility of cyclists and reduce the likelihood of bicycle collisions with left turning vehicles.

SIGNALIZED CROSSINGS FOR CYCLISTS

A program will be developed to expand the use of dedicated traffic signals to facilitate cyclist crossings at intersections and across roadways. Bicycle signals improve safety for cyclists and provide direct connections for off-street and on-street cycling infrastructure.

ENHANCED CYCLING FACILITIES

The Ten Year Cycling Network Plan proposes new dedicated and connected cycling facilities across the city. Additional enhancements such as pavement markings, signs and bollards will be made to existing cycling routes and facilities. Together, the improvements will provide greater guidance and protection for cyclists from vehicular traffic.

NEW/ENHANCED SAFETY MEASURES



BIKE BOXES

Bike boxes are used to designate space for cyclists to wait in front of cars at a red light and to provide the cyclist the opportunity to proceed first at a green light. Bike boxes make cyclists more visible and less likely to be stuck squeezing around a right turning vehicle.

ENHANCED ENFORCEMENT STRATEGIES

Police enforcement will focus on driver behaviours that impact cyclist safety such as dooring and improper use of bicycle lanes on major cycling corridors and intersections. Enforcement efforts will also focus on cyclist infractions to improve understanding and compliance with traffic laws.

EDUCATION AND AWARENESS INITIATIVES

A communications strategy including public education materials dedicated to promoting safe cycling and the safe interaction between cyclists and motorists will be developed.





EMPHASIS AREA 5: MOTORCYCLISTS

One motorcyclist is seriously injured or killed every 8 days on Toronto's roads.

Motorcyclist collisions include drivers riding on a motorcycle as well as passengers riding on a motorcycle or in a sidecar attached to a motorcycle.

431

MOTORCYCLISTS
WERE KILLED OR
SERIOUSLY INJURED
IN A COLLISION FROM
2005-2016

24%

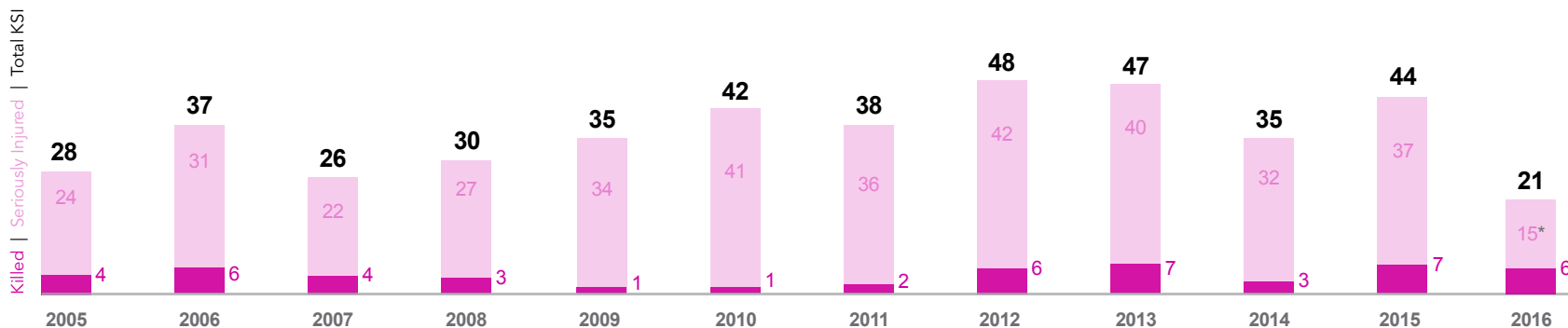
OF MOTORCYCLISTS
INVOLVED IN A
COLLISION WERE RIDING
AGGRESSIVELY IN THE
LAST 10 YEARS

17

OF THE MOTORCYCLISTS
WHO WERE KILLED AND
SERIOUSLY INJURED IN A
COLLISION FROM 2005-2016
HAD BEEN DRINKING

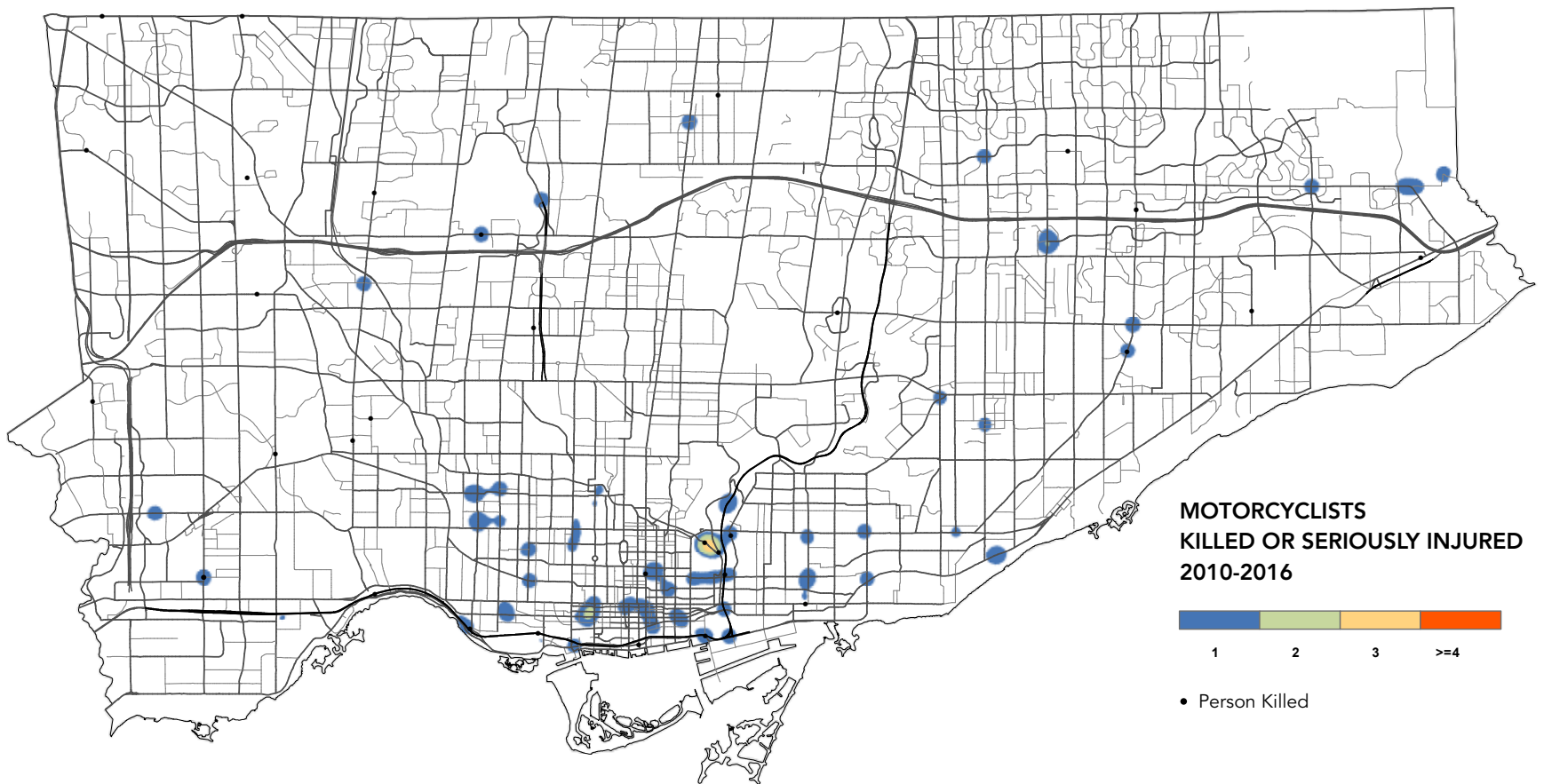
Between 2005 and 2016, there were 431 motorcyclists killed or seriously injured in a collision with a motor vehicle.

Motorcycle killed or serious injury collisions tend to occur at either significant bends or junctions in the road combined with aggressive riding, distraction and/or impairment. Police enforcement and signs will be deployed at these locations to warn of hazards unique to the motorcycling experience.



Motorcyclists Killed in Toronto, January 1, 2005 - December 23, 2016

*Motorcyclists Seriously Injured in Toronto, January 1, 2005 - June 1, 2016



SAFETY MEASURES

EXISTING

SPRING MOTORCYCLE AWARENESS CAMPAIGN

Toronto Police conducted a safety awareness campaign targeted at motorcyclists in Spring to coincide with the start of the motorcycle season. The campaign focused on equipment safety, rider protection and training.

PROJECT E.R.A.S.E

Toronto Police supports the GTA-wide Project E.R.A.S.E. initiative which is an education and enforcement program that aims to reduce illegal street racing, including by participants from the motorcycle community.

NEW/ENHANCED

MOTORCYCLE WARNING SIGNS

Working with the Ministry of Transportation and the Rider Training Institute, road safety signs will be piloted in high-crash locations targeting the specific risks faced by motorcyclists. This will assist in alerting motorcyclists of the safety risks and challenges associated with navigating through certain corridors within the City.

ROAD SAFETY AUDITS TO INCLUDE MOTORCYCLIST ISSUES

A study will be conducted to investigate factors such as pavement conditions and road geometries and the related safety mitigation measures used by other jurisdictions to review and improve areas with a history of high motorcyclist collisions. Where feasible, these considerations will be added as a requirement for all Road Safety Audits conducted to include a review of motorcyclist safety issues and improvements.

ENHANCED ENFORCEMENT STRATEGIES

Police enforcement will focus on driving behaviours that negatively impact the safety of motorcyclists as well as aggressive riding behaviour to deter dangerous driving. Enforcement efforts will improve motorcyclist safety by improving compliance with traffic rules.

DATA DRIVEN ENFORCEMENT STRATEGIES

Police will be provided with reports identifying locations where there have been relatively higher numbers of motorcyclist collisions such that they can target their enforcement resources in these areas towards aggressive motorcycling riding, impairment and distraction.

MOTORCYCLIST EDUCATION AND AWARENESS INITIATIVES

In partnership with motorcycle training groups and other stakeholders, new public education materials will be developed addressing specific safety issues affecting motorcyclists such as rider protection, safety equipment and promoting training.





EMPHASIS AREA B: AGGRESSIVE DRIVING & DISTRACTION

As a result of aggressive driving and distraction, an individual is killed or seriously injured every 2 days on Toronto's roads.

Aggressive driving collisions involve a driver that follows too closely, exceeds the speed limit, drives too fast for the current conditions, disobeys a traffic control, fails to yield the right-of-way, or passes improperly. Distracted collisions are collisions where any type of road user involved (pedestrian, cyclist, or driver) was inattentive.

Between 2005 and 2016, aggressive and distracted drivers killed or seriously injured a total of 3,051 people. A significant proportion of those killed or seriously injured by an aggressive or distracted driver were vulnerable road users (51%), while the driver tended to be relatively less likely to be killed or seriously injured (35%).

39%

OF DRIVERS IN THE
LAST 5 YEARS FAILED TO
YIELD THE RIGHT-
OF-WAY

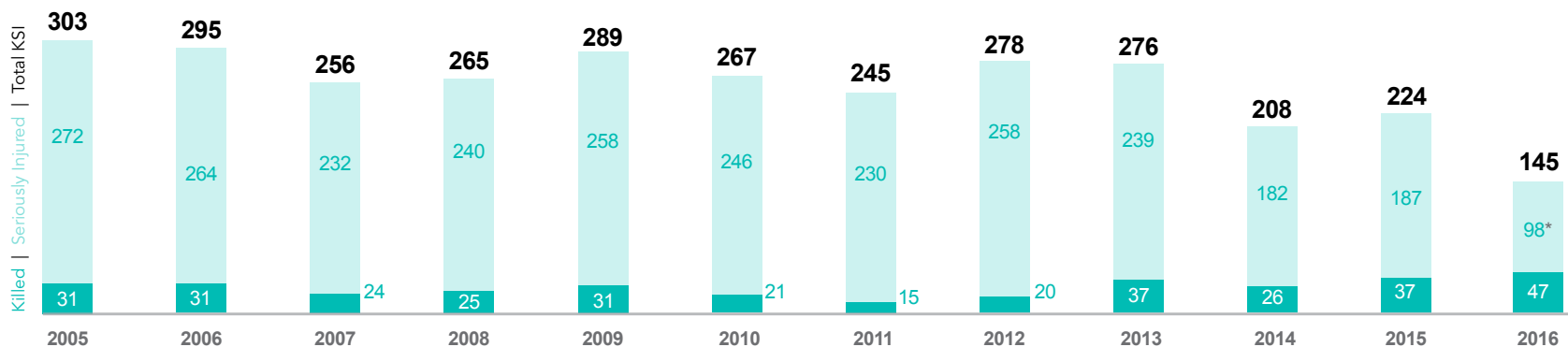
51%

OF THOSE KILLED OR
SERIOUSLY INJURED WERE A
VULNERABLE ROAD USERS

608

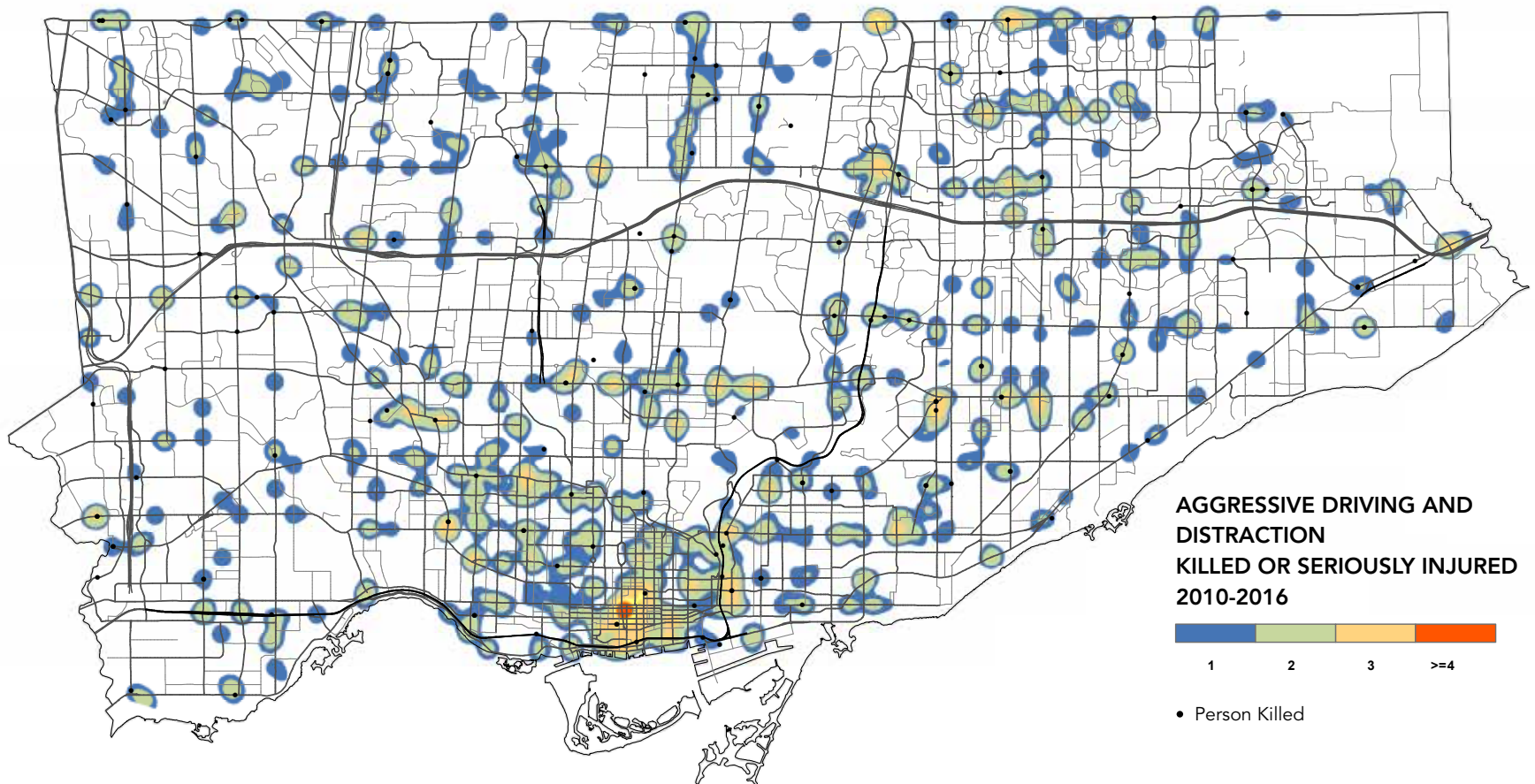
VULNERABLE ROAD
USERS WERE STRUCK BY
A VEHICLE IN THE LAST
5 YEARS

In depth reviews will be conducted along corridors exhibiting high killed or serious injury collisions involving aggressive driving and/or distraction to determine the possibility of implementing measures such as speed reductions, geometric safety improvements or other traffic calming measures. Reports on corridors experiencing higher degrees of killed or serious injury collisions involving aggressive driving will also be forwarded to the police for targeted enforcement.



Aggressive Driving and Distraction Killed in Toronto, January 1, 2005 - December 23, 2016

*Aggressive Driving and Distraction Seriously Injured in Toronto, January 1, 2005 - June 1, 2016



EXISTING SAFETY MEASURES

TRANSPORTATION SAFETY AND LOCAL IMPROVEMENTS PROGRAM (TSLIP)

This program implements minor road improvements and intersection design changes to address safety and operational issues.

REDUCED SPEED LIMITS

Speed limits have been reduced from 50 km/h to 40 km/h and in some places from 40 km/h to 30 km/h.

AGGRESSIVE DRIVING CAMPAIGN

Led by the Toronto Police Service, this campaign targets speeding, Highway Traffic Act violations and distracted driving.

CANADA ROAD SAFETY WEEK

This enforcement-driven initiative is designed to increase public compliance and awareness with safe driving measures.

OPERATION IMPACT

Led by the Ontario Provincial Police, this enforcement campaign specifically targets distracted and aggressive driving behaviours including speeding.

"PLEASE SLOW DOWN" CAMPAIGN

This campaign provides residents with free lawn signs to encourage drivers to slow down on residential roads.

RED LIGHT CAMERAS

Traffic enforcement cameras that capture an image of a vehicle that has entered an intersection during the red phase of a traffic signal have been installed at priority locations.

YOU KNOW YOU SHOULDN'T ... SO DON'T" GRIDLOCK CAMPAIGN

A series of YouTube videos addressing a variety of aggressive driving issues such as making a prohibited turn and blocking an intersection were developed.

ENHANCED EXISTING SAFETY MEASURES

The following existing safety measures will be enhanced, and are described on the next few pages:

- Traffic Calming
- "Watch Your Speed" Program (WYSP)
- Geometric Safety Improvements
- LED Blank-Out Signs

NEW/ENHANCED SAFETY MEASURES



TRAFFIC CALMING GUIDE FOR TORONTO

The recently developed "Traffic Calming Guide for Toronto" reviews typical traffic calming options including their impacts, cost and effectiveness. The Guide also reviews the traffic calming process including applicable Council policies and warrants and will assist practitioners when implementing traffic calming measures.



MOBILE "WATCH YOUR SPEED" PROGRAM

Additional trailers will be deployed on a targeted, data-driven approach. This program addresses speeding behaviour by reminding drivers to be aware of their speed as they travel through local neighbourhoods.

GEOMETRIC SAFETY IMPROVEMENTS

This program will be enhanced through the implementation of new lane width standards, right-turn channelization removals, painted and textured intersection corner bump-outs and removal of crossing overlaps at intersections. These physical changes improve safety for all road users by limiting drivers' ability to speed.



LED BLANK-OUT SIGNS

Guidelines will be developed to expand the installation of LED blank-out signs that depict prohibited left turns, right turns, and right turns on red lights. These signs enhance safety for all road users by providing more clear and visible guidance to drivers.

ENHANCED DATA ANALYSIS & REPORTING

The level of data analysis, reporting and transparency related to road safety issues will be improved through a number of actions. For example, the completion of safety reviews at locations of recent fatal collisions and KSI collision density mapping will be used to define key locations for engineering improvements and targeted police enforcement activities.

NEW/ENHANCED SAFETY MEASURES

ENHANCED DATA COLLECTION (PERMANENT COUNT STATIONS)

A data collection strategy will be developed to identify key areas where permanent data count stations will capture vehicle, cyclist, and pedestrian data. Enhancing our safety related data collection processes will improve our ability to determine causal factors, identify and respond to changing trends and improve the overall efficiency and effectiveness of the Vision Zero Road Safety Plan.

ENHANCED ENFORCEMENT STRATEGIES

Police enforcement will focus on aggressive driving and road user distraction. A greater emphasis will be placed on enforcement activities in priority pedestrian areas, thereby improving safety for our most vulnerable road users.

EDUCATION AND AWARENESS INITIATIVES

Public education materials will be developed to raise awareness of and reduce aggressive driving and distraction. Campaigns will highlight the safety risks related to distraction and will improve the knowledge of all road users.





CONCLUSION

MOVING FORWARD

Achieving Vision Zero is an aggressive, but critical goal; an acknowledgement that even one serious injury or traffic death is one too many. It is a goal that the city as a whole stands behind. It's a partnership between city departments, other public agencies, community groups, and each of us as individuals.

The Vision Zero Road Safety Plan will increase the efficiency and effectiveness of efforts and foster greater collaborations among partner agencies who have all committed to sharing responsibility and lending support to the plan. It is expected that these steps will make all road users in Toronto safer, reverse the recent trend of increasing vulnerable road user fatalities, and establish Toronto as a national and international leader in urban road safety.

We look forward to working with you to make sure that no matter how we're travelling and where we're going, we can reach our Vision Zero goal together.

STAY CONNECTED

Toronto's Vision Zero Road Safety Plan is highly collaborative and integrative and depends upon fostering partnerships with all of our stakeholders, including the public!

We are committed to providing you with up-to-date information so that you can track our progress and provide valuable feedback. Check back regularly as we add new information and interactive content.



Connect with us on social media. @TO_Transport and use #VisionZeroTO



Provide feedback or ask questions -- we're happy to hear from you!
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