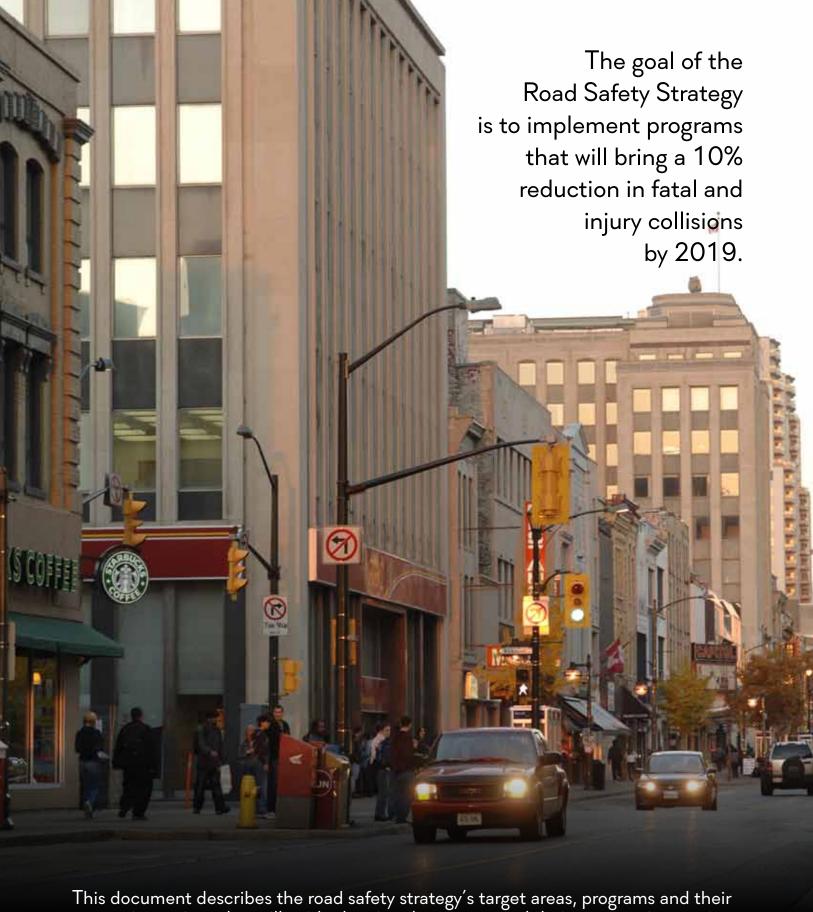


CITY OF LONDON ROAD SAFETY STRATEGY 2014-2019



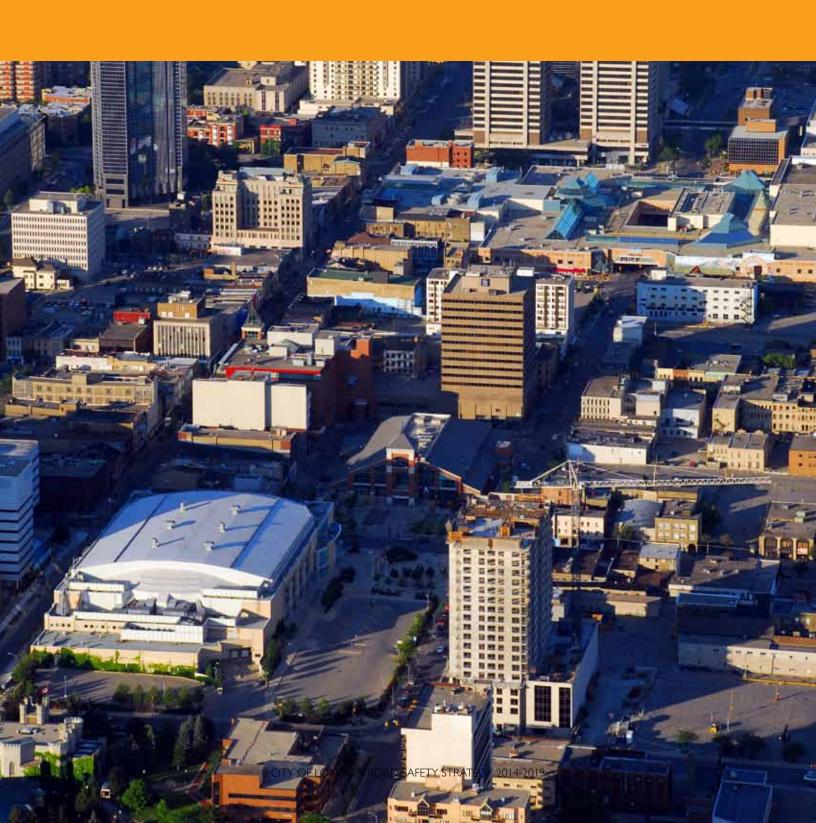


This document describes the road safety strategy's target areas, programs and their respective actions that will guide the city, the county, and their partners in meeting the goal.

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Message from the London Road Safety Strategy Team



The injuries and deaths that result from motor vehicle collisions are a serious public health concern in London and Middlesex County; they take a toll on the victims' families and friends, as well as the health and social services systems. Yet, most of these injuries and deaths are preventable and predictable through the use of strategic and effective road safety initiatives that not only include infrastructure changes and enforcement, but also public education. The London Road Safety Strategy is a plan that will set the stage for a coordinated approach that will be implemented by an active and knowledgeable partnership: the London Middlesex Road Safety Committee (LMRSC).

We would like to congratulate and thank the LMRSC members for their dedicated commitment and ongoing contributions to the development of the London Road Safety Strategy led by the City of London. Over the years, the LMRSC has worked on many specific road safety challenges, not only walkers and cyclists, but drivers as well. The individual organizations and partners represented on the LMRSC have been able to achieve more by working together than they could have on their own.

Each partner brings unique experience and expertise to address the 4 E's of road safety programs: engineering, education, empathy and enforcement. As committee members, we will strive towards our goal of improving the safety of all road users in London and Middlesex County. As part of the Committee's five-year strategic plan, the process of developing the London Road Safety Strategy has advanced the LMRSC's work of improving local road safety.

We would like to acknowledge the LMRSC members who represent the following organizations: Canadian Automobile Association (CAA), City of London, Fanshawe College, London Health Sciences Centre (LHSC), London Police Services (LPS), Middlesex County, Middlesex London Health Unit (MLHU), Ontario Provincial Police (OPP), Ministry of Transportation, Western University, 3M, Young Drivers of Canada and City of London Community Safety and Crime Prevention Advisory Committee.

We would also like to acknowledge the following organizations for their continuous support to the strategy: the London Block Parent Program, and the Thames Region Ecological Association (TREA).

The citizens of London and Middlesex County will benefit from the many road safety programs that will result from the London Road Safety Strategy. This effort will deliver results that may prevent injuries and save lives. The LMRSC cannot achieve its goal without the support of all road users in London and Middlesex County. It is important that all road users understand their responsibilities when using roadways, whether they are driving a car, riding a bike or walking. We ask everyone to embrace the London Road Safety Strategy and to do their part in reducing, or better yet, eliminating the injuries and deaths related to motor vehicle collisions.

We would like to thank the London Road Safety Strategy steering committee members for their effort to improve the health and safety of our citizens.

London Road Safety Strategy Team

Executive Summary

Over past decades, improved roads, improved vehicles, new driver licencing regulations, more stringent drinking and driving laws, seat belt laws, and other initiatives have led to a decline in number and severity of traffic collisions in Canada. However, in recent years, with increasing number of private cars, transit vehicles, trucks, bicycles, and pedestrians on the roads, and increasing congestion and risk to road users have caused a decline in the quality of mobility and safety for all road users.

To respond to this challenge, federal, provincial and municipal agencies in Canada have developed and have been implementing programs to directly address road safety.

Led by the City of London, and in collaboration with the Middlesex London Health Unit, Middlesex County, and other partners, a Road Safety Strategy for London was developed. The London Road Safety Strategy identifies the most important traffic safety issues in the City and surrounding areas. The Strategy also sets out the vision, mission, goals, and actions that will guide the City, the County, and their partners in creating safer roads.

A comprehensive review of the 4-year traffic collision history (2008-2011) was combined with the findings of several forms of public input collected by the City. It was concluded that the areas to be targeted by the Road Safety Strategy during the next five years (2014 - 2019) are:

- Intersections
- Distracted and Aggressive Driving
- Young Drivers
- Pedestrians
- Cyclists
- Red Light Running

For each target area, one or more countermeasures were identified through a comprehensive evaluation process. For an effective program, the multidisciplinary nature of road safety is embraced by the proposed countermeasures. The countermeasures were based on Engineering, Enforcement, Education and Empathy approaches with special focus on prevention of future fatal and injury collisions.

Engineering, Enforcement, Education are traditionally known as the three "E"s. The Empathy approach was introduced to bring awareness of the need for mutual understanding between road users when meeting under conflicting circumstances.

Empathy forms a complementary part of the education actions towards a road users' safety cultural transformation.

New actions or expanded actions forming existing programs in the City will support the implementation of the selected countermeasures, leading to increased safety.

All programs and their respective actions forming the Road Safety Strategy have been adopted by the City of London, County of Middlesex, and their partners. They believe that these programs can be realistically delivered and will effectively result in approximately 155 fewer fatal and injury traffic collisions by 2019/2020.

"155 fewer fatal and injury traffic collisions by 2019/2020"



Development of the London Road Safety Strategy consisted on the completion of several tasks following the traditional state/provincial or municipal approach of analysing collision statistics, identifying the nature of the most severe problems, matching countermeasure programs to address the most severe types and developing delivery strategies.

The first step in finding the Target Areas was to conduct a broad-based literature search and compare it to the City of London and Middlesex County collision database. The collision data were then analyzed looking for traditional and non-traditional areas of high collision frequency.

Selection of the Target Areas was not purely datadriven. There were three sources of input to the development of Target Areas: collision data, public input, and initial City input.

To maximize the potential for success, the choice of Target Areas was adjusted based on a number of factors; which include the severity of the collisions, the potential effectiveness of the countermeasures and the capacity of the involved agencies to change or add to their current programs to deliver countermeasures specific to the safety strategy.

An iterative process was conducted and resulted in the selection of a list of priority programs integrated by Target Area (Intersection, Aggressive/Distracted Drivers, Young Drivers, Pedestrian, Cyclist, and Red Light Running), and type of countermeasure (Engineering, Enforcement, and Education/Empathy).

The purpose of the iterative exercise was to assess the road safety partner's ability to undertake specific countermeasures to best reflect their ability to deliver the programs. The City of London action items are predominantly engineering programs. The education/empathy and enforcement programs are predominantly led by partner groups such as Middlesex-London Health Unit, London Health Sciences Centre, Young Drivers of Canada and London Police.

The focus was on programs that are achievable within the resources available and, according to best projections, will achieve the desired objective of 10% reduction within five years.

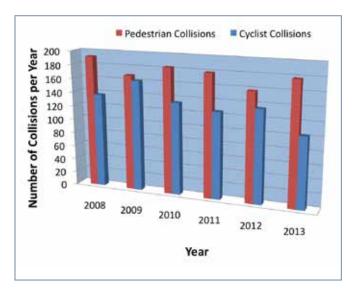
Existing Traffic Safety Conditions

Traffic collision data, contained in the City of London's database for the years 2008-2011, were analysed to identify trends and collision characteristics.

Overall Number of Traffic Collisions

The total number of traffic collisions, recorded in the City of London, has declined over the years 2008 to 2011 from about 8,400 to less than 7,500 collisions.

Note: All illustrations are based on total number of traffic collisions, unless the collision severity is specified.



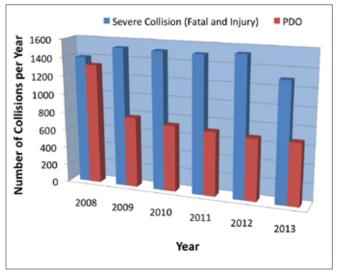
Pedestrians - Cyclists Collisions*

Traffic Collisions Involving Vulnerable Road Users

Traffic collisions involving vulnerable road users have declined slightly. Collisions involving vulnerable road users represent less than 5% of all collisions recorded in the City of London. However, the severity of these collisions is significant, with over 90% resulting in a collision causing personal injury or death.

Property-Damage-Only and Severe Traffic Collisions

Information collected by the City of London indicates that Property-damage-only (PDO) traffic collisions as well as the number of severe (i.e., fatal or injury) traffic collisions have remained relatively constant for the period 2009 through 2013.



Severe Collisions*

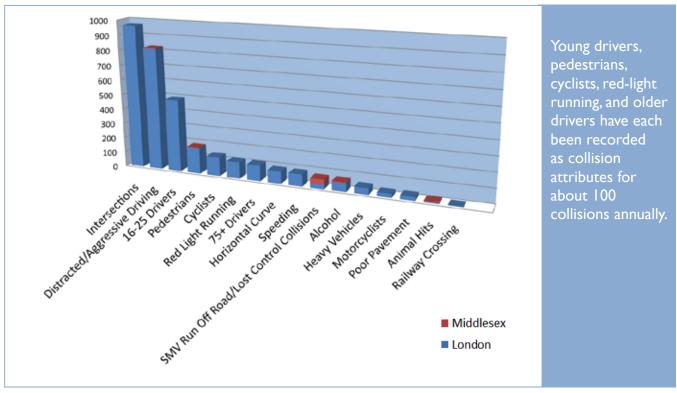


Pedestrians and cyclists are considered vulnerable road users.

^{*}Note: Only 2008-2011 data was used to develop the Road Safety Strategy. Data for 2012 and 2013 is presented here for information purposes.

Severe Traffic Collisions by Collision Type

The annual average numbers of traffic collisions by type show that a high number of collisions occur at intersections, followed by a large number of distracted and aggressive driving causing severe collisions.

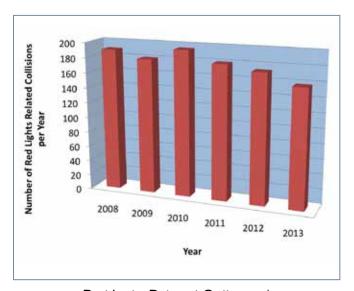


London-Middlesex Fatal and Injury Traffic Collisions (annual average)

Traffic Collisions at or near Intersections

For the purpose of the Road Safety Strategy, intersection collisions are defined as traffic collisions occurring within the intersection area or intersection-related collisions involving vehicles waiting or proceeding towards the intersection, as noted in the Collision Police Report.

The traffic collision data have shown that (I) the majority of the traffic collisions in the City of London occurred at intersections or near an intersection; (2) the majority of the collisions involving vulnerable road users were recorded at intersections or close to intersections; and (3) on average, 175 collisions involving red-light running were recorded annually.

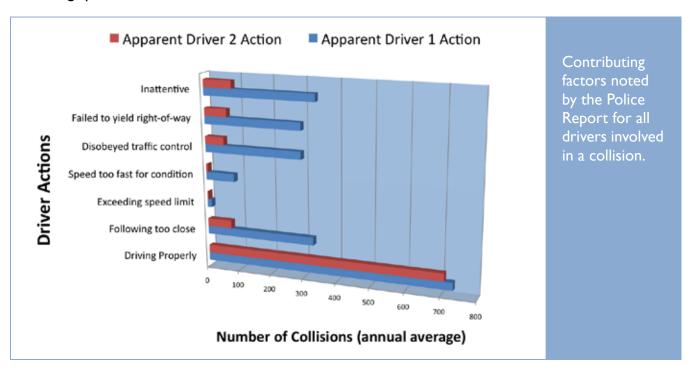


Red Light Related Collisions*

Driver Behaviour

Aggressive driving behaviour is defined as "following too close", "failing to yield", "disobeying traffic control" or "speeding". These behaviours are highly represented as contributing factors to the occurrence of traffic collisions.

In the City of London, speeding was noted as a contributing factor to about 120 traffic collisions recorded annually in the City. The traffic collision data also shows that, in average, every year almost 1,500 drivers are involved in traffic collisions although the traffic collision police reports identified them as "driving properly" and not showing any of the usual collision contributing factors such as following too close or exceeding speed limits.



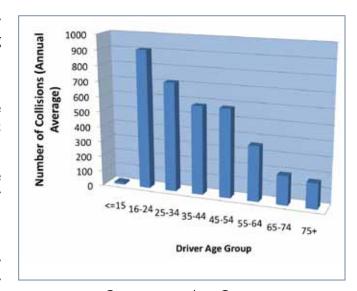
Demographics

Research has shown that young drivers (especially males) are more likely to engage in driving behaviours that increase the risk of traffic collision occurrence (such as aggressive driving).

Due to the fact that the City of London is the residence of a large student community, the traffic collisions were grouped by driver age groups.

Traffic collision records show that the 16-24 age group is responsible for more collisions than any other age group.

However, it is noted that the total driver population licensed by age group (permanent and temporary residents, such as university students) in the City of London is needed to estimate the likelihood of collision involvement by age group.



Collisions by Age Group

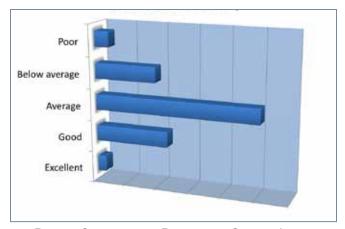
Public Observations of Traffic Safety in the City of London and Middlesex County

Public input was sought for several traffic safety focus areas.

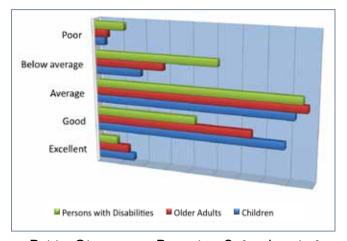
FOCUS AREAS	AREAS SELECTED FOR PUBLIC INPUT
General Information	Overall level of road and traffic safety in London and Middlesex County and identification of road safety concerns in most need of improvement
Distracted Driving	Distracted driving behaviour in the City
Cycling	The use of a bicycle as a mode of transport, and its level of road safety (from a cyclist perspective)
Occupant Restraints	The use of seat belts and child car seats
Walking	The walking environment and its interaction with children, older adults, and persons with disabilities
Speeding	Speeding and its relationship with aggressive driving and red-light running
Young and Older Adult Drivers	Safety and the age of drivers
Drinking and Driving	Drinking and driving behaviour among the general public
Middlesex County	Safety in the county roads in general, and speeding behaviour in particular



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Public Observation Regarding Overall Level of Road and Traffic Safety in London and Middlesex County



Public Observation Regarding Safety Level of the Street and Sidewalk System in London and Middlesex County

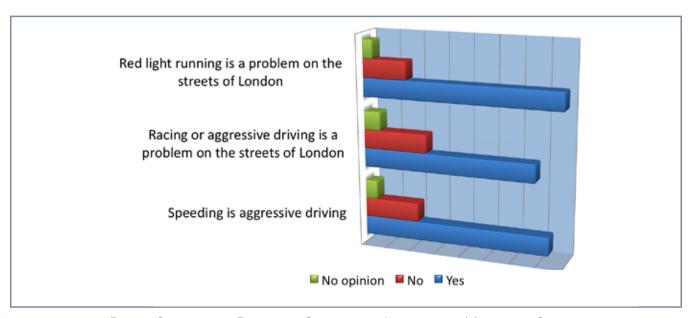
The public provided observations, based on their own experiences. Public events and online public surveys were carried out to attain the public observations of the traffic safety issues in the City of London and Middlesex County.

The current status of traffic safety in general, as well as that for cyclists and pedestrians, is considered average or above average, by the public.

In contrast, the current traffic safety status for persons with disabilities is considered lower (below average or poor) than for children and older adults.

Public considered that aggressive driving (including speeding) and red-light running are a concern in London and Middlesex County. However, it was also noted by the public that drivers seem to exceed posted speed limits on Middlesex County roads more than on City of London roads.

The public observations were compared with the findings of the traffic collision data analysis. These comparisons identified the commonalities and differences between the two sources of information.



Public Observation Regarding Speeding in London and Middlesex County

The results of the iterative process was the identification and endorsement of the City of London and the Middlesex County Road Safety Strategy Vision, Mission and Goals.



Enhancing road safety requires a multidisciplinary, holistic and integrated approach. The City of London's Road Safety Strategy contains countermeasures and supporting actions representing the 4-E's.



ENGINEERING

Physical modification to the roadway network or changes in the traffic operations and signing systems, aiming to create a road environment that is safer for all road users.



ENFORCEMENT

Police is responsible for the enforcement of the Highway Traffic Act and related legislation. It encompasses four main tasks: (I) enforcing the law; (2) promoting road safety; (3) investigating incidents; and, (4) patrolling. Effective enforcement complements the education actions towards a road users' safety cultural transformation.



EDUCATION

A broad based multi-media activity, which in the past took place in schools and other educational establishments. Effective education will lead to traffic cultural transformations and the development of sustainable and safe road user behaviours. It is an on-going process.



EMPATHY

A complementary part of the education actions towards a road users' safety cultural transformation. Approaches road users holistically aiming to develop a better understanding of each other's positions in traffic toward mutual tolerance and respect, and safer road environment.

Road Safety Strategy Target Areas

Target areas were selected for inclusion into the Road Safety Strategy. Target areas provide guidance for the selection of safety programs. The selection of target areas was based on the findings of the traffic collision data analysis and the public input. The traffic collision data analysis focused on combined fatal and injury data, because the information about the traffic collisions that resulted in physical harm to any of the involved road users is of better quality than property-damage-only collisions. Safety programs were selected with more emphasis on severe collisions to provide the highest benefit to the citizens of the City and the County.



*Active & Safe Routes to School (ASRTS)

The road safety strategy was developed with especial attention to the capacity of the service providers to implement the countermeasures and supporting actions selected to reduce fatal and injury collisions within the time frame (2014 – 2019).

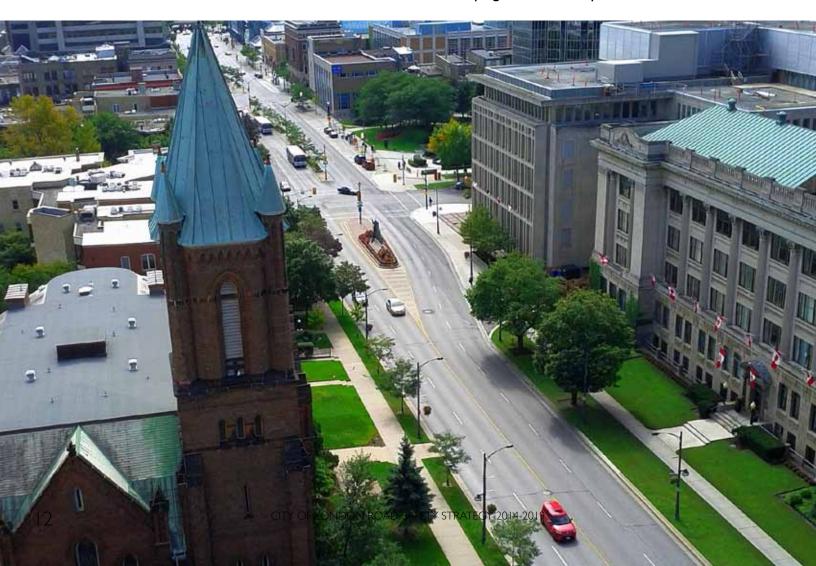
Road Safety Programs

Actions Integrated by Target Area and Type of Countermeasure

Leadership and commitment are required to reach the goal of road safety programs. Moreover, coordination of road safety programs and their actions among agencies creates synergy leading to greater effectiveness in the reduction of future collisions.

Each road safety program was assigned a lead agency. While all agencies are committed to deliver road safety programs as set toward meeting the goal, lead agencies are further required to:

- · Provide a central point of communication between team members
- · Receive and provide updates regarding events and activities conducted by team members
- · Facilitate the coordination of events, materials, and/or campaigns to avoid duplication of efforts



Issue Based Working Group Leaders

TARGET AREA	AGENCY LEADER	PARTICIPATING AGENCIES
Intersections London	City of London	City of London London Police Service (LPS)
Intersections Middlesex	Middlesex County	Middlesex County Ontario Provincial Police (OPP)
Distracted/Aggressive Drivers	London Police Service	LPS Middlesex County Canadian Automobile Association (CAA) Middlesex-London Health Unit (MLHU) London Health Sciences Centre (LHSC) Ministry of Transportation (MTO) OPP
Young Drivers	London Health Sciences Centre	LHSC LPS Young Drivers of Canada
Pedestrians General	City of London	City of London LPS LHSC
Pedestrians Active and Safe Routes to School & Safe Neighbourhoods	London Block Parent Program	City of London London Block Parent Program OPP Thames Region Ecological Association (TREA)
Cyclists	Middlesex-London Health Unit	LHSC City of London Middlesex County OPP MTO TREA CAA
Red Light Running City of London	City of London	City of London LPS
Red Light Running Middlesex County	Middlesex County	Middlesex County OPP

Target Areas and Action Description

Intersections in City of London and Middlesex County

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНҮ
I	Development of Network Screening and High Collision Location Identification	Identify abnormally high collision locations based on collision type, using screening filters	City of London	②			
2	Collision Counter- measure Program	Identify intersections experiencing higher than expected number of collisions, using prediction models	City of London	②			
3	Traffic Signals Improvement Program - Left Turn Phasing	Continue to review advance left-turn phasing and to analyse need for protected left-turn phase	City of London	②			
4	Traffic Signal Improvement Visibility Review	Continue to review visibility of downstream signal heads where multiple traffic signalized intersections are within 250m of each other. Review visibility of signal heads and sight distances at individual and adjacent signal locations.	City of London	•			
5	Crosswalk Pavement Marking Program	Continue to identify which locations would benefit from ladder markings (refer to TAC Pedestrian Traffic Control Guide); create a criteria to assist in identifying the locations for ladder markings, and for maintenance of markings after installation.	City of London	⊘			

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНУ
6	Pro-active Enforcement Program	Enhanced use of pro-active enforcement strategies - specific to high risk intersections as determined by collision screening programs (above)	London Police Service		•		
7	Advance Street Name Sign Program	Install advance street name signs using ClearView font and Upper/Lower case lettering before major intersections	City of London				
8	Collision Reduction Strategy - Assessment	This program entails the OPP working alongside community stakeholders to enhance traffic safety within Middlesex County. A statistical analysis of the 5-year traffic collision data provided the background for this program.	Ontario Provincial Police (OPP)		⊘	⊗	
9	Collision Reduction Strategy - Enforcement	The OPP will continue to participate in proactive strategies in locations identified by the Collision Reduction Strategy Assessment. This program entails use of the mobile speed enforcement sign, the RADAR and Laser intercept programs, and RIDE at high risk locations.	Ontario Provincial Police (OPP)		•		
10	Signage and Safety Standards Consistency	Coordination of County and City standards for signage and safety measures at rural intersections	Middlesex County				
11	Signage Replacement Program	Using mobile LiDAR to evaluate reflectivity of signs, and to prioritize their efficient replacement of faded regulatory and warning signage	Middlesex County				



Distracted and Aggressive Drivers

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНҮ
12	Roadway Alignment Improvement Program	Engineering improvements to horizontal and vertical alignments for reconstruction projects. Improved coordination with all 4R (reconstruction, rehabilitation, resurfacing, restoration) projects.	Middlesex County	•			
13	Unmarked Enforcement of Distracted Driving	Initiatives involving unmarked vehicles and/or officers in plain clothes	London Police Service				
14	Driver Education Campaign - Tweets	Police media tweets campaign "Look where you are driving"	London Police Service			②	S
15	Driver Education Campaign for Distracted/ Aggressive Drivers	Program in collaboration with London Health Sciences Centre and other partners	Middlesex- London Health Unit (MLHU)				



Young Drivers

				/ B			
ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНҮ
16	Young Drivers Education Campaign - Distracted and Impaired	Continue the education campaign focused on distracted driving and impaired driving by alcohol and drug in secondary schools	London Police Service			②	②
17	Young Drivers Education Campaign - Skill Building	Continue Young Drivers of Canada's training for skill building, cognitive assessment, and development training for co-drivers and resources for G1 & G2 drivers	Young Drivers Canada				
18	Young Drivers Education Campaign - Inexperience in Driving	Collaborate and explore ways to better understand youth and inexperience in driving needs, and integrate their needs with engineering modifications to traffic signals and geometric elements	London Health Sciences Centre (LHSC)				
19	IMPACT (Impaired Minds Produce Actions Causing Trauma)	Continue campaign focused on reaching out to youth (ages 15-19) to discuss the consequences of high risk behaviour such as aggressive and distracted driving	London Health Sciences Centre (LHSC)			②	•



Pedestrians: General

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНУ
20	Pedestrian Refuge Island Program	Construct new pedestrian refuge islands where needed based on City's criteria	City of London				
21	Collision Data Improvement Program - Pedestrians	A plan will be devised toward sharing the LHSC Emergency Department Admissions data on pedestrian injury among participating agencies	London Health Sciences Centre (LHSC)				
22	Pedestrian Facilities Upgrades, OTM Book 15, AODA,TAC Pedestrian Traffic Control Guide	Enhance pedestrian safety by expanding and upgrading pedestrian facilities based on recent guidelines	City of London	②			
23	Pedestrian Crossing Enforcement Strategy	As a supplement to education and awareness countermeasures, targeted strategies for pedestrians who cross the road in contravention of the act or applicable by-law will be enforced at selected locations	London Police Service		•		



Pedestrians: Safe Routes to School & Safe Neighbourhoods

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНҮ
24	Safe Routes to School Program	Review local issues around schools as an integral part of an active Safe Routes to School program	City of London				
25	Safe neighbourhoods	Continue the engineering collaboration with schools (I) through the walkabout at every school with parents, police, teachers City staff to review identified safety concerns; (2) the dissemination, through the school newsletter, of the generic set of questions and answers on the pros and cons of perceived solutions to traffic concerns.	City of London			>	⊘
26	Active and Safe Routes to School (ASRTS)	ASRTS is a community partnership. Interested schools are provided with a comprehensive strategy to meet the needs for safety and active transportation at their school. An educational planning manual is available.	Middlesex- London Health Unit (MLHU)			⊘	⊘
27	Safe Routes to elementary and secondary school program by OPP in Middlesex County	Continue partnership between the OPP and Thames Valley District School Board to support local school programs and educate the youth	Ontario Provincial Police (OPP)			•	⊘



Cyclists

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНҮ
28	Cyclist Crossing Enforcement Strategy	As a supplement to education and awareness countermeasures, targeted strategies for cyclists who cross the road in contravention of the act or applicable by-law will be enforced at selected locations	London Police Service				
29	Collision Data Improvement Program - Cyclists	A plan will be devised toward sharing the LHSC Emergency Department Admissions data on cyclist injury among participating agencies	London Health Sciences Centre (LHSC)				
30	Annual addition of Bike Lanes	Continue the expansion of dedicated bike lanes on major roads as per the City's Cycling Master Plan	City of London				
31	Share the road signage and educational project in the City of London and Middlesex County	Middlesex County, City of London, Middlesex-London Health Unit, and London Middlesex Road Committee launch a new Share the Road educational campaign for West London and Middlesex County in 2014	Middlesex- London Health Unit (MLHU)			•	>



Red Light Running

ACTION No.	ACTION	DESCRIPTION	LEADER AGENCY	ENGINEERING	ENFORCEMENT	EDUCATION	ЕМРАТНҮ
32	Traffic Signals Improvement Program Signal Timing	Continue the review of signal clearance times and extensions	City of London	②			
33	Traffic Signal Sight Distance Review	Continue the review of signal clearance times and sight distances at high right-angle collision locations	City of London				
34	Traffic Signals Improvement Program - Signal Coordination	Continue to optimize and co-ordinate signal timings along corridors	City of London				
35	Red-Light Camera Implementation	Install Red-Light camera equipment at selected locations	City of London				
36	Pro-active Enforcement Program - Red- Light Running	Use of co-ordinated enforcement strategy with use of both plain clothed and uniformed officers in close collaboration with the engineering program	London Police Service		②		
37	Traffic Signals Improvement Program - LED Signals	Use of LED signals to increase visibility of red light as an integrated program with the other strategies related to red-light running	Middlesex County				
38	Pro-active Enforcement Program - High Risk Intersections	Enhanced use of proactive enforcement and education at high risk intersections as identified in the Middlesex Collision Reduction Strategy in close collaboration with the engineering program	Ontario Provincial Police (OPP)				

All programs and their respective actions forming the Road Safety Strategy have been adopted by the City of London and its partners. They believe that these programs can be realistically delivered and will effectively result in approximately 155 fewer traffic fatal and injury collisions by 2019/2020.



Steering Committee Members

- Canadian Automobile Association
- City of London
- London Block Parent Program
- London Health Sciences Centre
- London Police Service
- Middlesex County
- Middlesex-London Health Unit
- Ministry of Transportation
- Ontario Provincial Police
- Thames Region Ecological Association
- Young Drivers of Canada

