

City of Markham

Traffic Workshop

**Operations Department
Community & Fire Services Commission**

**General Committee
February 29, 2016**

Workshop Agenda

- Introductions – City of Markham (Barb Rabicki)
- Presentation – City of Markham (David Porretta)
- Presentation – York Region Transportation Services (Nelson Costa)
- Presentation – York Region School Board (Sonia Sanita)
- Video – York Regional Police (Karen Hodge)
- Closing Remarks & Questions

Overview

- Goal of Traffic Operations
- Roles and Responsibilities
- Provincial Guidelines & Regulations
- Safe Streets Strategy
- School Traffic Safety
- Benchmarking
- Options
- Public Education & Awareness Campaign
- Conclusions

Goal of Traffic Operations

- To ensure the safe and efficient flow of pedestrian and vehicular traffic, in accordance with provincial legislation, engineering guidelines and principles (Highway Traffic Act, Ontario Traffic Manual, AODA, etc.)
- Core services of the Traffic Operations group is the monitoring and responding to traffic and pedestrian safety issues among 2,000 lane km of roads
- Responsible for the traffic signal maintenance and school crossing guard portfolio, the Annual Traffic Data Collection program and leadership of the Safe Streets Strategy
- Conduct over 600 traffic investigations and studies annually. This includes, but is not limited to Intersection Traffic Control Studies (all-way stop, traffic signals), pedestrian safety assessments, speed analysis
- Provide timely responses to residents and Councillors

Roles and Responsibilities – Working Together

- **City of Markham**
 - Traffic Operations: Responsible for safe and efficient flow of vehicular and pedestrian traffic on 2,000 km of municipal roads with approximately 100 signalized intersections
 - Engineering: Responsible for the development of strategic transportation plans and policies (Official Plan, Transportation Strategic Plan, Secondary Plans, Development Application Review)
- **York Region**
 - Roads & Traffic Operations: Responsible for traffic and transportation issues for the Regional arterial roads and approximately 800 traffic signals region-wide.
 - Engineering: Responsible for the development of strategic transportation plans and policies (Official Plan, Secondary Plans, Development Application Review)
- **York Regional Police**
 - Provides enforcement of the Highway Traffic Act for all public roadways, including speeding, stop sign & red light running and other moving violations.
- **York District School Boards (Public & Catholic)**
 - Responsible for student safety on all school sites as per the *Education Act* and assisting in the facilitation of active and sustainable school travel programs
 - Responsible for the transportation of students as per school board policies (YRDSB Policy 680.0 “Student Transportation” and YCDSB Policy 203 “Student Transportation Services”)



Markham Road Jurisdictions

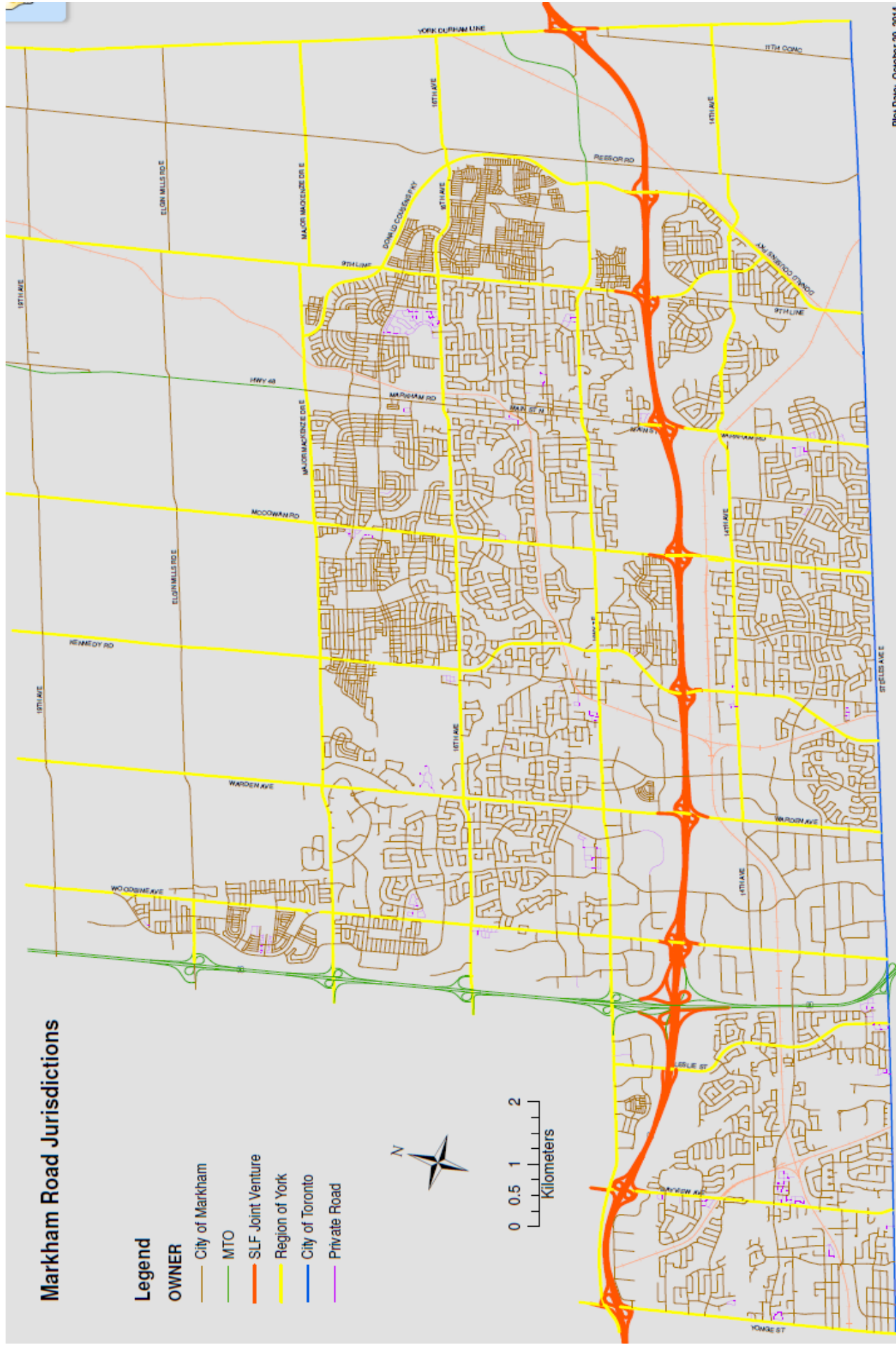
Legend

OWNER

- City of Markham
- MTO
- SLF Joint Venture
- Region of York
- City of Toronto
- Private Road



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Kilometers



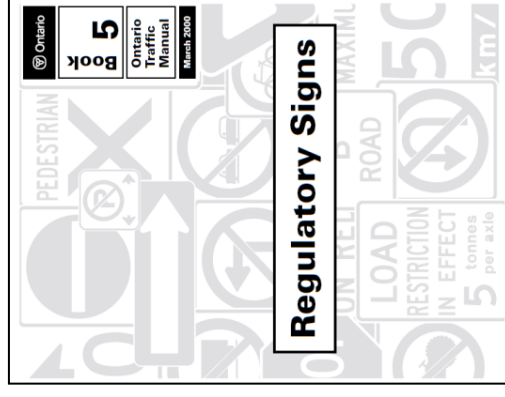
Provincial Guidelines & Regulations

- **Ontario Highway Traffic Act (HTA)**
 - An Ontario Act which sets out legislation as to how vehicles may be used on roads within Ontario and categorizes traffic offenses
 - All guiding transportation engineering documents must align with the legislation set out within the HTA.



- **Ontario Traffic Manual (OTM)**

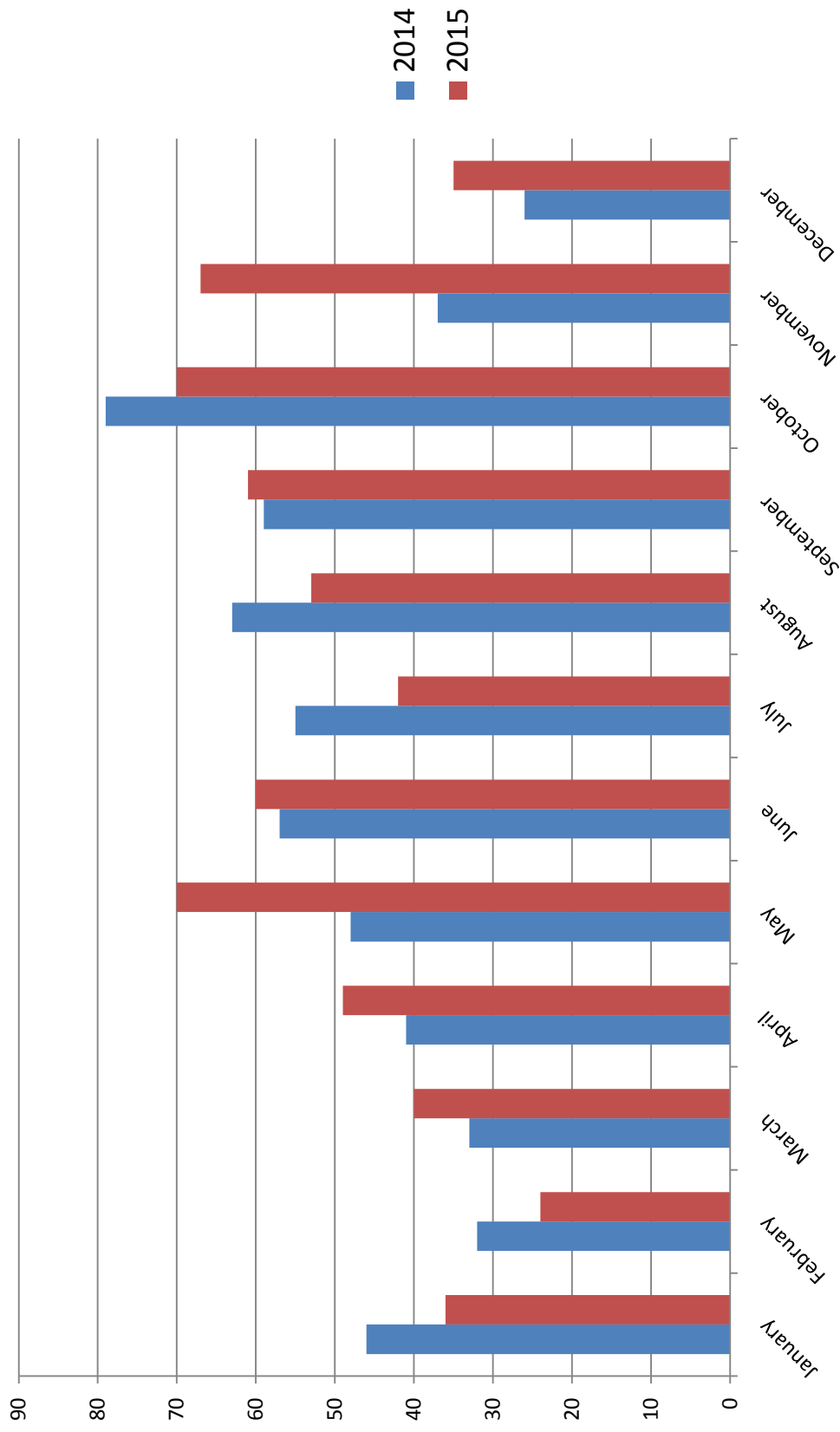
- Provide information and guidance for transportation practitioners and promotes uniformity of treatment in the design, application and operations of traffic control devices and systems across Ontario that are consistent with the HTA.



Provincial Guidelines & Regulations (Cont'd)

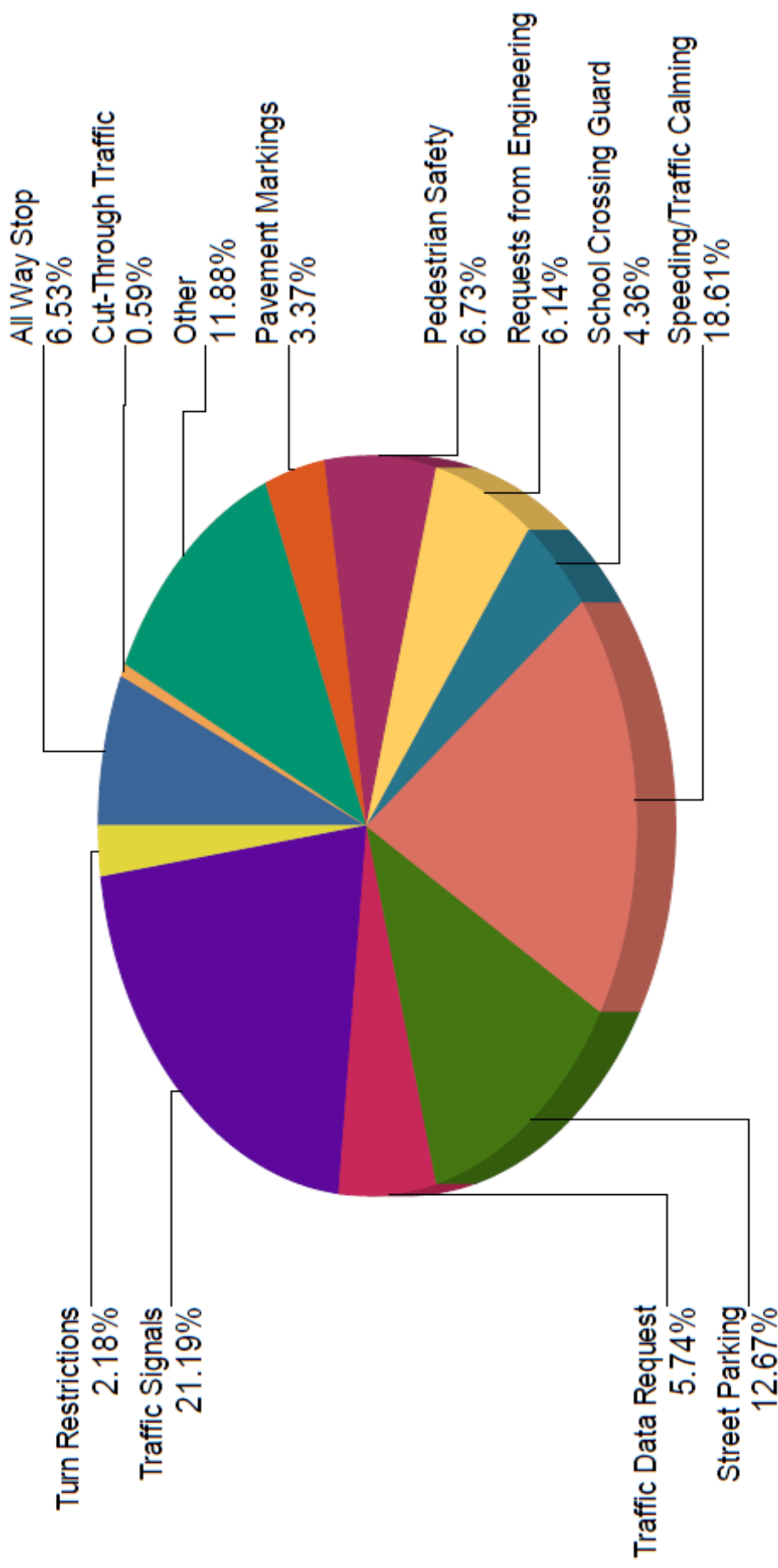
- **School Crossing Guard Guide (2005)**
 - Developed by the Ontario Traffic Council (OTC), provides municipalities with common and best practices during the planning and operations of a crossing guard program
 - Provide information related to legal requirements, role of a crossing guard, equipment, traffic control devices and warrant guidelines for new crossing guard locations.
 - Sound engineering principles, observational skills and objective judgement of roadway conditions are critical.
- **Accessibility for Ontarians with Disabilities Act (AODA)**
 - Providing mandatory accessibility standards that identifies and removes preventative barriers for people with disabilities
 - Beginning January 1, 2016 any new or developed public spaces must conform to the standards set forth by the AODA

Traffic ACRs (2015 vs. 2014)



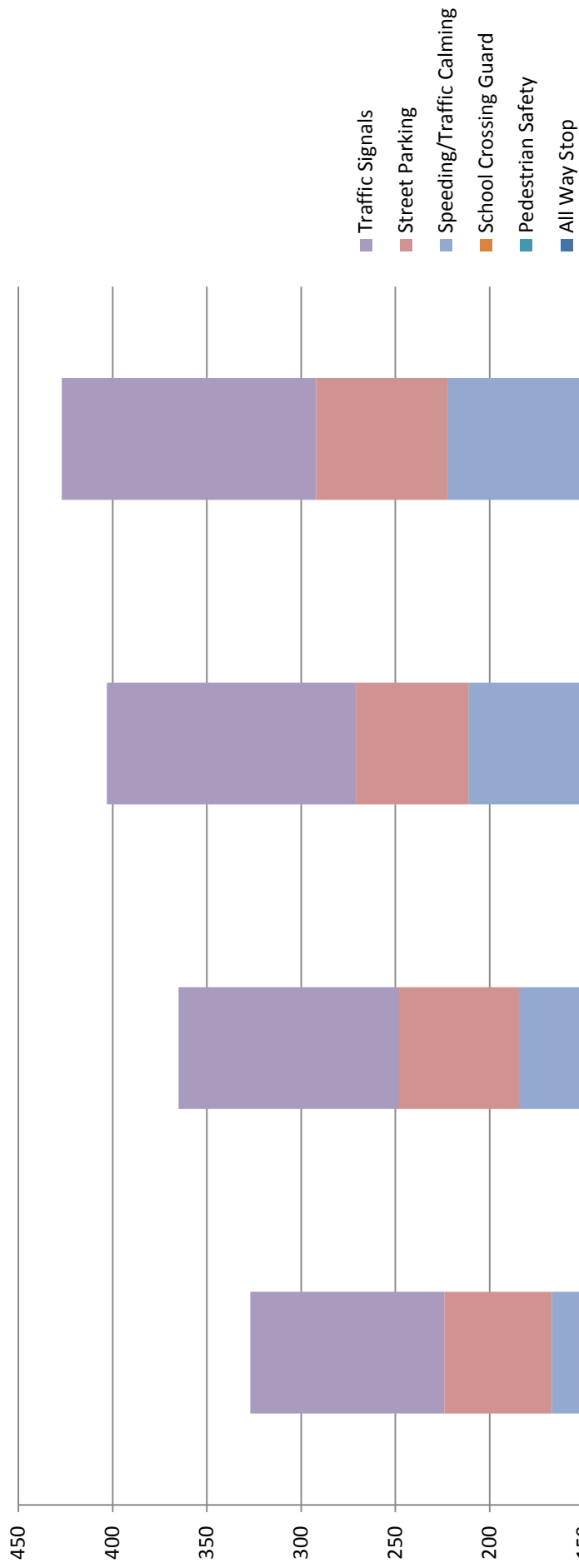
Total 2014 ACR cases: 577
Total 2015 ACR cases: 606

Current Traffic Issues



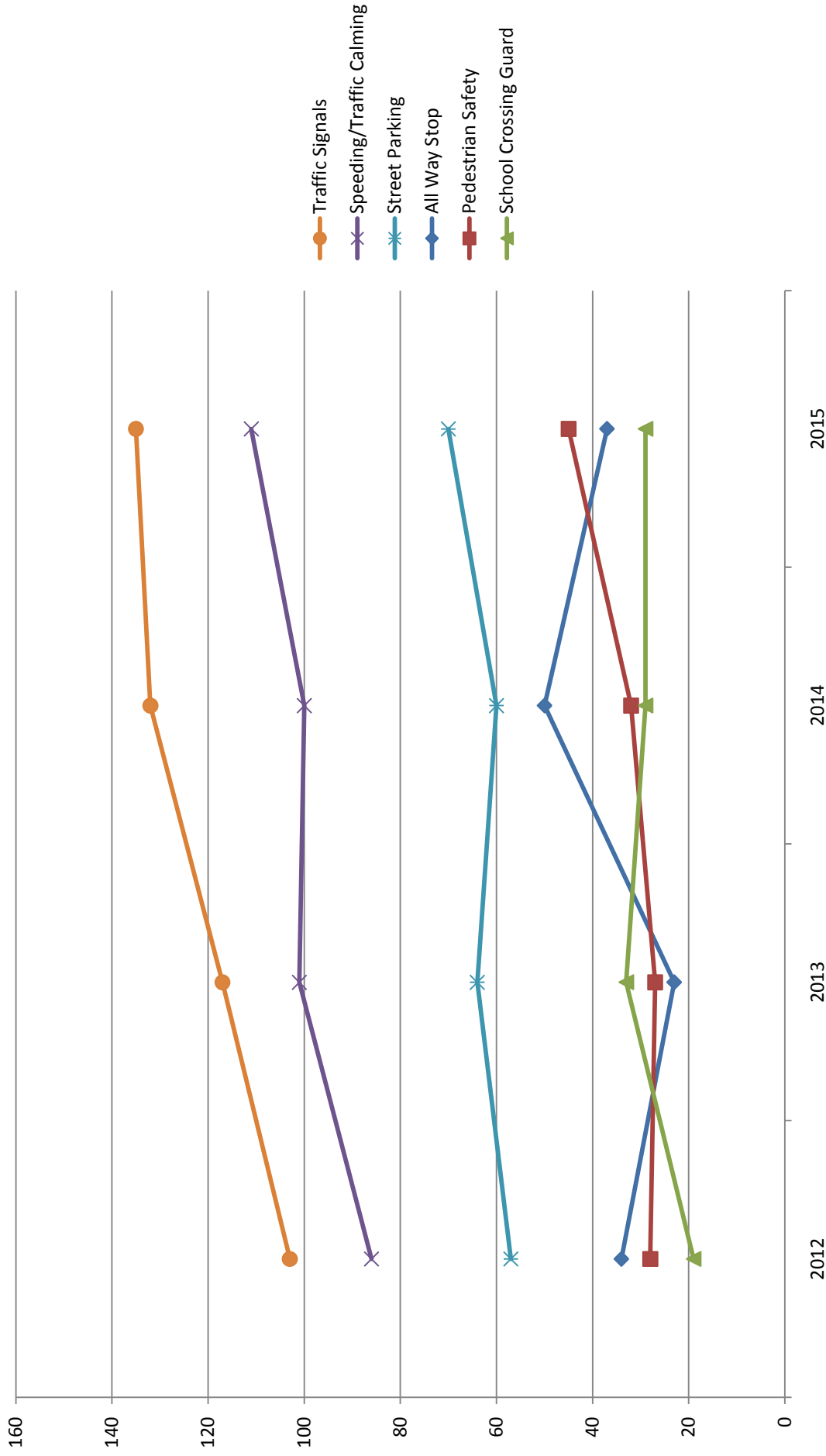


Breakdown of the Top 6 Traffic Issues ACR Cases (2012-2015)





Historical Trends for the Top Traffic Issues (2012-2015)

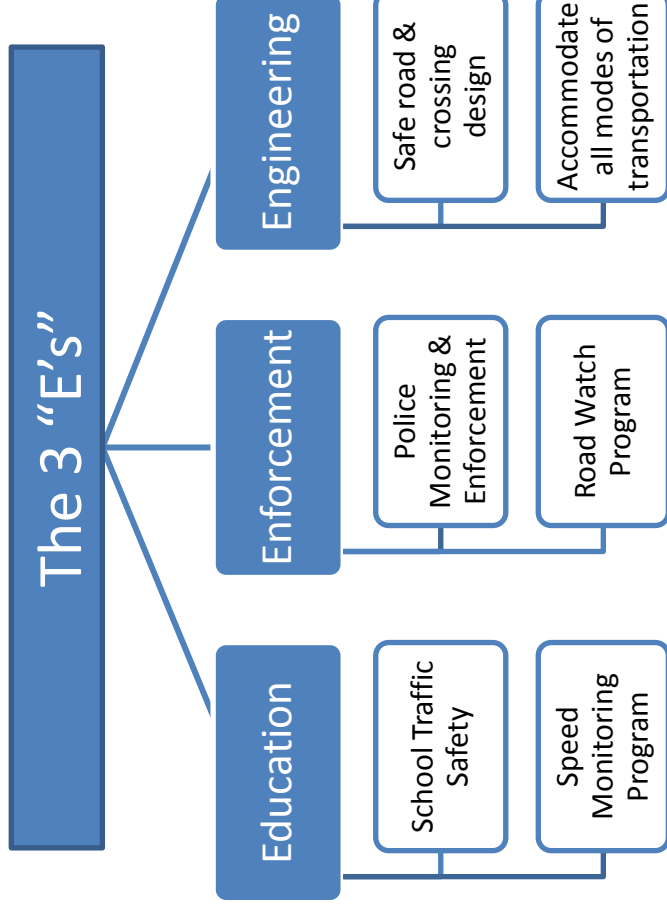


Summary of Top Traffic Issues (2012-2015)

- 69% of all received ACR cases relate to either speeding, on-street parking, traffic signals, pedestrian safety, school crossing guards, and all-way stop control requests
- Speeding complaints and requests for traffic calming make up between 17-20% of all received ACRs
- Pedestrian safety ACRs have increased by 61% between 2012 and 2015
- School crossing guard – related ACRs remain relatively constant between 2013 and 2015
- On-street parking issues make up between 10-13% of all received ACR cases.
- Traffic signals make up between 20-23% of all received ACR cases; 31% increase in number of requests between 2012 and 2015
- As of 2015, traffic ACRs are addressed and completed within 10 business days

Markham Safe Streets Strategy

- From the late 1990's to 2004, ongoing speed concerns were addressed through the implementation of physical traffic calming measures, typically in the form of speed humps
- Escalating capital and operating costs, impacts to emergency services and transit authorities required a more sustainable approach
- In 2005, the Safe Streets Strategy was implemented with a focus primarily on enforcement and education



Safe Streets Strategy Three “E’s”

- **Education**

- Active & Safe Routes to School Program
- Speed monitoring / display boards
- Road Watch Program
- School Crossing Guard Program

- **Enforcement**

- Notification provided to York Region Police of all priority locations for increased enforcement
- Stop-sign running and speeding are the most prevalent traffic enforcement issues

- **Engineering**

- Balanced priority for all modes of transportation
- Intersection traffic control devices
 - Traffic signals
 - Pedestrian signals
- Incorporate traffic calming elements into new developments
 - Roundabouts
 - Bicycle lanes
 - On-street parking
 - Narrower roads & lanes



Road Watch Program

- A community-based initiative facilitated by YRP that gives citizens an opportunity to report dangerous and aggressive drivers to York Regional Police
- Incorporates three components essential to modifying aggressive driving behaviour – public education, awareness and enforcement
- Residents can submit acts of aggressive driving through online citizen reporting (www.yrp.ca)



- Three warnings rule:

- First report - York Regional Police will send the registered owner of the vehicle a letter informing them of the details of the incident.
- Second report - The registered owner being sent a second letter, which will be followed by a phone call from an officer.
- Third report - An officer attending the address of the registered owner. The officer will determine the appropriate course of action.



Road Watch Program

Citizen Reports Submitted (by Municipality)

Municipality	2010	2011	2012	2013	2014	2015
Aurora	94	84	120	128	119	126
East Gwillimbury	94	79	103	120	102	93
Georgina	33	50	48	59	62	60
King	62	82	123	118	123	121
Markham	518	566	592	606	565	650
Newmarket	95	154	152	178	169	191
Richmond Hill	434	454	545	596	464	518
Vaughan	411	414	459	512	539	613
Whitchurch-Stouffville	163	150	146	119	152	159
TOTAL	1,904	2,033	2,288	2,436	2,295	2,531

Speed Monitoring Program

- The goal is to educate and change driver behaviour.
- Using radar technology, the boards have the ability to capture vehicle speeds and display them back to the driver.
- Streets are considered by assessing multiple technical criteria, including vehicle speeds, volume, collisions, provision of sidewalks and proximity to schools.
- The City has 16 speed display boards (2 per ward) that are installed on priority streets for a 2-month period. This equates to 64 streets per year.



- In 2015, vehicle speeds were reduced by 18% on streets where these devices were installed.
- While deployed, equally as effective as speed humps. However, speeds may increase again over time unless routine enforcement is provided.

Vertical Traffic Calming Measures

- Consist of speed humps/bumps, speed cushions and raised intersections
- Not supported by Fire & Emergency Services, EMS & Fleet Services
 - Increased response times, damage to equipment, injury to passengers
- Not supported by York Region Transit & TTC
 - YRT & TTC policy stipulates that transit service may be removed from streets where vertical traffic calming measures (i.e. speed humps/cushions, raised intersections) are installed
- Capital and Operating Costs
 - Permanent installations are costly to construct & maintain
 - Winter maintenance – residual snow & debris, ponding and icing
 - Temporary installations will need to be removed every winter to prevent irreparable damage to the speed humps and equipment
 - Anticipated increase in request for speed humps across the City may not be sustainable
- Physical traffic calming not widely supported by communities
 - Historical traffic calming projects resulted in communities being divisive
 - Residents living on affect streets supportive, while adjacent streets not supportive



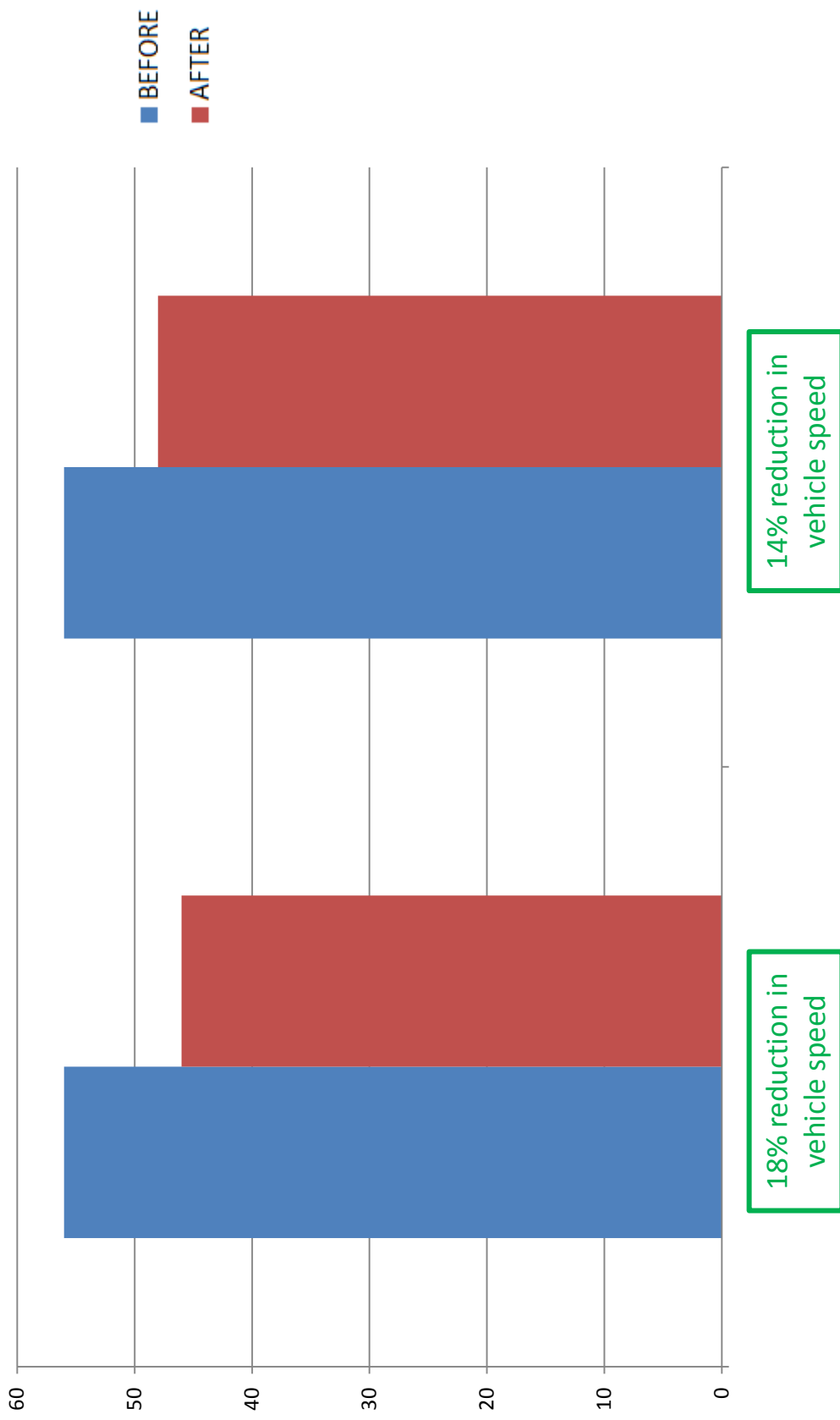
Speed Display Boards vs. Vertical Traffic Calming

Speed Display Boards

(based on data from 45 streets)

Vertical Traffic Calming

(based on data from 13 streets)



Existing Traffic Calming Devices in Markham



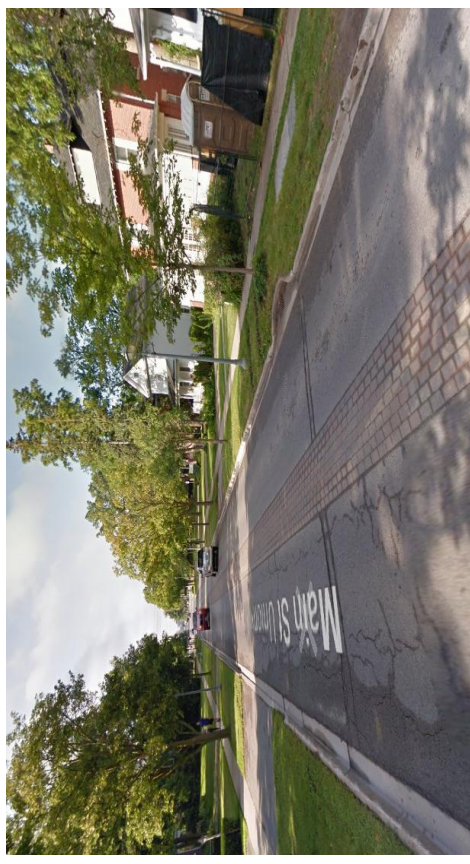
Speed Hump



Raised Intersection

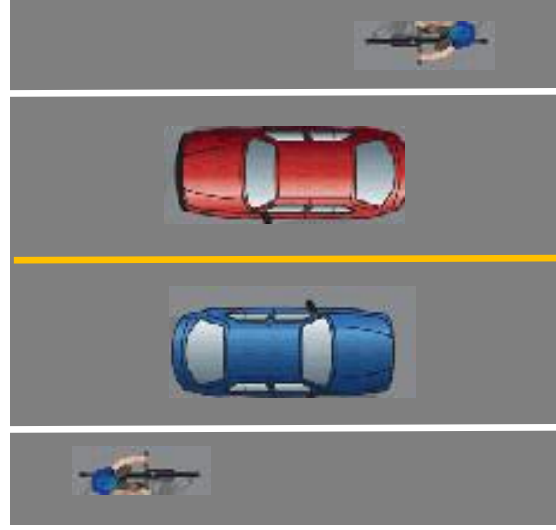
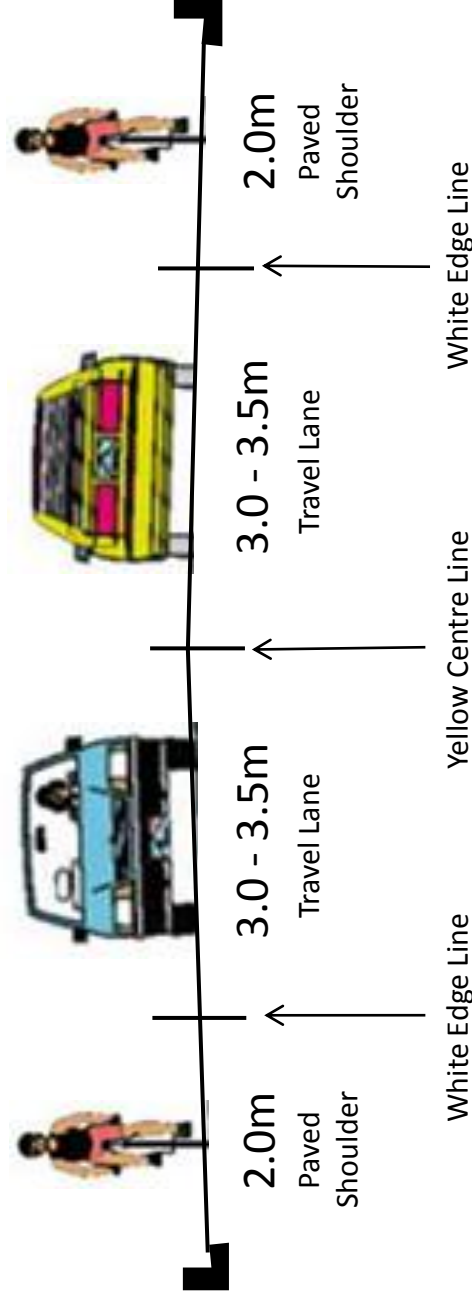


Chicane



Interlock Median

Pavement Marking Modifications



- Used on two-lane collector roadways that have ongoing speeding concerns and are > 10 metres wide
- Reduced travel lane widths create a narrowing effect to slow vehicles
- Provides a “paved shoulder” to accommodate either cyclists or street parking

Engineering Design – Current Practice

- Develop a transportation system that provides balanced priority for all modes of transportation (transit, cyclists, pedestrians, cars)
- City's roadway design includes inherent traffic calming features – roundabouts, bicycle lanes, narrower travel lanes, lay-by parking and reduced pedestrian crossing distances at intersections.
- Integrate land use planning and transportation planning
 - Increase opportunities for shorter trips by foot, cycling, and transit
 - Create a more pedestrian friendly environment



School Traffic Safety



- **Designated School Zones**
 - All School Zones are clearly posted with fluorescent yellow “School Zone” signage and are posted at 40 km/h
 - Strategic placement of parking restrictions are provided at problematic locations to mitigate school traffic issues associated with pick-up and drop-off activity

- **School Crossing Guard Program**

- Provides assistance to children (JK- Gr.8) at locations where there are limited opportunities for them to safely cross the street
- Currently 90 locations across the City, with an annual operating cost of approx \$600K.



Pedestrian Safety Concerns in School Drop-Off Zones

(Toronto Star, January 20, 2016)

- Study was conducted by York University and the Hospital for Sick Children at select Toronto school zones
- Most dangerous time of day is during the morning peak period
- Unsafe driving manoeuvres observed included U-turns, blocking wheelchair loading zones, not stopping at stop signs and stopping in the middle of the road to pick-up & drop-off
- Over a 12-year period, 411 children in the studied areas were hit by a vehicle within 200 metres of the school. Of the 411 children hit, 45 were during peak times. Of the 45 children hit during peak times, 29 were admitted to the hospital
- Each additional unsafe violation during drop-off is associated with a 45% increase in collision rates
- Encouraging active modes of transportation to school reduces the number of cars within school zones resulting in less congestion

Your Toronto / Schools

Parents' dangerous driving at drop-off areas puts students at risk, study finds

Study finds increased chance of injury in and around schools in the morning rush as drivers break all the rules.



Tweet



12



reddit this!



MELISSA RENWICK / TORONTO STAR Order this photo

Paul Belyea is a crossing guard with the Toronto Police Services at the Queen Street and Elmer Avenue intersection. Belyea has witnessed too many drivers running red lights at the intersection. A new study by York University and the Hospital for Sick Children found at least two instances of dangerous driving during the morning rush at 88 per cent of the Toronto public elementary schools they monitored.

Active & Safe Routes to School Program (ASRTS)

Active & Safe ROUTES TO SCHOOL

- School Boards' ASRTS Facilitator is responsible for engaging schools to participate in the ASRTS Program
- The ASRTS Program encourages families to choose active transportation for school trips, reduces traffic congestion and greenhouse gas emissions.
- Currently, 25 schools in Markham have been consulted about facilitating the program
 - Markham schools represent the largest proportion of schools in the Region that have been involved with the ASRTS program.
- City staff is an active member and participant of the ASRTS Committee, led by York Region Community and Health Services
- The ASRTS Committee meets three to four times per year
 - Members include both school boards, York Region and the nine local municipalities
- For more information about ASRTS: www.saferoutestoschool.ca and www.schoolbuscity.com/routes/



Municipal Benchmarking – 11 Communities

Legend

- Markham
- York Region
- Aurora
- Whitchurch-Stouffville
- Vaughan
- Oakville
- King Township
- Barrie
- Mississauga
- Newmarket
- Edmonton

General Traffic Safety	How does your municipality handle speeding complaints?	Conduct study (8/11) Speed radar boards (8/11) Police enforcement (7/11) Road Watch (5/11)
	Does your municipality have public education programs?	Yes (8/11) No (2/11)
	Can information related to traffic safety be found on your website?	Yes (9/11) No (2/11)
	What are the posted speed limits for roads within designated school zones?	30 km/h (1/11) 40 km/h (9/11) 40 km/h - 60 km/h (1/11)
School Zones	Does your municipality have Community Safety Zones?	Yes (10/11) No (1/11)
	Do you find these to be effective?	Effective (8/11) Not Effective
	Does your municipality have a school crossing guard program?	Yes (9/11) No (1/11)
	Does your municipality utilize any traffic control devices around school zones? (e.g. School Zone Max Speed When Flashing Sign, signalized pedestrian crossings)	Yes (8/11) No (3/11)
Traffic Calming	Does your municipality adopt a School Travel Plan?	Yes (2/11) No (9/11)
	Does your municipality utilize speed bumps, speed humps, speed cushions, or other physical traffic calming devices?	Yes (8/11) No (3/11)
	Does your municipality utilize any other non-physical traffic calming strategies/devices?	Yes (11/11) No

Municipal Benchmarking Summary

- Approximately 80% of municipalities surveyed have public education programs with information posted on their respective websites
- All surveyed municipalities in the Greater Toronto Area use a posted speed limit of 40 km/h within designated school zones
- All surveyed municipalities in the Greater Toronto Area have Community Safety Zones. Continuous enforcement is key to effectiveness
- Approximately 80% of surveyed municipalities have a School Crossing Guard Program
- Approximately 70% of surveyed municipalities use some form of physical traffic calming devices
- All surveyed municipalities use some form of non-physical traffic calming devices (speed radar boards, speed enforcement, Road Watch, etc.)

Traffic Calming Options in School Zones

• Option 2: “Ped Zone” Pilot Program

- Consists of 1 flexible sign & 2 flexible bollards, installed at either end of the school zone, to create a physical and psychological “pinch point”
- Used in Ottawa & Montreal; vehicle speeds reduced by up to 30%
- Pilot program to implement at 8 schools (one per ward) in 2016
 - Capital cost ~ \$6,900
 - Annual operating cost ~ \$5,200
- If successful, can be rolled out to remaining 81 schools City-wide in 2017
 - Capital cost ~ \$69,900
 - Annual operating cost ~ \$32,700
 - Life cycle TBD pending successful implementation of pilot program

– Pros & Cons:

- + Proven to be effective in other jurisdictions
- + Lower annual operating cost than speed radar boards
- + No impact on emergency vehicles or transit
- Requires removal for the winter season



Traffic Calming Options in School Zones

- **Option 3 – Community Safety Zones**

- Implement Community Safety Zones (CSZ) for schools in Markham
- Where CSZ's exist, fines for moving violations (i.e. speeding, stop-sign running, U-turns, etc.) are doubled + demerit points
- Requires amendment to Traffic By-law 106-71
 - Capital Cost ~ \$30,000 for all 89 schools (\$325 per school)
 - Annual operating and life cycle cost negligible and can be absorbed through existing operating budget



- **Pros & Cons:**

- + Encourages driver compliance through increased penalties
- + Low capital cost and negligible operating cost
- CSZ requires routine police enforcement to be effective

Traffic Calming Options in School Zones

• Option 4 - Increase School Participation in the ASRTS Program

- In coordination with the ASRTS Facilitator, ramp up school participation and involvement in the program initiatives
- Increase use of “Slow Down. Children Walk, Ride & Play Here” lawn signs within School Zones
 - Currently offered by York Region Community & Health Services to schools to place around perimeter of school

– Pros & Cons:

- + Improves education and awareness of target audience (parents & children)
- + Children are active participants in the program
- + Low cost & sustainable approach
- Program is optional; not all schools may wish to participate due to resource limitations

**Active
& Safe**
ROUTES TO SCHOOL



Summary of Options

Option	Description	Cost	Effectiveness
1	Speed Display Boards	High	Medium
2	“Ped Zone” Pilot Program	Medium	High
3	Community Safety Zones	Low	Low
4	Increase school participation in the ASRTS Program	Low	High

School Zone Safety Education & Awareness

- A multi-platform communications campaign is necessary to increase understanding and awareness of driver/pedestrian safety concerns, particularly in school zones, and in support selected traffic calming option(s)
- Partnership with schools, parents & YRP
- Tactical plan may include:
 - Outdoor signage program with schools
 - City portal website content
 - Social media campaign driving residents to City webpage
 - City page advertisements
 - Markham Life magazine ad / article - summer issue (April)
 - Electronic Information Board advertisement
 - Public Service Announcement - distributed to media and resident eNews subscribers

Conclusions

- Safety within school zones must continue to be a priority
- Continued participation in the Active & Safe Routes to School (ASTRS) Committee is necessary to develop and implement actions and initiatives to educate drivers, parents and students about safety concerns in school zones
- Strengthen partnerships with York Region, York Regional Police, and the local school boards; a collective effort is needed
- Undertake pilot project(s) in 2016, based on feedback provided at this workshop – staff will report back to April General Committee
- Development of a communications plan that includes use of existing social media tools in the promotion of traffic safety programs and initiatives in Markham



www.markham.ca/traffic