

THE WAY WE MOVE

# Transportation Committee Meeting

Traffic Safety Strategies & Councillor Inquiries

November 13, 2014

TRANSFORMING | EDMONTON

BRINGING OUR CITY VISION TO LIFE



# The Problem

2006			
# Injuries per 1000 Population	# Injuries	Population	# Injuries per 1000 Population
<b>Edmonton</b>	8,221	741,028	<b>11.1</b>
Toronto	16,400	2,607,637	6.3
Hamilton	2,427	504,559	4.8
Calgary	4,445	991,759	4.5
Ottawa	3,620	870,700	4.2
Montreal	6,326	1,854,442	3.4
Vancouver	1,374	578,041	2.4

2012			
# Injuries per 1000 Population	# Injuries	Population	# Injuries per 1000 Population
Toronto	14,812	2,791,140	5.3
<b>Edmonton</b>	4,338	817,498	<b>5.3</b>
Ottawa	3,403	935,050	3.6
Calgary	3,255	1,120,225	2.9
Hamilton	1,440	535,234	2.7
Montreal	5,321	1,991,200	2.7
Vancouver	1,452	666,517	2.2

344

**THE AVERAGE NUMBER OF PERSONS INJURED ON OUR ROADS  
EVERY MONTH – THE EQUIVALENT OF ~ 10 FULL ETS  
BUSLOADS OF PASSENGERS**



## The Difference 5 km/h Makes



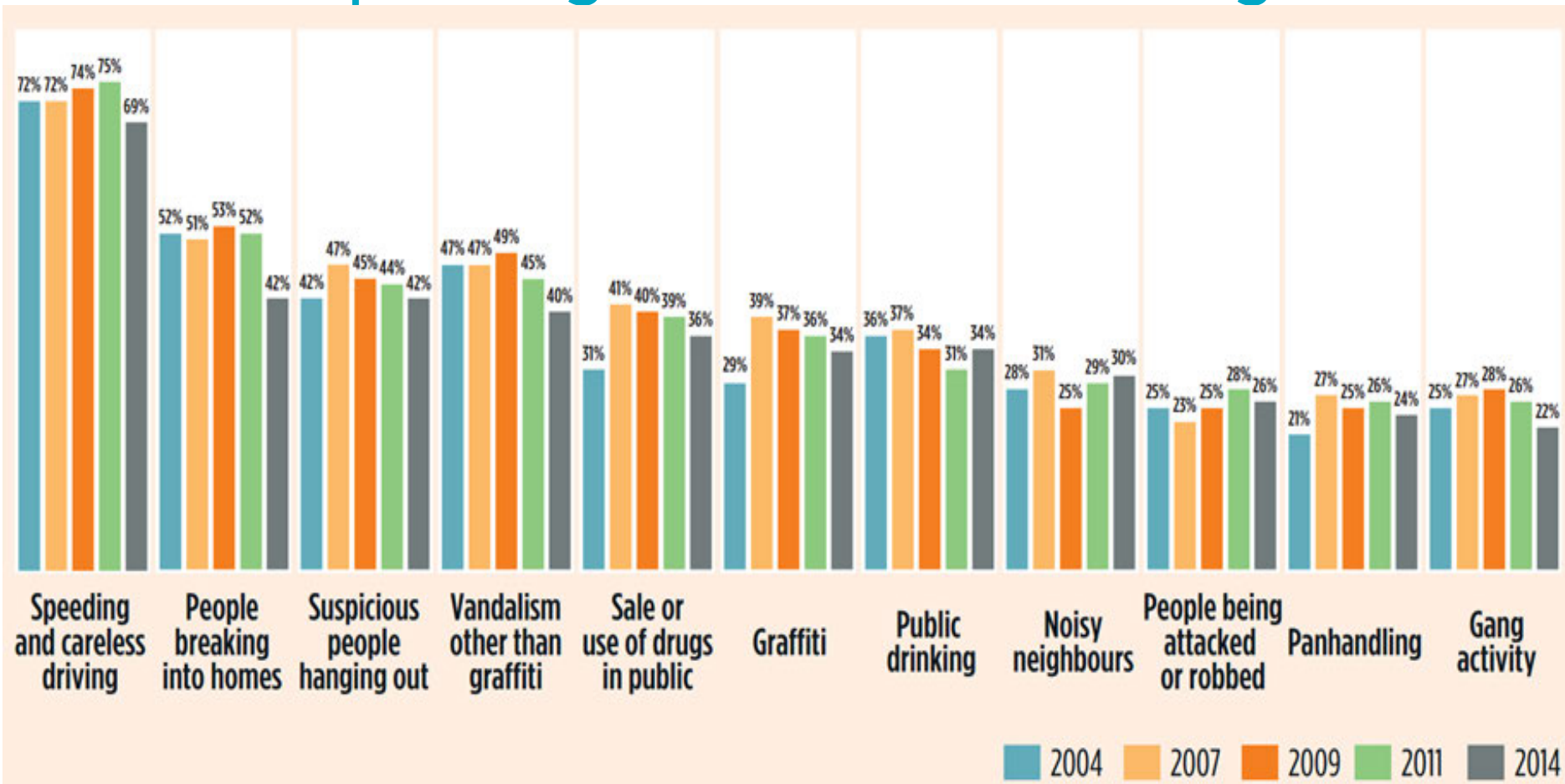
<https://www.youtube.com/watch?v=yAnNXcaBnrl>

# Road Safety Strategy - 5 E's of Traffic Safety



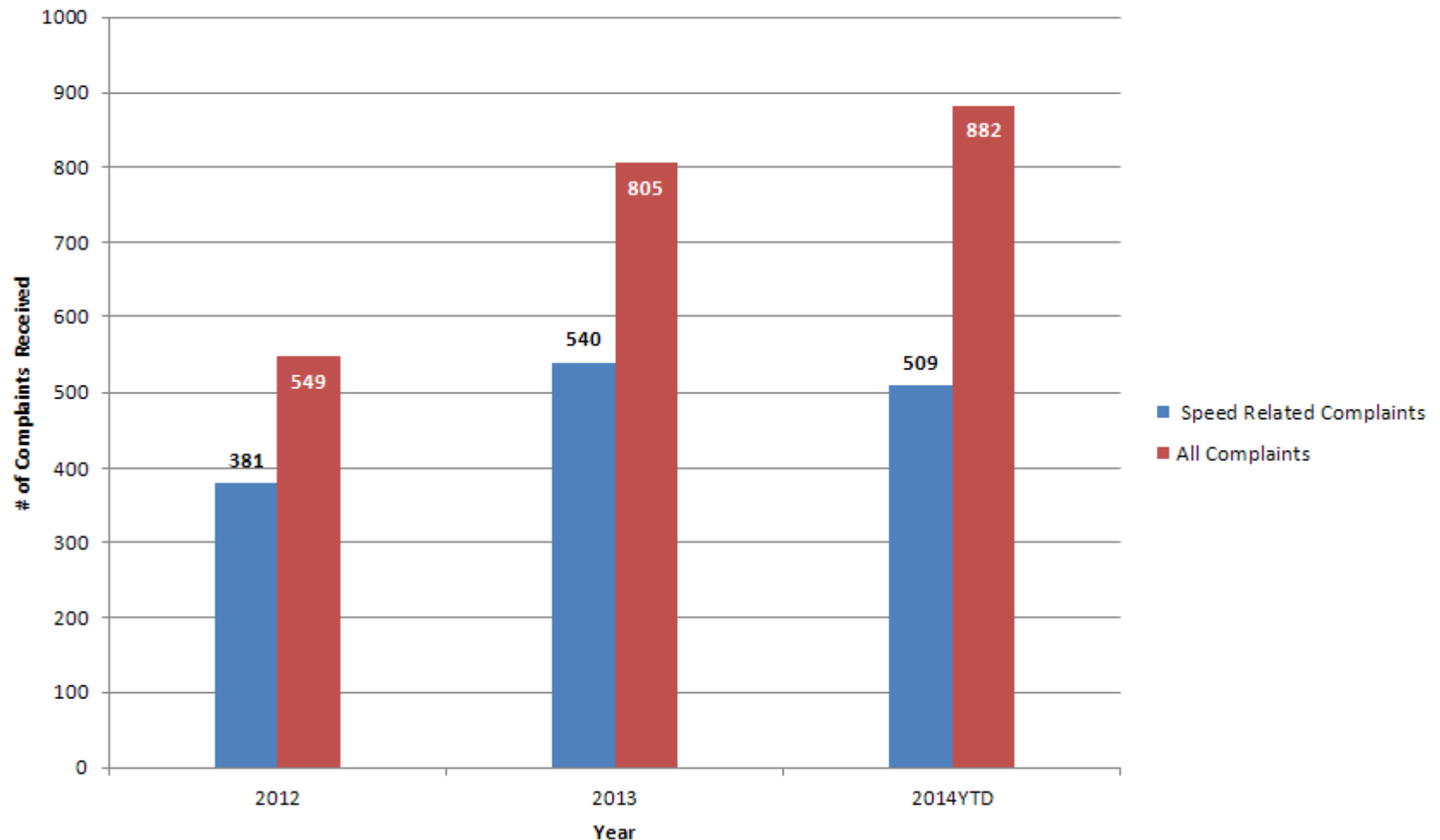


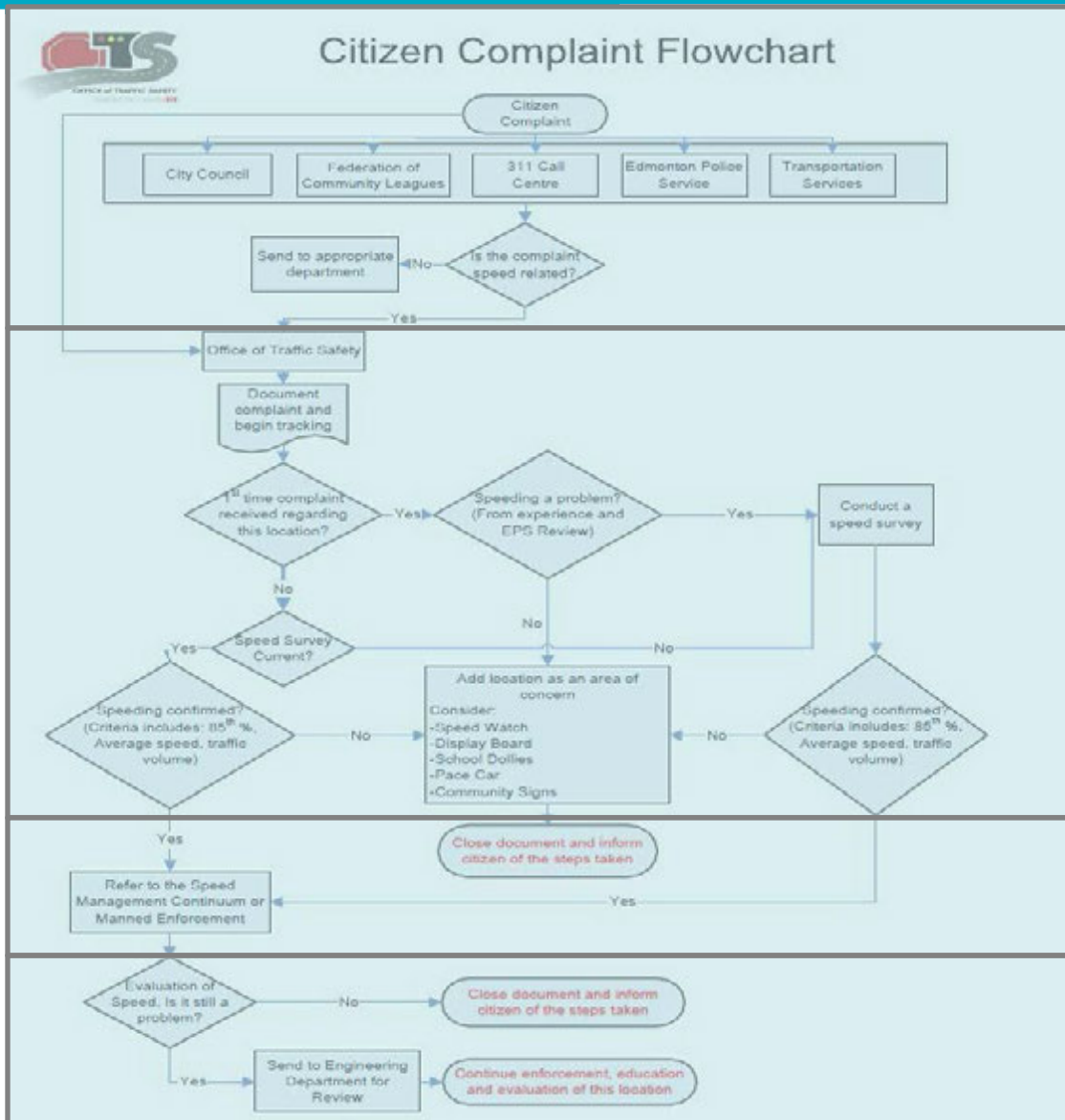
# Speeding and Careless Driving



# Office of Traffic Safety Complaints

## # of Speed Related Complaints vs All Complaints





**Speed Related  
Complaint Is Received**



**Speeding Concern is  
Validated & Assessed**



**Speed Management  
Continuum is  
Consulted**



**Countermeasure Is  
Implemented  
& Evaluated**



# Speed Survey Report

Location	11 AY VO Jackson RD	Speed Limit	50	Sun 30-Oct-11
PRC Site ID and	N/A	Count Start Date	Sunday, October 30, 2011	
Direction & # of Lanes	EB (1 lane)	Count Start Time	12:00:00 AM	
Latitude	N/A			
Longitude	N/A			
EPS Division & Neighbourhood	N/A			
Traffic Safety	N/A			
Peak Volume Time	16:00:00 - 16:59:59			
Peak Volume Count	318	Minimum Volume Count	19	

**Speed Limit:** 50 km/h  
**Average Speed:** 60.86 km/h  
**Compliance to Speed Limit:** 8.28%



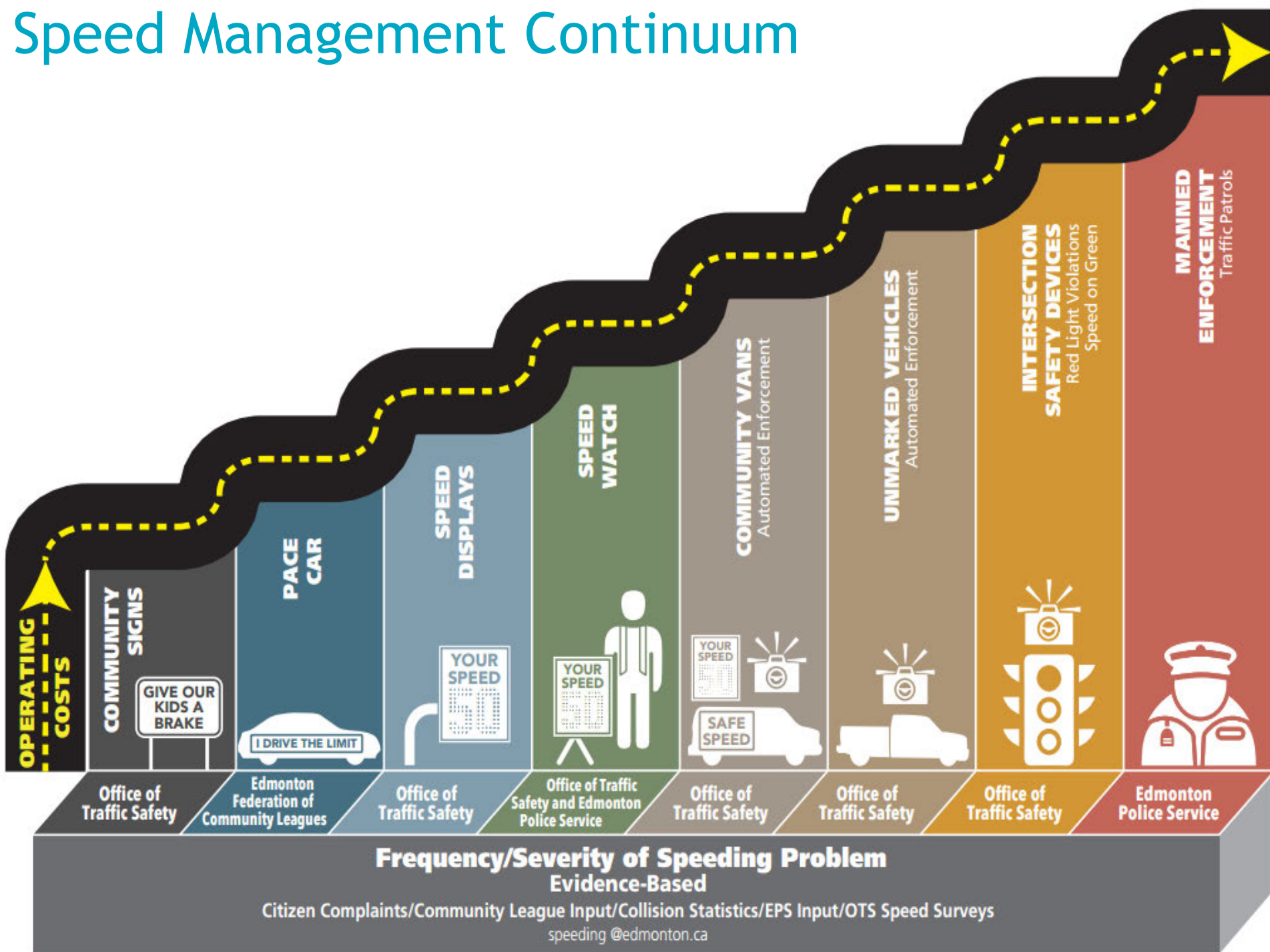
Summary Statistics	All Vehicles	Passenger car (length <= 6.3 m)	Van/Pick up (6.3 < length <= 12.1 m)	Bus/Truck (8.4 < length <= 12.1 m)	Tractor Trailer (length > 12.1 m)
Number of vehicles (24 hours)	3539	3274	227	11	27
Average Weekday Traffic	4334	3944.25	305.5	17.5	66.75
Average Daily Traffic	4185.5	3876.83	286.83	14.87	57.17
Average Annual Daily Traffic	N/A	N/A	N/A	N/A	N/A
Average Speed	60.86	60.59	64.63	72.42	56.74
Standard Deviation of Speed	8.32	7.65	10.5	24.29	15.92
Mode Speed	58	58	58	108 - 110	55
Median Speed	59.54	59.54	62.76	64.37	54.72
85th Percentile Speed	67.59	67.59	74.03	107.02	59.54
25th Percentile Speed	54.72	54.72	57.93	53.91	48.28
75th Percentile Speed	65.38	64.37	65.2	80.33	57.33
Compliance Rate at Posted Speed (% Vehicles at the Speed limit)	0.20%	0.25%	5.29%	10.10%	33.33%
% Vehicles Exceeding the Speed Limit to -5	16.90%	17.26%	10.13%	18.18%	29.62%
% Vehicles Exceeding the Speed Limit -5 to +10	25.15%	25.41%	22.47%	0.00%	25.93%
% Vehicles Exceeding the Speed Limit +10 to +15	74.38%	74.62%	73.35%	18.18%	3.78%
% Vehicles Exceeding the Speed Limit +15 to +30	23.51%	23.21%	30.84%	10.10%	0.00%
% Vehicles Exceeding the Speed Limit +30 to +50	1.55%	1.16%	7.49%	0.00%	0.00%
% Vehicles Exceeding the Speed Limit +50	0.25%	0.09%	0.44%	27.27%	7.41%

All Vehicles Speed Summary

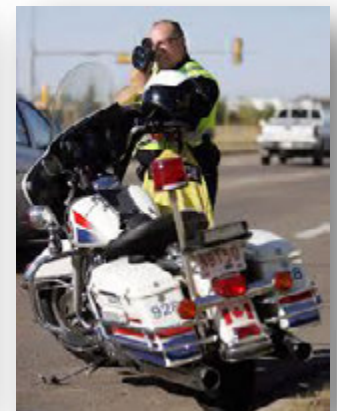


All Vehicles	Total # Vehicles	Vehicles At the Speed Limit and Lower		Vehicles Exceeding the Speed Limit to +5		Vehicles Exceeding the Speed Limit +5 to +10		Vehicles Exceeding the Speed Limit +10 to +15		Vehicles Exceeding the Speed Limit +15 to +30		Vehicles Exceeding the Speed Limit +30 to +50		Vehicles Exceeding the Speed Limit +50		Average Speed (km/h)	Average Gap Time (seconds)
Recorded Time Period		Count	Percent of the Total # Vehicles	Count	Percent of the Total # Vehicles	Count	Percent of the Total # Vehicles	Count	Percent of the Total # Vehicles	Count	Percent of the Total # Vehicles	Count	Percent of the Total # Vehicles	Count	Percent of the Total # Vehicles		
0:00-0:59	109	11	10.09%	29	26.61%	26	23.85%	18	16.51%	26	22.94%	0	0.00%	0	0.00%	59.2	31.66
1:00-1:59	86	4	4.65%	24	27.91%	21	24.42%	19	22.09%	16	18.60%	1	1.16%	1	1.16%	60.27	40.48

# Speed Management Continuum



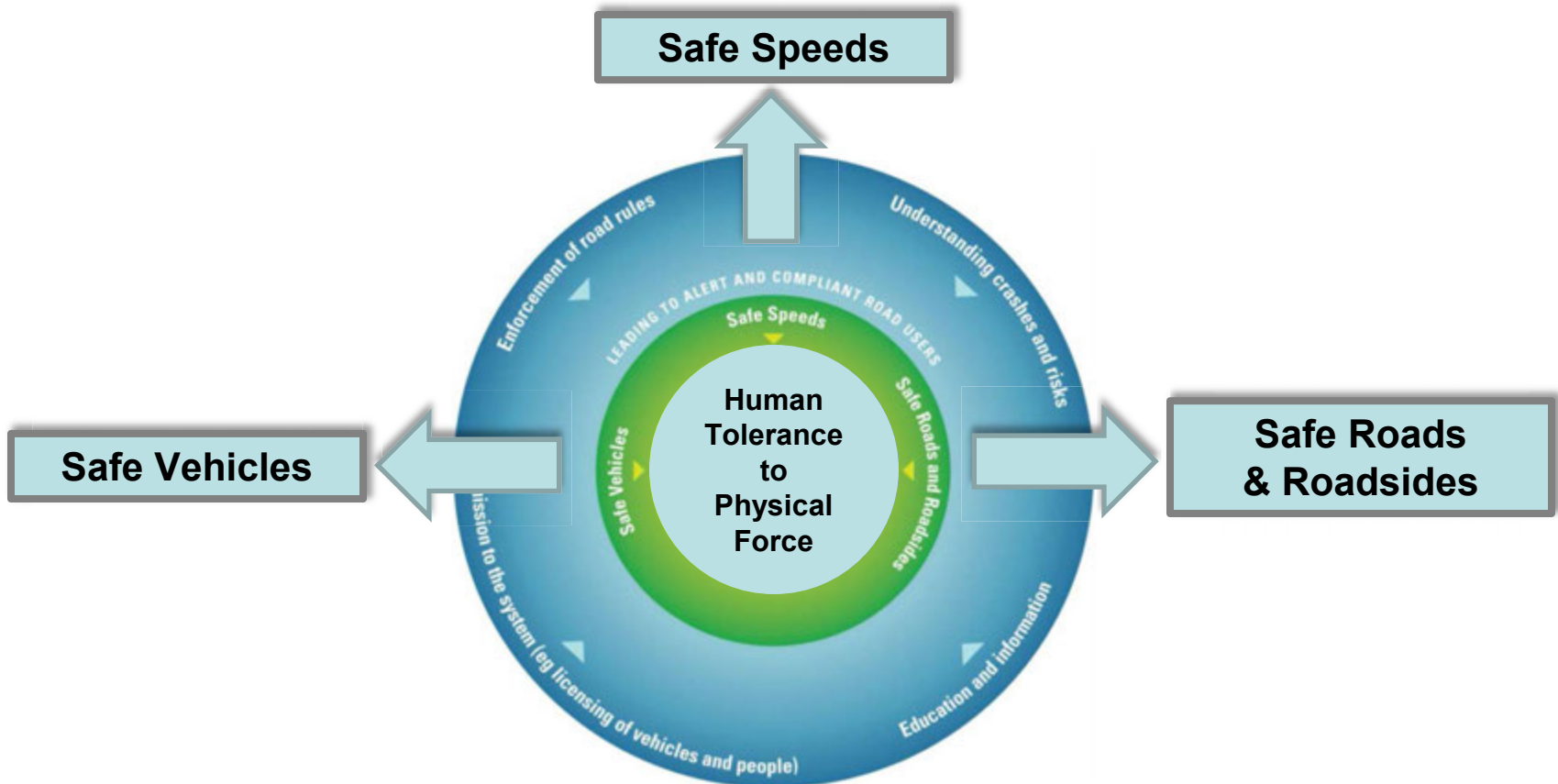
## Speed Management Continuum



# The Evidence on Speed and Speeding



# Speed is at the core of the Safe System



# The Science of Low Level Speeding



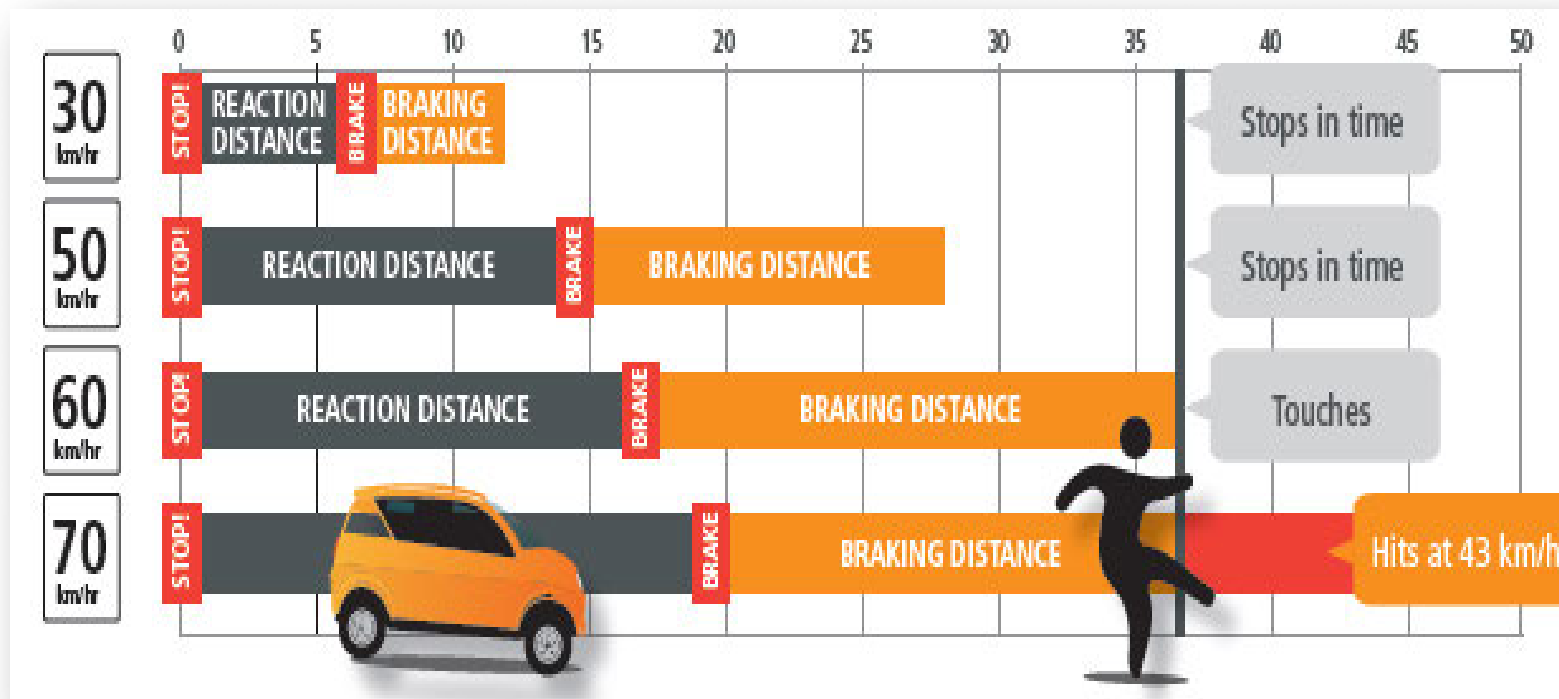
<https://www.youtube.com/watch?v=y5cVvHAwwCg>



# Speed Management - Why Focus on Speed?

Stopping Distance at different speeds  
(including reaction time of approximately 1 second)

**Speed Increases Stopping Distance** Stopping Distance (metres) — Dry Pavement Conditions



## Mistakes



<https://www.youtube.com/watch?v=bvLaTupw-hk>



# Education

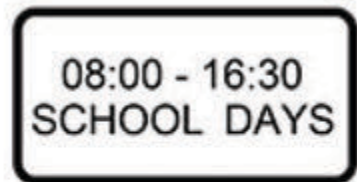


Jackson Heights



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[http://www.edmonton.ca/transportation/traffic\\_safety/why-30.asp](http://www.edmonton.ca/transportation/traffic_safety/why-30.asp).







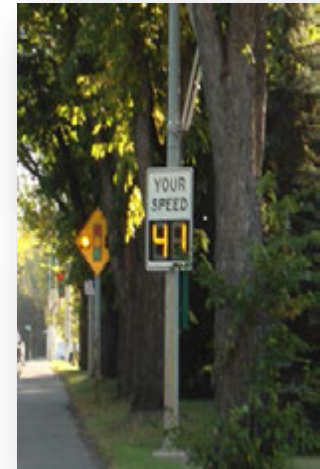
# Speed Management - Performance Indicators

Traffic safety inserts  
mailed to violators\*



439,577 inserts

Driver feedback  
sign hours\*



60,384 hours

Community speed  
awareness sign locations\*



182 locations

Speed trailer  
deployment hours\*



36,816 hours



# Enforcement

Community Vans



Unmarked Vehicles



Digital Photo Laser



Intersection Safety Devices



Manned Enforcement







# Automated Enforcement - Key Organizations

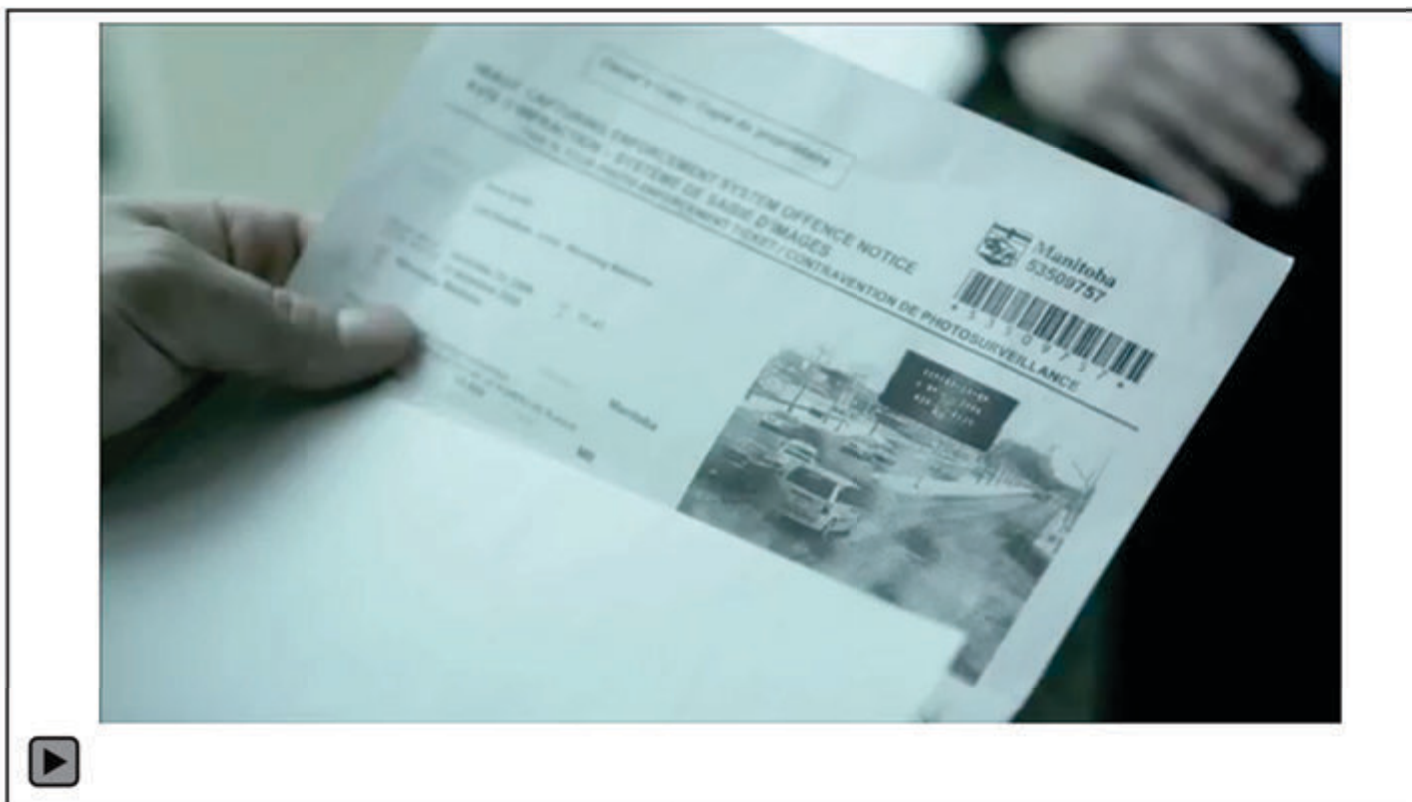
Organization	Roles & Responsibilities
PROVINCIAL GOVERNMENT	<ul style="list-style-type: none"> <li>Responsible for auditing the Automated Enforcement Program through Provincial Legislation</li> </ul>
EDMONTON POLICE SERVICE	<ul style="list-style-type: none"> <li>As the local police authority, EPS is the enforcement agency</li> <li>They retain legislative oversight for the program</li> <li>They approve all fixed and mobile locations for automated enforcement</li> </ul>
CITY OF EDMONTON TRAFFIC OPERATIONS	<ul style="list-style-type: none"> <li>Responsible for recommending speed limits which are approved by Council</li> </ul>
TRAINED PEACE OFFICERS	<ul style="list-style-type: none"> <li>Carry out all automated enforcement as approved by the Solicitor General</li> </ul>
OFFICE OF TRAFFIC SAFETY	<ul style="list-style-type: none"> <li>Apply an evidence-based approach to identify locations that would benefit the most from enforcement</li> <li>Enforces locations approved by EPS</li> <li>Manage the review process for the Automated Enforcement Program</li> </ul>



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## Just Slow Down



<https://www.youtube.com/watch?v=H5EyOnccJLg>



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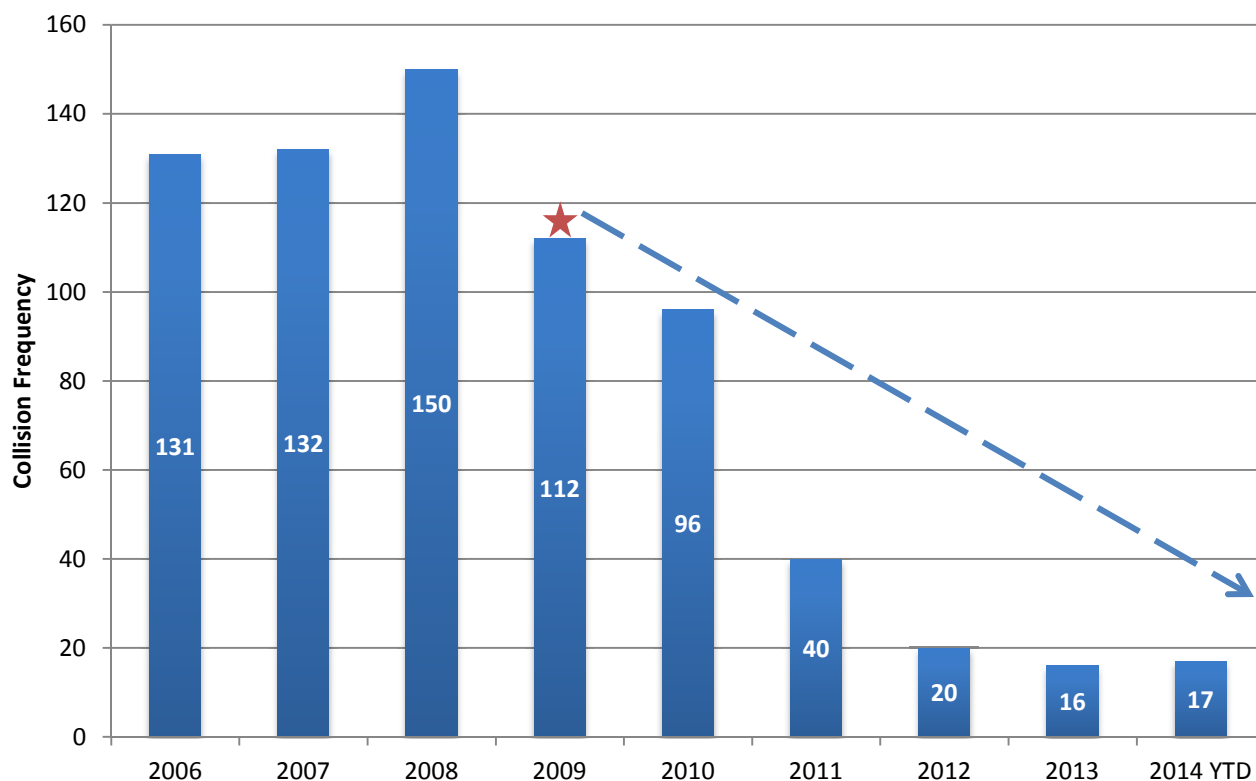
## Engineering





# Right Turn Countermeasure

Right Turn Collisions (2006 - 2014YTD)



★ First right turn redesign countermeasure implemented

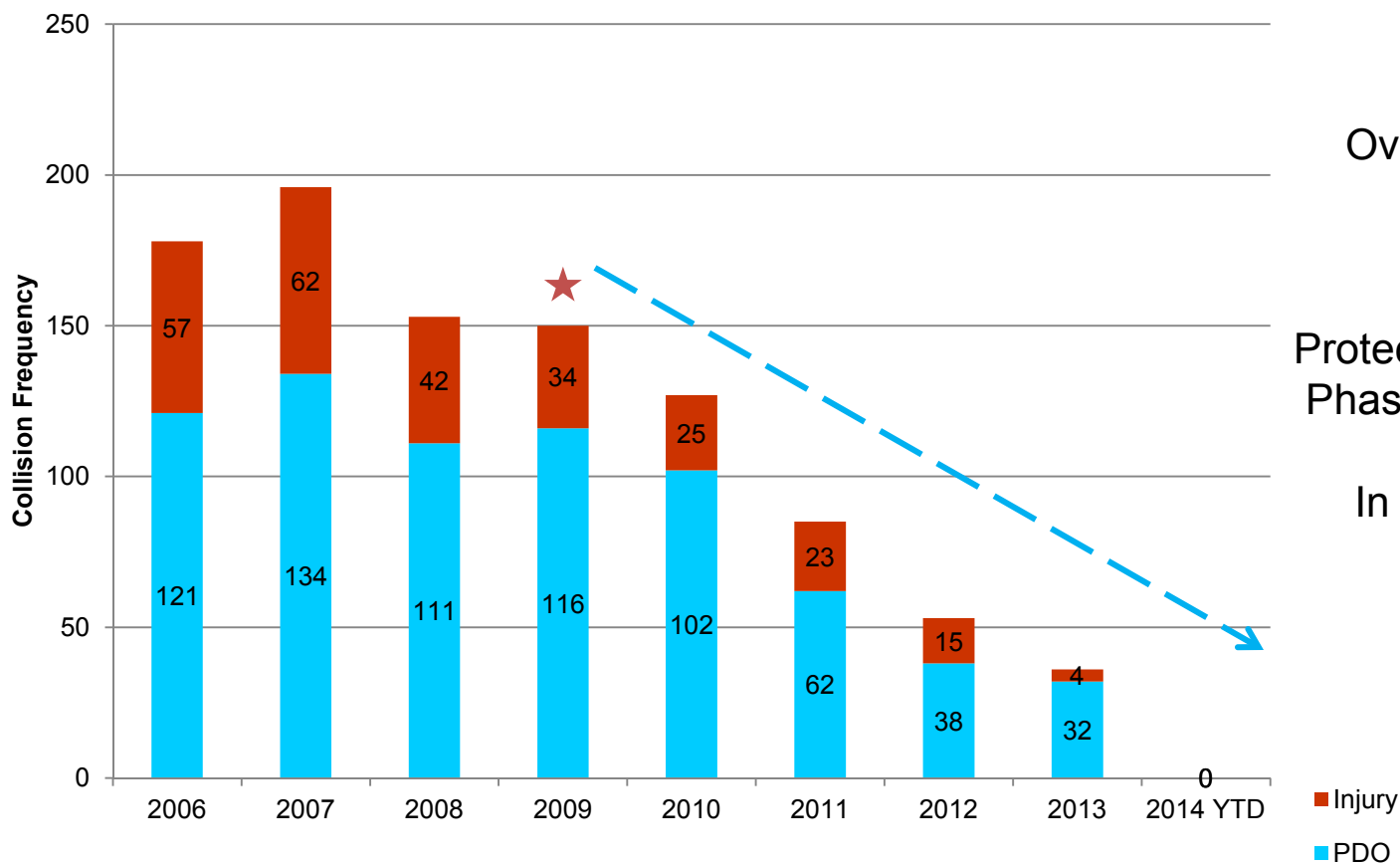
Overall average collision  
reduction:  
**75%**

Right turn was redesigned at  
**18 approaches**  
In the City of Edmonton



# Left Turn Countermeasure

Left Turn Collisions by Severity and Year (2006-2014 YTD)



★ First left turn countermeasure implemented

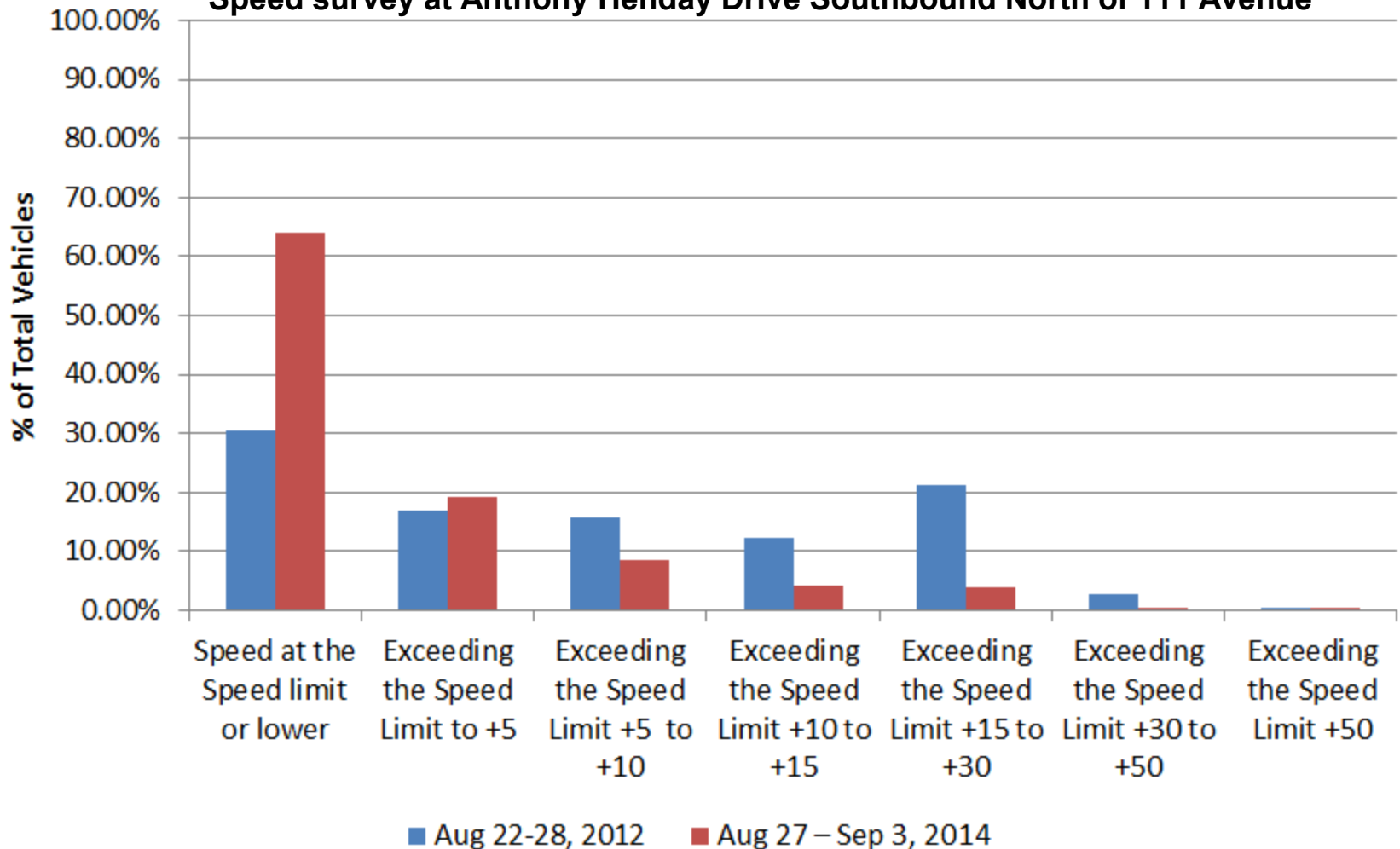
Overall average collision  
reduction:  
**99%**

Protected/Prohibited Left Turn  
Phasing was implemented at  
**52 approaches**  
In the City of Edmonton



## Evaluation

**Speed survey at Anthony Henday Drive Southbound North of 111 Avenue**







# Impact of Driver Feedback Sign

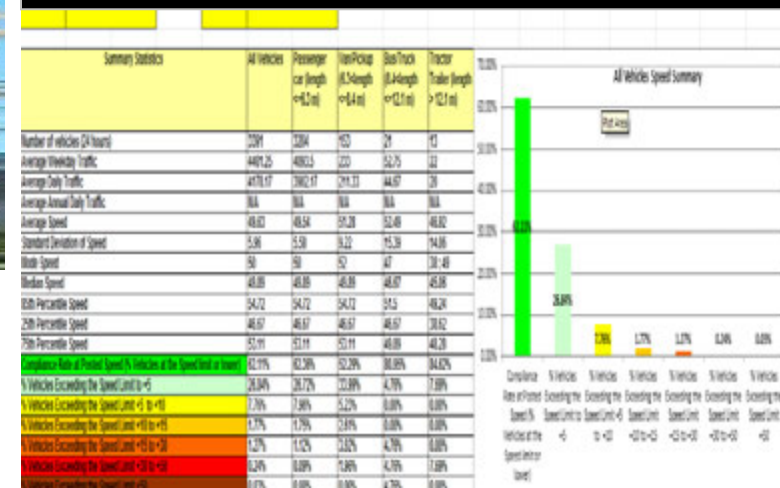
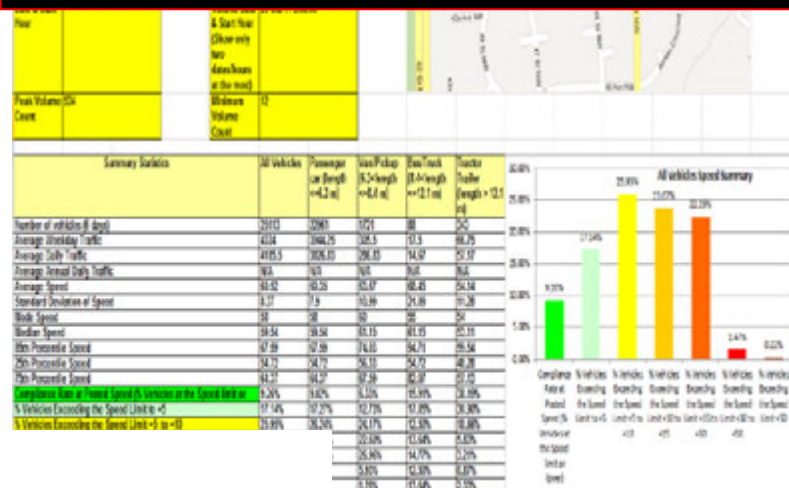
## BEFORE

**Speed Limit:** 50 km/h  
**Average Speed:** 60.86 km/h  
**Compliance to Speed Limit:** 8.28%



## AFTER

**Speed Limit:** 50 km/h  
**Average Speed:** 49.63 km/h  
**Compliance to Speed Limit:** 62.11%

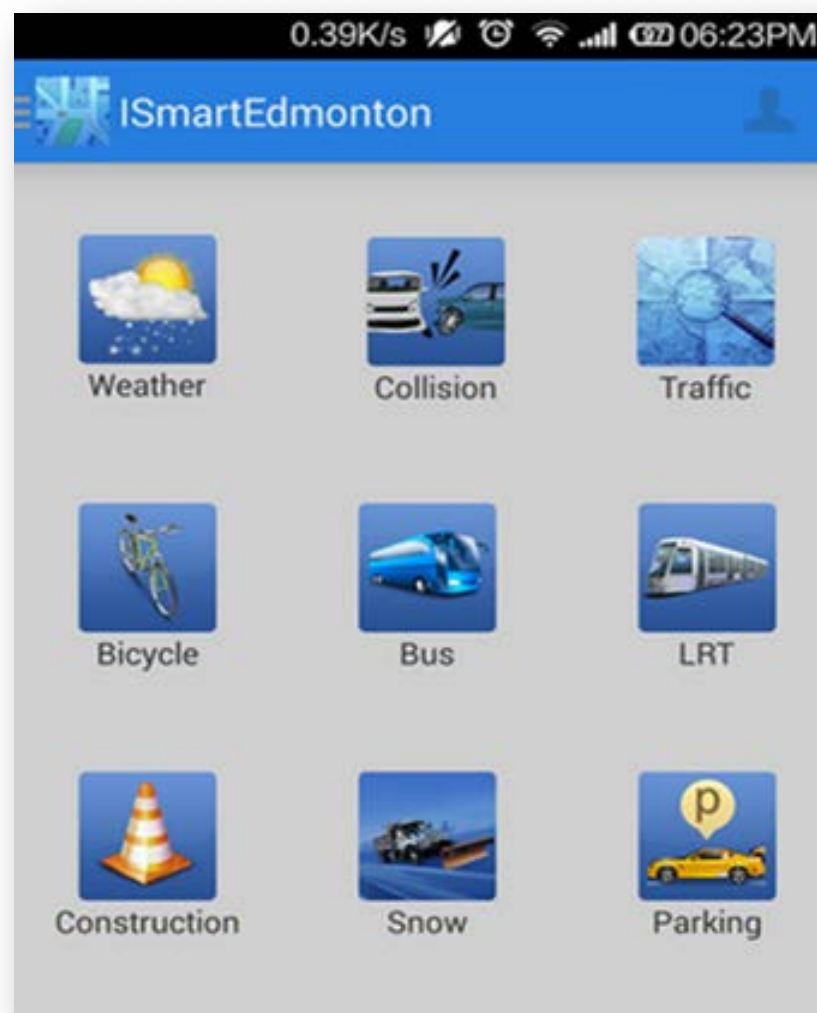




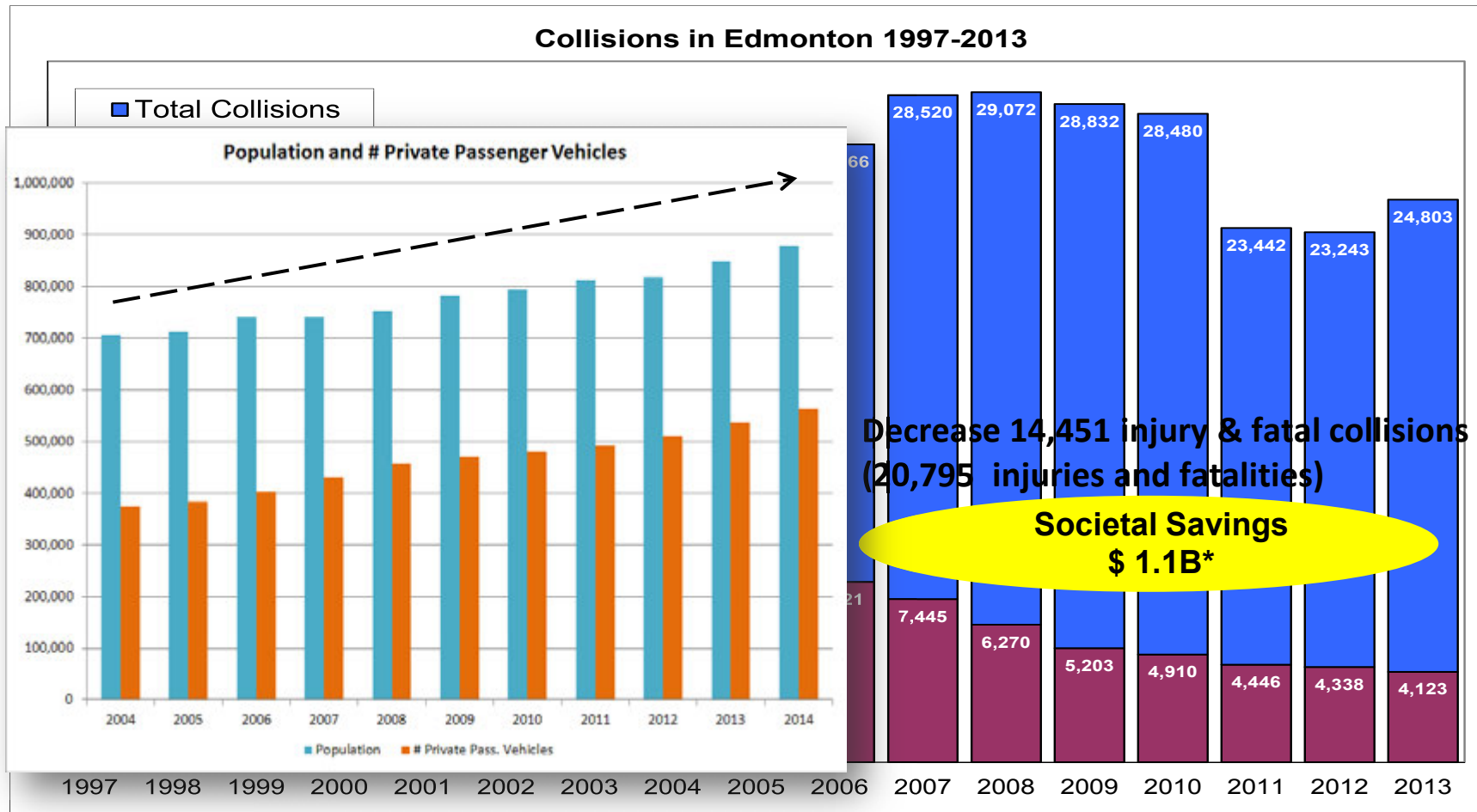
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## Engagement

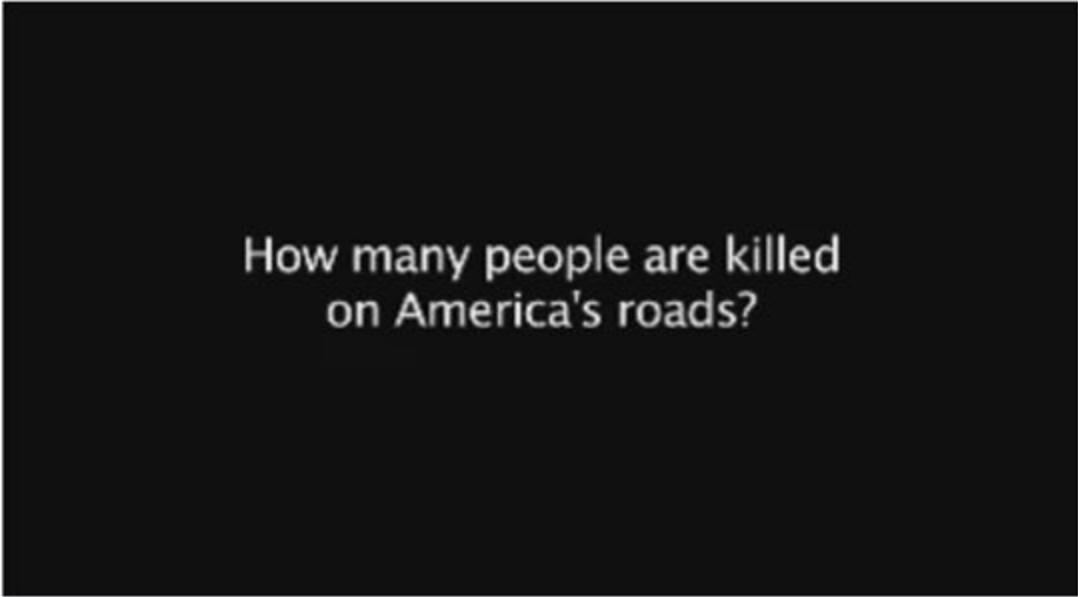


# Can We Achieve Safer Roads?



\*Using 2013 dollar value for collision cost.

## Man on the Street



How many people are killed  
on America's roads?

<http://vimeo.com/41360163>

# SAFE ROADS BEGIN WITH ~~YOU~~ US

## Looking Ahead

### Towards Zero Fatalities

- ✓ *An integrated approach that includes proactive road safety engineering*
- ✓ *Increased educational initiatives*
- ✓ *Efficient and effective preventive enforcement*
- ✓ *Two way public engagement*
- ✓ *Rigorous evidence based evaluation*