

# Developing an Analytics Tool for Safer Roadways

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Jacqueline Fountain

Accident Support Services International Ltd.



# Introduction

- Collision Reporting and Occurrence Management System (CROMS)
- Increasing collisions in Ontario
- High social costs
- Comprehensive analysis was a manual, labour intensive process.
- Limitation of existing analytical capabilities
- Police budgets stretched

# Discovery Process

- Focus groups were held with end users
- Participants discussed their perspective
- Users required the ability to create custom queries
- It was identified that:
  - Geographic depiction of incidents
  - Flexibility to drill down to the causal factors
  - Raw data exports
  - Produce graphical renditions
  - Auditing capabilities
  - Near real time

- Data Warehousing Solution
- Importing capabilities
- Existing data format – two collision reports
- Speed of Delivery Required
- Amendments to collision reports
- LINQ, XML, and SQL
- Adaptable to other provinces

- Web Application
- Complex or Simple Queries
- Search Wizard
- SQL Statement in Background
- Demonstration

# Applications Use

- Answer questions from the public.
- Justify placement of proactive enforcement resources.
- Determine where & when enforcement will be most effective.
- Complete annual reporting collisions.

# City of Peterborough

- Lansdowne St East and West
- 2007 - 4 intersections listed city's worst top 10 intersections (by collision volume).
- 2008 - 6 intersections on the top 10 list.
  - 194 collisions occurred at the top 10 intersections - 126 (65%) on Lansdowne Street intersections.
  - dry roads (69%)
  - Type: rear end (38%), turning movement (31%), and angle (26%)
  - 84% of collisions occurring in daylight lighting conditions.
- 2009 – 2010 – Project Lansdowne
  - Lansdowne Street intersections reduced to three on the top 10 list with 53 incidents (32%).

# City of Hamilton

- Upper Gage Ave and Mohawk Rd East, ranking 9<sup>th</sup> overall by collision volume in 2012
- Pedestrian collisions - 8.3% of all collisions
- Pedestrians were crossing in a marked crosswalk without the right of way – 100% of all pedestrian collisions
- Involved persons were seniors (nearby seniors' complex)
- Identified that seniors unable to cross in allotted time
- City reconfigured the lights and prohibited motorists from turning right on red
- For the time period analyzed 0 collisions involving pedestrians at this location since the changes were implemented



# City of Thunder Bay

- Single Motor Vehicle collisions involving wild animals (deer )
- Annual statistical information was reviewed at City Council Meetings
- In 2012, the City of Thunder Bay implemented a deer management strategy to:
  - 046-2012 – Permit the hunting of deer by means of bow and arrow in certain areas of the City of Thunder Bay.
  - 021-2012 –prohibit the feeding of deer within the City of Thunder Bay.
- 2011 to 2012, there has been a change of -22.8% in wild animal collisions (as a percentage of all collisions) and a change of -28.1% in 2013 over 2011.

Year	Total Collisions	Wild Animal Collisions	Percent of Collisions
2009	3301	177	5.4
2010	3221	199	6.2
2011	3522	200	5.7
2012	3373	150	4.4
2013	3598	147	4.1

# Conclusion

- The application is adaptable to other provinces (Alberta and Nova Scotia).
- Achieved application that provides timely aggregated data.
- Answer the collision questions police serviced are posed with.
- Measurable decline in the associated collisions and costs.

# Questions?



Jacqueline Fountain  
Accident Support Services International Ltd.  
111 Toryork Dr Toronto ON M9L 1X9  
877-895-9111  
[jfountain@accsupport.com](mailto:jfountain@accsupport.com)