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February 28, 2013

Canadian Council of Motor Transport Administrators
2323 St. Laurent Blvd.,
Ottawa, Ontario K1G 4J8
Attention: Valerie Todd
Programs Manager

Reference: CCMTA – Police Partnership Award - 2012 Submission OPP Niagara Detachment

Please find attached the OPP 2012 submission for the CCMTA Police Partnership Award, from Niagara Detachment for their Collision Reduction Strategy.

Sincerely,

Superintendent Ken MacDonald
Ontario Provincial Police
Highway Safety Division
Encl.

Introduction

The Ontario Provincial Police (OPP), Highway Safety Division (HSD) Niagara Detachment, is responsible for policing the 400 series highways within Niagara Region. This region is a border community with the American and Canadian borders being uniquely separated by the Niagara River. There are four border crossings in Niagara, two of which are linked to the 400 series provincial highways. These highways are key routes for the movement of goods between Canada and the United States, and critical in terms of Ontario's economic well-being. In addition, the Niagara Region hosts many tourist attractions, including two casinos, which draw millions of tourists from around the world. With Niagara Falls being located in the midst of Niagara Detachment's area, tourism can substantially increase traffic volumes. Border delays have also had an impact, resulting in major traffic issues.

In order to reduce the number of collisions and congestion on our highways the OPP introduced the Provincial Traffic Safety Plan (PTSP) to support the Canada Road Safety Vision 2015. Since the implementation of the PTSP in 2007, Ontario has seen a reduction in the number of fatal and personal injury collisions in the province. Additional analysis, by the OPP, has also led to targeting the "big four" factors in deaths and injuries on our highways: lack of occupant restraint, aggressive driving, impaired driving, and distracted driving. Delivering targeted prevention initiatives and conducting enforcement activities remain key components in saving lives on our roadways.

In an attempt to further reduce the number of collisions, deaths and injuries in their detachment area, the OPP Niagara Detachment conducted an Operations Review in 2007. This report provides an overview of the strategy, analysis, and evaluation of this review.

Issue

In 2007, the OPP, Niagara Detachment, conducted an Operations Review in order to: raise commitment to road safety, improve communications, enhance enforcement, and improve road safety information. Based on the Operations Review results two main goals were identified:

- 1) To reduce fatal, personal injury, and property damage collisions; and
- 2) To reduce congestion and traffic delays caused by collisions that impact Ontario's economy.

Background

Niagara Detachment started the Operations Review by analyzing collision data from 2003 through to 2005. The analysis revealed that collisions were occurring in a consistent, repetitive, pattern. The following chart identifies the number of collisions, and their locations from 2003-2005.

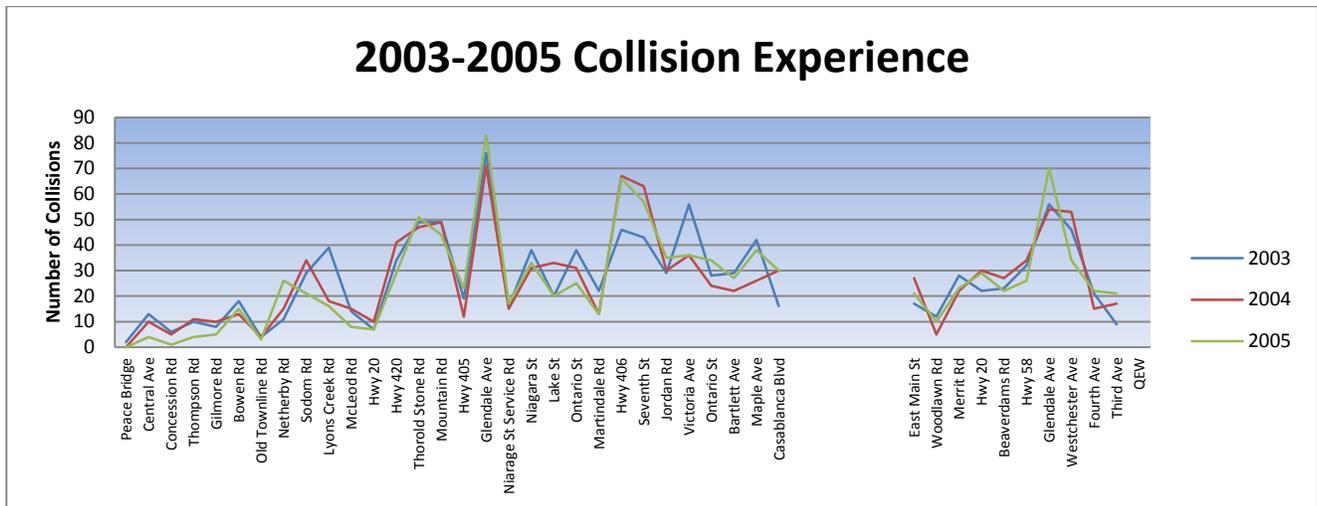


Figure 1: 2003-2005 collision experience by location of the QEW and Hwy 406

The detachment leadership team very quickly determined that in order to be more effective they would require an updated traffic strategy based upon targeted enforcement, community engagement and a wide range of new strategies and tactics. An Intelligence Led Policing Traffic Strategy was developed with three main components:

1. Hotspot Analysis / Directed Patrol;
2. Ontario’s Mobilization and Engagement Model of Community Policing; and
3. Collision Prevention Through Environmental Design (CPTED).

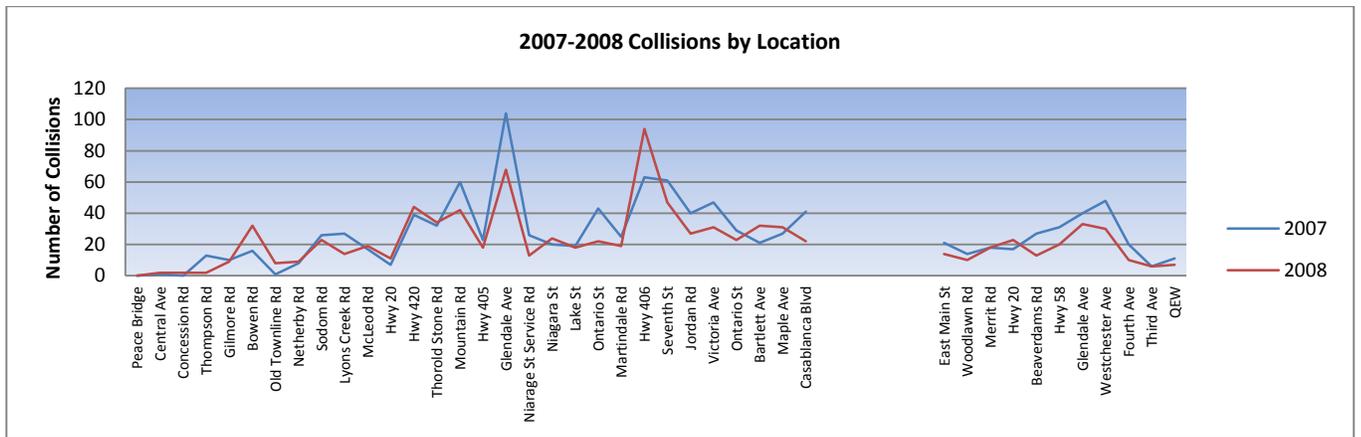
Traffic Strategy

1. Hotspot Analysis / Directed Patrol

The “hotspot” initiative was developed in 2007 and fully implemented in 2008. The high visibility directed patrol strategy focused on placing *visual evidence of enforcement activity, taking place in the right places, at the right times, and focusing on the right things.*

- Members were given clear direction as to their mandatory presence in the hotspot area, and the hotspot was re-designated as a detachment zone which would receive mandatory patrol coverage.
- Saturation patrols in the hotspot zone were also introduced by redirecting officers from other zones for specific time periods to heighten visibility and public awareness.
- Goals and measures were established and a reporting mechanism was initiated to track, analyze and report on the effects the strategy was having on collisions and congestion.
- The officers were provided with monthly feedback as to the impact that their efforts were having.

At the end of 2008, a review of the detachment collisions and the impact of the Traffic Strategy in the Hotspot/Directed Patrol strategy revealed that they were making a difference. There was a reduction in the number of collisions between Mountain Road, and Niagara Street South Service Road. This reduction supported the Hotspot/Directed Patrol strategy. However, while there was a reduction in these areas, there was a substantial increase in collisions at the Queen Elizabeth Way (QEW) and Hwy 406. It was obvious that further intervention would be required. For a summary of the 2008 findings see Figure 2: 2007-2008 Collisions by Location.



2. Ontario’s Mobilization and Engagement Model of Community Policing

The *Ontario’s Mobilization and Engagement Model of Community Policing* was introduced to include community partners in the shared goal of traffic safety. Niagara Detachment partnered with local media outlets to develop an aggressive media strategy. They used every opportunity to provide traffic safety messaging and awareness of traffic issues within the designated “hotspots” and throughout the Niagara Region. Media contacts were tracked and given a public education/awareness value to measure their individual and collective efforts in collision prevention.

Niagara Detachment also started a Community Traffic Safety Committee to tap into new ideas and initiatives. The Community partners included: Niagara Regional Police Service; Niagara Emergency Medical Services (EMS); St. Catharines, Fort Erie, Niagara Falls, Welland, Niagara-On-The-Lake, Lincoln, Grimsby Fire Chiefs; Chief, Niagara Parks Police; Ministry of Transportation (MTO) Area Superintendent; MTO Central Region Head of Operations; AMC contractor (Miller); Town of Fort Erie; Niagara Region Roads; Canadian Border Service Agency (CBSA); US Customs Border and Protection (CBP); Niagara and Peace Bridge Commissions; Metro Heavy Tow and Recovery; and Niagara Region Emergency Management.

The Committee became a conduit for all community traffic issues. One of the first projects that the Committee worked on was a Traffic Border Plan to manage congestion and ensure the free flow of goods.

The Committee also made recommendations to reduce secondary collisions, and end queuing collisions. Eventually, the Traffic Safety Committee gained membership as a subcommittee of the *Niagara International Transportation Coalition (NITTEC)* allowing them to meet regularly to address: traffic and incident management; IMS coordination; and act as a community link to traffic issues in the Niagara Region and cross border traffic management.

Niagara Detachment also joined the MTO Area Maintenance Contractor Committee, and attended monthly meetings sharing road maintenance and road safety concerns. The detachment used the opportunity to raise concerns they had with the number of collisions occurring on the QEW and Hwy 406 ramps. Speed monitoring and analyzing the causes of the collisions were conducted and the ramps themselves were identified as the issue. The majority of the collisions were occurring at the onset of even the slightest bit of precipitation. As an immediate response, a high police presence was deployed to the two ramp locations whenever there was pending precipitation. Although not much could be done by way of enforcement, the high visibility created some driver awareness and speed reduction. The officers’ close proximity provided an immediate response to incidents, allowing them to clear the ramps quickly to avoid secondary collisions. In consultation with the Community Traffic Safety Committee, the problem was reviewed and a third intervention in the form of CPTED was recommended.

3. Collision Prevention Through Environmental Design (CPTED)

At the request of the Detachment Commander and the Traffic Safety Committee, the MTO conducted a full analysis of the ramps. Numerous improvements were made to the QEW and Hwy 406 ramps including: both ramps were resurfaced, extensive signage improvements were made and, for a very short period of time, rumble strips were installed to slow vehicles entering the ramps. Although highly effective, the rumble strips had to be removed due to the extreme noise and the volume of public complaints filed with the MTO. The media coverage and exposure to the rumble strips also resulted in increased public awareness of the problem with the ramps. Further collaboration with the MTO resulted in additional changes to the Hwy 406 ramp:

- MTO installed an oversize checkerboard (8' x 8') in the sight-line for approaching traffic. Previously there had been a 4' x 4' sign at this location.
- MTO removed all of the existing chevrons and replaced them with the oversize 90 x 115 chevrons for the entire length of the ramp.
- MTO installed new oversize warning signs with a black background to draw attention to the signs.
- MTO replaced the NB Hwy 406 diagrammatic sign with a more appropriate diagrammatic arrow reflecting the geometry of the ramp.
- MTO painted the barrier walls.
- MTO reduced the posted speed limit on NB Hwy 406 from 100 to 80 for the last 500 metres to 1 kilometre south of the QEW interchange.
- MTO removed the existing southbound guard rail and replaced it with a concrete barrier.

Additional initiatives were also introduced to address the Traffic Safety Committee's concerns regarding traffic congestion and Incident Management.

- CCTV Camera coverage of the Niagara area highways was increased to allow for earlier detection of collisions / congestion;
- Mile markers were erected to assist in reporting accurate location of collisions/ traffic congestion; and
- In partnership with the New York State (NYS) I 95 Traffic Safety Committee, first responders were also trained in incident management to ensure early warning to approaching motorists and faster more efficient clearing of the collisions.

Analysis

After implementation of the CPTED, the collisions in the identified hotspot area (Mountain Road to Niagara Street South Service Road) saw a reduction of approximately 50%. Additionally, there was a reduction in the number of collisions from Seventh Street through to the Niagara Street Service Road.

The drastic drop in collisions on the QEW at Hwy 406 can be directly attributed to the CPTED work that was done on the 406/QEW interchange ramps. Figure 3: Hotspot and Adjacent Areas from 2007 through to 2012 demonstrates the significant reduction in collisions in these areas.

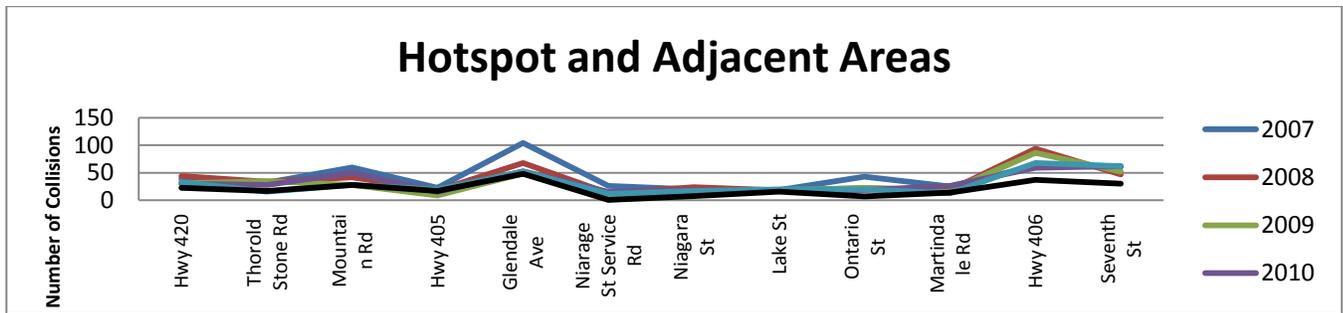


Figure 3: Hotspot and Adjacent Areas from 2007 - 2012

Since 2007 there has also been a 55% reduction in officers having to respond to incidents on the Garden City Skyway hotspot area. Not only did the officers’ presence in the hotspot have an effect on driving behavior and collision reduction it also contributed to officer safety; there have been fewer incidents of emergency response vehicles being involved in secondary collisions in this area. This was traditionally a high risk area for emergency response vehicles, and especially for Niagara Detachment, as they had two officers killed while investigating separate incidents on the Garden City Skyway. . For a review of the number of Skyway incidents reported by responding officers, from 2007-2012, see Figure 4 below:

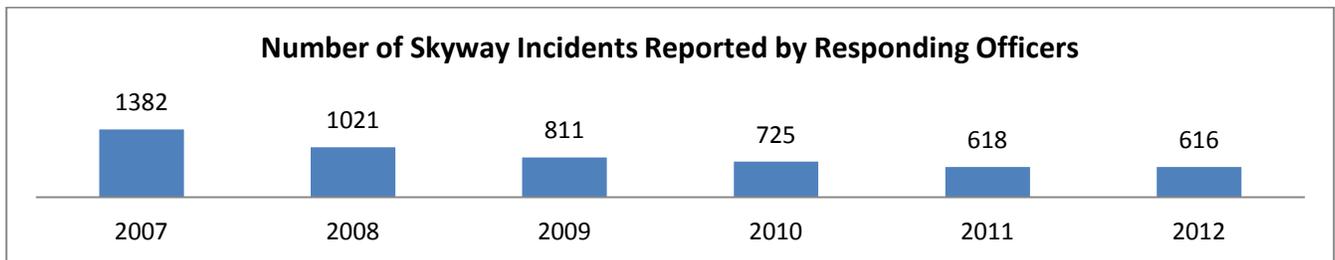


Figure 4: 2007-2012 Number of Skyway Incidents Reported by Responding Officers

Evaluation

Niagara Detachment saw an overall decrease, from 2007-2012, in the following areas:

- Fatal Collisions – 60% decrease
- Personal Injury Collisions – 37.8% decrease
- Property Damage Collisions – 22.7% decrease
- Hotspot Collisions – 60.6%

Highway Safety Division (HSD) Greater Toronto Area (GTA) Detachments, 2007-2012, saw an overall decrease in the following areas:

- Fatal Collisions – 25.9% decrease
- Personal Injury Collisions – 29.1% decrease
- Property Damage Collisions – 4.8% decrease
- Hotspot Collisions – 9.4%

As impressive as Niagara Detachment’s collision reduction numbers are, it is often debated if a traffic strategy is responsible for the decline or if it could be attributed to weather, economy, traffic volumes, luck,

or a combination of all of these factors. In order to evaluate the program a comparison was done between the collisions in Niagara Detachment’s area and the collisions in the OPP HSD GTA Traffic Detachments.

If there was a drop in collisions within the OPP HSD GTA Traffic Detachments, a similar reduction would be expected for Niagara Detachment. However, overall, Niagara Detachment realized a 26.4 % reduction in collisions (2007-2012), almost triple what the rest of the HSD achieved. (See Figure 5: 2007-2012 Niagara Detachment Collisions and HSD GTA Detachment Collisions.) Even more impressive was Niagara Detachments 60.6% collision reduction in the hotspot areas. This was nearly double Niagara Detachment’s overall collision reduction rate of 26.4%. It was approximately six times greater than the collision reduction rate of the HSD detachments (9%).

Conclusion

With these impressive results, there is no doubt that Niagara Detachment’s Traffic Strategy based on Hotspot Analysis / Directed Patrol, Ontario’s Mobilization and Engagement Model of Community Policing, and Collision Prevention Through Environmental Design (CPTED) has had an unprecedented impact on collision reduction and congestion within the Niagara Region.

Niagara Detachment								
	5 Year Average 2007-2012	2007	2008	2009	2010	2011	2012	Decrease
Fatal Collisions	5.2	10	2	6	5	3	4	60%
Personal Injury	231.6	307	252	194	181	224	191	37.8%
Property Damage	877.4	1033	919	696	901	838	799	22.7%
Total	1114.2	1350	1173	896	1087	1065	994	26.4%
Hotspot Collisions	139	221	153	92	132	97	87	60.6%
OPP HSD GTA Detachments								
	5 Year Average 2007-2012	2007	2008	2009	2010	2011	2012	Decrease
Fatal Collisions	39	54	28	33	43	37	40	25.9%
Personal Injury	3523.4	4413	3478	3187	3038	3501	3127	29.1%
Property Damage	18068.4	19010	19310	17322	15867	18833	18090	4.8%
Total	21630.8	23477	22816	20542	18948	22371	21257	9.4%

Figure 5: 2007-2012 Niagara Detachment Collisions and HSD GTA Detachment Collisions