



A strategy to reduce
serious motor vehicle collisions
in the Niagara region

Think and Drive – A strategy to reduce serious collisions in the Niagara region
September 2009

Prepared by: SMARTRISK in collaboration with the Regional Niagara Road Safety Committee (RNRSC)

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RNRSC Vision: “Saving lives through road safety”.

RNRSC Mission statements:

The reduction of serious and fatal motor vehicle collisions in the Niagara region over a five-year period (2003 - 2008) through partnerships in road safety.

The reduction of all reportable motor vehicle collisions in the Niagara region over a five-year period (2009 - 2013) through community partnerships in road safety.



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Think and Drive

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Executive Summary



Driving is a rite of passage for many. After passing the driving examination, drivers are licensed to venture out onto the roads and highways. At this point, novice drivers have full responsibility and control over large, heavy machines, which can do serious harm if used irresponsibly. Vehicles are powerful machines, which need to be driven sensibly and with care.

In 2004, motor vehicle incidents caused 43% of all transport related deaths in Ontario and accounted for over half of all hospitalizations (54%), emergency room visits (57%), and numerous cases of permanent partial disability (53%) and permanent total disability (55%). (SMARTRISK 2009). At that time, the Niagara region of Ontario was especially vulnerable, as it had one of the highest numbers of fatal and life-threatening crashes per capita, compared with other regions in Ontario. These crashes were primarily due to speed, impairment, and driver inattention with most occurring on rural roads (Source: Report on the Niagara Regional Police Service Motor Vehicle Collision Data 1999-2003).

The Regional Niagara Road Safety Committee (RNRSC) was formed in 2004 with a mission to reduce fatal and serious injury motor vehicle collisions by 10% over a five year period (2004-2008) by focusing on the vehicle, driver action, the driving environment and sharing road safety related information. The committee partners each represented one component of a comprehensive injury prevention approach to road safety: enforcement; Niagara Regional Police Service (NRPS), education; Niagara Region Public Health (NRPH), engineering; Niagara Region Public Works (NRPW), and advocacy; CAA Niagara (CAA).

The RNRSC developed and oversaw the Think and Drive road safety social marketing and communication campaign in 2006 to specifically address one element of their overall road safety strategy - driver action. The target population of the Think and Drive Campaign included citizens in the 12 municipalities of Niagara, specifically male drivers 16 to 40 years of age. The goal was to make them aware of the motor vehicle crash issue, and subsequently, to teach them about personal road safety and crash prevention techniques. The long-term goal was to begin to change driver attitudes and behaviours to reduce crashes and crash related injuries and deaths.

The Think and Drive Campaign's key messages were delivered to the target populations by way of a multi pronged approach that included an initial pilot campaign and a large expansion campaign coupled with increased traffic enforcement. A broad range of communication and social marketing strategies (including direct mail, posters, website, media, and community promotional activities and events) were used to target road users who lived and worked in one of the 12 area municipalities during the pilot phase. Based on the evaluation results of the pilot, the 15-month expansion of Think and Drive, along with the interactive website, www.thinkanddrive.net, was launched across the Niagara region. A communication strategy involving media, advertising and publicity and interactive components was used to reach Niagara drivers. Fundamental to the campaign was the involvement and support of the Niagara grass-roots community to enable access and encourage participation of the target audience.

Upon evaluation, it was found that the Think and Drive Campaign resulted in the following:

- Increased awareness among the citizens of Niagara of the road safety issue in the region.
- A greater knowledge of road safety and its importance among Niagara citizens (e.g., increased perception that Niagara has serious road safety issues).

- A new widespread belief that crashes were a result of preventable behaviours behind the wheel such as speeding, drinking and driving, and aggressive behaviour.
- A belief among citizens that they had control over their chances of being involved in a serious motor vehicle collision.
- A common belief that by following messages such as pay attention while driving, slow down, avoid distractions, and avoid using a cellphone, one could increase road safety for themselves and the region.
- An increased knowledge that the use of rural roads and cellphones were important factors that could result in serious road crashes.
- A belief that traffic enforcement and road safety education were the two most important strategies for authorities to implement in order to reduce serious car crashes.
- An increase in the percentage of drivers who self-reported that they would never participate in a number of risky driving behaviours (i.e. driving over the speed limit, driving faster on rural roads, running a yellow light, racing, tailgating, daydreaming, misjudging driving situations, reading while driving, driving while adjusting vehicle settings, grooming, eating or drinking a beverage, after drinking or while tired)
- A belief among the primary target audience (males aged 16 to 40) that by changing personal behaviours to reduce speed and pay more attention while driving would reduce serious crashes.
- Overall, 32.2% of Niagara drivers were aware of the Think and Drive campaign, 11.3% had heard of the Think and Drive website, and there was a significant increase in campaign recognition between the middle and final campaign quarters.

The Think and Drive campaign was successful in achieving the original objectives including: increasing awareness about the Niagara crash problem, increasing knowledge and road safety skills related to the Niagara crash problem, and increasing the intention of Niagara drivers to change attitudes and behaviours and take personal responsibility for road safety to help reduce serious vehicle crashes. This can be attributed to several factors:

- It followed the best practice model with a combination of communication and social marketing alongside increased traffic enforcement.
- The commitment, contributions and expertise of the RNRSC partner members and key stakeholders who provided the ongoing support needed to execute the campaign and ongoing road safety strategy.
- The use of the Pilot campaign evaluation to inform the planning and implementation of the region-wide Think and Drive campaign in order to enhance successes and improve on deficiencies.
- The continuous evaluation, prior to and throughout the campaign, allowed it to be responsive and adaptable to unique community needs and available opportunities.
- The campaign was based on a comprehensive health promotion approach of increasing knowledge and awareness, building skills and creating a supportive road safety environment for Niagara drivers.
- The RNRSC focused on building community capacity and collaborating with the grass-roots community to assist with delivery of the multi-faceted communications strategy to reach the target audiences. The wide breadth of information sharing and community involvement fostered awareness of Think and Drive and its key messages throughout Niagara.

- The formation of partnerships with provincial, regional and municipal governments and services, local media, business associations, employers, schools, community groups, individuals and other stakeholders to support, implement and promote Think and Drive elevated the road safety issue to one of greater importance throughout Niagara.
- The use of a three-pronged marketing and communication approach including media relations, advertising and publicity, and interactive participation by the Niagara community was effective in reaching all target audiences.
- Target audiences were identified and the marketing materials were tailored to these groups.

In the future any community wishing to implement a comparable campaign should consider using a similar marketing strategy and community based approach.

A limitation of the Think and Drive campaign was that involvement and interest seemed to decrease during the final three-month phase of the 15-month campaign as indicated by a decrease in community response. It is recommended that future applications of the Think and Drive campaign need to consider new and impactful means to engage and interest the target community for the campaign duration.

Background



In 2004, the Niagara region was made up of 12 municipalities and had a population of approximately 420,000. These 12 municipalities were comprised of three larger cities and nine smaller communities. Within the region, there was a large university (Brock University) and a community college (Niagara College) with two main campuses. In terms of road infrastructure, there are approximately three times more rural roads than urban/semi-urban roads. Several agencies were working independently on road safety initiatives with a limited number of joint initiatives.

Burden of Injury

In 2004, motor vehicle incidents caused 43% of all transport related deaths in Ontario and accounted for over half of all hospitalizations (54%), emergency room visits (57%), and numerous cases of permanent partial disability (53%) and permanent total disability (55%). Motor vehicle incidents accounted for approximately half of total costs (52%), direct costs (57%), and indirect costs (48%) arising from injuries due to transport incidents in Ontario in 2004. These numbers are reported in the 2009 SMARTRISK report, *The Economic Burden of Injury in Canada*, which outlines that these figures equate to a \$598,787,149 total cost, a \$280,250,679 direct cost and a \$318,536,471 indirect cost within Ontario alone. (SMARTRISK, 2009)

Compared with other regions in Ontario, the Niagara region has one of the highest numbers of deaths and serious injuries per capita for motor vehicle collisions (Table 1).

Table 1
Fatal and serious injury motor vehicle collisions per capita (Source: Niagara Regional Police Service)

REGION	POPULATION (K)	2004 FATAL	2004 SERIOUS INJURY	2004 TOTAL	2005 FATAL	2004 FATAL AND SERIOUS PER CAPITA	2005 FATAL PER CAPITA
Durham	572	29	46	75	29	0.13	0.05
HALTON	380	13	18	31	14	0.08	0.03
HAMILTON	503	17	15	32	20	0.06	0.04
LONDON	337	12	8	20	14	0.06	0.04
NIAGARA	431	30	40	70	28	0.16	0.06
OTTAWA	774	31	47	78	22	0.10	0.03
PEEL	989	26	16	42	20	0.04	0.02
WATERLOO	498	16	23	39	16	0.08	0.03
WINDSOR	210	12	8	20	4	0.10	0.02
YORK	759	39	48	87	38	0.11	0.04

In Niagara, an analysis of the Niagara Regional Police Service motor vehicle collision data from 1999 to 2003 revealed several disturbing trends. It was observed that speed, driver error, and impairment were the main causes of serious collisions. Additionally, it was found that male drivers were involved in 75% of collisions and 58% of all collisions were occurring on rural roads. The data also revealed that there was more driving impairment among younger drivers and that speeding was a greater problem for drivers under 50 years of age. However, driver error was a problem common to all age groups. It was found that more of the serious motor vehicle collisions involved those between ages 16 and 40, with 64% of crashes involving drivers in that age range. (Source: Report on the Niagara Regional Police Service Motor Vehicle Collision Data 1999-2003).

The Traffic Injury Research Foundation has identified that road safety is an important social issue to the public (The Road Safety Monitor; Public Awareness and Concern About Road Safety TIRF, 2006). In terms of Niagara residents specifically, a 2006 public opinion survey of 428

residents, which was administered prior to the Think and Drive campaign as part of the Ministry of Transportation Ontario 2006 Road Safety Challenge, provided a snapshot of public opinion within the area:

- 93% were concerned about road safety in the Niagara region
- 89% considered road safety to be a health issue
- 69% reported their driving behaviour affects road safety
- 90% indicated road safety was an issue in the Niagara region

The high incidence of serious motor vehicle collisions and related deaths, coupled with public awareness led to the development and implementation of a road safety campaign in Niagara by the RNRSC.

The results from the aforementioned public opinion poll demonstrated that road safety was both a behavioural and social issue. In light of this, it was determined that a multi-pronged approach to the campaign would be able to target all causal factors. The campaign was built to address the attitudes of drivers and to influence their driving behaviours.

Regional Niagara Road Safety Committee



In 2003, Niagara Regional Police Service held a community symposium, which highlighted the steady increase in the number of motor vehicle-related deaths and injuries on Niagara's roadways. As a result of this symposium and increasing community concern, the Regional Niagara Road Safety Committee was formed.

Membership of the Regional Niagara Road Safety Committee (RNRSC) included a range of sectors with partner agencies each representing one part of an injury prevention approach to road safety; Niagara Regional Police Service - Enforcement, Niagara Region Public Works - Engineering, Niagara Region Public Health - Education / Evaluation, and CAA Niagara -Advocacy/Encouragement.

The RNRSC spent a considerable amount of time and energy on the development of a five-year strategic plan (2004-2008). The Think and Drive campaign was a component of this five-year strategic plan, specifically aimed at changing drivers' awareness, knowledge, attitudes, and behaviours while behind the wheel. It was developed to address the road safety strategy goal related to driver action.

Regional Niagara Road Safety Committee Development

The RNRSC provided direction for the entirety of the road safety strategy and Think and Drive campaign. The committee executive was comprised of the heads of each RNRSC partner agency. They provided strong, influential leadership and high-level support and enabled a balanced collaboration with each particular audience within the community. For

example, each executive member was able to provide leadership regarding the best ways to reach and influence key boards, funding agencies and stakeholders. In addition, one member of the executive committee, the Chief of Police, became the key spokesperson and the face behind the campaign. This decision was made due to the fact she was well-known, respected in the community and a natural fit with road safety in the eyes of the public.

An important aspect of the RNRSC growth was that they developed a common road safety vision and agreed to become a joint force to achieve their mission. An example of this was their decision to create a RNRSC logo that represented their joint committee rather than the individual partner members. This helped to convey to the public that they were addressing road safety improvements collectively.

Regional Niagara Road Safety Committee Strategic Plan 2004-2008

Vision: “Saving Lives Through Road Safety”

Mission: The reduction in serious and fatal motor vehicle collisions in the Niagara region over a five-year period (2004-2008) through community partnerships and Road Safety.

Goals:

- To decrease the number of serious motor vehicle collisions where factors related to vehicles are a primary consideration by 10%.
- To decrease the number of serious motor vehicle collisions where factors related to the driving environment are a primary consideration by 10%.
- To decrease the number of serious motor vehicle collisions where factors related to driver action are a primary consideration by 10%.

- To enhance the ability to effectively share road safety related information among the Regional Niagara Road Safety Committee partner agencies and the community.

This five-year strategic plan employs a comprehensive approach to injury prevention which includes education, enforcement, engineering, and advocacy. It builds on ongoing efforts of education (e.g., mature driver seminars, impaired driving prevention activities for youth, community child car seat sessions), enforcement (e.g., formation of Niagara Regional Police Service Special Enforcement Unit, enhanced Reduce Impaired Driving Everyone program (RIDE)), engineering (e.g., operational safety reviews, traffic studies, capital improvements), and advocacy (e.g., media relations, CAA Public and Governmental Affairs Committee, Canadian Association of Chiefs of Police).

The specific objectives and action plan within each goal were:

A decrease of 10% in the number of serious motor vehicle collisions where factors relating to vehicles are a primary consideration.

a) Increase in voluntary maintenance:

- i) Public invited for voluntary inspections for safety items as part of vehicle safety initiatives; and
- ii) CAA to inform membership regarding safety items on passenger vehicles.

b) Decrease of 10% in the number of unsafe vehicles:

- i) Ongoing scheduled enforcement initiatives to target unsafe passenger vehicles.

A decrease of 10% in the number of serious motor vehicle collisions where factors relating to driver actions are a primary consideration.

Note: In 2006-2008, the Think and Drive campaign will be implemented to help achieve this objective.

- a) Increase of 10% in the community capacity to provide car seat inspection clinics:
 - i) Community led car seat inspection clinics throughout the Niagara region ensuring diversity of venue (e.g. car dealerships, Early Years Centres, Community Policing, retail outlets).
- b) Increase of 10% in time on front-line enforcement for identified traffic offences:
 - i) Ongoing scheduled enforcement campaigns to target traffic offences in relation to:
 - 1) Seatbelt usage,
 - 2) Aggressive driving,
 - 3) Speeding (both urban and rural roadways), and
 - 4) Traffic controls (e.g. red lights, stop signs).
- c) Increase of 10% in time on front-line enforcement for impaired driving offences:
 - i) Ongoing scheduled enforcement campaigns to target impaired driving offences.
- d) Increase of 10% in the initiatives directed toward road users with reduced or diminished skills and abilities:

- i) Information programs to target identified groups in the area of reduced or diminished skills and abilities.
- e) Increase of 10% in the initiatives directed toward traffic and impaired related offences:
 - i) Information programs or services to target identified groups in the area of traffic offences; and
 - ii) Information programs or services to target identified groups in the area of impaired driving related offences.
- f) Increase of 10% in the initiatives directed toward issues concerning distracted driving (e.g. cellular telephones, excessively loud audio sound systems, etc.).

A decrease of 10% in the number of serious motor vehicle collisions where factors relating to the driving environment are a primary consideration.

- a) Appropriate signage in high risk locations:
 - i) Analysis of high-risk areas/areas of concern with appropriate response.
- b) Analysis and recommendations regarding volume/flow/infrastructure:
 - i) Analysis of current and anticipated traffic flow issues with recommendations.
- c) Review of regional and municipal signage to ensure regulatory and best practice compliance regarding traffic advisory and control:
 - i) Ongoing audit of quality, integrity, and placement of roadway signage;
 - ii) Review of appropriate speed limits in municipalities; and

iii) Use of alternate speed limiting mechanisms.

An enhanced ability to effectively share road safety related information among the Regional Niagara Road Safety Committee (RNRSC) partner agencies and the community.

a) Meetings to allow for information exchange and input regarding road safety concerns:

- i) Among RNRSC partner agencies at Executive and Working levels;
- ii) Scheduled semi-annually with relevant community interest groups; and
- iii) With general community stakeholders on an ad-hoc basis.

b) Increase in awareness in the Niagara area regarding road safety issues, and possibilities for prevention, through media campaigns and special events:

- i) In conjunction with significant related initiatives;
- ii) In conjunction with all enforcement campaigns;
- iii) For identified road safety issues using available;
 - 1) public access media,
 - 2) selective corporate partnerships,
- iv) Use of identified advocacy groups;
- v) Information campaigns using associate distribution methods; and
- vi) Use of existing government, or otherwise recognized, websites to provide statistical information.

- c) Development of a regional-access database to track and analyze serious collisions:
 - i) To provide all relevant information regarding serious collisions to RNRSC partner agencies; and
 - ii) To enhance data collection and analysis methodologies among RNRSC partner agencies.
- d) Use of a telephone 'Traffic Hotline' to allow the public to report:
 - i) Potential design/maintenance/control concerns; and
 - ii) Locations or individuals requiring enforcement intervention.
- e) Issuance and distribution of a Regional Road Safety Annual Report:
 - i) To include background, statistics, current and planned actions, and results.

Rationale for the Think and Drive Campaign



Shifting Road Safety Culture

In Niagara, through the analysis of local motor vehicle collision data, the primary causes of serious crashes included speeding, impairment and driver error (Report on the NRPS Motor Vehicle Collision Data 1999-2003). While the Ministry of Transportation identified that 85% of all crashes in Ontario were due to driver action (1985), only 69% of Niagara respondents indicated that their driving behaviour affected road safety (2005 Niagara road safety opinion survey). Anecdotally, Niagara drivers suggested traffic enforcement and road engineering as solutions to local road safety issues. There was a lack of awareness around using a comprehensive approach that would include education, advocacy, and taking responsibility for personal driving behaviour.

Utilization of the '4 E's' and Stakeholders

The RNRSC envisioned a change in Niagara's societal beliefs that would parallel known best practice for road safety improvement – the 4E approach to injury prevention including enforcement, engineering, education / evaluation, and advocacy. As such, they began to inform and educate the Niagara community about their joint approach to road safety. The RNRSC highlighted the expertise, priorities and importance of each member's primary role within the 4E approach and how their related 4E activities contributed to road safety improvements. Examples of these activities included: enforcement (enhanced traffic enforcement initiatives), engineering (traffic studies and capital improvements), education

(secondary school presentations and car seat education classes) and advocacy (media relations).

Social Marketing and Mass Media

The Niagara-focused social marketing Think and Drive campaign was developed and implemented based on strategies from Social Marketing in Health Promotion (Watson), evidence of effectively influencing driver behaviour through road safety mass media campaigns (Delhomme), and a combination of mass media and other supports such as legislation, enforcement, and public relations or associated publicity (Delaney, Lough, Whelan, Cameron).

Approach to Think and Drive



Comprehensive Health Promotion

A comprehensive health promotion approach was used throughout the campaign and proved essential in not only raising awareness and increasing knowledge within the region, but also in the utilization of all available research and resources. A multifaceted approach, such as this, enabled the campaign to target behaviours and elicit change through numerous venues available within the community. Using a balanced approach such as this allowed for each particular audience to be included in the communication of information and helped to promote the shift towards healthy action. The approach was divided into the following categories, each lending a particular strength to the entire campaign;

Education/Awareness

- This served to present relevant, balanced and factual information to the public, which in turn aided in motivating them to make informed decisions and appropriate changes.
- Presentations were used to increase the knowledge and skills of key stakeholders and groups. They were also used to provide relevant background evidence and request support.

Skill Building

- Skill building allowed for a shift away from simply “telling” the public what to do, and instead works towards motivating and preparing them to take control of the message for themselves.

- Skill building was used within the community to build awareness with specific groups and then allow them to spread the message of the campaign. This was done through community presentations, community meetings, and simply asking them for help.

Environmental Supports

- These created the physical and social environments that encourage safer roads and protect driver health and safety.
- Resources were used within the Niagara environment to support and spread the message of Think and Drive. The Think and Drive educational communications and marketing campaign was coupled with enforcement in order to have the greatest impact on driver behaviour. This resulted in consistent message delivery by all RNRSC partner members to Niagara drivers about the importance of becoming a better and safer driver.

Policy

- Policy is a fundamental tool in influencing, focusing and reinforcing campaign messages. Ensuring that a campaign follows and reflects current policy allowed for the greatest influence on societal norms and behaviours.
- Although there was no focus on local policy, the use of stronger provincial legislation was used to support efforts.

Sustainability

- This was accomplished through alliances with local road safety groups (i.e., Safe Communities, local road safety task forces, OSAID, MADD). Additionally, the use of sustainable resources proved to be helpful in maintaining the messaging. Examples of resources used include: the website, Facebook group, road signs, decals on trucks and regional vehicles, and alignment with the Road Watch program.

Three Key Directions

Three key directions were followed as the campaign became a region-wide initiative:

1. Community capacity and partnership building

- A strategic communications plan was put in place in order to build grassroots involvement. This allowed for all the resources, messages, materials, and discussions to be distributed within the community through the use of in-kind contributions from partners and stakeholders. It was through this local community involvement that the Think and Drive campaign was supported and maintained.
- The campaign worked towards maintaining and forming partnerships within the local community by using campaign strategies that were flexible and adaptable to the local situation.

2. Communications and social marketing

- A three pronged approach was utilized within this strategy which included media, advertising, and publicity. It was key to provide interactivity in these initiatives and involve participation from the public.
- Additionally, various other resources for communication were utilized. For example, the CAA held a strong presence within the community (75,000 homes) and was therefore utilized in the campaign. In addition, the MTO provided expertise in marketing for road safety, guidance, support, and funding. It was through this combination of resources that awareness could be raised in the Niagara region as a whole.

3. Research and evaluation

- The campaign was based on community scanning, literature reviews, and the results of local evidence (including local motor vehicle collision data and pilot evaluation results).

Priorities for Action

The following priorities were identified for action:

- Raise the profile of road safety as a public health issue.
- Address the lack of public information about motor vehicle collisions and road safety.
- Adopt an injury prevention and health promotion approach to road safety.
- Build partnerships and share road safety information with partners and the community.
- Increase community capacity to take leadership roles in road safety.
- Encourage drivers to take personal responsibility in decreasing motor vehicle collisions.

The Campaign's Underlying Principles and Values

An effective campaign will do the following:

- Incorporate evidence-based decision making and evaluation.
- Consider best practices and an injury prevention and health promotion perspective.
- Be flexible and adaptable to the local situation.

- Clearly delineate the roles of many stakeholders at the provincial, regional, municipal and local community levels.
- Require partnerships and support from the community.
- Consider the target audience, appropriate communication strategies, and tactics.

Campaign Implementation



The RNRSC developed a strategic plan to reduce fatal and serious injury motor vehicle collisions in Niagara by 10% over a five-year period (2004-2008), using a comprehensive injury prevention approach to road safety that included education, enforcement, engineering, and advocacy. The Think and Drive road safety campaign was one part of this five-year campaign. It was divided into two campaign periods, beginning with the pilot campaign, which later informed the expansion campaign.

The Think and Drive road safety Pilot campaign, which will be referred to herein as the Pilot campaign, was launched on Sept. 5, 2006, in Niagara-on-the-Lake, in partnership with the Niagara-on-the-Lake Traffic Safety Task Force. A broad range of social marketing strategies, including direct mail, posters, website, media, and community promotional activities and events, were used to target road users who live and work in Niagara-on-the-Lake.

On Oct. 16, 2007, the 15-month expansion of the Think and Drive Pilot campaign was launched across the Niagara region based on the evaluation results of the Pilot campaign.

Think and Drive Pilot Campaign



The Pilot campaign was one component of the overall RNRSC strategy, developed as a social marketing campaign to address driver behaviour, with the main goal being targeting and changing driver action.

The specific objectives of the Pilot campaign were to:

- Increase awareness among road users about the Niagara crash problem (through the development and dissemination of creative, multi-pronged, focus-tested messaging).
- Increase knowledge among road users about road safety skills applicable to the Niagara crash problem.
- Change driver attitudes about the importance of personal road safety to decrease motor vehicle collisions.

The Pilot campaign served to assist in meeting one of the the long-term objectives of the RNRSC five-year strategy:

- A decrease of 10% in the number of serious motor vehicle collisions where factors relating to driver actions are a primary consideration.

The Pilot campaign was in effect from Sept. 5, 2006 to Dec. 31, 2006 and an evaluation report was completed in January 2007. Over 10% of the driving population in Niagara-on-the-Lake actively participated. In addition, several fundamental changes were observed in the culture of road safety including increased awareness and knowledge, improved attitudes, influenced behaviour, and increased community partnership and support. More specifically, the Pilot campaign:

- Increased awareness about road safety issues and the crash problem in Niagara.
- Heightened knowledge about road safety skills applicable to crashes and how to improve road safety in Niagara.
- Enhanced intentions to improve driving attitudes and take personal responsibility for road safety.
- Changed behaviour of drivers.
- Increased community support and collaboration by engaging the public, grass-roots community organizations, such as the Niagara-on-the-Lake Task Force and its member associations, Niagara-on-the-Lake Town Council, local media, business associations, major employers, schools, and community groups.

The Pilot campaign was recognized at the Ontario Road Safety Symposium in 2006. Its success in Niagara-on-the-Lake led to the expansion of Think and Drive.

Methodology and Needs Assessment

• Needs Assessment

Prior to the launch of the Pilot campaign, a needs assessment was conducted in two parts (a qualitative and quantitative evaluation) in order to assess the needs of the community and to determine if road safety was a concern.

A) Qualitative:

Needs Assessment- Community Communications Meeting (Pre-campaign):

A community meeting was held on June 22, 2006, to determine how the RNRSC could best communicate road safety messages to the NOTL community. Names of community contacts representing business, farming, medicine, politics, education, and church and community interest groups were gathered from the NOTL Town Hall Clerk and invitations were made

by phone and emailed to 41 people. Three of these community members attended the meeting. Their responses to a series of questions were documented. This information was used to plan the communication strategy for Think and Drive.

B) Quantitative:

Needs Assessment- RNRSC Road Safety Challenge Opinion Survey (Pre-campaign):

Prior to the Pilot campaign, a survey of Niagara residents was performed as part of the Ministry of Transportation Ontario 2006 Road Safety Challenge between May 15 and June 15, 2006. A total of 428 surveys were completed by community members of driving age at various community events, including mall displays and a senior driver educational event. The survey was used as an opportunity to raise awareness and educate participants about the road safety issue in Niagara. Once participants completed the survey they were given a tear-off copy of the two-part survey form that contained answers to the questions posed. Content was based on data from the 1999-2006 NRPS Motor Vehicle Collision Report.

Needs Assessment Results

Results indicated to the RNRSC that the respondents consider road safety to be an important issue. The results were congruent with Canadian findings that the public rates road safety as one of the more important social issues facing us today (Traffic Injury Research Foundation; The Road Safety Monitor, Public Awareness and Concern about Road Safety 2006). Coupled with the high incidence of fatal and serious injury collisions on Niagara's roads, the RNRSC proposed the implementation of a comprehensive social marketing campaign as part of an overall strategy to reduce the number of fatal and serious collisions on our roads.

● **Program Description**

The Think and Drive campaign in its pilot stage was launched at a media event in Niagara-on-the-Lake (NOTL) on Sept. 5, 2006, in partnership with the NOTL Traffic Safety Task Force. The www.niagararoadsafety.com website, containing a road safety self-test, became available at the same

time. During that week, 6,300 educational mailers were sent out to every residence in NOTL, directing recipients to the website to complete a road safety self-test and enter a prize draw. Think and Drive posters (450) were disseminated in the NOTL community throughout the campaign. Flyers (7,500) were sent to every home and business in NOTL with the hydro / water bills during the month of October. Both resources provided information about the road safety issue in Niagara and NOTL and directed people to the website. The RNRSC collaborated with the NOTL Traffic Safety Task Force and its member associations, NOTL Town Council, local media, business associations, major employers, schools, community groups, and individuals to support, implement, and promote Think and Drive. Additional resources were distributed with the assistance of these groups and individuals. The Niagara Advance, a NOTL weekly newspaper, provided extensive media coverage throughout the Think and Drive Pilot campaign.

Evaluations from mass media campaigns indicate the most effective road safety campaigns consist of a combination of social marketing and traffic enforcement. They are most effective in improving road safety as measured by casualty crash frequency when combined with other supports such as legislation, enforcement, and public relations or associated publicity (Delaney, Lough, Whelan, Cameron).

In August 2006, Niagara Regional Police Services implemented Operation Lifesaver, an enforcement campaign to enhance traffic enforcement in NOTL and other problem areas in the Niagara region. This enhanced enforcement continued in NOTL throughout Think and Drive.

- **Monitoring and Tracking**

All resource distribution, campaign activities and events, website activity, and media coverage were tracked manually using an Excel spreadsheet.

Think and Drive Pilot Campaign Evaluation

● Objectives of Evaluation

- To determine if the Think and Drive Pilot campaign objectives had been achieved.
- To inform the planning and implementation of future road safety campaigns.
- To examine the attitudes and behaviours of Niagara drivers and road users.
- To disseminate findings to key stakeholders.

Think and Drive Pilot Campaign Road Safety Self-Test

The self-test was available both online and at the four NOTL post office locations to provide availability to those who did not have access to the Internet.

A total of 817 self-tests were completed with 679 online and 138 hard copies. A total of 208 prize draw entries were collected in the post office boxes, indicating that 70 additional hard copy self-tests may have been completed and taken home by the participant, and therefore were not available for analysis.

In addition, there were 1,492 website visits and over 1,300 visits from unique addresses to www.niagararoadsafety.com, indicating almost twice as many visits to the website as submitted self-tests. Perhaps because self-tests submission required the entry of contact information, more self-tests may have been completed than were available for evaluation analysis. Therefore, the participation in the educational self-test may have been higher than is indicated by the number of submitted self-tests. The responses are illustrated in Table 2.

The respondents were 52.5% female and 47.5% male.

Table 2
Responses

QUESTION	% YES	% NO
Do you ever drive in NOTL?	90	10
Do you ever drive over the speed limit?	62	38
Do you ever misjudge a driving situation?	35	65
Do you ever let your mind wander while driving?	46	54
Do you ever get angry with other drivers?	49	51
Do you ever drive while impaired?	3	97
Do you ever speed on rural roads?	40	60
Do you ever drive more aggressively in good weather conditions?	28	72

Conclusions from road safety self-test

The self-reported data provided an indication that some responding Niagara residents admitted to engaging in the kinds of driving behaviours that are the main causes of fatal and serious injury collisions in the Niagara region – speed, driver error, and impairment.

The age and sex demographics indicate that those who participated in the educational self-test were fairly evenly divided between males and females. There was a fairly even distribution of participants between 21 to over 60 years of age and a slightly lower number of 16-20 year old participants.

- **Think and Drive Pilot Campaign Evaluation Questionnaire**

The Pilot campaign evaluation questionnaire was developed to provide a quantitative evaluation of the campaign objectives, to assess the reach of the campaign, and to provide information about how to improve the effectiveness of Think and Drive in future.

The questionnaire was inserted into 7,500 copies of the Nov. 4th edition of the Niagara Advance, a weekly newspaper distributed throughout NOTL. The evaluation form was to be returned in an attached postage-paid envelope to Niagara Region Public Health for processing and analysis. A total of 817 evaluation questionnaires were received, but only 731 had responses to all the questions. Therefore only 731 surveys had the responses analysed.

Table 3
Responses by age group

AGE GROUP (YEARS)	RESPONDENTS % (N)
Under 16	0.2 (2)
16-20	5.8 (47)
21-30	17.7 (144)
31-40	14.5 (118)
41-50	23.7 (193)
51-60	16.0 (130)
Over 60	22.2 (181)
Missing	n/a (2)
Total	100 (817)

● Results

Approximately half (51.3%) of the 731 people who completed and returned the questionnaire were aware of Think and Drive.

Of the 369 (51.3%) respondents who were aware of the Pilot campaign:

Table 4
Respondents learned of the Pilot campaign from various mediums

FROM	PERCENT (%)
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Newspaper article	30.1
Flyer in the hydro/water bill	25.3
Newspaper ad	22.3
Flyer in the mail	9.2
Poster	7.5
Word of mouth	5.9
Road safety website	4.1
Launch event	3.6
Newspaper article	2.7
Workplace	1.8
Municipal council meeting	1.1
Presentation	0.7
Community website	0.7
Email	0.3

- Approximately one quarter (23.2%) reported going to the www.niagararoadsafety.com website.
- Approximately one third (33.2%) reported completing the road safety self-test.

In addition,

- 80.5% reported that Think and Drive got their attention.
- 65.1 % agreed or strongly agreed that they are more aware of road safety issues in Niagara as a result of Think and Drive.
- 54.3% agreed or strongly agreed that Think and Drive increased their knowledge about what they could do to improve road safety in Niagara.
- 58.4% agreed or strongly agreed that they thought about making improvements to their driving as a result of Think and Drive.

- 54.5% agreed or strongly agreed that they made changes to their driving as a result of Think and Drive.

Sex

46.4% of respondents did not report their sex. Of the 53.6% of respondents who reported their sex:

- 56.4% were female
- 43.6% were male

A total of 42.7% of respondents did not report their age. Of the 57.3% respondents who reported their age, their age group distributions and the NOTL population age group distributions were as follows (Table 5):

Table 5
Drivers in Niagara on the Lake by age group

AGE GROUP (YEARS)	RESPONDENTS REPORTING AGE (%)	NOTL DRIVING POPULATION % (N)
16-20	0.5	7.0 (902)
21-30	3.3	9.4 (1202)
31-40	7.2	11.8 (1516)
41-50	16.5	18.5 (2369)
51-60	20	18.9 (2421)
Over 60	52.5	34.4 (440)
Total	100	100 (12819)

Questionnaire comments

Written comments were received on 52 of the 731 questionnaires analyzed for the evaluation.

These comments were documented and themed according to the main point being made in the comment such as: engineering suggestions, enforcement suggestions, education suggestions, opinions about road safety problems and solutions, and general comments about Think and Drive. The comments were rated as being clearly positive, negative, or more neutral. Of the 52 comments received, 34 were neutral, 12 were negative, and six were positive comments.

Evaluation Conclusions

The evaluation questionnaire indicated that of the respondents who were aware of Think and Drive, over half reported they had an increased awareness of Niagara road safety issues, an increased knowledge about how they could improve road safety, that they had thought about making improvements to their own driving and that they had made changes to their driving as a result of Think and Drive.

This demonstrates that Think and Drive has met the campaign objectives to:

- Increase awareness among road users about the Niagara crash problem;
- Increase knowledge among road users about road safety skills applicable to the Niagara crash problem; and
- Change driver attitudes about the importance of personal road safety to decrease motor vehicle collisions.

Overall Pilot Campaign Results

The Think and Drive Pilot campaign was promoted primarily to drivers who live and work in NOTL. In 2005, the municipality of NOTL had a total population of 14,971 (2005 estimate) with 7,266 (48.5%) females and 7,705 (51.5%) males and 12,819 residents aged 16 years and over. We do not have an estimate of the number of non-residents who work in NOTL.

The marketing agency contracted by the RNRSC, LOUD Advertising, advised that a 3% response rate to a direct-mail campaign such as Think and Drive is considered good, and a 4 to 5% response rate is considered excellent. The “Think and Drive” website had 1,492 visits, over 1,300 unique visits and there were over 900 entries for the prize draw, representing about a 10% response rate to the campaign.

Think and Drive Reach:

- Over 450 posters, over 10,000 flyers, and over 10,000 mailers distributed throughout the NOTL community.
- Media attention throughout campaign: 30 articles in local media (Standard, Review, Niagara Advance, Niagara This Week), two radio interviews, CHTV and Cogeco covered launch event, and eight paid ads in the Niagara Advance.
- Over 80 community volunteers involved in campaign promotion and distribution of informational materials.
- Over 1,400 visits to www.niagararoadsafety.com website throughout the campaign.
- Prize draw - 693 online ballots plus 208 hard-copy ballots in post office locations for a total of 901 ballots submitted.
- Presentations and displays at 11 local community gatherings, reaching over 800 individuals.
- Newsletter articles about Think and Drive published in over 18 community and business publications.
- Website links to www.niagararoadsafety.com by eight agencies.
- Niagara region and Town of NOTL websites noted as being used by participants as referral sites to the road safety website throughout the campaign.

- School involvement – all NOTL schools participated in distribution of Think and Drive information to their school community. Colonel John Butler Elementary School and St. David’s School participated in a writing contest for grades 4 to 8 students about road safety in Niagara. Niagara District Secondary School held a Think and Drive week, including daily road safety announcements, a crash vehicle, the Think and Drive message on an outdoor school sign, NRPS Drive Safe presentation delivered to grades 11 and 12 students, and a road safety interactive display.
- Major NOTL employers distributed Think and Drive resources to their employees (Vintage Hotels, Niagara College, Shaw Festival, White Oaks, Town of NOTL, NOTL Hydro, Purolator, Henry Schein Ash Arcona, Meridian Credit Union, NOTL Hospital).
- NOTL Chamber of Commerce emailed over 500 members about the road safety campaign, providing background information and inviting them to get involved.
- Over 50 members of the NOTL medical community were faxed information on the Think and Drive campaign as well as information on how they could assist.
- NOTL community responded with 762 evaluation questionnaires to help measure the effectiveness of the campaign.

Conclusions and Recommendations from the Pilot Campaign

• Successes

- Increased awareness among road users about the Niagara crash problem.
- Increased knowledge among road users about road safety skills applicable to the Niagara crash problem.

- Changed driver attitudes about the importance of personal road safety to decrease motor vehicle collisions.
- Changed driving behaviour.
- Participation rate of 10% of the NOTL driving population (who actively participated in the campaign by visiting the website, or completing the road safety self-test, either online or through the post office entries).
- Response rate of over 10% of recipients of the Think and Drive evaluation survey (762 surveys received from 7,500 inserted into the Niagara Advance).
- Engaged the grassroots community (NOTL Traffic Safety Task Force and its member associations, NOTL Town Council, local media, business associations, major employers, schools, and community groups) to support and promote road safety in NOTL and throughout Niagara. Collaboration between RNRSC and NOTL Traffic Safety Task Force enabled a successful working relationship beneficial to the development, implementation, and promotion of Think and Drive.
- Recognized at the Ontario Road Safety Symposium, September 2006.

● Recommendations

For improvements to the design and distribution of campaign resources:

- Develop a strategy to increase the involvement of the 16-20 year age demographic in completing the Think and Drive self-test. This will result in a better representation of all age groups in Niagara. Collaboration with the school boards, post-secondary schools, driving schools, the Niagara Region Public Health School Health team, and Niagara Regional Police Services Community Services would facilitate this.

- Pilot test any future evaluation questionnaires prior to distribution to analyze and correct any design flaws.
1. When the Pilot campaign evaluation questionnaires were received it was noted that despite the instructions following question #1 which indicated that only if the respondent answered “yes” to this question should they continue with the questionnaire, many respondents answered “no” but continued answering questions # 2 to 11. This caused some difficulty in interpreting the data as there was a lack of understanding as to how respondents who answered they were not aware of Think and Drive could reasonably be able to answer the rest of the questions. In addition, some questionnaires were not completed. In order to obtain evaluation responses more representative of all age demographics, a strategy to distribute the questionnaire through venues including local newspapers should be considered. Local newspapers will increase the likelihood of obtaining a sample which better represents the community.
 2. Modify the design of future evaluation questionnaires to capture the age and sex demographics of all respondents. In the creation of the evaluation questionnaire the questions about age group and sex were put at the bottom of the survey with the intent that only those who answered they were aware of the campaign complete these questions. In retrospect, it would have been beneficial to have all respondents complete these questions in order to have a profile of all those who responded to the questionnaire, regardless of whether or not they reported being aware of the campaign.
- Identify and use additional community venues and groups to distribute road safety campaign resources.

For Future Think and Drive program implementation:

After evaluation and consideration, the RNRSC then recommended the following:

- Expansion of Think and Drive throughout the Niagara region (based on the pilot campaign evaluation results) in 2007-2008, pending availability of financial and human resources.
- Collaboration with relevant regional, municipal and local grassroots community groups, interest groups, and individuals to support, promote, and implement Think and Drive throughout the region, using NOTL as a model.
- Involvement of additional road safety partners (e.g., Ontario Provincial Police Service and Public Health Emergency Medical Services) in an expanded campaign.
- Continuation of the fostering of strong working relationships and information sharing between the RNRSC members.
- Continuation of an injury prevention approach to road safety.
- Utilization of the Public Health Rapid Risk Factor Surveillance Survey (RFFSS) for additional evaluation of road safety in 2007.

Think and Drive Expansion Campaign



After careful consideration and evaluation of the Pilot campaign, The Think and Drive expansion project was launched (this part of the campaign will be referred to herein as the *Think and Drive campaign*). The Think and Drive campaign was formed around the successes of the Pilot campaign and recommendations from the RNRSC. The primary target audience for the Think and Drive campaign was male drivers aged 16 to 40 years, and the secondary target audience was all Niagara drivers who live and work in the Niagara region. It was designed as a 15-month (October 2007 to December 2008) campaign that would be launched across the Niagara region. An interactive website (www.thinkanddrive.net) and various other social marketing tools were used to promote the campaign and to expand its reach.

Think and Drive Campaign Objectives

The objectives of the Think and Drive campaign were two-fold: informational (i.e., awareness and understanding) and motivational (i.e., commitment and support). The informational objectives were short-term in nature and focused on increasing the awareness and understanding of the issues/situation among targeted audiences. The motivational objectives were more long-term in nature and focused on changes in (driving) habits and behaviour.

Informational

- Increase awareness among Niagara drivers and road users (with a focus on male drivers) about the Niagara crash problem; and

- Increase knowledge among Niagara drivers and road users (with a focus on male drivers) about road safety skills applicable to the Niagara crash problem.

Motivational

- Change driver attitudes (with a focus on male drivers) such that drivers take personal responsibility for road safety. Increase intentions of the Niagara public to improve their driving and change driving attitudes and behaviours; and
- Change driver behaviours (with a focus on male drivers) in order to decrease motor vehicle collisions.

Key Directions for the Think and Drive Campaign

Build Capacity and Partnerships

In order to create a collective road safety vision among provincial, regional, municipal, and local stakeholders the overall initiative needed to:

- Start with support from key stakeholders and have them eventually incorporate road safety into their business plans, corporate, and department goals.
- Be continually focused on the vision and mission of the entire campaign. With regards to this, it was left up to local communities to decide how the goals could be met in a creative manner and to ensure they fit well with existing initiatives.
- Develop a strategic communication plan with extensive input from community members of Niagara who had experience and expertise on introducing effective region-wide programs.
- Identify 'gatekeepers' who would be valuable when attempting to gain support from municipalities. For example, the campaign leaders went to chief administrative officers to gain their support,

approval and advice. It was from the CAOs' suggestions that they learned whether to approach municipal councils or committees with Think and Drive presentations and requests for assistance.

- Request guidance, which led to suggestions regarding what would suit particular communities. Additionally, it aided in identifying the main leaders within the groups.
- Focus on the uniqueness of each community and mould the campaign's initiatives around the various needs.
- Enlist grassroots, local support:
 - Some of the groups empowered and engaged to deliver the message and distribute the resources, etc., were:
 - CAOs, regional council, RNRSC boards, municipal councils and / or committees (in this order)
 - Other groups - e.g. public works directors, post-secondary schools, fire chiefs, EMS, hospital system, libraries
 - 12 area municipalities
 - Workplaces - e.g., health and safety committees
 - Businesses - e.g., gas stations, grocery and variety stores, doughnut shops, restaurants, speedways, bars
 - Secondary Schools - e.g., OSAID
 - Community groups and service clubs -e.g., community policing, police auxiliary
 - Many other stakeholders - e.g., trucking firms, driving schools

Communications and Social Marketing

Based on the results of the Pilot campaign, the RNRSC recognized the need to position road safety as a serious health and safety concern. A main aspiration was to make Think and Drive a household name within Niagara. In turn, this raised awareness of the issues surrounding road safety and motivated community members to participate. It was anticipated that this would encourage everyone in Niagara to take personal responsibility for making roads safer. The ultimate goal of the marketing was to change driver attitudes and behaviours regarding the main causes of serious MVCs. This was done through increasing awareness about the problem and increasing related knowledge and skills within the community.

The primary focus of the marketing was male drivers under 40 (as they pose the highest risk), with a secondary focus on all drivers who live and work within the area. (With regard to these groups, there was focus testing completed to inform the development of the Think and Drive logo and branding.) It was found a singular approach would not prove as effective as a multifaceted one. Thus, it was decided to develop and use materials and media that would reach various audiences. A three-pronged approach was developed to achieve this, as follows:

1. **Media:** The campaign developed many positive working relationships with various media: local newspapers, radio stations, and TVCogeco. It was found that meeting with media outlets early on aided in gaining their support. The media coverage within the campaign included print media (Osprey - daily, Niagara This Week - weekly news), Public Service announcements with various Niagara media, including print, radio, cable TV Cogeco, Brock, and Niagara College newspapers.
2. **Advertising and publicity:** Ads were purchased through print and radio, bus boards, all print resources. In kind community partner opportunities were also used. These included partner and supporter publications (newsletters, magazines, signs, website links) and various avenues that eventually became the main source of distribution. Some

of the main methods of distribution were: pay stubs, hydro, water and tax bills, community events, RIDE and other enforcement opportunities.

3. **Interactivity and participation:** The main sources for interaction were the focal campaign website (www.thinkanddrive.net), Facebook, interactive games, display, resources, community events, incorporation into community, business, service, and social clubs. With regard to the website, it was used as one of the major components of the campaign and all resources directed residents to the website for information, awareness, and education. The website was regarded as a way to get the community participating in the campaign remotely. One of the main features on the site was the interactive road safety challenge, which allowed drivers to assess their knowledge and personal driving habits.

Use of Partner Agencies

Numerous campaign successes can be attributed to partner agencies and the resources they provided. Some of these included:

- *MTO Regional Representative:* This partner provided expertise in social marketing and aided in the involvement of a marketing agency. Additionally, a representative was able to provide guidance regarding marketing materials and provided objective advice to RNRSC.
- *Joint RNRSC communications:* All partner members aided in the development of a single and unified voice for the campaign, which allowed for consistent messages.
- *CAA:* Links to CAA members; 75,000 Niagara residents through CAA publications.
- *Public Health and Niagara Regional Police Service:* Through these partners, links were established to community programs and contacts - e.g., child car seat classes, flu clinics, bar policy workshops, workplace programs, physicians' newsletters, community updates to external audiences, involvement in mock

crashes, media releases about local crashes, Chief of Police messages to community, NRPS Drive Safe program in grades 7-12, vehicle decals, and signage.

- *Local Communities:* Community members were asked for feedback during the campaign regarding the successful aspects of the campaign and any changes that they felt should be made. Municipalities, road safety groups, and businesses aided in the distribution of information and resources throughout the campaign.
- *Volunteers:* The main volunteers were: community policing, auxiliary police, Brock and Niagara College students, secondary school OSAID groups and teacher /liaison supporters. Through the volunteers, the campaign was able to develop a face within the community. It was very important to have recognition and appreciation of the volunteers. This was accomplished through providing them with consistent involvement. A database of all contacts was created and they were invited to all events, informed of campaign progress through regular updates, and given regular mention and appreciation in media.

Increasing Awareness, Education, and Changing Attitudes and Behaviours

The campaign employed a comprehensive health promotion approach throughout; this consisted of:

- **Education/ Awareness**
 - Presentations were made to reorient stakeholders and to increase their knowledge and skills. The key stakeholder groups were also approached to introduce the campaign, provide background evidence, and request support.
 - The community was informed and educated through the ongoing communication and marketing campaign.

- **Skill building**

- The campaign allowed for all community partners to develop the skills needed to spread the Think and Drive key messages. This skill building was facilitated through community presentations, community meetings, and simply requesting help.

- **Environmental supports**

- Increased traffic enforcement by NRPS was an integral part of the Think and Drive campaign providing a constant reminder to drivers that their behavior was being monitored. All RNRSC partners aligned their messaging to the community at large.

- **Policy**

- Local policy was not a main focus but the messages of the campaign aligned with the provincial initiatives. The similarities between the campaign messages and provincial messages added cohesion and credibility to the entire effort.

- **Sustainability**

- This was achieved through alliances with local road safety groups (e.g., Safe Communities, local road safety task forces, OSAID, MADD) and a use of sustainable resources (e.g., website, Facebook group, road signs, decals on trucks and regional vehicles, Road Watch program).

Research and Evaluation

Evaluation was determined as a necessary step at the onset of the Think and Drive campaign. It was seen as a tool that would facilitate knowledge to inform future policies, programs, and practices around preventing and reducing MVC-related injuries. Evaluation was included in the RNRSC strategy from the early stages and unfolded in the following manner:

- Strategies were based on initial evidence from NRPS fatal and serious collision data (1999 to 2004).

- An annual report to the RNRSC Executive was given (regarding Niagara road safety strategy activities).
- Opinion surveys were implemented to determine knowledge and attitudes of the Niagara community.
- Once the Pilot campaign finished, an extensive evaluation was completed. This led to information regarding what was done well, who the audience was, and improvements that could be made to better reach them.
- A project charter, project management, and bi-monthly updates were completed in order to fully understand the scope of the campaign.
- Process evaluation was completed in order to monitor key contacts, resource distribution tracking, media hits, website activity, online challenge results, and demographics of participants.
- Pre and post campaign evaluations were undertaken in order to provide information about the knowledge, attitudes, and behaviours the campaign was able to influence and to determine trends throughout the campaign.
- The pulse check survey was used to assess recognition and recall of key messages. A specific finding was that 61% of those surveyed had heard of Think and Drive and could recall at least one key message.
- Finally, an evaluation and report on the entire five-year strategy was undertaken in order to assess the results, strengths, and weaknesses of the entire campaign.

Methodology of Think and Drive Campaign

Program Description

- Public relations and social marketing road safety campaign

The RNRSC contracted Pier 8 Group Integrated Marketing to work with them following a request for proposals process to develop a strategic communication plan that was implemented over the 15-month campaign period (Oct. 16, 2007 – Dec. 31, 2008). The three key communication strategies developed for the campaign focused on: (1) media relations; (2) advertising and publicity; and (3) interactive/Internet – i.e., website (www.thinkanddrive.net) and social media Facebook group (Think and Drive Niagara). Each of these strategies included a variety of supporting communication tactics.

In addition to existing reports and available research, numerous evaluations including two public opinion polls were conducted – a pre-campaign survey in November 2007 to benchmark awareness/knowledge levels of road safety among Niagara drivers/residents, and a post-campaign survey in January 2009 to measure any changes in awareness and understanding of road safety issues in Niagara, as well as possible changes in driving behaviours.

Think and Drive targeted drivers and road users in all 12 area municipalities of the Niagara region, with a particular focus on male drivers in Niagara (i.e., youth and young adults aged 16 to 40 years). The campaign's four key messages/themes (speeding, driver error/distraction, impairment, and rural roads) were incorporated into a final creative strategy for a range of publicity and advertising vehicles (e.g., posters, media publication ads, bookmarks, bus boards, etc.). A series of five educational (poster) ads supporting the messages/themes were created and used to support the campaign's advertising and publicity communications strategy – i.e., posters, publication ads, transit boards, cable public service announcements (PSAs).

During the 15-month campaign, a total of 32,374 keychains and 27,772 bookmarks were distributed throughout the Niagara community. Almost 188,000 small flyers were distributed to Niagara households via utility, hydro and/or water bills, as well as through CAA, Brock University, Niagara College, and to all first-time drivers through the Niagara Driver Test Centre, Niagara's only driver examination centre.

Editorial meetings held with members of Niagara's media – Osprey Media, St. Catharines Standard, Niagara This Week, TVCOGECO and Astral Media radio stations – resulted in increased editorial coverage and on-air broadcasting of road safety issues and the Think and Drive campaign, as well as heavy rotation of campaign radio and video PSAs. Additionally, partnerships were established to develop radio and television public service announcements.

The total of 144 road safety-related articles were tracked during the campaign. This was broken down into almost 10 articles per month or just under 30 articles per campaign quarter. Banner advertisements and the educational poster series were used in print advertising in Niagara This Week, PULSE Niagara and The Brock Press (Brock University student newspaper). Radio station traffic report sponsorship aired in September and October on two of Niagara's largest FM radio stations. Seven Niagara radio stations participated in the PSA program from August to December 2008.

Sixty people attended and participated in a three-hour public meeting on March 26, 2008, at Niagara region headquarters. Attendees were presented with an overview of the campaign and participated in a 45-minute "town hall" focus group on road safety in Niagara. The Think and Drive "wordmark" was also placed on 13 Niagara region population road signs by Niagara Public Works department in June 2008, providing a lasting, post-campaign reminder.

The Think and Drive website had just under 7,000 unique visitors. Total website visits (including repeat visits) reached 15,132 – just over 1,000 visits per month by the campaign's end. Unique visitors and total visits were highest during the campaign's fourth and fifth (final) quarters. More

than 25 community organizations established links from their websites to the Think and Drive website.

The Niagara Road Safety Challenge attracted 4,700 visitors and 2,316 people completed the comprehensive Niagara Road Safety Challenge. Almost half of all female participants (48.7%) scored yellow or green (pass), compared to 35.5% of male participants. By age, green scores increased and red scores (fail) decreased with each consecutive age group. A portable or travelling version of the Niagara Road Challenge, was developed in partnership with TVCOGECO, and was signed out to 46 community organizations, schools, and agencies.

The Think and Drive Facebook group surpassed its goal of 200 members by the end of the campaign's second quarter (March 30, 2008) with 330 members. A revised goal of 500 members by the campaign's end was established in February, 2008 and on Dec. 31, the Facebook group had 561 members.

- **Target Audiences**

The public relations and marketing campaign targeted drivers and road users who reside in all of the 12 area municipalities of the Niagara region, with a particular focus on male drivers (i.e., youth and young adults aged 16 to 40 years, including Niagara College and Brock University students, and Niagara secondary school students). Secondary audiences included all drivers in Niagara.

According to the Niagara Regional Police Service Motor Vehicle Collision Data 1999-2003 Report, male drivers are involved in 75% of fatal and serious motor vehicle collisions (MVCs) attributable to the three most common causes or contributing factors - driver error, impairment, and speed. This reflects the ratio of male vs. female drivers involved in fatal collisions in Ontario (male 77% vs. female 23%) and the ratio of male vs. female drivers involved in all collisions in Ontario. There were no definite patterns based on age groups. However, it appeared that: impairment is more common in younger age groups, driver error is a problem across all age groups, and speed is a problem for those under 50 years.

● Creative Strategy

The campaign's four key messages/themes (i.e., speeding, driver error/distracted driving, impairment, and the Niagara-specific issue of rural roads) were incorporated into the final creative strategy for a range of publicity and advertising vehicles (e.g., posters, media publication ads, bookmarks, bus boards, etc.). A series of five educational ads supporting the four key messages/themes were created and used to support the campaign's advertising and publicity communication strategy (i.e., posters, publication ads, transit boards, cable public service announcements).

Several possible "motivators" can influence drivers who engage in risky behaviours to modify their attitudes and their driving practices, including:

- Fear of getting caught (enforcement messages)
- Risk to life and limb (fear messages)
- Risk to the lives of others (especially passengers and loved ones)
- Awareness of the risk factors (educational messages)
- Social norms and peer pressure (shame messages)

The RNRSC adopted an educational approach, one that involved educating drivers about the main risk factors - speeding, impairment, and distracted driving - which were the cause of most vehicle collisions in Niagara. At the centre of the campaign was a "road safety test" (branded as the "Niagara Road Safety Challenge") that asked drivers to evaluate their own personal driving behavior in relation to a comprehensive list of at-risk or high-risk behaviour. The creative messages complemented the road safety challenge by focusing on some of the behaviours of highest risk.

In terms of the creativity, the approach selected for the campaign aimed to "put the viewer in the driver's seat" in the same way that the road safety challenge or a simulated driving skills game would. The images and messaging were designed to force drivers to visualize what is going on one

second before a vehicle collision occurs. In each case, the message urged drivers to think about the risk they are assuming when they engage in very specific kinds of dangerous driving behavior. This approach also allowed for the key elements of the campaign brand, “Think and Drive – a second is all it takes” to be presented.

This creative solution made extensive use of ironic wordplay and phrases with double meanings that challenged the viewer to pause and interpret the words. The ironic – even sarcastic – tone of these ads was designed to undermine any rational basis drivers may have for engaging in risky driving behaviour. In order to draw attention, the images were dramatic and expressive. Overall, the creative aspect of the campaign was skewed to younger males, but also resonated with all sectors of the population.

● Pre-launch Testing

Approximately 65 people, who represented a segment of the young adult demographic (and the campaign’s target audience), evaluated the five original poster creative concepts. Students at Niagara College and graduates of The University of Western Ontario’s post-grad Public Relations Diploma program evaluated the creative concepts and approach. Overall, the concepts proved to be very effective. Each was attention grabbing and respondents found them to be quite original compared to other road safety campaigns. The imagery and headlines were considered strong and effective. Most importantly, the concepts were found to illustrate each safety issue in an effective manner and were able to make most of the respondents reflect on their own driving habits.

● Communication Strategies

The Think and Drive campaign included three key strategic and integrated approaches to increase both awareness and education of road safety issues and safe driving practices:

1. Media relations strategy;
2. Advertising and publicity strategy; and

3. Interactive and participation (i.e., Internet) strategy.

Each of these strategies incorporated various communication tactics and/or special events, but also worked in unison to achieve established communication objectives.

Evaluation Overview

The Think and Drive campaign incorporated three key methods of research and evaluation: (1) a monthly survey conducted by Niagara Region Public Health known as the Rapid Risk Factor Surveillance System (RRFSS), (2) public opinion polls of Niagara residents at the beginning and end of the 15-month campaign; and (3) a comprehensive interactive online survey, the Niagara Road Safety Challenge, during the campaign (i.e., based on the polling questions).

1. a) RRFSS Questionnaire I - was implemented from February 2007 until December 2008 to examine baseline data prior to the launch of the campaign, and during the five key phases of the Think and Drive campaign. The main purpose of the questionnaire was to estimate public awareness of road safety issues; to determine public knowledge of factors related to serious car crashes; to identify driver priorities for action that could reduce serious car crashes; and to measure attitudes indicating personal responsibility for road safety. Phases were broken down as: Baseline (Feb-Sept 2007); Phase 1 (Oct-Dec 2007); Phase 2 (Jan-Mar 2008); Phase 3 (Apr-Jun 2008); Phase 4 (July-Sept 2008); Phase 5 (Oct-Dec 2008). These phases were aligned with the phases of the Think and Drive marketing and communications campaign consisting of a pre-campaign phase followed by five three-month phases totalling a 15-month campaign.

b) RRFSS Questionnaire II - was implemented from March 2008 through December 2008. This questionnaire was developed to estimate public awareness of local road safety media campaigns and the Think and Drive campaign. Three key phases of the campaign were identified. For this questionnaire, phases were broken down as: Phase 1 (Mar-June 2008); Phase 2 (July-Sept 2008); Phase 3 (Oct-Dec

- 2008). These phases aligned with the final three three-month phases of the 15-month Think and Drive marketing and communications campaign.
2. In late November 2008, the first public opinion poll was conducted to establish a pre-campaign benchmark of the level of awareness/ understanding of road safety issues and the driving habits/ behaviours of Niagara residents/drivers. A post-campaign opinion poll was conducted in January 2009, using the same 30 pre-campaign poll questions, as well as six new questions specifically focused on changes in their road safety awareness, knowledge, and behaviour, as well as road safety campaign recall. Respondents were also asked about their awareness of any specific road safety campaigns. The questions developed for the survey polls were also used in the Niagara Road Safety Challenge.
 3. Central to the Think and Drive campaign was the implementation of the Niagara Road Safety Challenge on the website. This was a comprehensive self-evaluation that challenged the participant's knowledge of road safety issues in Niagara, and their high-risk driving habits and behaviour. Additionally, it was designed to gather qualitative research about driving habits among Niagara residents by gender, age group, and municipality throughout the duration of the 15-month campaign. The challenge included questions on each of these three main causes of motor vehicle collisions in Niagara – speeding, impairment, and driver error (distractions) – as well as some Niagara-specific road safety issues. The challenge was presented as an interactive survey where each participant who completed the challenge received an overall score and an opportunity to enter their name for a prize draw.

Data Source

RRFSS is an ongoing, monthly telephone survey used to monitor community trends in health-related knowledge, attitudes, and behaviour. Niagara Region Public Health, along with other health units across Ontario, opt into specific survey content on a monthly basis to provide

timely data relevant to local public health needs. Each month, approximately 100 Niagara residents 18 years and older are surveyed for just under 20 minutes. The RRFSS does not capture responses from those below the age of 18. The results from RRFSS are used to support program planning and evaluation, and to improve community awareness on a multitude of health risk factors.

The OraclePoll is a public opinion poll conducted by Oraclepoll Research Limited in Niagara region over the telephone. The purpose of the research was to evaluate the effectiveness of the Think and Drive campaign in raising the community's awareness and knowledge of road safety over time. The study sample was selected using random number selection or random digit dialing (RDD). The survey data was conducted using computer-assisted techniques of telephone interviewing (CATI) by the telephone research staff of Oraclepoll Research Limited. A total of 333 interviews were completed between Nov. 22 and Nov. 26, 2007, in the pre-test. A total of 330 interviews were completed between Jan. 15 and Jan. 20, 2009, in the post-test.

The comprehensive online poll was named the Niagara Road Safety Challenge. Participants included anyone who visited the website and decided to complete the survey. While 4,700 people visited the Niagara Road Safety Challenge, 2,664 people actually completed the comprehensive quiz.

Data Analysis

Think and Drive's Niagara region-wide road safety social marketing campaign targeted all drivers and road users who reside in all 12 municipalities in the Niagara region, with a focus on male drivers aged 16 to 40 years. Therefore, in the RRFSS analysis, only respondents who indicated they had driven a vehicle in the past 12 months were included. Data were analyzed over time and relationships with respondents' gender and age group were also considered. A specific focus on males 18-44 was investigated. Data were analyzed using SPSS 17.0 and were weighted to represent the number of individuals in the household to ensure the data

collected represented the Niagara population. When comparisons between groups were made, 95% confidence intervals (CI) were calculated.

NOTE: A confidence interval represents the assumed range that the sample represents. It is the level of confidence that is believed to include the true population parameter.

Results of Think and Drive Campaign

Sample Representation

For the RRFSS questionnaires, data collected in the 2007 and 2008 calendar years were fairly representative and similar in terms of the respondents sampled. There were 1,055 respondents in 2007 and 1,176 in 2008 (Table 6). Samples did not differ significantly by gender or age.

Table 6
Representation for 2007 and 2008 data for the RRFSS Questionnaire

	2007	2008
Age Group	% (N)	% (N)
18-24	9.8 (103)	9.5 (112)
25-44	29.6 (312)	29.9 (352)
45-64	38.5 (406)	38.8 (456)
65+	22.2 (234)	21.8 (256)
Total	100 (1055)	100 (1176)

For the OraclePoll public opinion polls, 333 interviews were completed between Nov. 22nd and Nov. 26th 2007, in the pre-test. A total of 330 interviews were completed between Jan. 15th and Jan. 20th 2009, in the post-test. The demographics of the pre- and post-campaign polls were similar in terms of their municipality. The most significant differences in respondents by municipality were in Lincoln and St. Catharines. The post-campaign poll had twice as many respondents from Lincoln (9.1% of total

respondents) compared to the pre-campaign poll (4.5%); the post-campaign poll had approximately one-third fewer respondents from St. Catharines (21% of total respondents) compared to the pre-campaign poll (31%). By age group, respondents were similar in nature, although the 16 to 24 years of age group did have fewer total respondents in the post-campaign poll (2.4% vs. 1.5% of total respondents). By gender, the post-campaign poll had a higher number of female respondents (58%) compared to the pre-campaign poll (52%).

For the comprehensive online poll, 4,700 people visited the Niagara Road Safety Challenge and 2,664 people actually completed the comprehensive quiz.

Rapid Risk Factor Surveillance System (RRFSS) Results

Questionnaire I – Road Safety Awareness

Niagara Residents Awareness of Road Safety Issues

Over the course of the campaign, there was an overall increase in Niagara drivers' recognition that the Niagara region has serious road safety issues. As shown in Figure 1, as time in the campaign progressed, drivers' perceptions that Niagara has a higher rate of serious car crashes than other regions also increased from baseline to phase 5. The largest significant difference can be seen between phase 1 of the campaign and phase 5 (23.4% (CI: 21.0-25.5) vs. 31.7% (CI: 29.7-33.7)).

Awareness of road safety issues in Niagara differed significantly by age group (Figure 2). However, males and females had similar perceptions that Niagara had a higher rate of serious crashes than other regions across the province (males 28.4% (CI: 26.4-30.4) vs. females 25.3% (CI: 23.4-27.2)) (Data not captured in a figure). As shown in Figure 3, among males 18-44, awareness of road issues remained relatively stable at approximately 20.0%. Of note, awareness was at its lowest in phase 3 among this specific group of males.

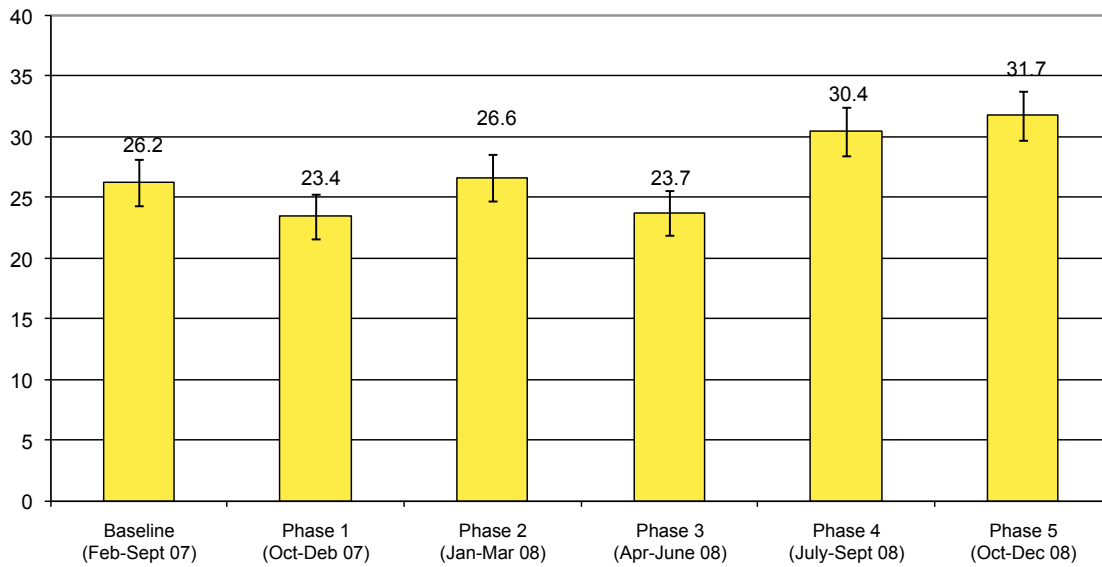


Figure 1
Niagara drivers' perception that Niagara region has a higher rate of serious car crashes than other regions from Baseline to Phase 5.

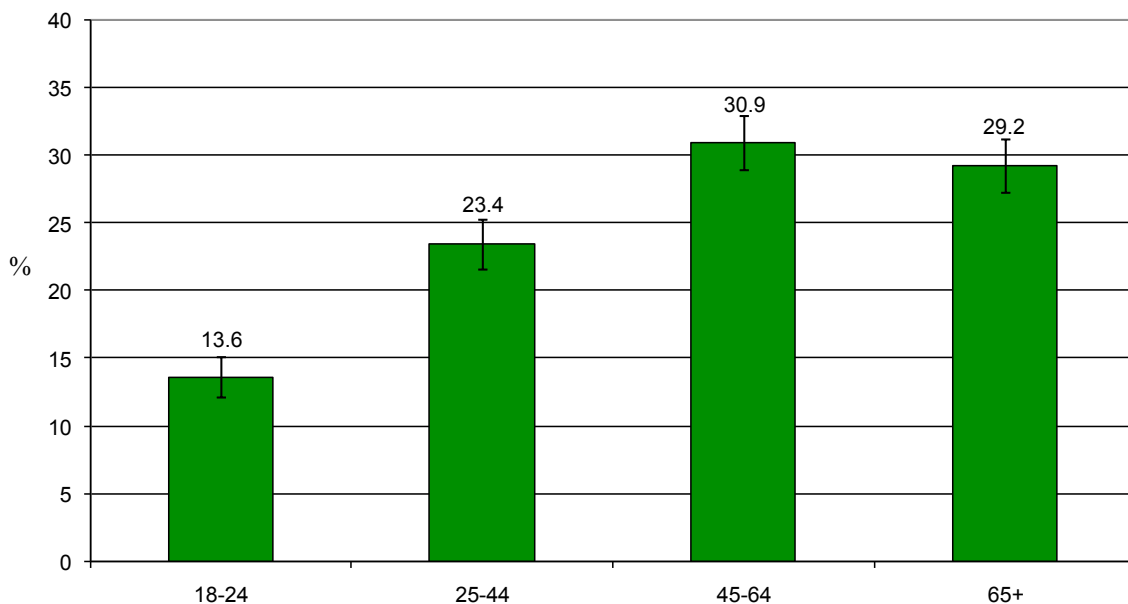


Figure 2
Niagara drivers' perception that Niagara region has a higher rate of serious car crashes than other regions by age group (February 2007 to December 2008).

Niagara Residents' Public Knowledge of Factors Related to Serious Car Crashes

According to Niagara drivers, the top three actions that lead to serious car crashes were speeding, drinking and driving, and aggressive driving. Approximately 88.4% (CI: 87.0-89.8) of respondents identified speeding as a major factor associated with car crashes. Additionally, 87.0% (CI: 85.5-88.58) perceived drinking and driving, and 81.9% (CI: 80.2-83.6) perceived aggressive driving to be the other major factors leading to serious car crashes in Niagara. Among males 18-44, the top three factors identified in order from highest to lowest were: drinking and driving (85.1%, CI: 82.3-87.9); speeding (82.7%, CI: 79.8-85.6); and aggressive driving (77.0, CI: 73.7-80.3). An interesting finding was that the top three factors were identified by all drivers who were 18 years of age or older, but there were age differences in how they were ranked in order of importance. (Data not captured in figures).

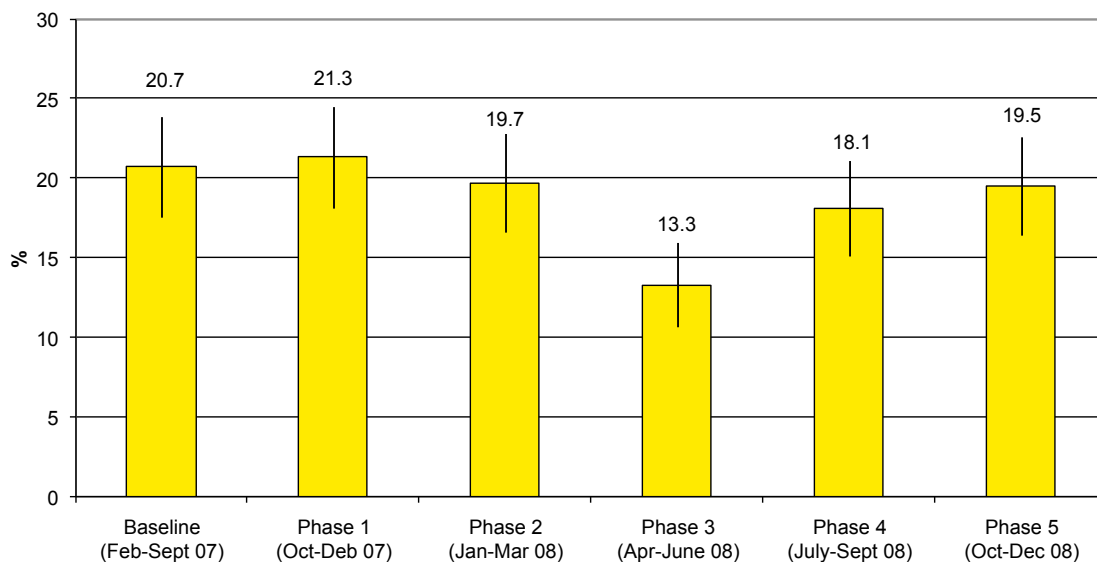


Figure 3
Male drivers' (18-44) perception that Niagara region has a higher rate of serious car crashes than other regions from Baseline to Phase 5.

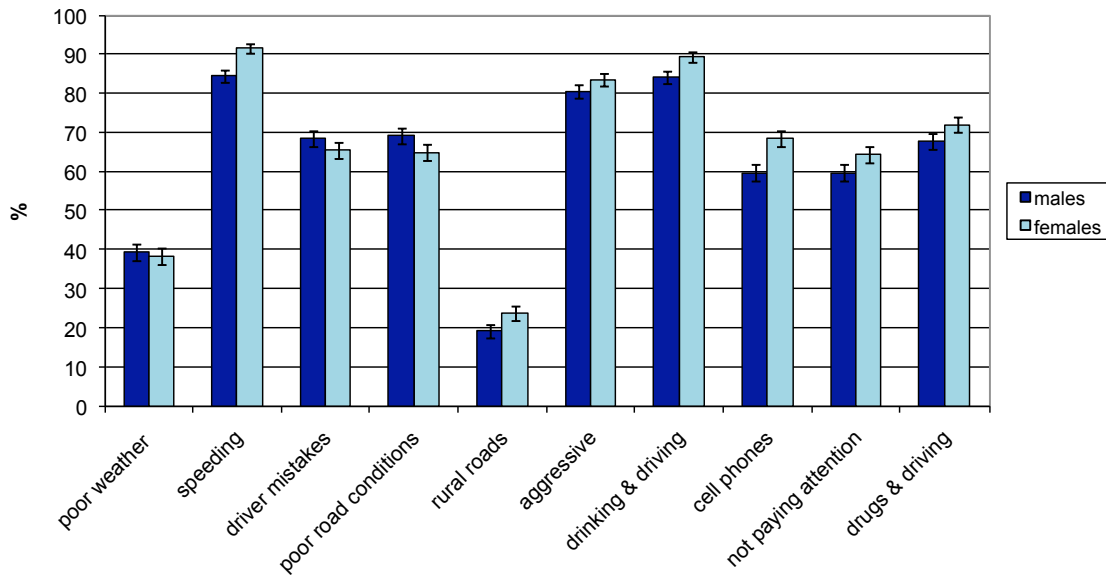


Figure 4
Perceived factors that led to serious car crashes by gender (February 2007 to December 2008).

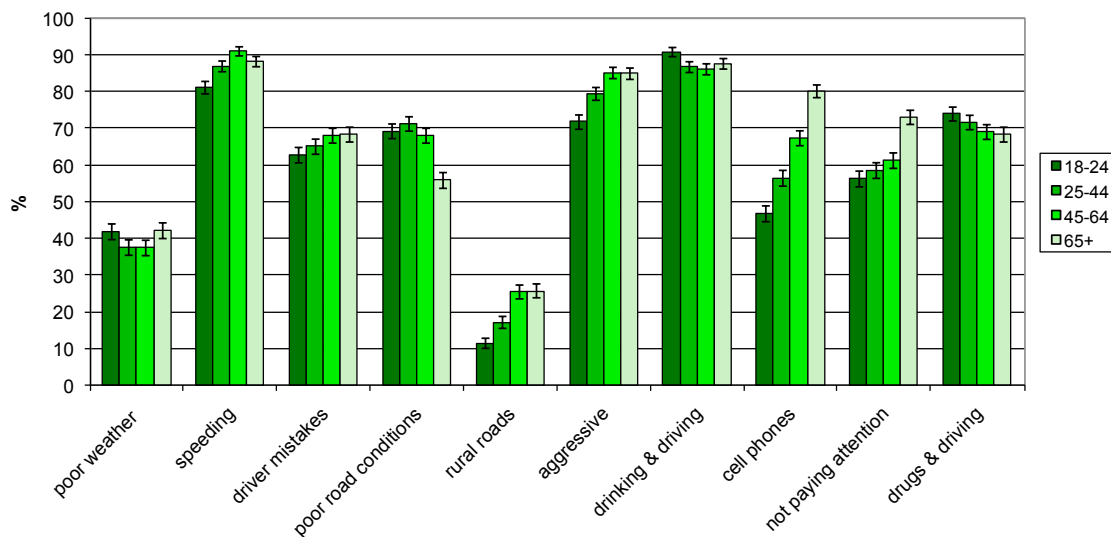


Figure 5
Perceived factors that lead to serious car crashes by driver age group (February 2007 to December 2008).

As illustrated in Figure 4, the same top three factors were also identified by males and females similarly. Of interest, females had a higher proportion

of responses for factors such as speeding, drinking and driving, and cellphone use. Age differences and opinions of factors that lead to serious crashes are presented in Figure 5.

Niagara drivers' perceptions of factors that lead to serious crashes in Niagara are presented in Figures 6 through 9. Drinking and driving, speeding, and aggression as leading factors stayed relatively stable over the course of the campaign, whereas others were recognized as being a major contributor to car crashes over time, such as rural roads and cellphone use while driving.

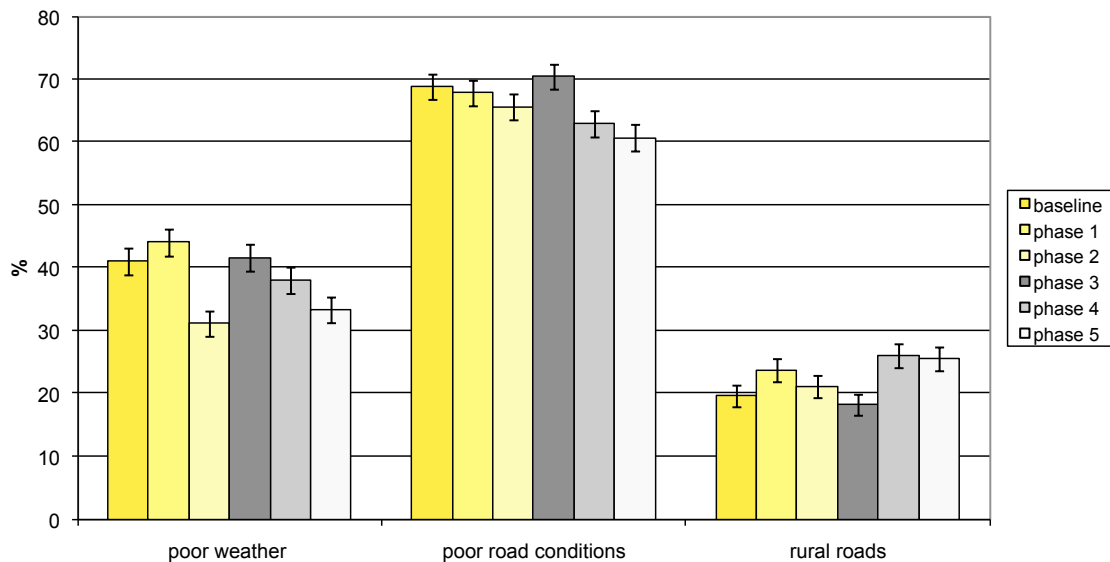


Figure 6
Perceived factors that lead to serious car crashes in Niagara: Poor weather, poor road conditions, and rural roads from Baseline to Phase 5.

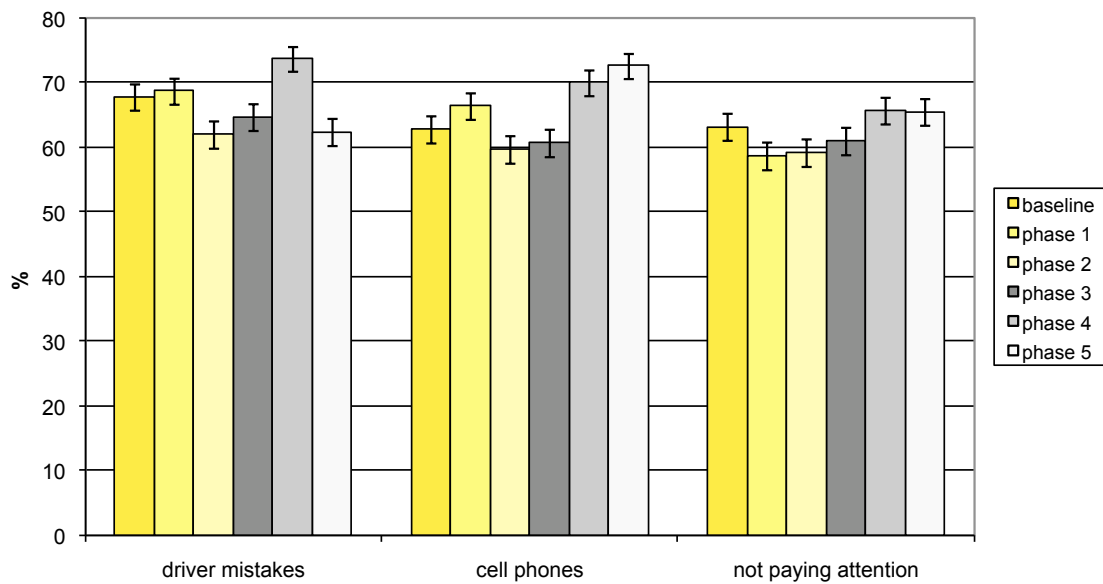


Figure 7
Perceived factors that lead to serious car crashes in Niagara: Driver inattention factors from Baseline to Phase 5.

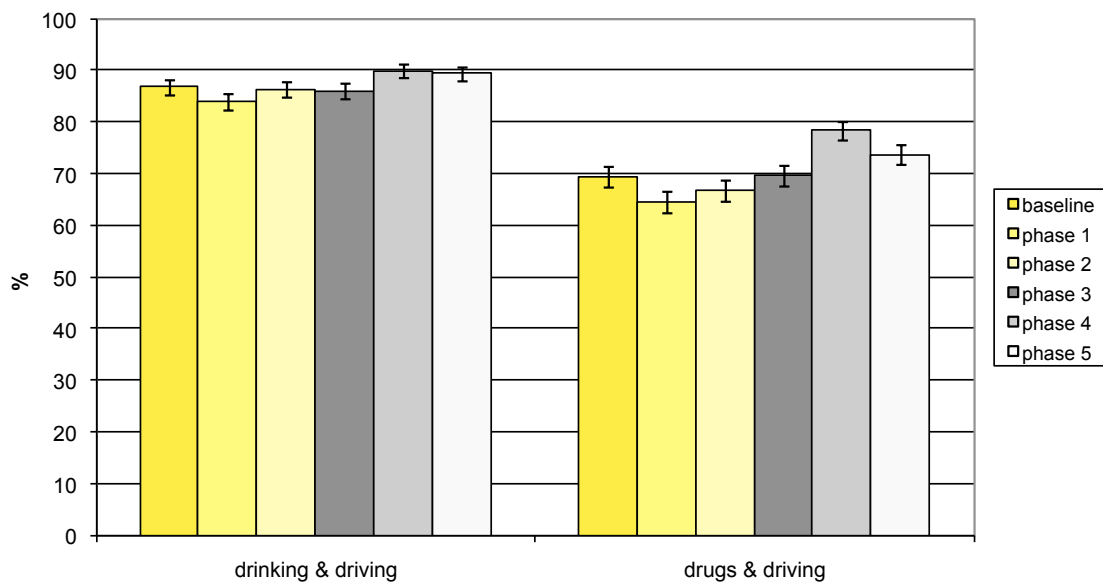


Figure 8
Perceived factors that lead to serious car crashes in Niagara: Driver impairment from Baseline to Phase 5.

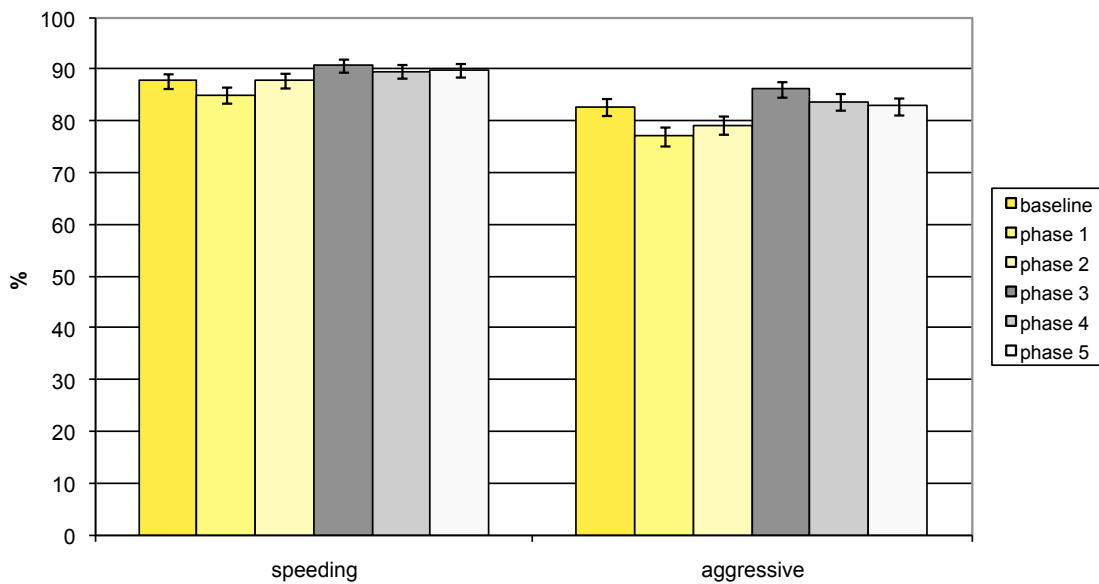


Figure 9

Perceived factors that lead to serious car crashes in Niagara: Speed and aggression from Baseline to Phase 5.

Niagara drivers’ identified priorities for authority action that could reduce serious car crashes

The majority of drivers identified two main priorities that Niagara authorities needed to target, in order to reduce serious car crashes. Specifically, increased traffic enforcement (39.8%, CI: 37.7-41.9) and road safety education (34.9%, CI: 32.8-37.0) were identified as the top priorities to reduce serious car crashes. Few drivers identified traffic laws, changes to the roads, and changes to car design as strategies to reduce car crashes. Among males 18-44, more road safety education (41.1%, CI: 37.3-44.9) was the top priority identified among this particular group. (Data not captured in a figure).

Presented in Figure 10 is the distribution of drivers’ responses of what authorities could do to reduce serious car crashes over the course of the Think and Drive campaign. Responses such as changes to the roads and changes to traffic laws remained relatively stable over the course of the campaign. Responses for more traffic enforcement and road safety education fluctuated from baseline to phase 5.

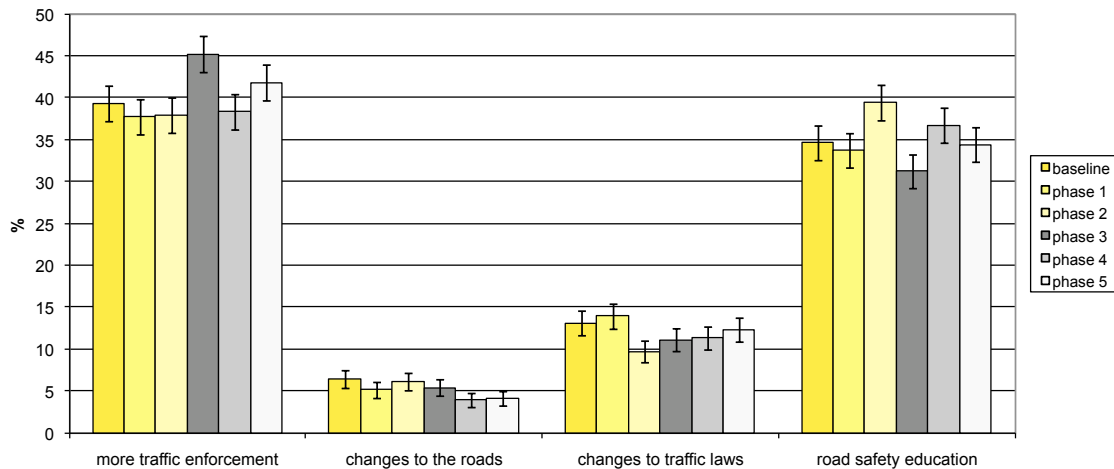


Figure 10

Niagara drivers' priorities for authority action to reduce serious car crashes over the Think and Drive campaign.

Observable differences between age groups were recognized in terms of their responses to what authorities could do to reduce serious car crashes. As illustrated in Figure 11, the 18-24 year old age group identified considerably different priorities for Niagara compared with that of the 65+ group. Younger drivers were much more likely to report changes to the roads as a means of change compared to seniors (11.4% (CI: 10.0-12.8) vs. 3.0% (CI: 2.3-3.7)), whereas seniors were more likely to identify more road safety education as a means for reducing serious car crashes (38.1% (CI: 36.0-40.2) vs. 27.0% (CI: 25.1-28.9)). Another interesting finding was that males compared with females were more likely to state that road safety education would be effective (38.9% (CI: 36.8-41.0) vs. 31.6% (CI: 29.6-33.6)) while females identified more traffic enforcement (42.4% (CI: 40.3-44.5) vs. 36.7% (CI: 34.6-38.8)) (Figure 12).

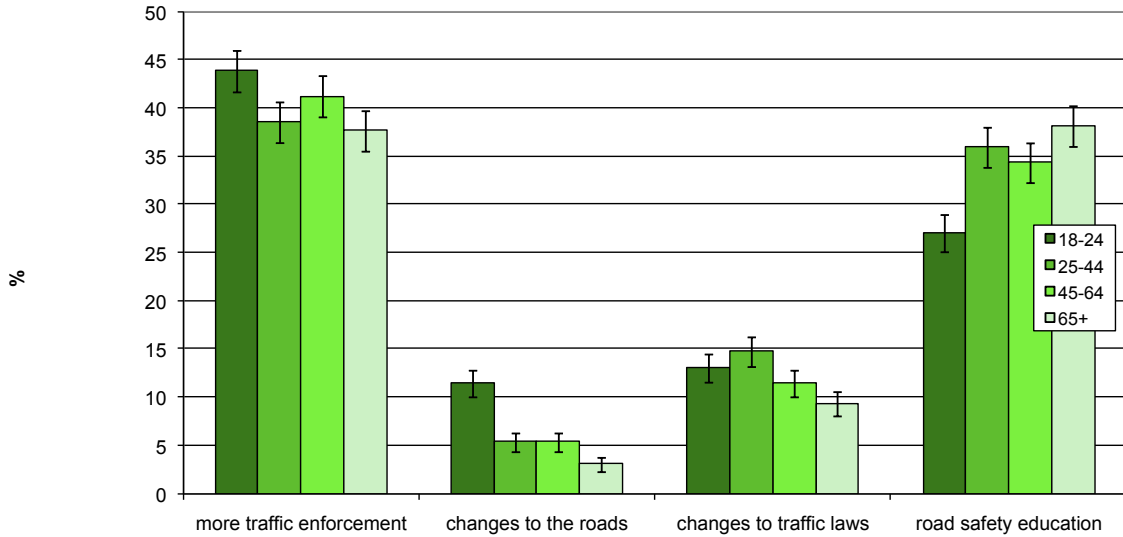


Figure 11
Niagara drivers' priorities for authority action to reduce serious car crashes by age group (February 2007 to December 2008).

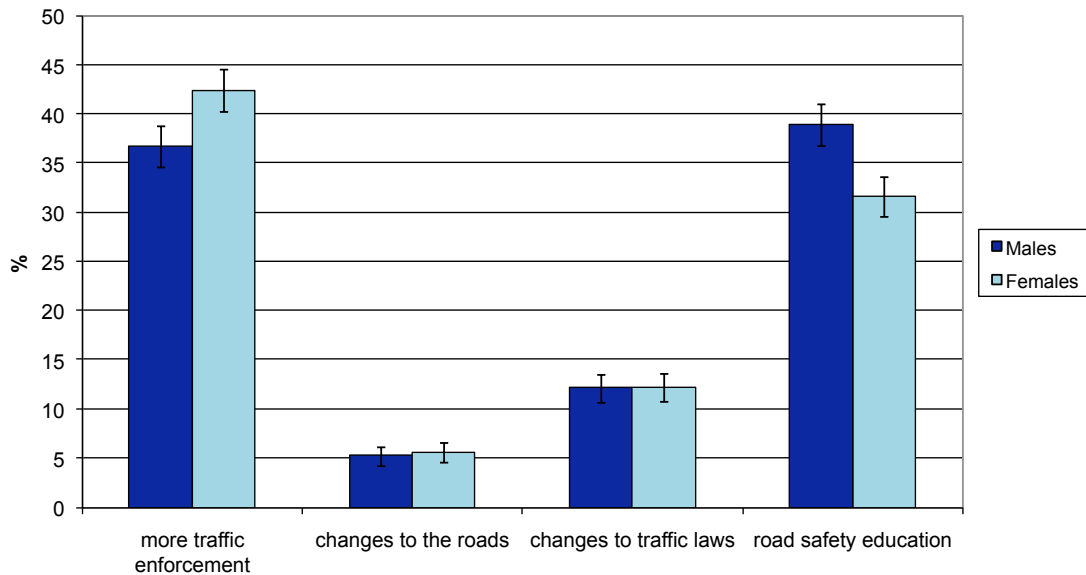


Figure 12
Niagara drivers' priorities for authority action to reduce serious car crashes by gender (February 2007 to December 2008).

Niagara drivers' personal responsibility towards road safety

When Niagara drivers were asked what they could personally do about their driving to reduce their chances of being in a serious car crash, the top three choices were: “pay more attention while driving” (28.4% (CI: 25.0-31.8)), “slow down” (21.6% (CI: 18.5-24.7)), and “avoid distractions while driving” (15.5% (CI: 12.8-18.2)). The remainder of choices that drivers identified as behaviours they could personally change had very low response rates and therefore were not reported. Among males 18-44, “slow down” and “pay more attention to the roads” were identified as the top personal behaviour change reported to reduce their risk of serious crashes (26.1%; (CI: 22.7 -29.5) vs. 23.5%; (CI: 20.2-26.8). (Data not captured in a figure).

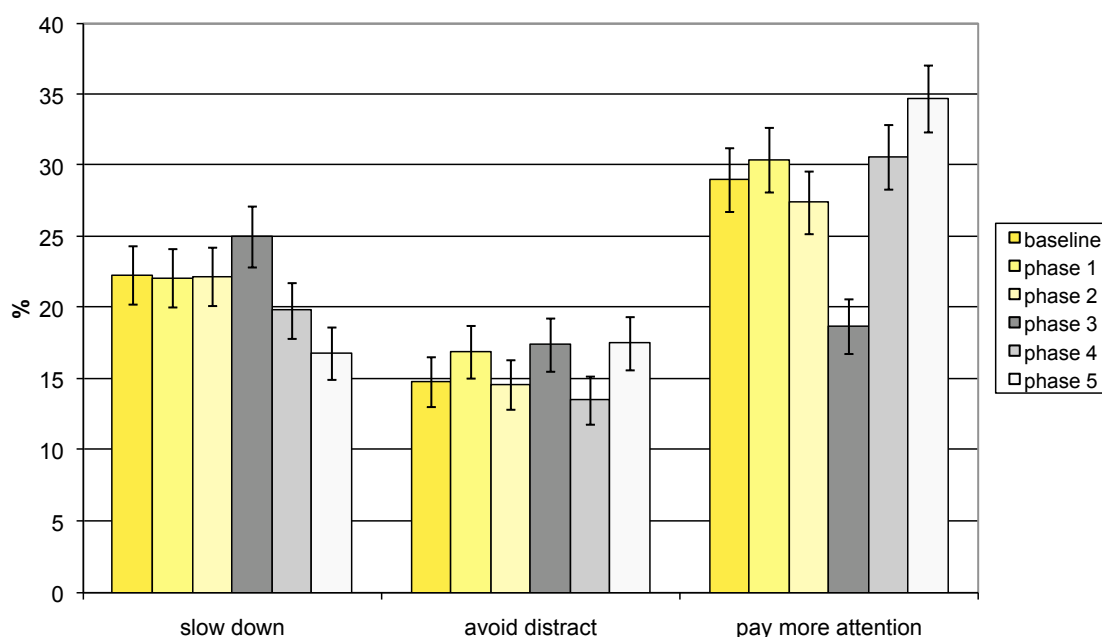


Figure 13

Niagara drivers' personal opinions about what they could do to reduce serious car crashes over the Think and Drive campaign.

As shown in Figure 13, drivers' personal opinion to “slow down while driving” decreased from baseline to phase 5 (22.3% (CI: 19.2 -25.4) vs. 16.8% (14.0-19.6). Yet, “avoiding distractions” did not change much over time, from baseline (14.8% (CI: 12.1-17.5) to phase 5 (17.5% (CI: 14.6-20.4).

Interestingly, “paying more attention to the roads” did increase from baseline (29.0%, CI: 25.6-32.4) to phase 5 (34.7%, CI: 31.1-38.3) but not significantly .

Questionnaire II – Think and Drive Campaign Awareness

Niagara Drivers’ Awareness of General Road Safety Campaigns

In total, 48.2% (CI: 44.9-51.5) of Niagara drivers had heard or seen campaigns or programs about road safety in the past year. (Data not captured in a figure). The remainder of respondents consisted of unsure/did not know (2.1%, CI:1.2-3.0) and those who did not know of any campaigns in the past year (49.7%; CI: 46.4-53.0). From the beginning of the campaign to the end, the percentage of drivers who recognized a general road safety campaign did not significantly change (43.0%, 43.3%, 39.0%). Among male drivers 18-44, 45.9% had heard of or seen some sort of road safety campaign in the past year.

Niagara drivers’ awareness of Think and Drive Campaign

Overall, 32.2% (CI: 29.1-35.3) of Niagara drivers were aware of the Think and Drive campaign. As shown in Figure 14, there was no significant change in drivers’ recognition of the campaign from phase 1 to phase 2, although phase 2 to phase 3 had a significant increase in recognition of the Think and Drive campaign, from 29.9% (CI: 26.9-32.9) to 37.6%; (CI: 34.4-40.8). Thus, the final phase had the highest campaign recognition (Figure 14).

Recognition of the Think and Drive campaign differed by age group. As shown in Figure 15, 18-24 year-olds did not differ significantly from 25-44 year-olds in recognizing the Think and Drive campaign (36.1% (CI: 32.9-39.3) vs. 36.4% (CI: 33.2-39.6). Yet, older drivers (65+) (26.9% (CI: 24.0-29.8) were significantly less likely to know or hear of Think and Drive than the 18-24 and 25-44 age groups. Males and females did not differ in campaign recognition (males 32.9% (CI: 29.8-36.0) vs. females 31.8% (CI: 28.7-34.9)).

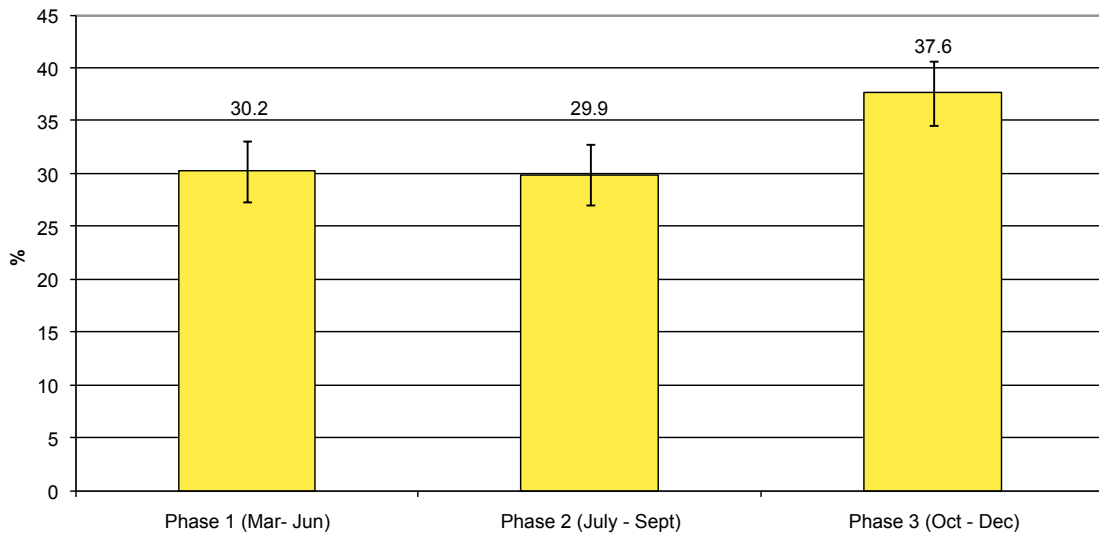


Figure 14
Awareness of the Think and Drive campaign, March to December 2008.

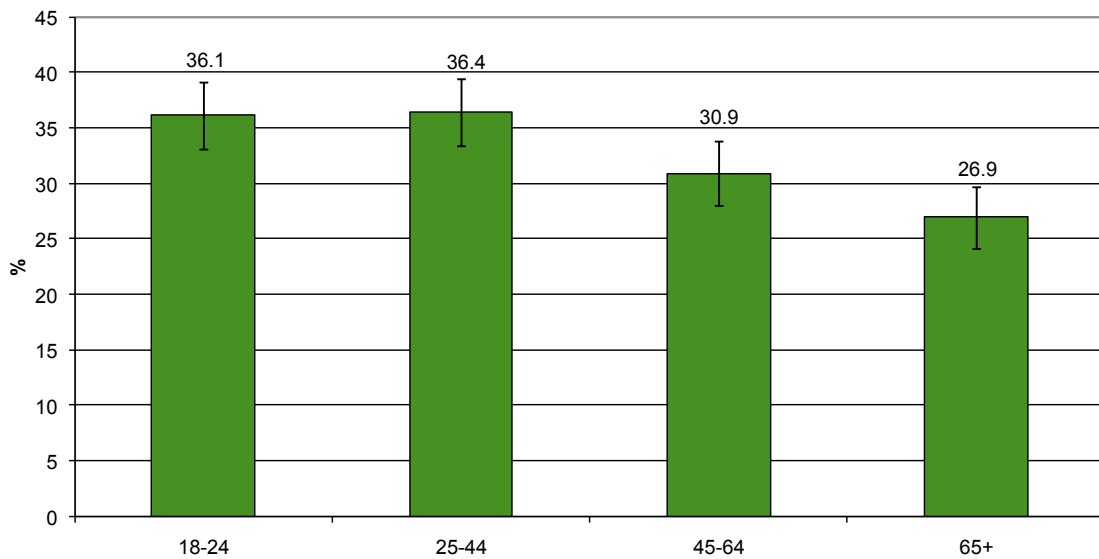


Figure 15
Awareness of Think and Drive campaign by age group (March 2008 to December 2008).

How did Niagara drivers learn about the Think and Drive campaign?

The top three channels of communication that were most successful with Niagara drivers were television (39.6%), newspaper (12.4%), and posters (10.8%). Table 7 summarizes responses for additional channels utilized throughout the Think and Drive campaign. The top three channels among males included: television (36.1%), radio (15.1%), and newspaper (13.4%). Top three channels among females included: television (41.9%), newspaper (11.4%), and posters (10.2%) (Table 7 and 8).

Think and Drive website awareness

In total, 11.3% of Niagara drivers had heard of the Think and Drive website.

Table 7
Channels of communication

CHANNEL	%
Television	39.6
Newspaper	12.4
Poster	10.8
Radio	10.6
Display	5.8
Word of mouth	4.2
Bus advertisement	2.8
Flyer (specific)	2.4
Internet/website	2.0
Vehicle decal	2.0
Community event	1.3
T-shirt	1.1

Communication through each of newsletter, keychain, live road safety challenge game, and bookmark resources were identified as learning channels by less than 1% of respondents.

Table 8
The top three channels associated with Think and Drive by age group

TOP CHANNELS	18-24	25-44	45-64	65+
1st	Television	Television	Television	Television
2nd	Posters/ Community event	Poster	Newspaper	Poster
3rd	Internet/web	Radio	poster	radio

Discussion

Rapid Risk Factor Surveillance System Results

- **Highlights and Outcomes**

All drivers

- Niagara drivers increased their perceptions that Niagara region has serious road safety issues over the course of the campaign.
- Older adult drivers (45+) were significantly more likely to indicate Niagara has serious road safety issues than young adult drivers (18-24).
- The top three actions identified by drivers that lead to serious collisions included: speeding, drinking and driving, and aggressive driving.
- Rural roads and cellphone use while driving were factors that increasingly gained recognition by drivers over the course of the campaign.
- Two main priorities for Niagara authorities to take action were reported by Niagara drivers: more traffic enforcement and road safety education.
- Young adult drivers (18-24) were more likely to report changes to the roads as a means for authority to take action on compared to older adults 45 years of age and up.

- Males thought road safety education was the priority for Niagara to reduce serious or fatal collisions, while females thought more traffic enforcement was the priority.
- To reduce serious car crashes, Niagara drivers reported they need to pay more attention while driving, slow down, and avoid distractions while driving as behaviours they could personally change.
- Overall, 32.2% of Niagara drivers were aware of Niagara's Think and Drive campaign.
- Phase 2 (July to September 2008) to phase 3 (October to December 2008) had a significant increase in overall recognition of the campaign among all drivers.
- Senior drivers (65+) were less likely to recognize the Think and Drive campaign than adult drivers (18-44).
- In total, 11.3% of Niagara drivers had heard of the Think and Drive website.

Male drivers 18-44

- Awareness of road safety issues in Niagara among this group remained relatively stable over the course of the campaign.
- Three main factors that lead to serious car crashes in Niagara were identified: drinking and driving, speeding, and aggressive driving, although drivers ranked them in varying orders of importance.
- Road safety education was identified as the top priority that authorities could take to potentially reduce serious car crashes.
- To reduce serious car crashes, speed reduction and paying more attention to the roads while driving were the top personal behaviour changes identified.

- Among those who had ever heard or seen any road safety campaigns in the past year, 33.8% had heard or seen the Think and Drive campaign.

Public Opinion Poll Results (OraclePoll pre and post surveys)

Respondents were first asked what they felt were the top causes of fatal and serious motor vehicle collisions. (Up to three responses were accepted from respondents.)

In November 2007, speeding was the most cited response (26%), followed by impaired driving (17%), distracted driving (10%), careless driving (10%), poor road conditions due to weather (9%) and the use of cellphones (8%). Post test data in January 2009 revealed similar findings among the top three responses with speeding (23%), followed by impaired driving (18%), and distracted driving (13%) being most named. Other responses included poor road conditions (12%), careless driving (12%), aggressive driving (5%), inexperience (2%), and driver error (2%) (Table 9).

NOTE: Significance testing was not done on the following OraclePoll data nor the online survey data. Therefore confidence intervals (CI) were not calculated.

Table 9
Perceived top causes of MVCs

CAUSE	2007	2009
	%	%
Speeding	26	23
Impaired driving	17	18
Distracted driving	10	13
Careless driving	10	12
Poor road conditions due to weather	9	12
Use of cellphones	8	n/a
Aggressive driving	7	5
Inexperience	3	2
Driver error	4	2
Poor infrastructure/maintenance	3	n/a
Driver fatigue	1	n/a

Respondents were then asked a series of aided or prompted questions related to issues around fatal and serious motor vehicle collisions. They were first asked where they most occur, then in what time of year they occur, and which gender is most responsible for these collisions.

In the pre-test research conducted in November 2007, 46% of Niagara region residents thought that most fatal and serious collisions occur on highways, while 31% said rural roads, and 15% urban roads. In total, 8% of respondents either did not know or were unsure. Post test findings were similar, with 44% naming highways, 31% rural roads, 14% urban roads, while 10% did not know.

Pre-test data found 51% claiming that most of these collisions happen in the winter months compared to three in 10 (30%) that cited summer months. Only 6% said in the fall, 2% during the spring and 11% did not know.

In the post-test, 50% also said winter, 31% summer, 5% spring, 4% the fall and 10% were unsure.

November 2007 research revealed that a 59% majority felt that males were the cause of most serious collisions compared to 6% that cited females, while 25% said both sexes are involved in collisions equally and 10% did not know. Fewer respondents (52%) stated that men were more involved in serious collisions during the post-test research, fewer respondents (52%) stated that males were the cause of most serious collisions, the same number (6%) cited females, a greater number of respondents (30%) said both sexes are involved in collisions equally, and 11% did not know.

Respondent trends:

- A two thirds majority (67%) agreed that younger drivers are at a greater risk of having motor vehicle collisions in the pre-test while seven in 10 (70%) said the same in the post-test.

- An equal number of respondents in the pre- and post-test agreed that they are safer drivers than their peers.

Summary of Responses | 2007 vs. 2009 Polls (Table 10):

- An equal number of respondents in the pre- and post-campaign polls agreed that they are safer drivers than their peers.
- There were decreases in the frequency of those who drive over the speed limit in both categories measured (i.e., 10 km and 20 km over speed limit).
- There were slight decreases in driving faster on rural roads and racing.
- While there was no change in the number of people who get angry or upset with other drivers, fewer participants drive when angry or upset.
- There were drops in the number of drivers who daydream and misjudge situations.
- There were drops in the areas of driving while talking and while adjusting vehicle settings.
- There was a drop related to driving while reading.
- Fewer drivers said they drive while drinking a cold beverage or a hot beverage.
- There were decreases in driving after drinking alcohol and when very tired.
- 22% of respondents said there has been a significant or very significant change in awareness of road safety driving issues and 26% believed there was somewhat of a change.

- 20% of respondents stated that there has been a significant or very significant change in knowledge of road safety driving issues and 26% reported somewhat of a change.
- 18% of respondents said that there has been a significant or very significant change in their driving habits over the last 12 months and 19% respondents said there has been somewhat of a change.

More than half or 51% of residents interviewed stated that they had seen or heard of a road safety campaign in Niagara. When asked to name the campaign or program that they became aware of, MADD was most cited by 26%, followed by 21% that named RIDE, 4% cited Arrive Alive, 3% cited each of Think and Drive, and Students Against Impaired Driving. Both MADD and RIDE are well-established road safety campaigns with substantial advertising funding and community presence, and therefore, may be top of mind among residents.

Respondents were asked a series of aided or prompted questions related to issues around fatal and serious motor vehicle collisions. They were first asked where they most occur, then in what time of year they occur, and which gender is most responsible for these collisions.

In the pre-test research conducted in November 2007, 46% of Niagara region residents were of the opinion that most fatal and serious collisions occur on highways, while 31% said rural roads and 15% urban roads. Additionally, 8% of respondents either did not know or were unsure. Post-test findings were similar with 44% naming highways, 32% rural roads, 14% urban roads, while 10% did not know.

Pre-test data found 51% of respondents claiming that most of these collisions happen in the winter months compared to three in 10 (30%) that cited summer months. Only 6% said in the fall, 2% during the spring and 11% did not know. In the post-test, 50% also said winter, 31% summer, 5% spring, 4% the fall and 10% were unsure.

November 2007 research revealed that a 59% majority felt that males were the cause of most serious collisions compared to 6% that cited females,

while 25% said both sexes are involved in collisions equally and 10% did not know. Fewer respondents or 52% stated that men were more involved in serious accidents during the post-test research, with more or 30% naming both sexes equally, while 6% said women and 11% had no opinion.

Respondents were asked to disagree or agree with the statements “Younger drivers (16 to 24) are at greater risk of having motor vehicle collisions.” And “I am a safer driver than my friends or peers.” A two-thirds majority (67%) agreed that younger drivers are at a greater risk of having motor vehicle collisions in the pre-campaign poll while seven in 10 (70%) said the same in the post-campaign poll. An equal number of respondents in both the pre- and post-campaign agreed that they are safer drivers than their peers.

Respondents were asked a series of questions related to their driving habits, and asked to respond using a scale of 1-never, 2-almost never, 3-sometimes, 4-often or 5-very often. “In general, when driving how often do you do each of the following?” Any observable trends or slight change in responses that could be meaningful have been highlighted in blue for the 2009 post-campaign results; 2009 responses also have arrows indicating the change in frequency (increase vs. decrease) for any issue/behaviour in the “never” and “often/very often” responses.

In terms of the Think and Drive campaign’s key messages/themes – speeding, driver error/distractions, impairment, and rural roads – there were:

- Decreases in the frequency of those who reported driving over the speed limit in both categories measured (i.e., 10 km and 20 km over speed limit).
- Decreases in self reported driving while talking, adjusting vehicle settings, and reading, as well as decreases in the number of drivers who daydream and misjudge situations, or drink a cold or hot beverage.
- Decreases in self reported driving after drinking alcohol and when very tired.

- Slight decreases in self reported driving faster on rural roads and racing.

Table 10
Comparison of driving habits 2007 vs. 2009

Comparison of driving habits 2007 vs. 2009		2007			2009		
	Road Safety Issue/Behaviour	Never %	Almost Never/Some-times %	Often / Very Often %	Never %	Almost Never/Some-times %	Often / Very Often %
Speeding	Drive more than 10km over speed limit	15	51	33	22 ↑	51	27 ↓
	Drive more than 20km over speed limit *	48	46	5	56 ↑	37	7 ↑
	Run a yellow light	23	71	5	26 ↑	67	7 ↑
	Run a red light	92	8	0	92	7	0
	Drive aggressively during poor weather	85	13	1	85	13	2
	Drive less cautiously in good weather	40	47	12	43 ↑	48	9 ↓
	Drive faster on rural or country roads	44	44	12	48 ↑	41	11
	Race with another driver	96	3	1	98 ↑	2	0
	Tailgate another driver driving too slowly	76	23	1	78 ↑	21	1
Driver Error/ Distractions	Drive when very angry or upset	52	44	4	53	43	2 ↓
	Get angry or upset with other drivers	26	63	11	26	64	10
	Daydream or let your mind wander	38	58	3	46 ↑	50	4
	Misjudge a driving situation	30	68	2	38 ↑	62	0
	Drive without wearing a seatbelt	90	9	0	90	7	3
	Drive while talking to passengers	4	51	44	5	56	40 ↓
	Drive while moving around or reaching for something	38	57	5	41 ↑	54	5
	Drive while smoking	81	7	12	75 ↓	11	14 ↑
	Drive without wearing prescription eyewear	96	3	1	95	4	1
	Drive while using laptop/handheld device	97	3	0	96	4	0
	Drive while adjusting vehicle settings	17	64	18	24 ↑	57	19
	Drive while looking at outside objects	17	67	16	11 ↓	68	21 ↑
	Drive while reading	87	13	0	94 ↑	6	0
	Drive while using a cellphone w/o headset	64	30	6	59 ↓	33	8 ↑
	Drive while drinking a cold beverage	41	48	11	45 ↑	47	8 ↓
	Drive while drinking a hot beverage	38	44	19	42 ↑	43	15 ↓
	Drive while eating	48	48	3	52 ↑	44	4
Drive while combing hair/shaving/makeup	93	7	0	96 ↑	3	1	
Impairment	Drive after taking medication	73	22	4	71 ↓	21	8 ↑
	Drive after drinking alcohol	70	30	0	75 ↑	24	1
	Drive after using recreational drugs	97	3	0	98	1	1
	Drive when tired	31	66	2	35 ↑	62	3

NOTE: Numbers may not add up to 100% due to rounding.

The poll results suggest the Think and Drive campaign has had some meaningful impact on the levels of awareness and understanding of road safety issues and safe driving behaviours among Niagara drivers/residents.

Comprehensive Interactive Online Survey Results

Once participants completed the online road safety challenge, they were given their total point score, identified by one of three colour categories (green, yellow, or red). To pass the Niagara Road Safety Challenge (i.e., get a “green” score), participants had to obtain a minimum of 164 points (out of a maximum of 208 points) or 80 %. A “red” score indicated that their road safety awareness and driving practices require great improvement. A “yellow” score indicated better driving practices, but required improvement.

At the end of each month, the accrued results of all participants who completed the challenge were analyzed according to four sets of demographics: (1) gender; (2) age; (3) gender and age, and (4) municipality.

1. Gender (Table 11):

- Almost half of all female participants (48.7%) scored yellow or green, compared to 35.5% of male participants, suggesting that female drivers may have a greater awareness and/or understanding of road safety issues and less at-risk driving behaviours. These results underscore the fact that male drivers are involved in more motor vehicle collisions than female drivers.

Table 11

Road Safety Challenge results by gender

GENDER	TOTAL RESPONSES	% BY GENDER	GREEN SCORE %	YELLOW SCORE %	RED SCORE %
Male	1,007	43.5	20.1	15.2	8.2
<i>(within gender)</i>			46.2	35.0	18.8
Female	1,309	56.5	29.1	19.6	7.8
<i>(within gender)</i>			51.5	34.7	13.8

TOTAL	2,316	100	49.2	34.8	16.0
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2. Age (Table 12):

- Overall, green scores increased and red scores decreased with each consecutive age group.
- More than one-third of respondents 16 to 24 years of ages had red scores.
- In the 65+ years of age group, 80% had green scores, 5% red.

These results seem to reinforce the notion that road safety knowledge and driving habits may improve with age and experience; the decreasing yellow scores may also suggest decreasing “uncertainty” also with age and experience.

Table 12
Road Safety Challenge results by age group

AGE GROUP	TOTAL RESPONSES	% BY AGE GROUP	GREEN SCORE %	YELLOW SCORE %	RED SCORE %	
16-24	<i>total group</i>	319	13.8	5.2	3.6	4.9
	<i>within age group</i>			37.7	26.1	35.5
24-44	<i>total group</i>	845	36.5	14.7	14.8	7.0
	<i>within age group</i>			40.3	40.5	19.2
45-64	<i>total group</i>	928	40.1	21.6	14.9	3.7
	<i>within age group</i>			53.9	37.2	9.9
65+	<i>total group</i>	224	9.6	7.7	1.5	0.5
	<i>within age group</i>			80.2	15.6	5.2
TOTAL	2,316	100				

3. Gender and Age (Table 13):

- Both males and females in the 16-24 years of age groups had the highest percentage of “red” scores. Only in this particular age group are female red scores higher than their male counterparts.
- Red scores decreased with each age group.
- Female green scores are higher than their male counterparts in all age groups except 65 year or more, where the number of male respondents is much greater than the females.
- Females green scores in the 45-to-64-age group are almost twice the scores of their male counterparts, while the number of female respondents is slightly higher.

Overall the online challenge results provide a measure to track possible trends within specific demographic groups, and the need for ongoing social marketing campaigns focusing on road safety education and safe driving behaviours.

Table 13

Road Safety Challenge results by age and gender

AGE	TOTAL RESPONSES	% OF TOTAL BY AGE	% OF TOTAL MALE (AGE GROUP)	% OF TOTAL FEMALE (AGE GROUP)	% OF MALE GREEN	% OF FEMALE GREEN	% OF MALE YELLOW	% OF FEMALE YELLOW	% OF MALE RED	% OF FEMALE RED
16-24	319	13.8	42.7	57.3	14.8	22.9	12.8	13.5	15.1	21.0
25-44	845	36.5	42.2	57.8	15.6	24.1	15.5	24.8	10.8	9.3
45-64	928	40.1	40.9	59.1	19.2	36.1	17.0	18.5	4.6	3.8
65+	224	9.6	65.7	34.3	51.8	29.8	10.1	3.2	3.9	1.2
TOTAL	2,316	100								

NOTE: Numbers may not add up to 100% due to rounding.

4. Municipality: Results by municipality group were not analyzed as the participant numbers were too small to determine any meaningful trends or comparisons.

In terms of participation rates by municipality relative to its population as a percentage of Niagara region's total population, West Lincoln and Wainfleet had fewer participants, which could be related to Internet access in rural Niagara. All other municipalities were fairly representative of their respective percentage of the Niagara region total population.

Outcomes of the Think and Drive Campaign

The Think and Drive campaign, a component of the Regional Niagara Road Safety Committee strategy, met a significant portion of the specific objectives defined at the beginning of its post Pilot campaign implementation. Prior to the onset of the expansion project, a Pilot campaign was executed and considered effective for a variety of reasons. It was found to:

- Increase awareness among the Niagara region population of road safety issues as well as the extent of the problem with motor vehicle collisions in Niagara.
- Heighten knowledge about skills related to road safety and ways in which to improve the road safety situation in Niagara.
- Illustrate an enhancement in the intentions of the citizens of Niagara to improve driving attitudes and take personal responsibility for road safety.
- Increase the level of community support and collaboration in road safety.

This was accomplished, in large part, by engaging the public, road safety-related community organizations, Niagara-on-the-Lake Town Council, local media, business associates, major employers, schools, and community groups.

Because of the apparent success of the Pilot campaign, the Think and Drive campaign was executed soon after its completion. The majority of the

outcomes with respect to the intended goals and desired effects of the expansion project were positive and significant, thereby aiding in working towards the overall vision of the entire campaign, which is to save lives through road safety. This is an ongoing process and its success is, in part, based on reaching Think and Drive's predefined, specific objectives.

Using a multi-faceted approach to injury prevention which, in this case, included aspects of education, enforcement, engineering, advocacy, and focusing on partnerships and collaboration, the Think and Drive campaign was successfully implemented and promoted using evidence based decision making, best practices and a focus on population health. The reasoning behind this approach is that dual campaigns which combine marketing strategies and traffic enforcement can change driver behaviour in a positive manner and improve road safety. Campaign strategies were flexible and adaptable to the local situation and ensured that the campaign worked towards maintaining and forming partnerships within the community. Additionally, the strategies considered the target audience. It is important to note that community capacity building was fundamental to the road safety strategy. It not only included aspects of the media and other useful marketing strategies, but also brought the community together. A very important aspect to the overall campaign was that it worked to get the community involved with and aware of the campaign. With this approach, the following Think and Drive campaign objectives were achieved as follows:

- There was an increase in the recognition by Niagara drivers, both male and female, that the region of Niagara has serious road safety issues. This correlates with the objective of raising the profile of road safety as a public health issue and to increase awareness of Niagara crash problem. Therefore, after the Pilot campaign was complete and had raised awareness on this topic, the Think and Drive campaign only further profiled the issue of road safety.
- Over the course of the campaign, Niagara residents' beliefs that serious car crashes were a result of speeding, drinking and driving, and aggressive behaviour remained stable, whereas other aspects of road safety, including the use of rural roads and the use of

cellphones, were reported as important factors in serious car crashes after exposure to the campaign. This, in turn, illustrated a greater understanding of road safety behaviour and an increase in public awareness about motor vehicle collisions (causes) and road safety. For example, it is important to use caution when using a cellphone while driving (or not use one at all).

- Results from the Think and Drive campaign questionnaire indicated that drivers believed that they could reduce their chances of being in a serious motor vehicle collision by: paying more attention while driving, slowing down, and avoiding distractions while driving, such as using a cellphone. These beliefs increased over the course of the campaign. Therefore, this was related to the objective to provide public information about motor vehicle collisions and road safety to increase knowledge and awareness of the Niagara crash problem. This also relates to the promotion that drivers take personal responsibility in decreasing motor vehicle collisions. For example, drivers must operate their vehicles responsibly (not drink, speed, etc.).
- Over the course of the campaign, it was found that drivers in this region came to believe that greater traffic enforcement and road safety education were the most important strategies for authorities to implement in order to reduce serious car crashes. This demonstrated that the Think and Drive campaign was changing the societal norms that enforcement and engineering were the primary ways to improve road safety to a comprehensive injury prevention approach to include road safety education.

Through engaging local enforcement and education partners, we were able to build partnerships and community capacity while engaging the public about road safety.

In terms of the results from the OraclePoll surveying, it was found that there was a slight increase in public awareness of the fact that rural roads have the greatest numbers of collisions. This related directly to one of the main problems found in the driving situation within the Niagara region,

specifically that 58% of MVCs were occurring on rural roads. Additionally, there was an increase in the amount of people who felt they would never drive faster on rural roads. However, there was a decrease in the opinion that males were involved in more crashes than females. This was opposite to the driving behaviours actually occurring in the region. There was a decrease in the number of people who stated that they engaged in speeding. This decrease was greatest in terms of those doing 10 km over the speed limit, but still present in terms of 20 km over. Additionally, fewer people stated they would run a yellow or red light. This demonstrated that numerous opinions were changed in terms of risky driving behaviours behind the wheel. However, it must be kept in mind that this was an opinion poll and did not measure actual behaviour statistics. It is possible that the public may have felt they would not engage in the behaviours, but were still exhibiting them when behind the wheel.

There were significant increases in the belief among Niagara region drivers that they would not engage in activities that took their attention away from driving. This directly related to the objective of changing driver attitudes about one of the greatest contributing factors in serious MVCs. Specifically, the public opinion poll demonstrated that fewer people felt they were engaging in the following while driving: letting their minds wander, moving around or reaching for something, smoking, adjusting vehicle settings, reading, eating and/or drinking (non-alcoholic), combing hair, shaving, and putting on make-up. In terms of alcohol and drugs, there was an increase in the number of people who said they would never drive after doing either. Furthermore, fewer people felt they were driving while tired.

With regards to awareness of the campaign, a greater percent of the public felt that they saw a change in their own awareness of Niagara road safety. Furthermore, more than half of the population had seen or heard of a campaign regarding road safety in the region. However, the Think and Drive campaign was only fifth on the list of campaigns that were noted by the respondents; it had only a 3.4% response rate.

Recommendations

The above mentioned conclusions have led to the following recommendations:

- Future campaigns could focus on targeting the gender differences in driving, in order to further inform the public as to the disproportionate risk for each gender.
- A continued effort focused on maintaining the aforementioned attitude and behaviour changes by way of previously discussed sustainability strategies.
- Implement a continuous and strong communication strategy throughout all segments of the campaign to maintain public interest throughout the entirety of a campaign.
- Implement strategies to increase public awareness of the campaign as this would increase the strength and in turn aid in the achievement of all objectives.

Marketing Strategy Recommendations

The Think and Drive campaign's primary target audience was male drivers aged 16 to 40 years and the secondary audience was all Niagara drivers. Campaign resources were designed and focus tested with the primary target audience in mind. In terms of campaign, it was noted that awareness decreased as age increased, indicating the Think and Drive campaign's primary audience was more aware of the campaign than the secondary audience. We can conclude marketing strategies effectively reached the primary target audience more than the secondary audience.

In the event the Think and Drive campaign is expanded and includes a different target audience, it is recommended marketing strategies are designed to effectively reach the identified target audience.

The most effective marketing strategies for communicating road safety messages in Niagara were television, newspaper and posters. Over the

course of the Think and Drive campaign marketing strategies resulted in effects and changes within the community that aligned with the original Think and Drive campaign objectives. After the marketing campaign was put into place there was:

- A decrease in positive opinions towards driving over the speed limit
- Decreases in self reporting of various distracted driving activities
- Decreases in self reported driving after drinking and driving while tired
- Slight decreases in self reported speeding on rural roads and racing

These successes relate back to the Think and Drive campaign objectives of influencing driver attitudes about behaviours that contribute to Niagara's serious MVCs and increasing their awareness and knowledge of driving safety. It is important to keep in mind that observed changes were regarding public opinions towards risky driving behaviours and not necessarily changes in actual driving behaviours. However, the observed change in public attitudes towards risky driving behaviours could potentially have a positive effect on decisions made while behind the wheel.

Analysis of observed trends within the campaign revealed the most successful marketing period was January - March 2008. This quarter generated the most website visits and participation in on-line activities, indicating some of the highest potential for community awareness. While resources were handed out throughout the entire campaign and contributed to its success, it was during the January to March 2008 phase that the most interest was generated. One large indicator was the Think and Drive Niagara Facebook group activity. Most members joined the Facebook group during this period, highlighting campaign interest as residents had to seek out the group and make an effort to join. Additionally, the months of January to March had the greatest amount of media coverage, facilitating greater community interest in the Think and Drive campaign. A similar promotion of resources and website opportunities could prove effective in maintaining public awareness of future road safety campaigns.

The intent of the Think and Drive marketing strategy was to couple a multifaceted mass media campaign with enforcement. This decision was based on the success of the Pilot campaign and best practice evidence. It was through support of the law enforcement officials who providing enhanced traffic enforcement, along with community members and other stakeholders that the media effort resulted in improved community awareness of the entire campaign. Future campaigns should regard this as a best practice and aim to shape their endeavours in a similar fashion. The Think and Drive campaign's comprehensive approach, including the consistent engagement of stakeholders and law enforcement and the use of effective marketing resources, led to a successful campaign outcome.

Table 14
Marketing Communications Resources Distribution and Allocation
by Month

	ITEM	OCT	OCT/NOV	DEC	Q1	JAN	FEB	MAR	Q2	APR	MAY	JUNE	Q3	
Resources	Key Chains		3,172	5,945	9,116	2,010	4,930	4,336	11,276	1,173	3,633	1,598	6,404	
	Bookmarks		1,146	4,800	5,946	665	4,772	3,028	8,465	1,267	4,632	3,117	9,016	
	Flyers singles/pads		5,000		61,835	21,015	34,132	22,415	77,562	14,380	25,925	22,747	63,052	
	Posters (series)			221	221	95	344	232	671	200	136	24	360	
	Golf/T-Shirts		65		65		178	95	273	36	74	137	247	
	Vehicle Decals			265	265	9	48	20	77	1	1	1	3	
	Backgrounders		300	30	330	101	16	25	142	0	-	20	20	
	Articles				0				0					0
		Unique Visitors	112	176	345	633	590	556	719	1,865	634	631	554	1,819
Website		Visitations	382	414	813	1,609	1,132	997	1,110	3,239	1,186	1,198	1,125	3,509
		Collision Map visits	175	78	167	420	352	203	279	834	219	193	185	597
		Limerick visits	107	65	152	324	238	68	Finished	306	-	-	-	0
		Drivers Forum visits	140	71	178	389	224	187	209	620	234	212	220	666
		Road Safety Challenge visits	116	135	222	473	519	468	497	1,484 1,957	392	303	248	943 2,900
		Road Safety Completions*				348				1,006 1,354				681 2,033
		Resources visits	132	62	130	324	203	166	211	580	171	150	143	464
		Videos visits												
		Articles visits												
		About ... page visits												
FB	Facebook (quarter + total)	-	53	103	103	190	230	330	(227) 330	380	402	441	(111) 441	
Media	Media Coverage	10	2	13	25	15	10	16	41	4	7	11	22	
Community	Presentations	3	1	0	4	3	4	4	11	2	18	2	22	
	Display Units			5	5	6	5	11	22	6	19	5	30	
	LIVE Challenge		n/a	n/a	0	n/a	n/a	n/a	0	n/a	8	5	13	
	PSAs (non-radio)				0				0				0	
Advertising & Publicity	Bus Posters			70	70				0				0	
	Print Advertising		X	X		X	X	X						
	Bus Ads													
	Radio Traffic Sponsorships													
	Radio PSAs													
	Cogeco PSAs													
	Regional Road Signs													

	ITEM	JULY	AUG	SEPT	Q4	OCT	NOV	DEC	Q5	TOTAL	
Resources	Key Chains	1,836	1,618	2,949	6,403	949	1,705	154	2,808	36,007	
	Bookmarks	2,363	1,552	2,609	6,524	1,122	1,180	151	2,453	32,404	
	Flyers singles/pads	4,823	2,641	2,362	9,826	700	340	151	1,191	213,466	
	Posters (series)	538	40	231	809	86	28	-	114	2,175	
	Golf/T-Shirts	7	30	31	68	46	20	-	66	719	
	Vehicle Decals	72	-	-	72	-	-	-	0	417	
	Backgrounders	155	-	36	191	-	-	-	0	683	
	Articles	4	-	-	4	-	-	-	0	4	
		Unique Visitors	689	555	465	1,709	537	451	348	1,336	7,362
Website		Visitations	1,825	1,255	918	3,998	1,300	1,242	1,153	3,695	16,050
		Collision Map visits	338	239	200	777	198	170	158	526	3,154
		Limerick visits	-	-	-	0	-	-	-	0	630
		Drivers Forum visits	334	181	165	680	194	153	155	502	2,857
		Road Safety Challenge visits	496	340	280	1,116 4,016	347	174	163	684 4,700	4,700
		Road Safety Completions*				478 2,513				151 2,664	2,664
		Resources visits	245	156	401	165	149	124	438	2,207	
		Videos visits		275	191	466	347	333	308	988	1,454
		Articles visits					118	109	93	320	320
		About ... page visits							144	144	144
FB	Facebook (quarter + total)	441	462	461	(20) 461	550	560	561	(100) 561	561	
Media	Media Coverage	12	10	16	38	7	6	5	18	144	
Community	Presentations	0	0	0	0	7	2	1	10	47	
	Display Units	4	3	10	17	6	6	-	12	86	
	LIVE Challenge	3	2	16	21	7	5	-	12	46	
	PSAs (non-radio)			7	7	-	-	-	0	7	
Advertising & Publicity	Bus Posters				0				0	70	
	Print Advertising			X		X		X			
	Bus Ads		X	X		X					
	Radio Traffic Sponsorships		X	X							
	Radio PSAs		X	X		X	X	X			
	Cogeco PSAs		X	X		X	X	X			
	Regional Road Signs			X		X	X	X			

NOTE: * Road Safety Completions – total for quarter | accrued total for quarter

Think and Drive and the NRPS Traffic Enforcement Across the Niagara Region

Table 15

Think and Drive and the NRPS Traffic Enforcement across the Niagara Region. R.I.D.E. Statistics 2006 to 2008

	2006	2007	2008
Vehicles Stopped	4,856	6,266	20,913
Roadside Tests	191	266	588
12 hr D/L Suspensions	53	45	156
Impaired Arrests	15	12	50
ADLS	15	12	49
LLA Offences	0	2	10
Arrests Other			24
PON's			178

- The Pilot campaign: Sept. 1st, 2006 to Dec. 31st, 2007 - 40,995 Provincial Offences Notices (PON's) (including increased enforcement for four months Pilot campaign in NOTL only in 2006) (Table 15).
- The Think and Drive campaign: Sept. 1st, 2007 to Dec. 31st, 2008 - 44,778 PON's (indicating increased enforcement throughout the 15-month Think and Drive campaign) (Table 15).

Additional Outcomes

Changes in the road safety attitudes and behaviours of the Niagara community have been evident throughout the Think and Drive campaign. The Niagara community has embraced the campaign and we have seen a shift in the collective thinking about road safety since the RNRSC launch as demonstrated by:

- Over 250,000 Think and Drive educational resources distributed throughout Niagara.

- Sustainable messaging throughout Niagara on the Regional population signs, decals on CAA, Regional and trucking company vehicles, and integration of Think and Drive into community based municipal road safety groups.
- Website participation during the campaign including over 15,000 visits, over 7,000 unique visitors, and 4,400 individuals registering for prizes after completing the on-line survey.
- The Think and Drive Facebook group becoming a forum to discuss local road safety issues and allowed the 561 members to share opinions and personal stories.
- An evolution of RNRSC key messages from one that shared information about the RNRSC members, mission and goals and Niagara's high rate of crashes (2004) to a social commitment toward road safety by the grass-roots community who are now spreading the road safety messages to the larger community (2008).
- Regional stakeholders including road safety in their corporate goals.
- Local media recognizing road safety as a topic of interest to their readers, listeners and viewers as shown by the significant coverage of road safety issues over the past two years.
- RNRSC partner members routinely being accessed by the media for road safety information and comments.
- Niagara decision makers and influencers recognizing road safety as a priority issue. i.e. Mayors of South Niagara have recognized road safety as one of their top 10 key issues in 2008 and 2009.
- Niagara community members contacting the RNRSC via the www.thinkadndrive.net website, expressing their support and willingness to become involved in the campaign.

General Conclusions and Learnings



The Think and Drive campaign achieved great success as indicated by the achievement of the original objectives. This can be attributed to several factors:

- It followed the best practice model with a combination of communication and social marketing alongside increased traffic enforcement.
- The commitment, contributions and expertise of the RNRSC partner members and key stakeholders provided the ongoing support needed to execute the campaign and ongoing road safety strategy.
- The continuous evaluation prior to and throughout the campaign allowed it to be responsive and adaptable to community need and available opportunities.
- The campaign was based on a comprehensive health promotion approach of increasing knowledge and awareness, building skills and creating a supportive road safety environment for Niagara drivers.
- The RNRSC focused on building community capacity and collaborating with the grass-roots community to assist with delivery of the multi-faceted communications strategy to reach the target audiences. The wide breadth of information sharing and community involvement fostered awareness of Think and Drive and its key messages.

- Target audiences were identified and the marketing materials were tailored to these groups.

We recommend that others implementing a similar campaign consider using a social marketing strategy and community-based approach.

A limitation to the Think and Drive campaign was that involvement and interest seemed to drop off by last three-month period. This can be observed by looking at the distribution of marketing communications resources and community activities illustrated in Table 15. The greatest amount of interest was in the months of January, February, and March, with these numbers decreasing as the campaign progressed. To strengthen the impact and foster continual interest, it would be important to continually consider new and impactful ways to engage and interest the community throughout the entire campaign. For example, having new and interactive marketing strategies to rollout in each separate quarter could achieve continued interest and participation by the public. Future applications of the Think and Drive campaign should consider this while ensuring involvement of all members of the community in the campaign.

Revisiting Key Objectives

The main objectives of the overall Think and Drive campaign:

Informational

- Increase awareness among Niagara drivers and road users (with a focus on male drivers) about the Niagara crash problem.
 - It was found that after the campaign, Niagara drivers increased their awareness that Niagara region has serious road safety issues.
 - The fact that 32.2% of Niagara drivers surveyed reported being aware of the Think and Drive campaign, demonstrates that the campaign was successful in increasing awareness

within the community. However, a future campaign could aim to reach even more members of the community.

- Two main priorities for Niagara authorities to take action were acknowledged by Niagara drivers: more traffic enforcement and road safety education.
 - Young adult drivers (18-24) were more likely to report changes to the roads as a means for authority to take action on compared to older adults 45 year and up.
 - Males thought road safety education was the priority for Niagara to reduce serious or fatal collisions, while females thought more traffic enforcement was the priority.
 - Overall, 32.2% of Niagara drivers were aware of Niagara's Think and Drive campaign.
 - Phase 2 (July to September 2008) to phase 3 (October to December 2008) had a significant increase in overall recognition of the campaign among all drivers.
 - In total, 11.3% of Niagara drivers had heard of the Think and Drive website.
 - 22% of respondents said there has been a significant or very significant change in awareness of road safety driving issues and 26% believed there was somewhat of a change due to the Think and Drive campaign.
- Increase knowledge among Niagara drivers and road users (with a focus on male drivers) about road safety skills applicable to the Niagara crash problem.
 - After the campaign, Niagara citizens were able to name the main risk factors associated with motor vehicle crashes, namely the use of rural roads and cellphone use. Citizens also

maintained knowledge that speed, impairment, and driver error and important causes of serious crashes in Niagara.

- Older adult drivers (45+) were significantly more likely to indicate Niagara has serious road safety issues than young adult drivers (18-24).
- The top three actions identified by drivers that lead to serious collisions included: speeding, drinking and driving, and aggressive driving.
- Rural roads and cellphone use while driving were factors that increasingly gained recognition by drivers over the course of the campaign.
- 20% of respondents stated that there has been a significant or very significant change in knowledge of road safety driving issues and 26% reported somewhat of a change due to the Think and Drive campaign.

Motivational

- Change driver attitudes (with a focus on male drivers) such that drivers take personal responsibility for road safety. Increased intentions of the Niagara public to improve their driving and change driving attitudes and behaviours.
 - After the campaign, male drivers understood that in order to reduce their risk of being involved in a motor vehicle crash, they must reduce their speed and pay more attention to roads while driving. These male drivers were also able to identify the main factors which led to serious car crashes in Niagara, namely drinking and driving, speeding, and aggressive driving.
 - With the aforementioned newly acquired knowledge post campaign, it can be hypothesized that these male drivers will

translate their knowledge into safer behaviours behind the wheel.

- The public perception of poor infrastructure/maintenance as being a cause of crashes decreased throughout the campaign. This could indicate that in some cases, drivers may have gained a better understanding of the actual causes of crashes in Niagara (speed, impairment, and driver error).
- Niagara drivers increased their perceptions that Niagara region has serious road safety issues over the course of the campaign.
- To reduce serious car crashes, Niagara drivers reported they need to pay more attention while driving, slow down, and avoid distractions while driving as behaviours they could personally change.
- Change driver behaviours (with a focus on male drivers) in order to decrease motor vehicle collisions.
 - A related outcome was the slight self reported decrease in driving faster on rural roads.
 - Driver action progressively gained recognition as an important causal factor for crashes. In male drivers 18 to 44, driver related behaviours were consistently identified as the three leading factors in serious car crashes. Additionally, Niagara drivers began to regard these dangerous driving behaviours as ones that they could personally change.
 - 18% of respondents said that there has been a significant or very significant change in their driving habits over the last 12 months and 19% respondents said there has been somewhat of a change due to the Think and Drive campaign.

With respect to male drivers aged 18-44, the target audience, the following results were found:

- Awareness of road safety issues in Niagara among this group remained relatively stable over the course of the campaign.
- Three main factors that lead to serious car crashes in Niagara were identified: drinking and driving, speeding, and aggressive driving, although drivers ranked them in varying orders of importance.
- Road safety education was identified as the top priority for authority action to potentially reduce serious car crashes.
- To reduce serious car crashes, speed reduction and paying more attention to the roads while driving were the top personal behaviour changes identified.
- Among those who had ever heard or seen any road safety campaigns in the past year, 33.8% had heard or seen the Think and Drive campaign.
- To enhance the ability to effectively share road safety related information among the Regional Niagara Road Safety Committee partner agencies and the community.

Overall, Think and Drive was a very successful campaign that has great potential to become a widespread initiative throughout Ontario. In order to meet the specific and varying needs of each community, the program will have to be altered towards what is required. Additionally, the marketing strategies will have to be updated regularly to ensure that they stay current and that the community remains interested in the messaging.

Challenges and Opportunities

Challenges

- Choosing appropriate committee members without the project becoming unmanageable can be difficult.
- Community stakeholders will not always have an equal amount of participation and involvement. It will be common for some to

become more committed and involved as a direct result of their location, size, and available resources.

- Challenges arose when collaborating with external marketing agencies, in terms of working styles (i.e., creative vs. pragmatic / evidence based).

Opportunities

- There were opportunities to build relationships and true partnerships. One must consider the other stakeholders in the project when making decisions and understanding how they will affect everyone involved.
- Using a strategic process to build community capacity provided an opportunity to foster relationships and gain sustainable campaign support with community stakeholders. This was achieved by reorienting stakeholders requesting support and strategic communication to typical and atypical stakeholders.
- The media offered a large opportunity in terms of support and the various venues it allowed the campaign to utilize when raising awareness and support.

Sustainability

- In order for a road safety strategy and campaign to have sustainability, it was identified partnerships must be allowed to grow and evolve, no matter how long that may take. All partners and stakeholders must be able to work together in order to build the required level of commitment and trust. It was these carefully developed partnerships and relationships that created a long-lasting effect for the road safety campaign and the commitment to a long-term road safety strategy.
- Goals and objectives must be solid and well informed in order for the campaign to have sustainability. This can be done through use of business and strategic planning tools when creating frameworks.

A specific example of this was the development of a five-year strategic plan, which allowed for clear goals to be set and for outcomes to be measured.

- Project management strategies play an important role as they allow for the scope of the project and stakeholder expectations to be kept in mind. In turn, this allowed for the project to avoid scope creep and meet partner expectations
- To provide cohesion and efficiency to a campaign there needed to be consideration of each partner's involvement in the project, at which stage they should be involved and at what level.
- In terms of evaluation, it was necessary to keep the end in mind at all points. This allowed for assessment of the progress and accomplishments.
- The Think and Drive campaign continues to be an integral part of the overall RNRSC strategic plan for 2009-2013 addressing the continual need to educate drivers about road safety in order to sustain changes to driver actions.

References



Please see www.thinkanddrive.net to access all related documents including:

- Regional Niagara Road Safety Committee Strategic Plan (2004-2008)
- Regional Niagara Road Safety Committee Terms of Reference (2004-2008)
- Regional Niagara Road Safety Committee Terms of Reference (2009-2013)
- Report on the Niagara Regional Police Service Motor Vehicle Collision Data (1999-2003)
- Niagara road safety public opinion poll results (2006)
- Think and Drive Road Safety Pilot Campaign: An Evaluation of an Initiative to Improve Road Safety in Niagara (2007)
- Project Charter: Niagara Region-Wide Road Safety Campaign
- Niagara Road Safety Pre and Post Analysis (Rapid Risk Factor Surveillance Survey results) (2009)
- Think and Drive Niagara Road Safety Campaign Summary Report (2009) Pier 8 Group Integrated Marketing