Road Safety Campaigns: What Does the Research Tell Us?

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About TIRF

> National, independent road safety research institute
> Registered charity
> Governance
> Staff
> Funding
> Focus on road users
Overview

> Theories to guide the use of campaigns.
> Research evidence regarding campaign effectiveness.
> Features of effective campaigns and learning styles.
> Strategies to guide the development of road safety campaigns and practical examples.
Introduction

> Campaigns are one of the mostly widely used road safety tools.
> Campaigns are flexible and can be adapted.
> Effective campaigns are often based on psycho-social and educational theories that guide program development to achieve desired behaviour change.
Theories to guide campaigns

 THEORY of planned behaviour:

» Three factors influence person’s intention to engage in behaviour – attitudes, subjective norms, perceived behavioural control (e.g., speeding).

 HEALTH belief model:

» The main motivator for people to preserve or protect their health is to avoid negative health behaviours – severity/vulnerability, barriers, self-efficacy, motivators.
Theories to guide campaigns

> **Protection motivation theory:**
  
  » Protect against negative consequences based on fear, coping appraisal (severity, costs, vulnerability, self-efficacy and effectiveness.

  » Self-efficacy plays a very significant role in adoption of behaviour; influences change or resistance to change (e.g., distraction).

> **Transtheoretical model of change:**

  » People move through 5 stages of change before it becomes permanent (e.g., drink drive).
Theories to guide campaigns

Theories of social persuasion

» Social norms theory – behaviour influenced by (often inaccurate) perceptions of how peers think, behave; biased perception is benchmark for own behaviour.

» Pluralistic ignorance, cognitive dissonance.

» Elaboration likelihood model – individuals are motivated to process a message if it is non-threatening, personally relevant or they feel high level of personal, social responsibility regarding their behaviour.
Theories to guide campaigns

> Fear-based campaigns:
  » Take advantage of emotions; graphic imagery of consequences to shock or scare.
  » Some anxiety arousal is usually motivational.
  » Positive emotion more persuasive for males; fear for females.
  » Less effective for those who do not feel vulnerable.
  » People engaging in behaviour more likely to ignore or discount messages - defensive.
  » Include actions to protect self.
Rethink Speed - TAC PSA
Impossible Driving Test - Belgium
Lessons learned from theories

> Important to understand source of behaviour before adopting an approach.
> Characteristics of audience influences approach.
> Those less likely to engage in behaviour, who are sensitive to social norms are easier to change.
> Fear-based campaigns should be used cautiously with those who are most invested in behaviour.
> Self-efficacy, motivational factors important.
> Do not underestimate importance of branding and execution of campaign.
TIRF Brain on Board campaign

Almost 87% of drivers agreed that even advanced safety features like antilock brakes are no excuse for tailgating.

Your brain is your vehicle’s most important safety feature.

64.5% of Canadians think it’s important to pay careful attention to driving, even with advanced safety features like brake assist.

Your brain is your vehicle’s most important safety feature.

Visit BrainonBoard.ca to give it a tune-up.
Campaign research

Delhomme et al. (2009) identified five main goals of campaigns:

- provide information about laws;
- improve knowledge and/or awareness of new in-vehicle systems, risk, and appropriate preventative behaviours (winter tires);
- change underlying factors that influence road-user behaviour;
- modify bad / reinforce good behaviours;
- decrease frequency and severity of crashes.
Campaign research

> A European meta-analysis revealed that road safety campaigns generally reduced the number of road incidents by ~ 9%.

  » increased seatbelt use by 25%;
  » reduced speeding by 16%;
  » increased yielding behaviour by 37%; and,
  » increased risk comprehension by about 16% (Phillips et al. 2009).

> Coordinated enforcement efforts greatly increase effectiveness (Zampeeti et al. 2013).
Campaign research

A more recent European meta-analysis examined the features of the most effective campaigns. These features included:

» drinking and driving campaigns
» shorter duration (less than 1 month)
» personal communication
» roadside delivery or close proximity
» combined with mass media (Phillips et al. 2011).
Campaign research

> Drinking and driving:
  > Systematic review of campaigns revealed a 13% median decrease in alcohol-related crashes (Elder et al. 2004).
  > Motivational factors include harm to self or property, fear of consequences, social norms.
  > Encourage moderation/abstinence; designated drivers, taking keys.
Campaign research

> Drinking and driving:

» Rigorous evaluations in Australia / New Zealand showed reductions in serious crashes during high alcohol hours.

» In most cases, shorter ads have same effect as longer spots.

» No evidence that effectiveness was dependent on enforcement and vice versa (Tay 2005).

» Swedish study showed 14.4% decrease in road safety incidents (Vaa et al. 2004).
Campaign research

> Drinking and driving:
  » Most of Us Don’t Drink and Drive from Montana state university.
  » Baseline survey about behaviour and perceptions about peers.
  » Campaign showed 13.7% decrease in reported driving after drinking; 15% increase in use of non-drinking designated drivers (Linkenbach & Perkins 2005).
MOST of Us* prevent drinking and driving.

* Data source: 2007 Montana Young Adult Alcohol Survey. Any amount of alcohol can be illegal or dangerous.
Campaign research

> Distracted driving:
  » NHTSA high visibility enforcement campaign in Hartford, CT; Syracuse, NY.
  » Extensive coverage targeting drivers 18-45.
  » Cost $559,161.
  » Driver surveys showed increased awareness that laws were being enforced, and recognition of slogan.

  » Observed use dropped from 6.6% to 2.9% in CT, 3.7% to 2.5% in NY (Chaudhary et al. 2014).
MTO Distracted Driving

VIEW FROM THIS SIDE

The Vanity

Eight Camden Street 416 504·8700
Campaign research

Seatbelt use:

» Quebec’s buckle up program was highly successful.
» TV supported by other media, private sector, enforcement.
» Used reason, emotion, creativity.
» Increased usage from lowest level in Canada (67%) to 93%.
» Persistence, longevity were keys to success (Meunier et al. 1993).
Campaign research

> Seatbelt use:

» Belgian campaign showed exposure produced significant differences for some determinants of behaviour.

» Being exposed doesn’t guarantee effect – awareness of exposure is important.

» Visual interest and message placement are important (Brijs et al. 2009).
Campaign research

> Seatbelt use:

» In 1999, a 4-month seatbelt campaign in Jordan (Tarawneh et al. 2001).

» ‘Seatbelts may not be comfortable at first, with use you get used to it’.

» Increased belt use from 19% to 28%; achieved a 47% increase in usage.

» Male drivers with lower usage rates benefited more than females, although their rate was still lower than females.
Campaign research

> Speeding and aggressive driving:
  » ‘Aggressive driving gets you nowhere fast’.
  » Before/after evaluation showed it was effective in increasing knowledge and awareness among drivers.
  » Also revealed differences between behaviours perceived as aggressive versus legal definitions (Lee et al. 2010).
Campaign research

> Speeding and aggressive driving:

» Slovenia 2008 campaign – short duration.

» ‘Speeding is worth regretting’.

» Used grief, regret without overtly shocking images – implied consequences.

» Changed normative beliefs, personal norms, behavioural intentions, self-reported speeding.

» People with biased perception of own speed ignored messages.

» People who believed they engaged in speeding were more likely to accept message (Divjak & Zabukovec. 2000).
Speeding – New Zealand PSA
Campaign research

» Vulnerable road users:
  » Share the Road has been implemented around the world.
  » Use of positive emotion, humor, irony.
  » Wide range of materials.
  » Evaluations in Canada rare and often after the fact.
Campaign research

> **Effectiveness linked to:**
  
  » solid theoretical foundation;
  
  » topic of campaign;
  
  » types of tools used in the campaign;
  
  » program duration;
  
  » social norms underlying the target audience;
  
  » the external influences and environment for behaviour; proximity important; and,
  
  » combination with enforcement.
Traffic lights
Campaign research

> Limitations:

» Generally, campaigns are not systematically or empirically evaluated.

» Difficult to determine how to accurately and objectively measure campaigns.

» Differences in planned vs. actual behaviour.

» Difficult to obtain comparable control group.

» Use of multiple media makes it hard to determine relative contribution of each media.
Learning styles and educational theory

> Three main learning styles based upon Neil Fleming’s VAK model.

> Learning requires people to act on new knowledge.
Learning styles & educational theory

> **Theory of active learning:**
  
  » Places onus on individuals to recognize what they do/not know, and to reflect on their own behaviours to determine if change is needed.
  
  » Promotes self-reflection and responsibility to make changes.

> **Motivation also plays an important role in the desire or willingness to learn.**
TIRF project

Create community-based toolkit:

» enables communities to identify local road safety issues and target audience using their own data;

» helps them understand problem and perceptions in their own community;

» provides guidance on how to best reach the target audience; and,

» contains important information to shape messages and design/branding.
Community-Based Toolkit

About the Toolkit

What is the Community-Based Toolkit for Road Safety Campaigns?

The Toolkit is a user-friendly tool for communities to help them develop effective road safety campaigns. It contains knowledge, guidance, and resources that can support communities in the development and delivery of their own campaigns. It contains:

- A clear summary of the research about road safety campaigns;
- A more detailed, comprehensive report that describes the evidence-basis for road safety campaigns, what is known about their effectiveness, common theoretical approaches that guide the development of campaigns, and the latest knowledge regarding the ways that people learn.

In addition, the Toolkit also contains a variety of fact sheets created by experts in social marketing and evaluation that combine strategies to help communities to:

- Engage a group of interested stakeholders who can play an active role in delivering a road safety campaign;
- Identify an appropriate issue and target audience for the campaign;
- Use a valid approach to create campaign messages and visuals;
- Develop a practical dissemination strategy to promote the campaign, and;
- Prepare for an evaluation of the campaign.

Finally, the Toolkit also contains a pedestrian fact sheet as well as two examples of a pedestrian campaign that were created by Safe Roads Ottawa using this approach, and a list of road safety resources that can help communities learn the facts about priority road safety issues.

Why was the Community-Based Toolkit created?

Campaigns are one of the most commonly used tools to promote road safety, and in the past decade much has been learned from research emerging from several disciplines that can inform the development, implementation, and evaluation of road safety campaigns.

The Toolkit was created to fill an important gap between research and knowledge about effective road safety campaigns, and to bridge the gap between research and knowledge about effective road safety campaigns, and to facilitate the development of road safety campaigns.
Community-Based Toolkit

**2. Road Safety Campaigns: What the Research Tells Us**

How effective are road safety campaigns?

Prior research from many countries over the past three decades has investigated the effects of road safety campaigns. While individual evaluations have focused on different road safety issues, and different measures of behavior change (e.g., crashes, citations), evidence has shown a range of positive outcomes and demonstrated that road safety campaigns can change perceptions and reduce risk. One of the most prevalent studies involves a European meta-analysis of 47 effects extracted from 21 international studies conducted in 14 countries during the past 30 years. It revealed that road safety campaigns can:

- Reduce the number of road incidents by approximately 18%.
- Reduce speed by 10%.
- Increase yields by 10%.
- Reduce risk comprehension by about 10% (Philips et al., 2011).

What factors help make a campaign effective?

A subsequent European meta-analysis that compiled 119 effects extracted from 47 international studies further revealed insights into the features of campaigns that contribute to effectiveness in terms of crash reductions. These features included:

- Drinking and driving campaigns;
- Shorter duration (less than a month);
- Personal communication;
- Roadside delivery, use of roadside media, or delivered in proximity to the behavior occurring;
- Combined emotional/narrational message has a stronger influence than a purely rational message;
- Accompanied by enforcement, and;
- Combined with mass media (Philips et al., 2011).

**4. Creating an Effective Road Safety Campaign**

Why should organizations consider using road safety campaigns to make roads safer in their own community?

While there is a shared concern about a variety of road safety issues, such as speeding, distraction, pedestrians, and driving and drinking, the level of concern regarding each of these problems may vary across individual communities. In addition, road safety problems are local, meaning that the specific characteristics of a problem are often unique to each community. For example, the distraction problem in one community may be mostly related to drivers checking their phone at their intersections, whereas in another community distraction may mainly involve cyclists and pedestrians who are using headphones.

Road safety campaigns are flexible tools that communities can use to increase awareness and knowledge about specific road safety problems in their own community and can be adapted to a wide range of issues. Campaigns can be designed to target different audiences, are easily adapted to different media, and can be delivered for various lengths of time. They can also be delivered at local, regional, national, or international levels. For these reasons, road safety campaigns have been used by jurisdictions around the world to reduce risky behaviors on the road and motivate positive changes in behavior.

What organizations can be engaged in developing and delivering a road safety campaign?

There are a wide range of stakeholders in every community who have a vested interest in road safety. Key stakeholders that should be consulted and included in the development of a community road safety campaign may include:

- Local government;
- Police agencies;
- Public health and/or health care providers;
- Business leaders;
- Community advocacy groups;
- Automotive clubs;
- Local media;
- Youth organizations.

While not every stakeholder may be able to participate, it is important that they are invited and, at a minimum, made aware of the initiative to develop a community road safety campaign.

For more information about engaging stakeholders, please review the ‘Stakeholder Fact Sheet’ contained in the toolkit.
<table>
<thead>
<tr>
<th>Location</th>
<th>Issue/Theme</th>
<th>Primary Medium</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Effectiveness</th>
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</thead>
<tbody>
<tr>
<td>Australia and New Zealand</td>
<td>&quot;If you drink then drive, you're a bloody idiot!&quot; Using graphic images of physical consequences</td>
<td>Television</td>
<td>Primarily young males aged 18-24</td>
<td>$70 million AUD and $50 million NZD</td>
<td>Most crash reduction effects were found with young females and middle-aged males.</td>
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<tr>
<td>Western Montana</td>
<td>&quot;4 out of 5 young adults don't drink and drive.&quot;</td>
<td>TV and radio PSAs, newspapers, billboards and movie slide ads, Control counties received low dosage exposure to free radio and TV PSAs and paid newspaper ads, Promotional items with message were distributed statewide</td>
<td>21-34 year olds</td>
<td>$500,000</td>
<td>It successfully changed perceptions about drinking and driving behaviour among peers in target communities.</td>
</tr>
<tr>
<td>Syracuse, NY and Hartford, CT</td>
<td>&quot;Phone in one hand, ticket in the other&quot;. High visibility enforcement campaign.</td>
<td>Delivered 4 waves of enforcement between April 2010 and April 2011. The first wave was 2 weeks, the other phases were 1 week. Campaign delivered in English and Spanish with heavy media coverage and support from stakeholders.</td>
<td>Drivers aged 18-45</td>
<td>$55,936 USD</td>
<td>Driver surveys showed increased awareness that laws were being enforced and recognition of slogan.</td>
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<td>Quebec</td>
<td>&quot;Be smart, stay alive, buckle up.&quot; Fear-based appeal seatbelt campaign. Visuals equated a 40km/h or 45 km/h crash with a fall off of a 3-storey building by a man with a leaflet of bread in one hand and quart of milk in the other, suggesting short trips close to home where most crashes occurred, follow up campaign targeted back seat passengers. Challenged myth that low speed crashes are not dangerous and illustrated negative consequences but made it difficult for the audience to reject the message.</td>
<td>Delivered using mass media (TV and radio) and collateral materials.</td>
<td>N/A</td>
<td>N/A</td>
<td>It raised usage rates from 67% (one of lowest levels in Canada) to over 93% and changed behaviour among young males who were least likely to buckle up. Longevity and persistence combined with powerful message were keys to success.</td>
</tr>
<tr>
<td>Belgium</td>
<td>&quot;The safety belt, one second changes everything&quot; or &quot;la ceinture, une seconde qui change tout&quot;. Seatbelt campaign designed to increase belt use. Focus on lower speed crashes in urban areas based on crash analysis. Campaign utilized theory of planned behaviour. National campaign in 2008; in which effects on high school and university students were studied.</td>
<td>Campaign consisted of a mix of campaign materials including TV spots, posters, bumper stickers, website, leaflets, billboards on roadways, television programs.</td>
<td>Drivers and passengers</td>
<td>N/A</td>
<td>Study revealed that being exposed does not guarantee an effect and that awareness of exposure is important; visual interest and message placement influence awareness.</td>
</tr>
<tr>
<td>Jordan</td>
<td>&quot;Seat belts may not be comfortable at first, with use you get used to it.&quot; Seatbelt campaign designed to increase belt use. Campaign incorporated protection motivation theory. Emphasis was on the benefits of seat belts using positive messages.</td>
<td>Delivered over 4-month period through Mosques/Churches, TV and radio, newspapers and televised educational programs with experts.</td>
<td>General public</td>
<td>N/A</td>
<td>Observation survey and in-person interviews showed increase usage rates and revealed that Mosques/Churches were an effective way to reach the target audience.</td>
</tr>
</tbody>
</table>
Drinking and driving PSA
Erin Wright

- 28 year old hairdresser..

> She had lived a “very exemplary life other than this. No criminal record,” and one minor moving violation.

> “She’s a good person who worked hard all her life, but her mother died, and her father was told, just before this accident, that he could no longer take anymore chemotherapy for this cancer, and so she was falling apart. And that’s when she drank ...
The Sun

November 24, 2017

> Vernon, BC

> A 37-year old woman arrested previously for impaired driving came to the RCMP detachment for finger printing.

> She smelled of alcohol and was advised not to drive.

> She was arrested as she drove away.

> She was 3xs the legal limit.
Global News

March 13, 2018 2:48 pm

> Police saw vehicle pass on a double solid line; it reached 127 km/h in a 100 km/h zone.
> Police suspected female driver was impaired.
> 3 minor children in backseat.
> 5-year old not properly placed in a required car seat.
> Her breath alcohol concentration was .13
Female drunk drivers

> Younger women socializing:

» Drinking to feel comfortable or “fit in.”

» Consume alcohol and/or binge drink at house parties, bars.

» Drive for independence or because they believe that there is no other option.
Female drunk drivers

» Recently married with young children:
  » Age mid-20s to 30s.
  » Drinking becomes a problem after marriage and/or birth of children.
  » Means of coping with feelings of loneliness.
  » Children sometimes in vehicle at time of arrest.
Female drunk drivers

> Divorced, older women/empty nesters:
  » Begin drinking heavily age 40 or older.
  » Onset of drinking follows catalyst such as death of a parent, end of marriage, or children leaving home.
  » Lonely, isolated, lack of social network.
TIRF study in ON

> To gauge knowledge among women about the effects of alcohol on them and on driving.

> To examine the experiences of women driving after drinking or riding as a passenger of a drinking driver.

> Explore the perceptions of women of the factors that contribute to or reduce the risk of these behaviours.

> To inform the development of prevention resources tailored to women.
Why women drink and drive

> Limited knowledge of # drinks before unsafe to drive.

> Limited knowledge of how long it takes to eliminate alcohol, or awareness of sex differences of effects of alcohol.

> Feel pressure to drink.

> Poor judgement.

> Lack of transportation options.

> Concern about personal safety.
Do drunk driving campaigns reach women?

- Most women say no.
- Many campaigns feature men.
- Scenarios are not reflective of experiences of women.
- Messaging does not resonate with women.
- Proposed solutions are not viable.
Do campaigns reach women?

> Women would like tailored messaging for women that empowers them.

> Women would like more prevention messaging for younger women.

> Women would like campaigns that create opportunities to discuss the topic of drinking without shame.

> Information should be available in place that women will see it - available at arenas, women’s magazines, yoga studio/gym.
TIRF Change the Conversation
Do campaigns reach women?

> **Important barriers to conversations among women.**

> **Stigma and shame:**
  » greater for women than for men;
  » reflection on parenting, social role;
  » interferes with image/expectations of women.

> **Lack of tools:**
  » how to start the conversation;
  » not okay to acknowledge challenges coping.
What strategies are used?

*Scenario*: Jessie is a college girl at a party. *College party music, drinks clinking, people cheering*

Jessie: When did it get so late? I should go. I have class in the morning. But the bus will be full of creeps. And my car is parked outside. I’ve only had a few drinks. Maybe I’ll just...

Carla (friend): Hey Jessie, want to catch a ride with me and my DD?
What strategies are used?

Scenario: Kat is a young mom at a dinner party. She’s excited to be out with friends and rarely has time away from her kids.

Dinner party music, women chatting, clinking glasses
Kat: Tonight has been so much fun! I need to get out more often.
But the babysitter is waiting for me. And I can’t take a cab alone in this state.
It’s just a couple drinks. Maybe I can...
Megan (friend): Are you leaving, Kat? How about we cab home together?
What strategies are used?

**Scenario:** Debbie is a mature, professional woman having drinks at a restaurant with co-workers. She believes she can “handle her liquor”; a few drinks won’t impact her driving.

**Music:** Restaurant music, group chatter, clinking drinks

Debbie: We really needed this after such a busy week at work. But I’m tired and I want to go home now. I’ve had a few drinks, but it’s only a short drive. I feel fine to...

Amanda (co-worker): Debbie, do you need a ride? I’ll help you pick up your car tomorrow.
What strategies are used?

> **Strategies used by women:**
  - knowing personal limits through experience;
  - planning ahead and don’t rely on others;
  - ‘buddy’ system or traveling in a group;
  - designated driver;
  - personal breathalyzer;
  - sobriety and change your social circle;
  - setting boundaries.
Conclusions

> It’s difficult to change behaviour.
> A range of individual, social factors shape behaviour.
> Different people are more/less influenced by various factors.
> Persuasion, positive emotion, social norms, self-efficacy and attitudes/perceptions hold much promise; fear-based should be used with caution.
> Road safety campaigns that are well-designed, well-executed can contribute to behaviour change.
> Combining campaigns with other approaches can increase effectiveness.
TIRF education programs

DIAD
DROPIITANDDRIVE.COM

Knowledge informing strategies
www.druggeddriving.tirf.ca

Wildlife Roadsharing
Resource Centre
www.wildliferoadsharing.tirf.ca

Brain on Board
Your brain is your vehicle’s most important safety feature.
www.brainonboard.ca

Change the conversation
www.changetheconversation.ca

Young and New Driver Resource Centre
www.yndrc.tirf.ca

TIRF
The knowledge source for safe driving
Stay informed. Connect with us!

robynr@tirf.ca
www.tirf.ca

https://www.facebook.com/tirfcanada
@tirfcanada
http://www.linkedin.com/company/traffic-injury-research-foundation-tirf