Project No.

NCHRP

Project 20-24(110)

Prepared for:

American Association of State Highway and Transportation Officials

PREPARED BY

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October 2018

The information contained in this report was prepared as part of NCHRP Project 20-24: Administration of High and Transportation Agencies, National Cooperative Highway Research Program.

SPECIAL NOTE: This report **IS NOT** an official publication of the National Cooperative Highway Research Program, the Transportation Research Board, or the National Academies of Sciences, Engineering, and Medicine.

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DISCLAIMER

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Abstract

NCHRP 20-24(110) — Development of Technical Resources to Support State DOT Communications on Safety Abstract

This guidebook is a culmination of research conducted to identify ways state Departments of Transportation (DOT) could improve internal and external communications on road safety and safety culture. The research team identified six pilot states (California, Colorado, Maine, Virginia, South Carolina, and Michigan) to provide input on road safety communications efforts. The research involved interviews with the state safety engineer, the head of the state Highway Safety Office (HSO), and an individual from the DOT Public Information Office in each of the six states. Additional activities included: a literature review; a review of each state's website and any specific safety pages; an assessment of social media activities; and a review of research and other information that indicates what constitutes successful road safety communications. In reviewing the state efforts, the research team examined what is working, what is not, how to improve roles and relationships between DOT staff and outside partners including the HSO, the role of the state safety engineer in communications efforts and best practices. The research resulted in the identification of nine key strategies that states can undertake to improve communications efforts through greater collaboration internally and externally with the myriad of public and private safety stakeholders.

Introduction

Strategies for Creating a Stronger Safety Culture Through Collaboration and Communication

The National Cooperative Highway Research Program (NCHRP) conducted research to provide guidance to state Departments of Transportation (DOT) on ways to improve their road safety, public engagement, and communications. This guidebook is a result of that research. It provides nine key strategies with examples for states to use in communicating road safety issues internally and externally, to partners and the public.

To obtain the needed information, the research identified the essential players in road safety communications: the state DOT Communications Office, safety engineers, and the Highway Safety Office, all of whom provided valuable insight and recommendations.

This guidebook supports the common goal of road safety agencies and offices, which is to keep people safe on our nation's roadways. By coordinating the efforts of the state's DOT Communications Office, safety engineers and Highway Safety Office, states will have a more consistent and effective message about the importance of traffic safety, thereby reducing fatalities.

Safety culture is defined as the values and beliefs shared among groups of road users and stakeholders that influence their decisions to behave or act in ways that affect traffic safety.

National Academies of Sciences, Engineering, and Medicine. 2018. A Strategic Approach to Transforming Traffic Safety Culture to Reduce Deaths and Injuries. Washington, DC: The National Academies Press. To create a strong traffic safety culture, the traffic safety community needs a range of insights.

Responses were gathered from six participant states—California, Colorado, Maine, Michigan, South Carolina, and Virginia—to identify principles that will advance traffic safety and improve road safety communications internally and externally.

From the input received, nine key strategies emerged to improve collaboration and create effective communication. All leading to a stronger safety culture and ultimately to save lives on our nation's roadways.

strategy #1

Identify opportunities where agencies can work together on communicating safety issues.

In many cases, DOTs view their role in safety communication as promoting work zone safety and providing safety messages for display on highway dynamic messaging systems (DMS). Highway Safety Offices (HSOs) are typically responsible for the majority of behavioral safety campaigns such as Click It or Ticket and Drive Sober or Get Pulled Over. There are ways, however, to improve this relationship and expand road safety communications.

The following tactics create opportunities to promote enhanced communication, collaboration and coordination between offices and agencies:

- Use the Strategic Highway Safety Plan (SHSP) to unite the DOT and HSO.
- Schedule regular meetings between the DOT and HSO.
- Form a committee or council that focuses specifically on the issue of safety communications.
 - Involve public and private sector agencies and organizations that affect roadway safety such as the State Police, Public Safety, Education, Public Health, Game and Wildlife, Department of Motor Vehicles (DMV), AAA, advocacy groups, medical associations and the health care community.
 - Invite public information officers as they have skill sets that lead to successful collaboration and therefore should be included whenever possible.

DOTs view their role in safety communication as promoting work zone safety messages.

- Reach out to different divisions or departments.
 For example, consider DOT maintenance or traffic operations personnel that have valuable information on current roadway safety conditions.
- Establish key communication priorities, such as supporting the yearly safety campaigns conducted by the HSO. Then determine effective messaging and how to best leverage partner relationships to get the message out.

Examples

South Carolina addressed the issue of siloed communication by meeting regularly and by offering partner support for safety campaigns. For campaigns traditionally handled by the HSO, the DOT provided penalty transfer funds for TV spots, billboards, and other communication-related tactics, supplementing the funding the HSO receives from the National Highway Traffic Safety Administration (NHTSA). Penalty transfer funds are associated with states that fail to comply with Federal minimum requirements for select safety behavioral issues and have a portion of their highway funds reserved. A noncompliant state may elect to use all or a portion of the reserved funds as directed by the NHTSA Highway Safety Grant Program and for HSIP projects.



Figure 1: Communications Coordinating Council website

Louisiana formed a Communications
Coordinating Council (see Figure 1) that
involved public information officers from
all relevant agencies connected with
roadway safety. The council manages
traffic safety marketing, communication
programs, and activities, particularly
as they relate to the SHSP and the
implementation of strategies that rely
on broadening safety culture awareness
throughout the state.

Michigan's Governor's Traffic Safety Advisory Commission (GTSAC) is an informal, ad hoc committee, that provides information sharing and coordination between its members and other partners. The Committee meets quarterly and works jointly on the SHSP. The GTSAC includes state representatives from DOT, police, health and human services, education, aging services, DMV, HSO, and the Governor's Office as well as three general public members—a police chief, a sheriff, and a road commission representative.

The Colorado DOT identified a specific person in its Public Information Office to manage all safety communications efforts (see Figure 2). This staff member works closely with the HSO to establish effective communication and collaboration between all the divisions and offices within the DOT.

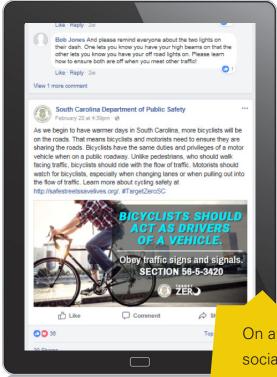
Alcohol and Impaired Driving



Every day, Colorado drivers are putting lives at risk by driving impaired. Each year, more than 26,000 people are arrested for DUI, and more than one-third of all Colorado traffic fatalities are alcohol-related.

Figure 2: Dedicated spokesperson for safety communications

Virginia achieves integration through SHSP emphasis area teams comprised of both DOT and HSO agencies. Recently, Virginia started a communication initiative between the Secretaries of Transportation and Public Safety. The Deputy Secretaries for the State Police, the DMV, and the DOT meet monthly along with their respective public information officers.



The group designated April as traffic safety month, where they deliver weekly safety messages involving vulnerable users, work zone safety, seat belt use, and distracted / impaired driving.

In Massachusetts, Michigan, California, and Utah, the DOT, the HSO directors, and other leaders meet regularly. In Michigan, the process is less formal, while in Massachusetts, the two offices are in the same building and often meet in person.

On a more tactical level, the South Carolina DOT and HSO tie social media posts back to the SHSP, as shown in *Figure 3*.

Figure 3: Social media post

In California, bicycle and pedestrian safety is a primary concern. The Governor supports an active transportation initiative that provides funding to communities for pedestrian and bicycle improvements. State-level interest, coupled with the general increase in pedestrian fatalities in the state, led OTS—the state's HSO—and its partners to develop and implement a campaign focused on vulnerable road users. The campaign, <u>Pedestrians Don't Have Armor</u>, developed through a collaborative effort continues to get positive attention. (See Figure 4 and Figure 5)



Figure 4: Pedestrians Don't Have Armor campaign







Figure 5: Pedestrians Don't Have Armor campaign continued

#2

Engage safety engineers from headquarters, district and regional offices to help identify ideas for communication topics.

Safety engineers are often an untapped resource, which is unfortunate because they have a wealth of knowledge about roadway safety and a lot of ideas about safety topics.

Safety engineers are typically focused on getting a job done and are not always tasked to think about communications. Safety engineers should be reminded to reach out to the Communications Office when launching a new initiative or a promising countermeasure.

Communications and Public Affairs Offices should consider using the information from safety engineers in videos and other content that can be shared with the media and employees. Topics may include replacing a stop sign, lane departures, road erosion, or anything in-between.

If a lack of on-camera training is a barrier to creating content with safety engineers, investing in resources and giving them the support they need to be successful is always an option. Some departments and agencies have media training programs. If internal training is not available, AASHTO offers a media training program at no cost other than travel.

Communication between the Communications Office and safety engineers is a two-way street. It is good for safety engineers to cultivate relationships with the Communications Office and vice versa. Both groups need to remind the other that they are available as a resource, and at the same time be understanding of the limitations, needs, and concerns on both sides. Here are a few tips to keep information flowing:

Safety Engineers



- Visit the Communications Office and do not rely solely on email or phone communication.
- Do not hide negative or sensitive issues from the Communications Office, but rather use them as an opportunity to be proactive.
- Understand that it will not be necessary for safety engineers to develop the content for every idea. The Communications Office can assist with the development of articles or other written and verbal communications.

Communications Offices



- Guide safety engineers on what would make an interesting safety story for internal and external audiences.
- Provide safety engineers with helpful communication techniques and tools.
- Work with safety engineers to develop talking points on how infrastructure improvements benefit the DOT, the public, and how they tie to the agency's mission, vision, and goals.



Figure 6: Engineer on worksite

Examples



The Missouri DOT developed a video series, <u>The People of MDOT</u>, where many of the DOT's unknown jobs and functions are featured (see Figure 7). For instance, in one video, a traffic signal engineer describes his job and what he does to keep traffic moving efficiently and safely.

Figure 7: The People of MDOT video



Figure 8: Alert System video

In Minnesota, a local traffic engineer was interviewed to help educate people about the State's new Alert System (see Figure 8).



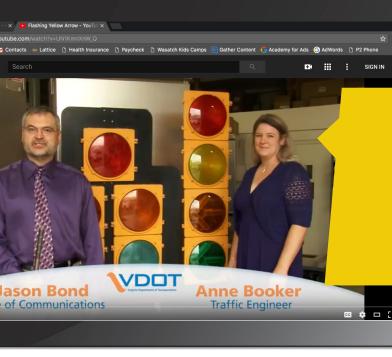
Figure 9: HAWK video

The Wyoming DOT produced a video interview of a district engineer who provided detail on the operation and importance of a HAWK pedestrian signal (see Figure 9).



Figure 10: Bridge repairs video

Caltrans used a resident engineer to discuss <u>repairs</u> to a bridge damaged by an earthquake rather than a DOT public information officer and therefore added a new level of interest for viewers (see Figure 10).



The Virginia DOT Office of Communications used a district engineer to explain the new flashing yellow arrows being installed in southwest Virginia (see Figure 11). The video was posted on the DOT's YouTube page and delivered through various digital channels.

Figure 11: Traffic signal video

Develop a strategic communications plan and a communication calendar.

A strategic communications plan, which includes goals, objectives, target audiences, key messages, and proposed tactics, can help states identify opportunities to collaborate on road safety issues. For instance, the plan can detail what the DOT is doing to promote Work Zone Awareness Week and indicate how agencies such as the HSO, Department of Health, State Police, and others can support the campaign by distributing information, posting messages on their websites and sending reminders to their employees. Another tool that can help keep safety communications at the forefront of awareness is a calendar that indicates which issues will be highlighted during the year. Messages suffer when they aren't coordinated. For example, when one safety agency is talking about seat belt use while another agency features information on drunk driving.

The calendar and the communications plan can keep everyone on the same page and better prepared. They help establish ongoing communications and relationships between safety engineers and communications staff. A communications calendar can include a paid media plan and a social media content schedule to share with all partners for a consistent message.

National mobilizations, campaigns, and calendars for traffic safety initiatives by NHTSA can be found at TrafficSafetyMarketing.gov.

Fatality and Serious Injury Safety Performance Targets

Based on the new federal requirement, state DOTs and HSOs must work together to develop annual safety targets for the number and rate of fatalities as well as the number of serious injuries common to each agency's respective programs: The Highway Safety Improvement Program (HSIP) and the Highway Safety Plan (HSP). In addition, Metropolitan Planning Organizations (MPO) are required to set safety performance targets or adopt state targets after the State DOT establishes its targets.

The Federal Highway Administration (FHWA) has produced a new <u>Communications Toolkit</u> to help states with this requirement.

The main focus in many states is not the actual target, but rather how they determine it. Many states are finding targets can generate public attention, particularly in cases where trends show the targets increasing for the upcoming year. Communicating upward trends creates an opportunity to provide basic information about roadway safety and how agencies are working together to reduce traffic-related fatalities and serious injuries.

Examples



Figure 12: Traffic safety program

Through a team effort in Louisiana, an SHSP Communications and Marketing Plan (see Figure 12) was developed. It includes a safety campaign calendar. Along with objectives, strategies, and targets for each of the SHSP emphasis areas, the plan has ideas for inter-agency collaboration with the State's nine regional coalitions.

The Nevada DOT developed a calendar as part of its SHSP (see Figure 13).

The calendar is posted on their website and is regularly sent to individuals participating in the plan. It also encourages ongoing communication discussions.

This keeps everyone focused on the right topics at the right time.

Topic calendars keep everyone focused on the right topics at the right time.



Figure 13: Safety campaign calendar

STRATEGY #4

Develop innovative ways to communicate information on safety.

While some states have established campaigns like Work Zone Safety and Drive Sober or Get Pulled Over, these aren't the only methods to communicate safety messages. The following are some creative suggestions for promoting roadway safety:

- Use videos as a communication tool.
 Videos are especially effective if communication efforts are targeted to younger audiences.
- Incorporate human interest narratives, like the story of loved ones who have been impacted by a crash.
- Use humor to convey traffic safety messages, particularly on DMS.

- Use relatable statistics (e.g., how many dollars are saved for every dollar spent on cable barrier improvements or the true cost of crashes).
- Develop comparatives like, "The number of people involved in crashes over the last ten years could fill the local stadium X times" or "The miles of rumble strips installed last year by the DOT could reach from X to X."
- Demonstrate the purpose of improvements by having reporters experience them first hand; reporters might drive over new rumble strips or through a new continuous flow intersection.

Examples



Figure 14: DMS message

In Michigan, reports are released every five years on the <u>Societal</u> Costs of Traffic Crashes and Crime in the State of Michigan.

Massachusetts uses humorous messages to inspire safe driving habits, such as "Use Yah Blinkah" (see Figure 14). To keep the messages fresh, Massachusetts conducts a contest that encourages drivers to submit clever messages which may earn a spot on the state's DMS.



Figure 15: Be Alert, Our Dad's at Work billboard

The California work zone safety campaign, <u>Be Work Zone Alert</u>, was sponsored by Caltrans, California OTS, and the California Highway Patrol (CHP). It featured children dressed as Caltrans work zone employees reminding road users to keep workers safe *(see Figure 15)*. The use of actual employees' children illustrated the impact traffic crashes have on the families of people in work zones.

Almost all DOTs now have YouTube channels including California,
Colorado (see Figure 16), Maine,
Michigan, South Carolina, and
Virginia. Videos on these channels include messages about distracted driving, work zone safety, winter driving, how to use roundabouts,
Adopt-a-Highway information, and more. YouTube, Facebook, and
Twitter are common channels to host and disperse information to employees and the public.

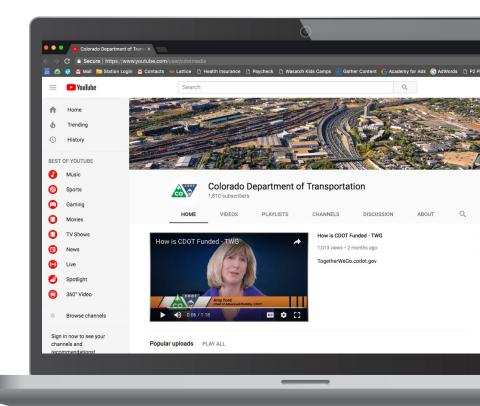


Figure 16: Colorado DOT's YouTube channel

MassDOT developed and facilitated the <u>Safe Streets I Smart Trips video contest</u> targeted to high school students (see Figure 17).



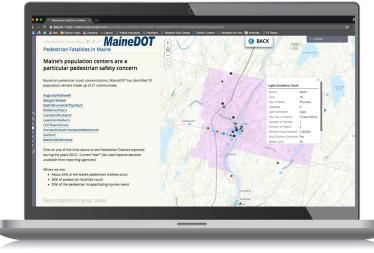
Figure 17: Safe Streets | Smart Trips video contest entry



Figure 18: Work zone awareness video

To improve work zone safety, SCDOT produced a video on work zone awareness leading up to the heavy construction season (see Figure 18). As a similar tactic, SCDOT and SCDPS produced a video about pedestrian safety.





Maine DOT developed and promoted a <u>StoryMap using Environmental System Research</u> <u>Institute (ESRI)</u> mapping to provide a self-guided orientation about pedestrian safety issues (see Figure 19).

Maine DOT's Communications Office also used social media and targeted direct mail campaigns to maximize public contact and to encourage attendance at public forums on pedestrian safety.



Turn employees into safety ambassadors.

Sometimes the best place to start a collaborative safety effort is from within an agency. Employees of the DOT and HSO are roadway users, too. They need information about safety just as much as the public. Once they have been informed, they can be great ambassadors. Provide employees with relevant data bites about the many facets of road safety on a regular basis through email messages, safety alerts, newsletters, posters, message boards, internal websites, etc.

Proactively ask employees to be an ambassador for traffic safety among their family, friends, and within their community.

Examples

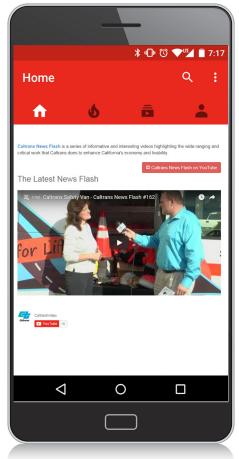


Figure 20: News flash videos

Caltrans enhances their internal communications by creating news flashes (see Figure 20). These two-minute videos feature messages about road safety. They are shared internally and on YouTube. Caltrans feels strongly about educating its workforce. It empowers its staff as ambassadors to be educated and knowledgeable. Caltrans also shares safety press releases with its employees.

Some states have implemented policies governing employee behavior when using state-owned vehicles. These policies prohibit distracted driving and help ensure state traffic laws are obeyed. Restrictions while driving include all texting and phone calls, even if they are work-related. Having a policy in place helps create a greater sense of accountability and enables employees to set an example for others.



Figure 21: CBS local interview

A district traffic engineer for the Virginia DOT reached out to the local CBS affiliate in his community and provided them with information on their SHSP to end traffic fatalities (see Figure 21). He had recently participated in one of the State's SHSP Regional Traffic Safety Meetings and thought the information he learned would be beneficial to residents in his community.

#6

Broaden the focus of communications to include safety.

For internal and external audiences, take advantage of messaging opportunities that go beyond work zone safety, upcoming construction, congestion, and weather events. Identify specific topics of interest that can be highlighted on a regular basis and connect the message back to safety.

Examples

The Massachusetts DOT developed a <u>pedestrian and bicycle</u> <u>program</u> that provides information beyond behavior safety messaging. The program includes information about the design of pedestrian and bicycle facilities, as well as links to the Massachusetts Bicycle and Pedestrian Advisory Board roles and responsibilities. Also, contact information for each



Figure 22: Ped and bike safety video

of the six MassDOT District Bicycle and Pedestrian Coordinators is listed to invite people into the conversation. MassDOT specifically targets bicyclist and pedestrian safety in <u>a series of YouTube videos</u> (see Figure 22) to offer support for the statewide bicycle and pedestrian transportation plan.



Figure 23: Twitter feed

Caltrans' Public Information Office supported the state's SHSP update effort through social media. By providing access to the <u>Caltrans' Twitter</u> feed *(see Figure 23)*, information could be posted about statewide safety webinars, giving stakeholders the opportunity to offer input on the plan's strategies and actions.

Figure 25: Why Traffic Signs are

Replaced publication



Figure 24: Facebook page

The <u>Virginia DOT Facebook page</u> includes photos of employees, posts on upcoming events, videos of current projects, and safety campaign videos such as Drive Hammered, Get Nailed.

In Michigan, a communication program features information about particular safety topics like Why Traffic Signs are Replaced (see Figure 25).

Michigan Ave Willow Run Airport

Moot's TRAFFIC SIGNING PROGRAM:

WHY TRAFFIC SIGNING PROGRAM:

While only one-quarter of all travel occurs at night, about half of all traffic fatalities occur after dark.

Many clues are available to divers during the day to make driving a relatively easy task. A night, however, few clues reman, making the task more difficult in addition, signs near the end of their service lie that are visible during daylight house may be hard to see an ingit.

National traffic sign retronflictivity standards have been established to address the Searthy MOOT routrely replaces traffic signs controlled to address the Searthy MOOT routrely replaces traffic signs controlled to the difference of the controlled to the difference of the controlled traffic signs, which is signs, MOOT routrely replaces traffic signs, which is signs, MOOT routrely to the replacement of sign when study by a vehicle of the controlled the proposal of the signs, which is signs, MOOT routrely replacement of signs, traffic signs, insquently, in replacement of signs, MOOT routrely replacement of signs, traffic signs, signs, and the replacement of signs, MOOT routrely replacement



Figure 26: TZD newsletter

Ohio developed Toward Zero Deaths (TZD) News (see Figure 26) as part of its SHSP. The newsletter features a Spotlight on Safety, providing statistics, information from experts, researchers, and what the State is doing to solve the designated safety issues. These topics range widely from aging drivers and their impact on overall road safety, to recognizing people who are helping Ohio move Toward Zero Deaths. The information is distributed to safety advocates and all individuals who participate in the SHSP.



SCDOT uses social media to promote work zone safety among many other topics (see Figure 27).

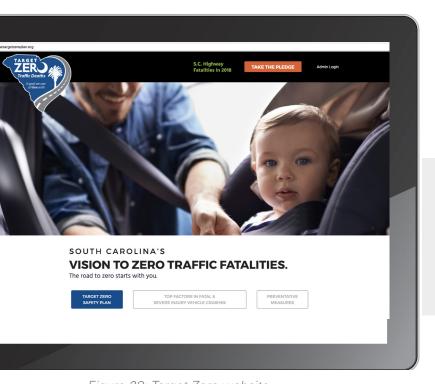


Figure 27: Work zone social media post

Make safety a key component of DOT websites.

Many DOTs bring traffic safety to the forefront of their messaging by adding it to the homepage of their websites. DOTs and HSOs have also found success collaborating on the development and promotion of traffic safety program websites where audiences can learn more about ways to stay safe on state roadways.

Examples



SCDOT and SCDPS combined forces in developing a <u>Target Zero website</u> (see Figure 28).

In Virginia a new safety website is being created through a joint effort. State police and other partners will be involved.

The site will host links to the DOT and HSO websites among others.

Figure 28: Target Zero website

Colorado DOT made it a priority to include safety as a main component of their website by highlighting it on their homepage (see Figure 29).

Figure 29: DOT website with emphasis on safety



strategy #8

Use Dynamic Message Signs (DMS) for safety messages.

The DMS is a highly impactful and very cost-effective messaging channel. It's a popular way for DOTs to support major behavioral safety campaigns like Click It or Ticket. These messages reach thousands of road users and as shown in the examples, can use humor or other techniques to capture attention. An added benefit is that the DOT and HSO can work together months in advance to tie the messages in with the NHTSA traffic safety calendar.

Examples



The Ohio DOT found advance planning to be a good tool for establishing one common message statewide.

A <u>six-month calendar</u> is published (see Figure 30) and a bi-weekly email is sent to safety partners promoting the message and providing materials for social media.

Figure 30: Website with DMS message calendar

SCDOT and SCDPS meet at the start of each year to plan safety messages for display on the State's DMS. The timing of the messages coincides with national safety campaigns around topics that include impaired driving, buckling up, motor coach awareness, and work zone safety.

lowa DOT's Message Monday program uses humorous messages on DMS that tie into current holidays and pop culture (see Figure 31) to remind drivers and riders to use safe driving habits on the roadway. Similar efforts can be found in DMS programs in Utah, Massachusetts, Missouri, and Tennessee.

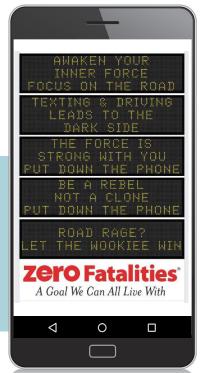
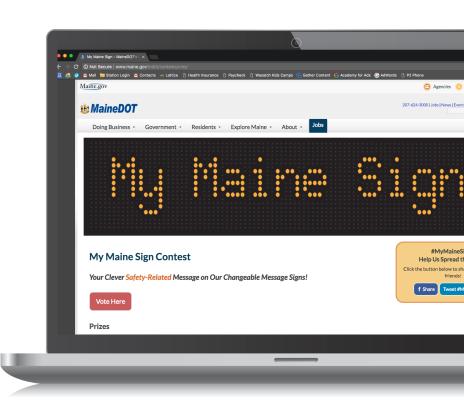


Figure 31: Pop culture tied to multiple Message Mondays

The MaineDOT Communications
Office has a history of posting witty
safety messages. Recently, they ran
the My Maine Sign Contest to solicit
public suggestions for clever safety
messages (see Figure 34). The
contest earned almost 2,000 entries
and lots of earned media coverage.

Figure 32: My Maine Sign Contest website



strategy #9

Determine the effectiveness of communications efforts.

As part of the reporting process for large-scale safety campaigns, such as Click It or Ticket, reach, frequency, and engagement results for all paid media efforts are required to be tracked. Reach is defined as the percentage of people seeing or hearing the message within a defined target audience. Frequency is the number of times each person saw or heard the message. Engagement describes the number of people who interacted with the campaign through behaviors such as clicking the Like button, leaving a comment, or visiting the campaign's website.

However, these metrics alone do not determine whether or not a campaign changes public behavior. HSOs conduct seat belt surveys following the annual Click It or Ticket campaign in May/June to find that seat belt use has often increased.

All safety communication efforts should include methods for determining impact, not just awareness. Using pre- and post-campaign surveys is a good tactic. Surveys can be conducted online, via the phone, or through intercept surveys conducted at DMVs and other public places.

The following are example questions that can be asked on a safety survey:

Perceived risk of driving behaviors or engineering design features:

How dangerous is driving without a seat belt or stopping past the white line? What do you believe are your chances of getting a ticket or being arrested?

Degree to which respondents engage in specific driving behaviors:

How often do you drive aggressively?

Understanding driving behaviors:

What do you consider speeding? Do you think you are texting and driving if you're stopped at an intersection?

Perception of other drivers' behaviors:

What percent of other drivers do you believe text while driving?

Figure 33: Work zone reminder

Awareness of safety messaging or engineering design features:

Have you seen or heard of this ______ safety message or campaign?

Influence of safety messaging:

To what degree did the safety message influence you to change your behavior? If not at all, why?

Demographic information:

Ask about basic demographics including gender, age, primary language spoken, level of education, marital status, income,



Examples

To measure campaign effectiveness and assess behavior change around driving habits, Iowa DOT conducted a pre- and post-campaign survey online. The survey identified Iowans' thoughts, perceptions and frequency of engaging in specific driving behaviors. These surveys were especially important in understanding the effectiveness of the Emoji Faces campaign, targeted at males ages 18 to 34, a campaign that was not typical of traditional governmental safety messages (see Figure 34).



Figure 34: Emoji Faces safety campaign

Conclusion

By employing these nine strategies, it's possible to create a stronger safety culture. States will see an improvement in road safety communications by delivering clearer, more convincing, and more consistent messages. Safety engineers will be better utilized, sharing their knowledge and insights across departments and with the public. Education and prevention specialists will have more data at their disposal. Public information officers and Communications Offices will be able to tell more coherent and convincing stories. Overall, better collaboration between DOTs, HSOs, and other traffic safety partners will ultimately lead to safer roadways and more lives saved.

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