Traffic Safety Culture Primer

by

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A proposal prepared for the

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PROBLEM STATEMENT

There is growing interest in “traffic safety culture” as a key factor to manage and sustain safe roadway transportation systems, especially as more jurisdictions adopt targets of zero traffic fatalities and serious injuries. However, the theory, terminology, and methods involved in addressing traffic safety culture come from human and social science disciplines that are not typically included in traditional traffic safety, engineering, or other behavioral change agencies (e.g., departments of transportation, driver's licensing, motor vehicles records, etc.). The lack of shared language and understanding about traffic safety culture limits the ability of agencies to explore this topic and engage new stakeholders. Additionally, the variation in the interpretation and implementation of strategies to improve traffic safety has resulted in no consensus about best practices. Communication tools that develop shared language and understanding about traffic safety culture and its relationship to vision zero goals are needed.
BACKGROUND SUMMARY

Traffic crashes are a significant burden on society. More than 30,000 people die annually on US roadways, and traffic crashes are a leading cause of death amongst children and young adults (Sauber-Schatz et al. 2016, pp. 672-677). Given the significant costs associated with traffic crashes, it is essential that a wide variety of traffic safety efforts are adopted to support vision zero goals.

Road user behavior is the most common risk factor associated with traffic crashes (Singh 2015, pp. 1-2). To fully realize vision zero goals, traffic safety efforts must address road user behavior. One approach to change road user choices about safe behaviors is to adopt a public health perspective. Adopting a public health perspective includes examining the factors of an individual that influence choices (e.g., biology, personality, history) as well as the cultural influences within social environments. The focus on the social environment as an influence on road user behavior acknowledges the role of culture on traffic safety.

A challenge of defining traffic safety culture is being too inclusive about what culture includes. Historically, culture has been equated with the thoughts shared amongst a group of people, as well as with their common behaviors and generated artifacts (Cooper 2000, pp. 111-136; Luria and Faraeli 2008, pp. 519-528). With such a broad definition, it is difficult to imagine what else remains (Myers, Nyce, and Dekker 2014, pp. 25-29). Additionally, an inclusive definition has limited utility because nothing is left for it to explain or predict other than itself: “it covers almost everything and thereby nothing” (Alvesson 2011, pp. 151-164).

Traffic safety culture can be 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. Importantly, this definition includes the contribution of road user behavior to fatal crashes as well as the actions of other traffic safety stakeholders within the social environment. Thus, growing a positive traffic safety culture increases safe behaviors by road users and aligns the actions of all traffic safety stakeholders to support those safe behaviors.

For example, efforts to increase seat belt use could include getting more drivers to require passengers to wear seat belts; increasing the number of families with rules about always wearing a seat belt; increasing the number of workplaces with active seat belt use policies; and increasing consistent and visible seat belt enforcement. These efforts can be aligned around shared values of protecting oneself and those we care about as well shared beliefs that seat belts are effective, that most people wear seat belts, and that it is acceptable to ask others to wear a seat belt.

A cultural perspective on improving traffic safety requires expanding efforts to address the behaviors of additional stakeholders such as families, schools, workplaces, community agencies, etc. As each of these groups has their own unique sub-cultures, no single strategy or approach will work for all these groups. Thus, efforts to grow a positive traffic safety culture will require multiple strategies tailored to specific populations.

Furthermore, cultural influences are stronger in local contexts (i.e., a child’s parents have a greater influence than other parents; an employee’s workplace policies have greater influence than state or national policies, etc.). Therefore, traffic safety leaders will need to engage local communities in efforts to bolster and leverage their local cultures to improve traffic safety.

In summary, growing a positive traffic safety culture is a process instead of a program or strategy. This process involves new ways of thinking about growing a wide variety of protective behaviors.
across local, state, and national communities. The tools developed in this project will act as a “primer” to facilitate this new way of thinking and broaden engagement by more stakeholders in the dialogue.

A review of the Transportation Research International Documentation database revealed only one article including “traffic safety culture” and “primer” (the article written in 2014 by the proposers of this project). Two articles were found using “traffic safety culture” and “overview” – one 378 pages and the other about a traffic safety culture index.

A review of the Transportation Research International Research in Progress database revealed five projects that included the phrase “traffic safety culture.” None of these included developing an overview or primer for traffic safety culture.
BENEFITS

The short-term benefits of this project include:

- developing shared language and understanding about traffic safety culture and how it impacts traffic safety;
- engaging more stakeholders in constructive dialogue about traffic safety; and
- developing new strategies for improving traffic safety that emerge from a cultural perspective (e.g., including in strategic highway safety plans).

In the long-term, benefits of this project include achieving better traffic safety outcomes and outcomes that are more readily sustained.
**OBJECTIVES**

The objective of this project is to provide a multimedia primer about traffic safety culture and how a cultural perspective can support vision zero goals. The purpose of this primer is to foster shared language and understanding about traffic safety culture – thus “priming” stakeholders for new and constructive dialogue and thinking about this complex topic. The materials will include readily accessible definitions, insights, and examples of how traffic safety culture influences behaviors and questions to guide dialogue among stakeholders to make meaning of these ideas and expand their thinking.

To support this objective, this project will include:

- **A Traffic Safety Culture Primer** - A brief document will be created that can be readily printed by stakeholders. The primer will include sections addressing:
  a.) what is traffic safety culture;
  b.) how does traffic safety culture influence behavior;
  c.) issues about measuring traffic safety culture; and
  d.) how a cultural perspective expands approaches to improve traffic safety.

  The format of the primer will be concise text intended for traffic safety practitioners and other stakeholders. The text will be augmented with infographics. The materials will be professionally laid out as an “electronic book” suitable for viewing and printing.

- **A Series of PowerPoint Slides** - Each of the primer sections will have a set of accompanying PowerPoint slides with talking points that practitioners can use to communicate to other stakeholders. There will also be a brief overview suitable for a 20-minute presentation.

- **Animated Video** - A short (i.e., three to five minutes), animated video will be developed to introduce the key topics. The video can be easily shared and used to increase awareness and use of the primer.

- **Webinar** – A webinar will be created to introduce the primer to the traffic safety community. The webinar will highlight key features of the tools and promote their use.

- **A Poster** – A high-resolution graphic will be created that is suitable for printing on a large poster for use in a conference poster session for traffic safety professionals to use to disseminate a summary of the primer and the tools.
RESEARCH PLAN

The Center for Health and Safety Culture is proposing to develop a multimedia primer about the definition and utilization of traffic safety culture as an approach to support vision zero goals so that diverse traffic safety agencies can collaborate and develop best practices for the cultural approach.

1. Method

The method proposed for this project is divided into four tasks:

   Task 0. Project Management

   Task 1. Develop Detailed Outlines of the Traffic Safety Culture Multimedia Primer Components

   Task 2. Design and Create Initial Drafts of the Traffic Safety Culture Multimedia Primer Components

   Task 3. Produce Final Drafts of the Traffic Safety Culture Multimedia Primer Components

Task 0. Project Management

Nic Ward will be the principal investigator for this project. As the Director of the Center for Health and Safety Culture (CHSC) and from his experience leading other research projects, Ward is well qualified to lead the project. He will participate in the kick-off meeting to review the details of the project and to make sure all policies and procedures are followed to align with MDT’s expectations. He will engage in monthly calls with MDT to review progress and will provide quarterly reports of progress addressing time and budget. He will assure quality for all aspects of the project. He will be supported by Deb Strachan who will provide financial data. As part of project management, communications will leverage existing communication plans from the support contract including the bi-monthly progress report (call) with MDT and the quarterly meetings with the pooled fund panel. To ensure quality of deliverables, the pooled fund panel will be invited to review draft deliverables. Necessary revisions will then be made for the final products submitted to MDT.

Task 1. Develop Outlines for the Traffic Safety Culture Multimedia Primer Components

The Multimedia primer for this project will include: a Traffic Safety Culture Primer, PowerPoint slides that coincide with each section of the primer, an animated video developed to introduce the key topics and increase awareness and use of the primer, a webinar to introduce the primer to the traffic safety community and a poster for traffic safety professionals to disseminate information in a traffic safety poster session.

In Task 1, a detailed outline for each of the multimedia primer components will be created. Center for Health and Safety Culture staff from multiple disciplines will participate in the creation of the outlines. The outlines will be used to guide the design and development of each component and will include a detailed outline of text, materials, and the development of a “look” for the materials. A written Task 1 Report will include the detailed outlines for each component of the multimedia primer.
Task 2. Design and Create Initial Drafts of Traffic Safety Culture Multimedia Primer Components
Based on the detailed outline developed for each component of the multimedia primer (Task 1), Ward, Otto, Finley, and Kuipers will design and create an initial draft of each multimedia primer component. Cactus Productions, Inc. will be contracted to create the animated video. CHSC has worked extensively with Cactus Productions on previous projects and is confident in their ability to create a high-quality video. A Task 2 Report will be written that includes the initial draft of each multimedia primer component. The pooled fund technical committee will review the draft report and provide feedback.

Task 3. Produce Final Drafts of Traffic Safety Culture Multimedia Primer Components
Based on the feedback from the pooled fund technical committee, a final draft of each traffic safety culture multimedia primer component will be completed. The final draft of each component created for this project will be documented in a Task 3 Final Report following MDT’s reporting guidelines. This report will be written by Ward, Otto, and Finley.
TSC POOLED FUND INVOLVEMENT

We anticipate the assistance of the TSC Pooled Fund board in contributing to the review and approval of the project deliverables.
PRODUCTS

1. Task 0 Quarterly Progress Reports
   • Progress reports based on MDT template for each quarter of project.

   • Detailed outlines for each component will be provided.

   • Initial drafts of each traffic safety culture multimedia primer component will be provided.

   • The final report will include a final draft of each traffic safety culture multimedia primer component.
PROJECT IMPLEMENTATION

This project will provide state and local traffic safety leaders and stakeholders with a traffic safety culture multimedia primer to build the capacity of critical stakeholders about using this approach to support vision zero goals.

The multimedia primer will focus on the definition and utilization of traffic safety culture and will include a concise Traffic Safety Culture Primer to enable practitioners to understand and integrate traffic safety culture as a key concept in the development of strategic highway safety plans, a series of PowerPoint slides with talking points that presenters can use to communicate to other stakeholders, an animated video to introduce the key topics that can be used to increase awareness and use of the primer, a webinar to introduce the primer to the traffic safety community, and a poster for traffic safety professionals to disseminate information in a traffic safety poster session.
SCHEDULE

The timeline for the main tasks and deliverables are summarized below for this 12-month project:

<table>
<thead>
<tr>
<th>Task</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task 0. Project Management</strong></td>
<td></td>
</tr>
<tr>
<td>Quarterly Progress Report</td>
<td>x</td>
</tr>
<tr>
<td><strong>Task 1. Develop Detailed Outlines for Traffic Safety Culture</strong></td>
<td></td>
</tr>
<tr>
<td>Multimedia Primer Components Report</td>
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</tr>
<tr>
<td><strong>Task 2. Design and Create Initial Drafts of Traffic Safety</strong></td>
<td></td>
</tr>
<tr>
<td>Culture Multimedia Primer Components Report</td>
<td>x</td>
</tr>
<tr>
<td><strong>Task 3. Produce Final Drafts of Traffic Safety</strong></td>
<td></td>
</tr>
<tr>
<td>Culture Multimedia Primer Components Report</td>
<td>x</td>
</tr>
</tbody>
</table>
BUDGET

The project costs are summarized below. Table 1 summarizes the costs by budget item; Table 2 summarizes the pay rate and benefit rate for project staff; Table 3 summarizes the costs by task; and Table 4 summarizes the project costs by fiscal year. Note that a variety of staff are included in the budget because of (1) the need for skills and knowledge across a range of disciplines, and (2) the need to control the budget by using staff from lower salary ranges.

Table 1. Project Budget by Item

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
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</thead>
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<tr>
<td>Salaries</td>
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<td>Benefits</td>
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<tr>
<td>Contracted Services</td>
<td>$8,500</td>
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<tr>
<td>Supplies</td>
<td>$100</td>
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<td>Communications</td>
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<tr>
<td>Total Direct Costs</td>
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</tr>
<tr>
<td>Indirect Costs (25%)</td>
<td>$9,136</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>$45,682</strong></td>
</tr>
</tbody>
</table>

Contracted Services

- Morrison Creative, Inc. ($1,000) to develop graphic design and layout for the primer and associated materials.
- Cactus Productions, Inc. ($7,500) to facilitate design, provide creative input, and complete final production of a three- to five-minute motion graphic (i.e., animated video). The video development process will involve extensive design iterations.

Table 2. Pay Rate and Benefits

<table>
<thead>
<tr>
<th>Individual</th>
<th>Hourly Rate</th>
<th>Benefit Rate</th>
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<tbody>
<tr>
<td>Nic Ward</td>
<td>$87.78</td>
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</tr>
<tr>
<td>Jay Otto</td>
<td>$53.86</td>
<td>34.1%</td>
</tr>
<tr>
<td>Kari Finley</td>
<td>$44.77</td>
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</tr>
<tr>
<td>Tara Kuipers</td>
<td>$33.00</td>
<td>8.3%</td>
</tr>
<tr>
<td>Deb Strachan</td>
<td>$31.45</td>
<td>39.3%</td>
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Table 3. Project Budget by Task

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<tr>
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<tr>
<td>1 – Detailed Outlines</td>
<td>20,735</td>
</tr>
<tr>
<td>2 – Initial Drafts</td>
<td>19,872</td>
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<td>3 – Final Drafts</td>
<td>3,581</td>
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<tr>
<td><strong>Total Project Cost</strong></td>
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### Table 4. Project Budget by State and Federal Fiscal Years

<table>
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<tr>
<th>Item</th>
<th>State Fiscal Year</th>
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<td></td>
<td>2019</td>
<td>2018</td>
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<tr>
<td>Salaries</td>
<td>22,011</td>
<td>5,503</td>
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<tr>
<td>Benefits</td>
<td>5,935</td>
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<tr>
<td>Contracted Services</td>
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<td>1,000</td>
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<tr>
<td>Supplies</td>
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<tr>
<td>Total Direct Costs</td>
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<tr>
<td>Indirect Costs (25%)</td>
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<tr>
<td>Total Project Cost</td>
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STAFFING

Staffing for this project involves members of the Center for Health and Safety Culture. Each staff member contributes to the project in a unique way based on their specific expertise and background. Table 5 summarizes staff time by task for the 12-month duration of this project. Overall, this effort can be interpreted as the equivalent of one person working on this 22% of the time for 12 months (see FTE in Table 5). We believe this FTE equivalent effort is reasonable to satisfy the goals of this project in a cost-effective manner.

Nic Ward, Ph.D., will serve as the Principal Investigator (PI) for this research project. Ward will manage the project and monitor all progress for quality as well as contribute to developing each multimedia primer component. Ward will communicate on a monthly basis with MDT and the pooled fund on the progress of the project. Ward will contribute to the project bringing nearly 20 years of international research in human factors applied to traffic safety. Professor Nicholas Ward (F. Erg. S) is currently a Professor of Mechanical and Industrial Engineering at Montana State University and Director for the Center for Health and Safety Culture at WTI. Professor Ward has led several successful interdisciplinary and international consortia for traffic safety research including intelligent transportation systems, driver behavior (impairment), and traffic safety culture.

Jay Otto, M.S., will assist with drafting detailed outlines and initial drafts of the multimedia primer components. Otto is the principal scientist of the Center for Health and Safety Culture. He oversees all of the Center’s projects and fosters integration and dissemination of research findings across projects. He routinely provides presentations and leads trainings. He has developed, implemented, and analyzed surveys of students, parents, adults, key leaders, schools, and law enforcement regarding a variety of safety issues. He is a contributing author on several of WTI’s traffic safety reports and is presently leading pilot projects to reduce impaired driving and increase seat belt usage.

Kari Finley, Ph.D., will assist with drafting detailed outlines, initial drafts, and final drafts of the multimedia primer components. Finley is a Behavioral Specialist with extensive experience in behavior change.

Tara Kuipers, M.S., will be involved in drafting detailed outlines, initial drafts, and final drafts of the multimedia primer components. Kuipers has extensive experience as a community development educator. She has been a facilitator and trainer on a wide variety of adult education topics.

Deb Strachan will be involved in the financial and contract management of this project.
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<tr>
<th>Name</th>
<th>Role</th>
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<td>468</td>
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*based on 12 months
FACILITIES

The Western Transportation Institute (WTI) is the nation’s largest transportation institute focusing on rural transportation issues and is designated as a National University Transportation Center sponsored by the U.S. Department of Transportation. The Institute was established in 1994 by the Montana and California Departments of Transportation in cooperation with Montana State University (MSU). WTI has a 50+ person multidisciplinary staff of professionals, students, and associated faculty from engineering (mechanical/industrial/civil/electrical), computer science, fish and wildlife, ecology, business, and economics.

WTI has an annual budget of approximately $8 million, which is obtained from a diverse sponsor base including 26 state departments of transportation, the U.S. Department of Transportation (USDOT), and other federal agencies such as the National Science Foundation, Department of Homeland Security, Transportation Research Board, and the National Park Service. WTI also receives funding from private foundations, Parks Canada, and several companies.

WTI draws from eight integrated research areas to create solutions to rural transportation issues and manages seven laboratories. The 30,000 square feet of space provides dedicated onsite space and laboratories for project staff as well as facilities for archiving and transmitting data. As a department within the College of Engineering at MSU, WTI is also supported by the College and by the umbrella of MSU administrative, academic, and research resources.

Center for Health and Safety Culture

In 2009, WTI established the Center for Health and Safety Culture (CHSC) – a research center composed of inter-disciplinary researchers and practitioners from across North America dedicated to using science to address social issues. The mission of the CHSC is to develop methods to grow positive norms that support health and safety. The Center works with a variety of clients and sponsors including local, state, federal governmental agencies (e.g., state departments of transportation), private businesses, corporations, community coalitions and private foundations.

Information Services

The Western Transportation Institute is housed in the Transportation and Systems Engineering Building on the Montana State University (MSU) campus, which provides ready access to MSU’s library, computing, and other facilities. The MSU Library system has licenses with the largest databases of published literature as well as open access to published articles in numerous peer reviewed journals. These resources will be critical in researching past studies and identifying evidence-based strategies. Literature and information gathering is performed through the Carnegie Research Level 1 Library (Renne Library). In addition to an extensive collection of printed material, the library subscribes to dozens of databases and hundreds of refereed journals in print and electronic format. Specific items not accessible through these sources can be located and retrieved by the Interlibrary Loan service, which is affiliated with other research libraries across the United States. Typical sources used to aid literature searches include: TRIS Online (Transportation Research Information Services), E-Science Server, Transportation Research Board Research Records and Annual Meeting CD-ROMs, Google Scholar, Google, and Montana Local Technical Assistance Program library.
Graphic and Communication Services

Communications staff provides technical editing, layout, graphic design, and web page support. Information Technology staff maintains network servers and individual computers, software and hardware. Relevant university communication facilities include video and conference room facilities. WTI routinely conducts internet-based meetings with clients and staff located across the United States and Canada. Webinars are hosted to facilitate training and information dissemination and recorded for later access by stakeholders and clients.

Administrative Services

The researchers at WTI are assisted by a highly-qualified group of experienced support staff. Administrative staff members assist with budgeting, procurement, contracts, and accounting. The university provides Extended University services for online educational course development and publications and an Institutional Review Board (IRB) to oversee all research engaging humans.
REFERENCES


