Traffic Safety Culture Research Process Management Briefing

to the

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Project 17-96: Traffic Safety Culture Research Roadmap

LIMITED USE DOCUMENT

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from

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1. Introduction

Traffic safety culture (TSC) is a complex topic spanning a range of sociological and philosophical concepts as they relate to transportation safety and the systemic framework that produces different kinds of traffic safety-related outcomes. Researchers have defined TSC as "a social climate in which traffic safety is highly valued and rigorously pursued" (Girasek, 2012) or "the shared belief of a group of people, which influences road user behaviors and stakeholder actions that impact traffic safety" (Ward et al., 2019). These broad definitions are generally useful for describing the complex nature of TSC and provide functional terms. Throughout this briefing, TSC refers to the complex system that all these definitions help characterize.

National Cooperative Highway Research Program (NCHRP) Project 17-96 produced a TSC Research Roadmap that illustrates the variety of TSC research projects that can be conducted to move the United States collectively toward a positive TSC that supports the Safe System Approach. The roadmap is not intended to serve as a guide for any single agency but to illustrate the process whereby TSC research can progress through four domains, shown in Figure 1.

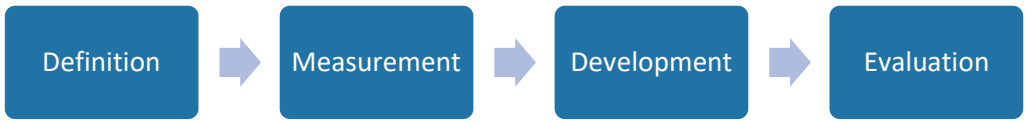

Figure 1. Domains of a Research Roadmap

As part of this project to produce a TSC research roadmap, the research team developed two briefings to provide additional material related to communicating the benefits of TSC research to practitioners and to provide a plan for monitoring the progression of TSC research in the United States. This briefing provides a process management plan for tracking the TSC Research Roadmap. This briefing discusses the efforts the team undertook to communicate with agencies with a vested interest in the TSC, proposes a plan for embedding the roadmap within the Cooperative Research Program (CRP) research need statement (RNS) pipeline, and provides an example of how TSC research may be pursued by researchers and agencies outside of that pipeline.

This briefing is organized as follows:

1. Introduction
2. Agency Outreach
3. Plan for Implementation
4. Conclusion

2. Agency Outreach

It is critical that implementation of TSC research is monitored to confirm that the TSC Research Roadmap will remain relevant to stakeholders and will support implementation of the Safe System Approach in the United States. There are a wide variety of stakeholders and partners who may be interested in funding TSC research (e.g., NCHRP, the Federal Highway Administration [FHWA], the National Highway Traffic Safety Administration [NHTSA], state departments of transportation [DOTs], etc.), using TSC research outcomes (e.g., the AAA Foundation for Traffic Safety, the National Association of City Transportation Officials [NACTO], the Road to Zero Coalition, etc.), or supporting education and workforce development to further integrate TSC into the transportation safety workforce (e.g., the National Highway Institute [NHI], University Transportation Centers [UTCs], etc.). Due to the potentially wide-ranging interest in the TSC Research Roadmap, no single agency will have full stewardship of progressing TSC research in the United States.

Therefore, the team spoke to representatives from a number of organizations to update them on the contents of the research roadmap and to communicate the benefits of funding and monitoring TSC research. These organizations include FHWA, NHTSA, the American Association of State Highway and Transportation Officials (AASHTO), the Traffic Safety Culture Pooled Fund, and the Road to Zero Coalition, in addition to representatives from Transportation Research Board (TRB) committees. The outreach to each of these organizations and the potential role that agencies may have in monitoring TSC research is discussed below.

FHWA: An FHWA employee acted as a liaison to the project panel and supported the development of the TSC research roadmap. During the course of this project, the research team met with this liaison and proposed that FHWA consider the RNS when developing requests for proposals (RFPs) through its various funding mechanisms. FHWA also funds the Traffic Safety Culture Pooled Fund (Ward et al., 2019) and publishes TSC resources as part of its goal to advance the Safe System Approach. As FHWA notes, “A zero deaths vision requires change – a shift in culture both within transportation agencies, other organizations, and by the public” (FHWA, 2023). Given its role in funding individual research projects and in disseminating research results to state and local agencies, the team anticipates FHWA being invested in the results of the TSC Research Roadmap and will maintain contact with FHWA personnel through the TRB Annual Meeting and other professional opportunities.

NHTSA: A NHTSA employee acted as a liaison to the project panel and supported the development of the TSC Research Roadmap. Two NHTSA employees also participated in the stakeholder engagement efforts that helped the research team develop the RNS included in the TSC research roadmap. During an interview with one of these experts, the team learned that NHTSA is interested in the research roadmap and how it compares with their own, internal research strategies. Like FHWA, NHTSA funds research and disseminates resources, and the team plans to maintain contact with NHTSA staff to share the research roadmap with them.

AASHTO: An AASHTO liaison also supported the development of the TSC research roadmap. AASHTO supports research efforts through the CRP program and disseminates resources to state DOTs. The TSC research roadmap will likely be of interest to the AASHTO Committee on Safety and may be a useful resource that fits with current Toward Zero Death guidance on implementing TSC (Toward Zero Deaths, 2019). Research team members spoke to the AASHTO liaison and plan to continue communicating with

the Committee on Safety as the research roadmap will provide a valuable addition to their linked TSC resources (Toward Zero Deaths, n.d.) and to the development of CRP projects.

Traffic Safety Culture Pooled Fund: The Traffic Safety Culture Pooled Fund, led by the Montana DOT, supported the development of the research topic that produced this project and is interested in monitoring the development of TSC research in the United States. During the course of this project, team members presented research results to pooled fund members and plan to ensure that they see the final project materials upon publication. Pooled fund members may be able to develop more RNS based on the research roadmap for submission to CRP, or they may be able to fund TSC-related RFPs through individual DOT research programs. Therefore, the team anticipates that the Traffic Safety Culture Pooled Fund will be an integral partner in implementing the results of this project.

The Road to Zero Coalition: The Road to Zero Coalition is an advocacy coalition led by the National Safety Council. The coalition produces valuable safety resources and shares those resources with coalition members and partners. In January 2023, project team members from the Highway Safety Research Center (HSRC) assumed leadership of the Road to Zero Coalition's Safe System Working Group, and in April 2023, the Working Group formed three subgroups. One of those subgroups is focused specifically on centering equity and the community in Safe System, and this subgroup has two proposed tasks related to TSC. These tasks are to:

- Distribute resources related to TSC
- Produce case studies of culture shifts

Given HSRC's leadership of the Working Group, the research team will propose that as part of these efforts, the subgroup undertake a tracking effort of TSC research. The team will provide the completed TSC Research Roadmap (upon completion of the project) to the subgroup and ask if there is interest in setting up a monitoring system for TSC research as part of a resource hub that the Working Group is planning to develop in partnership with ITE and the National Safety Council. The team recognizes that the Working Group members are volunteers and that the group may not elect to pursue a TSC monitoring effort, but if they do, HSRC can likely support coordination between this effort and the TRB-centered effort to ensure that someone is monitoring when and how the RNS are submitted and funded.

Other Safety Stakeholders: During the course of this project, team members contacted stakeholders from a wide range of agencies, including state and city DOTs, state highway safety office (SHSO) employees, state public health agencies, advocacy groups, national non-profit and research groups, and professional organizations. All these stakeholders graciously contributed to the development of the TSC Research Roadmap, and the team intends to follow up with these various experts and others (including the Governors Highway Safety Association) upon completion of the project to share final materials. The team anticipates that these outreach efforts will also support research implementation.

3. Plan for Implementation

One major effort the team will undertake after completion of this research project will be continued monitoring of the RNS through various channels. The team anticipates following two threads—coordinating with TRB committees and pursuing funding opportunities based on the RNS—for monitoring and implementing the outputs of this project. The team also proposes suggesting new survey questions to the AAA Foundation for Traffic Safety to include in the annual *Traffic Safety Culture Index* (AAA Foundation for Traffic Safety, 2022) to provide annual TSC data for researchers.

Coordination with TRB Committees: TRB committees develop and submit RNS to the CRP pipeline. Therefore, the team intends to provide assistance to TRB committees and other agencies submitting these ideas for funding. The main venue proposed for monitoring is TRB's Traffic Safety Management Systems Committee (ACS10). ACS10 members were involved in the development of the RNS that produced NCHRP 17-96, and team members have been in communication with ACS10's research coordinator regarding sharing research results at the next TRB Annual Meeting or during a midyear meeting in 2024. The team intends to contact the research coordinator and committee chair upon completion of this project to advance plans for sharing the research results.

The team also intends to use memberships in ACS10 to track how these RNS are updated and submitted through AASHTO's RNS submission process. The team anticipates volunteering to submit some RNS through ACS10 when they open their annual call for RNS development and anticipate hosting discussions with the research coordinator annually to update a tracking document for the TSC Research Roadmap to determine which RNS are in progress.

The team may also explore other committees to support submission of the RNS. Project team members have extensive professional networks and participate in a variety of TRB committees beyond ACS10. These additional committees, as well as their descriptions as provided through TRB's Online Director, include:

- **Standing Committee on Community Resources and Impacts.** This committee is primarily concerned with the relationship between transportation investments and how they impact communities. This committee may be interested in RNS related to measurements, data, equity, and sustainability.
- **Standing Committee on Public Engagement and Communications.** This committee focuses on connecting the public, stakeholders, and decision-makers during the lifespan of transportation projects so that a shared understanding of goals, values, and concerns can be reached. This committee may be interested in RNS related to communications and establishing shared TSC goals.
- **Standing Committee on Women and Gender in Transportation.** This committee focuses on the importance of gender differences in every aspect of transportation. The committee's work pertains to both research and workforce development. The committee may be interested in a variety of RNS, including those related to equity and workforce development.
- **Standing Committee on Equity in Transportation.** This committee is focused on equity as it concerns transportation impacts on and access for all transportation users, but especially those from disadvantaged, low-density, low-income, and rural communities. The committee may be

interested in the RNS related to equity, but also in RNS that explore measures of TSC and how they may relate to issues like health, economics, and mobility affordances.

Many of the RNS collected in all domains of the TSC Research Roadmap will be of interest to these committees, and project team members will contact committee personnel upon completion of this project to share published materials and offer assistance in developing RNS.

Funding Mechanisms: Beyond supporting efforts to monitor implementation of the RNS, the project team also anticipates that team members will submit research ideas and proposals to undertake and thereby implement research projects based on the RNS. The team is interested in continuing work through the NCHRP 20-44 Implementation Support Program. Given the wide range of the RNS, the team could pursue an implementation effort of a single RNS. Members of the research team would be uniquely positioned to submit a proposal related to RNS 1, Developing a Process to Establish Shared Traffic Safety Culture Goals, given its combined experience in developing the RNS and its work with the NC Vision Zero Initiative, the NC Highway Safety Plan, the Road to Zero Coalition, and more. The team will continue to monitor NCHRP RFPs and will respond if implementation funds for this project or new RFPs based on the RNS are released.

Beyond the NCHRP process, team members also anticipate submitting research ideas based on the RNS to various state DOT calls for research proposals. For example, the North Carolina DOT (NCDOT) annually issues a call for research ideas in April or May and then distributes requests for proposals later in the year based on the selected RNS. HSRC staff members have working relationships with NCDOT staff members and are familiar with the research idea process, so they anticipate pursuing this implementation effort.

The NCDOT process requires the submission of a completed research idea template. An example form that could be submitted based on RNS 15, Establishing a Traffic Safety Culture Leadership Network at the State Level, is included below. As can be seen in Table 1, the RNS format can be easily adapted to the NCDOT Research Idea format, and it may be worthwhile and practical to adapt other RNS as part of other research calls.

Table 1. Example of an NCDOT Research Idea Submission based on RNS 15

Submitter Name	Stephen Heiny, Wesley Kumfer, Seth LaJeunesse, Alyson West
Affiliation	UNC Highway Safety Research Center (UNC HSRC)
Phone	
Email	
Research Idea Title	Developing a Traffic Safety Culture Leadership Network in North Carolina
What is the Problem or Issue Needing Investigation	Although pooled fund projects and peer exchanges (including the National Highway Traffic Safety Administration [NHTSA]'s Focus Cities program) have existed for some time to facilitate dissemination of best practices between traffic safety agencies, the release of new federal funds tied to the Infrastructure Investment and Jobs Act (particularly the Safe Streets and Roads for All grants) and the increased emphasis in the United States on achieving Vision Zero have highlighted the need for increased resources and training for traffic safety stakeholders at the local level. While a Vision Zero-based model for peer exchanges, the Vision Zero Initiative, does exist in North Carolina, the number of locally focused TSC leadership development programs in this state and across the United States is exceedingly small.

	The proposed research project will develop a framework for creating a peer exchange forum and leadership initiative of local traffic safety stakeholders so that similar models can be developed and supported long-term by state agencies.
Background	This effort will build on existing research conducted by Austin et al. (2021) and Ward et al. (2019) to identify and disseminate best practices to grow positive TSC at the local level. This effort also builds on ongoing implementation research projects, like Promoting Positive TSC in RITI Communities through Active Engagement: Implementation Guide and Outreach Activities. Finally, it builds on the connections HSRC already has with the Governor's Highway Safety Program and the Vision Zero Initiative in North Carolina.
Research Tasks	The proposed research program could be conducted in three major tasks. • **Task 1.** Conduct a practice scan of other leadership initiatives and peer exchange programs—including the aforementioned Focus Cities program and the North Carolina Vision Zero Initiative—as well as pooled fund programs and other training initiatives, such as those conduced as part of Transportation System Management and Operations (TSMO) programs (Hurwitz et al., 2012), to determine the most effective methods of coalition building and workforce development to serve the needs of traffic safety stakeholders at the local level. The goal will be to identify best practices for coalition building (e.g., Kegler & Swan, 2012) and to identify potential communities within one focus state to serve as a testbed for a TSC leadership initiative. • **Task 2.** Implement a demonstration project to recruit, assemble, and train a leadership coalition of local traffic safety stakeholders in a collaborative initiative aimed at producing necessary skills and knowledge for doing TSC work. The assembled focus coalition should draw from best practices around focus group organization and development and should be used to systematize key parameters so that similar initiatives can be developed and maintained over time. In particular, the researchers should focus on community engagement (to what extent are the stakeholders' organizations reflecting the needs of and addressing the iniquities in their communities), data (what common datatypes exist across communities, and what new data need to be collected), goal-setting (how are communities measuring TSC and how do these goals fit into other state and local TSC initiatives), resource allocation (what financial, knowledge, and training needs do stakeholders have in regards to traffic safety stakeholders), and more. • **Task 3**. Produce a guidebook so that the coalition development efforts can be applied in other states.
Products of the Research	Expected research products developed by this project include: • A case study report documenting the development of the leadership coalition • A guidebook for replicating the coalition and for sustaining it annually • Presentation slides • Final report • Implementation plan
Explain Anticipated Benefits	Local stakeholder training and coalition development in North Carolina could help address a variety of needs, including driving behaviors (e.g., speeding, seat-belt wearing), project prioritization, and coordination among different types of agencies. This type of development program could help NCDOT better address focus areas listed in its Strategic Highway Safety Plan by supporting coordination between NCDOT and local agencies. The program may also provide the resources and knowledge necessary for local leaders to address risks and meet the needs of the traveling public in their communities, thereby using resources that could be spent on education and outreach programs effectively to grow positive TSC more proactively.

	We anticipate this work will have numerous benefits for NCDOT and its partners, including: • New or improved specifications and guidance for deploying safety countermeasures along or near rail corridors. • Improved safety for the public.
Possible IT Components	We do not anticipate a need for support from NCDOT's IT Department.
Implementation	We anticipate that the Mobility and Safety Unit will be able to use the products of this research to coordinate with division engineers to plan safety projects across the state. These research projects will enable the Mobility and Safety Unit to support HSIP goals of preventing deaths and serious injuries. Presentations and materials developed by the project could be delivered to key audiences at relevant conferences, through webinars, and other trainings.
NCDOT Sponsor/Champion Name	TBD
NCDOT Sponsor/Champion Title	TBD
NCDOT Sponsor/Champion Unit	TBD
NCDOT Sponsor/Champion Phone	TBD
NCDOT Sponsor/Champion Email	TBD
Additional Comments and Information (IF NEEDED)	None.
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Annual Data Collection on TSC: The AAA Foundation for Traffic Safety collects data on TSC annually through the *Traffic Safety Culture Index*. The index measures self-reported road user behaviors and attitudes and allows researchers to track perceptions about a variety of traffic safety topics, including distraction, aggressive driving, impaired driving, and restraint use. The index also allows researchers to

gauge support for policies or countermeasures, like speed safety cameras. These measurements provide insights into TSC, especially when it comes to attitudes and behaviors (AAA Foundation for Traffic Safety, 2022).

As an avenue for monitoring the development of TSC research in the United States, the *Traffic Safety Culture Index* would be ideal for collecting annual data on questions derived from the TSC Research Roadmap. These proposed questions, and their rationale for inclusion, are:

1. **"In your opinion, are efforts by your state (or local) government to improve safety on roads in your area increasing, decreasing, or staying the same compared to recent years?"** Respondents' perceptions of and attitudes towards safety are shaped by what they see and experience where they live and drive. This question gives data to TSC researchers and agencies in several ways. It may serve as a leading indicator of improving traffic safety outcomes compared to crash data, which are lagging indicators because of the delayed release schedule of crash data in most jurisdictions. It also reflects a (perception of) prioritization of traffic safety and public awareness of efforts to improve it, both of which are components of growing TSC. There are likely differences in TSCs at the local level and this question could help provide vital information about how public perceptions vary across areas. If the team could ask only one question of survey respondents annually, this would be the ideal question.
2. **"Compared to recent years, would you say <u>you</u> are thinking more, less, or about the same about safety on roadways?"** This question may provide data regarding perceptions and beliefs of localized TSC so that agencies can assess how their projects and policies connect to local norms.
3. **"Have you changed any of your behaviors in the past year to improve safety on roads?"** This is an open question that may allow researchers and agencies to collect data about changes in road user behavior and, potentially, shifts in culture. It may be difficult to determine if the shift is connected to any traffic safety investments, but the team believes this question may provide a starting point for evaluations.

The team thinks these or similar questions could be a valuable addition to the data currently collect by the annual *Traffic Safety Culture Index*, and have discussed the prospect of including them in future surveys with the AAA Foundation for Traffic Safety.

4. Conclusions

The intent of the TSC Research Roadmap is to provide a framework to help transportation safety practitioners understand TSC, identify locally needed TSC research, and conduct research that supports a national movement toward the achievement of the Safe System Approach. The roadmap is not intended to serve as a checklist for a single transportation agency, although agencies seeking to adjust their own organizational cultures to align with the Safe System Approach may find guidance in the roadmap and its RNS. The RNS span four domains of TSC research, namely defining TSC, measuring TSC, developing TSC, and evaluating TSC. The related subjects of these 20 research projects include attitudes and beliefs about transportation safety, organizational missions and goals, cultural values, community partnerships and engagement, mode choice and environmental affordance, road user behaviors, professional training and workforce development, quantitative and qualitative data collection, benchmarking, and equity. All the RNS contribute to an understanding of how road users' social norms and transportation safety stakeholders' organizational cultures interact in the complex, interconnected system that produces transportation safety outcomes. Additionally, all RNS are intended to help agencies shift toward a Safe System.

While developing these RNS, the project team engaged experts from a range of transportation agencies and communities, incorporating their feedback into the research roadmap. The team also discussed implementation of the roadmap with these experts and established plans to disseminate the findings upon completion of the project. As discussed in this briefing, there are several potential mechanisms for monitoring TSC research, for disseminating research to influential partners, and for pursuing TSC research funding. These plans will support the implementation of the TSC Research Roadmap.

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