

**Traffic Safety Culture Research Roadmap Communications Briefing**

to the

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Project 17-96: Traffic Safety Culture Research Roadmap

**LIMITED USE DOCUMENT**

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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. In 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 team developed two briefings to provide a plan for monitoring the progression of TSC research in the United States and to provide additional material related to communicating the benefits of TSC research to practitioners. This briefing offers a plan for disseminating the findings of the TSC research roadmap. It lists the various entities the team intends to contact about the TSC roadmap, provides a measurement tool that agencies may use to self-assess their readiness to carry out TSC research, and links those readiness results to the TSC Research Roadmap. The intent of this linkage is to communicate to traffic safety stakeholders the benefits of self-assessing organizational culture and then identifying relevant research projects that can advance TSC research in the United States.

This briefing is organized as follows:

1. Introduction
2. Communications with Agencies
3. Readiness Assessment Form
4. Case Study of Readiness Assessment
5. Conclusion

## 2. Communications with Agencies

To build a shared understanding of what TSC is, the team believes it is of utmost importance to distribute the research roadmap to a variety of stakeholders. As mentioned in the introduction, one of the domains of the research roadmap is focused entirely on defining TSC and building common language between agencies and other transportation safety stakeholders and communities. To facilitate this development of a shared understanding, the team intends to follow the distribution plan discussed below.

The research team has a deep network of contacts to whom it plans to distribute an announcement of the research materials upon completion of the project. Our professional communication channels include:

- The Road to Zero Coalition’s monthly newsletter
- The Highway Safety Research Center’s *Directions* newsletter
- The Pedestrian and Bicycle Information Center’s (PBIC’s) newsletter
- The Center for Health and Safety Culture’s newsletter
- Transportation Research Board (TRB) committee listservs, including those for the Pedestrian Committee (ACH10), the Transportation Safety Management Systems Committee (ACS10), and more in which our research team holds membership
- ITE Community Forums

Additionally, the team can request that our professional contacts in the following organizations or networks share announcements:

- Vision Zero Network
- North Carolina Vision Zero Initiative
- Other university networks

Finally, the team intends to share the research roadmap with stakeholders who contributed to the project’s development—either through serving as liaisons to the panel or through direct stakeholder engagement activities—and who represent the following agencies:

- Federal Highway Administration (FHWA)
- National Highway Traffic Safety Administration (NHTSA)
- American Association of State Highway Transportation Officials (AASHTO)
- Institute of Transportation Engineers (ITE)
- National Association of City Transportation Officials (NACTO)
- State and city departments of transportation (DOTs)
- State highway safety offices (SHSOs) or Governors Highway Safety Association (GHSA)
- The Traffic Safety Culture Pooled Fund

To share the results of the research roadmap, the team has drafted two communications materials included in this brief. The first is an example professional, newsletter-style announcement shown in Figure 2. This announcement is formatted to fit the PBIC newsletter’s typical syntax and was drafted by an HSRC communications expert. It provides a brief overview of the project and will point interested parties to the webpage where the final project materials are located. This short announcement format

may be useful to the research team's partners, like the Road to Zero Coalition or TRB committees who need short communications items to include in email newsletters.

### **Research Roadmap to Advance Traffic Safety Culture**

As states and communities adopt or reaffirm Vision Zero and Safe Systems approaches, there is a growing need for a cultural change. The traffic safety culture paradigm, still relatively new for transportation agencies, partners, and practitioners, aims to prioritize safety in all transportation decisions by reshaping values and attitudes.

A new Traffic Safety Culture Research Roadmap [URL] explores this paradigm through research review and input from practitioners and identifies practices, tactics, techniques, and tools needed to implement this concept. The Roadmap offers 27 research gaps in traffic safety culture and provides 20 research need statements proposing projects to address those gaps. The Roadmap benefits state DOTs, SHSOs, local agencies, and all practitioners seeking to deepen their understanding of traffic safety culture research.

*Figure 2. Sample Communications for Professional Networks*

Second, the team has worked with HSRC's graphic designer to produce a two-page research brief that can also be distributed through our communications channels. That brief, shown in Figure 3 and Figure 4, is intended to quickly communicate the project's goals and methods while illustrating the utility of TSC research to practitioners and researchers. This research brief may be most appropriate for researcher purposes as it serves as a single, short summary of the research project that can be shared with colleagues and within the broader research community. This document is designed to quickly communicate the research project, to highlight key RNS, and to direct readers toward the roadmap report. It may also be a useful starting point for TRB committee members seeking to adapt the RNS in the roadmap for submission to the Cooperative Research Program.

## RESEARCH BRIEF

# Traffic Safety Culture Research Roadmap

Traffic safety culture is often used as a shorthand for road user behaviors, like speeding or wearing seatbelts, but the research literature paints a different picture. Traffic safety culture, according to Girasek (2012), is the “social climate in which traffic safety is highly valued and rigorously pursued.” Traffic safety culture includes the social norms that inform road user behaviors, attitudes, and beliefs, as well as the organizational values different traffic safety agencies follow when designing the built environment and selecting projects to fund. Traffic safety culture is the complex, interconnected system that supports safe and equitable transportation.

The *Traffic Safety Culture Research Roadmap* is intended to help you understand traffic safety culture and to identify relevant research needs that will help you build a positive traffic safety culture. The ultimate goal of this roadmap is to help your agency do traffic safety culture work so that you can prevent deaths and serious injuries while providing a transportation system that meets all road users’ needs. To help agencies do this, we have developed 20 traffic safety culture research need statements spanning 4 domains.

### Defining Traffic Safety Culture

While definitions of traffic safety culture do exist, these definitions tend to focus on individual behaviors, attitudes, and beliefs. The definition domain of research will help you:

- Develop a common language for discussing traffic safety culture.
- Align your organization’s mission and goals with your values.
- Build relationships with partners.

### Measuring Traffic Safety Culture

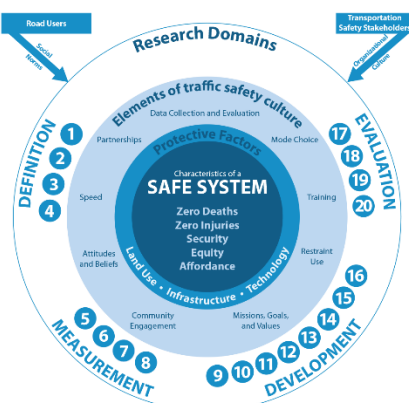
While some measurement tools do exist, there are a huge number of qualitative and quantitative data sources we overlook. This domain will help you:

- Identify potential indicators of a positive traffic safety culture.
- Learn from others about what works.
- Collect data to measure cultural growth.

### Developing Traffic Safety Culture

The development domain is the core of the traffic safety culture research roadmap. These research ideas will help you:

- Develop new projects to shift your local culture to safer road user behaviors.
- Sustain traffic safety efforts.
- Empower the next generation of traffic safety experts.



The ultimate goal of this roadmap is to help your agency do traffic safety culture work so that you can prevent deaths and serious injuries while providing a transportation system that meets all road users’ needs.

### Evaluating Traffic Safety Culture

There is little research evaluating the long-term relationship between traffic safety interventions and culture. This domain will help you:

- Develop a program for evaluating your projects against traffic safety culture goals.
- Identify challenges and barriers.
- Identify new research needs and areas where

For more information on this project, see:

<https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4972>



Figure 3. TSC Research Roadmap Brief Page 1

## RESEARCH BRIEF

# Traffic Safety Culture Research Roadmap

## Research Needs

### Definition

We reviewed over 250 references to help you answer questions like:

- What is traffic safety culture, and why does it matter to us and our partners?
  - See **RNS 1** (Developing a process to establish shared traffic safety culture goals) and **RNS 2** (Linking intra-agency traffic safety culture goals).
- How do my organization's values affect traffic safety outcomes in my community?
  - See **RNS 3** (Developing tools to assess organizational traffic safety culture).

### Development

We held three workshops to refine project ideas and identify development projects to address your questions.

- What data is out there and what data is missing that I can develop into safety performance measurements?
  - See **RNS 9** (Guidance on planning and implementation of transformative traffic safety culture) and **RNS 14** (Developing a database of standard traffic safety culture data).
- What can I do to make sure traffic safety efforts survive changes in leadership and funding?
  - See **RNS 10** (Enduring policies for sustaining traffic safety culture efforts and programs).

### Measurement

We interviewed over 30 traffic safety experts to figure out what you might need to measure.

- How does an individual's behaviors connect to their community's values and the projects we fund, and how do we even measure that?
  - See **RNS 6** (Annual traffic safety culture measurement and assessment tool).
- How do we know if we're producing an equitable transportation system?
  - See **RNS 8** (Building community-led traffic safety culture coalitions).

### Evaluation

We surveyed practitioners about their readiness to do traffic safety culture work and developed research ideas to help you evaluate your processes.

- How do we know if our traffic safety culture projects are working?
  - See **RNS 18** (Methods of evaluating the impact of roadway investments on traffic safety culture).
- How do I know if I'm using the best practices and providing an equitable transportation system?
  - See **RNS 20** (Building a long-term monitoring framework for benchmarking traffic safety culture progress).

**About the Project:** National Cooperative Highway Research Program (NCHRP) Project 17-96 funded a research effort to develop a traffic safety culture (TSC) research roadmap that would identify and explain gaps in TSC knowledge to assist stakeholders in understanding and addressing TSC in their strategic planning. The final deliverables, the Traffic Safety Culture Research Roadmap and the Conduct of Research Report provide 20 research need statements and a framework and flowchart for understanding how traffic safety culture research may assist agencies in shifting traffic safety culture toward a realization of the Safe System Approach. The project also produced briefings for communicating traffic safety culture concepts and managing the research process.

For more information on this project, see:

<https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4972>



Figure 4. TSC Research Roadmap Brief Page 2



### 3. Readiness Assessment Form

During the completion of the research roadmap, the team developed an organizational readiness assessment tool that transportation safety agencies can use to self-assess their own readiness to engage in TSC research. The team distributed this readiness survey to four state DOTs and one Vision Zero task force led by a city DOT through an online survey platform called Qualtrics. The team also hosted a workshop in July 2023 with the task force to discuss the survey results. The results of that readiness workshop are discussed in the next section of this briefing. The team selected this Vision Zero task force because the city DOT leads a robust, multidisciplinary Vision Zero team that is overseeing new funding through the Safe Streets and Roads for All grant program, but to the team's knowledge, they do not have a published definition of TSC to guide their efforts.

The readiness survey and discussion guide are shown below.

#### Purpose

The purpose of this tool is to help organizations identify their readiness to engage in efforts to improve traffic safety culture (TSC). The tool is organized in four domains: definition of TSC, measurement, development, and evaluation. These domains align with the research roadmap for TSC in Figure 1.

#### Guidance

The tool has two parts. In the first part, participants individually answer a brief questionnaire online. These results are then compiled to be shared in the second part. In the second part, participants discuss the compiled responses and seek consensus about the organization's state of readiness and appropriate next steps.

Individuals with different experiences and roles in an organization often have different perspectives. Therefore, participants should include individuals from different levels (e.g., leadership, management, supervisory, front-line), different locations (e.g., headquarters, districts), different functions (e.g., behavioral safety, engineering, communications, training), and different demographics.

#### Part 1. Online Questionnaire

The following is a brief questionnaire to better understand your organization's readiness to engage in efforts to improve traffic safety culture. It is not a test or scorecard. It is a way to see "where you are" so that you can identify the most appropriate next steps.

Your responses are anonymous. Please answer as accurately as you can. The responses will be compiled and discussed as a group.

#### **A. Definition**

First, we want to ask about defining traffic safety culture. How much do you agree or disagree with the following statements? [answer stems: Strongly disagree, somewhat disagree, neither, somewhat agree, strongly agree]

1. **"Our organization has a shared description of traffic safety culture."**
2. **"Our organization has a shared understanding of what a strong, positive traffic safety culture should accomplish."**

- 3. In a sentence or two, what is your organization's definition of traffic safety culture? If you don't know, you can write "I don't know."** [open ended text box]

## **B. Measurement**

Now we want to ask about measuring traffic safety culture.

As you answer these questions, use your organization's definition of traffic safety culture.

If you don't know what that definition is (or your agency doesn't have a definition), then use this definition as you answer these questions: Traffic safety culture can be thought of as the system of beliefs, values, and behaviors that produce traffic safety outcomes. Goals like Vision Zero and traffic safety management systems like the Safe System Approach may be strategic plans that describe a traffic safety culture.

How much do you agree or disagree with the following statements? [answer stems: Strongly disagree, somewhat disagree, neither, somewhat agree, strongly agree, I don't know]

- 4. "Our organization regularly assesses its own traffic safety culture."**
- 5. "The results of the assessment are shared across the organization with all staff."**
- 6. "The results are used to reveal disparities, that is, how different groups (roles, offices, groups of individuals) in the communities we serve experience traffic safety differently."**

## **C. Development**

In this part, we want to explore current efforts to grow traffic safety culture.

Again, use your organization's definition of traffic safety culture. If you don't know what that definition is (or your agency doesn't have a definition), then use this definition as you answer these questions: Traffic safety culture can be thought of as the system of beliefs, values, and behaviors that produce traffic safety outcomes. Goals like Vision Zero and traffic safety management systems like the Safe System Approach may be strategic plans that describe a traffic safety culture.

How much do you agree or disagree with the following statements? [answer stems: Strongly disagree, somewhat disagree, neither, somewhat agree, strongly agree, I don't know]

- 7. "Our organization has a multi-year plan to grow traffic safety culture in the communities we serve."**
- 8. "Our organization's plan to grow traffic safety culture includes addressing disparities (that is, addressing that different groups in the communities we serve may experience traffic safety differently)."**
- 9. "Our organization's plan to grow traffic safety culture is integrated into other planning efforts (e.g., your organization's strategic plan, a state highway strategic plan)."**

## **D. Evaluation**

In this last part, we want to ask about your organization's efforts to gather evidence about the effectiveness of efforts to grow traffic safety culture.

How much do you agree or disagree with the following statements? [answer stems: Strongly disagree, somewhat disagree, neither, somewhat agree, strongly agree, I don't know]

10. "Our organization evaluates the impact of existing internal safety program investments (e.g., training, policies, programs) on our traffic safety culture."
11. "Our organization uses the evaluations to improve these investments."
12. "Our organization evaluates our internal and external relationships and their impact on growing traffic safety culture."
13. "Our organization evaluates our organization's goal setting and its impact on growing traffic safety culture."
14. "Our organization evaluates how our transportation projects (i.e., those funded and built in the communities we serve) align with our organization's goal setting."

## Conclusion

15. Is there anything else you would like to share? [open text box]

Thank you for your time in completing this questionnaire.

## Part 2. Discussion Guide

The purpose of this dialogue is to review how individuals responded to the questionnaire and develop a shared understanding of where your organization is on a continuum of readiness to engage in growing your organization's traffic safety culture.

### A. Definition

Here are the responses to the questions about defining traffic safety culture.

[Share responses here]

- What stands out for you?
- Who or which department leads this issue?
- What can we conclude about how our organization defines traffic safety culture?
- As we review the TSC Research Roadmap, what research projects may be most important to us?
- What are the most important next steps to advance this issue?

### B. Measurement

Here are the responses to the questions about measuring traffic safety culture.

[Share responses here]

- What stands out for you?
- Who or which department leads this issue?
- What can we conclude about how our organization measures traffic safety culture?
- What are we not measuring (and what do we need to start measuring)?
- As we review the TSC Research Roadmap, what research projects may be most important to us?
- What are the most important next steps to advance this issue?

### C. Development

Here are the responses to the questions about developing or growing traffic safety culture.

[Share responses here]

- What stands out for you?
- Who or which department leads this issue?
- What can we conclude about our efforts to grow traffic safety culture?
- As we review the TSC Research Roadmap, what research projects may be most important to us?
- What are the most important next steps to advance this issue?
- What skills or resources do we need to develop to grow traffic safety culture?

#### **D. Evaluation**

Here are the responses to the questions about efforts to grow traffic safety culture.

[Share responses here]

- What stands out for you?
- Who or which department leads this issue?
- What can we conclude about our evaluation of our efforts to grow traffic safety culture?
- As we review the TSC Research Roadmap, what research projects may be most important to us?
- What are the most important next steps to advance this issue?
- What evaluation practices do we need to start?

#### **E. Conclusion**

Here are other comments that were shared.

[Share comments here]

- What stands out for you?
- As we review our discussion today, what are our most important next steps?
- What resources (e.g., funding, skills, knowledge, time) can be drawn upon?
- What might need to be changed to make progress (consider policies, rules, expectations, norms, etc.)?

## 4. Case Study of Readiness Assessment

To communicate the benefit of self-assessing organizational readiness to do TSC work so that TSC research needs can be identified, the team conducted a readiness workshop with a volunteer task force composed of diverse stakeholders from the city DOT, city planning department, city public health department, a foundation branch, local advocacy groups, and more. In total, 25 task force members attended the workshop virtually.

First, the team ensured that the practitioners present completed the 15-question readiness assessment sent previously through Qualtrics. Upon completion of the assessment, the team followed the discussion guide from the previous section to host a structured conversation wherein the practitioners reflected upon their responses and the TSC Research Roadmap. This section summarizes the task force's readiness results and comments from the workshop. It also highlights findings from the survey of the additional agencies.

The survey results and discussion comments for this workshop are organized by the research domains shown in Figure 1.

### Definition Domain

First, the team asked the attendees to indicate how much they agreed with the following statements:

- “Our organization has a shared description of traffic safety culture.”
- “Our organization has a shared understanding of what a strong, positive traffic safety culture should accomplish.”

The responses to these statements are shown in Figure 5.

Generally, the respondents somewhat agreed or strongly agreed with both statements. A potential explanation for this agreement is the task force's shared goal of Vision Zero. The task force's Vision Zero website lists guidance principles and illustrates a shared commitment to eliminate traffic deaths and serious injuries, and that commitment likely forms the basis for the task force's understanding of TSC.

However, as indicated by the responses to the third question (“In a sentence or two, what is your organization's definition of traffic safety culture?”), that shared understanding of TSC is diffuse and covers a range of topics. As can be seen in Table 1, these topics include:

- Road user behaviors
- Individual responsibility
- Social norms and regulations
- Engineering, education, and enforcement efforts
- Prioritization of the needs of vulnerable road users
- Partnerships and collaboration
- Equity

These topics are all discussed as relevant to TSC research in the research roadmap.

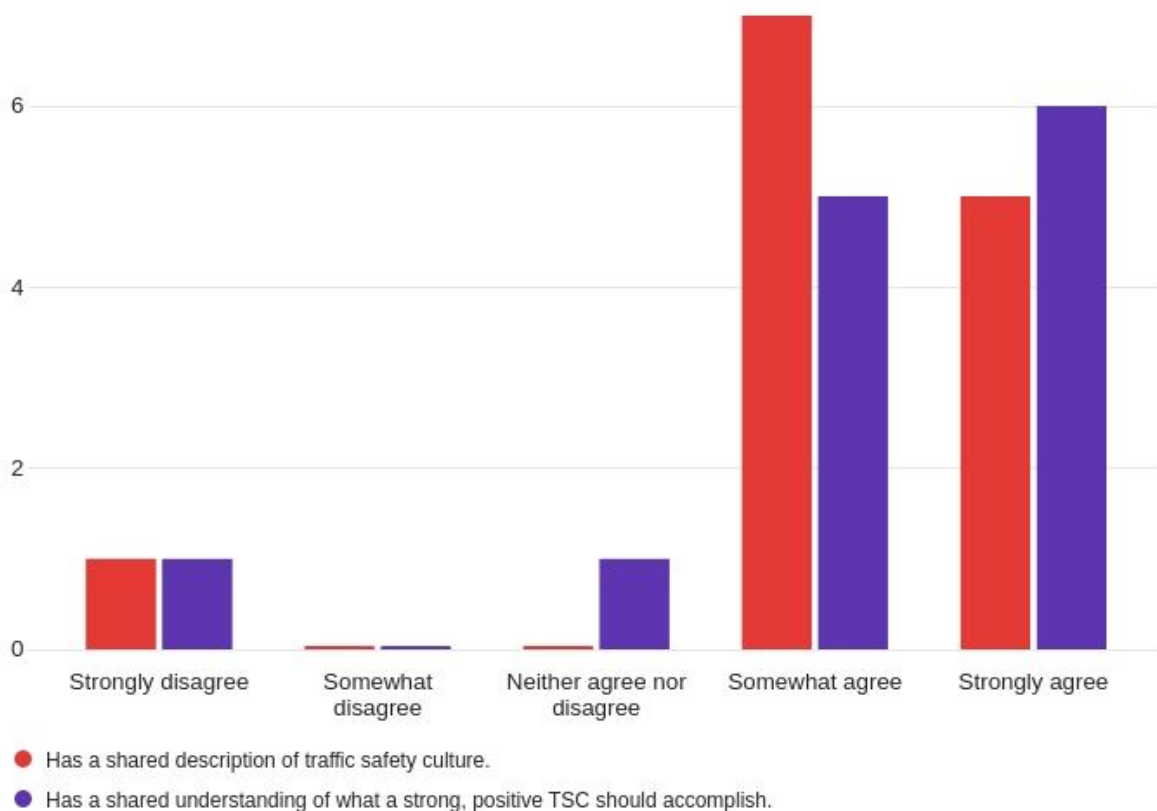


Figure 5. Responses to Readiness Survey Definition Domain Responses

Table 1. Responses to Defining the Agency's TSC

I don't know.
Every road user is responsible for sharing the road and exhibiting safe behavior. Every road user should behave predictably.
Ensuring that residents know the proper procedures related to traffic safety rules.
The City focuses engineering, education, and enforcement efforts on reducing speeds throughout the city, especially where crashes have led to fatalities and serious injuries.
Prioritization of the needs of vulnerable road users with the understanding that crashes are avoidable events and can be managed through both infrastructure and culture changes.
We seek to educate the public on proper child passenger safety restraints, enforce traffic laws including speeding, aggressive driving, use of seat belts etc.
focuses on how social factors in a community's culture influence how people prioritize and accept traffic safety strategies.
We view a TS culture as the whole approach of engaging with partners and the community to educate and advocate for safer roads. Our organization uses research and data to provide insight on public engagement of safe and unsafe driving behaviors, along with related attitudes and perceptions in many areas of traffic safety, including speeding, impaired driving, distraction, and vulnerable road users.
We need to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all

When team members asked the respondents what stands out to them about these results, one respondent noted that there is a theme that the task force sees TSC as a collaborative effort where all members are using their respective skills. This sense of collaboration can be seen both in the responses about partnerships (“We view a TS culture as the whole approach of engaging with partners and the community to educate and advocate for safer roads.”) and in the responses that reflected different disciplines (“The city focuses engineering, education, and enforcement efforts on reducing speeds throughout the city, especially where crashes have led to fatalities and serious injuries.”).

However, when asked what is currently missing in the way the task force defines TSC, respondents noted missing partners and too much emphasis on individual freedoms. Respondents cited the need to enlist representatives from the licensing agencies (i.e., the Department of Motor Vehicles), driver educators, and the media. The missing partnership with media outlets was also emphasized in the reflection on the focus on individual responsibility. Respondents noted that media framing of traffic crashes and who is at fault may instill perspectives that TSC is the same as driver behaviors. Given that even individual definitions of TSC (e.g., “Every road user is responsible for sharing the road and exhibiting safe behavior.”) offered by attendees reflect this individualist perspective of TSC, the team believes that the RNS that explore definitions and shared understanding of TSC for different agencies will be of value to even agencies that have some conception of TSC that guides their work.

When asked about definitional research that would benefit the task force, attendees 1) expressed a need for more community engagement so that they can understand the public’s perceptions of traffic safety; and 2) identified the need to build more collaborations so that other safety stakeholders, like the local driver education authority, can share the same traffic safety goals and work collaboratively toward Vision Zero. Based on these responses, the team believes the following RNS would help this task force become more ready to do TSC work:

- RNS 2: Linking Intra-Agency Traffic Safety Culture Goals
- RNS 4: Guidance to Align Agencies’ Goals, Policies, and Practices with Local Communities’ Existing and Desired Traffic Safety Cultures and Outcomes
- RNS 8: Building Community-Led Traffic Safety Culture Coalitions

Team members shared the RNS with the task force members and discussed how the proposed projects may fill their perceived gaps in research. While this part of the discussion focused on defining TSC, the research gaps expressed by the attendees were not limited to just the definition domain. RNS 8 is a measurement domain RNS, yet this kind of research would support the spoken goals of bringing in more partners and building a broader coalition to develop a deeper shared understanding of TSC. This finding highlights a fact discussed throughout the *Traffic Safety Culture Research Roadmap Report*; although the research domains are distinct and intended to build upon each other, any one agency may progress backward and forward through the roadmap as they identify projects needed to fill in their TSC research gaps.

### **Measurement Domain**

After concluding the discussion of the definition questions, the team asked respondents how much they agree with the following three statements:

- Our organization regularly assesses its own traffic safety culture.

- The results of the assessment are shared across the organization and with all staff.
- The results are used to reveal disparities, that is, how different groups (roles, offices, groups of individuals) in the communities we serve experience traffic safety differently.

Responses to these statements are shown in Figure 6.

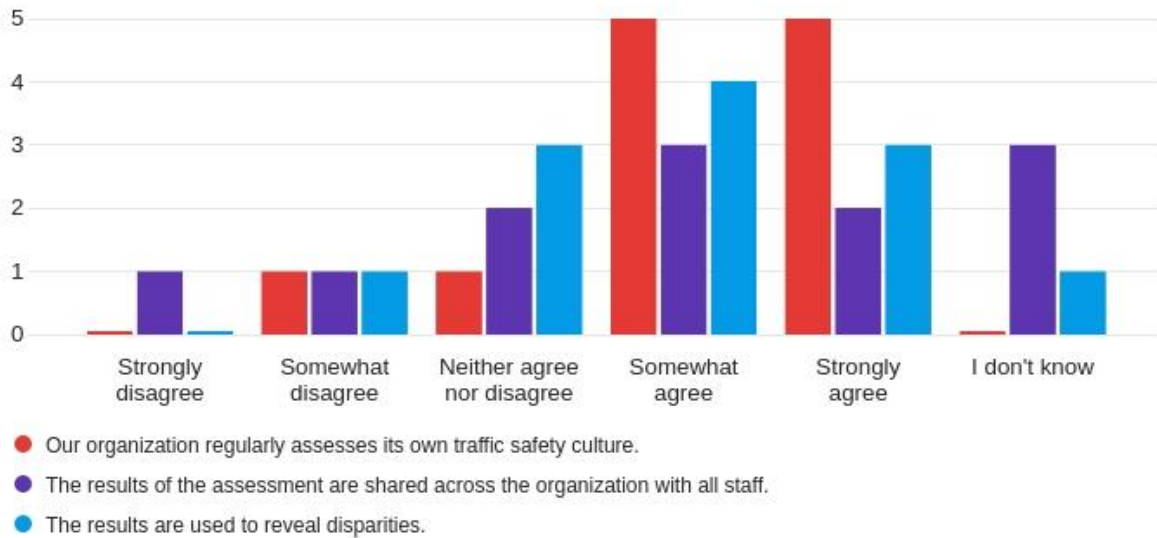


Figure 6. Responses to Readiness Survey Measurement Domain Responses

The respondents seemed to somewhat agree or strongly agree that their organization regularly assesses its own TSC. There was less agreement on whether those assessments are shared across organizational lines, with more respondents either saying they don't know, do not agree or disagree, or disagree with the idea. Generally, respondents did agree (or did not disagree) that the task force works to reveal disparities.

When asked what stands out about these results, the respondents mostly pointed out deficiencies in their measurement tools. Respondents discussed gaps in measurement related to:

- Explicit measurements of TSC in advocacy work
- Proactive measurements of traffic safety
- Efficacy of efforts to change road user behaviors
- Cultural norms and how they relate to behaviors

The respondents reflected that they have some measures of how road users in their city behave (e.g., speeding), but they do not yet have measurement tools to understand why road users engage in those behaviors. Respondents reflected that, especially from a public health perspective, better measurement tools may allow them to be more proactive in how they educate and communicate with road users and design interventions to align road user behaviors with the Vision Zero goal.

When asked what research is needed to better measure TSC, task force members expressed a need for tools or models that can be used to proactively and systemically identify roadway risks. One respondent specifically noted that proactive tools related to location-based social norms would be beneficial for



understanding where and why people engage in speeding behavior. Respondents also expressed a desire for measurements beyond crash data and referenced the need to collect data on safety investment inequities (e.g., inequitable outcomes of speed safety camera ticketing) to better understand which safety countermeasures will be more effective. Based on these responses, the team identified the following RNS that may help the task force measure their local TSC to better understand how to address traffic safety risks:

- RNS 6: Annual Traffic Safety Culture Measurement and Assessment Tool
- RNS 7: Integrating Traffic Safety Culture Indicators with Proactive Safety Performance Measures and Public Agency Traffic Safety Management
- RNS 11: Embedding Equity in Traffic Safety Culture

As with the definitional research gaps, those measurement gaps expressed by task force members reflect the nonlinear nature of the TSC Research Roadmap. It is also interesting that task force members specifically identified needs related to proactive measure and equity, two topics directly addressed in RNS included in the research roadmap.

### **Development Domain**

Next, the team reviewed with the attendees their responses to the following development domain statements:

- Our organization has a multi-year plan to grow traffic safety culture in the communities we serve.
- Our organization's plan to grow traffic safety culture includes addressing disparities (that is, addressing that different groups in the communities we serve may experience traffic safety differently).
- Our organization's plan to grow traffic safety culture is integrated into other planning efforts (e.g., your organization's strategic plan, a state highway strategic plan).

The responses to these questions are shown in Figure 7.

Interestingly, there was more agreement with these statements than there was with the measurement domain responses. Almost all attendees either somewhat agreed or strongly agreed with all these statements, particularly when considering the task force's work around addressing disparities.

The respondents also shared fewer observations related to these responses. They noted that they need more projects that expand TSC efforts beyond merely trying to educate the public because they cannot reach everyone and shift culture solely with education materials. They also noted the role of laws and regulations in the kinds of TSC projects they can undertake and emphasized the need to align the state DOT's goals with their own goals to more effectively do TSC work at the local level.

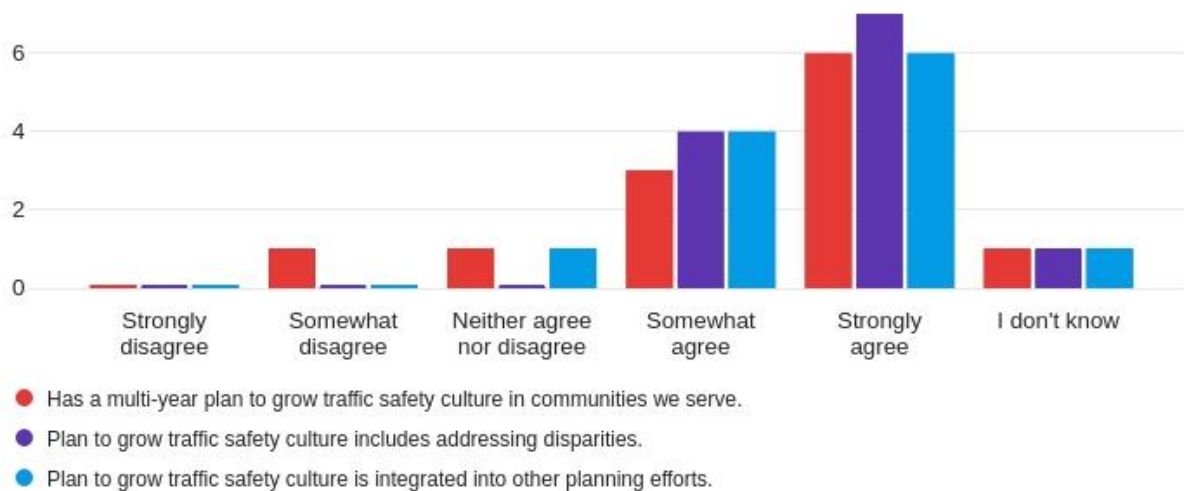


Figure 7. Responses to Readiness Survey Development Domain Responses

When asked what research they need to do TSC work, respondents noted the need for more competency with quantitative data, the need for a better understanding of conflicting TSC between different road users, and a need to better understand how the built environment influences TSC. Regarding data needs, respondents noted that some roadway project decision-making may rely only on typical, quantitative measures of performance (e.g., delay) but that other, more qualitative measures of feasibility (e.g., pedestrian comfort) may be missing, especially in relation to intersection design. For conflicting TSC goals, respondents noted that the city has a significant proportion of workers who commute from outside the city, so there may be a misalignment between local goals and the TSC in which those external communities operate. In response to these gaps, the following RNS may be of use:

- RNS 4: Guidance to Align Agencies' Goals, Policies, and Practices with Local Communities' Existing and Desired Traffic Safety Cultures and Outcomes
- RNS 9: Guidance on Planning and Implementation of Transformative Traffic Safety Culture
- RNS 12: Understanding Traffic Safety Culture-related Concerns Using Qualitative Approaches

Interestingly, the team also suggested that RNS 4 would be valuable to meet the task force's definitional needs, but here it may help the agency better understand the social norms of commuting road users so that unsafe social norms around commuting can be more adequately addressed. The respondents also invoked the concept of affordance—i.e., direct, immediate perception–action possibilities presented to people by their environment—when discussing the need to understand the link between the built environment and TSC. The need to better understand affordance is discussed throughout the TSC Research Roadmap, including in multiple RNS and in the central conceptualization of the roadmap itself. Researching this link will likely be of great value to transportation agencies.

## Evaluation Domain

Finally, the team discussed with the respondents their answers to four statements related to the evaluation of TSC:

- Our organization evaluates the impact of existing internal safety program investments (e.g., training, policies, programs) on our traffic safety culture.
- Our organization uses the evaluations to improve these investments.
- Our organization evaluates our internal and external relationships and their impacts on growing traffic safety culture.
- Our organization evaluates our organization’s goal setting and its impact on growing traffic safety culture.

Note that the team did not receive responses to the statement: "Our organization evaluates how our transportation projects (i.e., those funded and built in the communities we serve) align with our organization’s goal setting." The responses to the other four statements are shown in Figure 8.

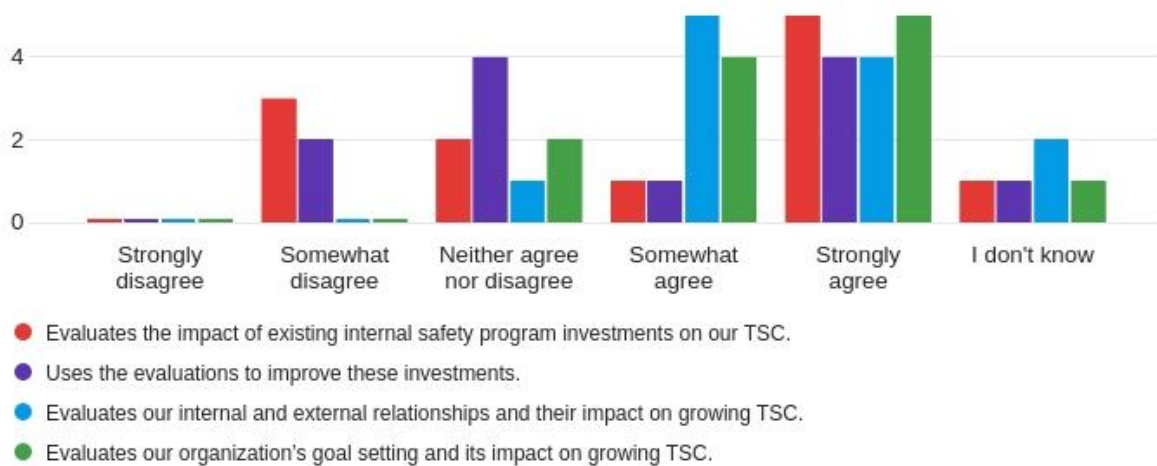


Figure 8. Responses to Readiness Survey Evaluation Domain Responses

The responses to these statements were mixed, but there was stronger agreement with the statement “Our organization evaluates our internal and external relationships and their impacts on growing traffic safety culture.” However, the respondents expressed more disagreement with the statement “Our organization uses the evaluations to improve these investments.” These responses may indicate that the task force, by its collaborative nature, excels at building partnerships but may benefit from an increased emphasis on internal evaluations.

After reflecting on these results, the respondents noted that they would like to see better evaluations when it comes to the safety needs of pedestrians and bicyclists because they feel their current investments are too reactive. They connected this concern to a need for more proactive assessments of risk in decision-making.

The respondents also expressed a need for more research around land use policies and the role of law enforcement in shaping TSC. Together, these expressed needs reflect the previously discussed need to expand the coalition to develop a deeper shared understanding of TSC. Considering these needs, following RNS may be of benefit to the task force:

- RNS 16: Workforce Development to Attract and Recruit Traffic Safety Culture Professionals
- RNS 17: Methods of Evaluating Organizational Traffic Safety Culture

RNS 17 in particular may be of use to the task force as it specifically mentions goal-setting related to pedestrian and bicyclist safety and better integrating these road users into safety project programming. More generally, the team found during interviews while developing the TSC Research Roadmap that agencies may have difficulty identifying evaluation needs until their TSC tools and projects are already developed. The task force's limited number of expressed evaluation needs may also reflect this finding.

### **General Conclusions and Applications for Other Agencies**

As expected, the case study of discussing the readiness assessment with a volunteer agency validated a number of the research gaps and research needs the research team discusses in the *TSC Research Roadmap Report*. Any transportation safety agency can replicate this procedure and identify TSC research needs that will help them become more effective at doing traffic safety work. The team would suggest, however, that personnel all housed within a single department or agency may be more suitable for an initial discussion of TSC readiness rather than a task force consisting of representatives from different organizations. While task forces may share a TSC-related goal, like Vision Zero, that directs their efforts and allows them to build effective partnerships, there may be subtle differences between each member organization's understanding of TSC that could lead to divergent TSC definitions. If task force's use the readiness assessment, a two-stage discussion of TSC research needs may be more appropriate.

For individual agencies seeking to self-assess organizational readiness to do TSC work, the process discussed in this briefing is simple and takes a low time commitment. Respondents need only take 15-30 minutes to complete the questionnaire, and then the discussion itself only requires approximately one to two hours. For agencies undertaking a readiness self-assessment, the following tips may be useful:

1. The discussion can be facilitated by any staff member at the agency, but agencies should be mindful of internal power dynamics and should be clear that responses will not impact anyone's job. An external facilitator may be helpful for granting the assessment impartiality.
2. Do not define TSC for respondents before they take the survey. Let the various definitions provide a discussion item.
3. It may be helpful for all attendees to review the TSC research roadmap after completing the survey but prior to the facilitated discussion.
4. Agencies do not need to settle on the RNS identified in the research roadmap. The specific needs of an agency may differ from those identified in the literature review and engagement efforts that informed the TSC Research Roadmap.
5. The expressed research gaps can form the basis of new research projects for your agency. Have the facilitator restate each gap so that the specific needs can be adequately identified.

To aid agencies seeking to self-assess their organizational readiness to do TSC work, this briefing includes a generic version of the slides used in this case study in the Appendix.

As mentioned, the team also surveyed other agencies to collect a small sample of additional perspectives on TSC readiness. As can be seen in Figure 9, the 13 practitioners surveyed generally indicated agreement that their agencies have shared definitions of TSC. However, as can be seen in

Figure 10, these practitioners were not generally in agreement that they assess their own organizational TSC, that they share results across the organization, or that they use the results to reveal disparities. Taken together, these two figures show that the surveyed organizations likely would benefit from more foundational TSC research from the definition domain to first establish common language across the organizations. This foundational work could then serve as a basis for assessing organizational TSC and using that definition for strategic programming and planning. Based on these survey results, the following RNS may benefit a variety of transportation agencies:

- RNS 1: Developing a Process to Establish Shared Traffic Safety Culture Goals
- RNS 3: Developing Tools to Assess Organizational Traffic Safety Culture

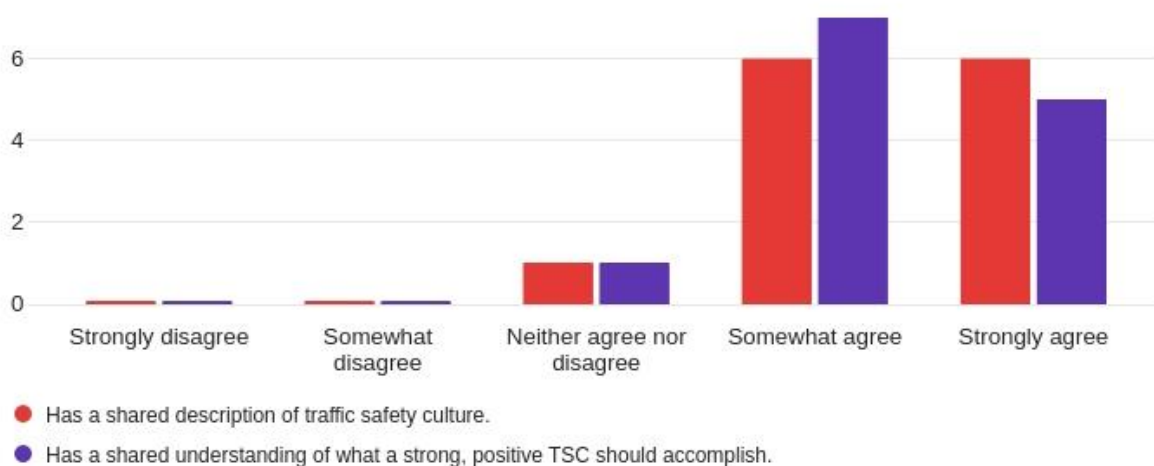


Figure 9. Other Agency Readiness to do TSC Work

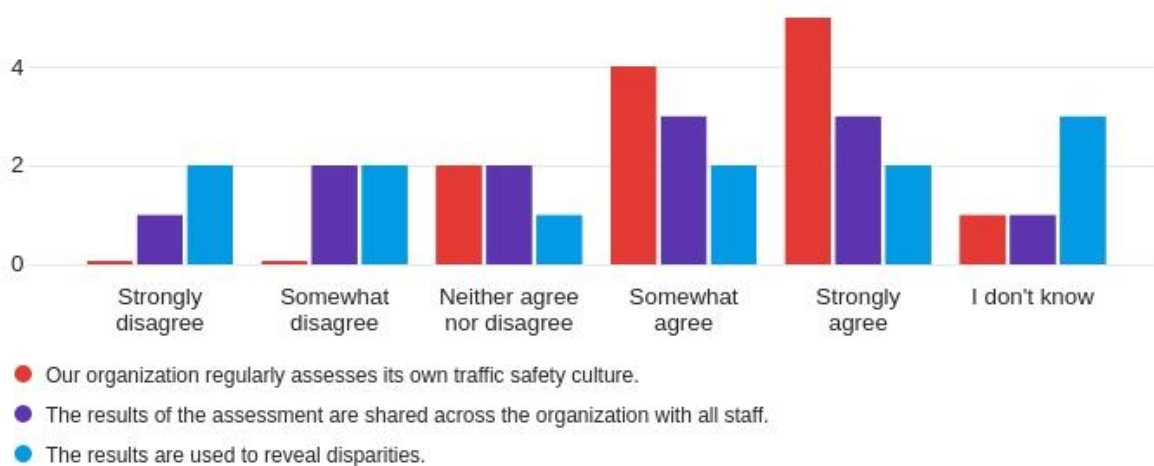


Figure 10. Other Agency Readiness Assessment Responses

## 5. 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 1) defining, 2) measuring, 3) developing, and 4) evaluating TSC. The related subjects of 20 research projects assigned to the domains 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. Moreover, all the RNS are intended to help agencies shift toward a Safe System.

The team believes that implementing the TSC research roadmap will be easier if a shared understanding of TSC is developed and widely adopted. To this end, the team developed multiple communications materials, including a brief newsletter announcement, a research brief, and this briefing document to disseminate upon completion of this project. The team is committed to sharing the results of this research using its professional networks to support a better shared understanding of TSC.

The team has also provided an organizational readiness assessment tool that agencies can use to self-assess their own readiness to do TSC work. Accompanying this tool are a case study and figures showing a slide deck that demonstrate how agencies can facilitate internal discussions around TSC and identify research projects that may help them become more ready to do TSC work. Organizational culture is crucial to the advancement of positive TSC in the United States, and these tools and resources can help agencies advance their own TSC goals in alignment with the Safe System Approach.

## References

Girasek, D. C. (2012). Towards operationalising and measuring the Traffic Safety Culture construct. *International Journal of Injury Control and Safety Promotion*, 19(1), 37–46.

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Ward, N. J., Otto, J., & Finley, K. (2019). *Traffic Safety Culture: A Primer for Traffic Safety Practitioners* (FHWA/MT-19-006/8882-309-11). Montana Department of Transportation.

<https://doi.org/10.21949/1518306>.

## Appendix

The following figures and explanatory text show the potential slides and notes that can be used to facilitate a TSC readiness assessment discussion.



Figure 11. Sample Introductory Slide

### Introduction

- Traffic Safety Culture is commonly referenced as a dire need in transportation safety in the United States.
- Many transportation safety professionals even reference traffic safety culture as a necessary component of the Safe System Approach.
- However, traffic safety literature seems to indicate that there is no clear consensus on what traffic safety culture is, let alone how it can be meaningfully transformed.
- A LOT of traffic safety culture research is needed to advance this concept toward the achievement of a Safe System in the United States.



Figure 12. Sample Slide Outlining TSC Information



## Agenda

- Overview and Review of Survey Responses
- Discussion of Readiness
- Traffic Safety Culture Research Roadmap
- Concluding Remarks



Figure 13. Sample Slide Outlining Agenda of TSC Readiness Discussion

PowerPoint Note: Provide an overview for attendees and set expectations.

## Survey Responses

- Definition Domain
  - Question 1 and Question 2- First, we want to ask about defining traffic safety culture. How much do you agree or disagree with the following statements?

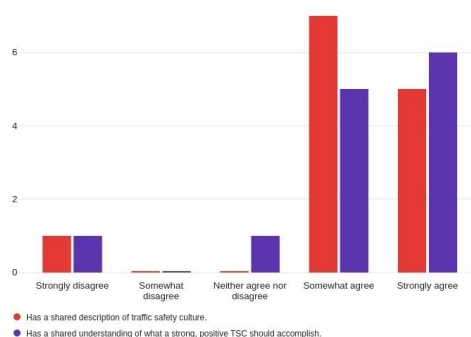


Figure 14. Sample Slide for Definition Responses

PowerPoint Note: On this slide, insert figure(s) to show the responses to the first two questions:

1. **"Our organization has a shared description of traffic safety culture."**

2. **“Our organization has a shared understanding of what a strong, positive traffic safety culture should accomplish.”**

Identify points of strong agreement and strong disagreement.

## Survey Responses

- Definition Domain
  - Question 3 - In a sentence or two, what is your organization’s definition of traffic safety culture? If you don’t know, you can write “I don’t know.”



*Figure 15. Sample Slide for TSC Definition Question*

PowerPoint Note: On this slide, insert a table to show the responses to Question 3:

3. **In a sentence or two, what is your organization’s definition of traffic safety culture? If you don’t know, you can write “I don’t know.”**

Spend time on this slide discussing each definition. Identify common themes.

## Traffic Safety Culture Readiness

- Based on your responses about the definition of traffic safety culture...
  - What stands out to you?
  - Who or which department leads this issue?
  - What can you conclude about how your organization defines traffic safety culture?
  - What are the most important next steps to advance this issue?



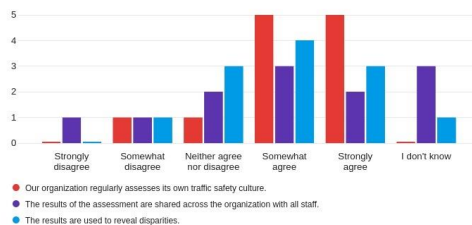
August 30, 2023

Figure 16. Sample Slide for Definition Discussion

PowerPoint Note: Depending on time, you can either work through each of these questions individually or ask them all together and then ask respondents to respond to any question they want.

## Survey Responses

- Measurement Domain
  - Question 4, Question 5, and Question 6- How much do you agree or disagree with the following statements?



August 30, 2023

Figure 17. Sample Slide for Measurement Responses

PowerPoint Note: On this slide, insert a figure showing the responses to questions 4-6.

4. **“Our organization regularly assesses its own traffic safety culture.”**
5. **“The results of the assessment are shared across the organization with all staff.”**
6. **“The results are used to reveal disparities, that is, how different groups (roles, offices, groups of individuals) in the communities we serve experience traffic safety differently.”**

Identify points of strong agreement and strong disagreement.

## Traffic Safety Culture Readiness

- Based on your responses to the questions about measuring traffic safety culture...
  - What stands out for you?
  - Who or which department leads this issue?
  - What can you conclude about how your organization measures traffic safety culture?
  - What are you not measuring (and what do you need to start measuring)?
  - What are the most important next steps to advance this issue?

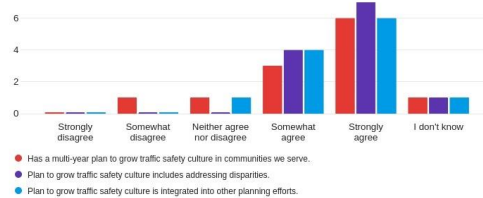


*Figure 18. Sample Slide for Measurement Discussion*

PowerPoint Note: Depending on time, you can either work through each of these questions individually or ask them all together and then ask respondents to respond to any question they want.

## Survey Responses

- Development Domain
  - Question 7, Question 8, and Question 9- How much do you agree or disagree with the following statements?



August 30, 2023

Figure 19. Sample Slide for Development Responses

PowerPoint Note: On this slide, insert a figure showing the responses to questions 7-9.

7. **“Our organization has a multi-year plan to grow traffic safety culture in the communities we serve.”**
8. **“Our organization’s plan to grow traffic safety culture includes addressing disparities (that is, addressing that different groups in the communities we serve may experience traffic safety differently).”**
9. **“Our organization’s plan to grow traffic safety culture is integrated into other planning efforts (e.g., your organization’s strategic plan, a state highway strategic plan).”**

Identify points of strong agreement and strong disagreement.

## Traffic Safety Culture Readiness

- Based on your responses about developing or growing traffic safety culture...
  - What stands out for you?
  - Who or which department leads this issue?
  - What can you conclude about your efforts to grow traffic safety culture?
  - What are the most important next steps to advance this issue?
  - What skills or resources do you need to develop to grow traffic safety culture?



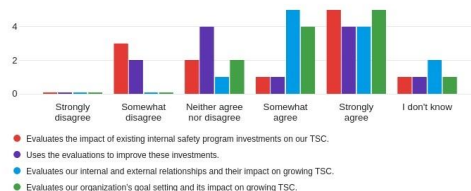
August 30, 2023

Figure 20. Sample Slide for Development Discussion

PowerPoint Note: Depending on time, you can either work through each of these questions individually or ask them all together and then ask respondents to respond to any question they want.

## Survey Responses

- Evaluation Domain
  - Question 10, Question 11, Question 12, Question 13, and Question 14:  
How much do you agree or disagree with the following statements?



August 30, 2023

Figure 21. Sample Slide for Evaluation Responses

PowerPoint Note: On this slide, insert a figure showing the responses to questions 10-14.

10. **“Our organization evaluates the impact of existing internal safety program investments (e.g., training, policies, programs) on our traffic safety culture.”**
11. **“Our organization uses the evaluations to improve these investments.”**
12. **“Our organization evaluates our internal and external relationships and their impact on growing traffic safety culture.”**
13. **“Our organization evaluates our organization’s goal setting and its impact on growing traffic safety culture.”**
14. **“Our organization evaluates how our transportation projects (i.e., those funded and built in the communities we serve) align with our organization’s goal setting.”**

Identify points of strong agreement and strong disagreement.

## Traffic Safety Culture Readiness

- Based on your responses to the questions about collecting evidence on growing traffic safety culture...
  - What stands out for you?
  - Who or which department leads this issue?
  - What can you conclude about your evaluation of your efforts to grow traffic safety culture?
  - What are the most important next steps to advance this issue?
  - What evaluation practices do you need to start?



*Figure 22. Sample Slide for Evaluation Discussion*

PowerPoint Note: Depending on time, you can either work through each of these questions individually or ask them all together and then ask respondents to respond to any question they want.

## Survey Responses

- Other



Figure 23. Sample Slides for Other Responses

PowerPoint Note: Inset any responses to question 15:

**15. Is there anything else you would like to share?**

Spend time discussing each response, if any.

## Traffic Safety Culture Readiness

- Based on your other comments...
  - What stands out for you?
  - As we review our discussion today, what are your most important next steps?
  - What resources (e.g., funding, skills, knowledge, time) can be drawn upon?
  - What might need to be changed to make progress (consider policies, rules, expectations, norms, etc.)?



Figure 24. Sample Slide for Other Response Discussion



PowerPoint Note: Depending on time, you can either work through each of these questions individually or ask them all together and then ask respondents to respond to any question they want.

## Traffic Safety Culture Research Roadmap

- Definition Domain Research Needs
  - Developing a process to establish shared traffic safety culture goals
  - Linking intra-agency traffic safety culture goals
  - Developing tools to assess organizational traffic safety culture
  - Guidance to align agencies' goals, policies, and practices with local communities' existing and desired traffic safety cultures and outcomes
- Measurement Domain Research Needs
  - Promoting positive traffic safety culture through learning from safer traffic safety outliers
  - Annual traffic safety culture measurement and assessment tool
  - Integrating traffic safety culture indicators with proactive safety performance measures and public agency traffic safety management
  - Building community-led traffic safety culture coalitions



*Figure 25. Sample Slide Showing Definition and Measurement RNS*

PowerPoint Note: You can use these next three slides to discuss the different RNS in the research roadmap. Ask respondents to pick RNS that align with their stated gaps OR identify relevant projects not in this list that may fill those gaps.

## Traffic Safety Culture Research Roadmap

- Development Domain Research Needs
  - Guidance on planning and implementation of transformative traffic safety culture
  - Enduring policies for sustaining traffic safety culture efforts and programs
  - Embedding equity in traffic safety culture
  - Understanding traffic safety culture-related concerns using qualitative approaches
  - Agency risk management, public goals, and pathways to a Safe System
  - Developing a database of standard traffic safety culture data
  - Establishing a traffic safety culture leadership network at the state level
  - Workforce development to attract and recruit traffic safety culture professionals



August 30, 2023

Figure 26. Sample Slide Showing Development RNS

## Traffic Safety Culture Research Roadmap

- Evaluation Domain Research Needs
  - Methods of evaluating organizational traffic safety culture
  - Methods of evaluating the impact of roadway investments on traffic safety culture
  - Inventory traffic safety culture strategies and develop guidance for strategy implementation
  - Building a long-term monitoring framework for benchmarking traffic safety culture progress



August 30, 2023

Figure 27. Sample Slide Showing Evaluation RNS

## Final Considerations

- As you review the TSC Roadmap, what research projects may be most important to you?



Figure 28. Sample Slide for Discussion TSC Research Gaps

PowerPoint Note: Collect any additional research project ideas not expressed already.

## Traffic Safety Culture Research Roadmap

- Research gaps and roadmap structure

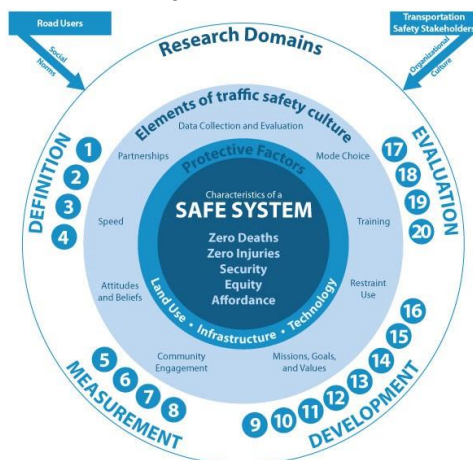


Figure 29. Sample Slide Showing TSC and Safe System Approach Figure

PowerPoint Note: Review the Safe System Approach and discuss if all team members now share a consensus on the definition of TSC.

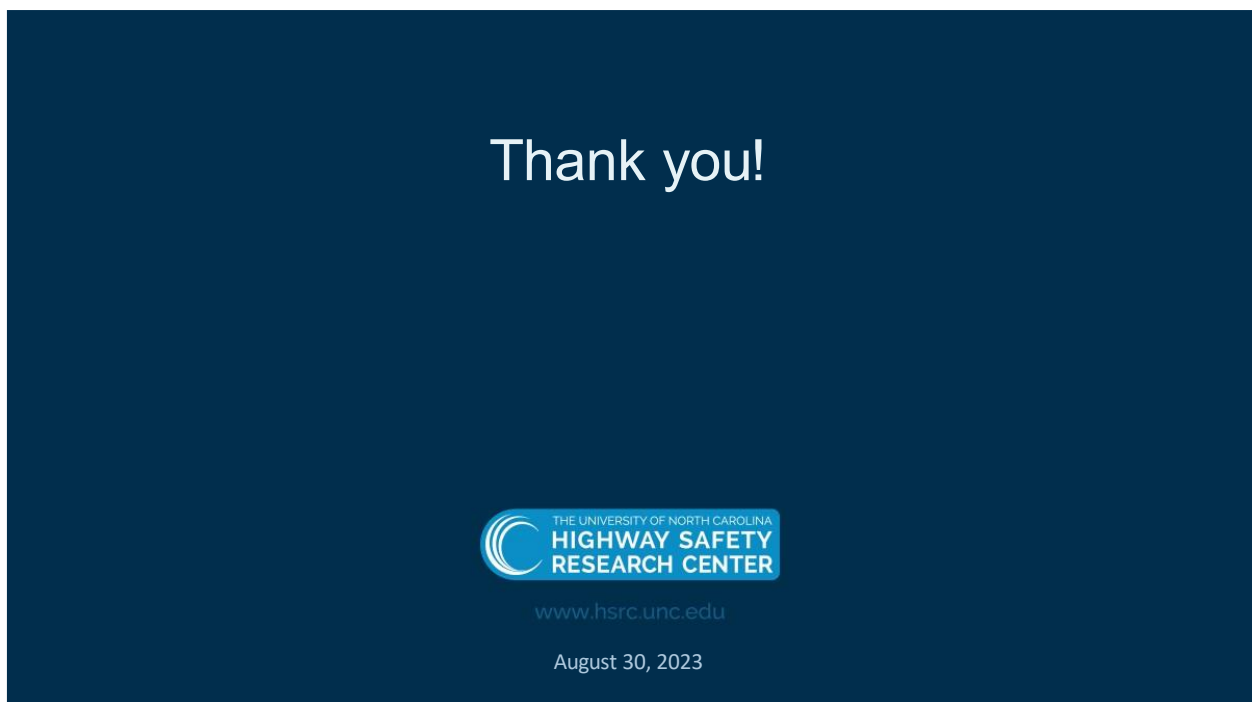
## Conclusions

- Every organization is likely at a different stage of readiness to do traffic safety culture work.
- We hope this discussion has helped you think about your organization's own state of readiness.
- We hope this review helped you think of research you may find valuable.
- We appreciate your contribution to our research!



*Figure 30. Sample Concluding Slide*

PowerPoint Note: Thank all attendees for their time and effort.



*Figure 31. Sample End Slide*