ROADWAY SYSTEMS & DRIVERS
TECHNICAL REPORT

A Safe System Guide for Transportation: Sharing this Approach to Lead Your Community to Action

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Title

A Safe System Guide for Transportation: Sharing this Approach to Lead Your Community to Action

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Foreword

The United States is taking unprecedented steps in adopting a new road safety concept, the *Safe System* approach, which promises to build on our accomplishments and provide a pathway for reaching zero crash deaths. Recognizing that this new approach will fundamentally change how we view and utilize the complete transportation system – our road infrastructure, vehicles, and users – the AAA Foundation for Traffic Safety initiated a project to develop techniques that can help communities across the nation to introduce and implement the Safe System concept and its principles.

This report, the initial effort from the AAA Foundation for Traffic Safety and its collaborators, offers recommendations for communities to effectively communicate the importance and the benefits of Safe System policies and roadway improvements. The information presented in this report will be a useful resource for local transportation safety advocates and stakeholders in both public and private sectors.

This document is a product of a cooperative agreement between the AAA Foundation for Traffic Safety and Johns Hopkins University, with support from the University of North Carolina and the Institute of Transportation Engineers.

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Introduction

The Need for Broad Public Support to Successfully Implement a Safe System

The road transportation system in the United States is both an incredible asset and among our most serious liabilities. Our 4 million miles of roads provide essential mobility, but motor vehicle crashes remain a leading cause of death for younger age groups. Many of our roads today are designed to move traffic quickly and give much less attention to other community needs such as encouraging safe driving and providing safe places for people to walk and bike. But in recent years, roadway professionals have learned how to improve roads so that drivers are less likely to make mistakes, such as speeding or driving through a stop sign, that can result in deadly crashes. These redesigned roads follow the Safe System approach that not only makes roads safer, but also makes active transportation like walking and biking easier and less stressful, resulting in a more pleasant place to live.

> **The Safe System approach uses thoughtful road and vehicle design to minimize the chance of a crash when people make mistakes and, when crashes do occur, to reduce crash forces so that people are less likely to be injured. By designing safety into roads, vehicles, and safety policies, deaths and serious injuries are engineered out.**

Communities across the nation are turning to the Safe System approach to road design as a way to eventually reduce crash deaths and injuries to zero—the goal of Vision Zero programs.

Eliminating crash deaths is possible but reaching zero will require that road users, especially those who are most vulnerable, such as pedestrians and bicyclists, are protected from the energy of fast-moving vehicles. This can be done by separating vulnerable road users from traffic—for example with protected bike lanes—and by reducing vehicle speeds where pedestrians and bicyclists share the road with vehicles. By designing safety into roads, vehicles, and safety policies, deaths and serious injuries are engineered out.

The Safe System vision is a transportation system that is designed to protect people from traffic injury, so that everyone can go about their daily activities and access opportunities such as school and jobs without fear that they or a loved one will be injured in traffic. A Safe System shares responsibility for road safety by building safety into the system rather than placing blame on road users when injuries occur.

The Safe System approach involves much more than road design. For example, to eliminate drunk driving crash deaths, a Safe System would include strong laws and

effective enforcement. But, recognizing that some drivers will still make bad decisions, vehicles would be equipped with impairment detection technology to prevent drunk drivers from getting on the road. And, because not all drunk drivers will have this technology, roads would also play a role, with features such as rumble strips that help keep everyone, including drunk drivers, in their lane.

Figure 1 illustrates a few examples of common Safe System road improvements that have been proven to significantly reduce crash injuries. These designs make safe driving easier, but the reasons for the change may not be self-apparent to residents who are accustomed to conventional methods. Providing local road users with advance information and awareness can go a long way toward garnering acceptance and preventing push-back from people who may feel that they are being inconvenienced by new road features without a clear benefit.

The U.S. is on course to fundamentally change its approach to transportation safety and break a barrier that has kept road deaths at essentially the same level for 15 years. The change involves a deliberate shift from focusing primarily on the behavior of road users for progress to looking for improvements in all parts of the system.

Following the lead of Sweden and several other nations, the U.S. began taking serious steps toward widespread adoption of the Safe System approach in 2021 with the Federal Infrastructure Investment and Jobs Act (the reauthorization of the U.S. Department of Transportation). This Act of Congress took unprecedented steps by including Vision Zero and Safe System provisions in the Federal Aid Highway Program and adding a new *Safe Streets and Roads for All* incentive grant program that offers a 5-year, $5 billion incentive to communities across the nation to develop and implement new Vision Zero goals and road safety action plans. Building a Safe System in the U.S. is a long-term commitment, and this new program will lay a strong foundation for ongoing progress through state Strategic Highway Safety Planning processes. (U.S. Department of Transportation, 2020; U.S. Department of Transportation, 2021).

__Figure 1__. Safe System Fundamentals

Safe System Principle	Proven Countermeasure	Countermeasure Description
1. **Anticipate and accommodate predictable human errors and behaviors such as lapses in diligence, perception, and attention, for example…**		**Road Diets** reduce 4-lane undivided roads to two thru lanes plus a center turning lane, calming traffic, reducing the consequences of distraction and inattention, and cutting crashes by 19%–47% (AASHTO, 2010).
		Pedestrian Hybrid Beacons increase driver awareness of pedestrians crossing mid-block or at unsignalized intersections, overcoming driver inattentiveness or distraction, and reducing pedestrian crashes by 55% (Zeeger et al., 2017).
2. **Reduce crash forces to levels that are survivable by reducing impact speeds or hanging angle of collision, for example…**		**Roundabouts** slow traffic through dangerous intersections and prevent deadly side-impacts, reducing severe crashes by 72%–82% (Harwood et al., 2017).
		Protected/Separated Bike Lanes are associated with significantly better safety for all road users. Converting traditional bicycle lanes to separated lanes with flexible delineator posts can reduce bicycle/vehicle crashes up to 53% (Marshall and Ferenchak, 2019; Dixon et al., 2023).

Need to Focus on Public Acceptance

Recognizing the urgency for demonstrating progress in implementing the Safe System approach in the near term, the AAA Foundation for Traffic Safety (AAAFTS) partnered with Johns Hopkins University, the Institute of Transportation Engineers, and the University of North Carolina to develop tools to help communities achieve success. While ongoing initiatives are providing a range of technical assistance for problem identification, planning, designing, and implementing Safe System improvements, the question of public acceptance of these new road features had not been systematically addressed. Further, reports from those who have observed Safe System implementation indicate that some communities are experiencing push-back from local residents resulting from a lack of understanding of why changes (such as fewer or narrowed lanes, roundabouts, and lower speed limits) were being implemented.

Purpose of this Guide:

Given the need for greater public understanding and acceptance for safety infrastructure and policy change, the purpose of this guide is to assist local decision makers, transportation professionals, and safety advocates in effectively communicating with the public about why Safe System policies and engineering approaches are necessary, how they work, and how they benefit everyone who uses the roads. The guide is intended for use by those implementing or advocating for Safe System improvements at the community level.

Since the Infrastructure Investment and Jobs Act has motivated the Governor's Highway Safety Office in each state to place new emphasis on public participation and engagement, users of this information may want to coordinate with that office to discuss whether local outreach regarding Safe System improvements could be coordinated or supported by the Highway Safety Office.

The advice provided in this guide is informed by the vast literature on nudging, communication campaigns, and marketing designed to change individual road users' behavior (e.g., Guttman, 2015; Plant, Irwin, and Chekaluk, 2017; Partnership for Public Service and Grant Thornton, 2020; Carroll et al., 2021).

Safe System Messaging Guidance

A Brief Introduction to Message Framing

To help shape a purposeful dialogue around the Safe System approach, this guide draws upon the concept of framing effects and framing theory (Chong and Druckman, 2007). Framing encourages a certain perspective on a topic by highlighting some aspects of it, ignoring others, or referencing the topic in a particular way. For example, in traffic safety, a message could be that "25% of drivers yielded to pedestrians at this crosswalk." This same message could have read, "75% of drivers failed to yield to pedestrians at this crosswalk." These two messages are factually the same yet framed differently. Moreover, the phrase "drivers failed to yield" could have been "drivers did not yield," which provides the same fact as the former message, but presents the fact in a distinct manner. When using "drivers failed to," readers get a sense that drivers violated a tacit responsibility to yield to pedestrians. Those drivers that simply "did not yield" could have done so for a variety of reasons, not necessarily because they were neglectful or irresponsible, but rather because they simply did not yield to pedestrians at that crosswalk.

Developing our Message Framing Recommendations

Examining the Literature

The purpose of this guide is to enhance public support for—or at least temper pushback to—Safe System policy and roadway improvements. To meet this objective, the research team began by examining the literature on message frames and how they shape public understanding of and support for policies designed to address complex social issues (e.g., childhood obesity, climate change, food waste). From this review, the team drew the following insights about why and under what conditions various policies secure public support.

Public support for robust policies tends to increase when...

> ### Policies are framed as capable of effectively addressing complex problems.

Public support for low-carbon energy policies is shaped by whether energy policies are framed as having the potential to successfully address air pollution, energy security, and human health (Feldman & Hart, 2018; Stokes & Warshaw, 2018; Dearing & Lapinski, 2020).

> ### Policies are described as broadly popular, ambitious, and publicly monitored.

Policy frames emphasizing national or international social norms in favor of reducing food waste, robust food waste reduction strategies, and reduction targets that are transparently monitored can increase public support for strong food waste policies (Fesenfeld et al., 2022).

> ### Policies describe the health consequences of the problem and emphasize the responsibility of institutions rather than individuals.

Policies designed to tackle childhood obesity and community violence elicit broader support when the health risks of obesity and violence are explained and messages focus on the role of the government, industry, and marketing sector to address these problems (Gollust et al., 2013; Sun et al., 2016; Frameworks Institute, 2023).

> ### Policy frames highlight the immediate non-economic (e.g., health, environmental) opportunities offered by policies.

Climate policies framed as benefiting public health and the environment secured more public support, especially among those unconcerned by the effects of climate change, than policy frames that emphasized the personal or local threats of climate change in the future. Economic threat or opportunity frames evinced no significant effect on public attitudes (Dasandi et al., 2022).

Conduct Focus Group Research

The research team designed focus group questions using message framing elements from the literature on social policy acceptance, and conducted a series of focus groups with safety professionals to recommend messaging that would improve the likelihood of support for Safe System implementation. Nine focus groups were convened, with an average of seven traffic safety experts per group. Four of the groups included personnel from AAA offices and the others brought together front-line safety professionals from across the nation, representing public safety, public health, safety advocacy, road authorities, and academia. Through the focus group discussions, the team discerned themes and identified ways in which communications guidance could help communities better understand how Safe System interventions work, and how these

approaches could improve local transportation safety. Moreover, the discussions provided insight as to the reasons some professionals may have for resisting change and maintaining focus on those interventions with which they were most familiar (e.g., programs that focus solely on behavior change) and not seeking to work collaboratively with others as part of a coalition pursuing Safe System implementation.

Subsequent focus group discussions with front-line safety professionals centered on perceptions of community-level knowledge and attitudes about road safety. It was clear from these focus groups, as well as the literature the team reviewed, that the transportation safety sector needs strategies for shifting the focus of messaging away from blaming individual road users and toward influencing policymakers with the authority to change policies and implement interventions that will protect road users from serious injury. This type of influence, it was discussed, could involve describing how poorly designed roads often encourage risky behavior, and by illustrating how the Safe System approach can encourage safe driving and improve the safety of all road users. These discussions also provided insight on the importance of using messaging that reflects community values and that these values depend greatly on personal experience and local community needs. There was a clear need to identify messaging that both recognizes the heavily rooted individualism in American society and accommodates the idea of shared responsibility for traffic safety that is the central to the Safe System approach.

> **The focus group discussions with AAA personnel suggested that barriers to Safe System implementation may include:**
> - Limited public awareness and understanding of key Safe System approach principles
> - A lack of political and social priority to invest in safety
> - An unwillingness to take political risks

> **The needs identified to address these barriers included:**
> - Guidance on techniques to effectively communicate the magnitude and urgency of the national road injury crisis
> - Brief, accessible explanations on how robust transportation safety policies and engineering interventions work and benefit specific communities
> - Framing of messages that would resonate with diverse audiences

Recommended Values–Solutions–Action Approach to Safe System Messaging

Both the focus groups and the literature reviewed on framing traffic safety issues illustrate a key insight: the American public's perceptions about road trauma are rooted in individualism. This focus on the traffic behaviors and choices of individuals often obscures the role that policies and environments can serve in shaping our behaviors and

decisions. Nonetheless, the recent momentum in awareness of the Safe System approach brought about by the U.S. Department of Transportation's National Roadway Safety Strategy (U.S. Department of Transportation, 2022), the rise in the number of U.S. States signed onto Toward Zero Death initiatives (Toward Zero Deaths, 2014), and spread of Vision Zero program adoption in cities, regions, and states across the country (Evenson et al., 2023) was evident in the discussions and created opportunities for productive conversations about how to foster a Safe System within and across communities. The literature review and the focus group discussions provided insight on Safe System acceptance, suggesting that effective messaging for this purpose revolves around three intertwined concepts: pro-social values, effective solutions, and practical actions.

Based on this insight, this framing guide—the **Values–Solutions–Action Framework** for safety messaging—offers the following recommendations and tips on how to frame Safe System interventions to facilitate public acceptance and support. **Figure 2** provides an overarching framework for developing pro-safety policy messaging and considerations for advancing certain message frames while avoiding others. **Tables 1A-1C** complement **Figure 2** by offering example contexts in which to apply message frames, including urban and suburban, school- and family-oriented, and rural contexts and audiences. Note that these are simply examples, message developers can apply the **Values–Solutions–Action** framework for safety messaging to a wide range of contexts and audiences. The goal of this type of messaging is to enhance public support for implementation of effective safety policies and engineering countermeasures.

Pro-Social Value Statements Related to Local Goals

Values are basic beliefs that guide norms and behavior, and research points to pro-social, or benevolent, values that show concern for the welfare of those around you as being most in line with the Safe System Approach. Consistent with the literature, the discussions of our focus groups suggest that while there are differences among communities in the role that individualism plays in defining community values, the qualities of caring and compassion for family and community can be found everywhere and provide a reliable and relatable reference point for messages about Safe System improvements. **Tables 1A–1C** illustrate several ways that these community caring qualities can be expressed in road safety messages.

Figure 2. *Values–Solutions–Action messaging framework.*

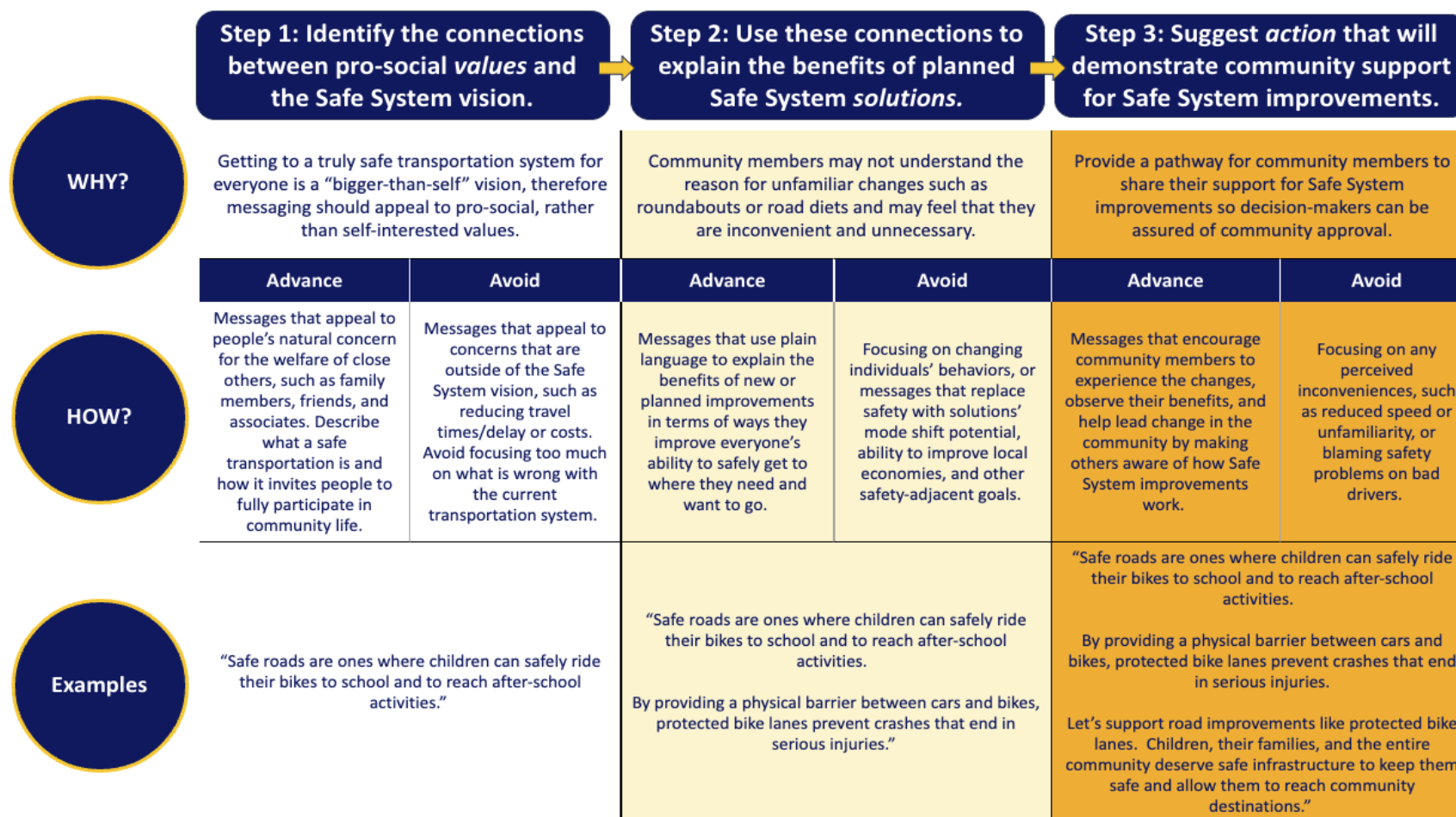|	Step 1: Identify the connections between pro-social *values* and the Safe System vision.		Step 2: Use these connections to explain the benefits of planned Safe System *solutions*.		Step 3: Suggest *action* that will demonstrate community support for Safe System improvements.	
WHY?	Getting to a truly safe transportation system for everyone is a "bigger-than-self" vision, therefore messaging should appeal to pro-social, rather than self-interested values.		Community members may not understand the reason for unfamiliar changes such as roundabouts or road diets and may feel that they are inconvenient and unnecessary.		Provide a pathway for community members to share their support for Safe System improvements so decision-makers can be assured of community approval.	
	Advance	**Avoid**	**Advance**	**Avoid**	**Advance**	**Avoid**
HOW?	Messages that appeal to people's natural concern for the welfare of close others, such as family members, friends, and associates. Describe what a safe transportation is and how it invites people to fully participate in community life.	Messages that appeal to concerns that are outside of the Safe System vision, such as reducing travel times/delay or costs. Avoid focusing too much on what is wrong with the current transportation system.	Messages that use plain language to explain the benefits of new or planned improvements in terms of ways they improve everyone's ability to safely get to where they need and want to go.	Focusing on changing individuals' behaviors, or messages that replace safety with solutions' mode shift potential, ability to improve local economies, and other safety-adjacent goals.	Messages that encourage community members to experience the changes, observe their benefits, and help lead change in the community by making others aware of how Safe System improvements work.	Focusing on any perceived inconveniences, such as reduced speed or unfamiliarity, or blaming safety problems on bad drivers.
Examples	"Safe roads are ones where children can safely ride their bikes to school and to reach after-school activities."		"Safe roads are ones where children can safely ride their bikes to school and to reach after-school activities. By providing a physical barrier between cars and bikes, protected bike lanes prevent crashes that end in serious injuries."		"Safe roads are ones where children can safely ride their bikes to school and to reach after-school activities. By providing a physical barrier between cars and bikes, protected bike lanes prevent crashes that end in serious injuries. Let's support road improvements like protected bike lanes. Children, their families, and the entire community deserve safe infrastructure to keep them safe and allow them to reach community destinations."	

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Table 1A: *Example contexts in which to apply the Value–Solution–Action messaging for Urban and Suburban audiences.*

Step 1: Identify the connections between pro-social *values* and the Safe System vision.	Step 2: Use these connections to explain the benefits of planned Safe System *solutions*.	Step 3: Suggest *action* that will demonstrate community support for Safe System improvements.
Urban and Suburban Audiences — "If the roads are designed to be safe and useful for people rather than solely to move cars quickly, our community will be a much safer and more pleasant place to live."	"If the roads are designed to be safe and useful for people rather than solely to move cars quickly, our community will be a much safer and more pleasant place to live. Road diets, which rearrange travel lanes to include a center turn lane and separated spaces for people riding bikes and scooters, can prevent rear-end, left-turn, and sideswipe crashes, making our roads safer and more pleasant to use."	"If the roads are designed to be safe and useful for people rather than solely to move cars quickly, our community will be a much safer and more pleasant place to live. Road diets, which rearrange travel lanes to include a center turn lane and separated spaces for people riding bikes and scooters, can prevent rear-end, left-turn, and sideswipe crashes, making our roads safer and more pleasant to use. Let's share with others our support for the design of safe and useful roads, ones that invite people to use them in a variety of ways, whether it be driving, walking, biking, or rolling."

A note about using photos or other imagery in your messaging: choose images that help people see not only individual choices or behaviors, but also the environmental context that provides the safe choices that are available to people.

Table 1B: *Example contexts in which to apply the Value–Solution–Action messaging for School and Family-oriented audiences.*

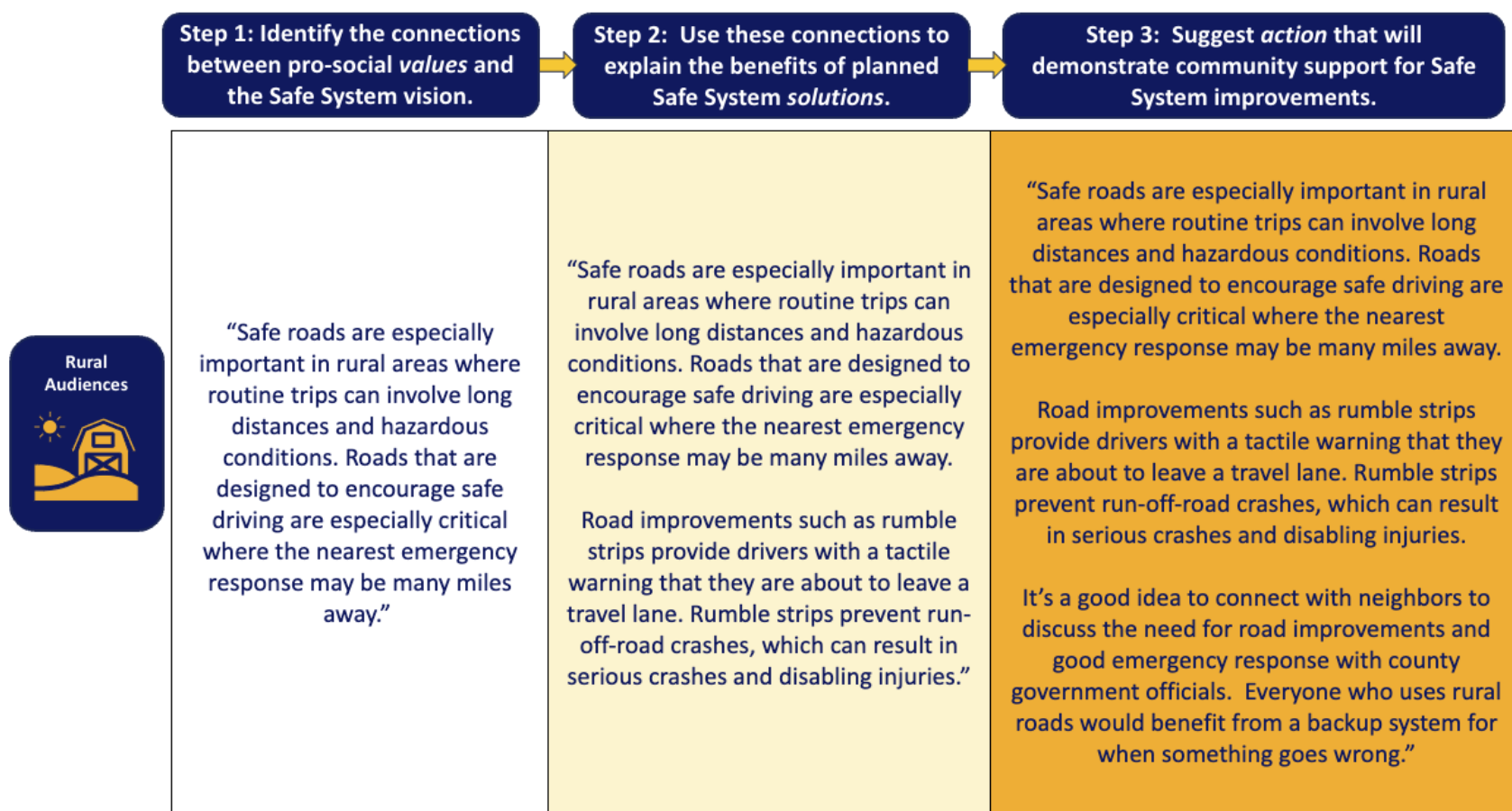| Step 1: Identify the connections between pro-social *values* and the Safe System vision.	Step 2: Use these connections to explain the benefits of planned Safe System *solutions*.	Step 3: Suggest *action* that will demonstrate community support for Safe System improvements.
School and Family-oriented Audiences — "When roads are safe for everyone, children are able to safely walk or bike to school, visit friends, or participate in local events."	"When roads are safe for everyone, children are able to safely walk or bike to school, visit friends, or participate in local events. Protected bike lanes separate people of all ages who ride bikes from fast-moving car traffic. This prevents crashes and encourages biking, which is good for everyone's health and good for the environment."	"When roads are safe for everyone, children are able to safely walk or bike to school, visit friends, or participate in local events. Protected bike lanes separate people of all ages who ride bikes from fast-moving car traffic. This prevents crashes and encourages biking, which is good for everyone's health and good for the environment. Consider talking with elected officials about the need for protected bike lanes in the community so that children and their families can be safe while riding bikes and feel like part of the community."

A note about using photos or other imagery in your messaging: choose images that help people see not only individual choices or behaviors, but also the environmental context that provides the safe choices that are available to people.

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Table 1C: *Example contexts in which to apply the Value–Solution–Action messaging for Rural audiences.*

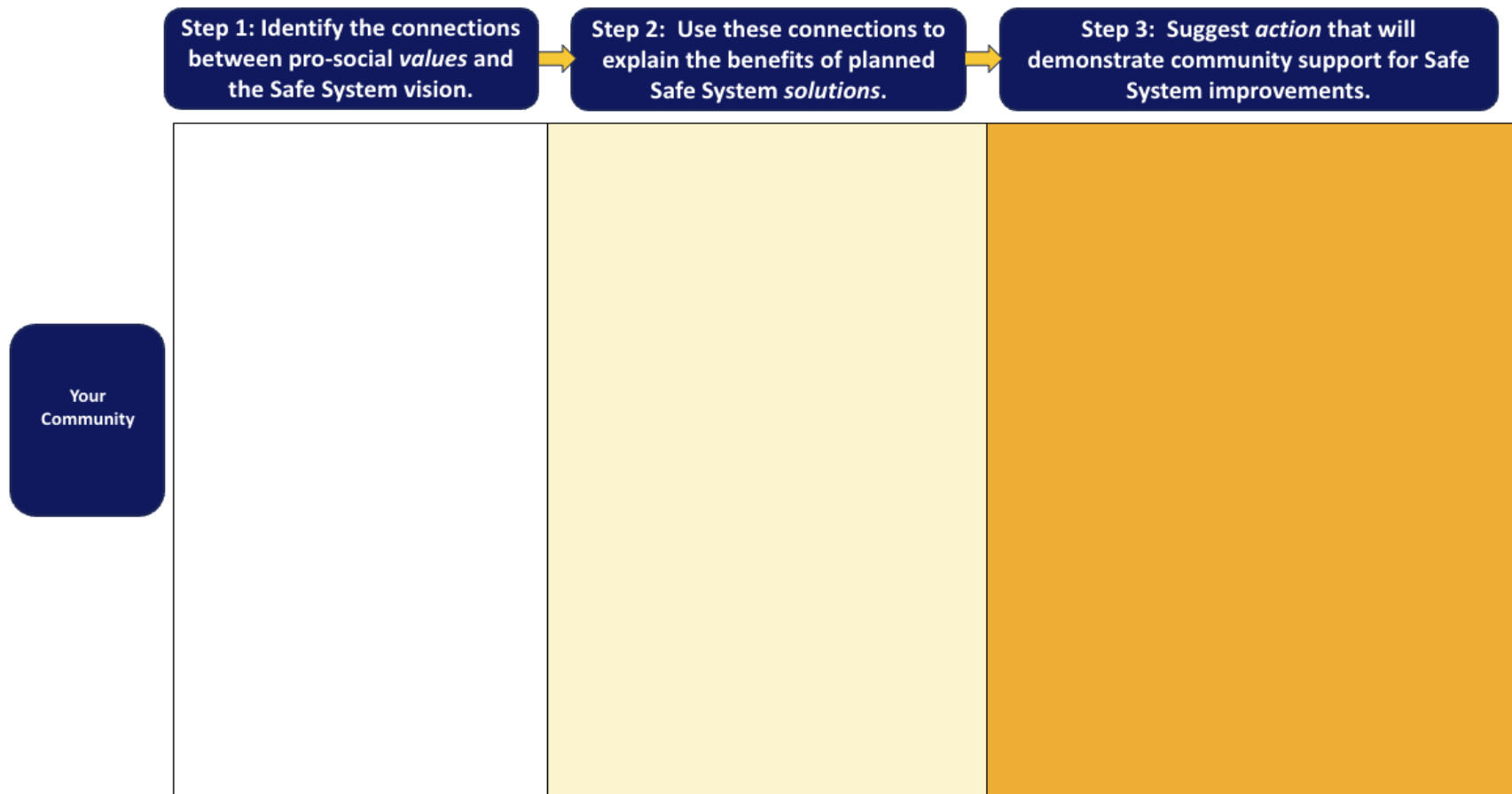| Step 1: Identify the connections between pro-social *values* and the Safe System vision.	Step 2: Use these connections to explain the benefits of planned Safe System *solutions*.	Step 3: Suggest *action* that will demonstrate community support for Safe System improvements.
Rural Audiences — "Safe roads are especially important in rural areas where routine trips can involve long distances and hazardous conditions. Roads that are designed to encourage safe driving are especially critical where the nearest emergency response may be many miles away."	"Safe roads are especially important in rural areas where routine trips can involve long distances and hazardous conditions. Roads that are designed to encourage safe driving are especially critical where the nearest emergency response may be many miles away. Road improvements such as rumble strips provide drivers with a tactile warning that they are about to leave a travel lane. Rumble strips prevent run-off-road crashes, which can result in serious crashes and disabling injuries."	"Safe roads are especially important in rural areas where routine trips can involve long distances and hazardous conditions. Roads that are designed to encourage safe driving are especially critical where the nearest emergency response may be many miles away. Road improvements such as rumble strips provide drivers with a tactile warning that they are about to leave a travel lane. Rumble strips prevent run-off-road crashes, which can result in serious crashes and disabling injuries. It's a good idea to connect with neighbors to discuss the need for road improvements and good emergency response with county government officials. Everyone who uses rural roads would benefit from a backup system for when something goes wrong."

A note about using photos or other imagery in your messaging: choose images that help people see not only individual choices or behaviors, but also the environmental context that provides the safe choices that are available to people.

Table 1D: *Sample Table for framing messages using the Value–Solution–Action messaging framework.*

	Step 1: Identify the connections between pro-social *values* and the Safe System vision.	Step 2: Use these connections to explain the benefits of planned Safe System *solutions*.	Step 3: Suggest *action* that will demonstrate community support for Safe System improvements.
Your Community			

A note about using photos or other imagery in your messaging: choose images that help people see not only individual choices or behaviors, but also the environmental context that provides the safe choices that are available to people.

Below are some examples on how stakeholders can communicate about engineering and policy countermeasures:

Roundabouts

"Replacing traffic lights with roundabouts can reduce deadly traffic injuries by 90% by reducing the speed of vehicles entering the intersection and changing the angles at which any crashes may occur, avoiding deadly side-impacts" (Hu et al., 2014; Harwood et al., 2017).

Road Diets

"Rearranging travel lanes on a road to include a center turn lane and providing separated spaces for people riding bikes and e-scooters can enable people to cross only one lane of traffic at a time, prevent rear-end, left-turn, and sideswipe crashes, and reduce injuries by up to 50%" (U.S. Department of Transportation, Federal Highway Administration, 2014).
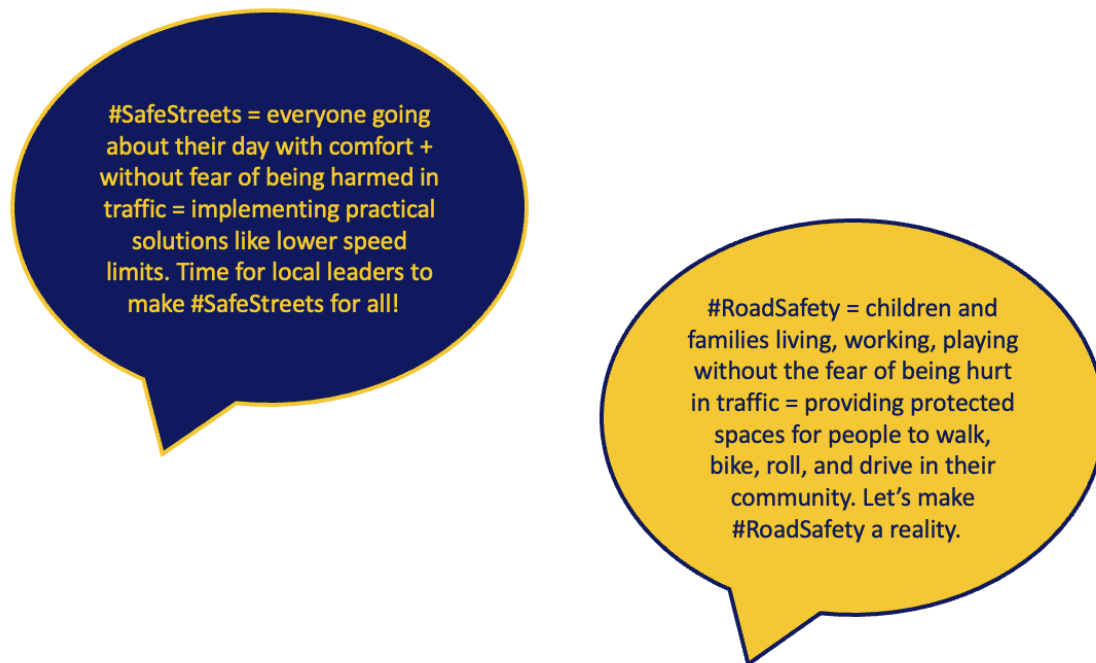
Leading Pedestrian Intervals

"Leading pedestrian intervals (or LPIs) give people who are crossing at intersections a few seconds head start prior to drivers getting a green light. This makes the person crossing more visible, especially for drivers who are turning, and can reduce life-altering crashes by 60%" (Fayish & Gross, 2010).

Speed Safety Cameras

"Speed safety cameras use technology to detect speeding in certain locations, such as in school zones. These safety cameras ensure more drivers slow down when they are in areas with especially vulnerable populations, like children or older adults, and can reduce life-altering road injuries by 35%" (Li et al., 2020).

Examples of social media communications:

#SafeStreets = everyone going about their day with comfort + without fear of being harmed in traffic = implementing practical solutions like lower speed limits. Time for local leaders to make #SafeStreets for all!

#RoadSafety = children and families living, working, playing without the fear of being hurt in traffic = providing protected spaces for people to walk, bike, roll, and drive in their community. Let's make #RoadSafety a reality.

Technical Research Conducted to Inform Guidance for Communicating with the Community about Safe System Transportation Improvements

Rationale for Focus Group Research

To apply messaging principles to the implementation of the Safe System approach, the project team needed further insight on perceptions and attitudes toward road safety and specific knowledge of Safe System interventions, both from the general public and from the front-line safety professionals who routinely communicate with community members about road safety. These front-line safety professionals such as public safety and public health practitioners, safety advocates, and local road authorities were the target of this research because they could not only discuss their own knowledge and perceptions but could also describe the views of community members with whom they interact. Focus group research was determined to be an effective means for gathering such information.

Methods

Subjects and Data Collection

This study involved nine focus groups with AAA personnel and community transportation safety professionals using the video-based platform, Zoom. The first group was composed of individuals from the AAA National Office. This group followed the discussion guide in **Appendix 1** and focused on perceptions of the level of familiarity and engagement of AAA Club personnel with Safe System theory and implementation. The next three groups were composed of AAA Club personnel (one group each from the Auto Club Enterprises, Auto Club Group, and Auto Club Alliance) and focused on perceptions of the level of Safe System knowledge and experience in the communities with whom they typically interact in their Club business. The discussion guide in **Appendix 2** was used for these groups. Together, these four AAA groups provided a range of insights about the understanding and implementation of Safe System principles at the community level. These discussions pointed to several key attributes of Safe Systems that were viewed to be points of sensitivity at the community level. These attributes included: the acceptability of traffic deaths; where responsibility should be focused for crashes deaths, and injuries; and the degree to which individual action can influence community safety and quality of life.

The remaining five groups were composed of front-line community safety professionals. Most of these participants (29 of the total 32 participants in these groups) were recommended by AAA Club personnel and contacted by project staff. The discussion guide in **Appendix 3** was used for the first three of these groups and the discussion guide in **Appendix 4** was used for the final two. Discussions in the first three groups of community safety professionals focused on reactions to short statements that related to the key Safe System attributes listed above. Discussion in the final two groups focused on reactions to combinations of the message points from the previous three groups.

Together, the nine focus groups varied between three and eight participants, with an average of six per group. Overall, 52 subjects participated in focus groups. All focus groups occurred between March 21 and May 24, 2023. All focus groups used the same facilitator and moderator. The moderator alternated between asking all participants to respond and hearing voluntary responses to minimize dominance of a few. All focus groups lasted about 60 minutes and were audio-recorded and digitally transcribed.

Data Analysis

 Focus group data were stored and managed by the project team using Microsoft Word. For the first four focus groups, the intent was to inform messaging content to address the barriers and needs of Safe System implementation. Content analysis (Sandelowski, 2000) was used to address this aim, and the barriers (or problems) and needs of Safe System messaging mentioned by the participants were organized into content lists. The subsequent five focus groups responded to messages that were informed by the identified problems and needs. The project team used a codebook thematic analysis approach (Braun & Clarke, 2021) to gain insight into effective Safe System messaging from these expert panels. The authors read all transcripts for immersion and hand coded individual participant comments. These codes were shared and discussed among the research and project team, and the data were organized into tables for visual and contextual interpretation and for initial theme and sub-theme pattern identification. From there, the team developed umbrella themes to describe the patterns observed across the five focus groups, and refinement of these themes occurred through an iterative process of sharing and discussion among the project team and a member check procedure.

Results

 Content analysis of the AAA national and club personnel focus groups (the first four groups) resulted in the identification of five problems and four needs associated with advancing Safe System interventions (shown in **Table 2**).

Table 2. Problems and needs associated with advancing Safe System interventions.

Problems
• Limited knowledge about what a Safe System is and how to push for change
• Skepticism about the staying power of the Safe System approach and whether it truly represents of a new paradigm
• Professionals not seeing the value of working across disciplines, instead preferring to focus on their circumscribed area of expertise
• Lack of social and political priority to invest in safety
• Insufficient resources, such as skills and money, to marshal toward implementing Safe Systems

Needs
• Brief accessible explanations of the road injury crisis and how Safe System interventions and policies work and benefit communities
• Messaging that concentrates less on individual road user responsibility and more on how Safe System interventions and policies can protect road users from serious injury
• Equipping Safe System champions with practical, turnkey guidance on how to discuss Safe System interventions and policies
• Framing Safe System interventions in ways that resonate with diverse audiences

Using thematic analysis, the authors identified five themes from the messaging content focus group data to inform effective Safe System messaging:

1 Resonating values depend on personal experience and community needs

2 Importance of showing the impact of the problem and the solution

3 Need for a shift from blame to positive behavioral language

4 Create a shared partnership between the values of individuality and shared responsibility

5 Need to focus on what can be done: practical progress

Resonating Values Depend on Personal Experience and Community Needs

There was consensus among participants that messages need to use strategies tailored for specific problems and situations. The diversity of participant experiences and views suggest that a single message is unlikely to convince all communities across the country to adopt Safe System approaches. A phrase that reflects a goal in one geographic location (e.g., improving local air quality) may spark a defensive position in another location. Messages need to define the audience and be authentic for that community.

> *I mean, we could focus on anything. And I don't know if there's any one right answer. But I think if you are structuring this, based on proven solutions that could work in people's communities, that might be a more compelling argument as opposed to theory. — Participant 142*

> *Different parts of America are going to react to this very differently… bringing up roundabouts and introducing air-quality and non-safety motivations. — Participant 131*

> *I feel like it would be easier to use messages built around the mechanics that you outlined here. Especially if it is in regard to a particular counter measure and a particular place. — Participant 132*

When I hear that you're going to make my community safe, I think that's a little broad. Because there are fears that we have moving about our communities today that have nothing to do with roadways.
— Participant 134

Importance of Showing the Impact of the Problem and the Solution

Broad statements were not well received by the groups, and while statements of reaching "full potential" resonated with some participants, this approach seemed overreaching to many. There was also a need to describe how the safety problem affects people—or how a Safe System solution helps people—in ways that are inclusive and relate to a wide audience. Economic impact seemed universally accepted, but other benefits such as protecting families and improving air quality meant more to some than to others. Examples of the impact of safety problems and solutions need to be tuned to the values of the audience.

I feel like we are missing the definition of the problem, like, why people should care about this? — Participant 135

It's also a trend with just cars getting larger and larger… And so, I think, as many of us know, that there are increased risks with driving a lot larger vehicles. — Participant 112

I think that if we help people see and understand that not having safe mobility impacts various access aspects of their lives, that could be really helpful. — Participant 212

But none of the messages that we've seen so far speak to more practical economic factors. How much do you pay extra [for] insurance because crash rates have gone up, or what is the cost of repairing a car?… But that may be another aspect that might be worth bringing into the mix, just for folks who it doesn't speak to them or doesn't resonate with them to just talk about safety as a concept. — Participant 131

There is a lot of money that we could be using to improve our infrastructure, to improve our public transportation, to improve all these things that we know would improve people's quality of life and allow them to actually move around safely. — Participant 213

What are the costs of crashes in dollar figures, and if you could prevent those DUI crashes from occurring in the first place, you would actually be saving the county money by avoiding those crashes that would have

*occurred. So, there are cost saving is some ways, but sometimes it takes
that initial investment first. — Participant 222*

Need for a Shift from Blame to Positive Behavior Language

While there was agreement that distraction, impaired driving, and lack of seat belt use are major causes of roadway crashes and deaths, these groups expressed a need to move away from blame messages that distract from solutions and, in some cases, cause outright dismissal. Positive behavior language was well received, including providing clear roles for all those responsible for creating a Safe System for roadways.

> *I don't care for that either [putting blame on individual behavior]. I feel like it's quite preachy and very cold, like people need to take responsibility. I don't know. That's just off-putting, I think.
> — Participant 134*

> *I was going to say, if the intent is to single out the driver, I would recommend, you know, trying to use more positive oriented language, instead of "put down their cell phones." — Participant 132*

> *They [repeat offenders of impaired driving] are a tiny sliver of all the drivers in California out there, less than 2%, but they are responsible for over half of all the crashes. — Participant 222*

> *The majority of our crashes, our fatalities, would plummet overnight if we could get every driver to make smart decisions. — Participant 223*

> *Don't just throw up your hands and say, because I've heard people say, "You can't fix stupid" and things like that. No, we can do better. We can design the roads better. We can all do things better and account for the fact that there are going to be bad decisions made on the roadway. We know that is going to happen, so what can we do to try and prevent deaths and serious injuries being the outcomes of those bad decisions.
> — Participant 224*

Create a Partnership between the Value of Individualism and Shared Responsibility

Participants observed that safety needs to be a shared responsibility, and that sharing responsibility may require concessions in self-interest or individualism. But these groups expressed optimism that Safe System could create a partnership between the value of individualism and shared responsibility. If an individual can see their behavior as part of the Safe System solution in coordination with policy and environmental changes, concessions of self-interest may be more feasible.

It's finding common ground to bring everybody together to understand that it's a cumulative problem for everybody to solve. — Participant 113

Individualism is like the word that keeps coming to my brain, like, "I only care about me right now, right here, and nothing else matters. And it's not my problem that somebody else's problem to fix that, to do this, or to take care of this." — Participant 114

I think to me it speaks to the collective. The sense of your responsibility is part of a collective outcome. In other words, if individuals aren't committed to the collective safety, that is a concept that some people figure out, and then some people are in through the school of Hard Knocks, and some people never get there. — Participant 225

For the safe systems to be implemented there's going to be some inconvenience, particularly in a city when construction is being done, and all of that...There is good going to come out of this temporary inconvenience. — Participant 221

So, it goes back to 'we each need to do our part in order for all of us to be safe and free from harm'. — Participant 223

You know, it gets people to kind of think about, what can they do? What's their role in there? — Participant 138

It seems to me this comes through more with the message of shared responsibility, and I like that balance [in the message] where you're talking about design. But you're also talking about driver responsibility as well as other modes of transportation. — Participant 143

Need to Focus on What Can Be Done: Practical Progress

The groups acknowledged that humans make mistakes and that certain behaviors, such as speeding and distraction, are hard to change. To make significant progress, participants agreed that we should not limit our focus to changing behaviors, and that the Safe System approach could provide layers of protection that could prevent human error (intentional or unintentional) from resulting in injury. Participants also observed that vehicle design (e.g., reducing vehicle size and weight) and road design (e.g., designing for lower speeds) could compensate for these predictable human errors.

But I do think that we all know changing people's behavior is harder than changing the environment. So, if we do focus a bit stronger on changing the environment, we might actually make some bigger inroads. — Participant 144

There's a lot of money to be spent, because there's changes in need to be made at every level, right? I mean, from everything from infrastructure to marketing, to more crosswalks...So, we have to spend a lot of money. The question is, where do we spend it? And what improvements specifically? Participant 214

Maybe talk about how, by eliminating the most dangerous angle, crashes, slowing the speed at which crashes might occur, and those kinds of things, to sort of highlight the multitude of benefits that this combination of infrastructure adjustments offer. So, it's kind of an efficient and more effective use of infrastructure counter measures than asking the audience for this message just to assume that there's something magical about that's going to save lives. — Participant 132

Key Observations

In addition to the themes described above, the researchers observed a crosscutting principle that appeared throughout the group discussions. Many of the comments from these front-line safety professionals suggested that the objective of messages about the Safe System approach differs from the more familiar purpose of traffic safety messaging.

While messages targeting individual traffic behavior have frequently been deterrence-based and often found to be effective over a wide range of demographics, messages seeking increased tolerance of—or support for—Safe System implementation are likely to be much more sensitive to local expressions of pro-social values. The focus group research reported here found significant variability among individuals regarding key attributes such as views on whether road users or system designers should be more responsible for reducing crashes.

The implication is that messaging designed to build support for Safe System approaches may need to be more variable across communities than conventional safety messages to account for differences in community goals that relate to pro-social values. For example, a community with elementary schools may focus on protecting children, whereas a retirement community may focus on protecting older adults. A community with a strong bicycling culture may explain new bike lanes as a plus for bike riders, while a location where biking is not yet as common may point to their benefits to community air quality and noise reduction. Some communities may seek to address racial or income-based inequities in the provision of safe infrastructure. Adding to this need to meet people where they are, is the urgency behind this messaging challenge—our window for building support is limited. The current momentum behind Safe System is not likely to continue if public pushback delays or prevents widespread adoption.

> **Messages about the Safe System approach are not attempting to change an individual's traffic behaviors, such as speeding or drunk driving, but rather to increase individual tolerance of changes to their environment that may be unfamiliar or even inconvenient. The motivation for individual support for Safe System is more about community benefit than personal gain.**

Consistent with this need for a flexible approach, this message framing guide draws upon insights from a literature review on how framing shapes public support for policy change. This guide also offers insights from focus group discussions on how to advance a Values–Solutions–Action framework for safety message development. By tuning these principles to meet local values, Safe System advocates can develop a

relevant and compelling message that describes the benefits of investing in a safe transportation system, and communities can begin realizing a future without serious and fatal injuries on our roadways.

Companion Research and Guidance

To complement this report and support further guidance on Safe System implementation, the AAAFTS team is studying the experience of state, county, and city road departments in collaborating with community professionals to implement Safe System improvements. This research will include an analysis of how road departments that have been successful in implementing Safe Systems have engaged with a range of community stakeholders including front-line safety providers.

The purpose of this further research is to provide new insight and examples of success that can be useful to state, county, and city road departments as they get started with Safe System implementation. In recent years, these road authorities have received unprecedented technical and financial support to incentivize and facilitate Safe System implementation. However, implementing Safe System improvements is quite different than conventional safety strategies and interventions. Successful Safe System development requires new—and sometimes challenging—collaboration among stakeholders ranging from political leaders to public safety and public health officials. Since funding for Safe System implementation often comes through departments of transportation or metropolitan planning organizations, these road authorities can find themselves in a leadership role in establishing these partnerships and in need for guidance, lessons learned, and models for success.

Appendix 1. Focus Group Questions for AAA, Inc. Staff

Question Purpose	Question
Opening	What does the term "Safe System" mean to you?
Perception of understanding of others in AAA	What do you think "Safe System" means to the AAA Clubs you work with?
Suggestions for improving understanding	How do you think we can help the AAA clubs better understand what the Safe System approach is and how it works?
Perception of interest among clubs	What is your read of the clubs' interest in assisting communities to adopt the Safe System approach to safety?
Interpretation of feedback from clubs	What have you heard from clubs that might prevent community adoption of a Safe System approach?
Summary	Of all the things we discussed, what, to you, is the most important for improving road user safety?
Closing	Have we missed anything?

Appendix 2. Focus Group Questions for AAA Club Personnel

Question Purpose	Question
Opening	What does the term "Safe System" mean to you?
Perception of understanding of others in AAA	What do you think "Safe System" means to the communities you work with?
Suggestions for improving understanding	What role, if any, do you see yourself playing in helping communities create a Safe System for all road users?
Perception of barriers	What roadblocks or barriers might be in the way of community adoption of a Safe System?
Recommendations for communities for focus group participants	From your perspective, which communities should we engage with in a focus group to learn more about their views on the Safe System and road user safety?
Summary	Of all the things we discussed, what, to you, is the most important for improving road user safety?
Closing	Have we missed anything?

Appendix 3. Focus group guide for first three groups of Community Safety Professionals

Question Purpose	Question
Opening	What does the term "Safe System" mean to you?
Initiation of subject matter discussion.	▪ Who do you think is most responsible for keeping road users safe? ▪ Death and serious injuries on our roads have been on an upward trend in recent years. Why do you think that is?
Request for reactions to and implications of the following statements.	▪ Deaths and serious injuries on our roads are unacceptable. ▪ Death and serious injuries are preventable. ▪ We want to live in a society where people can live to their full potential. ▪ We don't have to spend a lot of money to improve road safety. ▪ We all benefit from making roads safer.
Optional Follow Up Statements A	▪ Policymakers must prioritize safety by investing in common sense approaches like these: speed safety cameras or automate enforcement, narrowing the roadway, road diets. ▪ We need a system that offers layers of protection for road users.
Optional Follow Up Statements B	▪ We want to live in a society where people are safe and free from harm. ▪ What do you think might be preventing communities from improving road safety?
Closing	What else would you add?

Appendix 4. Focus group guide for final two groups of Community Safety Professionals

Question Purpose	Question
Opening	What does the term "Safe System" mean to you?
Initiation of subject matter discussion.	▪ Who do you think is most responsible for keeping road users safe? ▪ Death and serious injuries on our roads have been on an upward trend in recent years. Why do you think that is?
Request for reactions to and implications of the following statements.	**Statement Set A** ▪ With more than 2.5 million people (more than the population of the state of New Mexico) seriously hurt and 40,000 killed on our roads each year, serious traffic crashes keep so many of our friends, family, coworkers, and neighbors from living to their full potential. ▪ We need cars and roads that are designed to encourage safe driving—safe speeds and full attention on the road. ▪ I can make a difference if I lead by example. My safe driving can influence my family and my community. **Statement Set B** ▪ Road safety is about children and families know they can live, work, play, learn, pray, and grow without the fear of being harmed while traveling from place to place. ▪ Some cities in the U.S. and in other countries have shown how roads and streets can be safer by investing in proven strategies that protect people as they walk, bike, roll, or drive in their communities. For example, replacing traffic lights at intersections with roundabouts can reduce disabling traffic injury by up to 90% while improving local air quality. ▪ I can make a difference if I lead by example. My safe driving can influence my family and my community. **Statement Set C** ▪ When a community is safe, everyone can go about their daily activities and access opportunities with comfort and without the fear, threat, or reality of being harmed while they travel from place to place. ▪ We need cars and roads that are designed to encourage safe driving—safe speeds and full attention on the road. ▪ We need to speak up about road safety, electing leaders who will improve road safety for everyone, and using our consumer power to design cars that are not only safe for drivers but are also less likely to hurt pedestrians.

Statement Set D

- Road safety is about children and families knowing they can live, work, play, learn, pray, and grow without the fear of being harmed while traveling from place to place.
- The primary focus for improving road safety should be on drivers. People need to take responsibility for their behavior, put down their cell phones, obey speed limits, and stop driving after drinking.
- We need safer roads, and we should have high expectations from those who build and maintain our roads, those who manufacture our cars, and those who enforce our traffic rules.

Closing	What else would you add?

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