Safety and Security Guidance

The following guidance provides an overview of the Safe System Approach and FHWA's Proven Safety Countermeasures Initiative, including resources to identify appropriate countermeasures.

Introduction

Safety impacts every aspect of the transportation system, covering all modes and encompassing a variety of areas from facility design to security to personal behavior. While there have been many recent technological advances to improve safety on a variety of fronts, our region is unfortunately currently experiencing a traffic safety crisis. Roadway deaths have risen sharply over the past decade, and an increasing number of those killed are people walking or riding a bike – our most vulnerable travelers.

Acknowledging this crisis, safety is one of the key policy focus areas addressed throughout PSRC's Regional Transportation Plan (RTP) adopted in 2022. A policy to support and achieve the state's long-term goal of zero deaths and serious injuries is also included in VISION 2050, the region's overarching policy framework:

- MPP T-4: Improve the safety of the transportation system and, in the long term, achieve the state's goal of zero deaths and serious injuries.

In addition, safety is an important component of the criteria used to evaluate projects competing in PSRC's project selection process. In 2024, PSRC's boards strengthened this criterion and has asked for a commitment to be made by all agencies to continue on the path of a Safe System Approach, which is summarized below.

Safe System Approach

A key action item identified in the current RTP calls for continued prioritization of safe infrastructure and separation of modes in project development. To help achieve this, PSRC is directed to foster a regional culture of safety through increased awareness and a focus on the Safe System Approach to protect vulnerable roadway users.

USDOT's Safe System Approach focuses on eliminating fatal and serious injuries for all road users. The Safe System Approach acknowledges the fact that people make mistakes and emphasizes human vulnerability to the forces that occur during a crash. Given this, shared transportation infrastructure should be proactively designed and managed to prevent fatal and serious injury crashes from occurring, and minimize the physical harm caused when mistakes are made and/or crashes occur.

Six principles form the basis of the Safe System Approach:

- Death and Serious Injuries are Unacceptable
- Humans Make Mistakes

- Human are Vulnerable

- Responsibility is Shared

- Safety is proactive

- Redundancy is Crucial

There are also five complimentary elements that address every aspect of crash risk in order to create multiple layers of redundancy to prevent fatalities and serious injuries:

- Safer People – the safety of all road users is addressed, regardless of the mode of travel

- Safer Vehicles – vehicles are designed to minimize the frequency and severity of collisions

- Safer Speeds – reducing speeds reduces impact forces, provides more reaction time, and improves visibility

- Safer Roads – transportation infrastructure can be designed to accommodate mistakes and our limited injury tolerances by separating people traveling at different speeds in space and time

- Post-Crash Care – ensuring first responders can get to injured people for treatment efficiently, as well as minimizing traffic impacts after crashes occur

When these elements are incorporated in all decision-making processes, from policy to design decisions, our shared transportation system can become safer for all users.

Proven Safety Countermeasures

The most relevant of the five Safe System Approach elements for PSRC's FHWA project selection processes are Safer Roads and Safer Speeds. These elements focus

on reducing fatal and serious injuries by designing transportation infrastructure to lessen impact forces and separate users in space and time. Each project submitted for FHWA funding represents an opportunity to ensure that these elements are considered as much as possible to make it safer for motorists, pedestrians, bicyclists, and all other users.

To encourage inclusion of project features that are known to minimize the instances and severity of crashes, FHWA has started the [Proven Safety Countermeasures (PSC) Initiative](). It is a collection of 28 (and counting) countermeasures and strategies that have been demonstrated to be effective in reducing fatal and serious injury crashes. There are relevant countermeasures for each category of road user and roadway context from rural to urban.

The countermeasures are grouped into focus areas – Speed Management, Pedestrian/Bicyclist, Roadway Departure, and Intersections - with each countermeasure addressing at least one of these focus areas. The list also includes crosscutting strategies that address multiple safety focus areas. Project sponsors are encouraged to incorporate one or more of these countermeasures and strategies as part of their project planning and development, depending on the specific context and needs.

Safe System Roadway Design Hierarchy

To assist project sponsors with identifying the most relevant countermeasures and strategies to deploy, FHWA released the *[Safe System Roadway Design Hierarchy]()* in January 2024. This tool characterizes various treatments relative to their alignment with the Safe System Approach. It includes four tiers that are arranged by how much they align with the Safe System Approach:

- Tier 1 – Remove Severe Conflicts – this involves separating road users moving at different speeds or different directions in space to minimize conflicts with other road users.

- Tier 2 – Reduce Vehicle Speeds – this involves incorporating design features and speed management strategies to reduce the kinetic energy involved when a crash occurs.

- Tier 3 – Manage Conflicts in Time – this assumes that road users will need to occupy the same physical space but creates a safer environment by separating them in time using traffic control devices.

- Tier 4 – Increase Attentiveness and Awareness – this involves alerting road users to certain types of conflicts so crashes can be avoided.

The hierarchy includes a table that shows how FHWA's Proven Safety Countermeasures align with each of the four tiers.