

THE SAFE SYSTEM

APPROACH

Zero is our goal. A Safe System is how we will get there.

Imagine a world where nobody has to die from vehicle crashes. The Safe System approach aims to eliminate fatal & serious injuries for all road users. It does so through a holistic view of the road system that first anticipates human mistakes and second keeps impact energy on the human body at tolerable levels. Safety is an ethical imperative of the designers and owners of the transportation system. Here's what you need to know to bring the Safe System approach to your community.



SAFE SYSTEM PRINCIPLES



Death/Serious Injury is Unacceptable

While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.



Humans Make Mistakes

People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.



Humans Are Vulnerable

People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.



Responsibility is Shared

All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.



Safety is Proactive

Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.



Redundancy is Crucial

Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.



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Safe Roads for a Safer Future
Investment in roadway safety saves lives

SAFE SYSTEM ELEMENTS

Making a commitment to zero deaths means addressing every aspect of crash risks through the five elements of a Safe System, shown below. These layers of protection and shared responsibility promote a holistic approach to safety across the entire transportation system. The key focus of the Safe System approach is to reduce death and serious injuries through design that accommodates human mistakes and injury tolerances.



Safe Road Users

The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.



Safe Vehicles

Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.



Safe Speeds

Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.



Safe Roads

Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.



Post-Crash Care

When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.

THE SAFE SYSTEM APPROACH VS. TRADITIONAL ROAD SAFETY PRACTICES

Traditional

- | | | |
|------------------------------|---|--|
| Prevent crashes | → | Prevent deaths and serious injuries |
| Improve human behavior | → | Design for human mistakes/limitations |
| Control speeding | → | Reduce system kinetic energy |
| Individuals are responsible | → | Share responsibility |
| React based on crash history | → | Proactively identify and address risks |

Safe System

Whereas traditional road safety strives to modify human behavior and prevent all crashes, the Safe System approach also refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives.

WHERE ARE
YOU ON THE
SAFE SYSTEM
JOURNEY?

Implementing the Safe System approach is our shared responsibility, and we all have a role. It requires shifting how we think about transportation safety and how we prioritize our transportation investments. Consider applying a Safe System lens to upcoming projects and plans in your community: put safety at the forefront and design to accommodate human mistakes and injury tolerances. Visit safety.fhwa.dot.gov/zerodeaths to learn more.