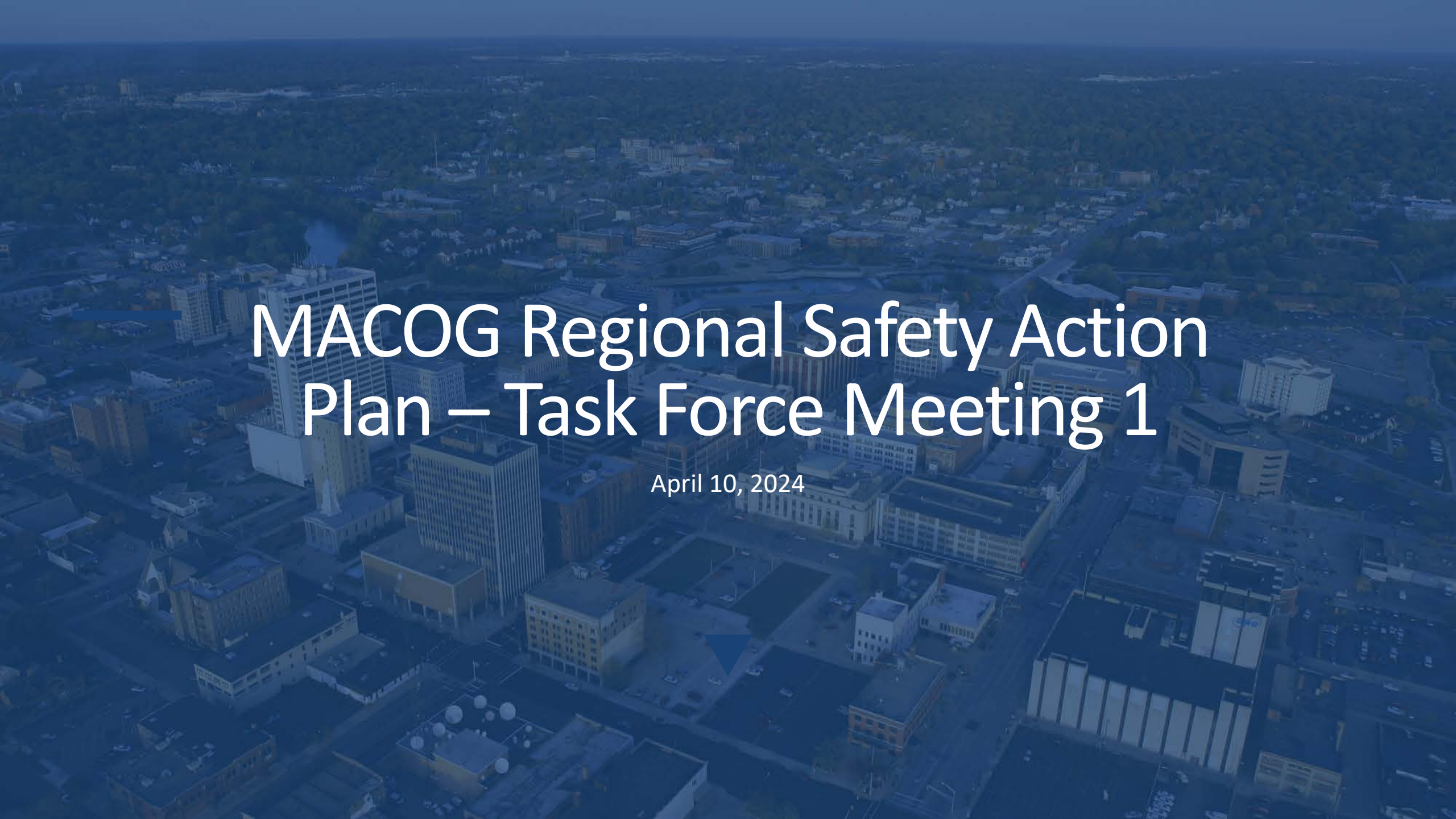


An aerial photograph of a city, likely Chicago, with a blue overlay. The image shows a dense urban area with various buildings, including a prominent tall skyscraper on the left. A small blue triangle points downwards in the lower center of the image.

MACOG Regional Safety Action Plan – Task Force Meeting 1

April 10, 2024

Hello!

Wi-Fi

Username: MishPublic

Password: Pr1nce\$\$C1ty

Why are we here?



Our Current Reality

Traffic fatalities are a public health crisis *affecting all road users*.

1.3M

Lives lost globally each year from traffic crashes

Source: [UN Decade of Action for Road Safety 2021-2030](#)

40,990

Lives lost on US roads in 2023

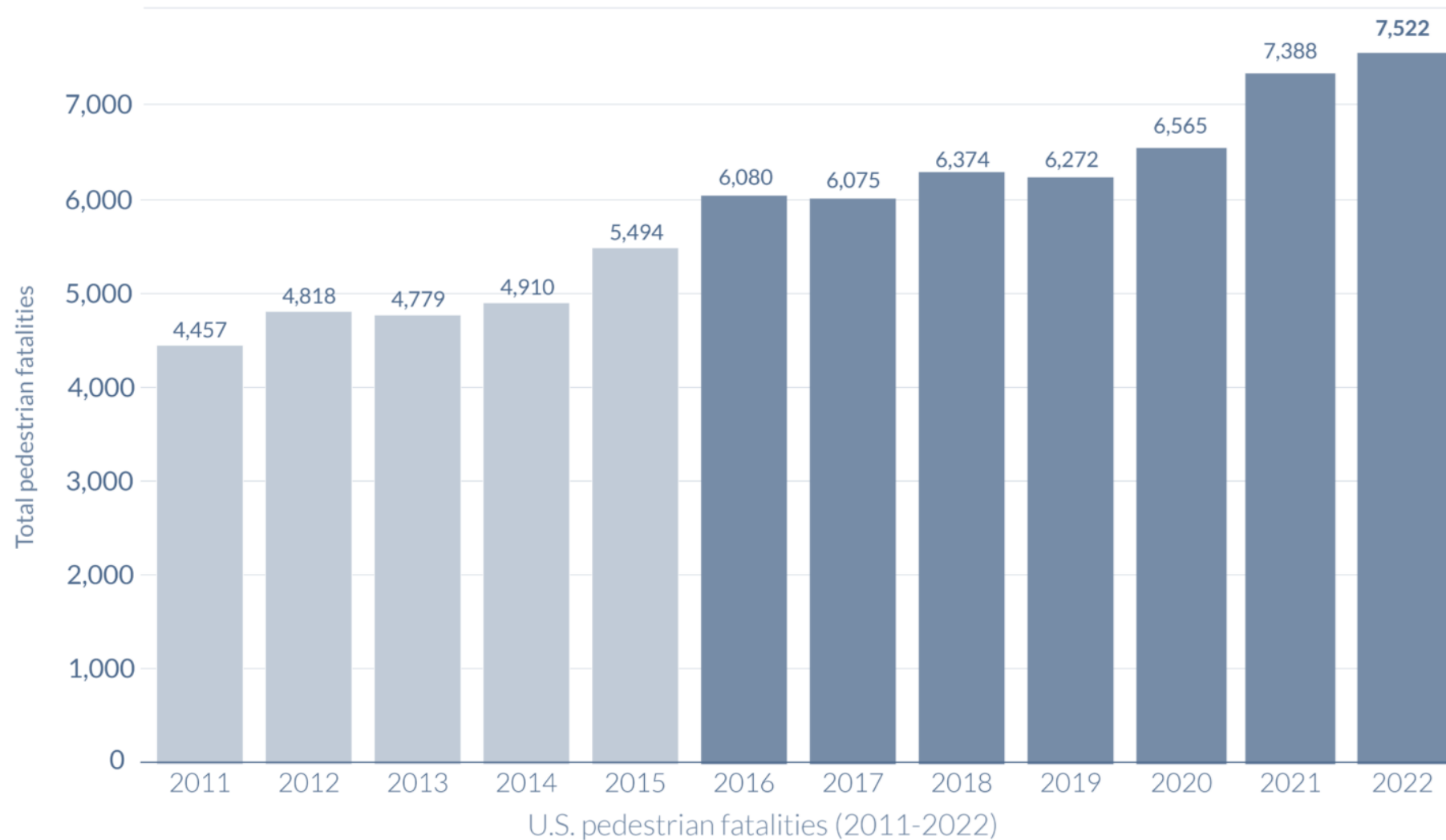
Source: [NHTSA Early Estimate of Motor Vehicle Traffic Fatalities in 2023](#)

↑ 7,500+

Pedestrians killed on roads in 2022. The most since 1981.

Source: GHSA [Pedestrian Traffic Fatalities by State: 2022 Preliminary Data](#)

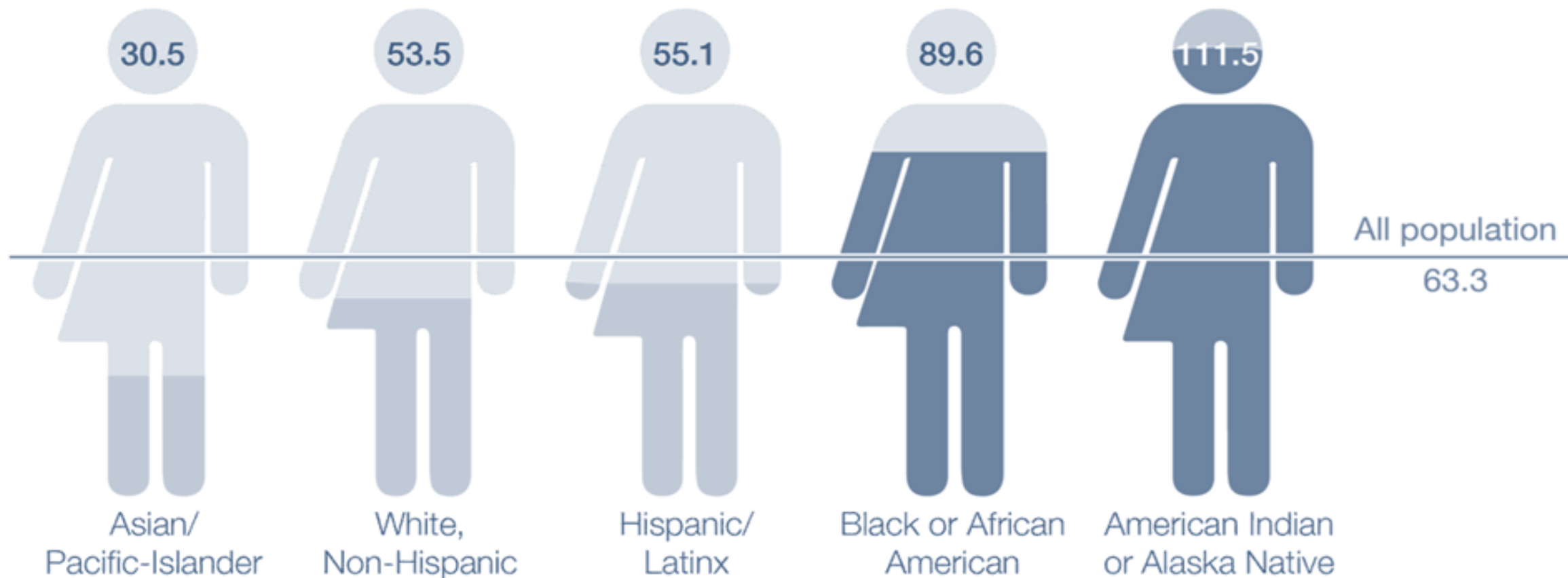
The deaths of people struck and killed while walking are up **68 percent** since 2011



2011-2021 final fatality numbers were sourced from FARS on April 2, 2024. 2022 data from NHTSA press release

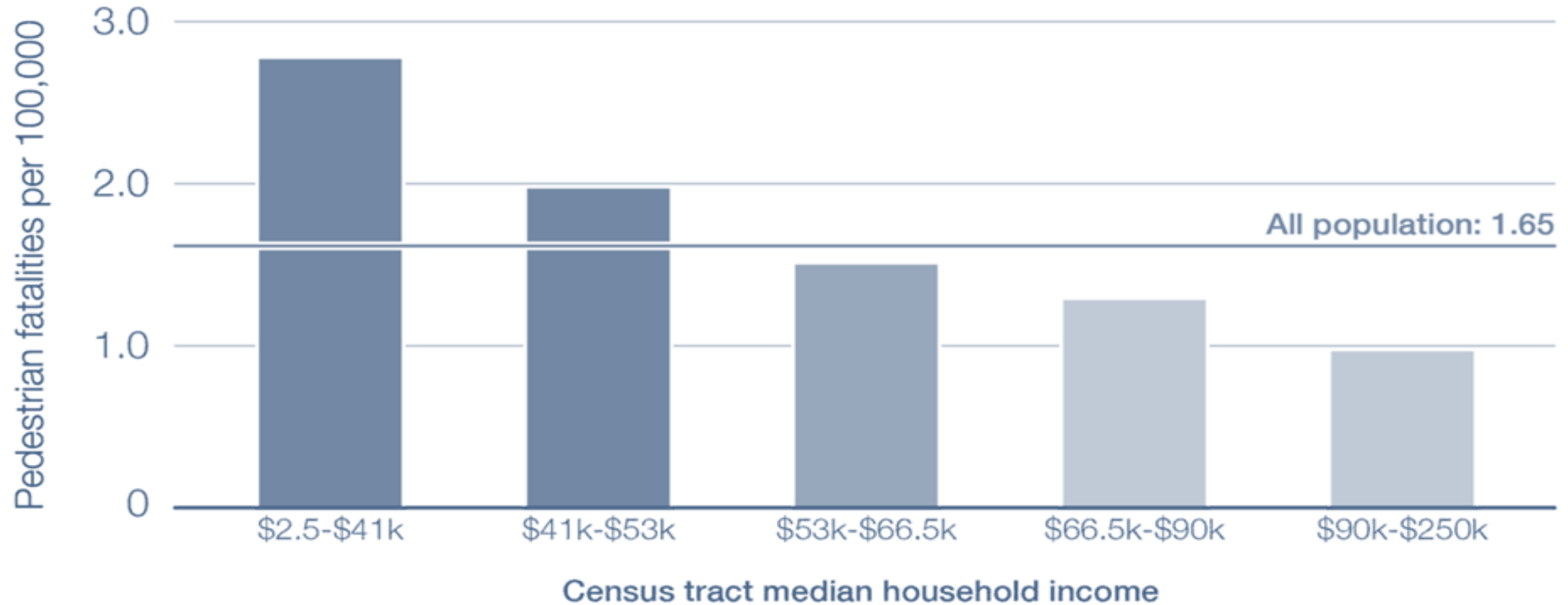
The burden is not shared equally

Relative pedestrian danger by race and ethnicity
(2010-2019)



Source: Smart Growth America and the National Complete Streets Coalition, *Dangerous by Design 2021*. <https://smartgrowthamerica.org/dangerous-by-design/>

People walking in lower-income areas are struck and killed at much higher rates. People walking in wealthier neighborhoods are killed at far lower rates

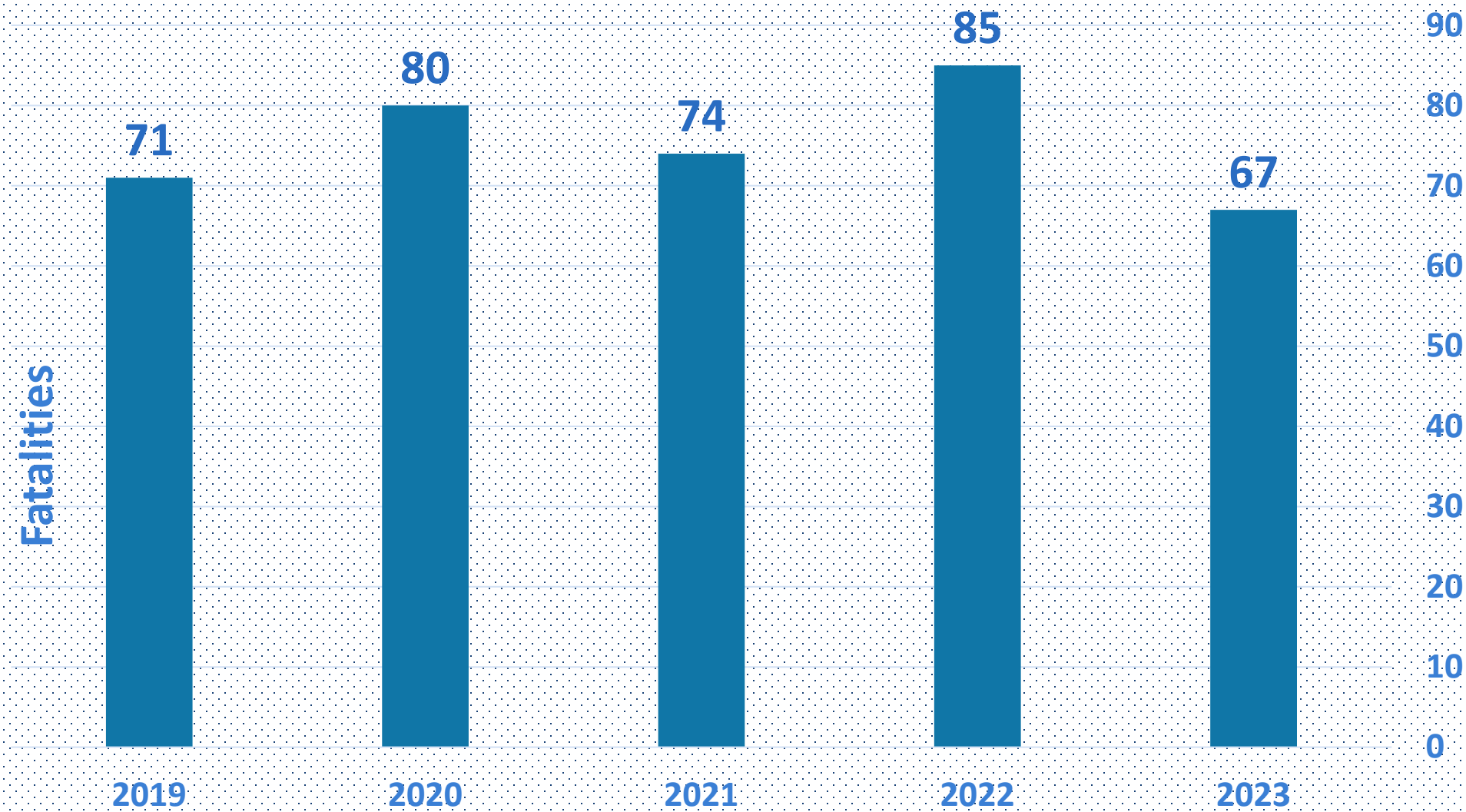


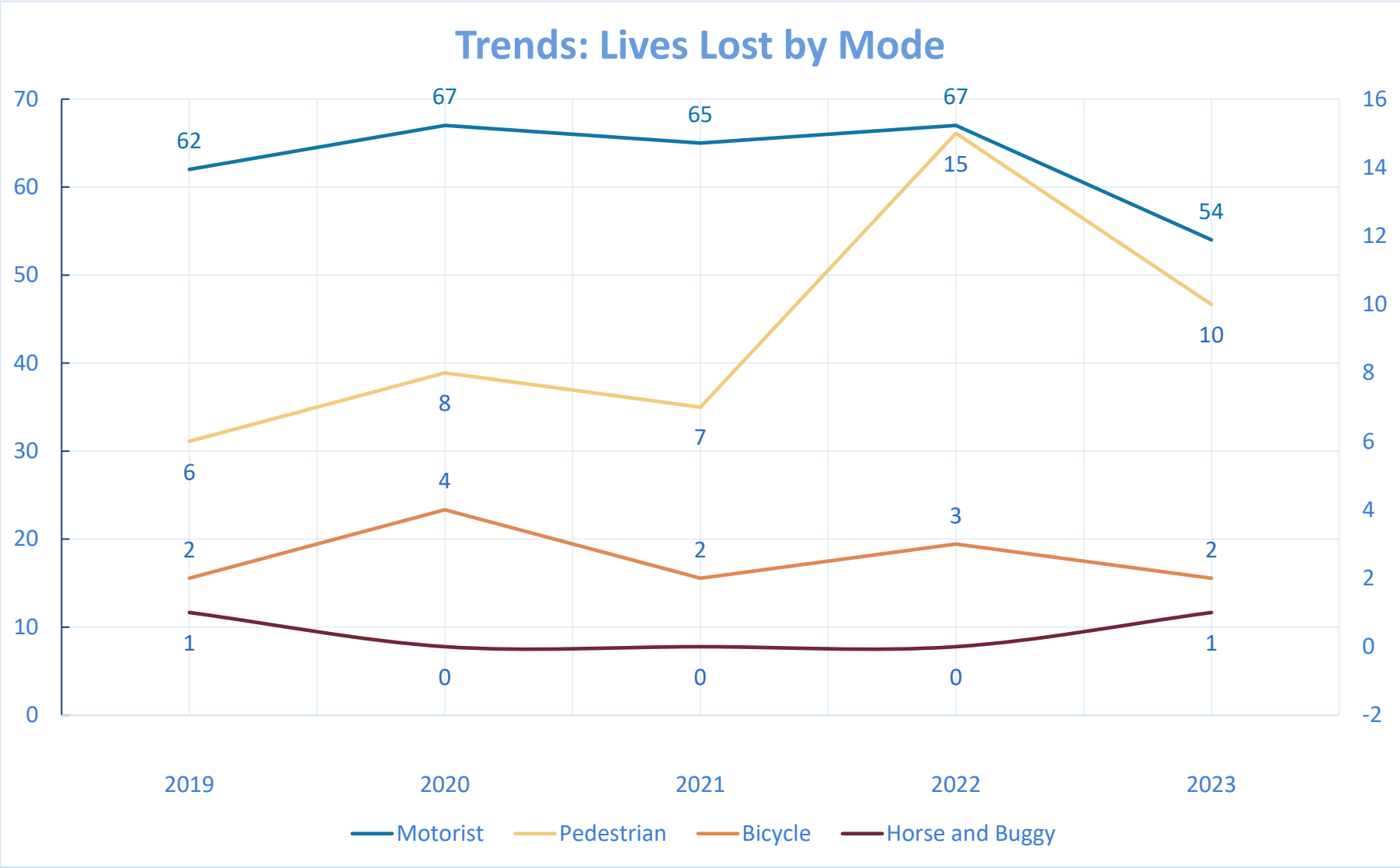
Sources: Smart Growth America and the National Complete Streets Coalition, Dangerous by Design 2021. <https://smartgrowthamerica.org/dangerously-by-design/>

#2

Leading cause of death of
children (ages 1-19)

Fatal Crashes by Year – MACOG Region





What is a Safety Action Plan?

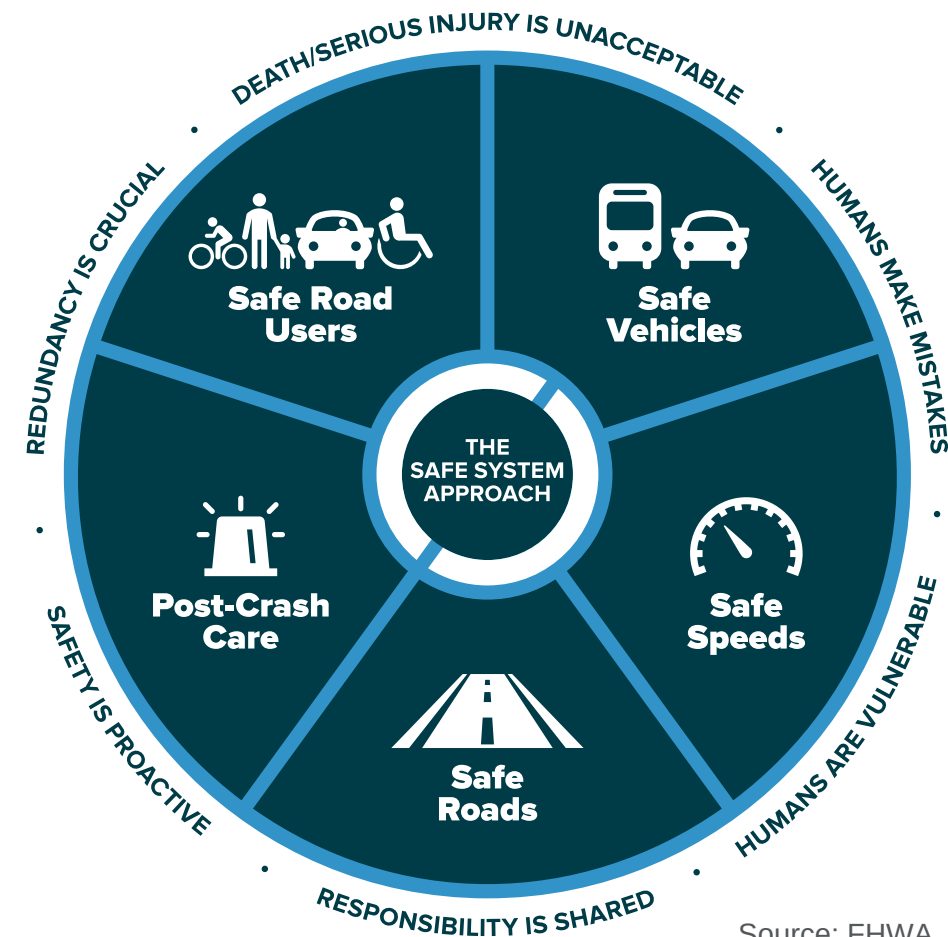
- Guide to eliminating fatal and serious injury crashes on streets by a target year
- Recommendations for projects, practices, policies, and programs
- Achieved through the Safe System Approach



What is the Safe System Approach?

The Safe System Approach

- Aims to eliminate fatal and serious injuries for all road users by:
 - accommodating human mistakes
 - keeping impacts on the human body at tolerable levels



Principles



Death/serious injury is unacceptable



Humans make mistakes



Humans are vulnerable



Responsibility is shared



Safety is proactive



Redundancy is crucial

Death and 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.

(FHWA)

Death and Serious Injury is Unacceptable

No one should die or face life altering circumstances trying to get from place to place.

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. (FHWA)

Humans Make Mistakes

When we **design roads** in a way that recognizes human imperfection, we can **minimize the damage** caused by crashes and **avoid death or serious injury** when crashes occur.

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. (FHWA)

Humans are Vulnerable

Human bodies can only take so much. When **we minimize vehicle size, weight, and speed** that crashes occur at, we prevent deaths and serious injures.

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. (FHWA)

Responsibility is Shared

Everyone plays a role in creating safe roads for people driving, walking, biking, and rolling.

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. (FHWA)

Safety is Proactive

We should design our roads to **prevent life altering crashes**, rather than waiting until after a tragedy occurs.

Redundancy is Critical

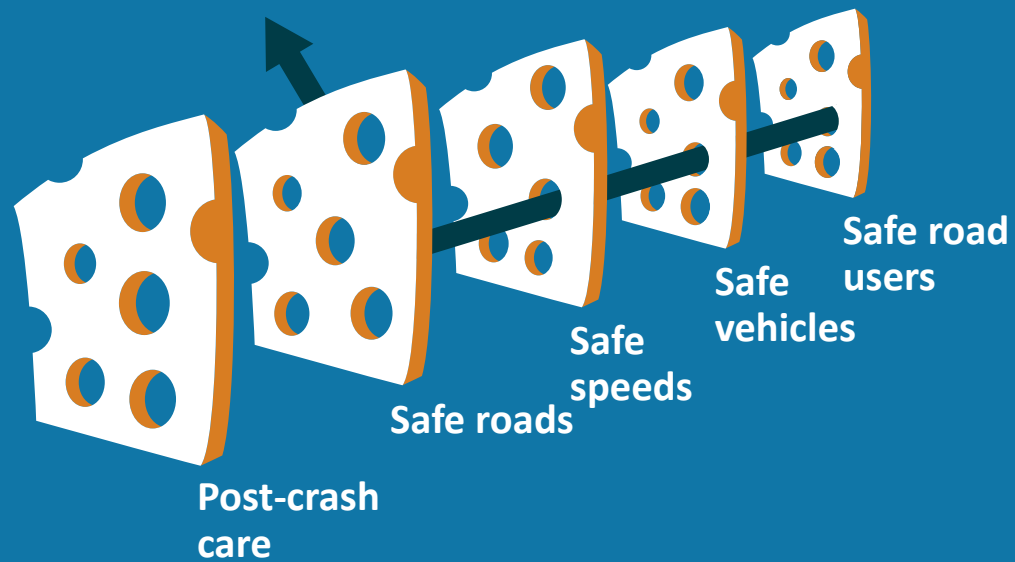
Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people. (FHWA)

Redundancy is Critical

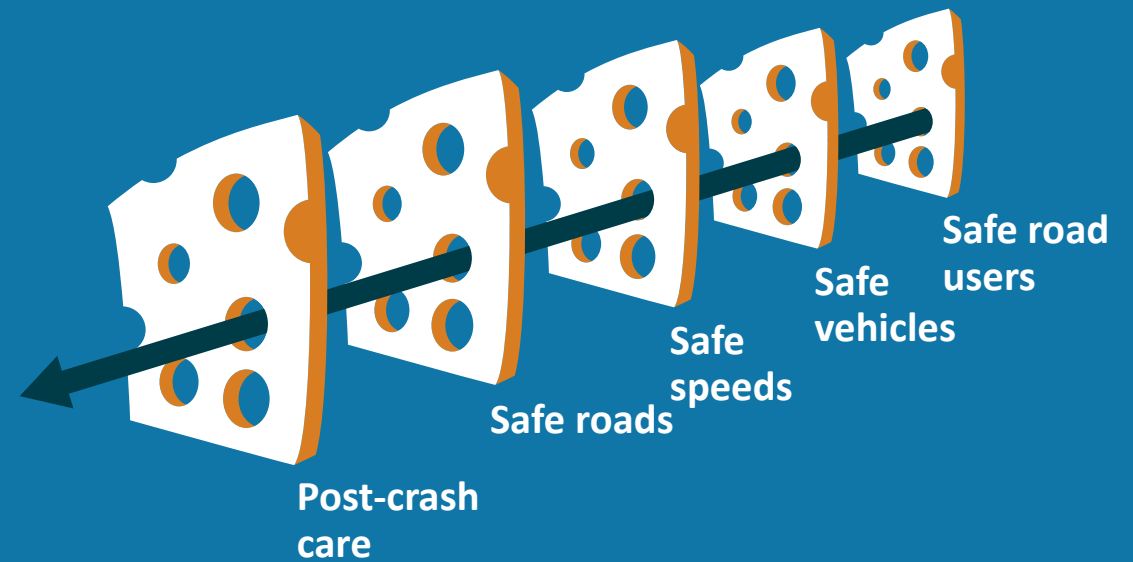
No one solution prevents all deaths. We need to work to prevent deadly crashes in a variety of ways to save lives.

Safe System Elements

The “Swiss Cheese Model” of redundancy creates layers of protection



Death and serious injuries only happen when all layers fail



Source: FHWA



Elements



Safe road users



Safe vehicles



Safe speeds



Safe roads



Post-crash care

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. (FHWA)

Safe Speeds

People die in high-speed crashes. **Reducing speed of motor vehicles saves lives.** People driving see more when traveling slower and have more time to stop. And if a crash involving a driver happens, slower speed means less deadly force.

Risk to pedestrians increases as driver speed increases



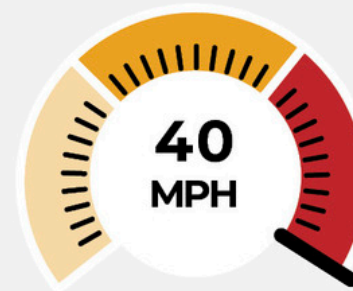
13%

of pedestrians *will*
die or suffer a severe
injury if hit by a
vehicle at 20 mph



40%

of pedestrians *will*
die or suffer a severe
injury if hit by a
vehicle at 30 mph



73%

of pedestrians *will*
die or suffer a severe
injury if hit by a
vehicle at 40 mph

Source: Brian C. Tefft. 2013. AAA Foundation for Traffic Safety. Impact speed and a pedestrian's risk of severe injury or death.

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. (FHWA)

Safe Roads

We know how to design safer roads, but that means we must **prioritize safety above all** other things including vehicle throughput and congestion. It means recognizing that people need (and want) to travel in a variety of ways and that creating safe and dignified conditions for people traveling by bus, horse and carriage, bicycle, skateboard, or walking/rolling is necessary.

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. (FHWA)

Safe Road Users

Consider and address the safety of ALL travelers not just people in cars and shift the cultural expectation that normalizes death as a sad reality of the transportation system.

Safe Vehicles

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

Safe Vehicles

Design and **regulate vehicles to minimize how badly people are injured** in crashes by right sizing vehicle choices, incorporating new technologies into deadlier vehicles, and using proven safety measures.

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.** (FHWA)

Post Crash Care

Immediate medical care might mean life or death for a person hurt in a crash. A thorough investigation of a fatal crash location can mean life or death for others in the future.

HOW IS THE SAFE SYSTEM APPROACH DIFFERENT?

Traditional Approach	Safe System Approach
Traffic deaths are inevitable	Traffic deaths are preventable
Prevent collisions	Prevent fatal and severe crashes
Perfect human behavior	Integrate human error into approach
Individual responsibility	Systems approach



System Planners & Policy Makers

Responsible for prioritizing safety in designs, policies



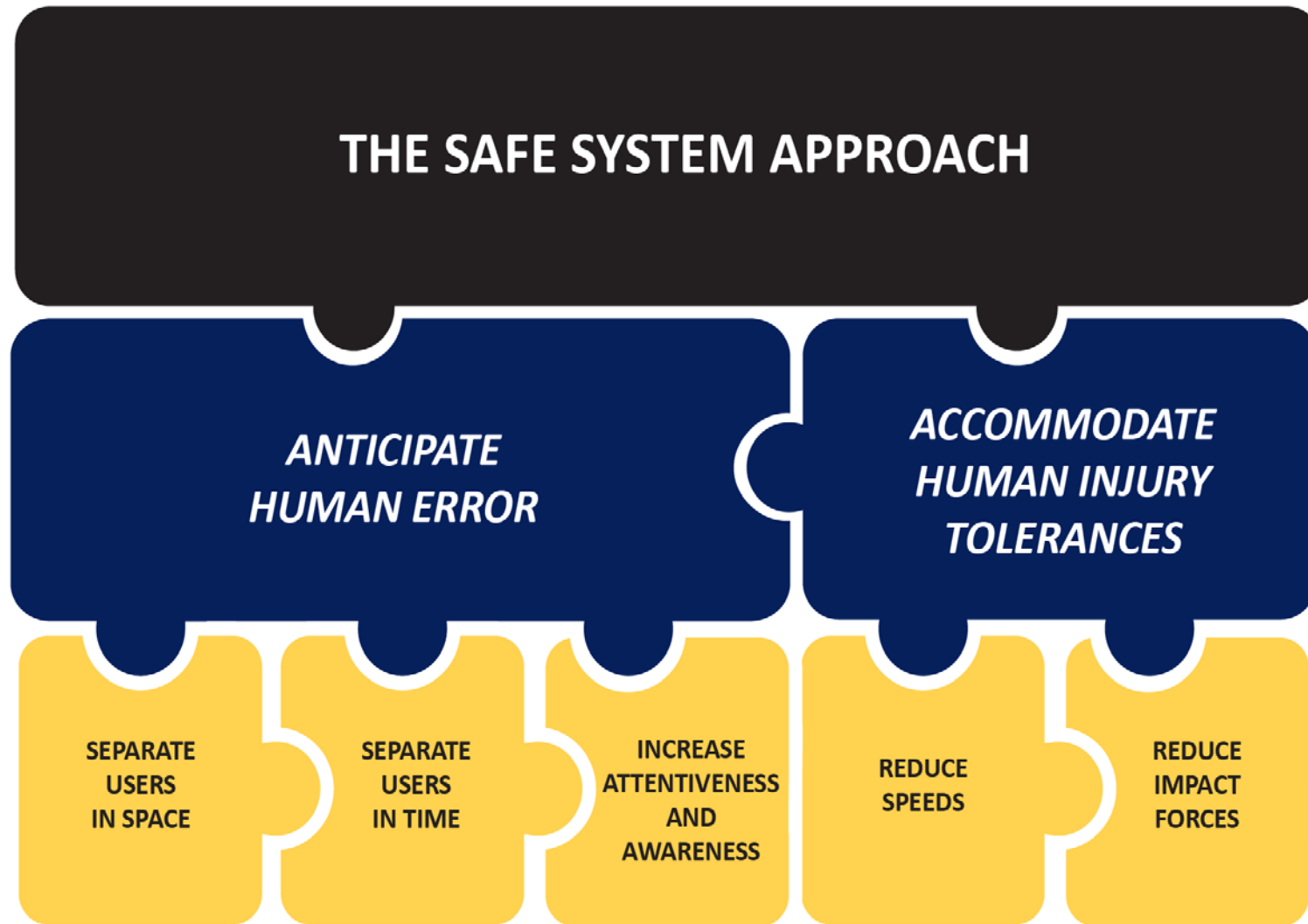
If road users make mistakes

Designs & policies analyzed for safety improvements



Individual Road Users

Responsible for following rules



Safe System Approach Framework

Dot Exercise

Vision Exercise

Who is here?
Who is missing?

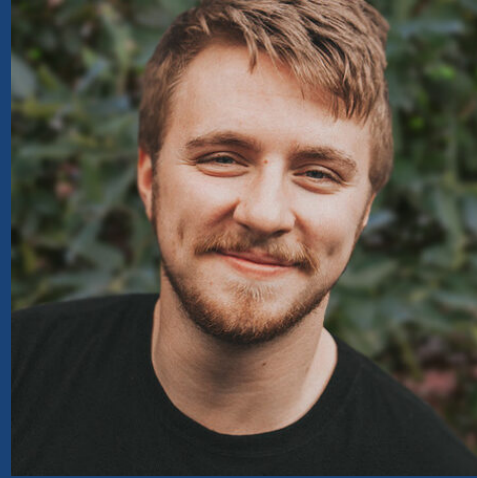
What's Next



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Mariel Colman, PE, AICP
Lead Engineer



Tariq Shihadah, RSP2I, EI
Data Analyst



Theja Putta, PHD
Data Analyst



**Marjorie Hennessey, Health by
Design**
Community Engagement Lead



**Rahul Rajbhara, American
Structurepoint**
Local Engineering Lead



Katie Sieb
Tactical Urbanism
Guidebook



Ayden Cohen, RSP1
Deputy Project Manager

“Zero”

<https://vimeo.com/388291690/cc0278856b>



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