



U.S. Department
of Transportation
**Federal Highway
Administration**

2024 WV LTAP – WVAMPO –
WVDOH Planning Conference

FHWA - Complete Streets Design Model in Rural Communities and Small Towns

ZERO IS OUR
GOAL
A SAFE SYSTEM IS HOW WE GET THERE

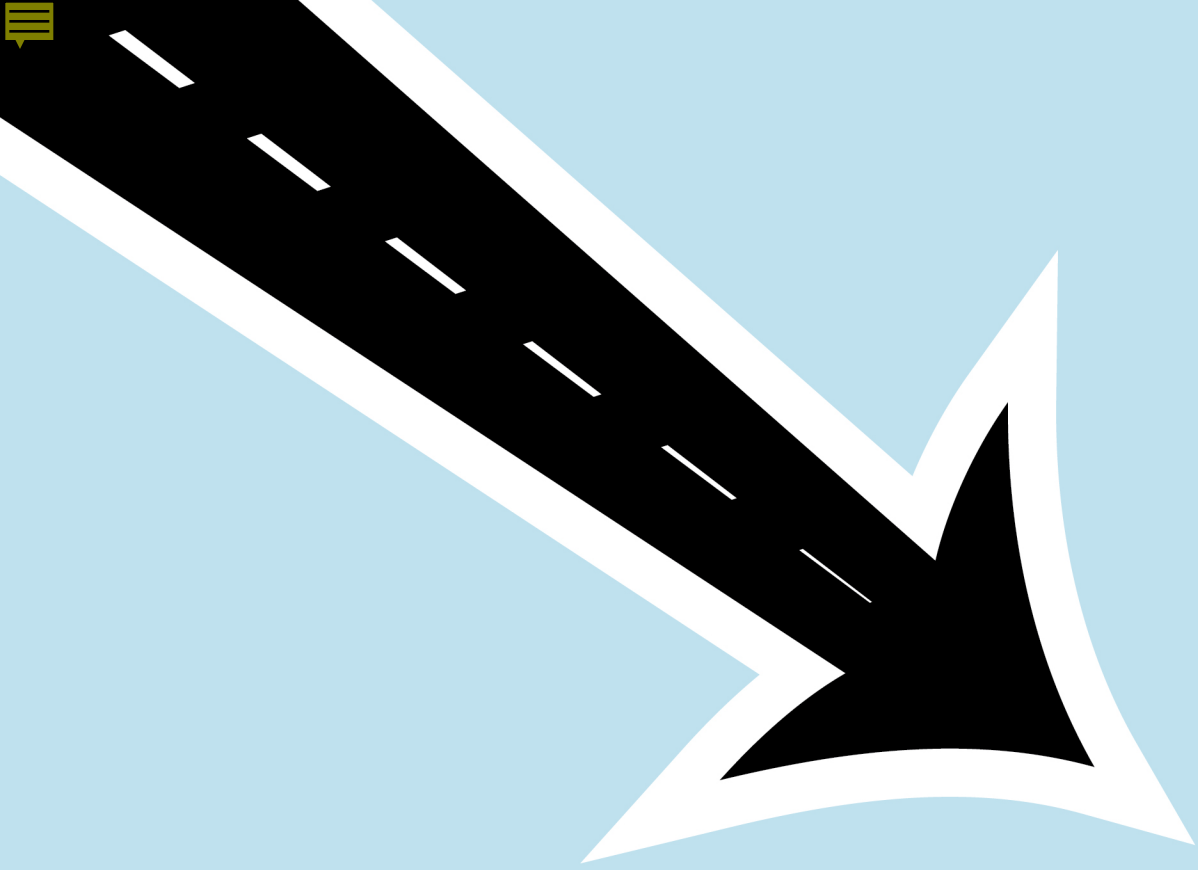
Date: May 22, 2024

By: Lewis G. Grimm, P.E.



Disclaimer

- Except for any statutes or regulations cited, the contents of this presentation do not have the force and effect of law and are not meant to bind the public in any way. This presentation is intended only to provide information regarding existing requirements under the law or agency policies.



***“A Complete Street
is safe, and feels
safe, for everyone
using the street.”***

(FHWA, 2023)



Complete Streets Policies

- Complete Streets policies “**ensure the safe and adequate accommodation of all users of the transportation system**, including pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles.” *See* Section 11206(a) of the Infrastructure Investment and Jobs Act (IIJA) (Pub. L. 117-58, also known as the “Bipartisan Infrastructure Law” (BIL))
- 1,700+ Complete Streets policies in the United States, including those adopted by 37 state governments, the Commonwealth of Puerto Rico, and the District of Columbia.
- Implementation includes **systematically changing policies, rules, and procedures** to consistently prioritize safety for **all users** across **all project types**.



Create an **equitable transportation network** that provides access to **all users** and distributes **transportation investment** to **all communities**.

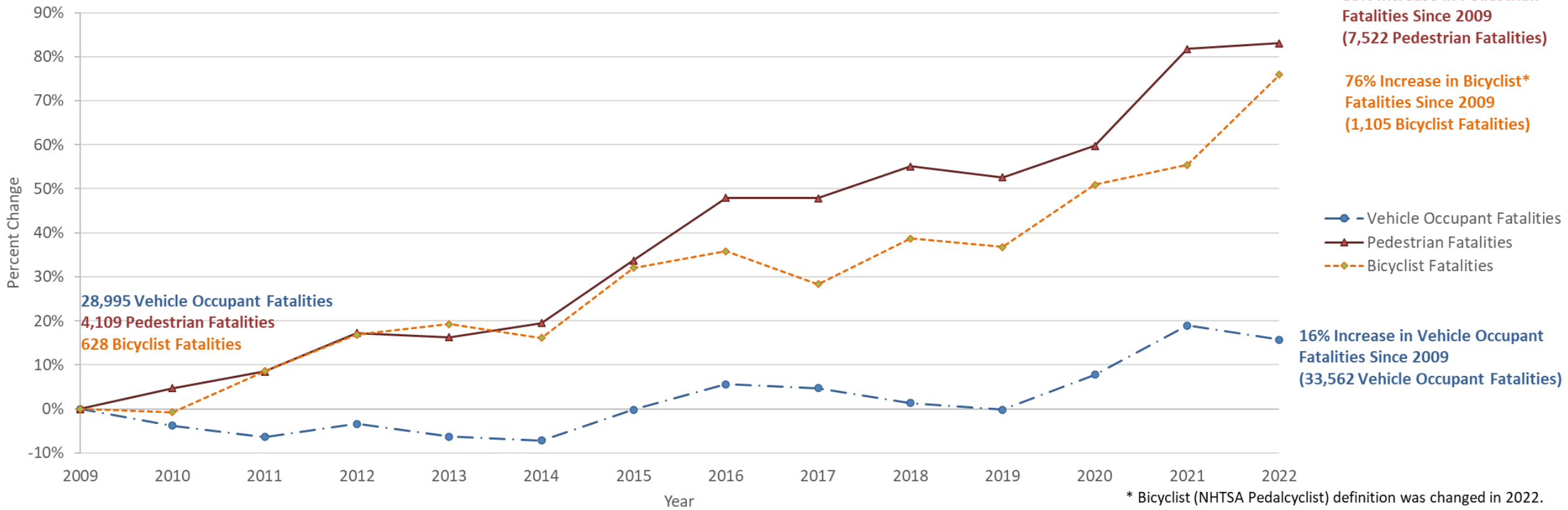
Complete Streets & the Safe System Approach



- Prioritizes safety, comfort, and connectivity for all users.
- Implementation strategy of the Safe System Approach by addressing **Safer Speeds, Safer Roads, and Safer Road Users.**

Why Complete Streets?

Percent Change in Fatalities (from 2009-2022)
Vehicle Occupants, Pedestrians, & Bicyclists

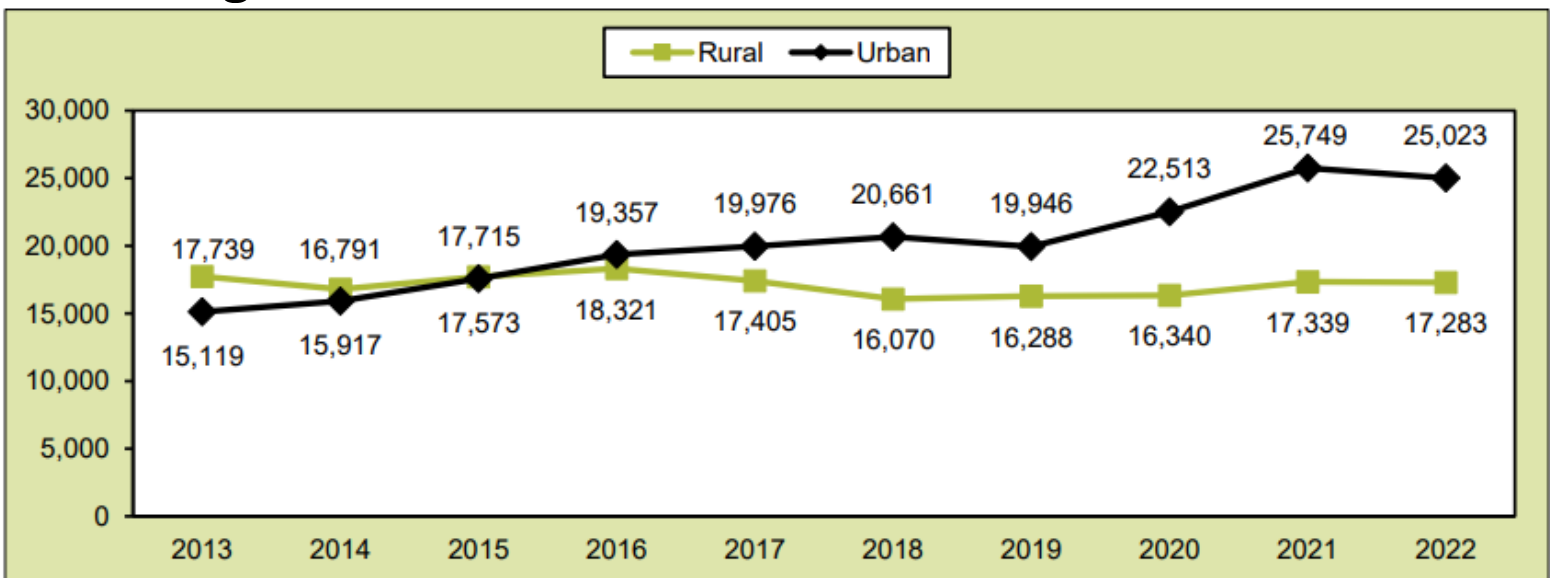


Source: National Highway Traffic Safety Administration, Fatality and Injury Reporting System Tool (FIRST)



Why Complete Streets in Rural Areas

- Fatalities in rural areas saw a very modest decrease of 0.3 percent (56 fewer fatalities) since 2021.
- Likewise, there was only a slight decrease in pedestrian fatalities in rural areas of 0.5 percent since 2021.
- Over 8,952 people walking and biking were killed in 2022, with disproportionate impacts on disadvantaged communities.



- Traffic Fatalities, by Rural/Urban, 2013-2022



Source: FARS 2013-2021 Final File, 2022 ARF
Note: Excludes unknown rural/urban.



The Complete Streets Design Model

In implementing a Complete Streets Policy, planners and designers can use a Complete Streets Design Model that **prioritizes safety, comfort and connectivity for all users** of the roadway.

In general, the Complete Streets Design Model:

1. Carefully considers measures to set and design for appropriate speeds
2. Separates various users in time and space
3. Improves connectivity and access for pedestrians, bicyclists, and transit riders, including for people with disabilities
4. Implements safety countermeasures

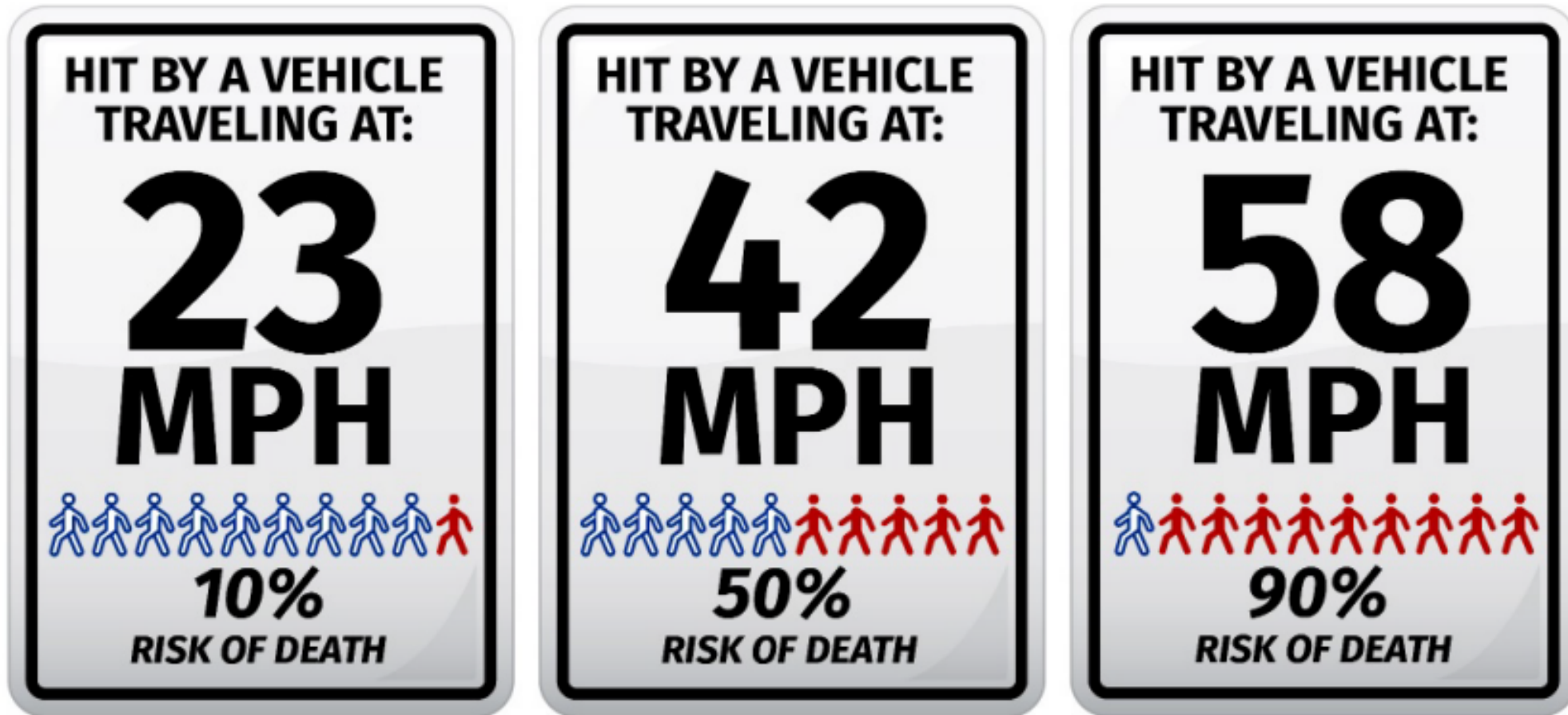


Speed

Carefully consider measures to set and design for appropriate speeds



Safe Speeds: Reducing Pedestrian Fatalities



Risk of pedestrian fatality based on vehicle speed, based on research from Tefft (2011)

Source: FHWA

Speed: Rural Applications/Considerations



When setting speed limits, agencies should consider:

- types of users present,
- crash history, and
- observed speeds, among other factors

Effectiveness:

- Research shows that setting a lower speed limit, in conjunction with other speed management strategies, on rural roads can:
 - reduce fatal and injury crashes up to **40%**, and
 - lead to drivers complying more closely with the posted speed limit (CMF ID 10249).



Source: FHWA

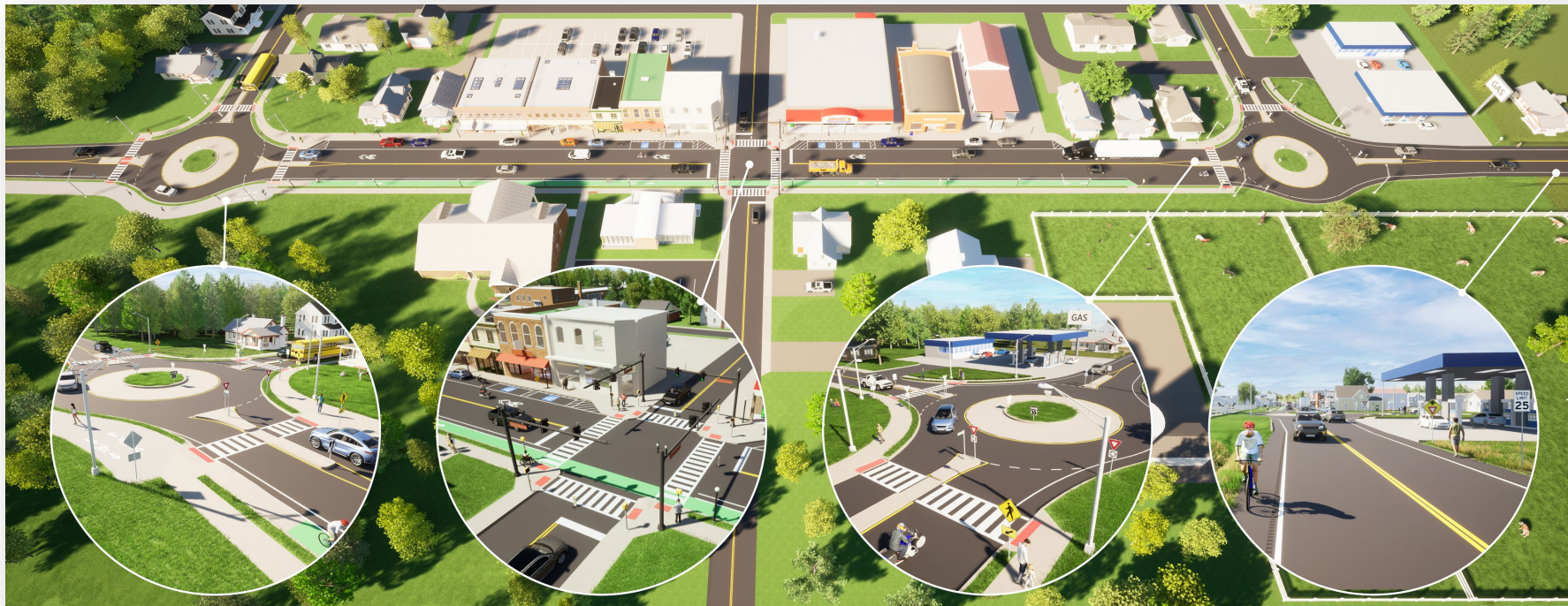


Separation

Separate various users in time and space

Separation

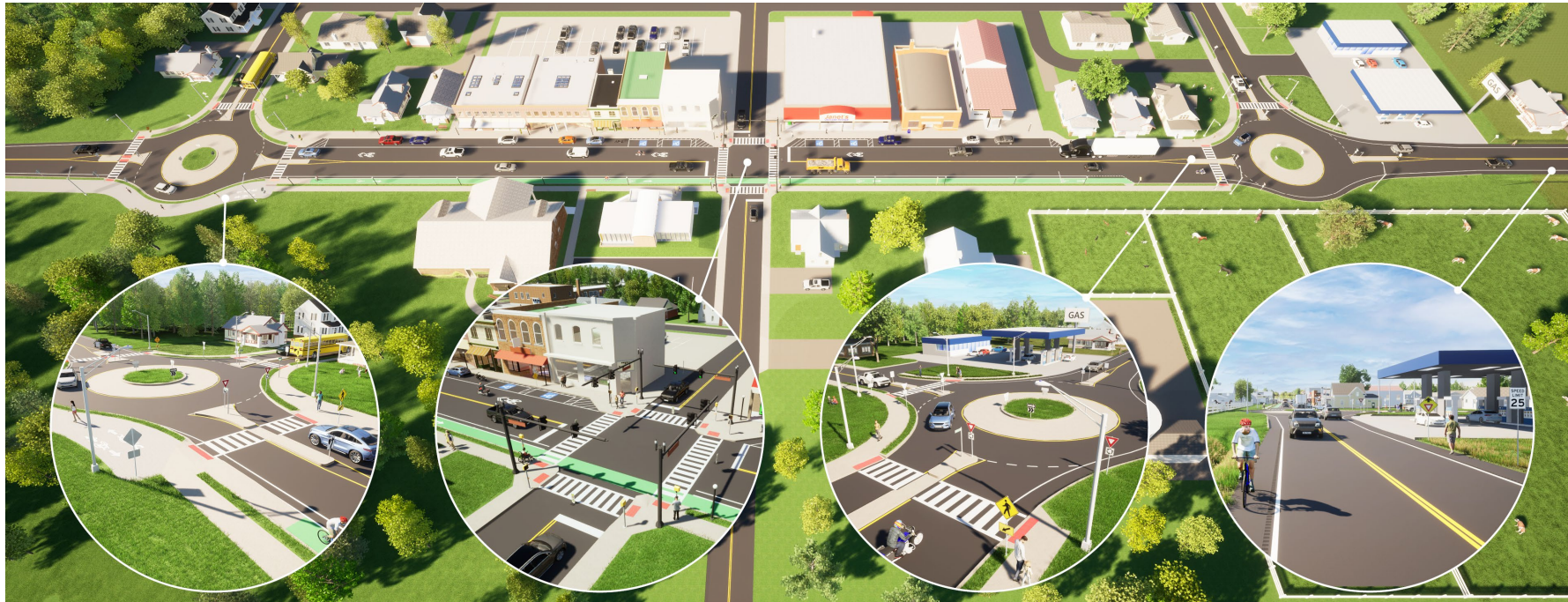
- 27% of fatalities at intersections occurred in rural areas (2017-2021).
- Bicycle Lane Additions can reduce crashes up to: 49% to 30%
- Sidewalks: 65-89% reduction in crashes involving pedestrians walking along roadways.



- Paved Shoulders
71% reduction in
crashes involving
pedestrians walking
along roadways

Separation

- Roundabouts can reduce total crashes by up to 68% and injury crashes by up to 88% on higher speed two-lane rural roads.
- Shoulder rumble strips can reduce single vehicle run-off-road fatal and injury crashes by as much as 51% on two-lane rural roads.





Connectivity

Improve connectivity and access for pedestrians, bicyclists, and transit riders, including for people with disabilities

Connectivity

- Improve connectivity and access for pedestrians, bicyclists, and transit riders, including for people with disabilities.
- Connectivity and access refers to the ability for all road users to access the transportation network easily and safely.



Source: FHWA



Safety Countermeasures

Implement safety countermeasures

Safety Countermeasures

- FHWA has 28 Proven Safety Countermeasures and strategies to improve safety.



NEW!

- Proven Safety Countermeasures in Rural Communities.



Pedestrian/Bicyclist

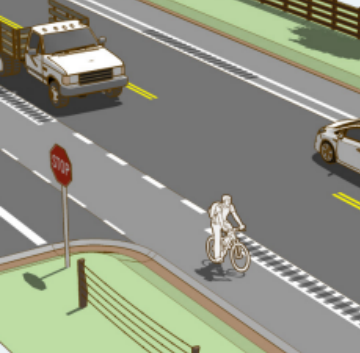


Figure 9. Example of a roadway reconfiguration using available roadway width to include bicycle lanes. Source: Rural Design Guide




Figure 10. Crosswalk visibility enhancements include advance yield markings, high visibility crosswalk markings, lighting, and a rectangular rapid flashing beacon. Source: FHWA

Road Diets/Reconfiguration


Rural Applications/Considerations A road diet is a conversion of an existing road to reduce the number of through lanes and reallocate roadway space to other uses (e.g., bicycle lanes, sidewalks, and parking). Often this will consist of reducing four-lane roads to three lanes, with the middle lane serving as a two-way left-turn lane or combination of median and left-turn lanes; this can reduce travel speeds, ease pedestrian crossing difficulties, and reduce crashes. In rural areas without sidewalks, increasing the paved shoulder width by removing a travel lane can accommodate non-motorized users. A road diet can be a low-cost safety solution when planned in conjunction with a simple pavement overlay.

Effectiveness

- Convert 4-lane undivided road to 2-lanes plus turning lane: 37% reduction in injury crashes (CMF ID 11231).

Case Studies

- Battle Lake, MN revitalized their downtown streets with a successful road diet implementation alongside pedestrian and bicycle improvements. MnDOT noted that crashes have been reduced in the four years following the road diet. <https://www.dot.state.mn.us/trafficeng/safety/road-diet-battle-lake.html>
- Residents of Colorado have been advocating for bicycle infrastructure since the 1940s to connect western townships and improve non-vehicular mobility throughout the region. The Eagle Valley Trail, set to be completed in 2024, consists of over 60 miles of paved pathways throughout the region. <https://www.eaglevalleytrail.org/>



Crosswalk Visibility Enhancements

Rural Applications/Considerations High-visibility crosswalk markings, lighting, and supplemental signing and pavement markings can improve driver awareness of crosswalks and non-motorized road users (e.g., pedestrians, bicyclists, wheelchair and other mobility device users, public transit users) at rural locations. These devices also help channelize crossing movements to locations where drivers expect them to occur. Crosswalk visibility enhancements can be installed as standalone devices if desired, but multiple treatments are encouraged to maximize safety benefits.

Effectiveness

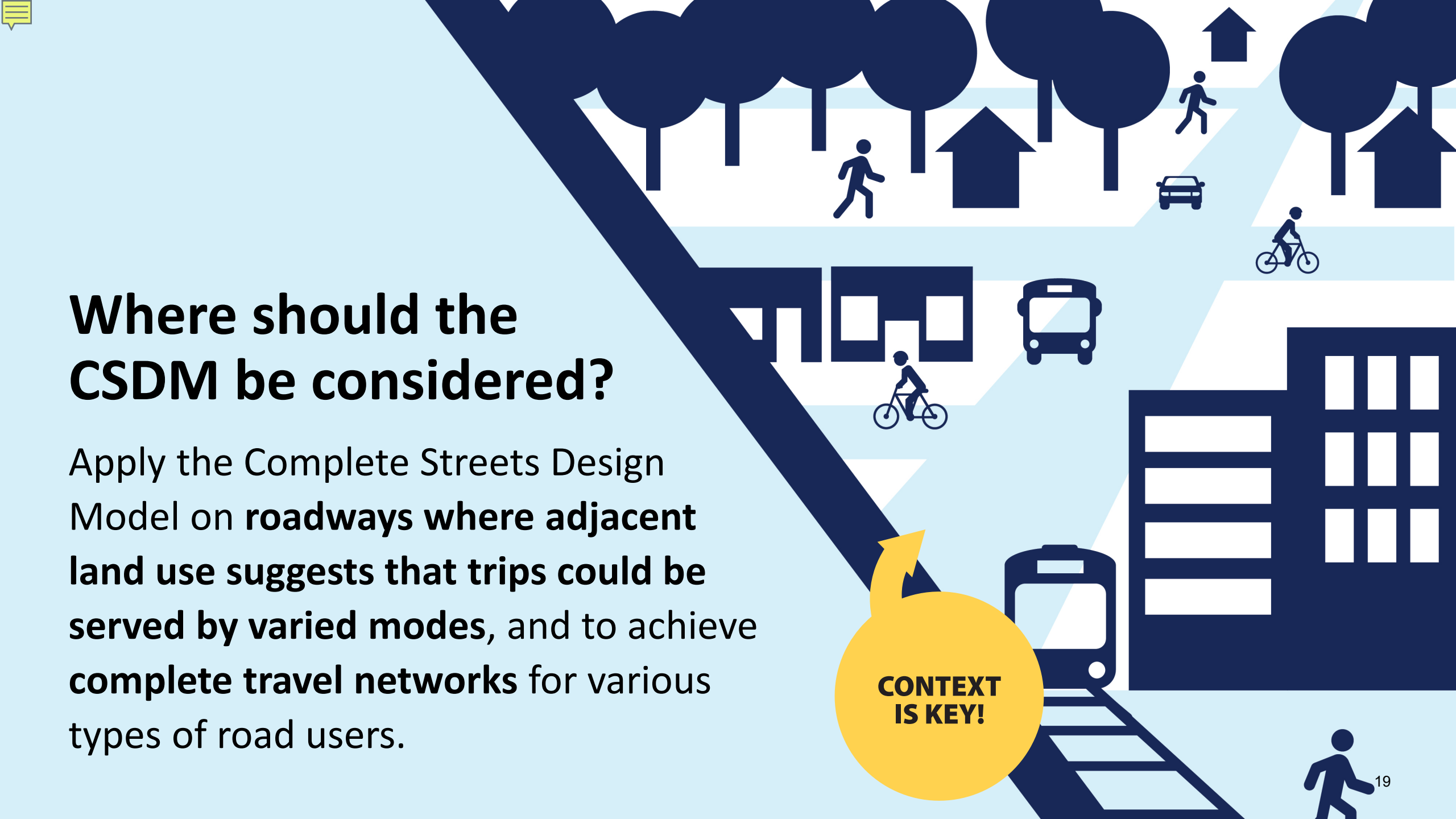
- Install intersection lighting: 42% reduction in nighttime vehicle-pedestrian injury crashes and 78% reduction in fatal vehicle-pedestrian crashes (CMF IDs 436, 435).
- Install rural highway lighting: 28% reduction in nighttime injury crashes (CMF ID 192).
- Install high-visibility crosswalks at urban intersections (i.e., town centers): 40% reduction in pedestrian injury crashes (CMF ID 4123).

Case Study and Resources

- In Kansas, the Flint Hills Metropolitan Planning Organization has modified crosswalks with a multitude of quick-build (i.e., common projects include curb extensions and pedestrian islands) techniques and public demonstrations. Common projects include curb extensions and pedestrian islands. <https://www.flinthillsmppo.org/demoprojects>
- The *Pedestrian Lighting Primer* provides information on lighting design considerations for locations with pedestrian activity. https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-09/Pedestrian_Lighting_Primer_Final.pdf
- FHWA is promoting traffic control devices and properly designed lighting to improve safety for all users as part of the Every Day Counts Nighttime Visibility for Safety initiative. https://www.fhwa.dot.gov/innovation/everydaycounts/edc_7/nighttime_visibility.cfm

Source: FHWA

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The background features a stylized city street scene. A large, dark blue diagonal arrow points from the top left towards the bottom right. Along this path, various icons represent different transportation modes and land uses: a pedestrian, a house, a car, a cyclist, a bus, a train, and a multi-story building. The scene is set against a light blue background with white geometric shapes representing sidewalks and roadways.

Where should the CSDM be considered?

Apply the Complete Streets Design Model on **roadways where adjacent land use suggests that trips could be served by varied modes**, and to achieve **complete travel networks** for various types of road users.

CONTEXT IS KEY!

FHWA Complete Streets Website

- FHWA Complete Streets Website
 - Guidelines,
 - Funding Opportunities,
 - Case Studies, among other tools



NEW!

- Complete Streets Rural Town Center Trifold



COMPLETE STREETS

A Complete Street is safe, and feels safe, for all users. FHWA supports the planning, implementation and evaluation of equitable streets and networks that prioritize safety, comfort, and connectivity for all people who use them.

40% of crash fatalities occur in rural areas, while only 20% of people live in rural areas in the United States.¹

Source: FHWA

Reveal how Complete Streets provide people living in and using rural town centers with safer multimodal access to essential destinations for all road users. ▶

Tools and Resources

- FHWA - Local & Rural Safety



Safe Streets and Roads for All

- \$5 billion discretionary grant program, with ~\$1 billion/year over 5 years
- Purpose: prevent deaths and serious injuries on our roadways
- Focus on comprehensive safety action planning and implementing those plans
- Inclusive of all types of roadway safety interventions across the Safe System Approach
- <http://www.transportation.gov/S4A>



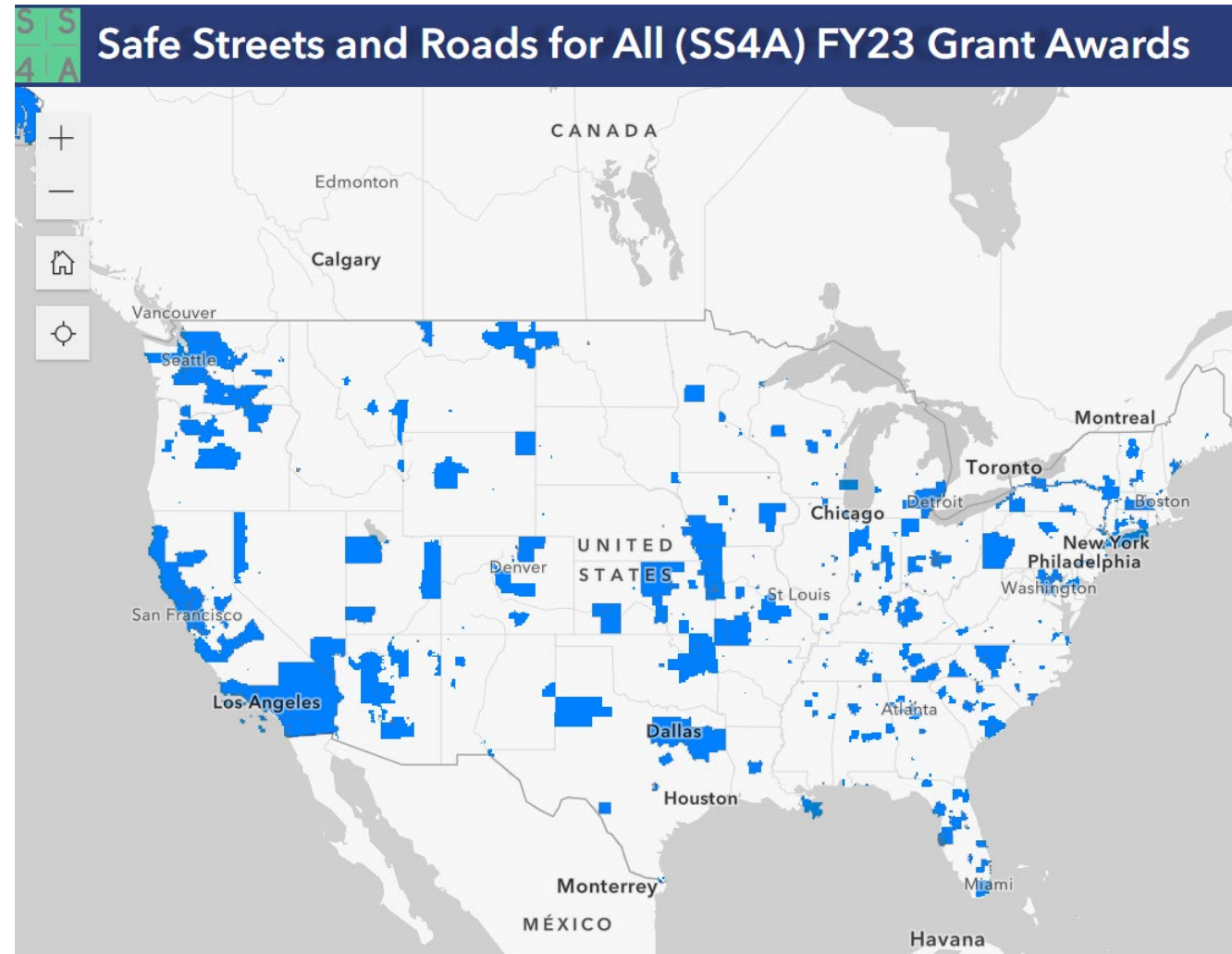
Fiscal Year 2023 Safe Streets and Roads for All

FY23 Awards

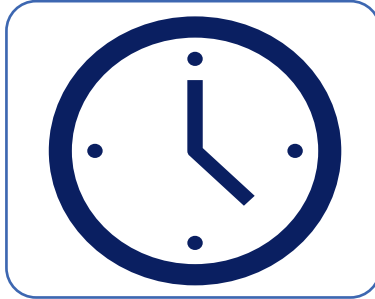
- Almost \$900 million in funding for the FY23 cycle.
- 620 regional, local, and Tribal communities received awards.

Round 1 & 2 (Calendar Year 2023)

- Over 1,000 communities received funding totaling \$1.7 billion.
- Awards made to date will improve roadway safety planning for around 70% of the nation's population.



SS4A NOFO Is Now Open!



Submit technical questions by April 17, 2024 to ss4a@dot.gov

Apply by April 4, May 16, and August 29, at 5:00 p.m. EDT for Planning and Demonstration

May 16, at 5:00 p.m. EDT for Implementation



Additional resources about SS4A and the NOFO can be found at

<https://www.transportation.gov/grants/SS4A>



SS4A Overview: Eligibility

Eligible Recipients

- Metropolitan planning organization (MPOs)
- Political subdivision of a State
- Federally recognized Tribal government
- Multijurisdictional groups comprised of the above

Eligible Activities

- Develop a Comprehensive Safety Action Plan
 - Develop or complete an Action Plan
 - Conduct supplemental planning
 - Carry out demonstration activities
- Planning, design, and development activities for projects and strategies identified in an Action Plan
- Implement projects and strategies identified in an Action Plan

Thank You

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Josue.Pluguez@dot.gov

Resources



FHWA's Complete Streets

<https://highways.dot.gov/complete-streets>



FHWA's Proven Safety Countermeasures

<https://highways.dot.gov/safety/proven-safety-countermeasures>



FHWA's Safety Main Page

<https://highways.dot.gov/safety>



U.S. DOT's Safe Streets and Roads for All (SS4A) Grant Program

<https://www.transportation.gov/grants/SS4A>