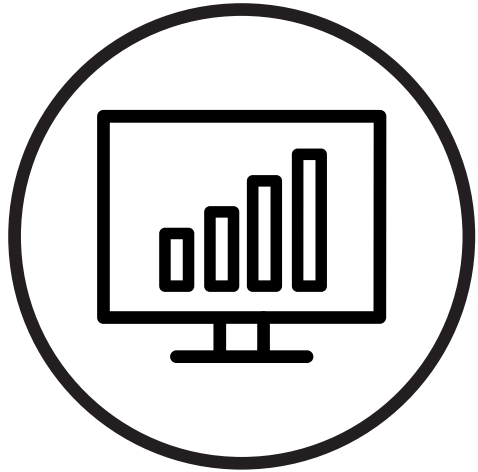


Applying Public Health Approaches to Prevent Pedestrian Injury

Becky Naumann
Division of Injury Prevention
National Center for Injury Prevention & Control
Centers for Disease Control and Prevention



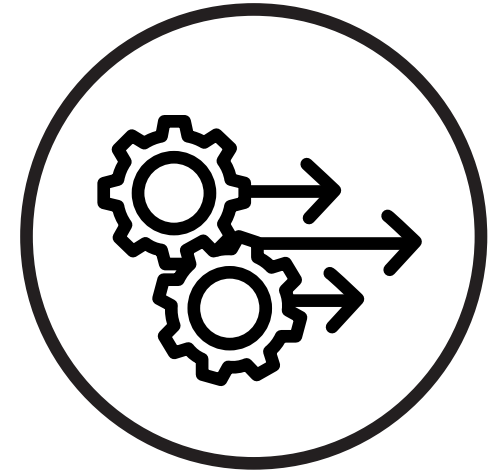
Outline



Data

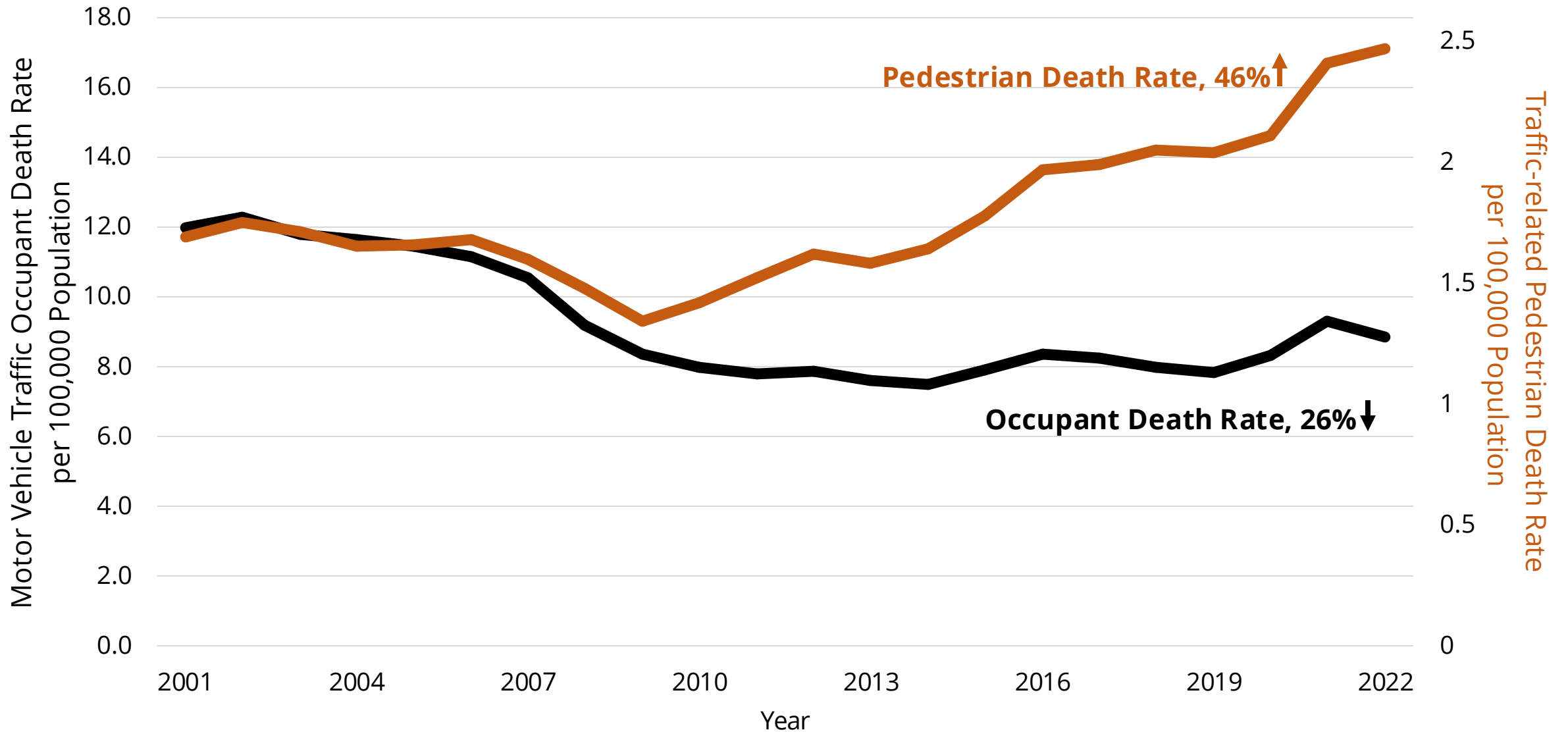


Science

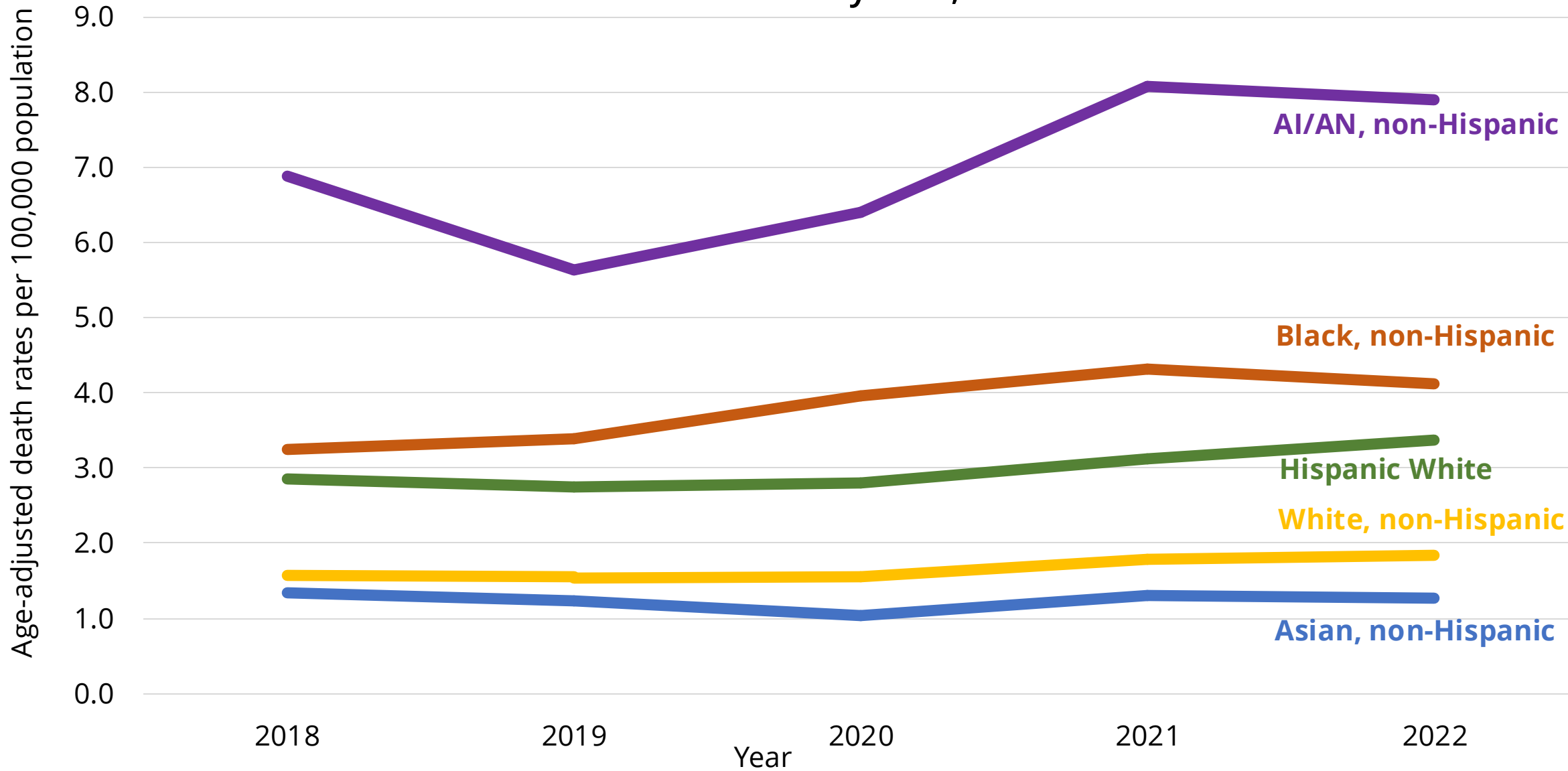


Action

Motor Vehicle Traffic-related Occupant and Pedestrian Death Rates, U.S. National Vital Statistics System, 2001-2022



Racial and Ethnic Disparities in Traffic-related Pedestrian Death Rates, U.S. National Vital Statistics System, 2018-2022



Understanding the Scope of Pedestrian Injury

- + Research indicates **25-50%** of pedestrian-related crashes may not be reported in police crash reports.
- + Specific populations may be less likely to show up in crash reports (e.g., Black individuals, males)
- + Emergency department data can help provide a more complete picture

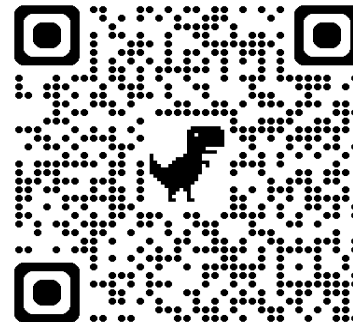
Health-related data can help us gain a more complete picture of burden, progress, and challenges



Morbidity and Mortality Weekly Report (MMWR)

Emergency Department Visits for Pedestrians Injured in Motor Vehicle Traffic Crashes — United States, January 2021–December 2023

Weekly / May 2, 2024 / 73(17);387–392



Public Health Frameworks & Science to Support Pedestrian Injury Prevention



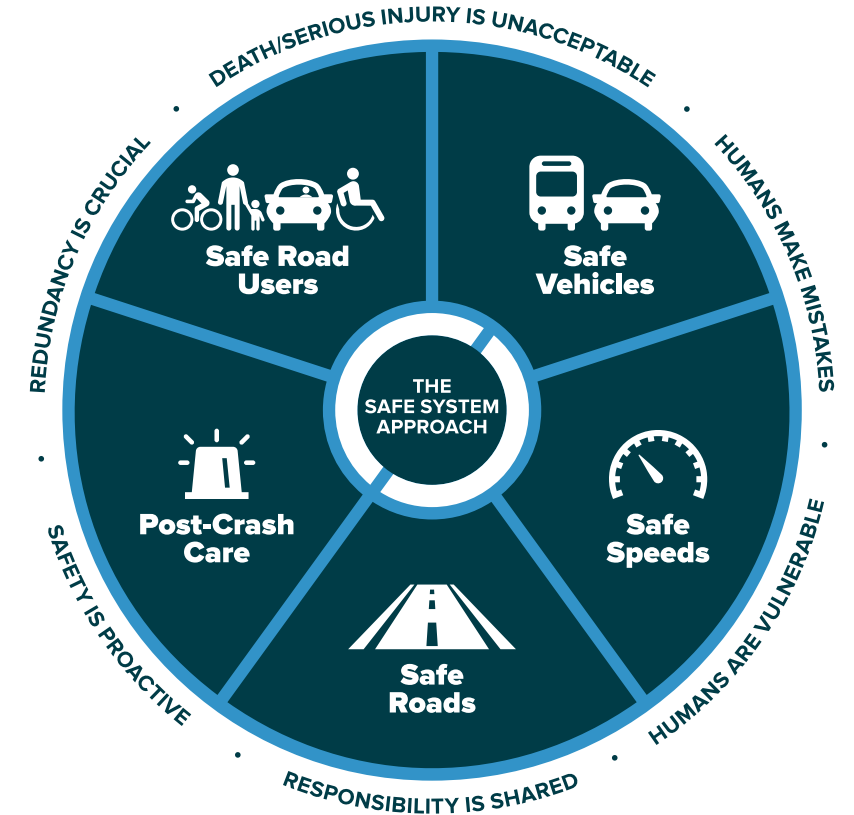
Public Health Principles Can Help Implement a Safe System Approach

“Leveraging public health approaches can assist with the practical implementation of a Safe System Approach.”

- National Roadway Safety Strategy, 2023

2 foundational public health approaches that can be particularly useful:

- Multi-disciplinary coalitions to tackle complex problems
- Prioritizing for population-level impact (Health Impact Pyramid)



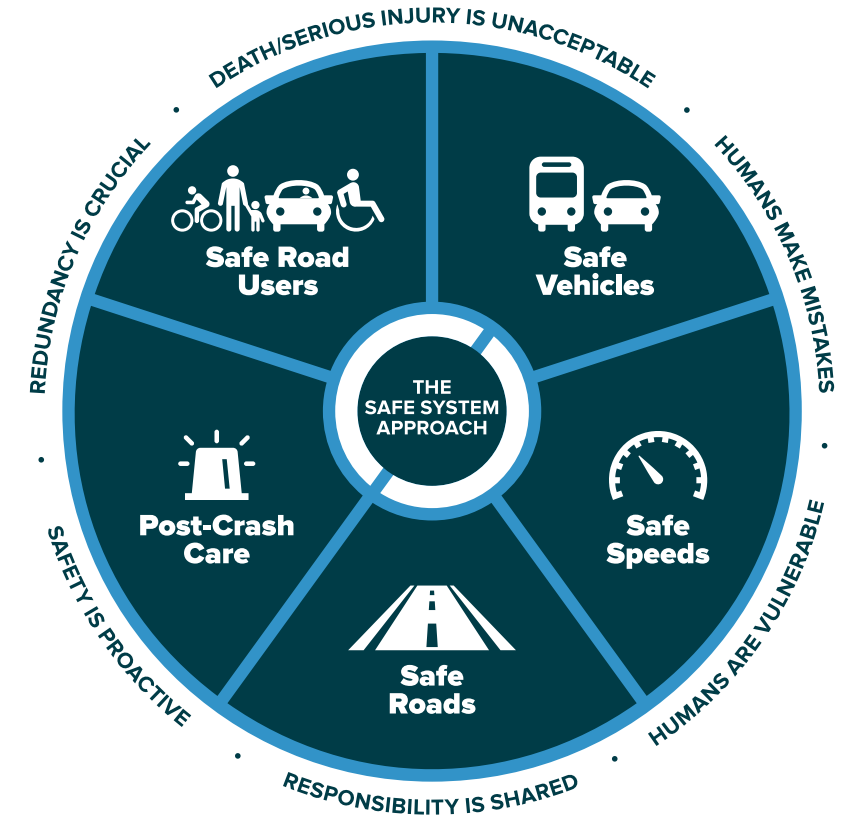
Public Health Principles Can Help Implement a Safe System Approach

“Leveraging public health approaches can assist with the practical implementation of a Safe System Approach.”

- National Roadway Safety Strategy, 2023

2 foundational public health approaches that can be particularly useful:

- **Multi-disciplinary coalitions to tackle complex problems**
- Prioritizing for population-level impact (Health Impact Pyramid)



Some Examples of Applying Public Health Principles in Action

- + State-level communities of practice and coalitions
 - Supporting local information exchange and coordination
 - Providing accountability toward progress
 - Listening to common challenges and roadblocks and providing state-level support



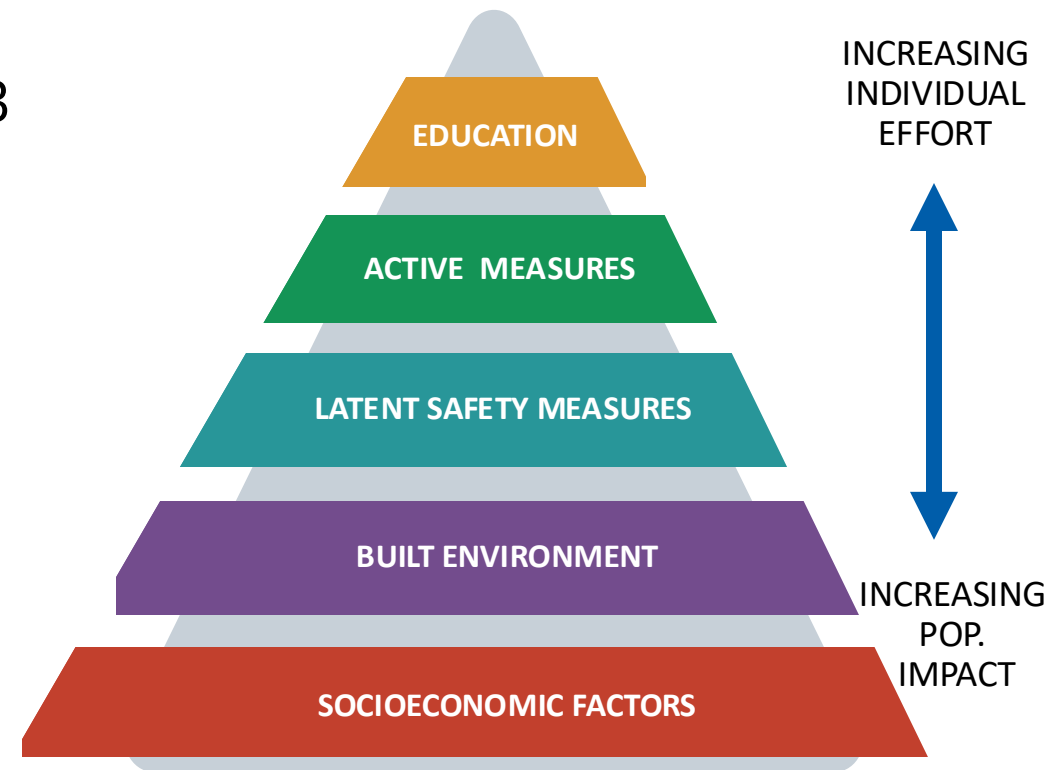
Public Health Principles Can Help Implement a Safe System Approach

“Leveraging public health approaches can assist with the practical implementation of a Safe System Approach.”

- National Roadway Safety Strategy, 2023

2 foundational public health approaches that can be particularly useful:

- Multi-disciplinary coalitions to tackle complex problems
- **Prioritizing for population-level impact (Health Impact Pyramid)**

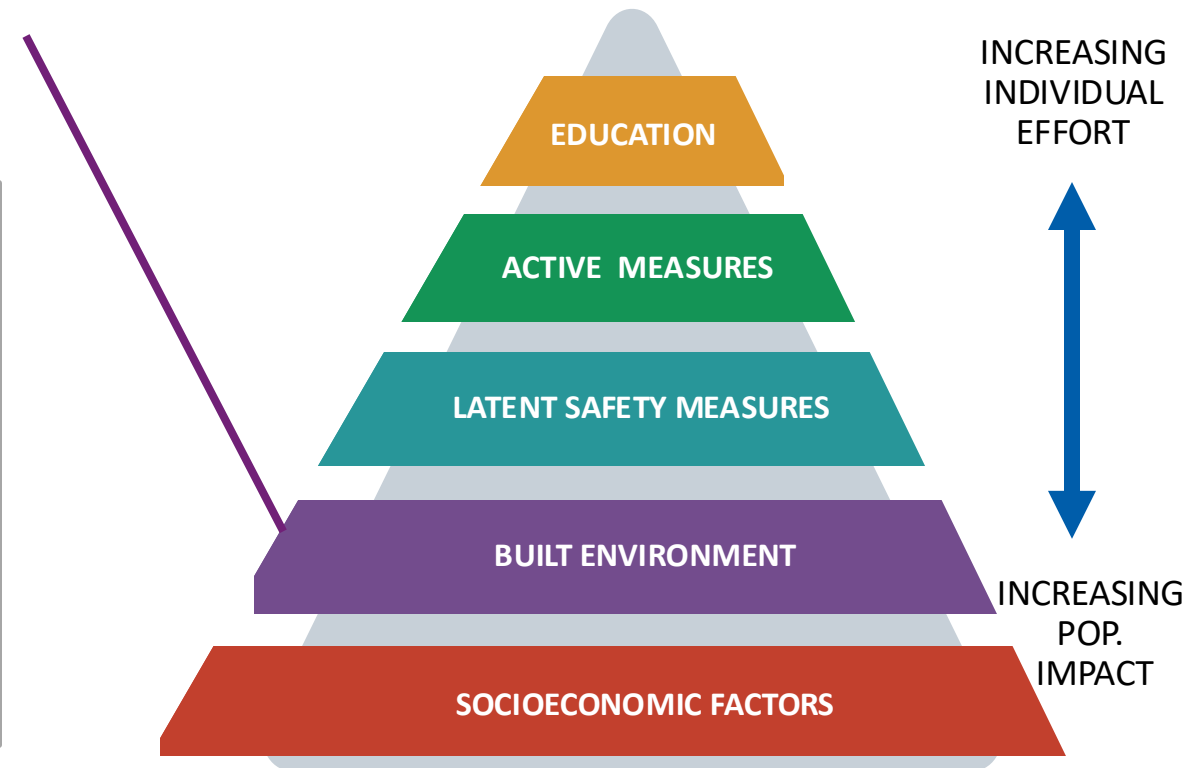


What does this look like in action?



Some Examples of Applying Public Health Principles in Action

- + Complete Streets Policies
- + Vulnerable Road User Assessments and Plans



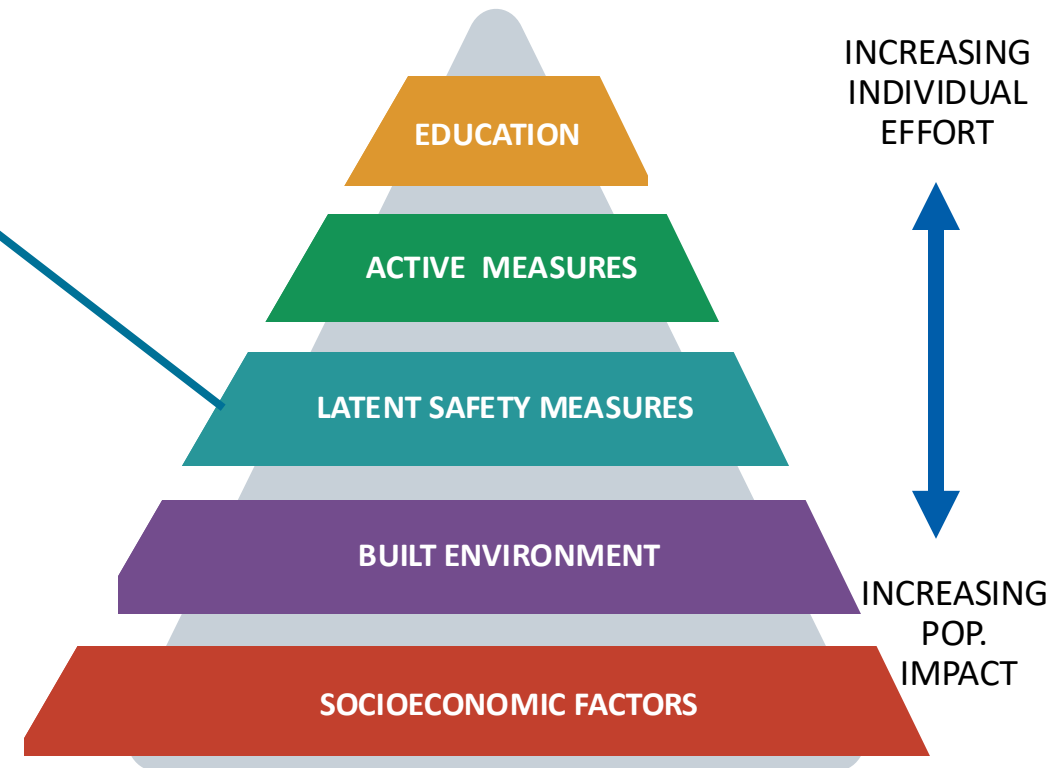
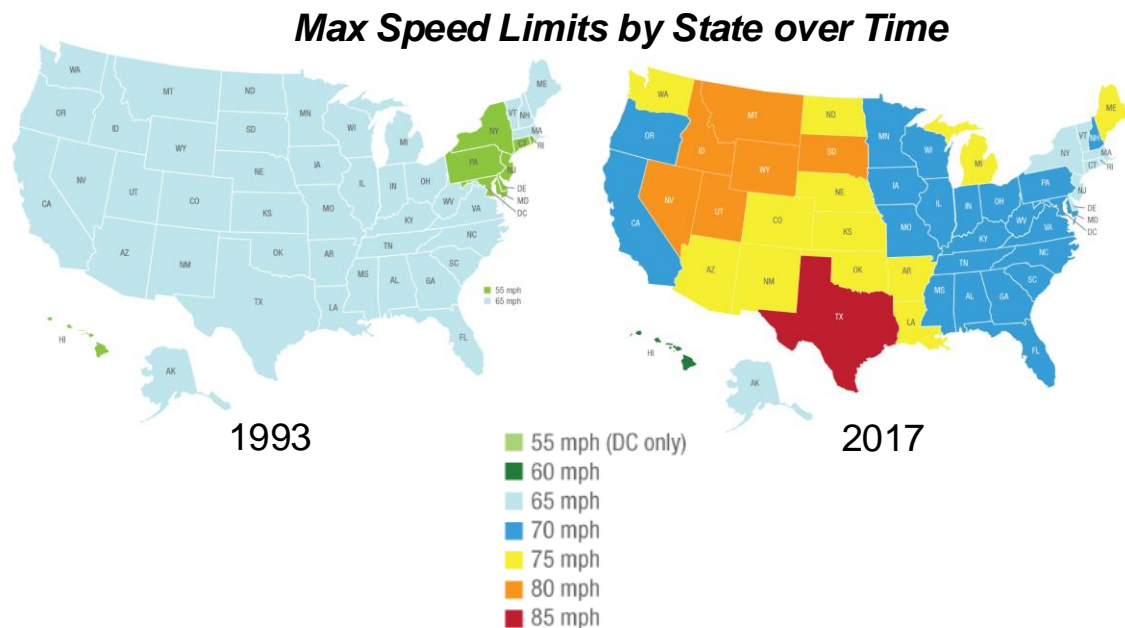
Some Examples of Applying Public Health Principles in Action

- + Quick builds or demonstration projects to try out change, to engage the community, to achieve quick successes



Some Examples of Applying Public Health Principles in Action

- + Speed limits to match roadway conditions & road uses
- + Speed safety cameras



Ground Covered

+ **Data:**

Public health data can help us gain a more complete picture of burden, progress, and challenges. State departments of public health are excellent partners for helping to gain this more complete understanding.

+ **Science:**

Multi-disciplinary coalitions and prioritization tools (e.g., Safe System Pyramid) for population-level impact can help implement and realize a Safe System Approach.

+ **Action:**

Numerous opportunities exist for quick state-level support, including coordination of Safe System adopting communities, involvement in quick build or demonstration projects, state Vulnerable Road User Assessments and Plans.

Additional Resources for More Information

+ CDC Data and Info to Inform Action:

- CDC Pedestrian Safety Page: <https://www.cdc.gov/pedestrian-bike-safety/about/pedestrian-safety.html>
- Fatal Injury Data: <https://wisqars.cdc.gov/>
- Nonfatal Injury Data: <https://www.cdc.gov/nssp/index.html> and <https://wisqars.cdc.gov/>

+ Transportation Coalition Info and Communities of Practice:

- Community Guide: <https://www.thecommunityguide.org/findings/motor-vehicle-injury-alcohol-impaired-driving-multicomponent-interventions-community.html>
- FHWA Community Pairing Program: <https://highways.dot.gov/safety/zero-deaths/vision-zero-cop/community-pairing-program>
- State Model for Supporting Coalitions and Communities of Practice: <https://ncvisionzero.org/leadership-institute/>

+ Prioritizing for Public Health Impact:

- Public Health Impact Pyramid: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2836340/>
- Adaptation to the Safe System Pyramid for population-level impact: <https://www.sciencedirect.com/science/article/pii/S2590198223001525> and <https://visionzeronetwork.org/applying-the-health-impact-pyramid-to-roadway-safety/>

+ Quick Builds and Demonstrations for Early Success:

- Smart Growth America: <https://smartgrowthamerica.org/program/national-complete-streets-coalition/quick-build-demonstration-projects/>
- City of Atlanta, Tactical Urbanism Guide: <https://www.atlantaga.gov/home/showpublisheddocument/54451/637817402832230000>

+ Additional Evidence-based Strategies:

- CDC's Community Guide: <https://www.thecommunityguide.org/>
- FHWA's Proven Safety Countermeasures: <https://highways.dot.gov/safety/proven-safety-countermeasures>
- NHTSA's Countermeasures that Work: <https://www.nhtsa.gov/book/countermeasures-that-work/pedestrian-safety/countermeasures>

References and Sources of Data & Images

- + Slides 3 & 4: National Vital Statistics System (NVSS) data from CDC WISQARS. CDC, 2024. Available from: <https://wisqars.cdc.gov/>
- + Slide 5:
 - Doggett et al. Evaluating Research on Data Linkage to Assess Underreporting of Pedestrian and Bicyclist Injury in Police Crash Data. 2018. Available from: https://safetrec.berkeley.edu/sites/default/files/trb_2019_underreporting_final.pdf
 - Cherry et al. Completing the Picture of Traffic Injuries: Understanding Data Needs and Opportunities for Road Safety. CSCRS Report, 2018. Available from: https://www.roadsafety.unc.edu/wp-content/uploads/2018/11/CSCRS_R4_FinalReport.pdf
 - Barry V, Van Dyke ME, Nakayama JY, et al. Emergency Department Visits for Pedestrians Injured in Motor Vehicle Traffic Crashes — United States, January 2021–December 2023. MMWR Morb Mortal Wkly Rep 2024;73:387–392. DOI: <http://dx.doi.org/10.15585/mmwr.mm7317a1>
- + Slide 7:
 - US DOT. National Roadway Safety Strategy. US DOT, 2022. Available from: <https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf>.
- + Slide 10:
 - Frieden TR. A Framework for Public Health Action: The Health Impact Pyramid. American Journal of Public Health 2010; 100(4):590-595.
 - Ederer DJ, Panik RT, Botchwey N, Watkins K. The Safe Systems Pyramid: A new framework for traffic safety. Transportation Research Interdisciplinary Perspectives 2023; 21, 100905.
 - National Highway Traffic Safety Administration. Fatality Analysis Reporting System 2018-2022. Reported by Smart Growth America. Available at: https://smartgrowthamerica.org/wp-content/uploads/2024/05/DBD-2024-graphics_Income-2-1024x687.png
 - Portland Vision Zero Traffic Crash Report 2021. Available from: <traffic-crash-report-2021.pdf> (portland.gov)
- + Slide 11:
 - Federal Highway Administration . Vulnerable Road User Safety Assessments. https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-10/VRU%20Safety%20Assessment%20Guidance%20FINAL_508.pdf
 - US DOT. Complete Streets Policies. Available from: <https://www.transportation.gov/mission/health/complete-streets-policies>
 - FHWA's Proven Safety Countermeasures: <https://highways.dot.gov/safety/proven-safety-countermeasures>
- + Slide 12: <https://www.iihs.org/news/detail/speed-limit-increases-are-tied-to-37-000-deaths-over-25-years>
- + Slide 13: tacticalurbanismguide.com/about/; <https://www.atlantaga.gov/home/showpublisheddocument/54451/637817402832230000>

Thank you!

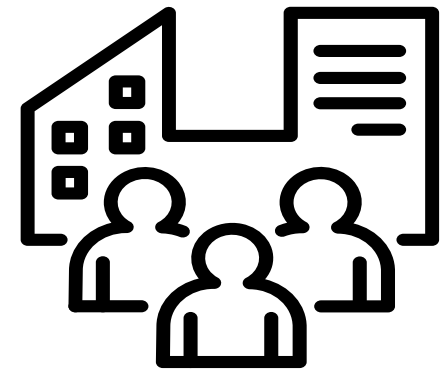
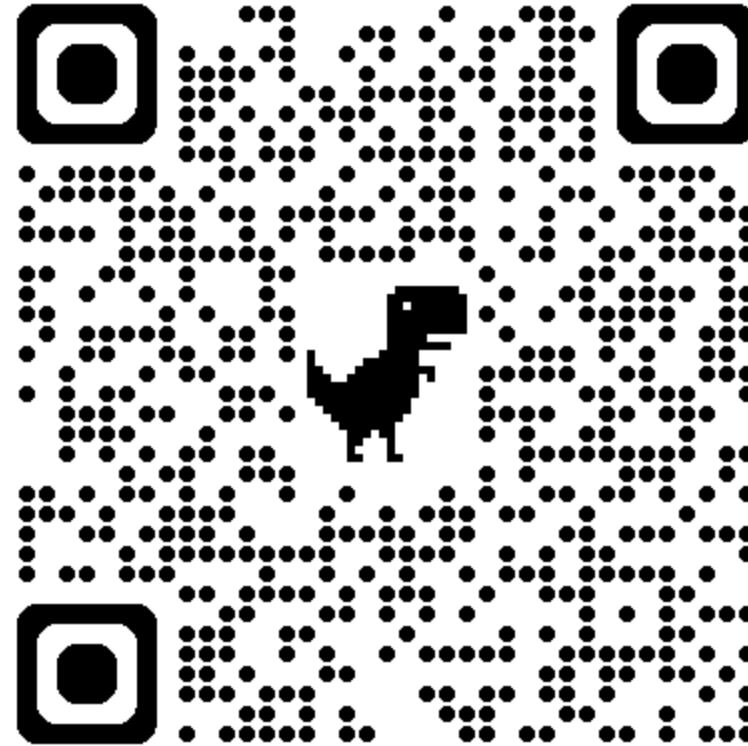
Becky Naumann, BNaumann@cdc.gov



The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Who Can Access Emergency Department Syndromic Data?

- Programs usually sit in state/local health departments
- QR code is link to webpage that lists contact information for syndromic programs in different jurisdictions



<https://nsspcommunityofpractice.org/resources/#ss-nation>



Safe System Pyramid Examples