



Present and Promising Roles for Public Health Partners in Road Safety

Prepared by:

University of North Carolina Highway Safety Research Center

With support from:

The Association of State and Territorial Health Officials

The Centers for Disease Prevention and Control

July 2025

Introduction

Public health professionals are playing increasingly visible and varied roles in traffic safety in the U.S. While national conversations tend to emphasize [engineering, enforcement, and education](#) measures, much of the everyday work happens at the local, regional, and State levels, where public health agencies bring essential expertise and community insight. These professionals contribute to traffic safety through data collection, injury prevention programming, and by reframing safety as an issue of health, community wellbeing, and systems change. Their perspective and expertise make them critical partners in efforts to create safer, healthier transportation systems.

In a series of conversations with 14 professionals working across the public health, transportation, and injury prevention, a research team with the University of North Carolina Highway Safety Research Center (HSRC), in collaboration with Association of State and Territorial Health Officials (ASHTO), learned about more traditional roles public health partners have played in advancing road safety in the U.S. The team also revealed strategic opportunities for public health to be more involved in road safety work given the complex and ever-changing nature of road injury.



The Many Roles of Public Health in Road Safety

"We think about crashes as a disease...the agent causing the disease is kinetic energy transfer."

Broadening the Definition of Safety

Road safety is increasingly recognized as a [population health issue](#), expanding beyond a series of isolated incidents. Moreover, rather than focusing solely on infrastructure or individual behavior, [public health perspectives emphasize root causes](#), cumulative risk, and the human consequences of serious crashes. One colleague emphasized the importance of connecting road safety with other public health concerns, such as chronic disease, reflecting, "We think about crashes as a disease... the agent causing the disease is kinetic energy transfer." Another colleague added insight into how public health have helped reframe crashes as leading causes of fatalities or life-altering injuries and to "shift the conversation away from individual blame to broader system performance."

Integrating Data Beyond Crashes

Traditional traffic crash data misses the full scope of the road injury burden. Public health partners bring tools like trauma registries, emergency response data, and [social vulnerability indicators](#) to fill gaps in our collective understanding of road injury. For example, [crash reports only tell us](#) about who was involved in a crash, the movements crash-involved parties made just prior to colliding, where and when the crash occurred, and which party was at fault for the collision. However, as one colleague noted, "data from trauma centers helps paint the whole story: before, during, and after crashes." Others recognized the importance of incorporating qualitative and lived-experience data, such as near-misses, or barriers to transportation via transit, walking, or biking that community members experience into safety analyses.

Strengthening Evaluation and Learning

In addition to broadening our understanding of the social burden of road injury, public health partners emphasize evaluation, often drawing on methods such as logic models, systems thinking, and quasi-experimental designs. One colleague noted, "public health professionals have strong skills in designing, collecting, and analyzing qualitative data," which can support safety planning and accountability.

Other colleagues described how certain lives are left out of data decisions, such as unhoused pedestrians who "are often omitted from data and their stories rarely inform policy." This omission can lead to a kind of "double erasure", wherein unhoused crash victims' information is found in

neither public records nor in community discourse. These insights illustrate how public health can help uncover risks and promote safety planning for all.

Findings from these conversations highlight the many ways public health professionals are contributing to road safety today and reveal opportunities to deepen and expand their role. These perspectives inform a set of strategies that public health professionals can use to guide their involvement in traffic injury prevention efforts.

Strategic Opportunities for Public Health in Road Safety

Embed Safety into Planning and Policy

- Collaborate with planning commissions and local zoning officials to influence transportation decisions impacted by local land use (e.g., approving the siting of affordable housing in proximity to jobs and commercial land uses thereby reducing the need to drive for all purposes).
- Promote the integration of health indicators and safety metrics in transportation project prioritization using [CDC's Social Vulnerability Index](#) or other public health indicator systems.
- Leverage existing domains of public health authority, such as [community health assessments](#) or [environmental reviews](#), and incorporate assessments of injury risk associated with land development or road building proposals.

Reframe the Narrative to Support Systems Change

- Lead efforts to [employ language that humanizes the victims of road trauma](#), placing road injuries into broader contexts (e.g., “this is the 5th crash resulting in injury on this road in just the last 2 years”) and avoiding blaming individuals involved in serious or fatal crashes.
- Frame road injuries as “trauma” and with the [same urgency as infectious diseases](#), as both devastate people and communities and are entirely preventable.

Promote Systemic Safety Approaches

- Make clear [connections between transportation system design and broader social goals](#) such as mental health, social connection, and community well-being. As one colleague observed, transit provides more than just mobility but also “social infrastructure” to help reduce social isolation.
- Advocate for policies and built environment interventions that reduce isolation and safety risk rather than relying solely on individual behavior change or enforcement. To this point,

one colleague asked, “We educate kids on seat belts, mandate airbags, and enforce laws—why don’t we layer road safety the same way?”

- Draw inspiration from the [Safe Systems Pyramid](#), modeled after the [Health Impact Pyramid](#) (Figure 1). As seen from Figure 1, the factors that impart the largest public health impacts and require the least amount of individual effort are socioeconomic and directly within the purview of public health (e.g., affordable housing located near transit, zoning reforms which allow for homes, jobs, and retail to be closer in space and thus more accessible to one another).

Figure 1. Safe Systems Pyramid ([Vision Zero Network, 2024](#) adapting [Ederer et al., 2023](#))



Bridge Sectors and Build Coalitions

- Create roles that [bridge agencies and share staffing models](#). Consider stationing these professionals across the State and tasking them with facilitating cross-sector partnerships and advocating for healthy infrastructure projects within their respective regions.
- Crosstrain transportation, public health, and mission-aligned professionals in the application of Safe System principles and practices. One colleague shared how State Highway Safety Offices (SHSOs) are never housed in Health Departments, cutting off natural collaboration. There should be cross-training to bridge enforcement, transportation, and public health silos.
- Explore pooled funding models that support ongoing collaboration with transportation partners and that extend beyond traditional funding cycles.

Conclusion

Public health partners have long served critical injury surveillance, community outreach, and evaluation roles in road safety. With persistent and often rising road trauma across the United States each year, a growing number of professionals in transportation, road safety, and public health are recognizing a need to consider road injury in a more holistic way. This research-to-practice brief highlights the present and strategic opportunities for public health in road safety to embed safety into planning and policy discussions and decisions; reframe narratives on road injury to shift from individual blame to systemic responsibility; promote systemic safety approaches over individual education efforts; and bridge sectors and build coalitions and work toward aligning funding streams. All these promising practices underscore the need for courageous leadership.

References

- Centers for Disease Control and Prevention. Agency for Toxic Substances and Disease Registry. (2024). *Social vulnerability index*. <https://www.atsdr.cdc.gov/place-health/php/svi/index.html>.
- Ederer, D. J., Panik, R. T., Botchwey, N., & Watkins, K. (2023). The Safe Systems Pyramid: A new framework for traffic safety. *Transportation Research Interdisciplinary Perspectives*, 21, 100905. <https://doi.org/10.1016/j.trip.2023.100905>.
- Federal Highway Administration. (n.d.). *Crash modification factors clearinghouse*. U.S. Department of Transportation. <https://cmfclearinghouse.fhwa.dot.gov/>.
- Federal Highway Administration. (n.d.). *Integrating road safety into NEPA analysis: A practitioner's primer*. U.S. Department of Transportation. https://www.environment.fhwa.dot.gov/NEPA/road_safety_NEPAanalysis.aspx.
- Frieden, T. R. (2010). A framework for public health action: The health impact pyramid. *American Journal of Public Health*, 100(4), 590-595. <https://doi.org/10.2105/AJPH.2009.185652>.
- Keefe, E., LaJeunesse, S., & Heiny, S. (2022). *Shaping the narrative around traffic injury: A media framing guide for transportation and public health professionals*. Collaborative Sciences Center for Road Safety. https://www.roadsafety.unc.edu/wp-content/uploads/2022/10/CSCRS_FGuide_v2.pdf.
- Marshall, W. E., Piatkowski, D. P., & Garrick, N. W. (2014). Community design, street networks, and public health. *Journal of Transport & Health*, 1(4), 326-340. <https://www.sciencedirect.com/science/article/abs/pii/S2214140514000486?via%3Dihub>.
- National Highway Traffic Safety Administration. (2023). *Countermeasures that work*. <https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work>.
- Tennessee Department of Health. (n.d.). Healthy development coordinators. <https://www.tn.gov/health/health-program-areas/office-of-primary-prevention/redirect-opp/built-environment-and-health/healthy-development-coordinators.html>.
- Vision Zero Network. (2024, January). *Thinking & acting differently for Vision Zero: Applying the health impact pyramid to roadway safety*. <https://visionzeronetwork.org/applying-the-health-impact-pyramid-to-roadway-safety/>