

Pedestrian and Bicycle Information Center



2023 Annual Report



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Letter from the Directors

The Pedestrian and Bicycle Information Center, managed by the University of North Carolina at Chapel Hill's Highway Safety Research Center (HSRC), is pleased to present our annual reporting of the Center's activities and efforts, highlighting our ongoing endeavors to improve the safety, accessibility, and comfort of our streets and off-street trails and paths. Our work focuses on improving travel options for all users of the surface transportation system, including people who walk, bike, use micromobility devices, use shared use paths and other trails, ride on transit, and rely on wheelchairs and other assistive devices.

This year's report holds particular significance as it coincides with us moving into the 25th anniversary of the establishment of the PBIC by the Federal Highway Administration (FHWA). Since 1999, PBIC has remained committed to developing and sharing research and resources that advance mobility, accessibility, equity, and safety for active travelers.

Over the past year, we witnessed significant updates to regulatory frameworks and infrastructure standards aimed at improving accessibility and safety. The US Access Board issued its Final Rule on Public Right-Of-Way Accessibility Guidelines, encompassing more than two decades of research and revision, with updates that improve access and safety for people with disabilities. The Manual on Uniform Traffic Control Devices was also updated to the 11th edition in 2023, 14 years since the last edition, to include updates that aim to improve safety for pedestrians and bicyclists and also acknowledge micromobility as a growing form of travel.

The year was also marked by the continuation of several funding awards and opportunities available under the Infrastructure Investment and Jobs Act / Bipartisan Infrastructure Law that offers unprecedented opportunities for local governments and communities to obtain \$550 billion in funding and technical assistance to make transportation systems safe, equitable, and resilient. The Inflation Reduction Act offers an additional \$5 billion in funds. These two funding vehicles, along with other discretionary and formula grants, represent the largest, long-term investment in transportation infrastructure and programming in history.

Much of the work over the last year has also been due to the tireless efforts and unwavering commitment demonstrated by our national and local partners in translating national guidance into actionable strategies for States and communities. They have made significant strides in fostering direct community engagement and facilitating access to resources and investments for local projects and programs.

The report that follows provides information and context about major advancements over the last year and PBIC's contributions to these domains. As we reflect on our past achievements and current endeavors, we hope to further the ability to embed nationally recognized innovations, resources, and approaches at the State level, for direct community focus and application. Through collaboration at all levels, we can continue moving toward a future where communities thrive through multimodal and sustainable transportation solutions.

We wish to thank FHWA for their ongoing support and our partners who join us in our collective work in shaping a more accessible, equitable, and safe transportation system. Thank you for your continued commitment and dedication to our shared mission.



Dr. Laura Sandt, Director, PBIC



Nancy Pullen-Seufert, Associate Director, PBIC

PBIC contributed to the conversation by presenting Federal funding opportunities at two conferences in North Carolina. At the NC BikeWalk Summit and NC Section of the Institute of Transportation Engineers (NCSITE), approximately 150 participants from organizations across the State learned about the new discretionary funding options that local agencies may consider for supporting projects. Additionally, PBIC webinars complemented these efforts by highlighting funding opportunities relevant to presentation topics. To further assist communities in budgeting and planning for new infrastructure, PBIC initiated work to update [Costs for Pedestrian and Bicycle Infrastructure Improvements](#).³ This project involves comprehensive research to define and update treatment categories and document their current costs.

Funding for Active Transportation



Pedbikeimages.org / Dan Burden



2022 NC Thriving Communities

Town of Elizabethtown
Category: Main Streets
 Support will help advance local goals to install sidewalks, bicycle lanes, street lighting, and streetscape.



Town of Elizabethtown

City of Charlotte
Category: Complete Neighborhoods
 Support will focus on six corridors within disadvantaged areas to help implement the City's Corridors of Opportunity.



Forbes.com

Select slides from presentations on active travel funding opportunities for NC BikeWalk Summit and NCSITE meetings. Source: PBIC.^b

To help make it easier for communities across the country to navigate, access, and apply for the various new and existing funding opportunities, PBIC shared updates to USDOT and FHWA funding guides and resources. One of the go-to funding resources includes the [USDOT Navigator](#)⁴ that serves as the virtual one-stop shop to find information about all Federal transportation programs and technical assistance, with the ability to filter results by type of mode and sponsor agency. The FHWA [Pedestrian and Bicycle Funding Opportunities Table](#)⁵ also shares information about Federal funding for pedestrian, bicycle, and trail programs and projects, organized by project type and sponsoring agency.

Other organizations also launched programs to help communities navigate the many new funding opportunities and learn how to leverage existing awards and understand program requirements. America Walks, the League of American Bicyclists, and the Safe Routes Partnership, with support from the Centers for Disease Control and Prevention, launched the [Intersections Initiative](#)⁶ to help community leaders, organizations, and local government agencies apply for different types of funding. The Robert Wood Johnson Foundation and Smart Growth America, in collaboration with Equitable Cities, the New Urban Mobility Alliance, and America Walks created the [Community Connectors](#)⁷ program to help reconnect communities via support and Federal and State funding. A [Community Connectors Portal](#)⁸ from Transportation for America explains more about the roles, responsibilities, and processes related to community members, organizations, and funding. PBIC shared these resources to further help communities.

COMMUNITY CONNECTORS

A program to help small and mid-sized communities repair the damage of divisive infrastructure



Participating Communities:

- Albany, NY
- Appleton, WI
- Buffalo, NY
- Cleveland, TN
- Durham, NC
- East Orange and Orange, NJ
- Flint, MI
- Hartwoodburg, VA
- Jefferson Parish, LA
- Macon, GA
- Minneapolis, MN
- National City, CA
- Saint Louis, MO
- Spokane, WA
- Trenton, NJ

INTERSECTIONS INITIATIVE

HEALTHY, THRIVING COMMUNITIES FOR EVERYONE.

The Intersections Initiative connects community leaders, organizations, and local government agencies to technical assistance and funding that make our streets safer and more accessible for people to walk, roll, and bike.

LEARN MORE



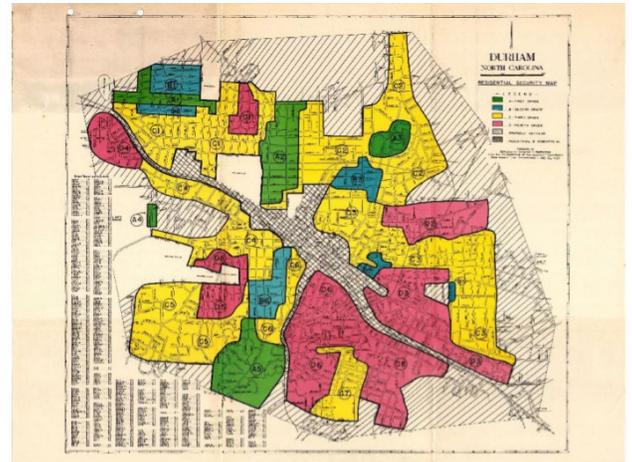
Screen capture of Community Connectors (left) and Intersection Initiatives (right) programs. Sources: Smart Growth America and Intersections Initiative websites.^{c,d}

Towards Inclusive Transportation for People to Walk, Bike, and Roll

Inequity persists for people who walk, bike, and roll as they often face inadequate infrastructure, unsafe road conditions, and limited accessibility. Mobility is hindered by the increase in fatality and severe injury outcomes for people outside of the vehicle, and overrepresentation of Black, Indigenous, and People of Color, as well as older people, and those in low-income neighborhoods being more likely to die while walking. Transportation practitioners in agencies and organizations are actively working to address these disparities, striving to create inclusive and accessible environments that prioritize the diverse needs of pedestrians, bicyclists, and individuals using alternative modes of transportation.

Advancing Equity

Understanding historical contexts and past decision-making allows us to better understand why some injustices exist today and redirect the course to a path towards a more equitable future. [Structural Racism and Pedestrian Safety: Measuring the Association Between Historical Redlining and Contemporary Pedestrian Fatalities Across the United States, 2010–2019](#),⁹ a research paper published in 2023 with contributions from PBIC team members, finds a significant relationship between historical redlining and present-day inequities in pedestrian fatalities across the US. The novel study compares traffic fatality data from the Fatality Analysis Reporting System for all US pedestrian fatalities linked by location of crash to 1930s Home Owners' Loan Corporation grades and current sociodemographic factors at the census tract level. A discussion offers three ideas for future research to address inequities for pedestrian fatalities.



1930s Home Owners' Corporation Loan Map for Durham, NC, from University of Richmond Mapping Inequality, as reprinted in "Structural Racism and Pedestrian Safety" JAMA journal paper. Source: Nelson et al.^e

Equitable Cities, a PBIC team member, released [Arrested Mobility: Barriers to Walking, Biking, and E-Scooter Use in Black Communities in the United States](#)¹⁰ to provide a comprehensive review of transportation-related laws, policies, and practices concerning walking, cycling, and e-scooter use that limit mobility, opportunity, and access for Black Americans and other people of color. It includes a survey of policies in States, counties, and cities that enable racially discriminatory policing, including laws related to jaywalking, requirements for bicycle equipment, and e-scooter parking. While the report acknowledges that there have been recent successful efforts to decriminalize systemically racist mobility-related policies, it also offers recommendations as foundational steps for truly addressing equity in transportation. Monthly [Arrested Mobility podcasts](#)¹¹ with host Charles T. Brown covers emerging topics related to equity to give a deeper understanding.



Cover of "Arrested Mobility" Report. Source: Equitable Cities, Arrested Mobility.^f

At the national level, the [Justice40 Initiative](#),¹² launched by the Executive Office of the President, aims to redirect resources to communities that have borne the burdens of inequitable investments and resulting environmental and economic risks. PBIC shared information about this initiative to ensure that communities and agencies were aware of the opportunities it presents to address deficiencies in transportation infrastructure and services for those communities most in need. The [USDOT Equity Action Plan](#)¹³ lists specific actions and timelines that focus on ways to increase wealth, build capacity, offer assistance, and expand access.



*Equity Action Plan Update Process (left) and photo from in-person public dialogue event at USDOT headquarters (right).
Source: USDOT, Equity Action Plan 2023 Update.⁹*

In 2023, USDOT announced the appointment of 24 members to the relaunched [Advisory Committee on Transportation Equity](#).¹⁴ As advisees to the USDOT, committee members are leading experts in community engagement, transportation planning, design, research, policy, advocacy, and diversity, equity, inclusion, and accessibility, and will help the USDOT in advancing civil rights and expanding access to jobs and economic opportunities for all communities.

As part of Justice40 efforts, the FHWA launched an [Equity in Roadway Safety Webinar Series](#)¹⁵ dedicated to helping practitioners prioritize equity in road safety data analysis, processes, and meaningful community engagement. With webinar sessions set through 2024, the series offers tools and strategies to address stark disparities in traffic fatalities and injuries. Webinar sessions also focus on opportunities to improve roadway safety for people with disabilities, in rural areas, and with tribal partners. An [article featured in the FHWA Safety Compass Newsletter](#)¹⁶ describes the full scope of efforts from FHWA to advance equity and improve the health and wellbeing of all people. PBIC shared the Committee updates, the webinar series, and compilation of Federal efforts with its audience to ensure widespread awareness and understanding of the initiatives aimed at inclusive and accessible transportation strategies for all communities.

At the same time, practitioners contributed other research and works to provide more texture to equity-related issues that communities currently face. To move equity conversations forward and provide a consistent and standard way to evaluate transportation equity, the Equity Committee of the Institute of Transportation Engineers (ITE), a PBIC team member, published a [Foundational Equity Glossary](#).¹⁷ The Glossary provides key definitions, common language, terms, and references, as well as terms to avoid and alternative suggestions. It also notes the different meanings and assumptions that different terms may mean to others, and serves as a starting point to describe some evolving language of equity.

Addressing Accessibility Barriers

In 2023, PBIC and America Walks partnered to offer a webinar [Sidewalk Inventories: A Tool for Equity and ADA Compliance](#).¹⁸ Webinar panelists introduced the importance of sidewalk inventories, compared tools for conducting inventories, and shared case studies from communities that implemented these strategies. Participants learned how sidewalk inventories help identify gaps in American with Disabilities Act (ADA) compliance and facilitate active transport to access services. Later in the year, to further bolster sidewalk mapping efforts, PBIC shared a FHWA [Sidewalk Mapping for Pedestrians with Disabilities Navigation Workshop](#)¹⁹ summary that focuses on research needs for sidewalk mapping as well as the roles of community members and practitioners who can impact the deployment of sidewalk mapping technologies.

ADA Compliance and Inventories

While the ADA is the primary impetus for conducting inventories, need local political will

- Concern over ADA lawsuits is a key motivation
- Local priorities determined by municipal leaders

Fig.10: www.pedbikeimages.com/ Dan Burden

Detailed data on pedestrian infrastructure allow personalized routing and navigation

"I need curb ramps, I cannot go up steep slopes I want to cross streets using crosswalks and traffic signals"

These sidewalks are too narrow

No crosswalks!

No curb ramps!

Use the skybridge

Too steep for me!

Select slides from "Sidewalk Inventories: A Tool for Equity and ADA Compliance" PBIC webinar, July, 2023. Source: PBIC.^h

One of the major updates in 2023 related to accessibility guidelines and recommendations was the US Access Board final rule on [Public Right-of-Way Accessibility Guidelines \(PROWAG\)](#).²⁰ These guidelines inform Federal, State, and local government agencies on how to make their pedestrian facilities, such as sidewalks, crosswalks, shared use paths, curb ramps, pedestrian signals, on-street parking and other components of public rights-of-way, accessible to people with disabilities. The guidelines are mandatory and enforceable after adoption by Federal agencies. Beyond sharing information about the final rule, PBIC provided regular updates on resources issued by the US Access Board and other organizations that [offered resources and assistance on significant updates and notable changes](#).²¹

The PROWAG updates also have major implications for ADA legislation. ADA requires public agencies with 50 or more employees to develop an ADA Transition Plan that commits to removing barriers for people with disabilities and ensures that their programs, services, and facilities are accessible to all users. These plans must include an inventory of the barriers that prevent access and plans to remove them. Relevant inventories often maintained by State DOTs include public rights-of-way, such as sidewalks, curb ramps, crosswalks, pedestrian signals, on-street parking, and transit stops, and transportation facilities, such as public buildings, rest stops, and transit stations.

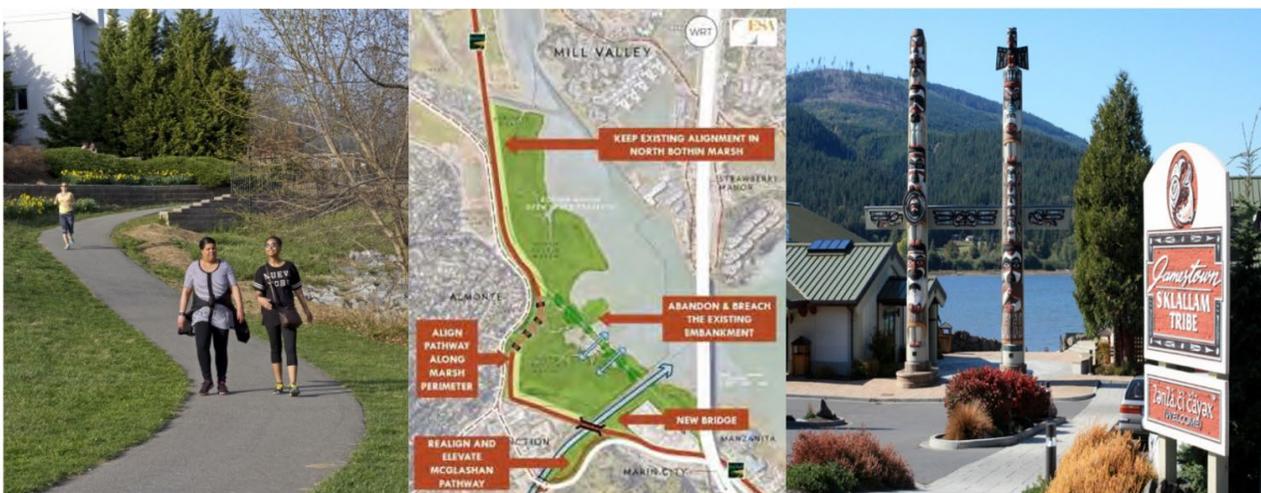
FHWA, in partnership with the Bureau of Transportation Statistics, launched a new [ADA Transition Plan and Inventory interactive website](#)²² and [accompanying background and tutorial](#)²³ to help State DOTs, including planners and policymakers, understand and prioritize the elimination of inaccessible infrastructure when making transportation investments. Users can find the ADA Transition Plan for each State DOT, when it was last updated, and the associated inventory of barriers, if available. This work helps to advance USDOT's [Disability Policy Priorities](#),²⁴ including actions to enable [multimodal accessibility for individuals with disabilities](#).²⁵ PBIC shared these resources to help reach State DOTs and other decision makers and aid in the implementation and understanding of these critical updates.

Connecting More Places and Expanding Trails

Serving as pathways that wind through natural landscapes, urban environments, and scenic routes, trails provide the opportunity to explore surroundings, foster a sense of community, and promote physical well-being. Whether on foot, bicycle, or other nonmotorized means, trails offer a sustainable and inclusive mode of transportation that help people reach new and expanded destinations and services in their communities and beyond.

Use of trails rose sharply during the onset of the pandemic due to demand and need for safe outdoor activity and socialization. This increase in participation highlights the importance of access to the outdoors for all communities, and multimodal trail networks support a multitude of purposes for people who walk, bike, and roll. [Advancing Trails to Support Multimodal Networks](#),²⁶ an information brief published by PBIC, takes a fresh look at the current state of practice for trail development, including benefits, guidance and resources, and strategies for planning that distribute benefits equitably. It also includes new research and shares examples of applications of trails in communities.

To further explore the information brief and other newly published resources related to the role of trails in accessibility, safety, and environmental practices, PBIC initiated plans for a webinar to also include panelists who developed the new FHWA guidebook [Trails as Resilient Infrastructure](#).²⁷ The guidebook demonstrates how trails are part of resilient transportation infrastructure, how trails can be planned and designed to be resilient and sustainable, and how trails have a role in emergency planning and response.



Images (from left to right) from reports showing people walking on a paved trail, plan for improvements on the Mill Valley-Sausalito Path, CA, (Image: Marin County Parks) and view of Tribal Dance Plaza and Welcome Totems from the Olympic Discovery Trail with Sequim Bay in the background. (Image courtesy of Jamestown S'Klallam Tribe)
Sources: (from left to right) PBIC, [Advancing Trails to Support Multimodal Networks](#),ⁱ FHWA, [Trails as Resilient Infrastructure](#),^j and [Tribal Development of Trails and Other Dedicated Pedestrian and Bicycle Infrastructure](#).^k

Throughout the year, PBIC shared resources and educational opportunities that focused on efforts to support and expand trails. A new white paper, [Tribal Development of Trails and Other Dedicated Pedestrian and Bicycle Infrastructure](#),²⁸ provides information and resources for Tribes, Tribal trails and active transportation advocates, and other agencies on the health and economic benefits of trails, funding and partnership opportunities, and resources for trail planning. The Partnership for the National Trails System offers a [Native Lands, National Trails GIS map](#)²⁹ that provides information about indigenous ancestral lands and the many communities that the National Trails System crosses. American Trails also launched a [free, five-part self-directed course](#)³⁰ to provide foundational understanding of terminology and concepts related to trails.

E-Scooters and Micromobility Safety

Over the past year, cities and towns nationwide have grappled with the introduction of new transportation modes, notably motorized options like e-bikes and e-scooters. Responses to micromobility vary widely among communities, ranging from enthusiastic adoption to outright bans. There's a growing recognition of the need for supportive infrastructure and policies to navigate this transition. The response from Federal agencies, State DOTs, and local communities to the demand for safe and equitable micromobility will ultimately determine their permanence on city streets.

Understanding more about current issues, implementation, and management, can help shape collective micromobility safety efforts. To respond to this need, a team of researchers, that included several PBIC team members, worked on [E-Scooter Safety: Issues and Solutions](#),³¹ a Behavioral Traffic Safety Cooperative Research Program project sponsored by the Transportation Research Board. The research team published a two-year study and supporting resources on emerging safety issues and how communities are responding to improve e-scooter safety. An additional [Toolbox](#)³² developed for practitioners translates the final report findings to evidence-based guidance to help State and local agencies implement e-scooter practices to improve safety and use data tools and methods for safety evaluation. PBIC initiated plans for the upcoming year to develop a webinar series and Lifesavers 2024 conference session to share research findings and best practices.



Image from "E-Scooter Safety Toolbox" showing adaptation of Safe System approaches for e-scooter riders. Source: National Academies of Sciences, Engineering, and Medicine.¹

FHWA also advanced research on micromobility to better understand trends and impacts, and how communities around the country are managing them. New webpages on [micromobility](#)³³ and [e-bikes](#)³⁴ include more details on each related to FHWA definitions; Federal, State, and local roles and responsibilities; and USDOT and external resources and publications, including case studies. A [Micromobility Regulations and Permitting Equity Synthesis](#)³⁵ discusses the role of regulations and permitting in advancing equitable micromobility systems, provides a literature review summarizing the existing research on this topic, and identifies areas for future research.

Other conversations over the last year, highlighted by work from various organizations, have underscored the importance of equity and inclusion in micromobility access and programming. Bans on certain micromobility modes can disproportionately impact people of color who rely on these alternative transportation options due to limited access to traditional transit, as illustrated by an [Arrested Mobility podcast](#)³⁶ that tells the story of how e-scooters were banned in St. Louis, Missouri, and how these decisions harm people of color and people who rely on alternative modes of transportation. Such bans risk exacerbating existing disparities in mobility access and hindering economic opportunities for communities. Acknowledging these challenges, over the last year, some municipalities are taking proactive steps by offering rebate programs or subsidies to make micromobility more accessible to underserved and lower income populations. These initiatives not only promote inclusivity but also have the potential to contribute to a more resilient and sustainable transportation systems for all.

Making Safe Places for Children and Youth to Walk and Bike

Ensuring the safety of children while walking and biking is crucial for meeting the needs of youth who do not have other travel mode options as well as promoting healthy habits and active lifestyles. With a growing focus on sustainable transportation options like walking and biking, it is important to address safety concerns to build confidence and independence in children and families as they move around their neighborhoods. By implementing safety measures and educational programs, communities can create environments that support safe and enjoyable experiences for children as pedestrians and cyclists.

Over the last year, PBIC developed three documents detailing safety interventions with a specific focus on youth and child safety undertaken by different cities, offering practitioners a comprehensive understanding of these efforts and their impacts. These resources serve as valuable tools for professionals seeking to enhance pedestrian and bicyclist safety for children and youth in their own communities. The three cities covered as case studies include: the [city of Seattle, WA](#),³⁷ and their multiple strategies in equitably advancing walking and biking for youth; the [city of Cincinnati, OH](#),³⁸ and the use of a quick-build project to address an immediate safety problem; and the [city of Atlanta, GA](#)³⁹ and a new walking and biking lane and the community engagement around installation.



Images from case studies developed by PBIC showing projects and activities in, from left to right, Seattle, WA,^m Cincinnati, OH,ⁿ and Atlanta, GA.^o

Sources: PBIC, Vision Zero for Youth, and National Center for Safe Routes to School.

To further bolster these resources, PBIC hosted a [webinar to explore youth-engaged design and planning for quick-build projects](#).⁴⁰ Panelists from the city and county of Honolulu, HI, and an intern from Civic Design Center in Nashville, TN, described the role of young people in walking and biking projects, including identifying community and design needs, and advocating for change and installing quick build projects.

Additionally, prior to National Bike & Roll to School Day in May, 2023, PBIC held [a webinar on building momentum for youth biking](#),⁴¹ and harnessing enthusiasm in communities for child and youth activities like bike buses, bike trains, and Bike & Roll to School Day. The webinar featured “Coach” Sam Balto of Portland Public Schools, Megan Ramey of Hood River County School District, and Nancy Pullen-Seufert of National Center for Safe Routes to School as they shared inspiration and concrete ideas for increasing safe places and slowing traffic speeds to encourage biking to school.



Select slide from “Building Momentum for Youth Biking,” PBIC webinar, March, 2023. Source: PBIC.^p

Supporting Child and Youth Safety Efforts

PBIC extends its support to bolster programming initiatives aimed at improving child and youth safety within communities, including national events like [Walk, Bike, & Roll to School Days](#)⁴² and the [Vision Zero for Youth](#)⁴³ program. These programs offer platforms to help encourage communities to engage in leading walking, biking, and rolling activities for children and youth, and recognize how they are offering safer mobility options and supportive infrastructure.

Events for National Bike & Roll to School Day (May 2023) and National Walk & Roll to School Day (October 2023) serve as dedicated days for communities to offer programming and support for children and youth to arrive to school by walking, biking, or rolling and give visibility to barriers to these active travel modes. Organized by the National Center for Safe Routes to School, the events also spotlight informational resources to use all year round and highlight the fun of walking, biking, and rolling to school and other places in the community. Between both events, there were more than 4,950 registered communities participating in the event. At a national event in Washington, DC, FHWA Administrator Shailen Bhatt took the podium to share remarks about the importance of safe roads for children and youth to have mobility options and the many benefits that walking, biking, and rolling offer not just youth but all members of the community. PBIC offered help promoting announcements and social media messages prior to the events to encourage communities to register.

Led by the National Center for Safe Routes to School with support from the FIA Foundation, the [Vision Zero for Youth Leadership Awards](#)⁴⁴ recognize cities that have taken bold steps towards stopping traffic deaths among children and youth in their communities. In 2023, [Lincoln, Nebraska was awarded the US Leadership Award](#)⁴⁵ for creating a foundation for systemic safety improvements where children walk and bike. Also in 2023, [Lusaka, Zambia received the International Leadership Award](#)⁴⁶ for reducing speed limits to 30 km/hr in school zones and all urban streets and making infrastructure improvements around schools. The awards highlight noteworthy practices that communities take to improve youth road safety and share what was learned to inspire other communities. PBIC bolstered award program efforts by sharing application deadlines and summaries of both award recipient communities actions to help inspire others.



Images from the Vision Zero for Youth program, from top, clockwise, home page header,⁹ and success stories from Lusaka, Zambia,⁷ and Lincoln, Nebraska.⁵ Source: Vision Zero for Youth

Arterial Roadways and Complete Streets and International Safety Approaches

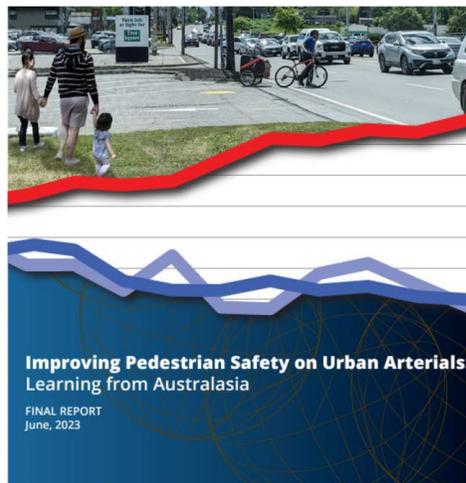
Roads designed for increased vehicular volume and faster speeds present safety concerns for pedestrians, bicyclists, and vehicles intersect. In the U.S., the majority of pedestrian fatalities occur on arterial roadways due to speed and numerous points of conflict. Mitigating pedestrian safety problems on arterials is challenging but urgently necessary for improving road safety.

An [Arterial Roads and Pedestrian Safety slide deck](#)⁴⁷ from PBIC helps State and local practitioners and their partners prepare and deliver presentations to give more context on the issues, including understanding the characteristics and history of arterial roadways. It also includes information about safety and mobility trends, common safety problems on arterial roads, strategies for applying systemic safety, including Complete Streets principles, and recommended design and countermeasures solutions for these contexts.

Pedestrian Safety and Arterial Roadways



Photo source: Toole Design Group



Images referenced in reports, from left to right, PBIC Arterial Roads and Pedestrian Safety^t and FHWA Improving Pedestrian Safety on Urban Arterials: Learning from Australasia.^u Sources: PBIC, NACTO, and FHWA.

Also in 2023, researchers including Dr. Laura Sandt, contributed to a final report sponsored by the FHWA Global Benchmarking Program project, [Improving Pedestrian Safety on Urban Arterials: Learning from Australasia](#).⁴⁸ The report documents findings from a research team studying Australian and New Zealand approaches to reduce pedestrian fatalities and serious injuries on urban, signalized arterial roadways. Key recommendations from the report include integrating: the Movement and Place Framework into existing programs and initiatives; Road Safety Audit processes into new projects; and network-level approaches in speed management. To support their findings and recommendations, researchers from the project, led by Volpe and PBIC, developed a [conference poster](#)⁴⁹ and [summary brief](#)⁵⁰ to demonstrate how to apply Australasian approaches to US policies and practices. Dr. Sandt and the research team presented the study findings in Fall of 2023 at the American Association of State Highway and Transportation Officials (AASHTO) Safety Summit and at the Association of Pedestrian and Bicycle Professionals Safety Summit. PBIC also hosted a [series of four webinars](#)⁵¹ to do an overview of the research study and each of the approaches.

Further research on arterial roadways supports Federal efforts in developing and designing safe, connected, and accessible networks. The USDOT [National Roadway Safety Strategy](#)⁵² outlines “safer streets” as a core Safe System Approach concept and outlines a Complete Streets initiative as the default design approach during project development. In early 2023, FHWA announced a [waiver on nonfederal match funds for Complete Streets](#)⁵³ to allow States and MPOs to use Federal funding for 100 percent of expenses associate with certain planning and research activities. Other FHWA Complete Streets resources developed over the last year include [Complete Streets funding information](#)⁵⁴ and an [infographic of the Complete Streets concept](#)⁵⁵ as shaped by international exchanges and scans, related data, and benefits of the approach.

Knowledge Sharing and Outreach

PBIC Model for Education, Outreach, and Communications

PBIC engages in a comprehensive range of activities that extend beyond resource development. These activities encompass capacity building through learning and education initiatives, as well as robust communication and outreach endeavors. The dissemination of information and resources is facilitated through various channels such as webinars, conference presentations, and meetings with key stakeholders. Training and education provided by PBIC cover materials developed by PBIC researchers, alongside products from Federal, State, local, professional organizations, advocacy groups, and more.

Moreover, PBIC offers on-demand technical assistance to practitioners, professionals, community members, and others interested in gaining insights into road safety for pedestrians and individuals using alternative modes of transportation. The capacity-building efforts within this diverse audience contribute to enhancing communication and outreach initiatives and also shape the content-creation process by identifying topic needs. A visual representation below elucidates the interconnections between PBIC's primary endeavors, namely content development, capacity building, and communication and outreach efforts, along with the mechanisms employed for effective delivery.

Information from resources created by PBIC and other organizations, as well as insights gained from capacity building initiatives, play a pivotal role in shaping PBIC's communication and outreach endeavors. The communication strategy aims to foster discussions on current and relevant subjects through various platforms, such as the monthly newsletter, website, and social media. By employing multiple outreach mechanisms, PBIC engages a diverse audience, disseminates valuable information, and establishes connections among organizations and community members, encouraging active participation and fostering meaningful conversations.



Model of PBIC's three functional groups across multiple task areas. Source: PBIC. ^v

Webinars

PBIC collaborates with thought leaders and peer organizations to provide [comprehensive training and webinars](#)⁵⁶ centered around both established and evolving themes within the realm of safety for people who walk, bike, and roll. Since late 2022, webinars delved into topics such as pedestrian safety and darkness, quick-build demonstration projects and programs such as Bike Buses and Bike Trains programs for child and youth safety, and separated bike lanes on higher speed roadways. Panelists and speakers represented Federal, State, and local agencies, authored groundbreaking guidance or research, or shared the lived experience and lessons learned. A diverse range of topics and speakers advances knowledge and perspectives in the field, fostering the application of innovative ideas and infrastructure solutions.

Over the last year, PBIC hosted webinars with FHWA Office of Safety support, and also partnered with America Walks to cohost webinars. Additionally, PBIC hosted a webinars series of four webinars with FHWA on the Global Benchmarking Project to improve pedestrian safety on urban arterials and lessons learned from Australasia. The webinar series shared results of the FHWA study and took a deeper dive into key strategies and themes. Panelists from FHWA, PBIC, USDOT Volpe National Transportation Systems Center, as well as agency representatives from the US, New Zealand, and Australia participated in the webinars to describe how the international approaches may be applied to US arterial roadways.

PBIC webinars consistently spotlight innovations and best practices, offering valuable guidance, sharing new resources, and fostering discussions on pivotal issues. Professionals in the transportation industry and other related fields consistently turn to PBIC for reliable guidance and ongoing educational opportunities as PBIC estimates 8,412 views of 12 webinars with 50 unique speakers offered this year through PBIC or with partner organizations.

Webinar Topic	Number of Live Views	Number of Recorded Views	Total Number of Views
Improving Safety for Pedestrians and Bicyclists Accessing Transit Guide	466	–	466
Pedestrian Safety and Darkness	793	294	1,087
Building Momentum for Youth Biking: Bike Buses, Bike Trains, and Bike & Roll to School Day	302	489	791
Separated Bike Lanes on Higher Speed Roadways	455	125	580
Bicycle and Pedestrian Planning, Program, and Project Development Guidance	1,198	234	1,432
Sidewalk Inventories: A Tool for Equity and ADA Compliance	931	54	985
Youth-Engaged Design and Quick Build Installation	277	143	420
Global Benchmarking Webinar Series: Improving Pedestrian Safety on Urban Arterials - Part 1: Introduction and Overview of Study Findings	551	107	658
Global Benchmarking Webinar Series: Improving Pedestrian Safety on Urban Arterials - Part 2: The Movement and Place Framework	439	140	579
Global Benchmarking Webinar Series: Improving Pedestrian Safety on Urban Arterials - Part 3: A Safe System Approach to Road Safety Audits	465	69	534
Global Benchmarking Webinar Series: Improving Pedestrian Safety on Urban Arterials - Part 4: Speed Management Policies and Practices	427	76	503
You Can Do It, Too! Breaking Down Institutional Barriers to Improve Safety for All Road Users	257	120	377
TOTAL	6,561	1,851	8,412

Technical Assistance and Responses to Requests for Information

Over the past year, PBIC was actively involved in providing technical assistance, responding to over 100 requests for additional information on a diverse array of topics from Federal agencies, State and local practitioners, researchers, graduate students, and many others. Topics discussed were wide ranging and focused on:

Geospatial Data	Pedestrian Scramble
School Zone Safety	Vehicle Size and Pedestrian Safety
Shifting Streets Database	Snow and Ice Removal on Sidewalks
Pedestrian and Bicycle Travel Monitoring Programs	Near-Misses and Self-Reported Crashes
E-Cargo Bike Safety	Grade-Separated Pedestrian Crossings
Walking Buses and Bike Trains	Pedestrian Bridges
Crossing Guard Placement	Sidewalk Inventories
Messaging Around Large Trucks	Sidewalk and Infrastructure Deficiencies

Among the many engagements, PBIC responded to Federal agencies like FHWA, Bureau of Transportation Statistics, and Federal Transit Administration as well as State agencies and local practitioners, such as Utah and Colorado DOTs and the City of Denver. PBIC also responded to requests from the National Association of Development Organizations.

PBIC also responded to media requests throughout the last year. Several media outlets turned to researchers at PBIC to respond to stories on pedestrian fatalities, specifically Dr. Sandt participated in deeper dive [local coverage on pedestrian fatalities](#)⁵⁷ and Dan Gelinne participated in a [story about local pedestrian safety and sidewalk connectivity](#).⁵⁸ Dr. Sandt also participated in [stories about micromobility and e-scooter safety](#).⁵⁹ Additionally, the PBIC Personal Delivery Devices Legislative Tracking database was featured in a [Supply Chain Drive article](#).⁶⁰

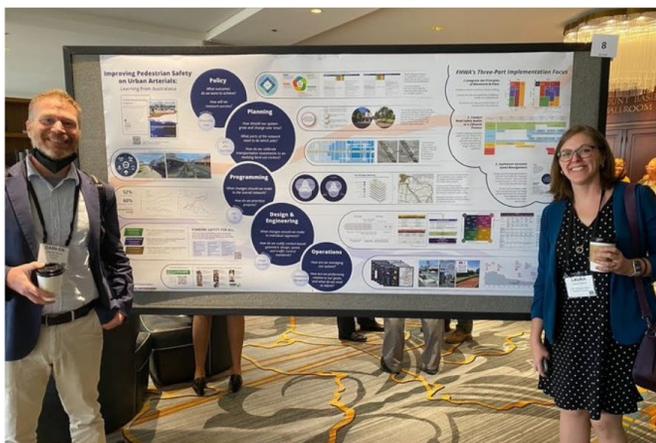


Image from left to right, Dr. Sandt of PBIC and Darren Buck of FHWA presenting a poster on the “Improving Pedestrian Safety on Urban Arterials: Learning from Australasia” at the AASHTO Safety Summit, October 2023, and Dan Gelinne participating in WRAL News coverage on pedestrian safety and walking connectivity in June 2023. Sources: Dr. Sandt^w and WRAL News.^x

Meetings with Partners and Practitioners

PBIC regularly engages with partners and peer organizations to stay informed and learn about current and emerging trends, opportunities, and needs in pedestrian and bicycle research. This engagement involves active participation in various committees and meetings with organizations focused on transportation planning and safety.

Many PBIC team members participate in Transportation Research Board Committees. At the beginning of 2023, Dr. Sandt served as committee chair of the Pedestrian Committee (ACH10). At the conference and through the year, other PBIC team members participated as members and friends of the Pedestrian Committee, as well as the Bicycle Committee (ACH20), Highway Traffic Monitoring Committee (ACP70), Accessible Transportation and Mobility Committee (AME50), Equity in Transportation Committee (AME10), Transportation and Public Health Committee (AME70), and School Transportation Subcommittee (ACS10-3). Additionally, Dr. Krista Nordback served as chair of the Bicycle and Pedestrian Data Joint Subcommittee (ACP70(2)). Dr. Nordback is also a member of the ITE Pedestrian and Bicycle Standing Committee and many PBIC team members are ITE members. All PBIC team members are APBP members.

Additionally, Sarah O'Brien and Dr. Nordback have been participating in the FHWA Bike/Ped Division Offices Workgroup meetings and presented to the FHWA Complete Streets Data Task Force on the state of research and practice on pedestrian and bicycle data. They have also participated in meetings to inform data performance metrics with the Bureau of Transportation Statistics. Similarly, Dr. Katie Harmon and Dr. Sandt presented at the Traffic Records Forum and supported roundtable discussions with State traffic records coordinators to discuss methods to enhance data linkage, better document pedestrian and bicyclist injuries, and improve collection of data related to micromobility device users.

PBIC also coordinates with FHWA to provide support for the State DOT Bicycle and Pedestrian Coordinator meetings. PBIC maintains the email listserv, offers technical assistance, helps set meeting agenda and assists with notetaking. Over the past year, PBIC started a project to help inform onboarding resources and other helpful resources that may assist State DOT Bicycle and Pedestrian Coordinators. To better understand their needs, roles and responsibilities, PBIC developed and distributed a questionnaire that resulted in 38 responses to inform resource development.

Conference Participation

Throughout 2023, PBIC team members actively engaged in numerous conferences, contributing technical content and presenting new resources through panel participation. These conferences served as a platform for meaningful interactions with key partners and peer organizations, fostering collaboration and idea development. In response to the challenges posed by COVID, PBIC members also attended or presented on some conference sessions virtually as they were offered on online platforms.

In 2023, PBIC team members participated in or supported nine conferences, connecting with numerous professionals engaged in transportation, health, and associated fields. During this year, many team members also contributed to planning and preparing for conference activities for the next year, specifically TRB and Lifesavers. PBIC team members contributed to planning efforts for a 2024 TRB workshop on using innovative strategies to improve pedestrian safety. As members of the pedestrian, bicycle, and micromobility track planning committee for the 2024 Lifesavers Conference, Nancy Pullen-Seufert and Dan Gelinne participated in regular meetings and track-specific planning sessions through 2023.

Conference

Activities

Transportation Research Board Annual Meeting	Several PBIC team members attended TRB to attend, present, and participate at committee meetings and other presentations. Dr. Sandt participated and served as chair of the ACH 10 Pedestrian Committee. PBIC also developed an annual highlights and upcoming year features to share with participants.
Lifesavers Conference	Nancy Pullen-Seufert served on the pedestrian, bicycle, and micromobility track planning committee for the Lifesavers Conference and participated in monthly meetings and session organization efforts. She also presented on quick build projects and safety for youth at the conference and also moderated workshops.
Association of Transportation Safety Information Professionals – Traffic Records Forum	Dr. Sandt and Dr. Harmon participated on CDC and NTHSA roundtables and presented on data needs and opportunities to improve micromobility safety and enhance linkage and data integration.
NACTO Designing Cities	Dr. Nordback attended presentations and workshops where many discussions and presentations focused on issues related to automated vehicles, electric bikes and e-scooters, and innovative designs related to bicycling and walking.
ABPB 2023 Safety Summit	Nancy Pullen-Seufert participated and presented on quick build projects and youth safety and participated in a panel discussion on high school students and Safe Routes to School engagement. Sarah O’Brien attended the conference. Dr. Sandt also presented on improving pedestrian safety at urban arterials.
AASHTO Safety Summit	Dr. Sandt shared lessons learned from Australasia to improve pedestrian safety in workshops and poster session.
North Carolina Vision Zero Leadership Institute	Team members supported and facilitated convening communities to discuss their efforts related to Safe System implementation and planning.
North Carolina Bike Walk Summit	Dan Gelinne presented on discretionary Federal funding opportunities available to North Carolina communities, in coordination with North Carolina Department of Transportation.
North Carolina ITE Conference	Dan Gelinne presented on discretionary Federal funding opportunities available to North Carolina communities, in coordination with North Carolina Department of Transportation.

PBIC Messenger Monthly Newsletter

The [PBIC Messenger](#)⁶¹ delivers compelling and timely content to practitioners and professionals, providing them with the latest and greatest information to help their communities. The PBIC Messenger monthly distribution schedule ensures a regular flow of news and information to subscribers, who can count on the newsletter to bring them up to speed and learn the latest innovations in the field. Additionally, FHWA staff invite diverse personnel from across USDOT to review early drafts and submit their own division news or resources to share Federal updates and information with the PBIC Messenger audience.

The PBIC Messenger includes seven sections:

- Announcements
- News
- Resources
- Research
- Webinars
- Call for Proposals, Presentations, Abstracts, and More
- Events

From November 2022 through December 2023, an average of 8,455 subscribers received 14 issues of the PBIC Messenger. Subscribers frequently express appreciation for the monthly newsletter, citing it as their main source for staying informed about recent developments in the field and discovering opportunities for further learning and exploration. Other organizations and groups also value the Messenger as a platform to share their own information and news, recognizing its reach and effectiveness in reaching a wide audience.



Image Source: pedbikeimages.org / Tony Hull

Announcements

- [Safe Streets and Roads for All Grants Awarded to 235 Communities](#)
- [FHWA and Bureau of Transportation Statistics Release New Resources to Help State DOTs with ADA Transition Plans and Inventories](#)
- [FHWA Updates Pedestrian and Bicycle Funding Opportunities Table](#)
- [FHWA Design Standards Provisions](#)
- [Vision Zero for Youth US Leadership Award Open for Applications through December 16](#)
- [NHTSA Releases 2021 Summary of Motor Vehicle Traffic Crashes](#)

PBIC Messenger November 2023 issue. Source: PBIC.^y

Messenger Issue	Top Clicked Link
November 2022	HSRC Awarded PBIC
December 2022	PBIC Arterial Roads and Pedestrian Safety Slide Deck
January 2023	FHWA Complete Streets Infographic
February 2023	PeopleForBikes Best New U.S. Bike Lanes in 2022
March 2023	Pew Research “End Right on Red” article
April 2023	FHWA Tech Brief: Safety Evaluations of Innovative Intersection Designs for Peds and Bikes
May 2023	FHWA Bicycle and Pedestrian Planning, Program, and Project Development Guidance
June 2023	PBIC Sidewalk Inventories Webinar with America Walks
July 2023	NHTSA Comparative Study of Communities with High Rates of Pedestrian Injuries
August 2023	US Access Board PROWAG Final Rule of Accessibility Guidelines
September 2023	US Access Board PROWAG updated resources, training videos, or more details
October 2023	The White House: Investing in America Technical Assistance Guide and Spreadsheet
November 2023	FHWA Updated Pedestrian and Bicycle Funding Opportunities Table
December 2023	FHWA Trails as Resilient Infrastructure

Website Content and Reach

The PBIC website remains a reliable and well-curated hub for transportation professionals seeking information on concerns related to safety, access, equity, and more for people traveling outside of motorized vehicles. PBIC consistently refreshes content to incorporate new resources developed by diverse organizations, agencies, researchers, and other practitioners. In 2023, the PBIC website attracted more than 34K visitors with over 87K page views.

Over the last year, website updates to content included developing new pages and capturing related resources. PBIC adds new resources to the resource library, which are searchable from the Resources page. PBIC has 2,349 resource entries in the resource library.

PBIC's top 5 most frequently visited webpages were:

1. [Homepage](#)⁶²
2. [Global Benchmarking Webinar Series: Improving Pedestrian Safety on Urban Arterials](#)⁶³
3. [Resources Page](#)⁶⁴
4. [Webinars Page](#)⁶⁵
5. [Facts and Figures – Safety Page](#)⁶⁶

The [PBIC Image Library](#)⁶⁷ had over 41K page views and over 3.6K visitors over 2023. PBIC and other collaborators added new images to the library and at the end of 2023, it hosts over 2,660 searchable, downloadable images. PedBikeData⁶⁸ offers over 2,800 records of collision, count, and infrastructure data by geographical scale and format and had 1.3K visitors and 17K page views in 2023.

Social Media Messaging and Outreach

PBIC uses social media platforms to share news, resources, research, and other announcements related to safety for people who walk, bike, and roll. These platforms serve as interactive hubs, fostering discussions and exchanges among practitioners. They not only facilitate the discovery of fresh resources and learning opportunities, but they also encourage the sharing of insights and strategies to move safety initiatives forward.

In addition to sharing Center updates and resources through social media, PBIC also helps promote efforts from other organizations and agencies to increase awareness of valuable resources and learning opportunities. This involved amplifying content related to Federal funding opportunities, special new initiatives, and other events or programs. PBIC worked to share posts from Federal agencies and partner and peer organizations to make sure that professionals had access to the latest and new information.

This year, PBIC extended its reach beyond Facebook and X to the LinkedIn and Mastodon platforms. Mastodon offers a decentralized and community-driven alternative to mainstream social media, allowing for more specialized and engaged audiences. Meanwhile, LinkedIn provides a professional networking environment where practitioners can connect and share information. At the end of 2023, PBIC had over 7.5K followers across the four platforms and made tens of thousands of impressions to audience members that resulted in thousands of reactions, responses, and reposts. These additional platforms broaden PBIC's communications efforts to ensure that information and cross promotion reach diverse audiences across the digital landscape.

Top posts from the four PBIC accounts over the last year included announcements about new resources, such as the Improving Pedestrian Safety on Urban Arterials: Learning from Australasia webinar series and supporting resources page, the quick-build project summaries and case studies to support youth safety, and webinars offered through PBIC, or other sessions presented virtually at conferences.

PBIC Team and Partners

The PBIC operates within the University of North Carolina at Chapel Hill Highway Safety Research Center and collaborates with valued partners and contributors. The PBIC team brings together a unique set of technical specialists and thought leaders including [Toole Design](#),⁶⁹ [Institute of Transportation Engineers](#),⁷⁰ [Equitable Cities](#),⁷¹ and the [North Carolina Central University Visual Impairment Training Program](#).⁷² Contributing subject matter experts include Peter Koonce, Beezy Bentzen, and Linda Tracy. The [de Beaumont Foundation](#)⁷³ also joins the team with a cost-match commitment to support work.

The PBIC team extends our appreciation to FHWA, our sponsors, and the invaluable expertise of our consultants and all those who have supported our team. Looking ahead to the coming year, we anticipate fostering new partnerships, enhancing vital resources, and innovating approaches to serve and engage diverse communities in our mission to improve safety for walking, biking, and rolling for everyone.

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Associate Director

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Images on cover, from left to right: Pedbikeimages.org / Toole Design, <https://www.pedbikeimages.org/details.php?picid=2688>; Pedbikeimages.org / Toole Design, <https://www.pedbikeimages.org/details.php?picid=2820>; Pedbikeimages.org / Adam Coppola Photography, <https://www.pedbikeimages.org/details.php?picid=2250>

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Since its inception in 1999, the Pedestrian and Bicycle Information Center's mission has been to improve the quality of life in communities through the increase of safe walking and bicycling as a viable means of transportation and physical activity. The Pedestrian and Bicycle Information Center is maintained by the University of North Carolina Highway Safety Research Center with funding from the U.S. Department of Transportation Federal Highway Administration.

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