

# 2021 Annual Report



Pedestrian and Bicycle Information Center

# Pedestrian and Bicycle Information Center 2021 Annual Report

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## Letter from the Director

Annual reports serve as a reminder to consider and reflect on what we've accomplished and what we've learned over the last year. They also help us remember the context and events that happened as we were working, collaborating, and creating. Over the last year, we saw a continued sense of uncertainty due to COVID-19, but also witnessed how communities and organizations continue to evolve and adapt to changes. In 2020, one of the biggest shifts we documented was the need for public space and more room to walk, room, and gather at a safe distance. In 2021, there was a continued demand for this space, and we see how cities and towns have responded to immediate concerns about COVID-19, but also unanticipated impacts. We also see how we are learning from the first year of COVID-19 and are responding to different needs and priorities, and then adapting as new issues emerge. For instance, schools have provided more outdoor space and opportunities to walk and bike, not only for safe distancing, but to offset the challenges associated with bus driver shortages. These are real shifts that we see taking place in communities across the US. We see this well-documented in neighborhood forums, media and research, as well as actual changes in our streetscapes.

Something else has been building momentum, which is a shift in how policies and approaches are moving towards Safe Systems and a more proactive layering of multiple strategies to keep people safe as they navigate our nation's roadways. We see a louder, clearer consensus on the need for further protections for people traveling outside of a motor vehicle. There is also a much needed and more nuanced focus on mobility justice and restoring trust and recentering power to communities that have experienced disinvestment in access to walking, biking, and rolling for decades.

The last year has been marked by changing policies, language, and strategies occurring at the Federal level. The Pedestrian and Bicycle Information Center (PBIC) had the opportunity to continue work focusing on the Safe System approach by facilitating conversations with critical stakeholders in the National Pedestrian Safety Partnership project with the National Highway Traffic Safety Administration (NHTSA) in 2021. Bringing together passionate, motivated people from across the country for discussions to hear from and learn at both local and Federal levels, the conversation series opened collaboration and connections between diverse areas of road safety and perspectives in interrelated concepts. The embedded value in this work, not just focusing on topics related to equity, climate and resiliency, and housing, allows us to start taking the next steps in advancing road safety. It provides an opportunity to build capacity to not just inform, but also shape a path for where we're headed next and towards transformative change.

In relation to near-term changes, one of the major developments we anticipate is the acceleration of technology, specifically, automated vehicles, personal delivery devices, e-scooters, and e-bikes. Not only do these technologies impact people who walk and roll in terms of negotiating interactions, but there are bigger challenges associated with algorithm development and testing for inherent bias or perpetuating inequities, and how to meaningfully plan for the safe expansion of future adaptations.

We wish to thank the Federal Highway Administration (FHWA) and NHTSA for their ongoing direction and support in these endeavors. As PBIC continues to support the goals of FHWA, NHTSA, and USDOT, we look forward to our collective work to advance safe walkable and rollable communities.



Dr. Laura Sandt, Director, PBIC

## 2021 Highlights

PBIC supports active travel in communities by developing and sharing research, resources, and programming that advance safety, equity, mobility, and access for all. PBIC's activities support the goals of the FHWA, NHTSA, and USDOT.

The Highway Safety Research Center (HSRC) at the University of North Carolina at Chapel Hill (UNC) leads PBIC, with support in 2021 from subcontractors Toole Design and Institute of Transportation Engineers. A host of independent consultants, Peter Koonce, Charles T. Brown, Janet Barlow, Civic Eye Collaborative, Linda Tracy, and others provided additional technical expertise.

In 2021, PBIC made marked strides toward supporting communities across the US in creating better places to walk and bike. Key accomplishments and platforms of engagement included:

- Continued to build from the [Shifting Streets COVID-10 Mobility dataset](#), analyzing data and sharing lessons learned and insights for planning and policy.
- Developed the informational brief [Sharing Spaces with Robots](#) and a [related Personal Delivery Devices legislative tracker](#).
- Organized and facilitated a series of National Pedestrian Safety Partnership Roundtable Discussions in partnership with NHTSA and provided synthesis of emerging concepts.
- Released the [Understanding Crashes and Safe Behaviors to Prevent Them](#) video series to show situations that lead to a crash between a driver and people walking and biking.
- Provided multiple resources focusing on youth active travel, including a demonstration project with the City of Philadelphia to advance Vision Zero for Youth, Walk and Bike to School Days, and school related travel during the COVID-19 pandemic.
- Offered 12 webinars with over 5,900 views.
- Distributed the monthly PBIC Messenger newsletter and webinar announcements to over 8,900 subscribers.
- Participated in or supported at least 8 conferences through the year, offering new research and insight into emerging themes and concepts related to conference topics.
- Provided technical assistance to diverse audiences, responding to more than 70 direct requests for information.
- Engaged a growing network via social media platforms, posting over 280 times on Twitter and Facebook to more than 6,900 followers, and making more than 113K impressions.

This report highlights the work performed in 2021 and notes the accomplishments and impacts measured through PBIC's routine performance evaluation.



[pedbikeimages.org](http://pedbikeimages.org) / Toole Design; [pedbikeimages.org](http://pedbikeimages.org) / Adam Coppola Photography

## Prominent Projects of 2021

In 2021, PBIC developed a number of resources that build on previous years efforts but also focused on new and emerging concepts. These projects called for collaboration with both traditional and non-traditional partners and provided necessary resources to diverse audiences. These projects highlight PBIC’s ability to develop research during rapidly changing times and priorities, provide new resources on emerging topics that help build a foundation of understanding to ultimately help advance action, and facilitate discussions among leading experts to inform the connections between active travel and other related topics.

### “Sharing Spaces with Robots” Information Brief

Also referred to as sidewalk delivery robots, Personal Delivery Devices (PDDs) are now permitted by many states to operate and deliver goods on sidewalks and in crosswalks and bike lanes, which sets up interactions between PDDs and people walking and biking. A wide variety of types of PDDs introduces additional challenges due to the variations in physical form and travel behaviors and patterns.

An information brief from PBIC, [Sharing Spaces with Robots: The Basics of Personal Delivery Devices](#), clarifies terms for PDDs, describes their physical and operational characteristics, and provides an overview of key policy and research areas affecting their deployment with an emphasis on pedestrians and bicyclists. The brief is intended for transportation professionals and communities where PDDs are being considered, tested, or deployed.

Researcher Dr. Michael Clamann, lead author of the info brief, also developed a [PDD Legislative Tracker](#) website to provide up-to-date State Legislative Bill information about PDDs and PDD characteristics and operations included within these bills. As manufacturers continue to innovate, state legislatures across the country are drafting legislation in an attempt to catch up to the rapidly evolving technology. State laws often address topics such as physical and operational limits, areas of operation, human oversight, and right of way.

A [webinar co-hosted with the Eno Center for Transportation](#) further explored the info brief and provided more examples of State legislative bills. Dr. Clamann also participated in a conversation for [an article with Next City](#) to discuss legislation introduced in 27 different states and the challenges still associated with delivery devices on sidewalks.



Screen capture of two illustrations within PBIC [Sharing Spaces with Robots](#) brief.

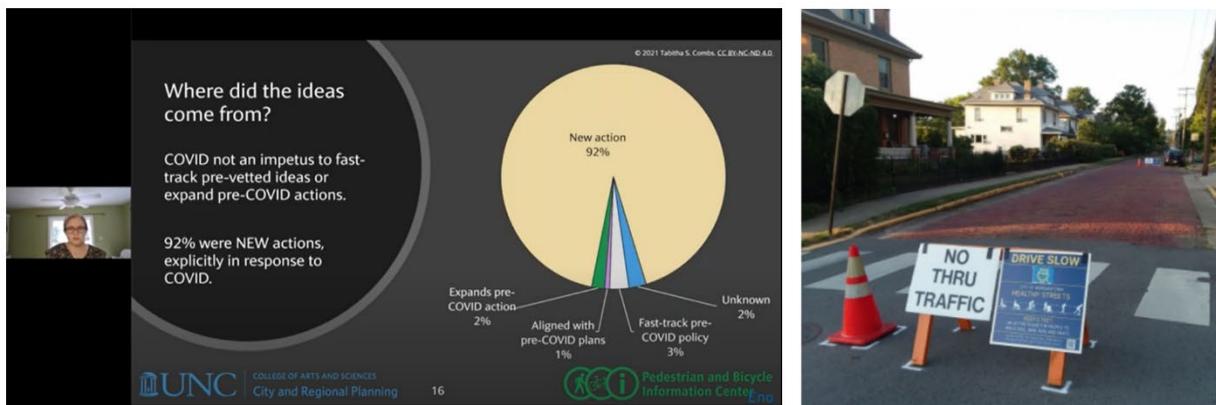
## Shifting Streets Data Collection and Analysis During COVID-19

In the early phases of the pandemic in 2020, Dr. Tab Combs of the Department of City and Regional Planning at UNC and PBIC developed an open access dataset to crowdsource information on community adaptations of public space, streets, and roads to accommodate shifting priorities and physical distancing. The [Shifting Streets COVID-19 Mobility Dataset](#) contains over 1,300 entries documented from over 500 locations. The dataset has also served as the foundation for further exploration and analysis, and for researchers to share more information via journal papers, webinars, and in discussions in media.

In spring of 2021, Dr. Combs and Bogotá, Colombia-based collaborator Carlos F. Pardo of the [New Urban Mobility Alliance](#) (NUMO) shared preliminary observations of responses logged in the Shifting Streets dataset. The open access journal paper, [Shifting streets COVID-19 mobility data: Findings from a global dataset and a research agenda for transport planning and policy](#) in *Transportation Research Interdisciplinary Perspectives*, offered a roadmap for others to use and build from the data. The paper also included insights for transportation planning and policy, and establishing an agenda for future research. Since publication, the paper has been cited 27 times by other researchers focusing on mobility during COVID-19 and adjacent topics. A follow up synthesis for [CityFix](#) shared lessons learned from analyzing five months of active mobility responses to COVID-19, and the need for more detailed data collected over a longer period of time. The piece also introduced five questions to consider in data collection and analysis for further research.

As an extension of these efforts, PBIC, Institute of Transportation Engineers, and Toole Design announced a call for case studies on projects that have provided more areas for walking, biking, rolling, recreation, and outdoor commerce during the pandemic era. To support this project, the team designed questions to collect more information via an online form in fall of 2021. The team also developed a ["Shifting Streets" Glossary](#) that provides terms and examples of street redesign efforts to help city and town practitioners as they complete the form and also for moving toward a shared terminology. The team will continue to review submissions to produce case studies in early 2022.

Dr. Combs presented the Shifting Streets dataset and research findings on three webinars over the last year, including a workshop for the [Transportation Research Board Annual Meeting](#), a webinar with [America Walks](#), and another webinar with the [Eno Center for Transportation](#), which was cohosted with PBIC. Dr. Combs also participated in two podcasts as part of media outreach, with the [Economist](#) and [Bike Here Podcast](#).



Screen capture of webinar with the Eno Center for Transportation; [pedbikeimages.org](#) / Christiaan Abildso.

## “Understanding Crash Scenarios” Video Series

The most effective approach to preventing crashes between drivers and people walking or biking is to eliminate or minimize exposure to crash risk, and to develop accessible spaces to walk and bike through roadway design and engineering. This approach requires funding, time, and many other resources that may be challenging for cities or towns to implement roadway changes quickly.

In the meantime, there are actions that people using the roads can take to help people move around safely. Education and learning about crash scenarios, specifically types of roadway design and road user maneuvers, can also help prevent crash scenarios.

The [Understanding Crash Scenarios and Safe Behaviors to Help Prevent Them](#) video series portrays situations that lead to a crash between a driver and a pedestrian or bicyclist. Illustrating these scenarios and demonstrating how they unfold may help road users better anticipate and apply safe behaviors to these scenarios when driving, walking, and biking. The video series includes four different scenarios: Driver Turning Left into a Pedestrian; Driver Striking a Pedestrian in a Crosswalk on a Multilane Road; Driver Turning Right into a Bicyclist; and Driver Passing a Bicyclist.

The video series was developed through a multiyear effort with a panel of a five-member Steering Committee, PBIC, and Civic Eye Collaborative, an urban planning and multimedia firm. Members of the Steering Committee are professionals representing different areas of road safety in driver education, behavior, engineering, and enforcement.

A PBIC webpage was developed to host the four videos and one longer compilation video. The webpage and marketing emphasized the learning opportunity for different audiences, including new driver instruction, community members, or law enforcement officers. The webpage also offers more information on the role of roadway design.

Marketing of the videos and webpage included announcements in the PBIC Messenger and on PBIC social media accounts. The videos were viewed on the PBIC YouTube account more than 1,750 times, and organizations like America Walks, Bike Arlington, and Alexandria Families for Safe Streets shared the videos with their audiences. Additionally, the “Driver Passing a Bicyclist” video was incorporated into the Rural Road Safety Awareness Week, coordinated by the National Center for Rural Road Safety, as part of the “Safe Roads” theme and social media posts.



Screen capture of two stills from the PBIC [Understanding Crash Scenarios](#) video series.

## Supporting Federal Agencies in Advancing Pedestrian Safety

In 2020, PBIC supported the [USDOT Summit on Pedestrian Safety Virtual Series](#), a collaboration between FHWA and NHTSA, by developing the [Toward a Shared Understanding of Pedestrian Safety: An Exploration of Context, Patterns, and Impacts](#) information brief and polling questions for participants to share challenges and opportunities in their work. Dr. Sandt also presented on Safe Systems during the Summit.

As a continuation of these efforts, NHTSA led and convened a diverse group of stakeholders through a series of three workshops in 2021. The workshops were held virtually, as roundtable sessions, facilitated by PBIC, to bring together experts and leaders within Federal agencies, academic institutions, and advocacy and professional organizations to share their vision for pedestrian safety. The series provided an opportunity to inform a National Pedestrian Safety Partnership, a call to action to build partnerships via interagency and other collaborative efforts to face challenges and move towards new, proven strategies to keep people safe.

Representatives from 22 organizations shared their critical and ongoing work in the realm of road safety. Leadership from FHWA and NHTSA also participated to learn more from people working in the field of pedestrian safety and also provide information on Federal activities related to pedestrian safety.

During the roundtable sessions, participants shared information and resources for exploring themes. Given the timing of the suggested resources at the end of September, PBIC developed a [Connecting New Concepts to Advance Pedestrian Safety](#) list of resources, webinars, and other tools to help advance safety for people who walk, bike, and use other nonmotorized modes. The list of recommended resources was released in early October to observe Pedestrian Safety Month. Each week was dedicated to an emerging concept within transportation-related topics and included: People-Center Values and Culture of Safety; Equity and Accessibility Informed through Inclusive Engagement; Measuring Performance and Processes through Meaningful Data; and Collaboration and Change Processes.

The roundtable session conversations are the first steps in the process to inform a National Pedestrian Safety Partnership between Federal agencies and practitioners and professionals. The insights and suggestions from participants through the structured dialogue will help lay out the priorities and needs to inform transformative change necessary to move towards zero deaths for all people who walk.



Screen capture from National Pedestrian Safety Partnership roundtable meeting exercises, including a word cloud of three words that participants use to describe their work and a relationships mapping exercise.

## Supporting Active Transportation for Children and Youth

### Vision Zero for Youth Demonstration Project in Philadelphia

Cities of all sizes are committing to eliminating traffic fatalities and serious injuries, often as part of Vision Zero initiatives. The Vision Zero for Youth Initiative encourages communities to focus safety improvements and slow traffic speeds where children and youth walk and bike. Applying a Safe System approach to school travel provides the opportunity to expand safety impacts for students and families well beyond the school zone and to promote broad adoption of Vision Zero principles. A focus on the needs of children can create momentum for change. The initiative includes resources, ideas for taking action, opportunities for city leaders to commit, and national and international recognition programs. Support for the initiative is provided by PBIC, FIA Foundation, and HSRC.

In October 2019, PBIC with Toole Design Group partnered with the **City of Philadelphia Office of Transportation, Infrastructure and Sustainability** to implement a two-year **Vision Zero for Youth Demonstration Project**. The project aimed to serve as a model for other cities in their work on walking and biking safety. In the second year of the project, 2021, the team completed a child pedestrian systemic safety analysis. They also incorporated and completed an equity analysis to inform prioritization of high risk locations for child pedestrians. Additionally, the team examined the city's existing High Injury Network to ascertain the extent to which it addressed child pedestrian crashes and crash risk. Findings provided evidence-based approaches to help the City of Philadelphia learn more about crashes involving children and youth and identify areas for prioritization for systemic application of pedestrian crash countermeasures.

Addressing child pedestrian crashes also reached beyond data, with the city using the Demonstration Project to prioritize youth in its updated Vision Zero 2025 plan. In collaboration with researchers at the UNC Injury Prevention and Research Center, the team offered two workshops to foster collaboration with diverse Philadelphia agency partners using systems science to identify the wide range of factors that contribute to child pedestrian crashes, and identify intervention points where agency partners may play a role. The combination of approaches of data analysis, policy updates, and engagement reinforced the City of Philadelphia's commitment to youth road safety.



*City of Philadelphia Mayor Kenney's October 2019 Vision Zero update press conference; Children, parents, and school children walk in and towards a crosswalk in Philadelphia, Pennsylvania.*

The final report documenting the Demonstration Project, to be released in early 2022, summarizes core components of the project with key takeaways for other cities and towns to emulate. In anticipation of the final report, and to share results and lessons learned, the team presented and moderated a session, “Persevering during a pandemic to support the safety and mobility of child and youth pedestrians,” at [WalkBikePlaces](#). Session speakers also included City of Philadelphia Vision Zero for Youth and the Milwaukee Safe Routes to School Program, which also received the Vision Zero for Youth Innovation Award. The team also presented and moderated a session, “Vision Zero for Youth: Putting a Priority for Youth into Action,” at [Safe Kids PrevCon](#). A PBIC webinar on the project, “Child and youth pedestrian crashes deserve another look: Why and how to do it,” is planned for January 2022.

## 2021 Vision Zero for Youth Innovation Award Recognizes Milwaukee Safe Routes to School

Supported by the PBIC and the FIA Foundation, the Vision Zero for Youth Leadership Award recognizes US cities that are leading the way in prioritizing children’s pedestrian and bicyclist safety. Los Angeles, CA, New York City, NY, and Fremont, CA were the first recipients of the Leadership Award.

In response to the pandemic, the Award Committee recognized innovative approaches to road safety benefiting youth during COVID-19. The Committee selected the Milwaukee Safe Routes to School (SRTS) Program, with leadership from the [Milwaukee Department of Public Works and Wisconsin Bike Fed](#), because of its creative, community-driven efforts to support safe walking and biking for youth, especially youth of color and in low-income neighborhoods, during the pandemic.

To announce the award, the project team worked with PBIC and FIA Foundation to develop a news release and support a local press event with Milwaukee Mayor Barrett. The team also developed a detailed [case study](#) about the work in Milwaukee.

Other work to further highlight the achievement in Milwaukee included a published manuscript, [Supporting Kids’ Active Travel during the Pandemic: Milwaukee SRTS Program](#), in Journal of Healthy Eating and Active Living. It describes child-focused actions taken in Milwaukee during the pandemic to address road safety for young pedestrians and bicyclists. The team also sponsored the City of Milwaukee to present at the [Active Living Research Conference](#) to describe their pandemic innovations to support walking and biking for youth. The team also organized and moderated a session, “The Changing Landscape for Walking and Biking: One Year COVID Report,” at the [Lifesavers Highway Safety Conference](#),” which included a presenter from the Milwaukee SRTS Program.

Work continues for the next award cycle, as a 2022 Award Committee meeting was held in September to gather input from Committee members (including FHWA) on criteria and potential cities.

## Walk and Bike to School Days 2021

Events for Bike to School Day (May 2021) and Walk to School Day 2021 (October 2021) reinforced government and community commitment to safety even as schools across the country varied in virtual or in-person learning per local health recommendations. Recognizing the challenges for families, school officials, community leaders, and champions for walking and biking, the National Center for Safe Routes to School, with support from PBIC, provided opportunities for participation while physically distancing or as a way to bring communities back together.

More than **1,255 Bike to School Day events** took place in 45 States and Washington, DC. Many participants used the day or multiple days throughout May to ride in their neighborhoods, on the way to school, or at school. Many communities also used the event to highlight the fun of walking or rolling to school before the school day begins. Although the number of events were small compared to pre-pandemic numbers, this year's event count was nearly equivalent to Walk to School Day, which signaled pandemic recovery and return to in-person learning. Announcements about Bike to School Day included a quote from Deputy Administration Dr. Steven Cliff of NHTSA.

By fall of 2021, many schools had returned to full-time, in-person classes for the first time in over a year. Across 48 States and Washington, DC, participants registered **2,886 events for Walk to School Day** in October. The National Center for Safe Routes to School joined community leaders and community organization representatives for the National Walk to School Day event in Lincoln Park in Washington, DC. USDOT Deputy Assistant Secretary for Safety Policy Robin Hutcheson gave remarks at the event to community leaders and approximately 300 students and families from 12 schools. Announcements about the event included a quote from FHWA Acting Administrator Stephanie Pollack.

Post-event Walk to School Coordinator Survey responses revealed that nearly one-third (29%) of participating schools or communities took new action this school year to accommodate walking and biking to school; 39% used the event to draw attention to traffic safety needs, and more than one-half (53%) made special efforts to manage traffic and speeds around the school this year.



Walk to School Day event in October, 2021, in Mesquite, TX / <http://www.walkbiketoschool.org>; Bike to School Day event in May 2021, in Washington DC, <http://www.walkbiketoschool.org>

## Safe Routes Data System: Capturing School Travel and Supporting Data-Driven Action

For the past 14 years, the Safe Routes Data System database has supported a standardized set of travel information using two National Center-developed instruments: a Student Travel Tally Form and a Parent Survey. State SRTS Coordinators uniformly promoted, and often required, use of the data system to support program planning and evaluation during peak years of the Federal SRTS program. Over the years, the travel data has benefited schools and local and State SRTS programs in planning, evaluation, and performance management. It has also informed student travel research both to help locate areas of concentrated SRTS activity and to provide student travel numbers for broader evaluations.

In 2021, 447 schools submitted 7,844 travel tallies, and 165 schools submitted 6,714 parent surveys. Recent technical assistance has involved providing Virginia-based practitioners with guidance on collecting travel tallies from hundreds of schools during the same one-week window, and consulting with California county public health colleagues on ways to arrange schools' parent survey data to be readily uploaded in the SRTS data system.

In 2021, the PBIC team submitted a memo to FHWA that described historic usage data, three options for the future of the Data System, and user preferences. To understand user preferences, PBIC held two focus group with largest system users to get their feedback on potential scenarios for the Data System's future. The three options included: maintaining the current model; exporting and sharing SRTS data with each State; and transitioning to providing access to a more "open" data system.

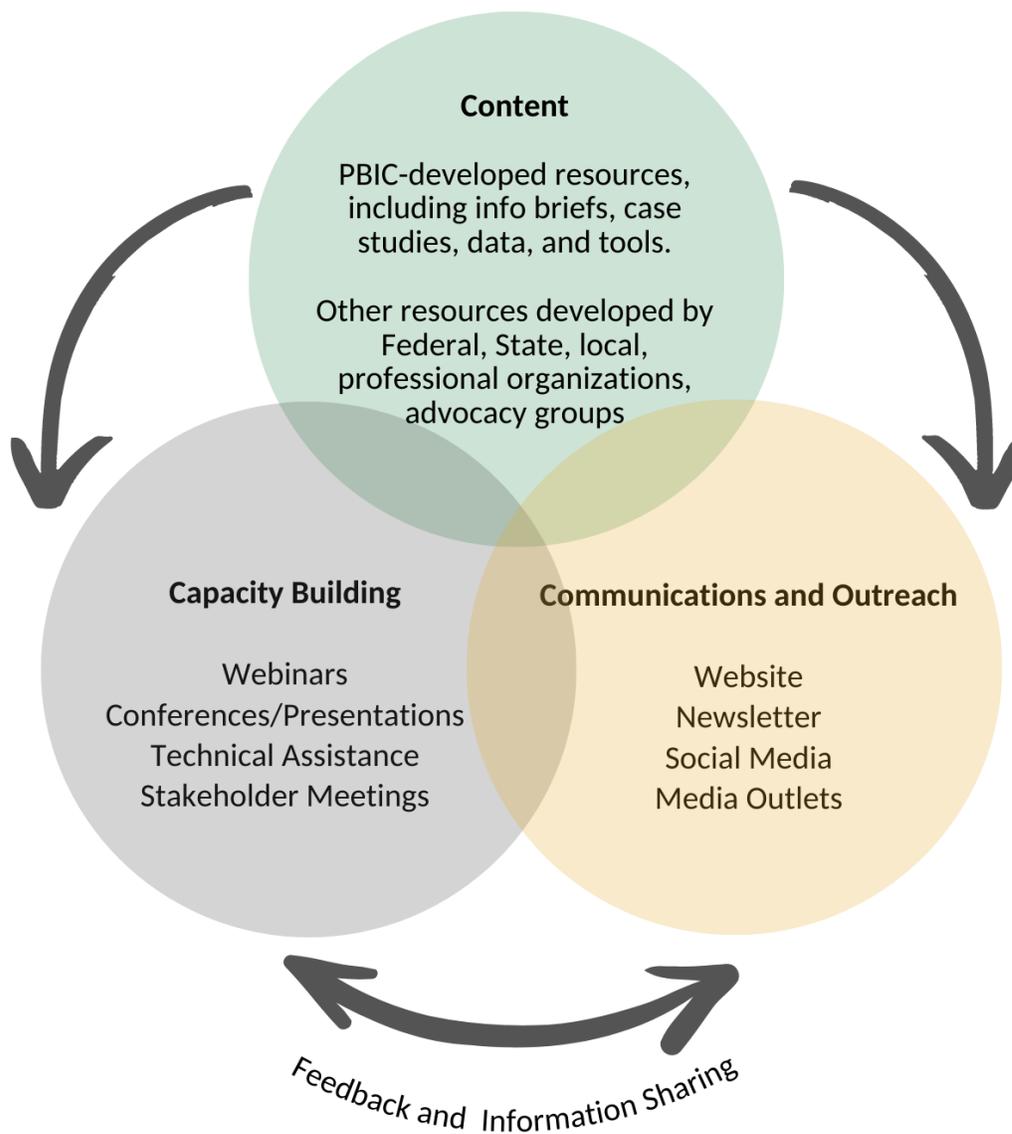
## School Travel During a Global Pandemic and Beyond

In-person school for K-12 students returned in 2021 bringing with it the need to consider the commute to school and support for active travel. Nancy Pullen-Seufert was featured in [Washington Post](#) to discuss student travel to school. She also presented on a webinar, "Connecting the Return to Office and School to TDM," with the Association for Commuter Transportation to describe school return trends and strategies implemented by cities and school districts to continue support for walking and biking.

As cities experimented with street closures during the pandemic, PBIC released [Re-envisioning School Streets: Creating More Space for Children and Families](#) for transportation professionals, school administrators, and school volunteers as they consider street changes around schools to limit motor vehicle traffic and create more space for children and families. It includes examples of street modifications to improve safety and active travel access around schools, considerations for determining what changes work best in different settings, and case studies from communities that have altered their streets. A [webinar](#) brought together pandemic-related school travel and School Streets. Also related to travel to and from school, PBIC recognized that little is known about pedestrian injuries among school bus riders when the school bus is not present. The team released [Preventing Pedestrian Injuries and Deaths Among School Bus Riders](#) which included an overview of local practice, a media scan of crashes from 2018 through 2020, and recommendations for future study and practice. The team also submitted a follow-up summary report of characteristics of child pedestrian crashes related to school bus travel as discovered in media coverage for crashes April 2020 through July 2021.

## Building Capacity

PBIC activities extend beyond resource development to include capacity building through learning and education opportunities and communications and outreach. By providing training and education via webinars, presentations at conferences and other meetings, and at meetings with critical stakeholders, PBIC distributes information and resources developed by PBIC researchers and other products developed by Federal, State, local, professional organizations, advocacy groups, and more. PBIC also provides on-demand technical assistance to practitioners, professionals, community members, and others seeking to learn more about road safety for people who walk and roll. Building capacity among this audience also informs communications and outreach efforts, as well as topic needs for content-creation. A graphic below explains the relationships between the three main efforts of PBIC in terms of content development, capacity building, and communications and outreach efforts, and the mechanisms for delivery.



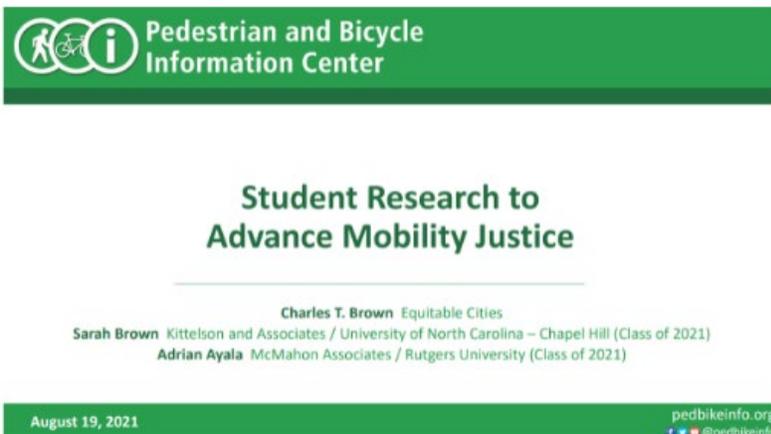
*Graphic description of PBIC Capacity Building and Communications and Outreach activities, as it relates to Content and Resources.*

## Webinar Offerings

PBIC works in coordination with peer and other organizations and thought leaders to deliver training and webinars focused on existing and emerging topics related to active travel. Webinar topics this past year explored safety in the context of arterials, Rails-with-Trails, traffic signals, and school street innovations. They also featured speakers from Federal agencies and authors of new guidance or approaches, State and city practitioners, and also recently graduating students to feature their work. The variety of topics and diversity of speakers continues to advance knowledge and perspectives in the field and encourage application of new ideas or infrastructure.

This past year, PBIC hosted webinars with FHWA Office of Safety support, and also partnered with ITE and the Eno Center for Transportation to co-host webinars. PBIC and ITE each hosted a session of a two-part series on “Improving Traffic Signals for Bicycling and Walking.” The Eno Center for Transportation co-hosted two separate sessions featuring work by two PBIC researchers, Dr. Combs and Dr. Clamann. Dr. Combs presented findings from the Shifting Streets database and next steps for further analysis. Dr. Clamann explored State legislation on Personal Delivery Devices and the challenges that occur when technological advancements are ahead of and sometimes shape policy.

All PBIC webinars highlight innovations and best practices, provide guidance, share new resources, and encourage discussion on key issues. Transportation professionals and others related to the field continue to look to PBIC for guidance and continuing education as PBIC estimates **5,963 views** of the **12 webinars** with **35 unique speakers** offered this year through PBIC or with partner organizations.



Screen capture of [PBIC webinar on Student Research to Advance Mobility Justice](#); screen capture of [StreetsblogUSA piece from panelist Sarah Brown](#) who presented on webinar.

<b>Webinar Topic</b>	<b>Month Held</b>	<b># of Registrations</b>	<b>Estimated Minimum # Attending</b>	<b>Archived Webinar Recording Views</b>
Improving Safety with Bicyclist and Pedestrian Road Safety Audits	January 2021	1108	768	178
The Basics of Bikeway Selection at Intersections and with Parking	April 2021	771	496	119
Statewide Pedestrian and Bicyclist Safety Action Plans	April 2021	619	406	65
Re-envisioning School Streets as Part of Pandemic Recovery	May 2021	410	230	89
Improving Traffic Signals for Bicycling and Walking (Part 1)	June 2021	902	587	229
Pedestrian Safety on Arterial Streets	June 2021	779	503	144
COVID-19 Mobility Adaptations: Building a Knowledge Base for New Practices (co-hosted with ENO Center)	July 2021	N/A	330	104
Planning Multimodal Networks in a Connected and Automated Future	July 2021	301	187	57
Improving Traffic Signals for Bicycling and Walking (Part 2)(co-hosted with ITE)	July 2021	N/A	282	229
Rails-with-Trails: Best Practices and Lessons Learned	August 2021	600	343	60
Sharing the Sidewalk with Robots: Personal Delivery Device Technology and Policy (co-hosted with ENO Center)	August 2021	N/A	239	190
Student Research to Advance Mobility Justice	September 2021	199	103	25
Leap Not Creep: Accelerating Pedestrian and Bicyclist Safety Improvements	December 2021	476	287	106
<b>15 PBIC WEBINARS</b>		<b>6,165</b>	<b>4,761</b>	<b>1,595</b>

## Conference Participation

PBIC team members participated in several conferences throughout 2021 and delivered technical content and new resources by serving on panels. Conferences also provided an opportunity to engage with key partners and peer organizations to collaborate and develop ideas. To adjust to the impacts of COVID, many conferences were held virtually on online platforms.

In 2021, PBIC staff attended or supported **8 conferences**, potentially reaching thousands of professionals working in transportation, health, and related fields. For some of these activities, PBIC was able to utilize other sources of funding to partially or fully cover the costs of travel.

Conference	Activities
Transportation Research Board Annual Meeting (Washington, DC)	Attended and supported pedestrian and bicycle committee meeting and sessions, sharing PBIC resources, and also gathering new material and content ideas. Provided an annual update of PBIC activities, updated the Pedestrian Committee website, and promoted TRB sessions focusing on active travel. Also presented poster session on challenges related to automated vehicle navigation near schools.
Micromobility World Conference	Attended to learn latest policy and practices regarding e-scooters and e-bikes in context to COVID-19 related street changes, and other mobility issues.
Lifesavers Conference	Nancy Pullen-Seufert organized and coordinated a session on youth active travel and COVID impacts. Ms. Pullen-Seufert also serves on the Pedestrian/Bicycle Planning Committee and participated in the development and presentations of three separate sessions.
NHTSA National Pedestrian Safety Partnership Project	PBIC team helped coordinate, host, and facilitate a series of three roundtable sessions through the summer months. Dr. Sandt led discussions and activities with representatives from 22 organizations. The team also provided notes for each session and a synthesis of proceedings organized around emerging topics and themes.
ITE Annual Meeting	PBIC team members attended to learn more information on COVID-19 related street changes, speed management approaches, and other topics affecting pedestrian and bicyclist safety, equity, and mobility.
National Travel Monitoring Exposition and Conference (NaTMEC)	PBIC team members planned and participated in the conference, by either moderating sessions or serving on panels.
Ontario Transportation Council's Active Travel Transportation Symposium	Dr. Sandt gave an invited presentation on e-scooter safety issues and solutions.
APBP Walk/Bike/Places	PBIC team members attended and presented sessions in the conference.

## Stakeholder Meetings

PBIC engaged regularly with partners and peer organizations to stay informed and learn about current and emerging trends, opportunities, and needs in pedestrian and bicycle research. The team also routinely sought to coordinate across webinar programs and cross-promote resources of mutual interest.

Over the past year, PBIC engaged with at least 29 organizations. Key stakeholders, partners, or peer organizations that PBIC coordinated with on a specific project in 2021 included:

- Institute of Transportation Engineers
- Toole Design
- America Walks
- Eno Center for Transportation
- PBIC Crash Video Series Steering Committee Members
- UNC Carolina Planning (Department of City and Regional Planning)
- WalkBoston
- CALTRANS
- City of Philadelphia
- National Center for Rural Road Safety

In April 2020, Dr. Sandt was confirmed as Chair of the TRB Pedestrian Committee. The continuing appointment provides an opportunity to reach a committee members and friends list of over 400 people representing diverse organizations. As chair, Dr. Sandt is also able to share FHWA and NHTSA announcements and learn more about other research or practitioner work and opportunities for coordinating on projects together.

PBIC projects in 2021 were also informed by and called for participation from key stakeholders. Through the NHTSA National Pedestrian Safety Partnership Project, PBIC coordinated, hosted, and facilitated conversations with representations from 22 organizations to learn more about their critical work to advance pedestrian safety. Stakeholders included leaders and experts within advocacy organizations, academic institutions, and professional organizations who shared their vision for pedestrian safety with NHTSA and FHWA leadership.

PBIC team members are also deeply embedded in other organizational committees and groups, and represent PBIC research while also informing PBIC projects. Many team members serve on TRB Committees focusing on Pedestrians (ANF10) and Bicycle Transportation (ANF20) as well as other subcommittees. PBIC team member Kristen Brookshire also served as a panelist on “Improving Pedestrian Crossing Safely Along Major Arterials” which was one of the top three viewed sessions of the 100<sup>th</sup> TRB Meeting with 1,514 views.

PBIC team members are also members of ITE Councils and Communities, such as the Complete Streets council and Pedestrian and Bicyclist Standing Committee. Additionally, all PBIC team members are members of the Association of Pedestrian and Bicycle Professionals. These memberships provide an opportunity to help inform and shape both research and practice and learn about emerging topics and issues as they unfold. Collaborating with fellow members and stakeholders is an equally valuable advantage of committee participation, as this helps advance efforts collectively and translate ideas and information for committee members’ organizational needs.

Additionally, PBIC supported a national network of pedestrian and bicycle coordinators by developing resources and providing ongoing support. PBIC facilitated discussions between State DOT and FHWA division coordinators and convened bimonthly conference calls to provide an opportunity to share information and discuss activities. To support these conversations, PBIC provided an agenda, meeting summary notes, and announcements to the listserv and website.

## On-Demand State and Local Assistance

One of the key services PBIC provides is on-demand technical assistance and response to requests for more information. PBIC staff responded to more than **70 requests for assistance via email or calls** from practitioners, researchers, graduate students, and other people advancing safe active travel. The topics discussed are wide ranging. Some technical assistance requests over the last year focused on:

Trends in Walking and Bicycling  
Transportation Impact Assessments  
Complete Streets  
Road Safety Audits  
Safe Systems  
Count Data and Analytics  
Road Safety Campaigns  
State Laws on Bicycle Lights  
VMT Data

Driver Yielding  
Next Steps for Local Safety Issues  
Safe Routes to School resources  
Street Closures Near Schools  
Micromobility Safety  
Injury Data  
Costs for Pedestrian and Bicycle  
Infrastructure  
Bike Share Programs  
Economic Benefits Metrics

PBIC also provided technical assistance to NHTSA to continue to support the National Pedestrian Safety Partnership Plan. In 2020, PBIC worked with NHTSA to develop documents and logistics to support roundtable forums with key stakeholders. In 2021, PBIC provided insight into roundtable participant selection and roundtable organizational structure, hosted and facilitated the meetings, and provided a synthesis of proceedings.

PBIC also responded to media requests throughout the year. Dr. Combs responded to multiple media requests on Shifting Streets and analysis of the dataset. She participated in two podcasts with [The Economist](#) and [Bike Here](#) to discuss the dataset, analysis and findings. She also published a [journal paper](#) in Transportation Research Interdisciplinary Perspectives and [feature in CityFix](#), and presented her work in three webinars: at [TRB](#), with [America Walks](#), and with the [Eno Center for Transportation](#). The journal paper on findings from the global dataset and research agenda for planning and policy has been cited 27 times.

Dan Gelinne also responded to a media request to participate in an interview for a podcast about street design and pedestrian safety with [Yale Climate Connections](#). Although not a media request, Sarah O'Brien presented in a webinar hosted by the [California Active Transportation Research Center](#) to discuss the role of law enforcement in active transportation programs. Dr. Sandt also contributed to an article in [FHWA Public Roads on micromobility](#).

## Communications and Outreach

Resources developed by PBIC and other organizations, and lessons learned and outcomes from capacity building efforts inform PBIC communications and outreach activities. Communications strategy includes a focus on conversations on timely topics via multiple channels including the monthly newsletter, website, and social media. The multiple mechanisms for outreach also help reach a diverse audience to share information, and build connections between organizations and stakeholders to participate and join the conversation.

### PBIC Messenger

The PBIC Messenger provides engaging, timely information to practitioners and professionals to help advance active transportation-friendly communities. The monthly distribution schedule also provides news and information to the diverse audience at frequent intervals to respond to practitioner needs.

The editorial PBIC Messenger team made adjustments to the PBIC Messenger for readability and functionality to include a new “Call for Proposals, Presentations, Abstracts, and More” section for opportunities to share research and more at conferences, in journals, and via other forums. The PBIC Messenger includes seven sections:

- **Announcements:** resources and major news from PBIC and Federal agencies and other items that are of importance to practitioners across the field
- **News:** items from media outlets and other sources of information that capture immediate trends or observations related to active travel
- **Resources:** new guidance, reports, gray literature, and other deliverables focused on pedestrian and bicycle related topics
- **Research:** new journal articles, white papers, or research synthesis from academic organizations
- **Webinars:** upcoming online training offerings from PBIC and other organizations, with link to archived and recorded webinars
- **Call for Proposals, Presentations, Abstracts, and More:** opportunities to submit research or other work to participate in conferences, publish in journals, or share via other formats
- **Events:** conferences and summits on pedestrian and bicycle issues and related topics such as planning, health, and safety

Subscription to the PBIC Messenger increased in 2021, the bulk of which is attributed to PBIC webinar participants requesting to opt-in when registering for webinars. Over the last year, the average newsletter open rate was **20 percent**. The click rate was **5.4 percent**, which is higher than our peer average performance, per Mailchimp analytics information, the third-party newsletter service.

Moreover, the top clicked links of PBIC Messenger content demonstrate that subscribers learn about more than PBIC resources and deliverables. Many of the resources that subscribers are interested in are national guidance and new tools and resources developed by leading organizations, such as FHWA, NHTSA, and AASHTO. The table below shows the top clicked links for each PBIC Messenger over the last year.

Issue	Number of Subscribers	Top Clicked Link
January 2021	8,684	PBIC <a href="#">Re-envisioning School Streets: Creating More Space for Children and Families</a>
February 2021	8,669	<a href="#">A Guide to Planning Cyclelogistics Hubs</a>
March 2021	8,866	Smart Growth America <a href="#">Dangerous by Design 2021</a> report
April 2021	8,864	FHWA <a href="#">Case Studies for FHWA Pedestrian and Bicycle Focus States and Cities</a>
May 2021	8,792	USDOT information on <a href="#">Federal Raise Grants</a>
June 2021	8,736	PeopleForBikes <a href="#">Electric Bike Laws- State by State</a> webpage
July 2021	8,660	PBIC " <a href="#">Understanding Crashes and Safe Behaviors to Help Prevent Them</a> " Video Series
August 2021	8,613	AASHTO Council on <a href="#">Active Transportation Research Roadmap</a>
September 2021	8,615	NHTSA <a href="#">Countermeasures That Work</a>
October 2021	8,589	<a href="#">Journal article</a> on nighttime effectiveness of pedestrian crossing treatments
November 2021	8,983	<a href="#">Story</a> about a wishbone-shaped pedestrian and bicycle bridge in Austin, TX
December 2021	8,951	<a href="#">Summary of bicycle-related provisions in the Build Back Better bill</a> from the League of American Bicyclists

## Website Updates

The [PBIC website](#) continues to serve as a comprehensive, curated source of quality, objective information on pedestrian and bicycle issues related to safety, access, equity, and much more. Since the website update in 2019, PBIC has made routine frequent updates to site content as new resources, from both PBIC and other organizations, are available. In 2021, the PBIC website had over **46K visitors with 117K page views**.

This past year, PBIC made several updates to the site in both functionality and content. For functionality, PBIC updated to HTTPS for increased security. For content, PBIC conducted an internal review to update pages and topics across the site to ensure that information and recommended resources are timely and serve as leading practice and reference. The [Facts and Figures](#) pages were each updated in terms of content and also structure to include subheadings as these areas can be viewed from multiple lenses or have application in various contexts. PBIC also frequently adds new resources to the resource library, which are searchable from the [Resources](#) page. PBIC has 2,183 resource entries in the resource library.

Since the [Shifting Streets](#) database, PBIC has also worked to develop webpages that serve as complimentary resources to PBIC deliverables. The ["Shifting Streets" Glossary](#), for instance, was developed to serve as terminology and definitions for intervention type categories to support the database and also [Call for Case studies](#). The [Personal Delivery Devices \(PDDs\) Legislative Tracker](#) was also developed a complimentary resource to the [Sharing Spaces with Robots](#) info brief. The [Connecting New Concepts to Advance Pedestrian Safety](#) curated list of resources was developed to observe Pedestrian Safety Month and share the resources referenced during the National Pedestrian Safety Partnership roundtable sessions. And, since the beginning of the COVID-19 pandemic and need for virtual meetings and webinars, PBIC continues to maintain a [listing of upcoming and archived webinars](#) provided by partner and peer organizations on active travel and related topics via a sortable database.

The top 5 frequently visited PBIC webpages include:

1. [Homepage](#)
2. [Resources Page](#)
3. [Facts and Figures- Safety Page](#)
4. [Webinars Page](#)
5. ["Shifting Streets" COVID-19 Mobility Dataset](#)



Screen capture of the [PBIC website](#).

Among PBIC’s most popular and requested resources, the [PedBikeImages](#) library had over **38K page views in 2021 with a bounce rate of only 62 percent**. The average session duration is also over 3 minutes long. These metrics suggest that the visitors to PedBikeImages are engaging with the content and searching for images.

In 2021, PBIC added several new tags and synonyms to the image library in keeping with emerging technologies or approaches, such as PDDs. PBIC also added a new page to PedBikeImages, which is a menu of tag keywords for users to consult if searches result in zero images. Since the launch of the [PedBikeImages](#), contributors to the library and PBIC have added new images. The image library hosts 2,432 searchable, downloadable images.

## Social Media Messaging and Outreach

PBIC uses social media as a mechanism for sharing news, resources, research, and other announcements related to safety for people who walk and roll. Social media via Facebook and Twitter specifically also provides a forum for conversations and dialogue and offers a way for practitioners in the field to not only learn more about new resources or opportunities to learn more, but to also share thoughts and ideas for advancing safety.

Beyond sharing news and resources in social media, PBIC also amplifies messaging from other organizations to help increase awareness of resources or learning opportunities to encourage broader uptake. This includes sharing information on Walk and Bike to School Day, or webinars and learning opportunities related to new approaches, like Safe Systems, from the Collaborative Sciences Center for Road Safety.

Frequent posts via the two platforms maintained engagement with professionals and practitioners, partner organizations, advocacy groups, and the general public interested in topics related to walking and biking. Outreach via Facebook continued to increase awareness, and Twitter posts and engagement have furthered discussions in pedestrian and bicycle topics. While the following fluctuates, PBIC currently averages more than 1,650 Twitter followers and 5,530 Facebook followers.

Social media metrics show impact and reach of messages on topics related to pedestrian and bicyclist issues.

Annual Metrics	Facebook	Twitter
Number of Posts / Tweets	228	52
Impressions/Reach (number of times content is delivered to another account)	51,532	62,250
Cumulative Number of Engaged Users (the number of people who click or share a story)	1,632	N/A
Profile Visits	N/A	16,238

Top Tweets and Facebook posts from PBIC over the last year included announcements about new resources, such as the [Call for Case Studies on Pandemic Era Street Redesigns](#), the [Connecting New Concepts to Advance Pedestrian Safety](#) resource list, and webinars offered through PBIC or other virtual sessions at conferences.

## PBIC Team

The HSRC leads PBIC, with support from subcontractors Toole Design and Institute of Transportation Engineers. A host of independent consultants, Peter Koonce, Charles T. Brown, Janet Barlow, Civic Eye Collaborative, Linda Tracy, and others provided additional technical expertise in 2021.

The PBIC team is grateful for the support from FHWA, NHTSA, our expert team of consultants and subcontractors, and others. In the next year, we look forward to expanding partnerships, further developing critical resources, and finding new ways to serve and engage diverse groups that have a role to play in improving walking and biking conditions for everyone.

### PBIC Directors

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Laura Sandt  
Director  
sandt@hsrc.unc.edu

Nancy Pullen-Seufert  
Associate Director  
pullen@hsrc.unc.edu

### Core Team

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Kristin Blank  
Communications Manager  
blank@hsrc.unc.edu

Lauren Marchetti  
Senior Technical Advisor  
marchetti@hsrc.unc.edu

Kristen Brookshire  
Research Associate  
brookshire@hsrc.unc.edu

Krista Nordback  
Senior Researcher  
nordback@hsrc.unc.edu

Michael Clamann  
Senior Human Factors Engineer  
clamann@hsrc.unc.edu

Sarah O'Brien  
Senior Researcher  
swobrien@hsrc.unc.edu

Dan Gelinne  
Program Manager  
gelinne@hsrc.unc.edu

Libby Thomas  
Senior Researcher  
thomas@hsrc.unc.edu

Stephen Heiny  
Research Associate  
heiny@hsrc.unc.edu

Alyson West  
Research Associate  
west@hsrc.unc.edu

Seth LaJeunesse  
Research Associate  
lajeunesse@hsrc.unc.edu

Charlie Zegeer  
Senior Technical Advisor  
zegeer@hsrc.unc.edu



[www.pedbikeinfo.org](http://www.pedbikeinfo.org)

730 Martin Luther King Jr. Blvd., Suite 300

Chapel Hill, North Carolina 27599-3430

[pbic@pedbikeinfo.org](mailto:pbic@pedbikeinfo.org)

888-823-3977



[@pedbikeinfo](https://www.instagram.com/pedbikeinfo)

Follow PBIC on Facebook, Twitter, and YouTube,  
and subscribe to the monthly [PBIC Messenger](#) newsletter.

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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.