



Center for Pedestrian and Bicyclist Safety

Semi-Annual Progress Report

Federal Agency: U.S. Department of Transportation
Office of the Assistant Secretary for Research and Technology
University Transportation Center Program

Federal Grant Number: 69A3552348336

Project Title: Center for Pedestrian and Bicyclist Safety

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Submission Date: April 26, 2024

DUNS and EIN Numbers: DUNS = 868853094; EIN = 85-6000642


Recipient Organization: The University of New Mexico
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Albuquerque, NM 87131

Recipient Identifying Number: F6XLTRUQJEN4

Project/Grant Period: June 1, 2023 – May 31, 2029

Reporting Period End Date: March 31, 2024

Report Term: Semi-annual

Signature of Submitting Official: 

1. ACCOMPLISHMENTS

1.1 What are the major goals of the program?

The goal of the Center for Pedestrian and Bicyclist Safety (CPBS) is to eliminate pedestrian and bicyclist fatalities and serious injuries. CPBS’s activities address the Promoting Safety research priority area. Specifically, CPBS addresses the first key challenge under that priority: Vulnerable Users. In addition, CPBS contributes to other Promoting Safety key challenges including Infrastructure, Safety Culture and Behavior, and Rural Transportation Safety.

The primary strategic goal from the **US Department of Transportation (US DOT) Strategic Plan** that CPBS addresses is Safety. According to the US DOT Strategic Plan, safety is the highest priority goal and must be a multimodal effort. In addition, CPBS advances secondary strategic goals of Transformation, Equity, and Climate and Sustainability. CPBS advances these goals through the promotion of safe, comfortable, and accessible pedestrian and bicycle networks that will improve the resilience of the overall transportation system, advance sustainability, and be fair and equitable for all road users.

To meet the above goals, CPBS addresses the following objectives from the **US DOT Research, Development, and Technology (RD&T) Strategic Plan**: Safety Culture and Behavior, Human-Technology Interaction, Safety Design, Safety Data, and Safety Technology. CPBS is led by the University of New Mexico (UNM) in collaboration with consortium members San Diego State University (SDSU), University of California Berkeley (UCB), University of Tennessee Knoxville (UTK), and University of Wisconsin Milwaukee (UWM).

1.2. What was accomplished under these goals?

Administrative Accomplishments

Administratively, CPBS organized the Year 2 budget, submitted it to USDOT, and USDOT approved CPBS’s Year 2 budget in early April 2024. That process involved forming the Year 2 Strategic Plan with the input of all directors in February 2024; releasing a Call for Problem Statements across the entire consortium in February 2024; having members of the CPBS Advisory Committee peer review the problem statements; selecting Year 2 projects; and forming budgets around the selected Year 2 projects.

CPBS leadership also established a PI Toolbox on the CPBS website so that PIs can easily access Reporting Requirement dates, a final report template, and progress trackers for their projects.

CPBS Director Dr. Ferenchak (UNM) was selected as a 40 Under 40 Honoree by Albuquerque Business First for his work on CPBS.

Research Accomplishments

At SDSU, before-and-after studies were conducted to assess the safety of recently completed bicycle projects, using data from the Statewide Integrated Traffic Records System (SWITRS) and bicycle counts from the San Diego regional bicycle counting network. In another project, SDSU analyzed Right Turn on Red maneuvers using data from SWITRS and assembled datasets of every bicycle and pedestrian collision that has taken place in California from 2010-2021. The dataset was enhanced with data from the American Community Survey, Caltrans Active Transportation Benefit-Cost Tool, and Walk Score. SDSU associate director Dr. Appleyard attended the Walk21 Conference in Kigali, Rwanda, Africa in October 2023 to present his CPBS research (**Figure 1**).



Figure 1. Dr. Appleyard (SDSU) speaking at the Walk21 Conference.

At UCB, interviews have been completed with 24 experts related to bike lending in North America for project 23UCB04. The research team is currently in the process of recruiting participants for 2 to 3 focus groups.

At UTK, a literature review was conducted on bus stop-related pedestrian crashes, including a thorough search of bus stop safety-related studies, methodologies, and outcomes. The research team extracted 259 bus stop-related pedestrian crashes involving 297 pedestrians, between 2014-2022, from the Fatality Analysis Reporting System (FARS). In another project, UTK analyzed pedestrian crashes on Tennessee arterials. The study highlighted that Arterial-Nature Crashes (ANCs), identified using unsupervised and semi-supervised machine learning, are most common on wide, multi-lane, high-speed, straight roads with minimal pedestrian infrastructure. In Tennessee, the rise in fatal crashes over the years was almost entirely associated with ANCs. Another UTK study analyzed pedestrian crashes occurring in Florida and Tennessee to understand the relationship between vehicle weights and speed limits on pedestrian crash outcomes. Overall, speed limits significantly affected crash outcomes more than vehicle weights. UTK researchers are also examining fatal crashes involving pedestrians and cyclists across the US,

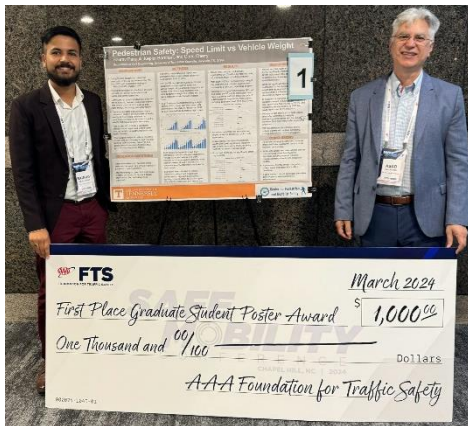


Figure 2. UTK PhD student Saurav Parajuli wins first prize for his CPBS research in March 2024. Pictured with Dr. Khattak.

with a focus on Florida at the census tract level. Findings indicate that disadvantaged indicators, including transportation insecurity; health, environmental and social vulnerability; and climate & disaster risk, profoundly affect these crashes. Dr. Cherry and Parajuli devised a methodology to assess the perception of safety and comfort levels using a fractional factorial design and generative AI in Photoshop 2023, which is also generalizable for US cities. PhD student Zeinab Bayati worked on research related to pedestrian-automated emergency braking systems using pedestrian crash test data collected by the Insurance Institute for Highway Safety.

CPBS took part in the 2024 Safe Mobility Conference in Chapel Hill. Saurav Parajuli (a PhD student from UTK under the supervision of Dr. Cherry) won first place in the Graduate Student Poster competition for his work on pedestrian safety and vehicle size (**Figure 2**). UTK also took third place with their work on "Nighttime Safety of Pedestrians: The Role of Pedestrian Automatic Emergency Braking Systems".

At UNM, research on access management and vulnerable road users (VRUs) found that significant factors influencing VRU-involved crashes include exposure, segment length, number of traffic lanes, presence of left turn opportunities, and density of facilities such as fuel stations and off-street parking lots. Lower traffic volumes (<20,000 per day) and higher school density were linked to reduced VRU events, while socioeconomic factors like education attainment, poverty, and race were linked to higher risk. UNM researchers also published a preliminary New Mexico Crash Map on the internet in September 2023 which has been explored by 50 NMDOT staff members and the public across New Mexico.

At UWM, literature reviews and data collection were completed for several projects. For the Pedestrian Level of Traffic Stress (PLTS) study, initial PLTS tables were presented to the Federal Highway Administration pedestrian and bicycle safety working group, and case studies are being developed to show how PLTS can be applied to specific roadway corridors to assess the benefits of adding sidewalks and improving pedestrian crossing opportunities.

Technology Transfer Accomplishments

CPBS leadership organized their first CPBS webinar for May 1, 2024. The webinar is entitled "Advocating for bicycle safety: Strategies for success at local, state, and national levels" and will feature speakers from the League of American Bicyclists, CalBike, Two Bikes Knoxville, and BikeABQ. CPBS has also begun organizing the next four webinars of their webinar series, which will be announced soon. CPBS is planning to have one webinar every other month. CPBS has also organized a presentation at an Association of Pedestrian and Bicyclist Professionals

(APBP) webinar in December 2024 to discuss CPBS' work and the UTC program in general. APBP fosters peer knowledge sharing, advances technical expertise, and supports the professional development of its members.

CPBS's following on [LinkedIn](#) and their [newsletter mailing list](#) is growing. CPBS currently has 875 followers on their LinkedIn page and 696 subscribers to the newsletter (distributed monthly). CPBS began regularly sending newsletters during this reporting period. The two newsletters were sent in the first weeks of March and April and will continue to be sent throughout the life of the grant. CPBS leadership has also begun regularly reaching out to their consortium members for social media content and they posted on LinkedIn approximately twice per week throughout the current reporting period.

At UCB, Julia Griswold, Liza Lutzker, and Rock Miller presented a webinar on [Toolkit for Safe Speed Limit Setting: New Flexibility under California State Law](#) on January 18, 2024. There were about 250 participants. The training has also been posted on the SafeTREC YouTube channel and had 215 views.

At UTK, Dr. Khattak and his PhD student Nastaran Moradloo shared their research findings through the UTK Civil and Environmental Engineering website (<https://cee.utk.edu/no-longer-in-the-dark/>), aiming to make their findings widely accessible. Dr. Cherry shared research at the [International Cycling Safety Conference](#) in The Hague Netherlands, on November 15-17, 2023 (**Figure 3**). He also attended the [League of American Bicyclists Bike Summit](#) in Washington DC, March 19-21, 2024, and presented in a session on micromobility safety.



Figure 3. UTK's Dr. Cherry presenting CPBS research on e-scooter crashes at the International Cycling Safety Conference in November 2023.

Workforce Development Accomplishments

The [New Mexico LTAP](#) was reestablished during the current reporting period and CPBS is currently coordinating with NM LTAP on four workforce development events over the next few months. There was a significant delay on this workforce development effort because of contracting issues on the LTAP side.

CPBS reached out to ITE regarding their [Road Safety Professional \(RSP\)](#) professional certification program. CPBS hopes to collaborate with ITE regarding pedestrian/bicyclist material in this program.

CPBS will be speaking at a [Homewise Livability in the Land of Enchantment Speaker Series](#) event in Santa Fe in June 2024 and is currently organizing that effort. The series is aimed at understanding how Santa Fe can become more affordable, sustainable, and vibrant. The monthly series brings local and national speakers to venues in Santa Fe. The talks are free to the public and include a social hour.

Dr. Cherry organized an [AcciMap workshop](#) in collaboration with UNC HSRC (Highway Safety Research Center) at the 2024 Safe Mobility Conference, Chapel Hill, North Carolina, for a pedestrian crash.

Educational Accomplishments

CPBS established a relationship with [Story Riders](#), an Albuquerque cycling program for Latino, Indigenous, and POC children and youth that teaches STE(A)M and storytelling curriculum through a cultural lens. Story Riders empowers children and youth of color to reconnect with their natural and cultural heritage, while providing practical training in bicycle safety, maintenance, and guided cycling experiences. Led by native New Mexicans who are Indigenous, Mexicano, Chicano or Mestizo, participants learn first-hand the inner workings of their bicycle and the rules and laws of cycling on roads, which instills a sense of responsibility and consideration for themselves and others when riding in public spaces. CPBS is currently planning to collaborate with Story Riders for a two-week course in June 2024.

CPBS members at UNM selected two [TRB Minority Fellows](#) for next year who will submit papers for the TRB Annual Meeting which they will attend in January 2025 in Washington, D.C. UNM submitted an application for a local [UNM Eisenhower Transportation Fellowship](#) competition to support CPBS students at UNM. CPBS is also participating in the NM Summer Transportation Institute, a program for students in 9th - 12th grade from across the country to encourage them to enter the transportation field, which they spent time organizing during the current reporting period.

In the classroom, UNM offered their [first dual-listed course](#) that is being taken by students in both the Civil Engineering Department and the Planning Department. Dr. Zhang (UNM) conducted a preliminary crash mapping portal demo for the UNM GEOG488/588 GIS Concepts and Techniques undergraduate and graduate-level course. UCB completed a partial refresh of the course content for CE C265 Traffic Safety and Injury Control. The course enrolment is 16 students, the highest ever. UCB researchers are also mentoring four graduate students as part of their participation in generating high quality CPBS research pertaining to pedestrian and bicyclist safety. At UWM, content developed as part of a CPBS project has been incorporated into the UWM CIV490 Transportation Engineering course.

At UTK, Dr. Khattak covered pedestrian and bicycle safety issues and emerging technologies to improve their safety in the graduate-level CEE 596 Intelligent Transportation Systems course taught at UTK. Dr. Cherry included multimodal designs for urban roads with a focus on pedestrian and bicycle facilities for the undergraduate-level courses CE455: Transportation Engineering II and CE456: Transportation Lab II during Fall 2023. Pedestrian and bicyclist design elements in urban road designs were discussed in more detail in the graduate-level course CE553: Geometric Design during Spring 2024.

1.3. What opportunities for training and professional development has the program provided?

UCB developed the [Safe Speeds Toolkit](#) to establish evidence-based, online educational resources to support Safe Speeds decision making in California (**Figure 4**). The toolkit had 910 views during the reporting period. UCB also conducted two pilot workshops on Safe Speeds and provided limited, targeted technical assistance to enhance vulnerable road user safety and mobility through informed motor vehicle speed setting practice by applying flexibility to existing speed-limit-setting law.

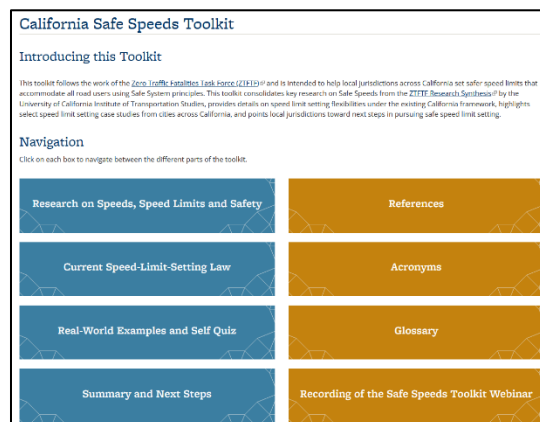


Figure 4. UCB developed the California Safe Speeds Toolkit to help practitioners to set appropriate speed limits.

UTK's Center for Transportation Research (CTR) conducted four [pedestrian/bicyclist safety-related workshops](#) as part of their [TTAP program](#):

- Pedestrian and Bicycle Strategies at Signalized Intersections - Webinar 12/3/23
- Inspecting Curb Ramps - Webinar 1/23/24
- Pedestrian and Bicyclist Considerations in Work Zones - Webinar 2/26/24
- Urban Street Design and Complete Streets - Workshop 2/27/24

CPBS leadership has also established connections with LTAPs within their consortium and worked on the development of several training and professional development events during the current reporting period which will be administered beginning in the next reporting period.

1.4. How have the results been disseminated?

CPBS's results have been disseminated through the technology transfer channels that CPBS has established, namely the CPBS website, newsletter, and LinkedIn page. CPBS has also generated five journal publications, seven conference papers, 26 conference presentations, and been cited in 18 news articles (**Figure 5**) (see Sections 3 and 4 for more output/outcome details).

1.5. What do you plan to do during the next reporting period to accomplish the goals?



Figure 5. Dr. Ferenchak (UNM) is interviewed by KOB News about pedestrian safety in New Mexico in February 2024.

Research Plans & Goals

CPBS will complete the Year 1 projects through the completion of analyses and compilation of findings into final reports. CPBS will also work to initiate the Year 2 projects by administering the funding for them, hiring students, collecting data, performing literature reviews, and updating all associated administrative requirements. SDSU plans to continue the analyses of their projects studying safe routes to school and right turn on red as well as developing manuscripts to explore the individual characteristics of crashes. UCB expects that data analysis and focus groups will be completed, as well as compiling the findings into a report. UNM expects that their crash mapping portal will be optimized and debugged. UTK plans to complete statistical analysis, assess methodologies, and continue research on their projects, many of which will submit draft papers to TRB by August 2024. UWM plans to continue progress on their projects, including data collection, statistics, literature reviews, outreach, and interviews.

Technology Transfer Plans & Goals

CPBS will initiate the webinar series and continue to grow the newsletter and LinkedIn following. UCB will prepare the research findings to be submitted to the 2025 Transportation Research Board Annual Meeting and a pre-reviewed journal for publication. UNM will present at the International Conference of Transportation & Development 2024 in Atlanta, GA, on June 16 and at the 2nd TRB International Conference and Peer Exchange on Roadside Safety in Orlando, Florida, June 23-26. The crash map API will be enhanced to facilitate the creation of similar web mapping applications by other transportation agencies. UWM will present initial PLTS tables and case studies of how PLTS can illustrate the stress-reduction value of pedestrian crossing and sidewalk improvements at a professional conference and a webinar will be hosted to disseminate the research outcomes.

Workforce Development Plans & Goals

UNM plans to schedule and host several LTAP events, as well as present at Homewise (a low-income housing developer). UTK plans that several graduate students will receive safety research exposure regarding applying appropriate methods and writing research reports and papers for publication in refereed journals. UTK plans to host TTAP workshops and webinars.

Education Plans & Goals

UNM plans to implement TRB Minority Fellows and Eisenhower Fellows programs, contribute to the NM Summer Transportation Institute, and deliver a lecture on how to use crash mapping tools relevant to transportation safety. UTK plans to cover pedestrian and bicycle safety issues in the graduate-level CEE 559 Transportation Safety course, as well as CE455 Transportation Engineering II and CE456 Transportation Lab II during Fall 2024. UWM plans to present initial PLTS tables and case studies in the UW-Milwaukee graduate-level Pedestrian and Bicycle Transportation class (14 students), as well as incorporate CPBS research into CIV490 Transportation Engineering and develop a new class on Connected and Automated Vehicles (CAV).

2. PARTICIPANTS & COLLABORATING ORGANIZATIONS

2.1. What organizations have been involved as partners?

2.1. New Partners

CPBS established new partnerships with 13 organizations and continued partnerships with 23 others. These partnerships supported a wide variety of CPBS activities including providing data (e.g., MRCOG) and in-kind support (e.g., NMDOT) for research projects, supporting CPBS educational efforts (e.g., Knoxville Police Department), and supporting workforce development activities (e.g., NM LTAP). New partnerships established during the reporting period are listed below:

| Name | Location | Support |
|--|------------------|---|
| Association of Pedestrian and Bicyclist Professionals (APBP) | Lexington, KY | CPBS will present at an APBP webinar in December 2024 regarding the UTC program |
| BikeABQ | Albuquerque, NM | BikeABQ will present at CPBS's May webinar |
| Bike Walk Knoxville | Knoxville, TN | UTK's CTR sponsored the TN Bike Summit |
| CalBike | Sacramento, CA | CalBike will present at CPBS's May webinar |
| Center of Southwest Culture – Story Riders | Albuquerque, NM | Assisting with a K-12 educational program |
| The Centre for Active Transportation | Toronto, Canada | Shared focus group advertisement with past participants |
| Council of University Transportation Centers (CUTC) | Missoula, MT | CPBS joined CUTC and will attend the summer meeting |
| League of American Bicyclists | Washington, DC | LAB will present at CPBS's May webinar. |
| New Mexico MainStreet | Santa Fe, NM | Information for case studies for 23UNM01 |
| Oak Ridge National Laboratory | Oak Ridge, TN | Simulating Vulnerable Road User crashes |
| Pueblo of Jemez | Jemez Pueblo, NM | Sheri Bozic will provide tribal/rural perspective for June LTAP workforce development event |
| UNM Engineering Student Success Center | Albuquerque, NM | Organizing NM Summer Transportation Institute K-12 education program |
| UWM Police Department | Milwaukee, WI | Live-streaming surveillance camera video |

2.2. Ongoing Partners

| Name | Location | Support |
|--|----------------|--|
| AAA Foundation for Traffic Safety | Washington, DC | Serving on Advisory Committee with peer reviews |
| California Department of Public Health | Sacramento, CA | Collaborative research for UCB projects |
| California Transportation Commission | Sacramento, CA | Provided data, project details, and report revisions for the ATP project |

| | | |
|--|-------------------|---|
| Caltrans | Sacramento, CA | In-kind match for several UCB projects |
| Centers for Disease Control & Prevention (CDC) | Atlanta, GA | Providing data for UTK projects |
| City of Albuquerque | Albuquerque, NM | Providing roadway data for 23UNM04 |
| Federal Highway Administration (FHWA) | Washington, DC | Supporting UNM educational efforts through internal Eisenhower Fellowship |
| Institute of Transportation Engineers (ITE) | Washington, DC | Serving on Advisory Committee with peer reviews |
| Insurance Institute for Highway Safety (IIHS) | Arlington, VA | Collaborative research and providing data for UTK projects |
| Knoxville Police Department | Knoxville, TN | Programmatic educational support for UTK |
| Mid-Region Council of Governments (MRCOG) | Albuquerque, NM | Providing infrastructure data and staff support for 23UNM05 |
| New Mexico Community Data Collaborative | Silver City, NM | Promote web map implementation with local communities for 23UNM03 |
| New Mexico DOT | Santa Fe, NM | \$120k annual cost share, personnel exchange, and data for 23UNM01 |
| New Mexico Local Technical Assistance Program (LTAP) | Albuquerque, NM | Staff time for organization and implementation of tech. transfer and workforce development events |
| People for Bikes | Boulder, CO | Data, policy support, tech. transfer |
| Sandia National Laboratories | Albuquerque, NM | Participant recruitment through Commuter Bike Program for 23UNM04 |
| Tennessee DOT | Nashville, TN | Providing data for UTK projects |
| Transportation Research Board (TRB) | Washington, DC | Support for 3 UNM students to attend TRB Annual meeting to present their research |
| Two Bikes Knoxville | Knoxville, TN | Workforce development |
| UNM Lobo Bike Shop | Albuquerque, NM | Providing facilities and bike equipment and assisting with recruitment for 23UNM04 |
| Vision Zero Network | San Francisco, CA | Collaborative research for UCB projects |
| WeGo Transit Agency | Nashville, TN | Collaborative research and providing data for UTK projects |
| Wisconsin DOT | Madison, WI | Collaborative research for 23UWM04 |

2.2. Have other collaborators or contacts been involved?

In addition to the established partnerships detailed in the table above, other CPBS partnerships are in the exploratory phase. Nascent CPBS partnerships are detailed in the table below:

| Name | Location | Support |
|---|------------------|---|
| Albuquerque Public Schools | Albuquerque, NM | Discussing opportunities to collaborate with their Vision Zero for Youth Initiative |
| City of Manteca | Manteca, CA | Organizing workforce development workshop with Caltrans on safe speeds |
| City of Milwaukee | Milwaukee, WI | Considering opportunities to collaborate with their Vision Zero program |
| City of Temecula | Temecula, CA | Organizing workforce development workshop with Caltrans on safe speeds |
| Milwaukee County DOT | Milwaukee, WI | Exploring collaboration opportunities |
| Northwest New Mexico Council of Governments | Gallup, NM | Organizing a workforce development event focused on pedestrian safety |
| Southeastern Wisconsin Regional Planning Commission | Waukesha, WI | Exploring collaboration opportunities |
| University of Aveiro | Aveiro, Portugal | UTK developed and submitted a joint research proposal |

Over the next reporting period, CPBS members will continue to develop the above partnerships to help further the goals of the center. While many of the partnerships detailed above were institution-specific partnerships tied to specific research projects, CPBS will also pursue center-wide collaborations that will support center-wide efforts that CPBS is currently developing.

3. OUTPUTS

The following lists highlight the outputs generated during the reporting period. Note that since the CPBS research projects commenced nine months ago, there are not many outputs to report yet. CPBS anticipates the Year 1 projects will begin generating significantly more outputs during the next reporting period.

| Performance Measure | Count | Performance Measure | Count |
|-----------------------|-------|---------------------|-------|
| Journal publications | 5 | Presentations | 26 |
| Books/non-periodicals | 1 | Websites | 6 |
| Research reports | 0 | New methods | 1 |
| Policy papers | 0 | Inventions | 0 |
| Conference papers | 7 | Other products | 2 |

3.1. Publications, conference papers, and presentations

Journal publications

1. UNM: Habib, K., Losada-Rojas, L. L., & Ferenchak, N. N. (2024). A review of the impacts of human factors on cycling: Workload, behavior, and perception. *Transportation Research Record: Journal of the Transportation Research Board*. (Accepted).
2. UNM: Joshi, A. R., Ferenchak, N. N., & Losada-Rojas, L. L. (2024). Bus rapid transit as arterial corridor traffic calming: The relationship between transit infrastructure and vehicle operating speeds. *Traffic Injury Prevention*. (Accepted).

3. UTK: Jones, L. R., Bennett, C., MacArthur, J. H., & Cherry, C. R. (2024). Consumer purchase response to e-bike incentives: Results from a nationwide stated preference study. *Transportation Research Part D: Transport and Environment*, 104114. <https://doi.org/10.1016/j.trd.2024.104114>
4. UTK: Mahdinia, I., Moradloo, N., Mohammadnazar, A., & Khattak, A. (2024). Enhancing bicyclist survival time in fatal crashes: Investigating the impact of faster crash notification time through explainable machine learning. *Journal of Transportation Safety & Security*, 1-19. Advance online publication.
5. UTK: Usman, S., & Adeel, M. (2024). Exploring university campus community's perceptions and barriers toward biking: A case study of the University of Tennessee Knoxville. *Journal of Transportation Technologies*, 14, 161-178. <https://doi.org/10.4236/jtts.2024.142010>

Books or other non-periodical, one-time publications

1. UTK: Student Dissertation: Patwary A. Latif, "Transportation System Performance and Traveler Behavior in the Context of a Systemwide Shock: Applications of Data Science Toward a Sustainable Future" Ph.D. Diss., University of Tennessee. https://trace.tennessee.edu/utk_graddiss/9150/

Research reports

Nothing to Report

Policy papers

Nothing to Report

Conference papers

1. UTK: Moradloo, N., Mahdinia, I., & Khattak, A. (2024). Nighttime safety of pedestrians: The role of pedestrian autonomous emergency braking systems. Presented at Transportation Research Board 103rd Annual Meeting Transportation Research Board, TRBAM-24-02568.
2. UTK: Parajuli, S., & Cherry, C. (2024). To solve pedestrian safety risk: Start with arterials. Presented at Transportation Research Board 103rd Annual Meeting Transportation Research Board, TRBAM-24-06211.
3. UTK: Parajuli, S., Barnhart, K., & Cherry, C. (2024). Pedestrian safety: Speed limit vs vehicle weights. Presented at 2024 Safe Mobility Conference, Chapel Hill, NC.
4. UTK: Patwary, A., & Khattak, A. (2024). Exploring how urban form, demographics, and disadvantaged communities are linked with pedestrian and bicycle safety. Presented at Transportation Research Board 103rd Annual Meeting Transportation Research Board, TRBAM-24-04785.
5. UTK: Usman, S., Patwary, A., & Khattak, A. (2024). Nighttime pedestrian safety in disadvantaged communities: Application of artificial intelligence techniques. Presented at Transportation Research Board 103rd Annual Meeting Transportation Research Board, TRBAM-24-02574.
6. UWM & UNM: Schneider, R.J., Gu, X., Nelson, K., and Ferenchak, N.N. (2024). Neighborhood-Level Shifts in US Fatal and Severe Pedestrian Crashes during the 2010s. Accepted for presentation at World Society of Transport and Land Use Research symposium, June 2024, Bogota, Colombia.
7. UWM: Vajari, M. A., Li, Y., Aghayan, I., Qin, X., & Schneider, R. (2024). Current practices in non-motorist crowdsourced data among transportation agencies: A nationwide survey and its implications. Accepted for presentation at Transportation Research Board 103rd Annual Meeting, Washington, DC.

Presentations

1. SDSU: Appleyard, B. (2024, January) Before and After Safety Evaluation of California's Active Transportation Program. [Conference presentation]. Transportation Research Board Annual Meeting.

2. UCB: Griswold, J. (2024, February 13). Safety First: Using Self-Driving Technology to Address the Growing Road Safety Crisis. [Panel discussion]. 2024 California Transportation Foundation (CTF) Transportation Forum.
3. UCB: Griswold, J. (2023, October 19). Toward Safe Speeds: A Multipronged Approach to Addressing Deadly Speed-related Crashes in California. [Seminar presentation]. ITS Transportation Seminar Series.
4. UCB: Griswold, J. (2023, November 3). Vision Zero: Closing the Loop on Safety and Equity. [Conference presentation]. 2023 HAAS Mobility Summit.
5. UCB: Mahdinia, I. (2024, March 28). Pedestrian Safety Trends: The Role of Pedestrian Autonomous Emergency Braking Systems. [Seminar presentation]. UC Berkeley Safe Transportation Research & Education Center Seminar Series.
6. UCB: Miah, M. (2024, January 7). Investigating How Location-Based Service, App, and Synthetic Data Relate to and May Be Used with Data from Permanent Counters. [Conference presentation]. Transportation Research Board Annual Meeting.
7. UCB: Miah, M., & Griswold, J. (2024, January 9). Data Checks for Bicycle and Pedestrian Counts. [Poster presentation]. Transportation Research Board Annual Meeting.
8. UCB: Miah, M., Bigham, J., & Griswold, J. (2024, January 10). Methodology of a Large-Scale Bicycle Exposure Estimation. [Poster presentation]. Transportation Research Board Annual Meeting.
9. UNM: Chavez Lasso, Y., & Losada-Rojas, L. L. (2024, March 13-14). Obstacles to Sustainable Transportation: Assessing the Hazards for Pedestrians and Bicyclists on Arterial Roads in Albuquerque. [Conference presentation]. 1st Colorado River Basin Symposium on Sustainable Energy, Environment, and Urban Development, Las Vegas, NV.
10. UNM: Ferenchak, N.N. (2024, January). Transportation Safety in New Mexico. [Conference presentation]. 59th Annual New Mexico Paving and Transportation Conference, Albuquerque, NM.
11. UNM: Habib, K., Losada-Rojas, L. L., & Ferenchak, N. N. (2024, January). A Review of the Impacts of Human Factors on Cycling: Workload, Behavior, and Perception. [Poster presentation]. Transportation Research Board Annual Meeting, Washington, DC.
12. UNM: Losada-Rojas, L. & Velasquez, L. (2024, January). Public Transit Innovations to Solve Transportation Challenges. [Conference presentation]. 59th Annual New Mexico Paving and Transportation Conference, Albuquerque, NM.
13. UNM: Tafoya, O., & Ferenchak, N. N. (2024, January). Pedestrian Safety and Vehicle Design: Are SUVs and Pickup Trucks to Blame? [Poster presentation]. Transportation Research Board Annual Meeting, Washington, DC.
14. UTK: Aryal, S., Shah, N. R., & Cherry, C. (2023, November 15-17). Shared E-Scooter Crashes and Probe Data Exposure: A Case Study for Nashville, Tennessee. [Conference presentation]. International Cycling Safety Conference, The Hague, Netherlands.
15. UTK: Azad, M., MacArthur, J., & Cherry, C. (2023, November 15-17). Exploring the Spatiotemporal and Behavioral Patterns of Utilitarian E-Bike Users in North America. [Conference presentation]. International Cycling Safety Conference, The Hague, Netherlands.
16. UTK: Moradloo, N., Mahdinia, I., & Khattak, A. (2024, January). Nighttime Safety of Pedestrians: The Role of Pedestrian Autonomous Emergency Braking Systems. [Conference presentation]. Transportation Research Board 103rd Annual Meeting, Washington, DC.
17. UTK: Moradloo, N., Mahdinia, I., & Khattak, A. (2024, April 16-19). Nighttime Safety of Pedestrians: The Role of Pedestrian Autonomous Emergency Braking Systems. [Conference presentation]. 2024 Safe Mobility Conference, Chapel Hill, NC.

18. UTK: Parajuli, S., & Cherry, C. (2024, January). To Solve Pedestrian Safety Risk: Start with Arterials. [Conference presentation]. Transportation Research Board 103rd Annual Meeting, Washington, DC.
19. UTK: Parajuli, S., Barnhart, K., & Cherry, C. (2024, April 16-19). Pedestrian Safety: Speed Limit vs Vehicle Weights. [Conference presentation]. 2024 Safe Mobility Conference, Chapel Hill, NC.
20. UTK: Patwary, A., & Khattak, A. (2024, January). Exploring How Urban Form, Demographics, and Disadvantaged Communities are Linked with Pedestrian and Bicycle Safety. [Conference presentation]. Transportation Research Board 103rd Annual Meeting, Washington, DC.
21. UTK: Usman, S., Patwary, A., & Khattak, A. (2024, January). Nighttime Pedestrian Safety in Disadvantaged Communities: Application of Artificial Intelligence Techniques. [Conference presentation]. Transportation Research Board 103rd Annual Meeting, Washington, DC.
22. UWM: Shi, T. (2023, October). Multiple-Vehicle Trajectory Planning Framework Considering Vulnerable Road Users. [Conference presentation]. 2023 Southeast Wisconsin Transportation Symposium.
23. UWM: Shi, T. (2023, October). Multiple-Vehicle Trajectory Planning Framework Considering Vulnerable Road Users. [Conference presentation]. 2023 INFORMS Annual Meeting.
24. UWM: Shi, T. (2024, January). Multiple-Vehicle Trajectory Planning Framework Considering Vulnerable Road Users. [Conference presentation]. 2024 Transportation Research Board Annual Meeting.
25. UWM: Vajari, M. A., Li, Y., Aghayan, I., Qin, X., & Schneider, R. (2024, January). Current Practices in Non-motorist Crowdsourced Data among Transportation Agencies: A Nationwide Survey and Its Implications. [Conference presentation]. Transportation Research Board 103rd Annual Meeting, Washington, D.C.
26. UWM: Vajari, M. A., Li, Y., Aghayan, I., Qin, X., & Schneider, R. (2024, April). Current Practices in Non-Motorist Crowdsourced Data Among Transportation Agencies: A Nationwide Survey and Its Implications. [Conference presentation]. 2024 Traffic Engineering Workshop and Transportation Planning Forum Program.

3.2. Website(s) or other internet site(s)

1. UCB: Safe Speeds Toolkit: <https://safetrec.berkeley.edu/tools/california-safe-speeds-toolkit>
2. UNM: Center for Pedestrian and Bicyclist Safety: <https://www.pedbikesafety.org>
3. UTK: CTR has an online training program: https://tmap.utk.edu/resource/web_training.php
4. UTK: <https://tesp.utk.edu/ite/>
5. UTK: <https://ctr.utk.edu/>
6. UWM: <https://uwm.edu/ipit/project/>

3.3. New methodologies, technologies, or techniques

1. 23UWM07: A Game-theory-based Multiple-vehicle Trajectory Planning Framework

3.4. Inventions, patents, and/or licenses

Nothing to Report

3.5. Other products

1. UTK continued to manage the *Journal of Transportation Safety & Security*
2. 23UWM07: Vehicles and pedestrians' trajectories extracted from surveillance cameras

4. OUTCOMES

4.1. Event participation

CPBS's research, education, technology transfer, and workforce development efforts have been translated into several events, which have engaged numerous transportation students and professionals. These events and their reach are detailed below.

Research Events

UTK MS student Allison Rewalt attended the annual Bike Walk Knoxville Summit on November 17, 2023, engaging with local officials, advocates, and planners to strategize safer opportunities for biking and walking in Tennessee.

18 UTK students actively participated in the 2024 TRB Annual Meeting. Students Saurav Parajuli, Grace Whitehouse, and Hayden Rogers attended the Student Leadership Summit organized by the University of Memphis and the Southern District Institute of Transportation Engineers. During the same trip, they competed in the TSITE Traffic Bowl and won first place to represent Tennessee in the Southern District.

UWM researchers and students also attended the following events: 2024 Transportation Research Board Annual Meeting, Washington D.C.; 2023 Southeast Wisconsin Transportation Symposium in Milwaukee, WI.; 2023 INFORMS Annual Meeting in Phoenix, AZ.

Education Events

CPBS developed the first cross-listed class on Transportation Engineering (CE/CRP 481/581) at UNM, which supports students in the Community & Regional Planning and Civil Engineering Departments and includes many aspects of pedestrian and bicyclist safety which have not been taught in prior classes. 23 students enrolled in the class.

CPBS materials were used in a Traffic Safety and Control class at UCB; a Geography class at UNM; Geometric Design, Intelligent Transportation Systems, and Transportation Engineering classes at UTK; and transportation engineering and urban planning courses at UWM (**Figure 6**).

UNM was selected for an internal Dwight David Eisenhower Transportation Fellowship Program (DDETFP) competition supported by FHWA. The fellowship will support UNM undergraduate and graduate students, all of whom are engaged with CPBS projects. Dr. Nick Ferenchak is leading this effort, which is currently open for students to apply until May 17. UNM will also mentor students through the TRB Minority Fellowships in 2024. This application process is also currently open.

CPBS activities are also integrated into students' lives through student organizations. At UTK, PhD student Latif Patwary is serving as the vice president of the ITE student chapter. At UNM, Dr. Nick Ferenchak is serving as the Faculty Advisor of the ITE student chapter and the president, vice president, and treasurer are all students being supported by CPBS. Dr. Shi at UWM is serving as the Faculty Advisor for their ITE student chapter.



Figure 6. UWM's Dr. Schneider leading a field trip for his Pedestrian & Bicycle Transportation (UrbPlan 772) class that measured bike lanes and experienced accessibility in a wheelchair.

Workforce Development Events

UTK's CTR conducted four workshops as part of the TTAP program: Pedestrian and Bicycle Strategies at Signalized Intersections; Inspecting Curb Ramps; Pedestrian and Bicyclist Considerations in Work Zones; Urban Street Design - Complete Streets; all of which enhance the ability of participants to understand and implement pedestrian and bicyclist safety features in urban environments.

UCB developed and utilized their Safe Speeds Toolkit to establish evidence-based, online educational resources which support Safe Speeds decision making in California.

Dr. Julia Griswold from UCB – in collaboration with Caltrans and the Active Transportation Research Center – conducted two pilot workshops and accompanying technical assistance sessions with California communities interested in learning how to implement lower speed limits in their city under new state laws. Two recently passed state laws in California - AB 43 (2021) and AB 1938 (2022) - create allowances for local jurisdictions to lower speed limits on locally-controlled streets to better account for safety concerns and surrounding land uses. Dr. Julia Griswold is also a member of the California Walk & Bike Technical Advisory Committee (CWBTAC).

On January 18, 2024, Julia Griswold (UCB), Liza Lutzker (UCB), and Rock Miller presented a webinar on Toolkit for Safe Speed Limit Setting: New Flexibility under California State Law. There were about 250 participants.

In a December 2023 FHWA Pedestrian and Bicycle Safety Working Group meeting, UWM researchers presented Pedestrian Level of Traffic Stress (PLTS) tables to about 25 participants.

Dr. Lisa Losada-Rojas from UNM has been engaged by the Commuter Bike Program at Sandia National Laboratories and is leveraging that connection to not only enhance safe commuting options to a national laboratory but to also recruit participants for research project 23UNM04. Dr. Losada-Rojas is also collaborating with the UNM campus facilities planning and wider community through her partnership with UNM Student Affairs and their Lobo Bike Shop.

4.2. Popular press

CPBS researchers appeared in a variety of news publications from across the country, showing that CPBS's work has wide reach and relevance. Media citations referencing CPBS or its efforts from the last reporting period are below:

1. Albuquerque Journal. (2024, March). Albuquerque area sees deadliest year yet for pedestrians. By Reisen, M. https://www.abqjournal.com/news/albuquerque-area-sees-deadliest-year-yet-for-pedestrians/article_1023b94e-d59f-11ee-b671-730bc2213901.html
2. Albuquerque Journal. (2024, March). Does Albuquerque have the worst drivers? By Leacock, J. https://www.abqjournal.com/business/is-it-true-we-have-the-worst-drivers/article_0e0a5a60-d698-11ee-a627-13923ab11fc3.html
3. Bloomberg CityLab. (2024, February 28). What e-bike rebates can (and can't) do. By Zipper, D. <https://www.bloomberg.com/news/articles/2024-02-28/how-cities-can-get-the-most-of-e-bike-rebate-programs>
4. CBS News 13. (2023, November 10). Deadly hit-and-run crashes on the rise in California. By Browne, S. <https://www.cbsnews.com/sacramento/news/hit-and-run-crashes-on-the-rise-in-california/>
5. CNN. (2024, April 1). Total solar eclipse in 2017 drew a brief surge in traffic accidents, analysis shows. By Cheng, M. <https://www.cnn.com/2024/03/25/health/traffic-accidents-total-solar-eclipse/index.html>

6. East Bay Times. (2023, November 20). Map: Speed cameras are likely to be placed on these San Jose streets. By Greschler, G. <https://www.eastbaytimes.com/2023/11/20/map-speed-cameras-are-likely-to-be-placed-on-these-san-jose-streets/>
7. Forbes. (2023, October 4). Welcome to the year of the e-bike. By Torchinsky, R. <https://www.forbes.com/sites/rinatorchinsky/2023/10/04/welcome-to-the-year-of-the-e-bike/>
8. Grist. (2023, October 27). As e-bikes grow in popularity, so do calls for safety certification. By Root, T. <https://grist.org/technology/as-e-bikes-grow-in-popularity-so-to-do-calls-for-safety-certification/>
9. KOB. (2024, February). New Mexico has highest rate of pedestrian deaths for fifth year in a row. <https://www.kob.com/news/top-news/new-mexico-has-highest-rate-of-pedestrian-deaths-for-fifth-year-in-a-row/>
10. Los Alamos Daily Post. (2024, January). US Senator Martin Heinrich cosponsors legislation to improve roadway safety in New Mexico with ‘Complete Streets Act’. By Clark, C. <https://ladailypost.com/u-s-sen-martin-heinrich-cosponsors-legislation-to-improve-roadway-safety-in-new-mexico-with-complete-streets-act/>
11. Momentum Mag. (2024, February). Study shows bicycle-friendly cities are safer for all road users even drivers. By Johnson, R. <https://momentummag.com/study-shows-bicycle-friendly-cities-are-safer-for-all-road-users-even-drivers/>
12. Reuters. (2023, December 8). Tesla Cybertruck's stiff structure, sharp design raise safety concerns - experts. By Sriram, A., & Jin, H. <https://www.reuters.com/business/autos-transportation/tesla-cybertrucks-stiff-structure-sharp-design-raise-safety-concerns-experts-2023-12-08/>
13. Streetsblog. (2023, October 3). What Do ‘Livable’ Streets Look Like in an Era of Driverless Cars? By Wilson, K. <https://usa.streetsblog.org/2023/10/03/what-do-livable-streets-look-like-in-an-era-of-driverless-cars>
14. The New York Times. (2023, December 11). Why are so many American pedestrians dying at night? By Badger, E., Blatt, B., & Katz, J. <https://www.nytimes.com/interactive/2023/12/11/upshot/nighttime-deaths.html>
15. The Conversation. (2024, February 27). E-bike incentives are a costly way to cut carbon emissions, but they also promote health, equity and cleaner air. By Cherry, C., MacArthur, J., Jones, L. <https://theconversation.com/e-bike-incentives-are-a-costly-way-to-cut-carbon-emissions-but-they-also-promote-health-equity-and-cleaner-air-224312>
16. USA Today. (2024, February). Safe Streets grants are supposed to save lives. Why are they missing so many deadly roads? By Fast, A. <https://www.usatoday.com/story/news/investigations/2024/02/20/safe-streets-money-misses-needy-counties-data-investigation/71722408007/>
17. UTK Newsroom. (2024, February). No Longer in the Dark: Khattak and Moradloo Evaluate Nighttime Performance of Pedestrian Automatic Emergency Braking Systems. <https://cee.utk.edu/no-longer-in-the-dark/>
18. WalletHub. (2023, October). Best & worst cities to drive in 2023. By McCann, A. https://wallethub.com/edu/best-worst-cities-to-drive-in/13964#expert=Nick_Ferenchak

4.3. CPBS's reach

In addition to the direct references to CPBS research and other efforts that are listed above, there are indirect measures of CPBS’s reach such as visits to the CPBS website and newsletter recipients. Such indirect measures of reach are detailed in the table below:

| Performance Measure | Current Reporting Period | | Next Reporting Period |
|---------------------------------------|--------------------------|--------|-----------------------|
| | Target | Actual | Target |
| Number of views of reports | n/a | n/a | n/a |
| Number of page visits on CPBS website | 500 | 2,822 | 1,500 |
| Number of visitors to CPBS website | 250 | 637 | 500 |
| Number of LinkedIn followers | 500 | 875 | 1,000 |
| Number of newsletter recipients | 500 | 696 | 700 |
| Number of media mentions | 10 | 18 | 15 |

In addition to the website, CPBS is also working to disseminate outputs through other avenues. CPBS established a LinkedIn group which has 875 followers and sent out the inaugural edition of the CPBS newsletter to 696 subscribers. The number of followers to the CPBS LinkedIn page and subscribers to the CPBS newsletter also far exceeded expectations.

5. IMPACTS

5.1. What is the impact on the effectiveness of the transportation system?

While CPBS is still relatively young, our efforts are beginning to have an impact on the transportation system and will continue to do so as our work develops.

The US DOT will benefit from the deep analysis of the equitable transportation community data undertaken by CPBS. The US DOT can then model pedestrian and bicycle safety programs using the CPBS work on disadvantaged communities, on arterials, associated with transit, and form partnerships with other relevant entities such as the Governor’s Highway Safety Program and State DOTs.

CPBS research provides data on the benefits of building bicycle infrastructure projects, both in terms of counts and collisions, which helps justify the expense for planning and construction. Since California is considering banning right turn on red movements, analyses provided by CPBS research could inform targeted interventions, help allocate resources more efficiently, and foster evidence-based decision-making to address socioeconomic disparities caused by right turn on red maneuvers, which would enhance overall community well-being.

The study on pedestrian and bicycle safety urban form and demographic shift contributes to the body of knowledge about pedestrian and bicycle safety in different contexts characterized by urban forms/infrastructure variations, demographics, and disadvantaged communities. It also promotes social justice in transportation planning and policymaking and suggests safe systems initiatives to be explicitly considered in communities that can benefit most from such interventions. The studies provide information about risks in such communities and point to potential solutions through research.

CPBS’s work will also increase awareness about road safety and crash-prone areas among community members. Data from the crash mapping project (23UNM03) can help identify trends and patterns, leading to the implementation of safety measures such as improved signage, better road design, or enhanced law enforcement in specific areas that can be better prioritized based on need. Researchers and academics can access this crash mapping data to study crash trends, contributing to a better understanding of road safety issues and potential solutions and the underlying code in the crash mapping tool will be publicly accessible.

5.2. What is the impact of technology transfer on industry and government entities, on the adoption of new practices, or on research outcomes which have led to initiating a start-up company?

Several of UNM’s CPBS efforts have already had an impact on government entities. The Mid-Region Council of Governments (MRCOG) – the metropolitan planning organization for the Albuquerque region – recently used CPBS-provided data for their *MRCOG Regional Transportation Safety Action Plan*, which will be published in its final form in May of 2024. CPBS also advised on the *City of Albuquerque 2024 Bikeway and Trail Facilities Plan*, which is an update from the city’s 2015 plan and will hopefully be published in its final version by the end of 2024. Drs. Chris Cherry and Asad Khattak from UTK are members of the Tennessee Pedestrian Task Force and provided input on the *State of Tennessee Pedestrian and Bicyclist Safety Program Technical Assessment*.

US Senator Martin Heinrich (D-N.M.) cosponsored federal legislation in January 2024 to improve the safety and accessibility of transportation routes across the nation with the Complete Streets Act. The Complete Streets Act would make roads safer and more accessible by ensuring that states direct a portion of their federal highway funding towards the creation of a Complete Streets Program. A “Complete Street” provides safe and accessible transportation options for children, seniors, and people with disabilities by prioritizing infrastructure for pedestrians, bicyclists, and public transit users. CPBS has engaged and advised state and federal elected officials on safe streets (Figure 7).



Figure 7. US Senator Heinrich, USDOT Secretary Buttigieg, US Senator Lujan, and CPBS Director Dr. Ferenchak (left to right) discuss safe streets in April 2023.

UWM successfully developed a longitudinal aerial image collection process that allows agencies to investigate equity in pedestrian safety. The development of an efficient solution framework for real-time trajectory planning for CAVs that considers VRUs has significantly influenced transportation policy by providing a scientifically backed basis for integrating advanced vehicle technologies into traffic management systems.



Figure 8. Dr. Appleyard and SDSU Vice President Alfaro (right) with the Declaration of Interdependence.

SDSU’s Dr. Appleyard hosted a workshop in November 2023 where government officials, researchers, and non-profits from both sides of the San Diego-Tijuana border signed a Declaration of Interdependence and shared ideas on how to proceed with watershed management, binational planning, and construction of more housing in transit accessible communities (Figure 8). San Diego and Tijuana recently earned the World Design Capital 2024 designation. Dr. Appleyard received a grant from the San Diego Foundation to develop a climate and coastal resiliency education and action plan for the region. Dr. Appleyard also received the Public Impact Award from SDSU’s Division of Research and Innovation.

Two recently passed state laws in California - AB 43 (2021) and AB 1938 (2022) - create allowances for local jurisdictions to lower speed limits on locally-controlled streets to better account for safety concerns and surrounding land uses. Dr. Griswold (UCB) is administering workshops and accompanying technical assistance sessions with California communities interested in learning how to implement lower speed limits in their city under these new state laws.

CPBS directors, PIs, and staff are also impacting government entities – and having their research implemented – through involvement on committees such as:

1. Dr. Brakewood (UTK): Member, Knoxville Transit Authority Board
2. Dr. Cherry (UTK): Member, City of Knoxville Vision Zero Working Group
3. Dr. Cherry (UTK): Member, Tennessee Pedestrian Task Force
4. Dr. Ferenchak (UNM): Stakeholder Advisory Committee, City of Albuquerque's *Albuquerque Bikeways and Facilities Master Plan*
5. Dr. Ferenchak (UNM): Technical Team, Mid-Region Council of Governments' *Regional Transportation Safety Action Plan*
6. Dr. Ferenchak (UNM): Member, NMDOT Pedestrian Safety Task Force
7. Ben Garland (UNM): Member, City of Albuquerque's Transit Advisory Board
8. Ben Garland (UNM): Member, City of Albuquerque's Complete Streets Committee
9. Ben Garland (UNM): Member, Mid-Region Council of Governments' Active Transportation Committee
10. Dr. Griswold (UCB): Member, California Walk & Bike Technical Advisory Committee
11. Dr. Griswold (UCB): Member, FHWA Bicycle and Pedestrian Data Collection Handbook Working Group
12. Liza Lutzker (UCB): Member, City of Berkeley's Transportation and Infrastructure Commission
13. Dr. Khattak (UTK): Member, Tennessee Pedestrian Task Force
14. Dr. Qin (UWM): Member, Wisconsin Automated Vehicle External (WAVE) Advisory Committee
15. Dr. Qin (UWM): Member, WisDOT Traffic Record Coordinating Committee

5.3. What is the impact on the body of scientific knowledge?

CPBS's leadership in committees throughout the scientific community makes them well prepared to have a significant impact on that community. CPBS researchers are members, research coordinators, and chairs of many TRB committees and subcommittees, NCHRP/BTSCR/TCRP project panels, and other technical committees.

A list of CPBS directors and PIs and their leadership roles on TRB committees and subcommittees is listed below:

1. Dr. Brakewood (UTK): Chair, Committee on Public Transportation Marketing and Fare Policy (AP030)
2. Dr. Cherry (UTK): Member, Committee on Developing Countries (AME40)
3. Dr. Ferenchak (UNM): Committee Research Coordinator, Member, Pedestrian Committee (ACH10)
4. Dr. Ferenchak (UNM): Member, Bicycle Transportation Committee (ACH20)
5. Dr. Khattak (UTK): Member, Committee on Traveler Behavior and Values (AEP30)
6. Dr. Losada-Rojas (UNM): Member, Committee on Traveler Behavior and Values (AEP30)
7. Dr. Losada-Rojas (UNM): Committee Research Coordinator, Member, Transportation and Health Committee (AME70)
8. Dr. Losada-Rojas (UNM): Member, Public Transportation Planning and Development (AP025)
9. Dr. Losada-Rojas (UNM): Co-Chair, Time Use and Activity Patterns Subcommittee (AEP30(1))
10. Dr. Qin (UWM): Chair, Committee on Safety Performance Analysis (ACS20)
11. Dr. Qin (UWM): Chair, Subcommittee on Safety Analytical Methods (ACS20(1))
12. Dr. Shaheen (UCB): TRB Executive Committee
13. Dr. Shi (UWM): Member, Emerging Technologies in Network Modeling Subcommittee (AEP40(4))
14. Dr. Zhang (UNM): Member, Committee on Geospatial Data Acquisition Technologies (AKD70)

15. Dr. Zhang (UNM): Member, Committee on Geographic Information Science (AED40)

CPBS researchers also serve on various other technical committees, which span a variety of topics across the transportation field. This involvement will help expand CPBS's reach and impact beyond the discipline of active mobility:

16. Dr. Cherry (UTK): Chair, SAE Micromobility Committee
17. Dr. Ferenchak (UNM): CPBS and UNM representative on Council of University Transportation Centers (CUTC)
18. Dr. Qin (UWM): Panel, NCHRP 07-36 Guide for Self-Explaining Roads in the Context of the Safe System Approach
19. Dr. Qin (UWM): Expert Panel, NCHRP 22-84 Development of Crash Prediction Models for Short-Term Durations
20. Dr. Shi (UWM): Core Member, IEEE Emerging Transportation Technology Testing (ET3) Technical Committee

CPBS's directors and PIs also serve on the editorial boards of many academic journals which expand CPBS's impact on the body of scientific knowledge:

21. Dr. Brakewood (UTK): Associate Editor, Journal of Public Transportation
22. Dr. Cherry (UTK): Associate Editor, Transportation Research Part D
23. Dr. Cherry (UTK): Associate Editor, Journal of Cycling and Micromobility Research
24. Dr. Cherry (UTK): Associate Editor, Journal of Sustainable Transportation
25. Dr. Khattak (UTK): Editor-in-Chief, Journal of Intelligent Transportation Systems
26. Dr. Khattak (UTK): Associate Editor, International Journal of Sustainable Transportation
27. Dr. Khattak (UTK): Special Adviser, Journal of Transportation Safety & Security
28. Dr. Khattak (UTK): Advisory Board Member, Analytic Methods in Accident Research
29. Dr. Losada-Rojas (UNM): Editorial Board Member, International Journal of Transportation Science and Technology
30. Dr. Qin (UWM): Associate Editor, Urban Lifeline
31. Dr. Qin (UWM): Associate Editor, Journal of Transportation Safety & Security
32. Dr. Qin (UWM): Handling Editor, Transportation Research Record
33. Dr. Qin (UWM): Editorial Board, Accident Analysis and Prevention
34. Dr. Schneider (UWM): Journal of Transport and Land Use
35. Dr. Shaheen (UCB): Editorial Board Member, Transport Reviews
36. Dr. Shaheen (UCB): Editorial Board Member, Communications in Transportation Research
37. Dr. Shaheen (UCB): Associate Editor, Travel Behavior and Society
38. Dr. Shaheen (UCB): Editorial Board Member, Sustainability Journal
39. Dr. Shaheen (UCB): Editorial Board Member, Environmental Research: Infrastructure and Sustainability
40. Dr. Shaheen (UCB): Associate Editor, Transportation Research Part A
41. Dr. Shaheen (UCB): Associate Editor, Transportation Research Record
42. Dr. Shaheen (UCB): Editorial Board Member, Transportation Research Part D
43. Dr. Shaheen (UCB): Editorial Board Member, Case Studies on Transport Policy
44. Dr. Shaheen (UCB): Editorial Board Member, International Journal of Sustainable Transportation

5.4. What is the impact on transportation workforce development?

CPBS efforts during this first reporting period were primarily focused on building relationships with organizations that will allow CPBS to reach the workforce (see Section 2 for more details). The one workforce development event that was completed at UNM was a pedestrian safety workshop sponsored by MRCOG and FHWA which was attended by 14 transportation professionals from across New Mexico. CPBS will continue to host more workforce development events as CPBS matures.

6. CHANGES/PROBLEMS

6.1. Changes in approach and reasons for change

Nothing to Report

6.2. Actual or anticipated problems or delays and actions or plans to resolve them

CPBS planned on engaging with New Mexico LTAP on many of their workforce development efforts. Unfortunately, the renewal of NM LTAP's contract was delayed until March 2024, which also delayed many of CPBS's planned workforce development efforts. However, NM LTAP's contract has now been renewed and CPBS has already planned several events with NM LTAP.

6.3. Changes that have a significant impact on expenditures

Nothing to Report

6.4. Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards

Nothing to Report

6.5. Change of primary performance site location from that originally proposed

Nothing to Report

7. SPECIAL REPORTING REQUIREMENTS

There are no special reporting requirements to note. The SF425 financial reporting requirement will be met by separate reports.