



FHWA's Fostering Multimodal Connectivity Newsletter

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Introduction

The Federal Highway Administration's (FHWA's) *Fostering Multimodal Connectivity Newsletter* provides transportation professionals with real-world examples of how multimodal transportation investments use accelerated project delivery, technology and design innovation, and public/private partnerships to promote economic revitalization, provide access to jobs, and achieve safer communities. The newsletter also showcases how FHWA and its partners are supporting the U.S. Department of Transportation Strategic Plan by improving connectivity, accessibility, safety, and convenience for all transportation users.

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The Evolution of E-scooter Parking Management in Austin, Texas

Hoamy Tran, Community Planner, U.S. Department of Transportation Volpe Center, in collaboration with the Austin Transportation Department

As a technology hub and center for entrepreneurship, Austin, Texas has been making strides towards innovation and mobility for many years. In February 2018, electric scooters (e-scooters) hit the streets of Austin in large numbers. Although the city of Austin had not yet established regulations allowing e-scooters and planned to launch a [shared mobility services](#) pilot program, city officials recognized the public's positive response to the devices. The city has laid the groundwork



Figure 1: Pedestrians walking around improperly parked e-scooters on a sidewalk in Austin in 2018. (Image courtesy of Austin Transportation Department)

through ongoing efforts to build an all ages and abilities bicycle network of streets and trails, and was recently named as one of the [top 20 best cities for bicycling](#). Austin's bicycle network expanded by approximately 70 percent between 2009 and 2014, from 126 miles to 210 miles. Additionally, as one of the first cities in the country to launch [dockless bicycle share systems in 2017](#), the community embraced small, personal mobility devices. However, operations and parking management were top priorities for city officials, taking note of other communities in the State that experienced significant regulatory and management concerns related to abandoned dockless bicycles and user safety. Recognizing the appetite for e-scooters to enhance personal mobility, the city planned around the wave of these newer dockless devices with a goal of ensuring safe access to sidewalks and public rights-of-way for all users.

The Austin Transportation Department (ATD) began developing a dockless shared mobility program in March 2018, as informed by a public engagement process. Outreach to the community began with [briefings to local boards and committees](#), followed by a series of [public forums](#), listening sessions, virtual open house, and social media campaign. The outreach aimed to collect input on the public's concerns and needs related to dockless shared mobility systems. The forums also provided an opportunity for

community members to meet shared mobility operators, engage with peer cities, and participate in interactive polls and surveys. As noted in the [ATD Dockless Mobility Community Feedback Report](#), local input highlighted the importance of designating parking zones and teaching proper travel behaviors to ensure overall road safety. The community expressed concerns related to a perceived lack of e-scooter parking infrastructure and user etiquette, resulting in parked or abandoned devices in locations where they may impede pedestrian access. Outcomes from the public engagement process later informed the City Council's decision to formalize the dockless mobility program. The City Council authorized dockless mobility technology on April 28, 2018 and Austin officials quickly drafted regulations, providing operators with [licenses to operate within city limits](#). Since very few communities at the time had e-scooter regulations, city officials modified their [Traffic or Sidewalk Obstructions ordinance](#) to establish regulations for "dockless transportation items" such as e-scooter devices. Based on the community feedback, ATD established [roadway rules for deployment and operation of micromobility devices](#) to ensure that that e-scooters do not impede pedestrian accessibility or block sidewalk access per Americans with Disabilities Act requirements.



Austin’s regulations for dockless mobility technology specify where devices may be parked. Users may park devices in designated parking boxes located throughout Central Austin, or within the landscape or furniture zone of a sidewalk, as long as they maintain at least three feet of clear walking space. The city also requires that shared dockless devices, including e-scooters, be parked in a secure, upright position in these areas. ATD’s shared mobility team began work to designate areas for e-scooter activity through integrated geofenced zones and [the installation of parking boxes](#). Parking boxes are areas designated by the ATD Director within the public right-of-way where dockless bicycles and scooters may be parked



Figure 2: E-scooters parked inside a designated dockless mobility parking box in Central Austin. (Image courtesy of Austin Transportation Department)

when not in active use. The boxes are typically delineated with traffic grade striping or paint, featuring painted scooter and bicycle graphics. These marked parking zones are located in areas near bicycle facilities and transit stops to better facilitate first- and last-mile travel. The designated boxes encourage people who use dockless devices to park in areas that do not impede the accessibility and safety of other sidewalk and road users. E-scooter parking is prohibited in areas such as sidewalk cafes, street patios, transit zones, bike share stations, disabled parking zones, entryways, driveways, and loading zones. Staff rely on shared dockless device use data to determine the appropriate locations for the designated dockless parking boxes. The city compiles users’ trip start/stop locations based on their device activity in the form of a heat map, without collecting any personally identifiable information. The start/stop data clarifies where riders most need e-scooter parking facilities. Staff continue to track the heat map data in order to adjust and add designated parking locations as needed.

Geofencing technology supports speed management and parking enforcement by signaling riders when they are entering slowdown zones or approaching restricted areas. ATD requires e-scooter operators to implement geofences to restrict e-scooter travel along all waterways within the city, including public parks, private property, and specific streets around vulnerable facilities such as the Texas School for the Blind. The geofenced locations help prohibit illegal e-scooter activity, keeping riders within the designated service area in Central Austin.

Since e-scooters have entered the city’s landscape, ATD frequently engages with residents and scooter companies to foster safety and order in the built environment. ATD hosted “Mobility Talks” public meetings to collect local input on transportation improvements, including those related to shared e-scooters. ATD manages a robust, public [data dashboard](#) featuring reporting tools on micromobility and shared mobility services. Staff monitor real-time activity and safety data to better manage e-scooter operations. If residents observe dockless devices toppled over or blocking access, they can submit citizen service requests through the local [311 mobile application](#), which geolocates violations through incident reports and photos. Violators can face misdemeanor charges punishable by \$20 or \$40 fines, although the burden of proof can be



difficult to determine and staff have not found citations necessary. ATD loosely enforces violations and instead prioritizes public education. Austin parking enforcement officers use a “warn then inform” approach to build public understanding of the e-scooter parking regulations. In October 2018, ATD [collaborated with Austin Police](#) on a dockless mobility safety education effort through street team outreach. A team of street ambassadors and police officers distributed informational materials and communicated with the public about how to ride and park e-scooters safely and respectfully. ATD also hosted a series of workshops with licensed operators and staff from the Parks and Recreation Department as well as the Office of Special Events. The workshop focused on how to manage dockless shared mobility for park accessibility and transportation related to large special events. In 2019, the city hosted a “Dockless Day” outreach event with the City Council and e-scooter providers to increase public education and safety, including with helmet giveaways. ATD released an [“E-Scooter Riding Tips”](#) video and an [etiquette flyer](#) to help the community understand how to safely and responsibly ride and park e-scooters.

Between January and September 2019, Austin’s Parks and Recreation Department partnered with ATD, Public Works, and the Law Department to conduct an [e-scooter pilot study](#) allowing e-scooters and electric bikes on specific parks and trails. The findings and recommendations from that study will help inform future shared micromobility programming through updated regulations, improvements to the etiquette outreach campaign, codified trail speed limits, and continued monitoring of geofenced areas. [Shared e-scooter activity](#) remained steady through early 2020, including a total of 243,023 scooter trips in February 2020 with an average ride of about a mile, or 11.5 minutes. Due to COVID-19 and local stay home orders, scooter traffic decreased beginning in March with 152,016 total scooter trips and an average ride of about 1.2 miles or 12 minutes, followed by 10,551 total scooter trips in April with a 2 mile average or 16.4 minutes. Since then, e-scooter operations have steadily picked back up and community members are using the devices to travel longer distances. In May, scooter activity totaled nearly 20,000 trips with an average ride of 2.3 mile average or 18.5 minutes.



Figure 3: User parking an e-scooter in Central Austin. (Image courtesy of Austin Transportation Department)

Although the introduction of shared e-scooters in Austin moved at much more accelerated pace than expected, the city prioritized public engagement and safety to better plan and manage e-scooter solutions for the community. Rather than prohibiting e-scooter activity, the city planned around the wave of these devices by prioritizing community concerns regarding accessibility and parking. The lessons from Austin’s e-scooter program demonstrate the value of building relationships with companies early on while protecting the needs of the community.



Engaging Tribal Partnerships to Improve Pedestrian Safety Priorities in Arizona

Kristina Heggedal, Transportation Analyst, ICF; Les Brown, Senior Managing Consultant, ICF; Anne Morris, Principal, Anne Morris and Associates; Hoamy Tran, Community Planner, U.S. Department of Transportation Volpe Center

Tribal Coordination during the early transportation planning phases benefits project development and outcomes. In 2016, the Arizona Department of Transportation (ADOT) completed the construction of pedestrian and vehicular safety improvements as part of a large-scale bridge replacement project in Cameron, Arizona. ADOT recognized the opportunity to collaborate with the Navajo Nation to improve safety through pedestrian infrastructure as part of the [U.S. 89: SR 64 – Little Colorado Bridge](#) (the Project). The Project’s public involvement approach emphasized the importance of involving the Navajo Nation and Cameron Chapter leadership as well as residents throughout the development process.



Figure 4: The U.S. 89 Bridge in Cameron, Arizona. (Image courtesy of Arizona Department of Transportation)

ADOT worked with the Navajo Nation government to gain access to the right-of-way, while maintaining and respecting the Tribal culture. The Cameron Chapter is the local level of governance for the Navajo Nation. Most of the population identify as Native American, with over two-thirds of residents speaking a language other than English at home, including Navajo. ADOT hired a Navajo public involvement consultant team and involved the Cameron Chapter community very early in the process to address local needs. The Navajo public involvement consultant’s understanding of the procedural and cultural differences between the Navajo Nation and the State of Arizona helped to avoid misunderstandings between the two governments. For example, ADOT prioritized the Navajo tradition of blessing the worksite because the consultant team communicated the importance of the ceremony.



Figure 5: Roundabout featuring art of Navajo turtle design. (Image courtesy of Google Maps)

Through the community meetings, safety emerged as the greatest priority for ADOT, Tribal residents, and the surrounding Cameron community. The high-speed traffic and lack of pedestrian infrastructure was of particular concern for Tribal residents. Conversations with Cameron Chapter officials and residents also revealed concerns related to vehicle-pedestrian conflicts. Though the Project area is quite rural, many residents travel on foot. U.S. 89 is situated in a rural area and did not have sidewalks, crosswalks, or lighting to support pedestrian activity. U.S. 89 also



bisects a local recreational vehicle park that serves the area’s tourist industry. The roadway alignment requires travelers to cross the highway in order to access adjoining shops and restaurants, creating pedestrian safety hazards.

Original designs for the roundabout called for a large basket sculpture to represent traditional Navajo art. As Cameron Chapter representatives reviewed the roundabout designs and sought feedback from other residents, they determined that the Navajo interpretation and meaning of a woven basket design was inappropriate for the roundabout. ADOT adapted the design during the construction phase to include a turtle instead, which represents new beginnings. The direction that the turtle faced, relative to the sun and river, was important for Navajo culture and ADOT was receptive and respectful of this important consideration. Navajo representatives also raised concerns as to whether the planned pedestrian and livestock undercrossings would be high enough to accommodate a horse and rider, as many ranchers ride horses while herding their sheep. Sheep and goats represent an important cultural tradition for Navajo peoples, and conversations with the community conveyed the importance of being able to move livestock from one side of the highway to the other. In response to local input, ADOT expanded one of the undercrossings from the planned 8-foot clearance to 12-foot clearance to accommodate both a horse and rider. ADOT also proposed installing a roundabout to slow traffic based on input from the community. Pedestrian improvements included Americans with Disabilities Act accessible crosswalks with pedestrian islands, allowing travelers to cross one direction of traffic at a time. The \$36.7 million Project was funded through the [National Highway Performance Program](#) (NHPP), including State matching funds. Administered by the Federal Highway Administration, the NHPP provides support to improve the condition and performance of the National Highway System. The final Project included pedestrian and livestock undercrossings, sidewalk improvements, improved lighting, and a roundabout at the intersection of U.S. 89 and S.R. 64.

The Project highlights the successful collaboration between ADOT and the Cameron Chapter of the Navajo Nation. Because ADOT hired a Navajo public involvement consultant team, this enabled thoughtful community engagement to be central to all phases of the project. The consultant’s understanding of Navajo culture ensured that ADOT respected important procedures and ceremonies of the Navajo people, such as the blessing of the Project before and after construction. The Project team also learned that actions speak clearly about intentions. By engaging Cameron Chapter leadership before the design phase, ADOT also built trust amongst the local community. The improvements and the accompanying conversations with the Cameron Chapter were a catalyst for Cameron’s future initiatives to support economic development. The process helped identify possible roadway improvements in the small town, and areas for future commercial development targeted toward tourists and travelers passing through Cameron. Future improvements to the area’s transportation network can build upon these important stakeholder relationships.



Figure 6: Undercrossing after construction. (Image courtesy of Arizona Department of Transportation)



City of Philadelphia Kicks Off Vision Zero for Youth Demonstration Project

Nancy Pullen-Seufert, Director, National Center for Safe Routes to School; Kelly March, Communications Specialist, University of North Carolina Highway Safety Research Center



Figure 7: Vision Zero for Youth Logo. (Image courtesy of National Center for Safe Routes to School)

For many communities across the country, October is a valuable time to focus on improving pedestrian and bicyclist safety as students and families are settling into their school commute routines. [National Walk to School Day](#)—held every October—offers a way to bring visibility to the importance of safety and the benefits of walking. This was particularly the case in the city of Philadelphia this past October.

On October 1, 2019, the city of Philadelphia and the [Pedestrian and Bicycle Information Center](#) (PBIC), kicked off the first-ever Vision Zero for Youth demonstration project in the city. The project focuses

on prioritizing and improving safety for youth walking and biking, with the broader goal of improving road safety for all. Demonstration projects are low-cost strategies that integrate temporary infrastructure and tactical urbanism to promote the benefits of mobility improvements. Communities can leverage their shared value for children’s wellbeing to improve safety where young people walk and bike, and build the broad public support needed to address road safety challenges. With funding support from the Federal Highway Administration (FHWA), the PBIC is conducting a two-year project in Philadelphia from 2019 to 2021. The demonstration project will include an analysis of child and youth pedestrian crashes and proactive identification of high crash risk locations, community engagement efforts, and development of countermeasure recommendations, which are anticipated for spring 2021.

As a kickoff to the demonstration project, Mayor Jim Kenney signed the [Mayors’ Statement on Safer Walking and Bicycling for Youth](#) during his [Vision Zero annual update press conference](#) the day before Walk to School Day. By signing the pledge, Mayor Kenney committed to ongoing promotion of safe walking and bicycling, and eliminating fatal and serious traffic crashes among all road users.

“Philadelphia’s children are one of our most valuable and treasured gifts,” said Mayor Jim Kenney. “The city, alongside our Vision Zero Task Force and our many partners, are excited to kick off our Vision Zero for Youth campaign to prioritize their safety—now—to ensure a healthy, successful future for each and every child and family.”

SafeRoutes
National Center for Safe Routes to School



Figure 8: National Center for Safe Routes to School Logo. (Image courtesy of National Center for Safe Routes to School)

As a second part of project kickoff, Federal and State partners joined Philadelphia’s Gideon Elementary School students, families, and school officials to walk to school together during National Walk to School Day on October 2, 2019. The celebration involved FHWA representative Wesley Blount, the National Center for Safe Routes to School, and the FIA Foundation for the Automobile and Society, as well as representatives from the Philadelphia Office of Transportation, Infrastructure and Sustainability. This project provides the opportunity to evaluate a youth-focused approach with the ultimate goal of improving road safety for all ages. Currently, the PBIC is collaborating with Philadelphia to pilot-test a systemic prioritization process for safety countermeasures at schools and other locations. Once completed in 2021,

Federal Highway Administration: www.fhwa.dot.gov/livability



Philadelphia’s project findings and forthcoming recommendations will help inform the city’s 2021 Vision Zero Action Plan and serve as an example for other cities across the country.

San Diego, California Prioritizes Community-Based Partnerships to Develop Environmental Justice Mobility Toolkit

Kristina Heggedal, Transportation Analyst, ICF; Les Brown, Senior Managing Consultant, ICF; Chris Zeilinger, Assistant Director, Community Transportation Association of America; Hoamy Tran, Community Planner, U.S. Department of Transportation Volpe Center

Many of the minority and low-income residents of the City Heights neighborhood in San Diego, California live in zero car households, relying primarily on public transit and active transportation modes for daily travel. Despite this, the neighborhood lacked facilities to support safe and efficient bicycling or walking. The City Heights neighborhood is centrally located in the city of San Diego and is identified as an environmental justice (EJ) area by community planners. This EJ community includes large minority, youth, refugee, and immigrant populations. The quality of the neighborhood’s bicycle and pedestrian infrastructure makes active transportation a challenge in City Heights, despite the significant need to safely accommodate alternative travel modes.

In 2016, the San Diego Association of Governments (SANDAG) partnered with the City Heights Community Development Corporation (CHCDC) to develop [mobility solutions for EJ communities](#). Funded through the [California Department of Transportation’s Environmental Justice Planning Grant program](#), the project assessed transportation issues in City Heights and outlined initiatives to improve mobility, including strategies to engage more residents in planning processes. The multiphase effort resulted in an [existing conditions assessment](#), and development of a comprehensive [Mobility Solutions Toolkit](#) (in both English and [Spanish](#)) and a shorter [Mobility Solutions Playbook](#). The effort was driven by SANDAG’s desire to increase public involvement in transportation planning processes, especially among the area’s EJ communities, and support CHCDC’s overall mission to empower residents to shape their community through civic action.

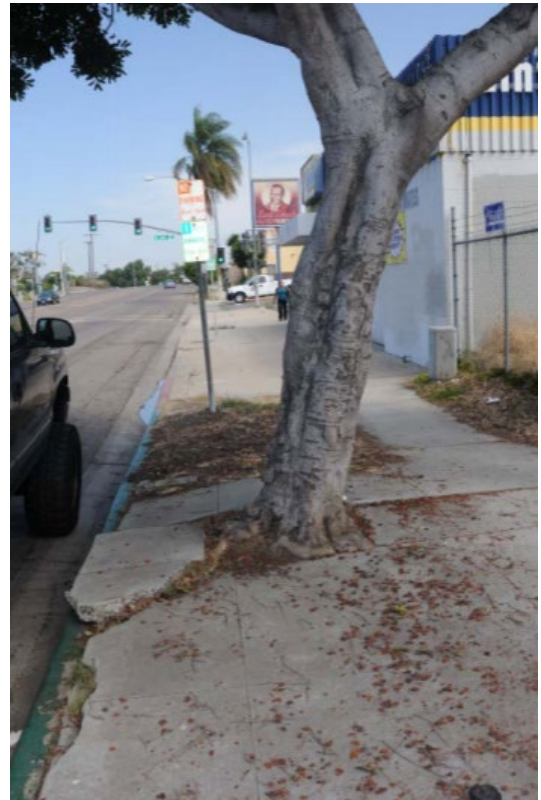


Figure 9: Sidewalk in City Heights. (Image courtesy of San Diego Association of Governments)

The project team launched a comprehensive planning and engagement process with the community in order to understand the mobility barriers experienced by people living in City Heights. As part of the assessment, the project team analyzed a combination of demographic data, geographical information system data, as well as transit ridership data and various planning documents to identify available transportation services and existing infrastructure conditions. SANDAG and CHCDC also collaborated to collect community input through a series of public workshops and focus groups. The dialogues documented built environment characteristics that disrupt mobility in EJ communities such as gaps in the sidewalk network, unsafe crossings due to long wait periods, inadequate street lighting, transit reliability concerns, and accessibility issues including first- and last-mile connections to transit, language barriers, and affordability. Although the project focused on the City Heights neighborhood, feedback from participants beyond City Heights indicated that the identified barriers generally reflect conditions in other EJ communities throughout the San Diego region.



Using the data and community input collected through the planning process, the project team developed a Mobility Solutions Toolkit to outline mobility barriers that residents of EJ communities may experience, including potential solutions to address barriers. The Toolkit also discusses guiding principles such as Complete Streets, and supporting laws/regulations such as [EJ Executive Order 12898, Title VI](#), and the [Americans with Disabilities Act](#). It also provides an overview of roles in government and decision making, which describes a continuum of stakeholder roles on mobility matters ranging from the individual to the Federal government. The Toolkit has been used as a resource to amplify the community's voice, helping residents to identify priorities and outcomes in transportation projects. The Mobility Solutions project also identified strategies for residents to impact mobility in their own neighborhoods, such as participation in CHCDC's Built Environment Team. The Built Environment Team works with residents to address issues affecting their communities and advocate for changes to the built environment. The collaboration between SANDAG, CHCDC, and residents ultimately led to more local activism around mobility issues, accelerating planning processes for projects, including sidewalk improvements in City Heights, new Safe Routes to Schools projects in the suburban municipality of Vista, and improved transit stops and service in other parts of San Diego. It has also increased public understanding of active transportation priorities related to pedestrian and bicyclist safety, and how active modes can lead to healthy outcomes for low-income and minority neighborhoods.

The Mobility Solutions project demonstrates the benefits of collaborating with EJ populations early in the transportation decision-making process, including in-depth conversations, using a variety of engagement approaches, and facilitating more substantive input. By framing mobility engagement around local issues, SANDAG and CHCDC developed more targeted action items in the Toolkit. The outcomes from the project also highlight how community-based partnerships can be critical for reaching and engaging EJ populations and ensuring maximum participating when developing short term and long term community goals. Local advocacy groups rooted in the neighborhoods they serve, can help leverage networks of trust among residents and maximize opportunities for engagement. Residents participate most effectively when given the chance to voice and respond to issues that affect their day-to-day lives, such as the presence of adequate sidewalks, safe intersections, safe bus stops, and other mobility elements that impact their ability to access opportunities. By leveraging these ties, SANDAG's partnership with CHCDC helped empower City Heights residents to participate in transportation decision making and address local mobility barriers.



Figure 10: Mobility Solutions Toolkit example of a low-cost countermeasure to improve pedestrian safety at an intersection in City Heights. (Image courtesy of City Heights Community Development Corporation)



Announcements/New Resources

- The U.S. Department of Transportation (U.S. DOT) is hosting a [virtual summit on pedestrian safety](#) through a series of webinars during the month of July. The summit will provide a platform to engage in and learn about pedestrian safety issues and priorities, including related initiatives, resources, and actions. It will also include remarks from Federal Highway Administration (FHWA) Administrator Nicole R. Nason and National Highway Traffic Administration Deputy Administrator James C. Owens, in addition to other guest speakers from leading transportation safety organizations. The three-part webinar series is free, but space is limited. [Registration is now open](#) and attendees must register for each webinar separately.
- FHWA is offering a series of free [virtual peer exchanges](#) on the topic of value capture through the Center for Innovative Finance Support. From May 7 through October 22, FHWA presenters and local experts will share best practices and examples of value capture strategies to finance public infrastructure improvements. The online series covers successful approaches to help fill transportation funding gaps including transportation impact fees, special assessments, tax increment finance, transportation utility fees, joint development, and value captured from existing assets.
- U.S. DOT has posted the [Broad Agency Announcement](#) for the [Complete Trip - ITS4US Deployment Program](#) funding opportunity, which aims to solve mobility challenges for all travelers accessing employment, education, healthcare, and other activities, regardless of location, income, or disability. Supported by the Office of the Secretary of Transportation, Federal Transit Administration (FTA), and FHWA, the program will make up to \$40 million available for large scale, replicable, real-world deployments of integrated innovative technologies that address the challenges of planning and executing complete trips. The program website includes [past webinar recordings](#), a [program overview fact sheet](#), and [Complete Trip - ITS4US frequently asked questions](#). Proposals are due on August 3, 2020.
- FHWA published a [report](#) summarizing the 2019 Transportation Performance Management (TPM)/Performance-Based Planning and Programming (PBPP) Implementation Workshop Series, which highlights common themes, noteworthy practices, and challenges faced by State departments of transportation, metropolitan planning organizations, and transit operators in implementing Federal TPM and PBPP requirements. The series covered a wide range of performance management topics, including: target setting; coordination and collaboration practices among the various agency types; integrating PBPP into long-range State transportation plans, metropolitan transportation plans, statewide transportation improvement plans, and transportation improvement plans; performance monitoring and reporting; system performance reporting; and techniques for communicating the requirements and benefits of TPM and PBPP to the public, elected officials, and other stakeholders.



Announcements/New Resources

- The National Highway Institute (NHI) is offering a free [Bicycle Facility Design](#) web-based training course. This eight-hour training helps transportation practitioners learn to implement high-quality, safe, multimodal projects by efficiently and effectively delivering critical planning and design information. The course covers principles of bicyclist safety, comfort, connectivity, selection of bikeway type and associated design considerations, and national planning and design resources.
- NHI is offering a free web-based training course on the [Fundamentals of Environmental Justice](#). This five-hour course explains how EJ applies to each stage of transportation planning and decision making. The course covers principles related to EJ considerations in environmental review and design, as well as considerations during right-of-way coordination, construction, operations, and maintenance. It presents a variety of strategies and resources for considering EJ throughout the transportation decision-making process.
- NHI is offering a free web-based training course on [Statewide and Metropolitan Transportation Programming](#). This three-hour introductory-level training helps transportation practitioners learn about processes and requirements for developing and implementing metropolitan transportation improvement programs (TIPs) and Statewide transportation improvement programs (STIPs). It also highlights the FHWA and FTA requirements for Statewide, non-metropolitan, and metropolitan transportation planning and programming processes. The course covers elements of the decision-making process related to TIPs and STIPs, including public involvement, financial planning, performance-based planning, and connections between long-range transportation planning and project prioritization.

