U.S.Department of Transportation
Federal Highway Administration

Spring 2023 Volume 11, Number 2
FHWA-HEP-23-036

FHWA's Fostering Multimodal Connectivity Newsletter

The Federal Highway Administration's (FHWA's) *Fostering Multimodal Connectivity Newsletter* provides transportation professionals with real-world examples of how multimodal investments:

- Make our transportation system safer for all people
- Promote an inclusive and sustainable economy
- Reduce inequities across our transportation systems and the communities they affect
- Address the climate crisis by building more resilient transportation systems
- Support complete trips and mobility innovation.

This newsletter also showcases how FHWA and its partners are improving connectivity, accessibility, equity, safety, and convenience for all transportation users, including equitable transportation options for traditionally underserved communities.

In This Issue:

Interested in submitting an article for future Newsletters? Please send your article ideas to Bernadette.Dupont@dot.gov. Past issues of the Newsletter can be found at the FHWA Newsletter webpage.

Converting San Francisco's John F. Kennedy Drive into a Pedestrian Promenade

Chava Kronenberg, San Francisco Municipal Transportation Agency

John F. Kennedy (JFK) Promenade is San Francisco's newest public space at the heart of Golden Gate Park, which is both a local treasure and an international tourist destination. The Promenade is filled with colors and sounds—murals stretching across the pavement, strolling musicians, pop up games and lounges, and interactive art—and people walking, biking, rolling, strolling, and congregating. Vehicles are no longer permitted.

JFK Drive has evolved many times in its 153-year history, starting as a dirt path serving horses and buggies (see Figure 1). Prior to the COVID-19 pandemic, JFK Drive was a bi-directional road with street parking and protected bicycle lanes, closed on weekends to vehicle traffic for about half the year (see Figure 2). These weekend closures to vehicle traffic were part of ongoing efforts to make JFK Drive safer for walking and biking and to focus on people and parkgoers rather than cars and motorists that mostly used the park as a commuting shortcut.

Figure 1: JFK Drive in 1898. Source: San Francisco Recreation and Park Department

In response to the COVID-19 pandemic in 2020, the San Francisco Recreation and Park Department (Rec and Park) closed JFK Drive to vehicles to enable residents to exercise and get fresh air while maintaining social distance along a three-mile route. Walking and biking visits to JFK Drive tripled, even when national and international visitors were absent from the park. Where traffic once idled, the street bloomed with life: families on bicycles, seniors on walks, and friends meeting for picnics. Residents were exercising as intended, but they were also socializing at a time when isolation was eroding people's mental health.

Figure 2: JFK Drive prior to becoming a Promenade. Source: San Francisco Recreation and Park Department

In addition to being a success to the community, the closure to vehicles also supported the city's Vision Zero and Climate Action Plan goals. For example, the Vision Zero Action Plan recommends expanding the

active transportation network for biking and walking, including low-car and car-free streets, Slow Streets, and protected bike lanes, with community support. The Climate Action Plan suggests creating a complete and connected active transportation network that shifts from short trips via automobiles to walking, biking, and other active transportation modes. Similarly, this effort also aligns with the active transportation goals and strategies from FHWA's Strategic Plan which aim to increase the percentage of person trips by transit and active transportation modes and implement programs that deliver the safe expansion of active transportation networks.

As a result, Rec and Park and the San Francisco Municipal Transportation Agency (SFMTA), kicked off a public engagement process to propose making the Promenade permanent along 1.5 miles of JFK Drive while also enhancing transportation and access to Golden Gate Park. The process included robust outreach, traffic analysis, and the development of a suite of transportation policy solutions for the city's decision makers—the Board of Supervisors—to make a final decision.

Some of the concerns about a full-time closure included increased traffic and travel time; disability and general visitor access to park museums; loss of street parking, including 20 percent of total general parking spaces and 26 marked Americans with Disabilities Act (ADA) zones; and ensuring equitable access to the park from all San Francisco neighborhoods.

To address these concerns, the project team conducted data analysis and additional outreach to compare travel and safety impacts before and after the pandemic. For example, the team used new longitudinal traffic data tools, including CityDash.ai to analyze which San Francisco neighborhoods visitors were coming from over time to determine if the street closure affected who visited the park; Uber Movement to compare the impact of the street closure on travel times in pre-pandemic weekends; Streetlight Data to analyze the impact of the traffic closure on vehicle travel times post-pandemic; and TransBaseSF, the city's traffic collision monitoring database, to compare traffic collision data pre- and post-pandemic.

Findings showed improved safety and no meaningful change in vehicle travel times from before the closure of JFK to during its closure. The project team found a 100 percent reduction in vehicle versus pedestrian and bicycle collisions on JFK Drive, which was previously on the city's Vision Zero High Injury Network. Further, the team found that the street closure did not change who visited this part of the park.

Due to the high-level of public and media interest, the project team conducted robust outreach and engagement, including:

- 10,000 respondents to an ArcGIS storymap and survey
- Dozens of pop-up events and attendance at community group meetings, citywide
- Two multi-lingual webinars/public meetings
- Thousands of emails to the project team and decision makers.

Based on the data and public outreach, the project team recommended that the city retain the full-time street closure on JFK Drive in concert with dozens of policy interventions to make it easier for everyone to access and enjoy the park. These improvements include:

- Improving the free shuttle program, adding service on weekdays, and increasing the frequency of service on weekends in Golden Gate Park, with an improved route to key destinations. Additional improvements include making shuttle information easier to find and use online, upgrading vehicles for comfort, and adding seating, shelters, and informational signage at stops.
- Constructing 20 new ADA parking spaces, re-paved walking surfaces, and a new ADA-accessible path to the Japanese Tea Garden, and more ADA improvements such as curb ramps throughout the area.
- Exploring options to better direct drivers to the more than 5,000 parking spaces that remain in the park and increasing awareness of the free 15-minute pick-up/drop off option in the Music Concourse Garage.
- Developing transit reliability improvements to the Muni 29-Sunset bus route, which directly connects communities of color to the park.
- Adding at least six bikeshare stations within Golden Gate Park, as well as a free adaptive bike program.

A critical component to the success of the project was the placemaking improvements to the space. Partnering with local arts nonprofits and performers, Rec and Park infused the new JFK Promenade with joyful placemaking. This has included adding temporary art installations, creating a beer garden and busking space, and hosting a slew of events, large and small, to welcome everyone to the JFK Promenade.

Figure 3: People enjoying an event by the JFK Promenade. Source: San Francisco Recreation and Park Department

Figure 4: People bicycling, walking, and strolling along the JFK Promenade. Source: San Francisco Recreation and Park Department

Creating the Rhode Island Pedestrian Safety Action Plan

Sean Raymond, P.E., Rhode Island Department of Transportation

Over the past 20 years, the Rhode Island Department of Transportation (RIDOT) has built an impressive network of pedestrian crossings to improve connectivity throughout the State. However, over 700 of these pedestrian crossings are uncontrolled and intersect State roadways. Uncontrolled pedestrian crossing locations occur where sidewalks or designated walkways intersect a roadway at a location where no traffic control (e.g., traffic signal or stop sign) is present. In 2019, RIDOT was awarded $100,000 in Federal Highway Administration (FHWA) State Transportation Innovation Council (STIC) Incentive Program funding for the creation of a plan to enhance uncontrolled crossings. RIDOT used the STIC funding to begin the identification, review, and analysis of all uncontrolled crossings on State roadways.

For ease of documentation and querying, RIDOT developed a geographic information system (GIS) application for the field inventories. RIDOT completed field inventories at each crossing to obtain existing conditions and determine trends. Following the data collection effort, RIDOT's next goal was to create uniformity at all crosswalks inventoried for both driver and pedestrian familiarity. RIDOT referenced the FHWA Every Day Counts (EDC) Safe Transportation for Every Pedestrian (STEP) guide, conducted a best practices review, and worked with FHWA Rhode Island Division Office representatives to create a pedestrian crossing countermeasure flowchart and plan. To standardize crossings in Rhode Island, RIDOT used the flowchart criteria to evaluate each crosswalk inventoried to obtain a preliminary list of improvements for consideration using a GIS dashboard created for the program. This approach streamlined the review process and provided RIDOT with improvements to evaluate feasibility.

After inventorying and developing recommendations for countermeasure selection, RIDOT developed a data driven approach to prioritize enhancements to uncontrolled crossings. Historically, RIDOT prioritized projects based on motor vehicle data, but it is moving towards improving crossings with an increased focus on equity to ensure that infrastructure most heavily relied upon by pedestrians is prioritized. RIDOT completed a segment risk assessment for all roads within the State to identify corridors that have the highest potential risk for pedestrians. Each 1/10-mile segment was given a score based on the identified criteria that includes variables such as traffic volumes, roadway geometry, speed, zero vehicle households, and access to transit. The segment score is used to prioritize locations for the implementation of safety countermeasures.

Figure 5: Clinton Street at Kennedy Manor, Woonsocket, RI. Source: RIDOT

RIDOT also received FHWA Accelerated Innovation Deployment (AID) Demonstration funding to implement pedestrian safety improvements at up to 25 crosswalks with varying enhancements and to conduct an evaluation of the effectiveness of the improvements following the completion of construction. Since 2021, RIDOT has been implementing crosswalk enhancements statewide using the Highway Safety Improvement Program through bundling with resurfacing projects in the Statewide Transportation Improvement Plan (STIP) where feasible. This year RIDOT will start several contracting programs to implement safety improvements more effectively and efficiently. This program was one of the first to incorporate the Safe System Approach in Rhode Island and has been the framework for safety infrastructure programs. RIDOT and FHWA have cultivated a strong partnership through this program, which led to RIDOT receiving the Administrator Excellence in Teamwork Award. RIDOT, with the help of FHWA and local partners, will continue this initiative to work towards reducing vulnerable user crashes in Rhode Island.

Figure 6: Route 1A near Scarborough State Beach Narragansett, RI. Source: RIDOT

Using Data-Driven Dashboards to Improve Decision Making in Washington State

Washington Department of Transportation Performance Management Office

The Washington Department of Transportation (WSDOT) has a culture of continuous improvement driving its performance management efforts. Since 2001, WSDOT has released performance management information as quarterly or annual reports expanding on data and multimodal transportation networks to evolve with trends and needs. While these reports addressed current challenges, WSDOT felt the publications could do more for stakeholders.

In 2019, WSDOT conducted a stakeholder engagement process to collect feedback on how to redesign their performance management reporting process. After analyzing results from over 130 stakeholder interviews, WSDOT's findings indicated a need for a comprehensive, web-based data-driven tool, with interactive visuals and infographics, high-level summaries, and better active transportation data to support stakeholders in increasing their communities' quality of life.

As WSDOT began developing this new tool, the COVID-19 pandemic hit quickly shifting priorities. WSDOT was tasked with developing a version of this tool to track performance data on all modes to support safety measures enacted during the pandemic. In May 2020, WSDOT launched the COVID-19 Multimodal Transportation System Performance Dashboard which allowed users to see daily updates on highway traffic, toll systems, ferries, transit, and passenger rail ridership. The Dashboard was a huge success and earned the small team that created it the Governor's Extra Mile Award, which recognizes groups of State employees who surpass expectations for exemplary public service.

The success of the COVID-19 Dashboard further validated the need to redesign the performance management reports into a web-based, comprehensive, user-friendly tool. In 2021, WSDOT released the Multimodal Mobility Dashboard (MMD) to replace their report format and deliver annual performance data—including five-year trends—for numerous travel modes in an easy-to-use online tool (see Figure 7). Along with regional highway travel information, the MMD provides quick access to topics ranging from public transportation to WSDOT's Incident Response program while providing in-depth analysis of multimodal freight mobility, Amtrak Cascades, Washington State Ferries, walking and biking, and statewide airports.

As congestion patterns began to rebound to pre-pandemic norms, WSDOT repurposed the data from the COVID-19 Multimodal Transportation System Performance Dashboard into the Travel Volume and Speed Trends Dashboard (TVST). The TVST is a separate dashboard that complements the MMD and shares highway, toll, and freight travel data, focusing on the State's most traveled commuter corridors. The TVST is updated regularly and includes highway traffic volume, toll facilities traffic volume, highway speeds, and freight traffic volume.

To continue advancing these tools, WSDOT will explore new avenues for adding more timely data and fully automating the dashboard as well as seeking feedback from users. WSDOT continuously looks at new ways to improve its approach to performance-based decision making while aligning the content with other agency initiatives.

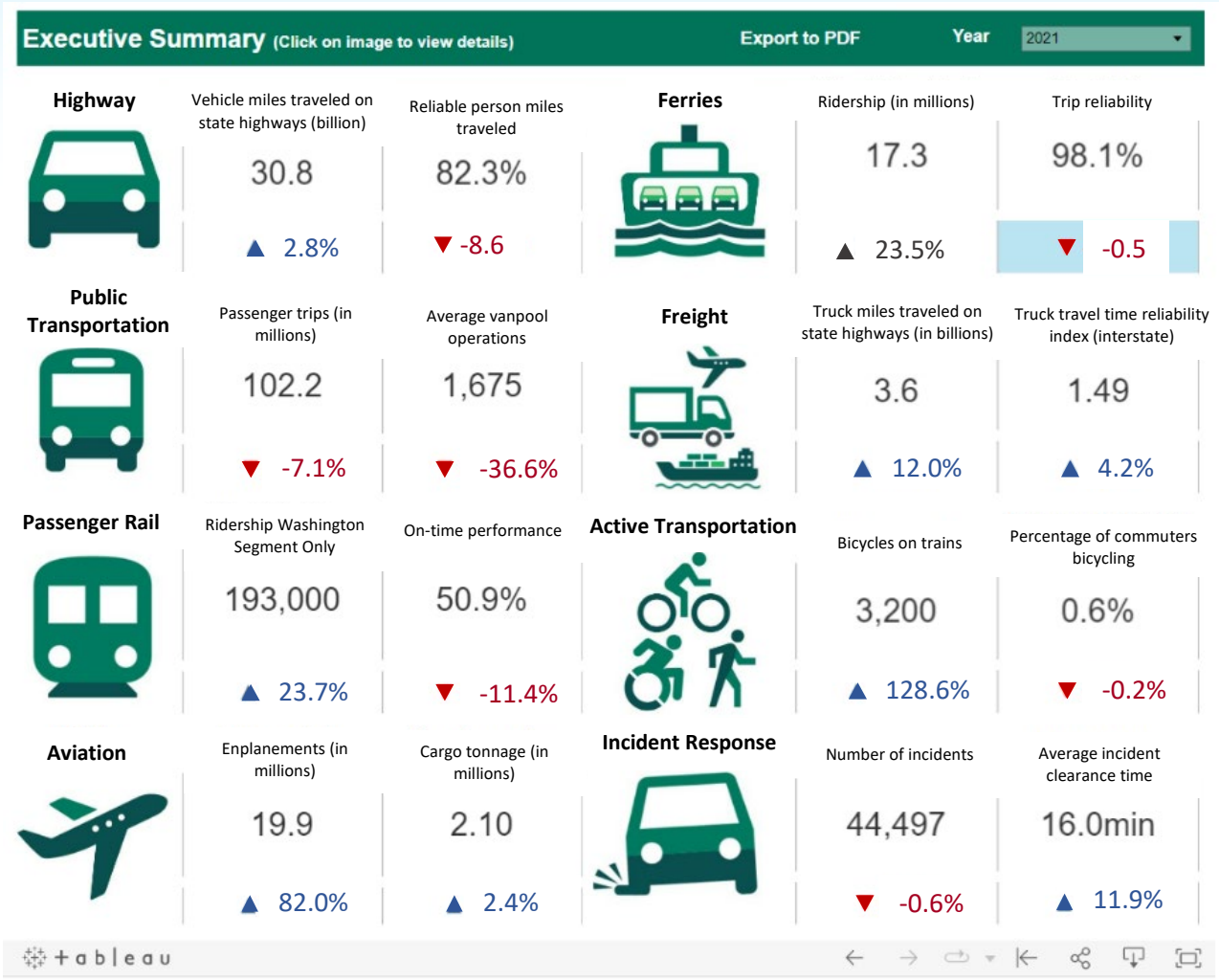

Figure 7: This image is a screenshot example of the WSDOT Multimodal Mobility Dashboard webtool showing its improved visual and user-friendly capabilities. In the webtool, users can select the icons to access more information, export this information to a PDF or report format, and refer to data from previous years. Source: WSDOT Multimodal Mobility Dashboard https://wsdot.wa.gov/about/data/multimodal-mobility-dashboard/

Experimenting with Advisory Bicycle Lanes and Shoulders in Portland, Oregon

Anthony J. Buczek, PE, PTOE, Portland Bureau of Transportation

Walking and bicycling are fundamental to Portland, Oregon's integrated transportation system. As part of the city's effort to continue improving this network, the Portland Bureau of Transportation (PBOT) adopted Portland's Citywide Pedestrian Plan (PedPDX) and the Portland Bicycle Plan for 2030. These plans call for the provision of pedestrian and bicycle infrastructure citywide—even in the hardest to reach and physically constrained neighborhoods. While many of Portland's neighborhoods feature streets that can accommodate typical walking and bicycling infrastructure, the city also has many neighborhoods with narrow streets lacking curbs and sidewalks. Many of these substandard streets are characterized by narrow pavements and rights-of-way, steep or environmentally sensitive side slopes, and streetside constraints like buildings or retaining walls, making it infeasible or financially prohibitive to install sidewalks or conventional bikeways.

To accommodate streets with physical constraints, the city included advisory bicycle lanes and shoulders in the PedPDX and Bicycle Plan as an innovative strategy to encourage bicycle and pedestrian infrastructure. Advisory bicycle lanes are non-compulsory dashed bike lane striping, typically placed on each side of the street adjacent to a central motor vehicle travel lane wide enough for a single motor vehicle. Bicycles have priority, but motor vehicles may enter the bike lanes to pass oncoming traffic. Advisory shoulders refer to a similar treatment that also is intended to accommodate pedestrians. However, because this strategy is in experimental status with FHWA due to outstanding questions about traffic control device guidelines and application criteria, PBOT pursued a Request To Experiment (RTE) with FHWA in order to test this approach.

PBOT engineering staff spent about a year developing the application and obtaining FHWA approval for the RTE. This included discussions between PBOT's subject matter experts and with FHWA about how PBOT would apply advisory bicycle lanes and shoulders and what to study as part of the experiment.

One challenge that PBOT experienced during the RTE approval process was the need to commit to experimental sites in the absence of public outreach, and the fact that such outreach would have been premature without an approved RTE from FHWA. This process impediment remains a challenge with the RTE process for treatments that are unfamiliar and potentially controversial to the public. Recognizing this challenge, FHWA proposed allowing flexibility in PBOT's commitment to complete each proposed project site, provided that they did pursue some experimental sites. This flexibility proved crucial to the outreach and project selection process.

PBOT identified experimental locations based on bicycle and pedestrian network gaps, target motor vehicle traffic volumes and speeds for the advisory lane treatment, and existing pavement widths. In some cases, the treatment is being used on "center-strip paving" streets with only 20-24 feet of pavement and no sidewalks or bike lanes. Widths as narrow as 10 feet for the bi-directional lane and five feet for the advisory bicycle lanes were necessary in these cases.

In 2022, PBOT installed the first experimental advisory bicycle lanes and shoulders concurrently with a repaving project (see Figure 8). Two-way traffic warning signs were placed near the start of each advisory lane segment for positive guidance. A second location is on hold following community input. PBOT has up to four additional sites in planning and design, with expected installation in 2023 and 2024.

Figure 8: PBOT's first experimental advisory bicycle lanes and shoulders in Portland, OR—before project (left) and after (right). Source: PBOT.

PBOT has conducted significant outreach for the new advisory bicycle lanes and shoulders and has encountered varying perspectives within the community. Some people appreciate the provision of new multimodal facilities in their neighborhood while others are concerned about their perception of reduced driving space. Other concerns raised included driver understanding of the treatment and the potential for confusion about where to drive.

PBOT is collecting data for the completed experiment site and will measure speeds and volumes, user behavior, and safety performance as part of the RTE process. PBOT engineers have also observed user behavior, and while some drivers continue to drive in the advisory lane in the absence of other users, they consistently give way to bicyclists, pedestrians, and other drivers. Observed interactions between users have all occurred safely. Available data will be used to inform the community as PBOT pursues additional installations. Desirable outcomes include increased bicycle/pedestrian use, no increase in motor vehicle volumes and speeds, safe interactions between all users, and improved driver understanding of the treatment over time.

Announcements/New Resources

The Federal Highway Administration released the following:

- **FHWA Charging and Fueling Infrastructure Discretionary Grant Program Notice of Funding Opportunity (NOFO)** is available. Application deadline is May 30, 2023.
- **FY 2022 Thriving Communities Program Awards Announcement**
- **FY 2023 NOFO for the Safe Streets and Roads for All (SS4A) grant program**
- **An updated version of the Screening Tool for Equity Analysis of Projects (STEAP)**. The STEAP can screen potential project locations anywhere in the U.S. to support Title VI, environmental justice, and other socioeconomic data analyses.
- **My Street** is a free research tool developed by FHWA for local and regional agencies to analyze roads for pedestrian crash risk and create visuals of potential crossing countermeasures at unsignalized locations. Agencies are encouraged to visit https://mystreetpedsafety.org, use the tool, and submit feedback.
- **A case study on the Broward MPO Complete Streets Initiative**. This is part of the FHWA Transportation Planning Capacity Building (TPCB) Complete Street Case Studies series, which provides information on State DOTs, MPOs, and local jurisdictions advancing Complete Streets Policies into practice.
- **The research white paper, "Trails and Resilience: Review of the Role of Trails in Climate Resilience and Emergency Response." ** This white paper explores existing research, highlights project examples, and identifies research gaps for trails in connection to climate resilience, emergency response, and public health emergencies.
- **A new primer on the Applications of Enterprise GIS in Transportation (AEGIST)**. AEGIST enables State and local transportation agencies by helping them create and integrate spatial transportation data in a consistent and systematic manner for use in transportation systems and business processes.
- **A Tech Brief on Developing Crash Modification Factors for Separated Bicycle Lanes** by Turner Fairbank Highway Research Center.
- **The Future of E-Bikes on Public Lands Research Study** represents the first national-scale effort to develop a comprehensive framework to study the opportunities and challenges related to electric bicycles (e-bikes) in a public lands context.
- **National Guidance - Information: Review of State Geometric Design Procedures or Design Criteria for Resurfacing, Restoration, and Rehabilitation Projects on the National Highway System**

U.S. DOT released the following:

- The first ever awards for the **U.S. DOT Reconnecting Communities Pilot Program.**
- FY22 Awards for **Strengthening Mobility and Revolutionizing Transportation (SMART) Grant Program**
- **The US DOT Equitable Transportation Community Explorer (ETCE)** is U.S. DOT's equity screening and mapping tool that supports the Justice40 Initiative.