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Spring 2023

## EQUITY IN TRANSPORTATION



BRIDGING  
THE GAP  
FOR ALL



U.S. Department  
of Transportation

Federal Highway  
Administration

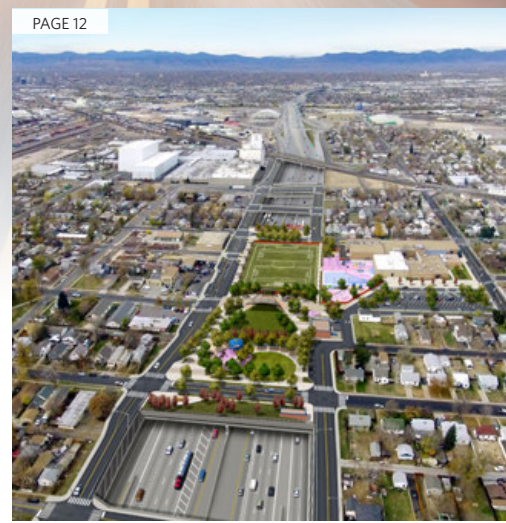




## EQUITY IN TRANSPORTATION

### FEATURES

- 6** **Integrating Equity into Transportation: An Overview of USDOT Efforts**  
Advancing a safe, accessible, affordable, reliable, comfortable, healthy, and sustainable transportation system that serves all people.  
*by Anthony Boutros, Sharon Field, and Kevin Resler*
- 12** **Integrating Equity into Transportation Funding and Project Prioritization**  
Equitable transportation funding improves safety, health, and opportunity for all people.  
*by Anthony Boutros, Kevin Resler, and Sharon Field*
- 18** **Integrating Equity into Transportation Planning**  
Equity data screenings and meaningful public involvement can promote safe, healthful, and livable communities for everyone.  
*by Mack Frost and Anthony Boutros*
- 23** **Incorporating an Equity-Based Approach into Transportation Operations**  
An overview of current activities, resources, and planned approaches for operating an equitable transportation network.  
*by Ewa Flom*
- 28** **Meeting Transportation Goals with Equity**  
The Colorado Department of Transportation successfully addresses key transportation needs and provides equitable benefits within low-income and minority communities through its Central 70 Project.  
*by Shaun Cutting*



PAGE 12

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### DEPARTMENTS

Guest Editorial.....	2
What's New.....	4
Along the Road.....	33
Training Update.....	36

COVERS and ABOVE—Equity in transportation provides for safer, more accessible and reliable roads, bridges, and tunnels, and provides opportunities for underserved and underrepresented populations to participate in future planning.

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# Are you a longtime transportation professional conducting new research on a particular topic? Or an industry freshman looking to expand your knowledge base?

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Since 2006, "What's New" in FHWA publications has been the comprehensive online resource for fact sheets, TechBriefs, reports, and more to support your research needs. These publications cover a wide range of topics, including:

- Roadway safety and enhancements.
- Pedestrian and bicycle safety.
- Transportation equity.
- Connected and automated vehicles.
- Nondestructive evaluations.
- Bridge innovations, reconstruction, and rehabilitation.
- Pavement technology and materials.
- Intersection improvements and design.
- Intelligent transportation systems.

To access the list of downloadable research documents, visit [www.fhwa.dot.gov/publications/lists/whatsnew/index.cfm](http://www.fhwa.dot.gov/publications/lists/whatsnew/index.cfm).

Source: FHWA.







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## FHWA: Advancing Safety and Equity for All Road Users

The U.S. transportation system relies on our Nation's roads, bridges, and highways. They connect people to jobs and schools, keep raw materials moving to businesses, and let companies move the finished goods to you, the consumer. They help first responders save lives every day and let adult children care for the parents who helped them take their first steps. They allow folks who dream of opportunities to connect with resources that could help them achieve their dreams. Finally, when built and managed well, roads, bridges, and highways support safe, equitable transportation.

Earlier in my career, I was a transportation leader in Delaware and Colorado, where I always felt responsible for safety on the roads in our States. Now, as the 21st Administrator of the Federal Highway Administration, I'm responsible for advancing national safety priorities for the U.S. Department of Transportation, as well as working with partners at the State and local levels to make travel safer and more equitable for everyone in the United States.

Safety is our number-one priority, and our focus on safety is all-encompassing. For us, safety means using every tool in our toolbelt to protect the people on and around our roadways, whether by creating new paths for pedestrians, building separated bike lanes, promoting the Complete Streets model of transportation development, developing electric vehicle charging infrastructure, or implementing proven safety countermeasures to reduce fatalities and serious injuries on our highways.

In the past, roadways were not always planned or executed as well as they are today. Highways divided neighborhoods, roads were planned without consideration

for cyclists or pedestrians, and little thought was given to climate change or equity. Now, all that is changing. President Biden committed to equity on his very first day in office; and, thanks to the Bipartisan Infrastructure Law—the largest infrastructure investment in the Nation's history—we have the funding to help ensure that transportation is not only equitable, but safer, more resilient, and more affordable for all.

I am not alone when I say that roads are one of the best ways to create opportunities and more equitable outcomes. Communities with low median incomes or many residents of color often suffer from congested roads and polluted air, which can lead to myriad health issues. However, we can choose greener materials when paving or repaving roads and restructure those roads to reduce congestion, support zero-emission vehicles, and increase transit access, thus enhancing air quality and upholding transportation equity. We can also promote transportation-oriented development, which spurs significant social and economic benefits.

One program that has an outsize impact on equity is FHWA's Every Day Counts (EDC) initiative, which helps remove the barriers that block large-scale transportation innovation. The program isn't named EDC by accident: the name reflects the urgent need to deliver better infrastructure for the people who use it. Every day counts, and we can't afford to waste a single day when what we're delivering can change—or save—a life. The EDC program doesn't just have a catchy name that drives innovation: it also helps us make roadways safer, more equitable, and more resilient.

Yet we at FHWA cannot transform the network of U.S. highways, bridges, and



Source: FHWA.

tunnels on our own. On February 3, 2023, the U.S. DOT issued a call to action on the National Roadway Safety Strategy, which outlines the U.S. DOT's comprehensive approach to significantly reducing serious injuries and deaths on our Nation's roads, streets, and highways. This call to action asks those in law enforcement, the transportation industry, nonprofit and advocacy organizations, research organizations, all levels of government, and beyond to do their part to implement the Safe System Approach, which will help make our streets safer.

Tunnels, bridges, and roadways are essential for the movement of people and goods across the United States. They connect us in a way that past generations could have hardly imagined; however, if they aren't equitable and safe, they still fall short of their purpose. Each and every one of us has a role to play in the safety of our Nation's roadways. You can help support roadway safety, the Bipartisan Infrastructure Law can fund safety initiatives, and we at FHWA will always be here to help lead the way.

Even the smallest act can make a difference. Let's make that difference together.

Shailen Bhatt  
Administrator  
Federal Highway Administration



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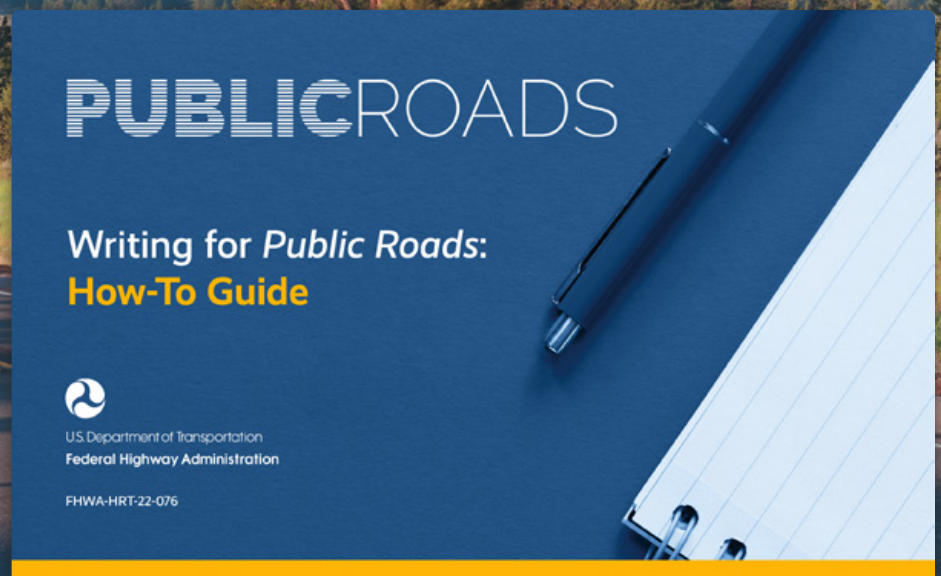
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## Building and Leading Highly Effective Teams: The 2-Day Kickoff Meeting

### Applying W. Edward Deming's "Long-time Forgotten" Total Quality Management

by **KENNETH ATKINS, GREGG A. HOSTETLER, and R. EDWARD MINCHIN, JR.**

**E**very organization rises or falls based on leadership or the lack thereof," says the legendary co-inventor of frozen concentrated orange juice, Cedric "C.D." Atkins. According to the Federal Highway Administration, departments of transportation, cities, counties, Tribes, and the like, are facing mounting pressure to deliver programs better, faster, smarter, and cheaper. This pressure is intensified when linked with a sentiment expressed by engineer, author, scholar, and management consultant W. Edwards Deming—who revolutionized Japan's manufacturing industry. Deming said, "In my experience, most troubles and most possibilities for improvement add up to proportions something like this: 94% belong to the system (the responsibility of management) 6% are attributable to special causes. No amount of care or skill in workmanship can overcome fundamental faults of the system."

Comparatively, imagine as a leader the possibility of significantly reducing 85 percent of all delivery problems, creating measurable innovations, and reducing major project risks—while also decreasing delivery times up to 50 percent. It may come as a surprise to some, but many owners are already accomplishing such impactful results via a unique, yet tried and true system for delivering projects better, faster, smarter, and more efficiently, encouraging owners to garner the best value for their investments.

This system—the 2-day kickoff meeting—in large part, arose out of a leadership course offered at the University of Florida's (U.F.) M.E. Rinker, Sr. School of Construction Management. Explored via a FHWA 10-year nationwide pilot, this system has harvested a method for achieving unparalleled successes. Kickoff meeting successes have equated to measurable reductions in overall costs, risks, procurement, design, and construction times. Not to mention the tremendous innovations that arose. For example, in several instances, 1 to 7 years were cut from the original procurements, designs, and construction project durations. Many of these successes come from clearly setting measurable targets during the kickoff meetings, along with assigning teams to accomplish these targets while reporting initial goals and progress to executive management.

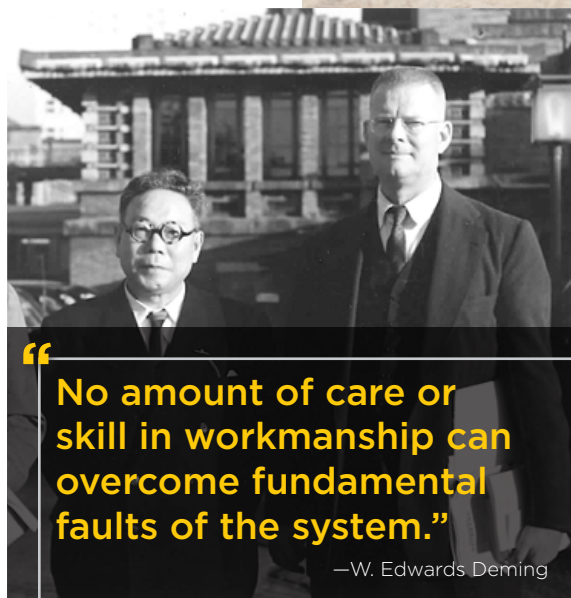
C.D. Atkins, co-inventor of frozen concentrated orange juice, often verbalized the importance of leadership on an organization's success.

@ Florida Citrus Hall of Fame.



**"Every organization rises or falls based on leadership or the lack thereof."**

—C.D. Atkins



**"No amount of care or skill in workmanship can overcome fundamental faults of the system."**

—W. Edwards Deming

W. Edwards Deming with Kenichi Koyanagi, managing director of the Japanese Union of Scientist and Engineers in 1955.

Photo courtesy of The W. Edwards Deming Institute®.

Resulting from some of the highest performing infrastructure teams in the Nation, the creators of this system arranged for a strategic meeting at the start of each infrastructure project. These kickoff meetings—which are designed to motivate and inspire cohesion—have been orchestrated on national Tribal programs, local public agencies, and State highway agencies since 2013. To name a few, FHWA's kickoff meeting pilot programs were held at Pueblo of Acoma (for two back-to-back capital improvement programs), Arkansas Department of Transportation, Delaware Department of Transportation (DelDOT), and Pawnee Nation. David Deutsawe, director of

community development at Pueblo of Acoma states he can provide "a great testimony to this process and how it works." Similarly, Chris Wilson, director of Public Works at Pawnee Nation, says, "The 2-day kickoff is a vital part of the construction. ... This is where your team starts to mesh and begins to identify innovations, risk reductions, and project timelines. By the end of the two days, the team is taking ownership of the projects and seeing the owner's vision."



“The 2-day kickoff workshop was a huge success, with the biggest benefit being the relationships formed among the team.”

—Jason Hastings, chief of Bridges and Structures at DelDOT

## Kicking Off the Kickoff

The 2-day kickoff process begins by assembling the entire project team—including planning, permitting, right-of-way, design, and construction team members as well as stakeholders—no later than the first day of the contractor’s Notice to Proceed date. To expediate their occurrence, mandatory kickoff meeting dates are pre-established within all parties’ original contracts—and as early as inclusion in a project’s request for proposal or request for quotation. Prior to the kickoff meeting, extensive agendas are preplanned, working with a neutral, and expert kickoff meeting facilitator and the project team members to ensure that all parties involved are thoroughly prepared to conduct briefings to the group related to their specific area of specialty. “The 2-day kickoff workshop was a huge success, with the biggest benefit [being] the relationships formed among the team of DelDOT, the design consultant, the contractor, independent cost estimator, and construction inspection consultant. This gained extra importance 4 months into the project, as the pandemic forced the team into a completely virtual environment,” says Jason Hastings, chief of Bridges and Structures at DelDOT.

## Wrapping-Up the Kickoff

The last part of this 2-day meeting system is pinpointing, for the team and leadership, concerns/identified issues, action items and next steps (with deadlines and responsible parties to report back to), and a battle rhythm (otherwise called a summary sheet of all meetings, with required attendees, necessary for the successful completion of the design phase of the operation).

In summation, the two most important parts of the 2-day kickoff meeting are: 1) the opening remarks by leadership that encompasses the vision, strategic goals, and objectives of the project; and 2) the wrap-up portion that outlines the actions necessary for true success, while also establishing a burning sense of urgency to complete the project safely, cost-effectively, and on time.

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# INTEGRATING EQUITY into TRANSPORTATION: An Overview of USDOT Efforts

Advancing a safe, accessible, affordable, reliable, comfortable, healthy, and sustainable transportation system that serves all people.

by ANTHONY BOUTROS, SHARON FIELD, and KEVIN RESLER

At its best, the American transportation network allows people to safely and comfortably walk, bike, roll, drive, or take transit. People use these transportation modes to access work, school, grocery stores, medical care, and community resources as well as to connect with loved ones. A well-planned, designed, and managed transportation system can improve safe access and mobility independence for people of all ages and abilities, while providing more opportunities for physical activity and connections to the nature and aesthetics of our Nation's rural, suburban, and urban areas.



Under equality, everyone gets the same resources. Under equity, the specific historical and present-day circumstances and abilities of individuals and communities are taken into consideration to provide appropriate solutions that provide everyone with opportunities to live safe and healthy lives.

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However, the transportation system may also create negative impacts on health and well-being, including fatalities and serious injuries from traffic crashes; air and noise pollution from vehicle traffic; greenhouse gas emissions; contaminated stormwater runoff and infiltration; and urban heat islands, and barriers to mobility and access through transportation infrastructure construction that has divided communities. Historically, many transportation decisions have disparately impacted individuals living in underserved, disadvantaged, and overburdened communities who have borne the burdens of the transportation system without realizing many of its benefits.

Today, transportation decisionmakers have the opportunity to redress these disparities and improve the transportation system for all people, particularly those who have been underserved and overburdened. America's roadway network is a complex, decentralized system with multiple actors responsible for planning, designing, constructing, operating, and maintaining highways, roads, streets, and multiuse trails. State, Tribal, regional, and local governments manage many elements of this system with significant levels of autonomy and flexibility to make context-specific decisions. Such decisions

encompass roadway location and design, funding and program administration (how and where funds are spent to build and maintain road networks and how roadway performance is assessed), and policy development and legislation (which laws should be enacted within their jurisdiction, and how they are implemented). Transportation leaders and professionals—and community members—at every level need to work together to create a truly equitable transportation system. This can be accomplished by critically examining existing practices and making intentional commitments to meaningfully integrate equity throughout the transportation process.

“Elected leaders and transportation professionals have unprecedented funding to redress past harms caused by the transportation system and access to data to determine the most effective ways to do so. But as we try to do this, we must recognize that government leaders will have to build trust and credibility with the community through engagement that demonstrates a willingness to do things differently and prioritizes

**Traffic crashes** disproportionately impact people who are **Black, Native American,** and live in **rural communities.**

(USDOT, National Roadway Safety Strategy, 2022, <https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf>.)







Transportation decisionmakers have the opportunity to improve the transportation system for all people, particularly those who have been historically underserved and overburdened.

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different outcomes than the ones that created the problems we are dealing with today,” says Beth Osborne, vice president for Transportation and Thriving Communities at Smart Growth America.

This special issue of *Public Roads* brings together transportation professionals from cross-cutting fields, including civil rights, planning, safety, and operations, to provide an overview of ongoing U.S. Department of Transportation activities and highlight State, Tribal, regional, and local activities that are building an equitable transportation system.

### What is Equity in Transportation

Executive Order (EO) 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, defines equity as “the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans

and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.”

Transportation equity refers to safe, accessible, affordable, reliable, comfortable, healthy, and sustainable mobility and access that facilitates social and economic opportunities and meets the needs of all community members—particularly those identified as underserved, disadvantaged, and overburdened.

According to Derrell Turner, director of Federal Highway Administration Field Services South, in his 2022 *Public Roads* article, “Equity in Transportation,” the long-term goal of USDOT efforts is to help grant recipients make more informed decisions that fully take into account equity impacts just as we account for other social, environmental, and economic impacts when developing transportation projects.

### Disparities in Transportation Outcomes

The Centers for Disease Control and Prevention (CDC) defines health disparities as preventable differences in the burden of disease, injury, violence, or in opportunities to achieve optimal health experienced by socially disadvantaged racial, ethnic, and other population groups and communities (<https://www.cdc.gov/aging/disparities/index.htm#:~:text=Health%20disparities%20are%20preventable%20differences,other%20population%20groups%2C%20and%20communities>).

Health disparities are a result of inequities in the distribution of the social determinants of health, which CDC defines as the conditions in the places where people live, learn, work, and play.

Transportation is a key determinant in influencing a person’s health, including access to public and active transportation, safe and health-promoting green spaces for exercise and recreation, and connectivity to economic and social opportunities. Social determinants of health are interconnected, and transportation infrastructure can play a key role in reducing health disparities.

“Designing communities to increase physical activity makes it easier for people to safely walk, bike, or take transit to

Over **one million rural households** do not have access to a car.

**56 percent** of the counties in the U.S. where at least **10 percent** of households do not have vehicle access are in rural areas.

(Smart Growth America, More Than One Million Households Without A Car In Rural America Need Better Transit. 2020, <https://smartgrowthamerica.org/more-than-one-million-households-without-a-car-in-rural-america-need-better-transit/>)

**27 percent** of households below the poverty line do not own a car, compared to only **4 percent** of households above the poverty line.

(Federal Highway Administration, National Household Travel Survey, 2022, <https://nhts.ornl.gov/>)





## Definitions in the USDOT Equity Action Plan

**Underserved, disadvantaged, and overburdened communities** are defined in the USDOT Equity Action Plan: [https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity\\_Action\\_Plan.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity_Action_Plan.pdf).

- Overburdened communities** are minority, low-income, Tribal, or Indigenous populations or geographic locations in the United States that potentially experience disproportionate environmental and/or safety harms and risks. This disproportionality can be a result of greater vulnerability to environmental hazards, heightened safety risks, lack of opportunity for public participation, or other factors.
- Disadvantaged communities** are communities that experience disproportionately high and adverse health, environmental, climate-related, economic, and other cumulative impacts.
- Underserved communities** are populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified in EO 13985.

Source: FHWA.



everyday destinations such as workplaces, schools, healthcare facilities, and food outlets,” says CDC Director Rochelle Walensky, M.D., M.P.H. “Community design requires working with multiple agencies such as public health, transportation, housing, and economic development. Collaboration can lead to increased physical activity as well as better places to live, safer communities, and greater health equity.”

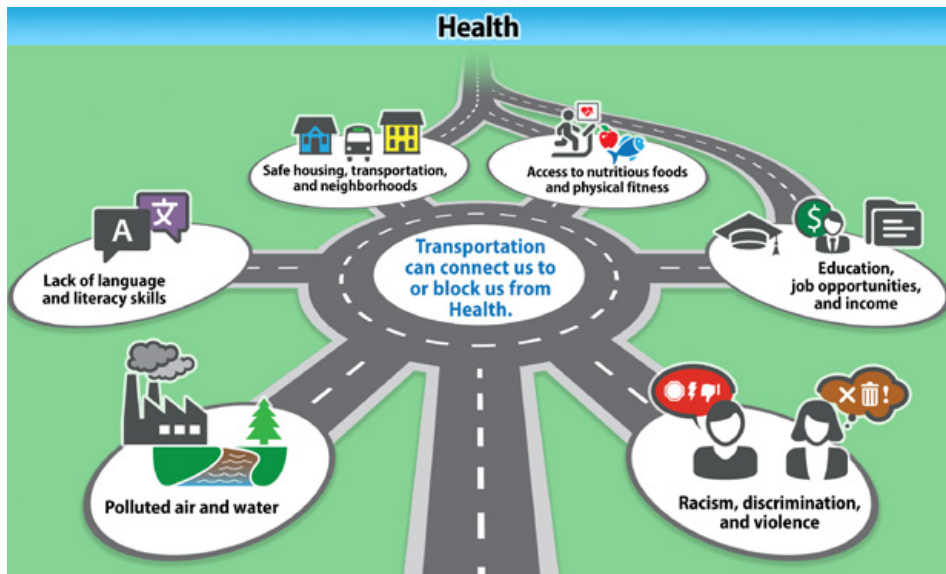
Transportation infrastructure can connect people to opportunities such as safe housing, nutritious food, physical activity, education, and job opportunities. Some transportation infrastructure decisions, however, have exposed some groups to disproportionate burdens—including poorer safety outcomes (i.e., fatal and serious injury crashes), higher noise and pollution impacts, and higher rates of displacement and impacts to community cohesiveness

and economic opportunities. The disparities in transportation burdens and benefits are, in large part, a result of historic and present-day disinvestment in underserved communities and underrepresentation of disadvantaged communities in the planning, project development, construction, operations, and maintenance of the transportation system.

Many of the present-day disparities faced by underserved communities stem from decisions that were made through the construction of the Interstate Highway System that began in the 1950s. Under the Federal-aid Highway Act of 1956, the Federal Government extended funding to State transportation agencies to construct the interstate system. Planning decisions resulted in the destruction of many homes and neighborhoods in disadvantaged urban areas and facilitated car ownership and

suburban home ownership for many white households, often in racially segregated developments. Communities living in urban areas were also disproportionately displaced for the construction of parking lots, major roads, transit hubs, and highways. Infrastructure for private vehicles constructed through residential areas created barriers to transportation by other modes, such as walking, bicycling, and transit.

Today, Black, Indigenous, and people of color communities, immigrant populations, and those with limited English proficiency continue to live, on average, in communities exposed to higher concentrations of harmful air and noise pollution, in part due to the transportation system. Additionally, people living in lower-income areas are less likely to have access to safe and comfortable walking and biking facilities. For example, sidewalks, adequate lighting, crosswalk markings, and other safety features are not as common in low-income neighborhoods.



Transportation infrastructure can play a key role in reducing health disparities or expose some groups to disproportionate burdens.

Source: FHWA.

**American Indian and Alaska Native people** have by far the **highest traffic fatality rates** per mile and per population.

They were **5 times more likely to die walking** than white people and close to **3 times as likely to die in passenger vehicles**, on a per-mile basis.

(National Highway Traffic Safety Administration, Evaluating Disparities in Traffic Fatalities by Race, Ethnicity, and Income, 2022, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813188>.)

Workers who travel by **bus** have commute times **1.7 times longer** than workers who travel alone by car.

**47 minutes** for bus commuters compared to **26 minutes** for car commuters.

(USDOT, Equity Action Plan, 2022, [https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity\\_Action\\_Plan.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity_Action_Plan.pdf).)





Actions to Address Environmental Justice in Minority Populations and Low-Income Populations—in 1994, which directed Federal agencies to develop strategies to address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations to promote equitable access and participation in Federal programs. FHWA implements EO 12898 by including Environmental Justice principles in the transportation planning and project activities of its recipients, such as metropolitan planning organizations (MPOs) and State departments of transportation (DOTs).

Despite these efforts, disparities persist for members of underserved communities. To address these disparities, President Biden signed EO 13985 on January 20, 2021, to direct Federal agencies to revise their policies to address racial inequities in the implementation of their programs and take a whole-of-government approach to advancing equity for all. (Note: This EO was updated on February 16, 2023, as EO 14091—Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government—to extend and strengthen equity-advancing requirements for agencies.) EO 14008, Tackling the Climate Crisis at Home and Abroad (January 27, 2021), established the Justice40 program, which aims to deliver 40 percent of the overall benefits of relevant Federal investments in climate and sustainable transportation to disadvantaged communities. The Bipartisan Infrastructure Law, which includes a generational investment in transportation infrastructure, also integrated equity into multiple new programs, including the Reconnecting Communities Pilot (RCP) program and the Vulnerable Road User Safety Assessment. To implement these efforts, USDOT is working to advance equity for all, including developing a Diversity, Equity, Inclusion, and Accessibility Strategic Plan; Disability Policy Priorities; an Equity Action Plan; and Gender Justice Priorities.

In response to EO 14020 establishing the White House Gender Policy Council, USDOT facilitated a series of internal and external discussions to inform USDOT Gender Justice Priorities, and in the summer

of 2022, submitted a Gender Action Plan to the Gender Policy Council. The Gender Justice Action Team and Gender Justice Advisory Group are working to advance USDOT's Gender Justice initiatives, which include increasing incentives for transportation project partners to develop strategies that improve gender diversity in the trades and other identified segments of the transportation sector; addressing gender disparities in transportation safety; combating human trafficking through public private partnerships; improving USDOT utilization of small disadvantaged businesses that are both women and minority-owned; and increasing gender diversity within the USDOT workforce.

USDOT also developed Disability Policy Priorities which consists of four actions to advance accessibility which are earmarked for enhanced consideration due to their complexity and intersection with other Administration priorities. The four actions are: enable safe and accessible air travel; enable multimodal accessibility of public rights-of-way; enable access to good-paying jobs and business opportunities for people with disabilities; and enable accessibility of electric vehicle charging and automated vehicles. The Disability Policy Priorities highlight work that USDOT is undertaking to achieve disability-related goals, including addressing gaps in data on persons with disabilities and advancing diversity, equity, inclusion, and accessibility in the USDOT workforce. This is noteworthy as it is a fundamental shift in how the Department views accessibility and ensures equal opportunity for all to use the transportation system.

In response to EO 13985, USDOT developed an Equity Action Plan which highlights key actions that the Department will undertake to expand access and opportunity to all communities while focusing on underserved, overburdened, and disadvantaged communities. The actions elaborated in the plan fall under four focus areas—Wealth Creation, Power of Community, Interventions, and Expanding Access. Each focus area advances a goal, highlighted actions, and key performance measures to track meaningful implementation of the plan.

Under the Wealth Creation focus area, USDOT will provide technical assistance to

To implement these programs and further institutionalize equity across the Department, USDOT has established an Equity Council chaired by the Secretary and managed by the Departmental Office of Civil Rights and the Office of the Under Secretary of Transportation for Policy. Council members will guide the Department to further incorporate equity objectives into Department policies and operations.

small disadvantaged businesses to increase their understanding of how to navigate the USDOT contracting process, gain awareness of upcoming contract opportunities, and enhance their core competencies and skills. This will enable small disadvantaged businesses to more effectively compete for USDOT contracting opportunities and build wealth.

The Power of Community focus area aims to empower individuals and communities, particularly those that are underserved and disadvantaged, to have a greater voice in the transportation decisions affecting them. USDOT is working to reinvigorate its programmatic enforcement of Title VI in order to proactively address potential disparate impacts on protected classes and empower communities in transportation decisionmaking. Under this focus area, USDOT also aims to increase the number of State DOTs and MPOs officially adopting a quantitative equity screening component and meaningful and representative public involvement processes into their Statewide Transportation Improvement Program and Transportation Improvement Program development processes. These equity-informed quantitative and public involvement processes will incorporate community vision and need into project selection and design processes. To support these efforts, USDOT has developed multiple GIS-based quantitative equity screening tools, including the Transportation Disadvantaged Census Tracts (<https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a>) and HEPGIS (<https://hepgis.fhwa.dot.gov/fhwagis/>). USDOT has also published a guide titled *Promising Practices for Meaningful Public Involvement in Transportation Decision-Making* ([https://www.transportation.gov/sites/dot.gov/files/2022-10/Promising\\_Practices\\_for\\_Meaningful\\_Public\\_Involvement\\_in\\_Transportation\\_Decision-making.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-10/Promising_Practices_for_Meaningful_Public_Involvement_in_Transportation_Decision-making.pdf)) that provides examples for varied techniques of outreach and engagement throughout the lifecycle of a program or project.

Under the Interventions focus area, USDOT will work to ensure that

**Lowest income households** spend on average **37% of their after-tax income on transportation**, compared to 19% by middle income households.

(USDOT, Equity Action Plan, 2022, [https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity\\_Action\\_Plan.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity_Action_Plan.pdf).)



**Black or African American people** were roughly **twice as likely to die per mile** as white people.

(Fatality rates of 1.70 versus 1.04 per 100M person miles traveled).

(National Highway Traffic Safety Administration, Evaluating Disparities in Traffic Fatalities by Race, Ethnicity, and Income, 2022, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813188>.)





historically overburdened and underserved communities in urban and rural areas benefit from access to a generational investment in the Nation's infrastructure through direct, hands-on technical support for transportation projects with local impact. USDOT will launch a national technical assistance center and shepherd the \$25 million Thriving Communities Program to ensure that disadvantaged communities adversely or disproportionately affected by environmental, climate, and human health policy outcomes have the technical tools and organizational capacity to compete for Federal aid and deliver quality infrastructure projects that enable their communities and neighborhoods to thrive and not succumb to gentrification after transportation and community investments.

Finally, the Expanding Access focus area aims to increase social and economic opportunities for disadvantaged and underserved communities through the provision of affordable multi-modal transportation options and the development of a transportation cost burden measure. Multiple USDOT initiatives and discretionary grant programs focus on improving safe mobility, including the FHWA's Complete Streets initiative and the \$5 billion Safe Streets and Roads for All Program. USDOT is also shepherding the RCP program, which is dedicated to reconnecting communities that were previously cut off from economic opportunities by transportation infrastructure. RCP program funding supports planning grants and

capital construction grants, as well as technical assistance, to restore community connectivity through the removal, retrofit, mitigation,

or replacement of eligible transportation infrastructure facilities. In fulfillment of Justice40, USDOT is also working towards the goal that many of the USDOT's grants, programs, and initiatives allocate at least 40 percent of the benefits from Federal investments to disadvantaged communities. For a list of USDOT's official Justice40 covered programs list, visit <https://www.transportation.gov/equity-Justice40>. To quantify this, USDOT will work to develop a national transportation cost burden measure.

To implement these programs and further institutionalize equity across the Department, USDOT has established an Equity Council chaired by the Secretary of Transportation and co-managed by the Director of the Departmental Office of Civil Rights and the Assistant Secretary for Transportation Policy. The Administrator from each Operating Administration, will guide the USDOT to further incorporate equity objectives into Department policies and operations.

**ANTHONY BOUTROS** is the Equity in Transportation Safety Program lead in FHWA's Office of Safety where he develops resources and delivers technical assistance to redress disparities in traffic fatalities. He holds bachelor's degrees in sociology, public health studies, and international studies from Johns Hopkins University and is a Truman-Albright Fellow.

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For more information, see <https://www.transportation.gov/priorities/equity>.

The USDOT will work to ensure that historically overburdened and underserved communities in urban and rural areas benefit from access to a generational investment in the Nation's infrastructure through direct, hands-on technical support for transportation projects with local impact.

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**34 percent** of respondents to a 2015 Transgender Survey were **denied equal treatment** on public transportation where staff knew or thought they were transgender.

(National Center for Transgender Equality, U.S. Transgender Survey, 2015, <https://transequality.org/sites/default/files/docs/usts/USTS-Full-Report-Dec17.pdf>.)

Individuals who are **young, have low-incomes, or have less formal education** are less likely to attend public meetings.

The interests of these **groups may be underrepresented** in the transportation decision-making process.

(USDOT, Equity Action Plan, 2022, [https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity\\_Action\\_Plan.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-04/Equity_Action_Plan.pdf).)





# FHWA's Transportation Pooled Fund Program



Source: FHWA.

## Leveraging Resources to Achieve Common Research Goals



© 2019 Colorado DOT.

The Transportation Pooled Fund (TPF) Program enables public and private entities to combine resources to conduct high priority research on a wide variety of shared, highway related problems. Over more than 45 years, the TPF Program has supported more than 750 successful multi-agency projects.

## Participate in Diverse Research and Topic Areas

Investing in TPF studies helps partners stretch their research dollars to support a diverse array of topic areas.

## Make an Impact Through a TPF Study!

Learn more about initiating a pooled fund study and browse the list of open solicitations on the TPF website at [www.pooledfund.org](http://www.pooledfund.org).

For more information, contact Tricia Sergeson, TPF Program Manager, at [Patricia.Sergeson@dot.gov](mailto:Patricia.Sergeson@dot.gov).



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# INTEGRATING EQUITY into Transportation Funding and Project Prioritization

Equitable transportation funding improves safety, health, and opportunity for all people.



The Colorado Department of Transportation Central 70 Project in Denver aims to reconnect people—especially those from underserved communities—to opportunities by capping a highway that had bisected the community.

© 2017 Colorado Department of Transportation.



by ANTHONY BOUTROS, KEVIN RESLER, and SHARON FIELD

Historically, some transportation investment decisions divided some communities. Further, some decisions had the effect of neglecting the communities most in need of affordable transportation options, worsening social inequities. Of particular note is the construction of the Interstate System following the passage of the Federal-Aid Highway Act of 1956. During this process, Federal funders and State road owners planned and built some interstates, highways, and roads that disproportionately displaced and divided communities, particularly Black and Hispanic ones. Compounding this unjust situation, some public agencies focused more on developing infrastructure for private automobiles rather than developing robust public transportation and pedestrian and bicyclist networks, which particularly disadvantaged people living in low-income communities who could not afford an automobile.

Rural and tribal communities have also faced decades of disinvestment in infrastructure. Currently, 13.1 percent of rural roads and about 9.7 percent of off-system bridges (a highway bridge located on a public road that is not on a Federal-aid highway) — 91.6 percent of which are in rural areas — are in poor condition.

As a result of this disinvestment and the underrepresentation of underserved community members in transportation project funding and prioritization processes, disadvantaged communities have experienced stark disparities in fatalities and serious injuries from traffic crashes, health outcomes related to air and

noise pollution, and access to economic opportunities and community wellbeing.

To confront and address decades of underinvestment in disadvantaged communities, the U.S. Department of Transportation is committed to ensuring that transportation investments increase opportunity; advance racial equity and environmental justice; serve rural, urban, and suburban communities equitably; and promote affordable access for all. To achieve this strategic

objective, USDOT is reinvigorating its programmatic enforcement of Title VI of the Civil Rights Act of 1964 (Title VI), the National Environmental Policy Act of 1969, the Americans with Disabilities Act (ADA), and Section 504 of the Rehabilitation Act (Section 504). It is also integrating equity considerations across USDOT funding programs as part of the Justice40 Initiative and administering the Reconnecting Communities Pilot (RCP) Program and Rural Surface Transportation Grants established by the Bipartisan Infrastructure Law (BIL). USDOT is also working to provide tools and resources to support eliminating or minimizing adverse impacts of investments, including displacement and relocation of people and businesses from underserved commu-



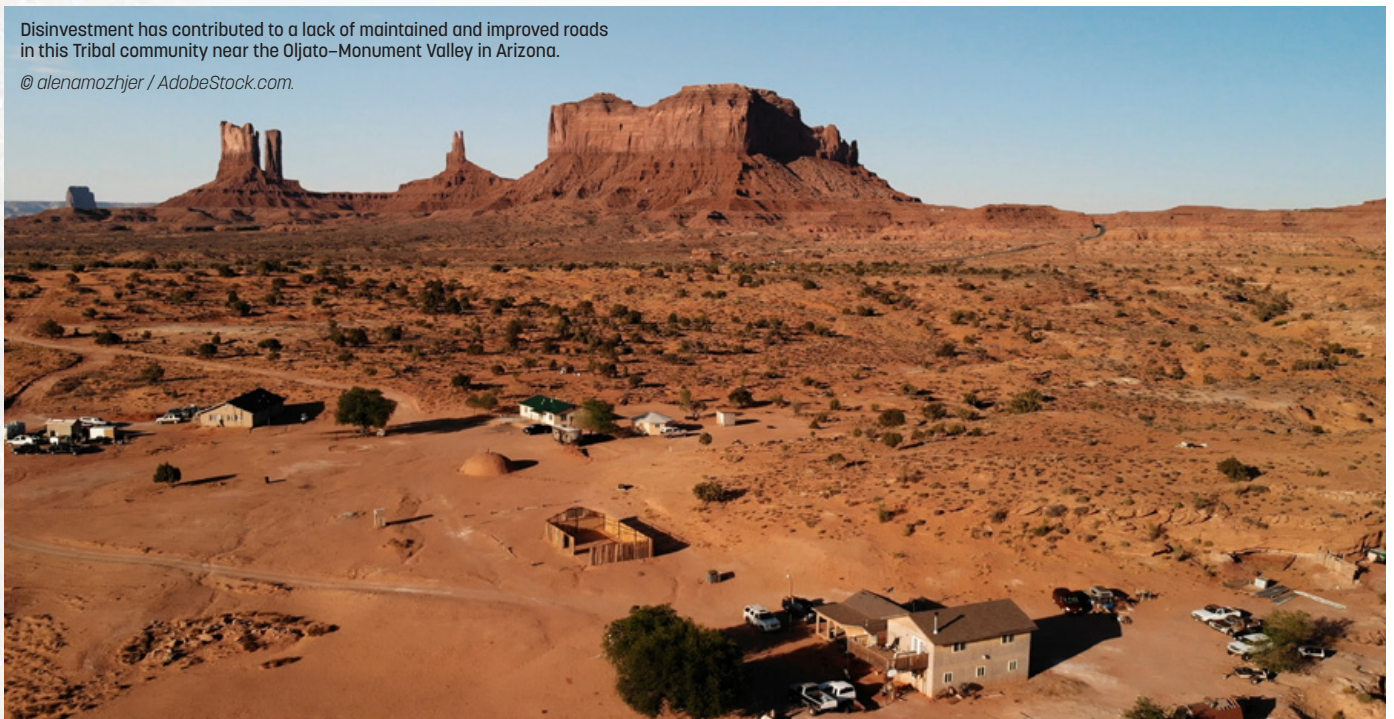
In 1964, the Crosstown Boulevard, a connector freeway skirting Pittsburgh, PA's, "Golden Triangle," was constructed using Federal-aid urban funding.

Source: FHWA.

nities. Additionally, USDOT encourages States and metropolitan planning organizations (MPOs) to integrate equity into their project prioritization process to meaningfully direct investments to, and build capacity for, disadvantaged communities.

Disinvestment has contributed to a lack of maintained and improved roads in this Tribal community near the Oljato-Monument Valley in Arizona.

@alenamozhjer / AdobeStock.com.





This article reviews USDOT efforts to integrate equity into Federal formula and discretionary grant funding, and it highlights innovative resources and practices from State and local governments for integrating equity into project prioritization processes.

## Reinvigorating Civil Rights Enforcement

Under the BIL, the Federal Highway Administration is distributing billions of dollars in Federal funding to advance transportation initiatives across the country. To ensure the proactive integration of equity into decisionmaking processes throughout the planning, design, implementation, and operation of the transportation system, USDOT is reinvigorating the enforcement of Civil Rights programs to ensure proactive compliance with nondiscrimination statutes. USDOT is also integrating equity into the review of discretionary grant funding to ensure agencies applying for funding—and the projects they aim to implement—meaningfully address equity.

First, USDOT is reinvigorating its programmatic enforcement of Title VI, including reemphasizing agency review of the potential discriminatory impact of grantees' proposed activities, before awarding Federal funds—as opposed to waiting until a project is delivered to enforce civil rights protections—to prevent disparate impacts on protected classes and empower communities in transportation decisionmaking. Title VI prohibits entities that receive Federal assistance from discriminating on the basis of race, color, or national origin in their programs and activities. In 2021, USDOT revamped its Title VI program with a new Title VI order. The order aims to strengthen reporting requirements, agency oversight, and proactive compliance with Title VI. Rather than relying on complaints from the public, the order addresses compliance with nondiscrimination requirements from the very start of projects and programs. FHWA is advancing these efforts by developing new guidance and providing technical assistance for recipients to conduct Title VI data collection and analysis.

**8.5 percent of Americans** live in households that do not have access to a vehicle.

**32.5 percent** live in a household with one car.

Black households are least likely to have access to vehicles: **18 percent of Black individuals** live in households with **zero cars**.

(Based on census data collected in 2020.)



Additionally, FHWA is continuing to advance compliance with ADA and Section 504. ADA prohibits discrimination on the basis of disability by public entities in their programs and services, including transportation programs. Section 504 includes similar requirements for recipients of Federal funds. The FHWA ADA/Section 504 program ensures that pedestrians with disabilities have an equal opportunity to use the public rights-of-way in the transportation system. The FHWA ADA team is committed to ensuring that BIL funding is used to advance equity and accessibility for people with disabilities. The team has provided input on the development of Notices of Funding Opportunities (NOFO) for discretionary grant programs, grant reviews, and project selections, as well as oversight and risk management for FHWA Division Offices, all emphasizing the importance of ADA transition plans in providing safe and accessible facilities that can be used by all pedestrians, including those with disabilities. FHWA is also working to assist State and local agencies to identify and clarify funding opportunities that they can use to meet specific equity and accessibility needs.

## Justice40

To further ensure that the BIL's generational investments in transportation infrastructure equitably benefit disadvantaged communities, USDOT is implementing the Justice40 Initiative, which sets a goal of delivering 40 percent of the benefits of certain Federal investments to disadvantaged communities. The Justice40 Initiative was created by Executive Order 14008 to bring resources to communities most impacted by climate change, pollution, and environmental hazard. On August 18, 2022, the White House announced USDOT's official Justice40 covered programs, including multiple surface transportation programs. Justice40 is an opportunity to address gaps in transportation infrastructure and public services.

Through Justice40, USDOT will work to increase affordable transportation options that connect Americans to good-paying jobs, fight climate change, and improve access to resources and quality of life in communities in every State and territory in the country. The initiative allows USDOT to identify and prioritize projects that benefit rural, suburban, Tribal, and urban communities facing barriers to affordable, equitable, reliable, and safe transportation.

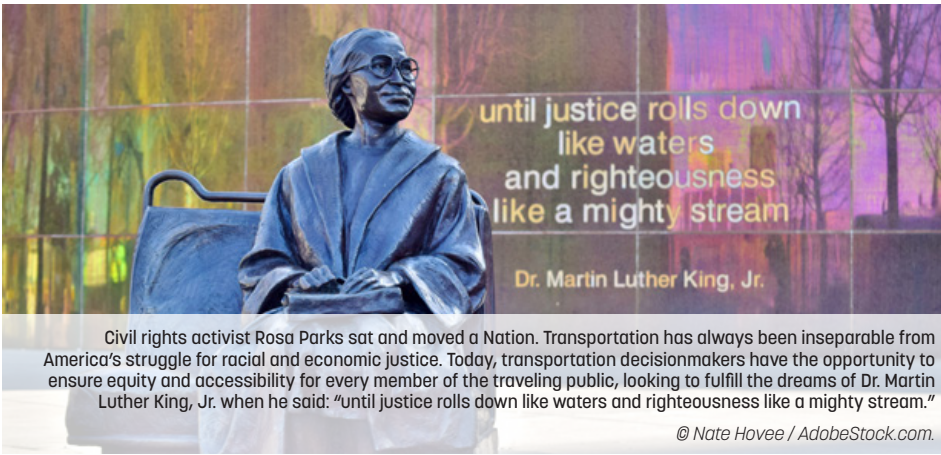
Under the BIL, 69 percent of transportation funding will be allocated by formulas set by statute. As part of Justice40, USDOT will also encourage State departments of transportation and MPOs receiving this formula funding to prioritize projects by using quantitative equity screenings, centering meaningful public involvement throughout the planning process and project lifecycle, and adhering to proactive civil rights and environmental justice requirements. USDOT has demonstrated its commitment to providing technical assistance to support disadvantaged communities by developing the *Promising Practices for Meaningful Public Involvement in Transportation Decision-Making* guide (<https://www.transportation.gov/sites/dot.gov/files/2022-10/Promising%20Practices%20for%20Meaningful%20Public%20Involvement%20in%20Transportation%20Decision-making.pdf>). This guide



Community planners engage members of the public to gather necessary information on needs and concerns during project development.

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provides funding recipients with strategies to meaningfully involve the public in various stages of transportation decisionmaking.

USDOT is using baseline methods to determine if covered programs are meeting the 40-percent goals. USDOT will also assess the negative impacts of transportation projects and systems on disadvantaged communities and will consider if local community leaders have been consulted in a meaningful way during the project's development.

### Discretionary Grants Focused on Equity

The BIL established grant programs to support the goal of advancing equity for disadvantaged communities, particularly those that have been bisected by transportation infrastructure and those living in rural areas.

The new RCP discretionary grant program, authorized up to \$1 billion over the next 5 years, is the first ever Federal program dedicated to reconnecting communities that were affected by transportation infrastructure that erected barriers to community connectivity, including barriers to mobility, access, and economic opportunity. Funding supports planning grants and capital construction grants, as well as technical assistance, to restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities. On February 28, 2023, USDOT announced a historic \$185 million in grant awards for 45 projects for RCP. See more at <https://www.transportation.gov/grants/reconnecting-communities>.

The Rural Surface Transportation Grant Program, funded with \$2 billion over the next several years, will support projects to improve and expand surface transportation infrastructure in rural areas to increase connectivity, improve the safety and reliability of the movement of people

and freight, and generate regional economic growth and improve quality of life.

The Tribal Transportation Program Safety Fund, which the BIL increased from a 2-percent to a 4-percent set-aside of the Tribal Transportation Program funds, is awarded to federally recognized Indian Tribes to address transportation safety issues that will reduce fatal and serious injury transportation-related incidents, like motor vehicle crashes. In 2021, FHWA awarded 58 projects with \$8.9 million. Additional funding available for fiscal years 2022–2026 will further advance efforts to reduce roadway deaths.

### Capacity Building and Technical Assistance for Underresourced Communities

USDOT is committed to helping communities access resources by consolidating NOFOs to simplify applying for funds, simplifying the language in NOFOs to make requirements easier to understand, developing tools like the Historically Disadvantaged Census Tract to assist applicants in developing their applications, and offering webinars that walk potential applicants through the general requirements of funding opportunities and provide technical assistance on specific aspects of application requirements. To easily access technical assistance resources across USDOT, click on the online portal: <https://www.transportation.gov/dot-navigator>. For user-friendly tools and information on technical assistance addressing rural transportation, explore the USDOT ROUTES initiative at <https://www.transportation.gov/rural>.

In addition, to ensure that disadvantaged communities have the technical tools and organizational capacity to compete for the generational investment provided in the BIL and deliver quality infrastructure products that allow their communities and neighborhoods to thrive, USDOT is administering the new \$25 million Thriving

## Justice40 Covered Programs

### Federal Highway Administration (FHWA)

- [Carbon Reduction Program \(CRP\)](#)
- [Charging and Fueling Infrastructure Grants](#)
- [Congestion Mitigation and Air Quality Improvement Program \(CMAQ\)](#)
- [Congestion Relief Program](#)
- [Disadvantaged Business Enterprise Supportive Services \(DBE/SS\) Program](#)
- [National Electric Vehicle Infrastructure \(NEVI\) Competitive Program](#)
- [National Electric Vehicle Infrastructure \(NEVI\) Formula Program](#)
- [Nationally Significant Federal Lands and Tribal Projects \(NSFLTP\)](#)
- [On the Job Training Supportive Services](#)
- [Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation \(PROTECT\) Formula Program](#)
- [Protect Grants](#)
- [Reduction of Truck Emissions at Port Facilities](#)
- [Transportation Alternatives \(TA\) \(Surface Transportation Block Grant set-aside\)](#)
- [Tribal High Priority Projects Program](#)
- [Tribal Transportation Program Bridge Program \(Bridge Investment Program Set Aside\)](#)
- [Tribal Transportation Program Bridge Program \(Bridge, Replacement, Rehabilitation, Preservation, Protection and Construction Set Aside\)](#)
- [Tribal Transportation Program](#)

### Federal Transit Administration (FTA)

- [All Stations Accessibility Program](#)
- [Buses and Bus Facilities Competitive Program](#)
- [Buses and Bus Facilities Formula Program](#)
- [Low or No Emission Vehicle Program](#)
- [Capital Investment Grants Program \(CIG\)](#)
- [Electric or Low Emitting Ferry Pilot Program](#)
- [Passenger Ferry Grant Program](#)
- [Innovative Coordinated Access and Mobility Pilot Program](#)
- [Public Transportation on Indian Reservations Program; Tribal Transit Competitive Program](#)
- [Pilot Program for Transit-Oriented Development Planning](#)

### Office of the Secretary of Transportation (OST)

- [National Infrastructure Project Assistance Program—Mega Grant Program](#)
- [Nationally Significant Multimodal Freight & Highway Projects—INFRA Grants Program](#)
- [Rebuilding America's Infrastructure with Sustainability and Equity—RAISE Discretionary Grants](#)
- [Reconnecting Communities Pilot Program](#)
- [Safe Streets and Roads for All \(SS4A\) Grant Program](#)
- [Strengthening Mobility and Revolutionizing Transportation \(SMART\) Grants Program](#)
- [Thriving Communities Program](#)

### Federal Railroad Administration (FRA)

- [Consolidated Rail Infrastructure and Safety Improvements Program](#)
- [Federal-State Partnership for Intercity Passenger Rail](#)
- [Railroad Crossing Elimination Grant Program](#)

### Maritime Administration (MARAD)

- [America's Marine Highway Program](#)
- [Port Infrastructure Development Program](#)





Children living in rural areas should be able to safely access school buses.  
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### Discretionary Funding to Support Equity

Pittsburgh, PA, was awarded \$11.3 million in Rebuilding American Infrastructure with Sustainability and Equity Federal assistance to fund construction activities associated with improvements to the public right-of-way in the Hill District. Improvements will include the reconstruction of intersections, street corridors, and city steps, and the installation of traffic calming measures, sidewalks, and green infrastructure. The project will revitalize the Hill District, a community that has suffered deterioration as well as disconnection from the business district of Pittsburgh through historical disinvestment. By making pedestrian infrastructure improvements compliant with ADA requirements, the project will safely connect low-income residents to transit hubs and employment opportunities. New electric vehicle charging options and low-impact development stormwater infrastructure will contribute to environmental sustainability (<https://highways.dot.gov/newsroom/nationwide-building-better-america-tour-fhwa-acting-administrator-announces-funding-0>).

“We see the New Pathways to Equity grant as a huge opportunity to overcome the chasm between the Hill District and Pittsburgh, enable residents to fully access their neighborhood, and use mobility to grow the connections both within and beyond the Hill District community,” says Kim Lucas, director of the department of mobility and infrastructure. “Whereas outside interests have decimated the Hill District in the past, the RAISE grant program instead adds to the neighborhood in many ways that have not been seen for years. We’re excited that this grant will help the Hill District continue its transformation into a safe, vibrant, accessible, and growing community.”

Communities Program (TCP), established by the Consolidated Appropriations Act of 2022. Beginning in 2023, awarded teams

of community partners will receive 2 years of direct, individualized, and comprehensive technical assistance, planning, and capacity building support that will help them to plan and develop a pipeline of comprehensive transportation, housing, and community revitalization activities. TCP will also support and build local capacity to improve project acceleration, access to and management of Federal funding, and deployment of local hiring, workforce development, and inclusive community engagement practices.

### State and MPO Project Prioritization Criteria

State, regional, and local transportation agencies determine how to distribute funding to meet multiple goals, including safety and access for all road users, management and maintenance of existing infrastructure, stewardship for the human and natural environment, and equitable outcomes for people living in underserved communities. To ensure that investments are equitable, effective, and efficient, agencies are increasingly integrating data-driven, performance-based methods into their decisionmaking frameworks in planning, project prioritization, and project development processes. Integrating equity into transportation agencies’ project prioritization criteria and decisionmaking processes is an integral step to redress disparities and meet the goals of Justice40.

Long-standing structures and processes may continue to favor certain investments over others that would better serve disadvantaged communities and meaningfully advance safe, health-promoting access and opportunities for all people. For example, agencies may use complex scoring frameworks that artificially inflate the scores of highway expansion projects by repeatedly counting mobility metrics in nested subcriteria—such as time savings under accessibility, travel time reliability under

economy, and truck volumes under freight considerations—in addition to a mobility category. Additionally, agencies may use level of service and traffic delay as the primary metrics for directing transportation investment. These scoring processes, among others, could disproportionately favor expanding highway capacity, often at the detriment of safe and equitable projects for all road users. Moreover, political pressure for “ribbon-cuttings” may drive prioritization for highway expansion and large projects, as opposed to asset management or smaller multimodal network improvement projects.

Another barrier is that Federal funding may be perceived as being committed to specific modes and types of projects. It should be noted that FHWA encourages State and local road owners to use Federal funds for a wide range of projects that prioritize safe and equitable mobility and access for all road users. Funding sources that support pedestrian and bicyclist opportunities can be viewed at [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/funding\\_opportunities.cfm](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm). Additionally, Federal law allows Federal-Aid Highway Program funding to be made available for public transportation projects.

Federal law (23 U.S.C. § 104(f); 49 U.S.C. § 5334(i)(1)) allows Federal-Aid Highway Program funding made available for public transportation projects to be “flexed” (or transferred) to be administered by the Federal Transit Administration for public transportation projects. More information concerning potentially eligible programs that support public transportation can be found at <https://www.transit.dot.gov/funding/grants/grant-programs/flexible-funding-transit-and-highway-improvements>.

Additional factors that may impede the ability of disadvantaged communities to benefit from Federal funding include funds matching requirements and discretionary grant application requirements. Underserved and disadvantaged communities may not have the funding or staff capacity to match Federal or State funding or compose competitive applications.

Like many States across the nation, Ohio DOT recognizes that severe crashes happen more frequently in low-income communities, and individuals in these communities experience significant barriers to accessing the healthcare and financial resources needed to recover from them.



To address these disparities, Ohio DOT began to integrate equity metrics into the project prioritization and funding processes within the Highway Safety Improvement Program in 2021. Jeremy Thompson, Ohio DOT safety engineer, elaborates: “Most of our funding is allocated through competitive project application processes, where applications are scored based on a variety of factors. After recognizing the disparities lower income communities face, we added equity metrics to our application scoring criteria, so that we are considering factors like local poverty rates when allocating project funding.” Thompson continues, “Additionally, municipalities in our State may be burdened by the typically required 10-percent local funding match on projects. Knowing this, we’ve incorporated a process to reduce or remove that local match requirement if a municipality is in fiscal distress and/or is implementing a project in a low-income community. Since severe crashes are overrepresented in locations where poverty rates exceed 10 percent, we are leveraging other funding sources such as State funds and toll revenue credits to use in place of a local funding match in communities that exceed that threshold.”

Of particular importance for equity is the prioritization processes for asset management and maintenance, particularly for sidewalks and lighting. For example, complaint-based prioritization processes may inadvertently exclude underserved communities that may not have the resources or influence to receive timely service. Implementing systematic processes for asset management may improve lifetime performance and the safety benefits of infrastructure. “Instead of maintaining lighting based on user feedback, Detroit invested in a systematic approach to replacing street lighting throughout the city. Following the systematic replacement of nonfunctioning streetlights, the city’s pedestrian death rate fell nearly 40 percent in just 2 years, in the context of a rising death rate for all nonmotorists in the State,” says De’Andre Brooks, director of government and community relations at the Detroit (MI) Public Lighting Authority.

Project prioritization is an evolving process, and State, regional, and local transportation agencies play a key part in transforming the data and decision-making frameworks to achieve the Federal Justice40 goal of distributing 40 percent of the benefits of transportation investments to disadvantaged communities. Multiple studies have examined the innovative

practices being piloted by States and localities across the country. Of particular note, a February 2021 report sponsored by the Center for Transportation, Equity, Decisions, and Dollars (CTEDD), a USDOT (Tier-1) University Transportation Center, reviews Virginia DOT’s SMART program and provides the following recommendations:

- Establish flexible funding programs through which different project types can compete on equal footing.
- Choose comprehensive, outcome-oriented evaluation criteria.
- Maximize the benefits per dollar spent.

The report also suggests simplifying scoring frameworks to limit the number of scoring categories and evaluation criteria, while shifting focus toward fewer, more comprehensive, outcome-oriented criteria.

Additionally, CTEDD developed a Transportation Equity Toolkit that supports local agencies in selecting and prioritizing projects through an equity-informed approach (<https://www.cutr.usf.edu/2021/09/transportation-equity-toolkit/>).

As previously noted, all programs and projects must comply with Title VI and ADA requirements. Proactive integration of Title VI and ADA as part of decision-making screenings to ensure the meaningful consideration of race, color, national origin, and disability factors into programs and projects is an important step toward advancing equity.

## Conclusion

USDOT is centering equity as a priority in the distribution of discretionary grant programs to meet the goals of Justice40, and it is administering new statutory programs to redress historic harms of transportation infrastructure and build capacity for

underserved communities. As part of these efforts, USDOT is reinvigorating civil rights programs, including the landmark Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act of 1990, and encouraging State and regional governments to prioritize equity in the distribution of formula funding. Additionally, USDOT is conducting research and updating guidelines to address relocation and displacement impacts of transportation projects as well as revising processes and developing measures of performance to routinely plan, design, build, operate, and maintain safe, multi-modal street networks for people of all ages and abilities.

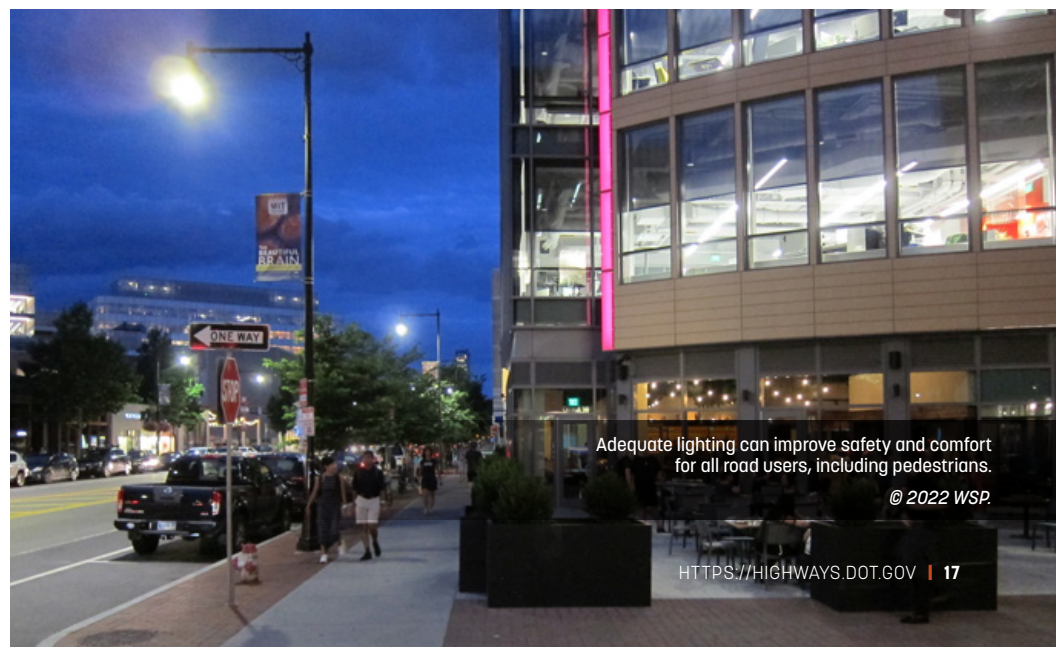
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For more information, see <https://www.transportation.gov/priorities/equity>.



Adequate lighting can improve safety and comfort for all road users, including pedestrians.

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# INTEGRATING EQUITY into Transportation Planning

While urban highways are critical to meet transportation needs and future planning, urban highways often have overtaken small or underserved communities and have been bisected by implementation of infrastructure.

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Equity data screenings and meaningful public involvement can promote safe, healthful, and livable communities for everyone.

by **MACK FROST** and **ANTHONY BOUTROS**

The U.S. Department of Transportation's Equity Action Plan highlights key actions the Department will undertake to expand access and opportunity to all communities while focusing on underserved, overburdened, and disadvantaged communities. The Plan's Power of Community focus area aims to empower individuals and communities—particularly those that are underserved and disadvantaged—to have a greater voice in the transportation decisions affecting them. To achieve this goal, USDOT intends to increase the number of State departments of transportation (DOTs) and metropolitan planning organizations (MPOs) officially adopting a quantitative equity screening component and a meaningful representative public involvement process to their Statewide Transportation Improvement Program (STIP) and Transportation Improvement Program (TIP) projects. These quantitative equity screening and public involvement processes will incorporate community vision and needs in planning, project selection, and design.

The Federal Highway Administration's (FHWA's) Office of Planning, Environment, and Realty, in cooperation with the Federal Transit Administration's (FTA's) Office of Planning and Environment, and USDOT's Office of the Assistant Secretary for Transportation Policy, conducted a survey in 2022 to support the implementation of the Power of Community. The survey helped USDOT establish a baseline understanding of how transportation agencies address equity in the planning process, and how they provide opportunities for meaningful public input into decisionmaking. Although the results of the survey are still being analyzed, preliminary analysis shows a few MPO respondents have policies in place to address equity in the transportation planning process.

Below is an overview of the transportation planning process and how equity can be integrated into those plans to empower individuals in traditionally-underserved and disadvantaged communities.

## Transportation Planning Process and State DOT/MPO Planning Products

Transportation planning is a cooperative, collaborative, and comprehensive process designed to foster involvement by all users of the system, including individuals, businesses, community groups, environmental organizations, safety officials, and freight operators through a proactive public participation process. Within metropolitan areas not designated as transportation management areas (TMAs), the planning process is conducted by the State and/or the public transportation operator(s), in cooperation with the MPOs. In areas designated as TMAs (urbanized areas with a population of 200,000 or more), the transportation planning process is conducted by the MPO in consultation with the State and public transit operator(s). In rural areas, transportation planning processes are carried out by the State, in cooperation with local officials in nonmetropolitan areas and transit providers. The process often involves creating vision statements, long-term



planning, project planning, and conducting system-level analyses.

Equity is an integral part of the planning process. There are multiple requirements to conduct public involvement, including Title VI of the Civil Rights Act of 1964 (Title VI); Executive Order 12898, Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations; and the National Environmental Policy Act (NEPA). Meaningful public involvement is a process that proactively seeks full participation from the community, considers public comments, and incorporates feedback into a project, program, or plan.

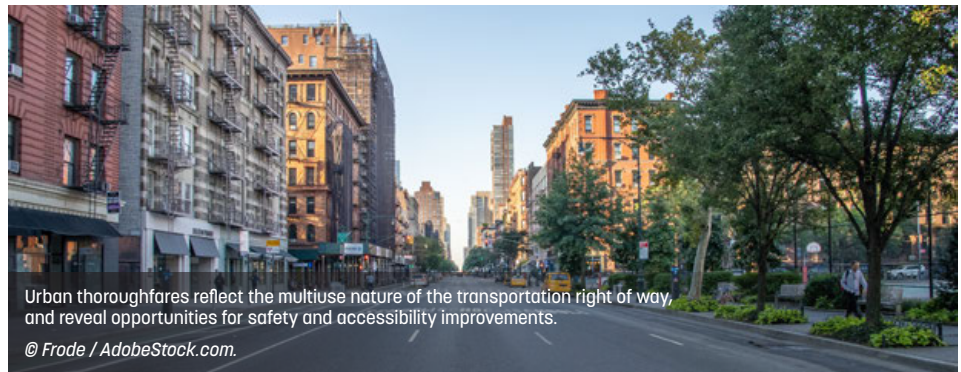
The USDOT Equity Action Plan encourages proactive equity screenings as part of the STIP and TIP development processes to incorporate community vision and need in project selection and design. Considering equity early and through methods such as public participation, data collection, and analysis improves the likelihood that the planning process will adequately be able to respond to the needs of the community it serves. Early consideration of equity may also improve project delivery by preventing costly and time-consuming delays that could arise from previously unrecognized conflicts as projects move from planning to implementation.

“Using an equity lens to identify residents and communities who have been historically excluded, and assess the barriers that prevent them from participating, will ensure that engagement is more representative and inclusive,” says Jane Grover, a principal at the Chicago Metropolitan Agency for Planning in Illinois.

FHWA and FTA jointly provide stewardship and oversight on the statewide, nonmetropolitan, and metropolitan transportation planning process.

Transportation planning is a cooperative, performance-driven process by which long- and short-range transportation improvement priorities are determined. State DOTs and MPOs have the responsibility for programming and prioritizing projects while considering the Federal funding eligibility for each program and project.

State DOTs must prepare several planning documents related to Federal planning requirements. Long-Range Statewide Transportation Plans (LRSTPs) and Metropolitan Transportation Plans (MTPs) are two types of foundational planning documents that help guide the development of transportation planning programs and projects. LRSTPs and MTPs



A Federal-aid Essentials video on projects and statewide planning requirements (<https://www.fhwa.dot.gov/federal-aidessentials/catmod.cfm?id=66>) highlights the roles and responsibilities of State DOTs and local public agencies in the transportation planning process. Resources to learn more about transportation equity in the planning process can be found on the FHWA/FTA Transportation Planning Capacity Building Program's Planning Topics' website ([https://www.planning.dot.gov/planning/topic\\_transportationequity.aspx](https://www.planning.dot.gov/planning/topic_transportationequity.aspx)).

are policy and/or project documents that outline strategies and actions for addressing transportation issues and needs within States and metropolitan areas. These documents provide the framework for preparing project-specific transportation programs, such as STIP and TIP.

STIP and TIP are Federally-required documents that show upcoming projects that will be funded with Federal dollars over the next four years. These programs highlight how State DOTs and MPOs fund projects, and how the programs are fiscally constrained based on reasonably expected revenues. STIPs and TIPs are publicly available documents, which give the public an opportunity to review and help determine funded projects within their State or region.

### Quantitative Equity Screening

Transportation planning efforts should use a data-driven process to ensure that policy priorities and investment decisions

are realistic and achievable. Equity is an integral part of the data-driven process that improves the planning process's ability to adequately respond to the needs of the community it serves.

Title VI provides that recipients of Federal financial assistance cannot discriminate on the basis of race, color, or national origin in their programs and activities. FHWA regulations specify that States must collect demographic data on race and ethnicity to show the effects of transportation programs and activities and conduct Title VI reviews using the data. The demographic data are typically derived from the American Community Survey, the Decennial Census of Population and Housing, or other public sources or surveys. After the data are collected, States must pair demographic data with information on potential impacts from programs and activities, such as relocations, noise, and maintenance.



Transportation research is vital for improving the knowledge of practitioners, and the public, on how to implement a more efficient planning process. The primary funds State DOTs use for research are State Planning and Research funds (SP&R) and MPOs use Metropolitan Planning (PL) Funds for transportation planning and research. States document the projects and programs funded with SP&R in their SP&R Work Program and MPOs document the use of PL funds in their Unified Planning Work Program.

MPOs demonstrate equity principles within their research programs by investing in activities or developing policies to promote equity. The Boston (MA) Region MPO, for example, has included funding and tasks to ensure that all people receive comparable benefits from, and are not disproportionately burdened by, MPO investments, regardless of race, color, national origin, age, income, disability, or sex. The MPO coordinates public engagement efforts through implementation of the Public Participation Plan to ensure that all members of the public, including populations that have been traditionally underserved by the transportation system, are provided with the opportunity to participate in the planning process.

improved pedestrian, bicycle, and public transportation infrastructure. Also, some zip codes have a higher percentage of seniors, minorities, or low-income residents, and transportation providers can target a neighborhood to provide specific services. For example, certain Las Vegas transit routes for seniors have pick-up points in areas where there are senior homes.

One of the main tasks for RTC is to monitor the prioritization of transportation projects in the Access 2040 Regional Transportation Plan and the changes to RTC transit routes. RTC continues to analyze any major decision made to the overall transportation system, particularly if it negatively affects areas with a high concentration of any EJ group. The composite equity factors map is intended to serve as a resource for identifying potentially disadvantaged populations

States must then determine whether:

- Impacts are disproportionate or disparate between populations based on race, color, or national origin.
- There is a justification for the disproportionality or disparity.
- There is a less discriminatory way to achieve similar program results.

FHWA's Office of Civil Rights provides multiple resources to support stakeholders in conducting Title VI data collection and disparate impact analysis. These resources can be found at [https://www.fhwa.dot.gov/civilrights/programs/title\\_vi/](https://www.fhwa.dot.gov/civilrights/programs/title_vi/). FHWA has developed multiple geographic information systems (GIS)-based quantitative equity screening tools, including the Transportation Disadvantaged Census Tracts and Planning, Environment, Realty GIS (HEPGIS), an interactive, web-based geographic map server that enables users to navigate, view, and print geospatial maps using only their web browser.

HEPGIS allows users to access multiple data layers to assist in transportation decisionmaking. The Screening Tool for Equity Analysis of Projects is an extension of HEPGIS that allows users to screen project locations to support Title VI, EJ, and other socioeconomic data analyses.

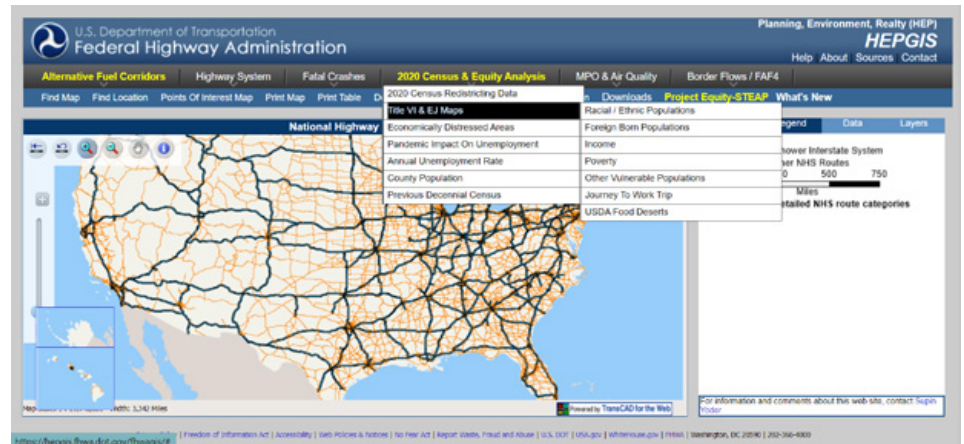
### MPO Equity Screening Tool Examples

The Broward MPO in Fort Lauderdale, FL, has developed a process to evaluate its plans and programs under Federal EJ and Title VI regulations. The identification of Transportation Planning Equity Areas is intended to be one of many approaches used in the transportation planning process to facilitate informed conversations.

The Transportation Planning Equity Area composite or equity score calculated for each block group within Broward County is based on selected demographic indicators. The map (<https://storymaps.arcgis.com/stories/7b81b04ead3b4d5c9aae8735e3b48434>) is one of several resources used by the

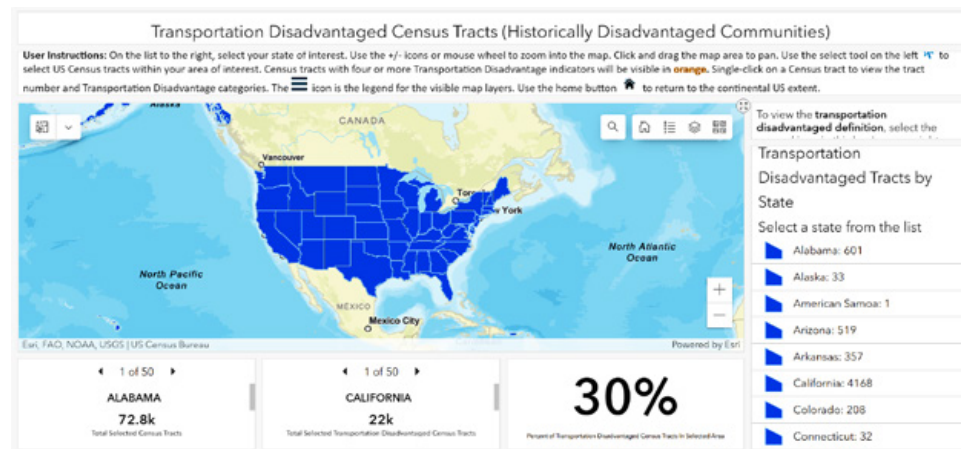
Broward MPO to help form a consistent evaluation process among its various plans and programs.

The Regional Transportation Commission of Southern Nevada (RTC) in Las Vegas actively engages minority communities in transportation planning. Individuals in high equity need communities may be unable to drive or lack access to a car, resulting in an increased need for



FHWA's HEPGIS tool allows users to add multiple economic and socioeconomic data layers to inform the transportation decisionmaking process.

Source: FHWA.



The USDOT's Transportation Disadvantaged Census Tracts map highlights what is available on its website. State and local agencies are able to use this map to identify historically disadvantaged communities.

Source: USDOT.



within Southern Nevada and assessing equity in the planning process.

Georgia's Atlanta Regional Commission (ARC) Equity Analysis is another example where an MPO is using equity in performance-based planning and programming to demonstrate compliance with Federal guidance, including Title VI, Executive Order 13166 on Limited English Proficiency (LEP), Americans with Disabilities Act of 1990, Executive Order 12898 on EJ, and FHWA and FTA's Title VI and EJ documents. DASH—an interactive, online tool—is used by ARC to better communicate and visualize regional trends related to transportation and equity. DASH is intended to help both policymakers and Atlanta area residents explore the region's performance. (<https://atlregional.github.io/DASH/Equity.html>)

“As the Minnesota Department of Transportation (MnDOT) developed our first National Electric Vehicle Infrastructure [NEVI] Plan, we used the Justice40 mapping overlay provided through the Drive Electric website as well as our own Tribal Nations boundaries layer to ensure we were including these communities as we created our longer term vision for charging in Minnesota. Using these tools helped to visualize where we could combine the location criteria the NEVI program requires for Alternative Fuel Corridors with disadvantaged communities and where there are gaps,” says Beth Kallestad, principal sustainability planner in MnDOT's Office of Sustainability and Public Health.

### Meaningful Public Involvement

USDOT seeks full representation from the community, considers public comments and feedback, and incorporates that feedback into a project, program, or plan whenever possible. The impact of community contributions encourages early and continuous public involvement, identifies potential or latent impacts to the communities, and brings diverse viewpoints and values into the transportation decisionmaking process.

### Requirements for Public Involvement

The Title VI program requires USDOT's operating administrations to develop comprehensive community participation requirements that applicants and recipients must satisfy as a condition of receiving an award for Federal financial assistance. A community participation plan facilitates full compliance with Title VI through meaningful public participation and engagement to ensure funding recipients and

organizations are adequately informed about how programs or activities will potentially impact affected communities. Diverse views must have an opportunity to be heard and considered throughout all stages of the consultation, planning, and decisionmaking process. A community participation plan, which may be an update to an existing public participation plan or other policies, should provide information about the organization's overall public involvement activities.

USDOT operating administrations will issue guidelines establishing expectations for the community participation plans for their grant recipients. USDOT and the Federal Government must also ensure that individuals who have LEP, including a limited ability to read, speak, write, or understand English, have meaningful access to information that affects their lives. Under USDOT's Departmental Office of Civil Rights, and as described in Policy Guidance Concerning Recipients' Responsibilities to LEP Persons, this obligation extends to organizations and State and local agencies that receive monetary assistance from USDOT and the Federal Government. Funding recipients serving LEP populations should develop an LEP implementation plan to address the identified needs of the LEP populations they serve. The U.S. Department of Justice provides resources and further guidance at <https://www.lep.gov/>.

Transportation practitioners have the power and obligation to incorporate the

voices of their communities in transportation decisionmaking and to build trust with members of underserved communities. Public involvement is not an afterthought in the decisionmaking process, but rather a core tenet for agencies, organizations, partners, and individuals who work on USDOT-funded projects to evaluate, plan, prioritize, design, construct, and maintain transportation improvements and investments. Engaging the public early, and often, can also help avoid costly re-work and delays later in the project lifecycle, including potential litigation or complaints from community members.

Historically, decisionmaking in transportation (e.g., determining community needs and project priorities, planning, and implementation) may not have always considered all the communities those decisions impact. Following the “we've always done it this way” thinking can result in the treatment of public involvement as a one-time event or a box to check in the project lifecycle rather than an intentional, dynamic process that continues throughout all stages of project development. When agencies use limited communication and outreach methods, such as only advertising a single meeting in an area's largest newspaper, they frequently do not reach the broader audience who may not read the newspaper or who get news from other sources. USDOT developed the guide, *Promising Practices for Meaningful Public Involvement in Transportation*





*Decision-Making*, which can assist funding recipients meet the need of meaningful public involvement.

Meaningful public involvement:

- Increases trust between the organization and the community.
- Increases the likelihood that projects, programs, or plans will be accepted.
- Creates more effective solutions.
- Improves a community's knowledge of the project, program, or plan.
- Empowers people from different backgrounds to become involved in transportation decisionmaking.
- Delivers a better project, program, or service with diverse ideas that promote equity and inclusion.
- Ensures against compliance concerns with authorities such as Title VI and NEPA that require public input and nondiscrimination.

Public involvement strategies should involve a combination of in-person, digital, virtual, and print tools, in languages spoken by community members. Public involvement should also include intentional and varied outreach methods to ensure that people with disabilities and diverse needs and experiences are aware of and can participate in opportunities to have a meaningful impact on decisionmaking. When specific to a project or program, public involvement strategies should also be tied to the expected impacts of the project or program. Of particular impact are engagement opportunities that meet people in underserved communities and provide them with culturally sensitive methods of expressing themselves.

In-person public meetings are a common strategy, but for some people these meetings can be inconvenient or impossible to attend. Physical meeting locations can be inaccessible for persons with disabilities or for community members that might not feel comfortable attending events at government facilities, or whose work schedules do not fall within typical daytime business hours. Additionally, people in underserved communities may lack child care, access to convenient transportation, or may need communication in alternate formats or languages. To ensure the needs and concerns of underserved populations are represented, it is important for transportation professionals to reduce barriers to participation and to expand opportunities for engagement.

Transportation agencies can increase meaningful public involvement in planning and project development by integrating



Source: USDOT.

virtual tools into their overall public involvement approach. Virtual Public Involvement (VPI) tools ([https://www.fhwa.dot.gov/planning/public\\_involvement/vpi/](https://www.fhwa.dot.gov/planning/public_involvement/vpi/)) can enhance and broaden the reach of public engagement efforts by making participation more accessible, convenient, affordable, and enjoyable for greater numbers of people. VPI tools can provide the public with increased transparency and access to transportation planning activities and project development and decisionmaking processes, including:

- Crowdsourcing.
- Digital tools to enhance in-person events.
- Do-it-yourself videos.
- Mapping.
- Mobile applications.
- Project visualizations.
- Virtual town halls.

While using VPI techniques do not change existing public involvement requirements established by statute, regulation, or executive order, VPI does open up opportunities for underserved communities to actively participate in the process and have

their voices heard. VPI is not intended to completely replace in-person engagement, but it is a valuable tactic to reach those who have historically been without options to make an impact in their communities.

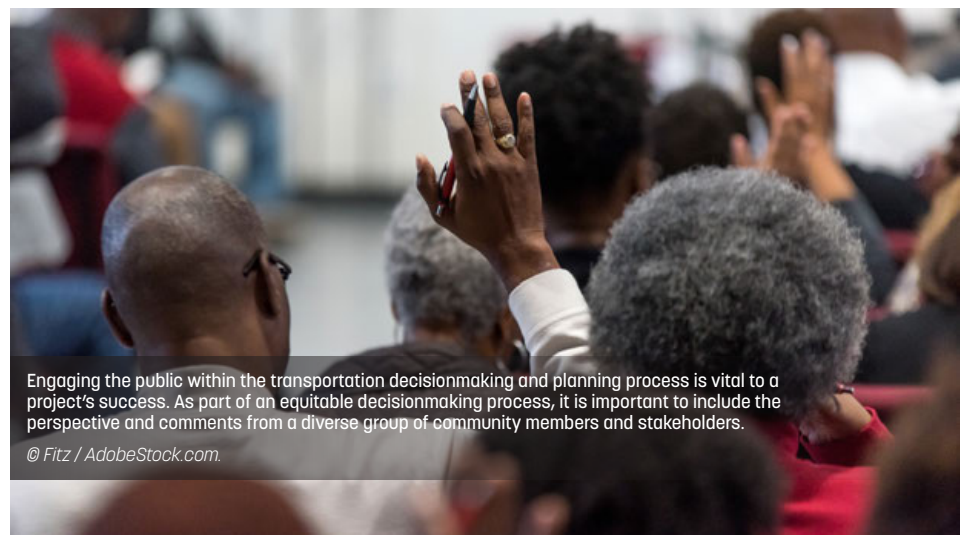
## Conclusion

Planning is an integral part of the transportation equation that ensures an equitable approach is applied to project and program development. Public engagement strategies that are implemented must be forward-thinking, forward-moving, and place high value on not only listening to all road users and members of the public, but also finding actionable solutions to their substantial concerns and challenges. Meaningful engagement and listening with intention will ensure that future infrastructure improvements can—and will—lead to equitable, and more accessible communities across the Nation.

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For more information, please visit [https://www.planning.dot.gov/planning/topic\\_transportationequity.aspx](https://www.planning.dot.gov/planning/topic_transportationequity.aspx) or contact Mack Frost at [Mack.Frost@dot.gov](mailto:Mack.Frost@dot.gov).



Engaging the public within the transportation decisionmaking and planning process is vital to a project's success. As part of an equitable decisionmaking process, it is important to include the perspective and comments from a diverse group of community members and stakeholders.

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by **EWA FLOM**

**E**quity in transportation seeks fairness in mobility and accessibility to meet the needs of all community members. A central goal of transportation equity is to provide equitable access to affordable and reliable transportation options based on a population's needs (particularly for underserved communities).

An equity-based approach to transportation operations examines the specific circumstances impacting a community's mobility and connectivity needs to determine the measures needed for providing a reliable network to individuals. Past transportation actions have often inadequately considered, and adversely impacted, disadvantaged and vulnerable communities. Management and operation practices offer opportunities to help address inequities that exist in the current transportation system to improve transportation mobility and accessibility. By integrating equity into the day-to-day decision-making processes for transportation operations, transportation professionals improve the mobility and accessibility of the transportation systems for all users.

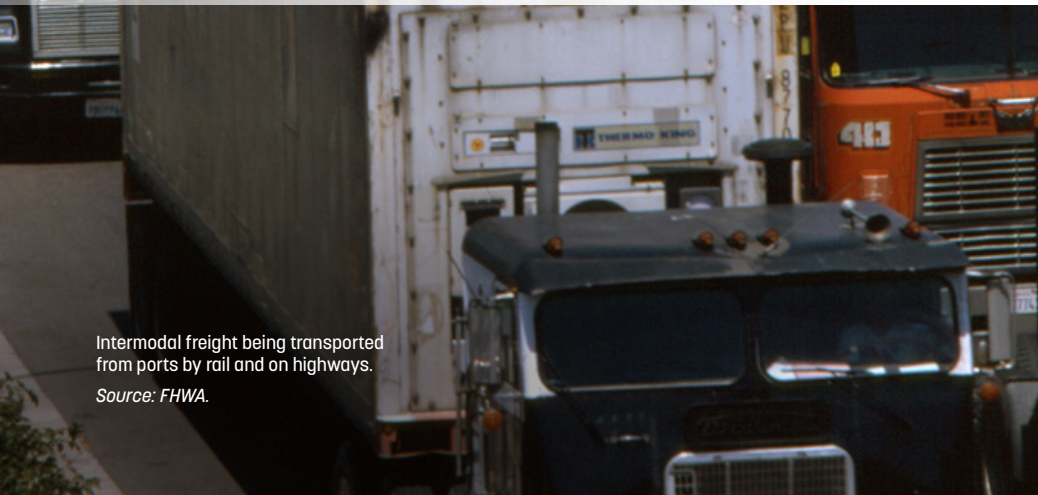
# INCORPORATING an EQUITY-BASED APPROACH into TRANSPORTATION OPERATIONS

An overview of current activities, resources,  
and planned approaches for operating an  
equitable transportation network.

## Equity in Freight Operations

For freight operations, equity concerns are especially common. Freight facilities, such as airports or seaports, have often been built in or near areas of persistent poverty. Communities have also developed near industry because of employment opportunities or segregation practices that isolated minority populations in areas that would suffer lower levels of investment. Growth in freight infrastructure can adversely affect these communities by adding congestion, noise, and pollution. Supporting networked communities that are intermodal—those located near ports, airports, freight, and rail facilities—is one of the major focus areas of the Thriving Communities Program to address mobility, access, environmental justice, and economic issues, including ways to leverage their proximity to these facilities for wealth-building and economic development opportunities.

An equity-based approach has also become a part of the Nation's freight system through the National Highway Freight Program (NHFP). Established to improve the efficient movement of freight on the National Highway Freight Network, NHFP funding is distributed to States based on



Intermodal freight being transported  
from ports by rail and on highways.

Source: FHWA.



formulas specified in Federal law for freight projects that, among other criteria:

- Strengthen the economic competitiveness of the United States.
- Reduce congestion and improve the reliability of freight transportation.
- Increase productivity of industries and businesses that create high-value jobs.
- Improve the safety, security, efficiency, and resiliency of freight transportation.
- Reduce the environmental impacts of freight movement.

The Bipartisan Infrastructure Law amended the NHFP to increase the intermodal freight funding allowance and broaden eligibility for intermodal projects for freight rail or marine facilities, including ports. Elements of such projects should proactively address racial equity, workforce development, and economic development as well as remove barriers to opportunity, including redressing prior inequities in both rural and urban communities.

An equity-based approach is also being applied to examine the impact of freight-related transportation projects. Federal Highway Administration created a document (updated in 2018) about best practices for conducting community impact assessments for transportation projects, *Community Impact Assessment: A Quick Reference for Transportation*. In a freight-related project located in a predominantly minority and low-income Camden, NJ, neighborhood, these best practices were applied to improve regional highway access in support of neighborhood revitalization and provide alternate routes for heavy-truck traffic.

### Equity Through USDOT Discretionary Grants

While the purpose and goals of these grants differ, the U.S. Department of Transportation includes language in the notices of funding opportunity (NOFO) and application criteria that encourage applicants to incorporate equity into projects for all these grants. For instance, the NOFO for the Multimodal Project Discretionary Grant program set forth evaluation criteria seeking projects that proactively address equity and barriers to opportunity, including automobile dependence, or redress prior inequities. The evaluation criterion “Equity, Multimodal Options, and Quality of Life” directed applicants to describe how their project will proactively address equity and barriers to opportunity, improve quality of life in rural or urbanized areas, and benefit historically disadvantaged

communities/populations or areas of persistent poverty. Examples include

- Increasing affordable transportation choices.
- Improving access to essential services.
- Increasing walkability and accessibility for pedestrians.
- Proactively addressing disparities and barriers to opportunity.

The ways a project could demonstrate a proactive focus on equity and barriers to opportunity include:

- Equity impact analysis.
- Sponsoring adoption of an equity and inclusion program/plan or otherwise instituting equity-focused policies in the overall project delivery and implementation.
- Comprehensive planning and policies to promote the hiring of individuals from underrepresented communities.
- Physical-barrier-mitigating land bridges, caps, lids, linear parks, and multimodal mobility investments that either redress past barriers or proactively create new connections and opportunities.
- New or improved freight access to underserved communities to increase access to goods and job opportunities.

Applicants were also directed to describe how the project has or will meaningfully engage affected communities through effective, accessible public participation in the planning, development, and implementation of transportation investments. If USDOT determined that applicants selected for a grant award had not sufficiently considered equity



Trucks transporting shipping containers.

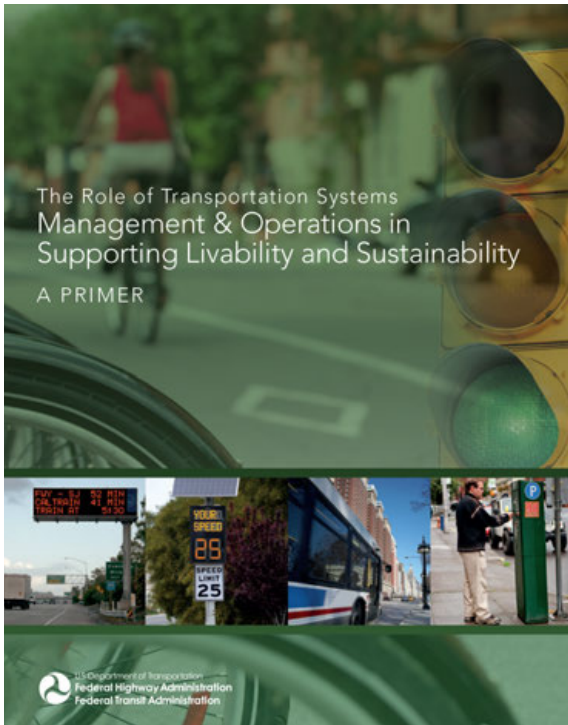
Source: FHWA.

## USDOT Discretionary Grant Programs

Another area where equity is getting increased focus is in the USDOT discretionary grant programs. The FHWA Office of Operations administers eight discretionary grant programs, four of which are led by the Office of the Secretary:

- **The Advanced Transportation Technology and Innovation program (ATTAIN)** (formerly known as Advanced Transportation Technologies and Innovative Mobility Deployment) provides up to \$60 million in grants annually to encourage the use of cutting-edge technologies that will improve safety and reduce travel times for drivers and transit riders. “As we level the playing field and improve the travel experience for everyone, we need to promote the use of state-of-the-art technologies, and the ATTAIN program does just that,” said former FHWA Acting Administrator Stephanie Pollack.
- **The Congestion Relief Program** advances innovative, integrated, and multimodal solutions in the most congested metropolitan areas of the United States.
- **Reduction of Truck Emissions at Port Facilities** grants fund projects that reduce emissions at ports, including through the advancement of port electrification.
- **The Strategic Innovation for Revenue Collection** provides funding to State and local governments as well as metropolitan planning organizations (MPOs) to experiment with user-based fees for the Highway Trust Fund.
- **The Rebuilding American Infrastructure with Sustainability and Equity (RAISE)** grants help communities around the country carry out projects with significant local or regional impact.
- **The Infrastructure for Rebuilding America (INFRA) program**—known statutorily as the Nationally Significant Multimodal Freight and Highway Projects—awards competitive grants for multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people in and across rural and urban areas.
- **The Rural Surface Transportation Grant program** will invest approximately \$2 billion through 2026 for projects that improve highways, bridges, and tunnels, address highway safety, increase access to agricultural, commercial, energy, or freight facilities that support the economy, and bring flexible transit services to rural and Tribal areas.
- **The Mega Program** (known statutorily as the National Infrastructure Project Assistance program) will support complex projects that generate national or regional economic, mobility, or safety benefits.





Cover of *The Role of Transportation Systems Management and Operations in Supporting Livability and Sustainability: A Primer*.

Source: USDOT.

and barriers to opportunity in their project planning, they would be required to do so before receiving funds for construction.

## Transportation Systems Management and Operations

Another program area connected to transportation equity is Transportation Systems Management and Operations (TSMO). TSMO involves applying an integrated set of strategies, technologies, mobility services, and programs to improve the security, safety, congestion delay, and reliability of the transportation system. Transportation agencies have increasingly been looking to apply TSMO strategies to optimize the performance of their existing transportation system, lower costs, and develop more sustainable solutions to meet safety, mobility, and reliability challenges.

By definition, TSMO focuses on optimizing multimodal and intermodal operations—enhancing the movement of people and goods rather than just focusing on moving vehicles. As TSMO programs mature and data, technology, and tools become increasingly available, a more comprehensive systemwide management will broaden the scope from traffic management toward optimizing a multimodal system. The continual improvement of TSMO programs creates the opportunity and need to integrate transportation equity into the transportation management and

operations planning process.

FHWA, along with State and local TSMO advocates, recognize the role of active transportation and demand management, shared mobility, mobility on demand, and other innovative approaches to enhance the movement and access of travelers and their communities. For example, FHWA’s *The Role of Transportation Systems Management and Operations in Supporting Livability and Sustainability: A Primer* defined connections between TSMO and goals for livability and sustainability. The role and approach supported in the primer may also be expanded to support transportation equity to balance needs across the transportation system and all its users and to understand the tradeoffs that may occur.

According to Joe Gregory, an FHWA transportation specialist: “Transportation agencies can face numerous equity-related challenges, such as technological barriers and disproportionate impacts and burdens in underserved communities. While TSMO would not completely solve all these problems, its various strategies provide many cost-effective options to contribute to solutions. Equity-related considerations when selecting and deploying TSMO strategies, such as impacts of detour routes to underserved communities and balance among modes of travel, can also provide ways to incorporate equity into how agencies deliver operations.”

For example, in the past a TSMO strategy of timing signals may have primarily focused on vehicular traffic flow, which might result in transportation inequities for bicyclists and pedestrians, such as a lack of safe mobility and access. However, through a comprehensive analysis of goals, context, and objectives, the needs of all users would be considered for the strategy. Another example is the project decisions made to support program goals. When decisions are made on where to focus signal retiming efforts, if the primary input is customer complaints, an agency may not have a representative understanding of the needs across all communities. Combining customer complaints with a more systematic review of all signals over time may better identify the full set of needs and result in a more equitable distribution of services. The Congestion Mitigation and Air Quality

## Project Examples

The following are a few examples of INFRA and RAISE projects with equity benefits that were awarded in 2022.

### Downtown Mile Safety and Connectivity Improvement Project

The city of Flagstaff, AZ, received an INFRA grant in the amount of \$32,460,000 for the Downtown Mile Safety and Connectivity Improvement Project. The project will deliver pedestrian safety improvements and freight and passenger rail infrastructure enhancements along a 1-mile segment of the Burlington Northern and Santa Fe Southern Transcontinental Corridor. In addition to track realignment along this section of the corridor, project improvements include the construction of two pedestrian underpasses and the installation of pedestrian gates at two at-grade rail crossings. This project provides strong equity benefits by constructing pedestrian underpasses and pedestrian crossing gates to reduce the physical barrier of the railway between areas of persistent poverty and the essential services located in downtown Flagstaff.

### I-375 Community Reconnection Project

The Michigan DOT received an INFRA grant in the amount of \$104,657,051 for the I-375 Community Reconnection Project in Detroit. The project will provide significant equity benefits by reconnecting neighborhoods divided by the current highway design. The project will realign the freeway and convert the existing footprint of I-375 to a slower speed at-grade boulevard through the project limits. Located in a historically disadvantaged community, this project will provide equitable mobility benefits by reconnecting neighborhoods in areas of persistent poverty.

### US 71 Reconnecting Neighborhoods

The city of Kansas City, MO, received a RAISE grant in the amount of \$5 million for a planning project to reconnect the neighborhoods split by US 71. This planning project includes a Planning and Environmental Linkages study, National Environmental Policy Act analysis, and conceptual design for US 71, from 85th Street north to Dr. Martin Luther King Jr. Boulevard in Kansas City. This project will create safe, accessible, nonmotorized travel routes for a multimodal transit system that eliminates mobility barriers and reconnects an underserved community bisected by a six-lane highway, demonstrating quality of life and connectivity benefits.

### Valentine Pontoon Bridge Replacement

The parish of Lafourche, LA, received a RAISE Grant in the amount of \$2,626,679 to replace the existing closed, dilapidated Valentine Pontoon Bridge over Bayou Lafourche on State Highways 1 and 308 between Lockport and Larose with a more modern pontoon bridge. The project supports environmental sustainability and economic competitiveness. The new bridge structure will reduce environmental harm and maximize the hydraulic flow of the Bayou Lafourche. By reopening the bridge, the project will decrease travel time between small rural communities, cut the travel distance between Lockport and Larose in half, and improve emergency response time. The bridge will also increase opportunities for redevelopment of a former industrial site and access to employment centers for a historically disadvantaged community.





Meaningful engagement can inform design and deployment of TSMO strategies that address issues raised by community members.

Source: FHWA.

Improvement (CMAQ) Program provides funding for transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not meet national air quality standards. By not considering a broader view, when CMAQ funding is used for a project to improve vehicular traffic flow, signal timing related to that project may result in longer wait times for bicycle and pedestrian crossings. Improved vehicular traffic flow could also result in higher traveling speeds or intersection designs that are better for motorized vehicles but less safe for bicyclists and pedestrians. Another opportunity to integrate equity into operations is through the deployment of TSMO strategies, such as snow removal, freeway service patrols, or micromobility options. Equity considerations can be incorporated in the criteria used for determining the geographic distribution of the operation services.

An approach that seeks to meet the needs of all users of a given transportation facility or service leads to transportation equity. Though there are often competing priorities within a project for agencies to address, defining transportation equity and the goals or factors considered for achieving it is important.

Developing equity goals helps a transportation agency better define the issues to be addressed and supports the identification of TSMO-related solutions to communicate to the public the role that TSMO can play in creating an equitable transportation system.

Professional transportation organizations like the American Association of State Highway and Transportation Officials have also pushed for equity in its practices. The AASHTO Committee on Transportation Systems Operations (CTSO) established a Diversity, Equity, and Inclusion Task Force. Originally developed in 2018, CTSO's policy and procedures were recently updated to state the value of diverse participation and its commitment to "ensure diversity, equity, and inclusion in conducting the committee's business," and procedures to enhance equity in its committee work. The task force has organized webinars and sessions at committee meetings to engage members in discussion and sharing of their State's efforts to incorporate equity in transportation projects and business practices.

Operations staff can look for other opportunities to engage the public in identifying transportation needs that might be addressed through TSMO. For example, Metro, the Federally designated MPO for the Portland, OR, region, developed a TSMO strategy document that puts equity at the forefront of their transportation system planning. Metro began the transportation system planning process by creating an equity decision tree. (<https://www.oregonmetro.gov/sites/default/files/2021/05/18/Equity%20Decision%20Tree.pdf>) The equity decision tree was built upon evaluations supporting the 2018 regional transportation plan and more focused equity studies for arterial projects. Those efforts,

in turn, were founded on a 2016 Metro plan to advance racial equity, diversity, and inclusion. The roots of this equity decision tree—which is used to address the barriers experienced by people of color and other disadvantaged groups—are three questions:

- Context: "What are the transportation disparities or inequities that exist in the context of TSMO that affect quality of life?"
- Choices: "How can TSMO affect transportation choices broadly as well as meet individual needs in historically marginalized communities and expand their access to economic, health, and recreational opportunities?"
- Voices: "Who is voicing a problem and related impacts? What steps follow regional efforts to build capacity to meaningfully participate, including for people without formal organization or influence?"

Regular public engagement for a transportation project can build public trust and give a voice to those who are impacted. This feedback can inform design and deployment of TSMO strategies that address issues raised by these community members. This engagement also provides transparency in how solutions are identified and what factors are considered in selecting and implementing solutions. Additional public involvement beyond a project's planning phase can also help agencies understand whether the proposed solutions will result in the intended outcomes.



FHWA is continuing to explore opportunities for State and local transportation agencies to advance TSMO while simultaneously considering and supporting transportation equity. This effort will lead to sharing noteworthy practices and ideas.

**EWA FLOM, PE., M.B.A.** is the senior advisor for FHWA's Office of Operations where she initiates and conducts projects to support the program mission and goals. She earned a B.S. in Civil Engineering from Florida State University and an M.B.A. from George Mason University. She is a registered professional engineer in the Commonwealth of Virginia.

For more information, visit:

*Community Impact Assessment: A Quick Reference for Transportation:* <https://rosap.ntl.bts.gov/view/dot/50870>

RAISE Discretionary Grants website: <https://www.transportation.gov/RAISEgrants>

The INFRA Grants Program website: <https://www.transportation.gov/grants/infra-grants-program>

Thriving Communities Program website: <https://www.transportation.gov/grants/thriving-communities>

Cramer Hill Access Improvements/Truck Management Study—Camden, NJ: [https://www.fhwa.dot.gov/livability/cia/resources/cramer\\_hill/](https://www.fhwa.dot.gov/livability/cia/resources/cramer_hill/)

The Role of Transportation Systems Management & Operations in Supporting Livability and Sustainability: A Primer: <https://ops.fhwa.dot.gov/publications/fhwahop12004/fhwahop12004.pdf>

Score:	Equity, Multimodal Options, and Quality of Life Criterion	Example
0	The project negatively impacts this project outcome area.	NA
1	The project's claimed benefits in this outcome area are plausible but minimal OR the project's claimed benefits in this area are not plausible.	<p><b>Example 1:</b> The project sponsor has developed and published a general equity policy statement for their agency but has not demonstrated any other equity considerations for the actual project.</p> <p><b>Example 2:</b> The project sponsor has created additional multimodal access in conjunction with the project, but only as a minimum project requirement, and not as a result of intentional planning efforts.</p>
2	The project produces non-trivial, positive benefits in this outcome area that are well supported by the evidence in the application.	<p><b>Example:</b> The project sponsor is supporting workforce development programs, including labor-management programs, local hire provisions, and incorporating workforce strategy into project development in a manner that produces non-trivial benefits.</p>
3	The project produces <i>significant</i> , transformative benefits in this outcome area, that are well supported by the evidence in the application.	<p><b>Example:</b> The project sponsor includes new and/or greatly improved multimodal and transit access across previously bifurcated disadvantaged neighborhoods, and demonstrates how specifically the disadvantaged neighborhoods will be positively impacted, and how those improvements were as a result of intentional planning and public input.</p>

Source: USDOT. ([https://www.transportation.gov/sites/dot.gov/files/2022-05/FY22%20Multimodal%20Project%20Discretionary%20Grant%20-%20NOFO\\_Amendment%201%20.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-05/FY22%20Multimodal%20Project%20Discretionary%20Grant%20-%20NOFO_Amendment%201%20.pdf))





# Meeting Transportation Goals with Equity

The Colorado Department of Transportation successfully addresses key transportation needs and provides equitable benefits within low-income and minority communities through its Central 70 Project.

by **SHAUN CUTTING**

Imagine a 6,267-foot-long (1,910-meter-long) bridge at the end of its useful life, crumbling. Yet, it still serves as an economic backbone for the State of Colorado, carrying major, daily traffic—over 220,000 vehicles a day—in the middle of a low-income and minority community in northeast Denver. This bridge, known as the Interstate 70 (I-70) viaduct, is located in a zip code known as the most polluted area in the Nation. How can these transportation issues—infrastructure deterioration, gridlock, and environmental hazards—be solved? More specifically, how can they be solved while providing the historically underserved communities with the same benefits afforded to everyone else utilizing the highway facility?

The Colorado Department of Transportation (CDOT) decided to collaborate with the affected neighborhoods to find a solution. CDOT, in an unprecedented manner, worked closely with the local community to understand, from their perspective, how to address the major concerns. After 14 years in the National Environmental Policy Act (NEPA) process (between 2003 and 2017), with countless hours spent evaluating different alternatives, CDOT developed a mitigation plan with the surrounding community that would ensure that they would have equitable access to the benefits offered by the highway improvements. Ultimately, CDOT committed to replacing the I-70 viaduct with a tunnel and a 4-acre community park built over the interstate.

## Project Background and Community Impacts

CDOT's plan eventually evolved into the Central 70 Project, which involved:

- Rebuilding a 10-mile stretch of I-70 between Brighton Boulevard and Chambers Road.
- Adding a new toll express lane in each direction.

Aerial view of new 4-acre park built over Interstate 70 in Colorado.

© 2022 CDOT.





- Removing the aging, 57-year-old I-70 viaduct.
- Placing a portion of the interstate in a 1,000-foot (305-meter) tunnel.
- Creating a 4-acre public park over a portion of the tunnel.

To implement these improvements and upgrades, CDOT worked with many stakeholders to understand and address concerns. Most notably, the agency worked with the residents of Globeville and Elyria-Swansea (GES), two low-income, minority neighborhoods negatively impacted by the I-70 viaduct's construction in the 1960s. Given the history, these communities opposed widening the interstate; some GES residents wanted I-70 completely removed from the area.

"They came through neighborhoods, tore neighborhoods up, [and] divided neighborhoods. [They] ended and destroyed businesses and the livelihoods of many people without apology or without engagement," says current Mayor of Denver Michael Hancock, referencing highway construction's history of perpetuating racial injustice. Hancock believes it is important that neighborhoods impacted by transportation projects have a loud voice.

CDOT embraced the loudness in carrying out an unprecedented outreach

effort to the surrounding communities. The outreach process was designed to be personal and extensive; it began at a one-on-one level and expanded to bring together the many interests in the corridor. A variety of opportunities were made available for the community to get involved and stay informed about the project, including:

- Hiring residents from nearby neighborhoods to help share project information.
- Using flyers to notify residents and local businesses of meetings to discuss the project.
- Conducting door-to-door outreach as a first contact in many neighborhoods.
- Holding block meetings within neighborhoods.
- Attending neighborhood association meetings and business meetings.
- Conducting neighborhood and larger corridor-wide meetings.
- Providing translation, childcare, and meals at meetings.
- Establishing working groups to address specific issues.
- Involving the media in a proactive manner.
- Meeting frequently with local and State elected officials.

Other outreach activities included

creating, publishing, and distributing newsletters, mailings, and advertisements; publishing a website; and organizing monthly meetings with community leaders, telephone town halls, and public sit-down meetings (with small tables for exchanging information with participants).

Despite a unique outreach effort by CDOT to reach as many members of the surrounding communities as possible—and after the project's initial Draft Environmental Impact Statement (DEIS) was published in 2008—the message from the community was clear: It wasn't acceptable to simply widen the existing interstate in their back and front yards. If CDOT was going to be successful in addressing Colorado's transportation needs, they had to take a step back to rethink the entire situation.

With the communities unsatisfied with the levels of mitigation offered, CDOT and the Federal Highway Administration remained determined to better understand the impact of the Central 70 Project on the communities. The two government agencies agreed they needed to establish a process that brought the community leaders to the table alongside other project stakeholders to exchange ideas more effectively. The result was the creation of the I-70 East Preferred Alternative Collaborative Team (PACT).





Early phases of the Interstate 70 viaduct construction project.

© 2021 CDOT.



The PACT involved a group of stakeholders representing Federal and State agencies, local governments, and community and business interests. At the conclusion of this planning process (after meeting monthly for over a year), CDOT agreed to consider replacing the I-70 viaduct, lowering it underground, and building a public park over the interstate. CDOT also decided to establish a job program and continue to incorporate community feedback into the project construction. Although there were still some that wanted I-70 relocated, this concept, called the partially lowered alternative, garnered enough support from residents for CDOT to move forward in the NEPA process—an FHWA-led review process to ensure transportation agencies consider potential impacts to the social and natural environment when planning highway projects.

A supplemental DEIS was re-issued by CDOT in 2014, adding the alternative to replace the elevated interstate structure with a lowered interstate roadway. CDOT then began to work on finalizing their preferred alternative and exploring more options for effective mitigation. In 2017, each of the mitigation concepts were finalized as commitments in the Record of Decision (ROD)—the final step in the environmental NEPA process. In August 2018, at the groundbreaking ceremony, then-FHWA Deputy Administrator Brandye L. Hendrickson noted that “the Central 70 Project will give more options to the people of Colorado along one of the State’s most economically important routes.”

### Mitigation: New Community Park

Building a public park on top of a roadway was a novel project for CDOT; having never done it before in Colorado, CDOT wanted to first gather lessons learned from other States. FHWA provided such help via their Technology Transfer (T2) Program that aids in implementing innovation at the Federal, State and local levels. CDOT was awarded a T2 grant and worked with the FHWA Colorado Division to facilitate a trip to Washington State and Texas. The two States previously constructed covers over their interstates and parks on top of them to benefit the adjacent communities. With these trips, CDOT and local officials,

including community members, were able to talk with other State and local officials about their experiences with collaborating with community members. They were also able to talk with engineers to understand lessons learned and best practices in addressing elements common to this type of project (e.g., drainage, utilities, and security).

Ultimately, with the expertise and knowledge gained from feedback and exchanges, CDOT designed and built the park to unite the Elyria-Swansea neighborhoods, split by the I-70 viaduct’s construction on opposite sides of the roadway. A ribbon-cutting ceremony was held in November 2022 marking the completion of the I-70 viaduct renovations. The newly created public space will feature a small amphitheater, a splash park, a sports field, play areas, more than 100 new trees, and room for farmers’ markets and community events. The park will be instrumental in enhancing community cohesion and connectivity. A sentiment shared by Denver Councilwoman Debbie Ortega: “Working collaboratively with the State and local partners, we were able to achieve unprecedented commitments to the community, including the park that is opening here today.”

Colorado Governor Jared Polis spoke at the ribbon-cutting ceremony and was proud of what came to fruition: “It’s really one thing to have seen this drawn on paper years ago, it’s another to be standing here with a field on one side, an amphitheater, and a state-of-the-art playground on the other side, really seeing the power of community and the power of connectivity.”



With Interstate 70 running quietly underneath, a view of the new playground, splash park, amphitheater, and soccer field.

Source: FHWA.





One of the many playground features constructed and unveiled in November 2022 as part of the new community park on top of Interstate 70.

Source: FHWA.



Sitting atop of Interstate 70, a view of the artificial turf soccer field where members of the community can gather, play, and exercise.

Source: FHWA.

## Mitigation: Hiring Individuals from Local Communities

Another clear message from meeting with the surrounding communities appeared: if CDOT was investing over a billion dollars on the estimated 5-year construction project—further disrupting the community’s quality of life—residents wanted access to the high-paying construction jobs that were sure to accompany the renovations. Hence, CDOT requested a local hiring and workforce development program for the project from FHWA. Though local hiring preferences are not typically allowed per Federal requirements, FHWA was willing to pilot the program to provide employment opportunities to the surrounding communities bearing the brunt of construction.

Utilizing funding from the U.S. Department of Transportation’s Ladders of Opportunity initiative, CDOT, in 2016, partnered with the Community College of Denver’s (CCD) Center for Workforce Initiatives to establish an overarching workforce program called WORKNOW. This program specialized in placing, retaining, and advancing workers on the Central 70 Project (as well as on future regional infrastructure projects). Through various outreach events and partnerships, CDOT, WORKNOW, and CCD were able to catch the attention of a local private foundation, Gary Community Investments. The foundation invested nearly \$2 million into the workforce development program that mitigated barriers to employment, such as the affordability of personal protective equipment, transportation, and childcare. Unlike the I-70’s original construction, community members could financially benefit and establish careers through the Central 70 Project.

To date, the Central 70 employment training program has proved to be a huge success. Over 600 individuals have completed the training program, and CDOT exceeded their on-the-job training goal of 200,000 hours.

## Mitigation: Tolling Discount Program

A common concern from all parties, including CDOT, was how to build toll lanes through a low-income area without excluding the area’s residents in having equitable access to the new lanes. To address this issue, a commitment to add a discount program was added into the NEPA ROD. When the project was nearly two years from being completed, the High Performance Transportation Enterprise (HPTE), a government-owned business within CDOT, embarked on a year-long process to fulfill the commitment and provide discounted access to the toll lanes for the GES neighborhoods. HPTE, now known as the Colorado Transportation Investment Office (CTIO), has the legal responsibility to seek out opportunities for innovative and efficient means of financing and delivering important surface transportation infrastructure projects in the State.

The discount program included significant engagement with peer agencies nationwide, including FHWA, the GES community, and other local stakeholders. With equity and the environment being key focus areas for the Federal government, FHWA Colorado Division frequently communicated with their Office of Environment to keep them informed throughout the program’s development.

Like the park’s construction above the I-70 tunnel, this initiative was the first tolling discount program in Colorado. CDOT first reached out to five agencies around the country that had implemented, or were implementing, a similar toll program and collected best practices and lessons learned. This exchange of knowledge provided CTIO with an intellectual foundation for developing its tolling discount program.

A short time later, CTIO established a steering committee and stakeholder advisory group to guide the process. Numerous meetings were held with the steering

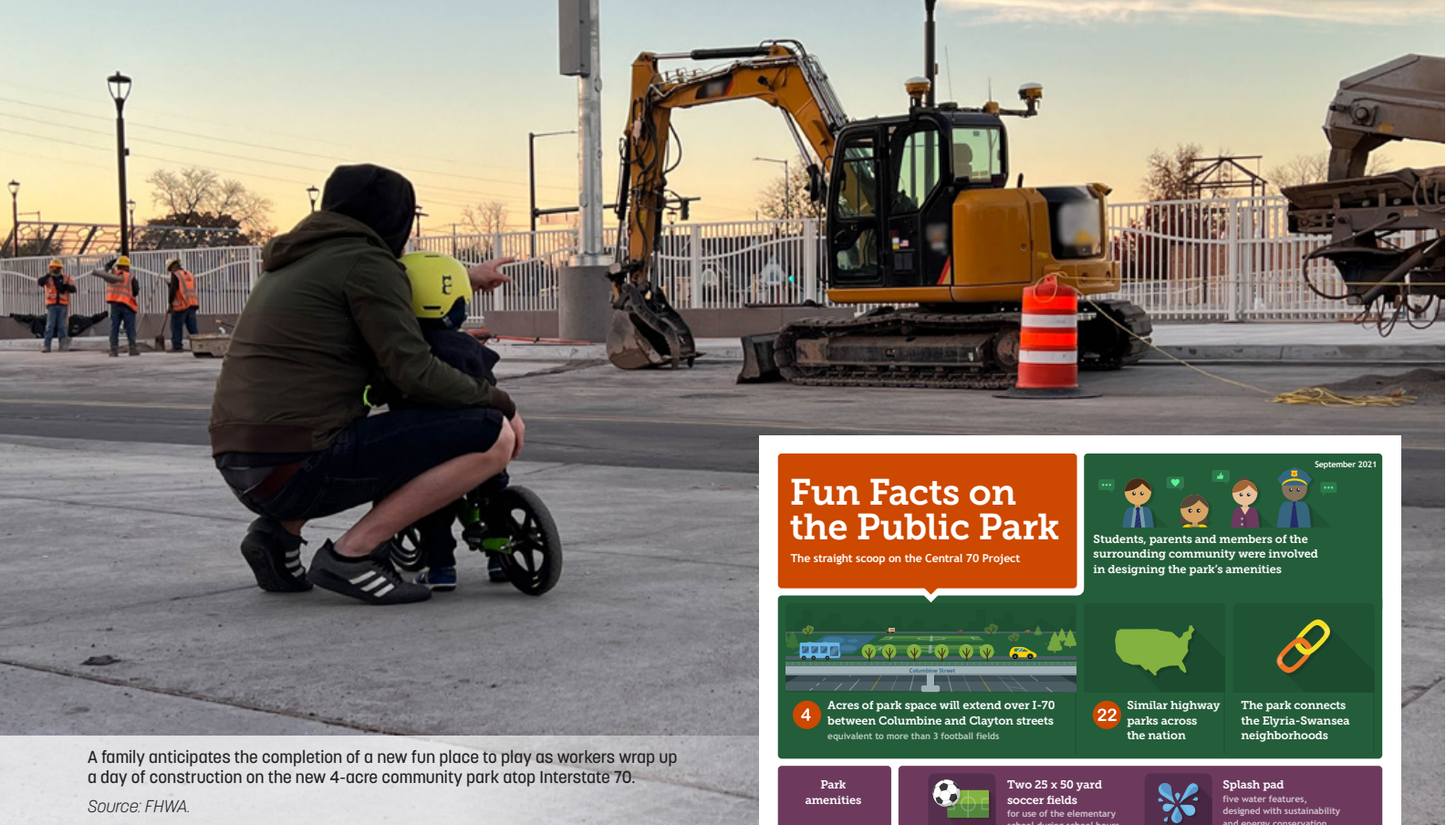
committee, stakeholder advisory group, GES residents, and Denver City council members. A public survey was also circulated to residents to solicit feedback and gain an understanding of the community’s needs and travel patterns. The survey was particularly successful, garnering almost 300 responses. The survey responses along with the information from interviews conducted with the five agencies (State departments of transportation, counties, and a metropolitan planning organization) and information on the committee meetings can be found in CTIO’s “Central 70 Globeville & Elyria-Swansea Tolling Equity Program Memorandum” (<https://www.codot.gov/programs/ctio/agenda-item-documents/2022-agenda-item-documents/march-2022/5-central-70-ges-tolling-equity-program.pdf>).

Finalizing the details of the discount program (such as deciding the discount program eligibility requirements, ideal type of discount program, program funding structure, and program length) took significant effort. After nearly a year-long effort of collaboration, CTIO developed a program with the following two main highlights for participants:

- Free in-vehicle transponders (devices that automatically charge for road use) with a \$100 credit to express toll accounts the first year.
- For future years, the option of free transit passes or additional credit applied to express toll accounts (a split based on input provided by GES residents).

Transit passes from the Regional Transportation District—metro Denver’s transit agency—would be provided to the community. CTIO also coordinated with local organizations to become distribution centers to create accessible locations for eligible residents to pick up passes. Eligibility requirements include being a resident of GES with an income below the 200 percent Federal poverty level household income threshold





A family anticipates the completion of a new fun place to play as workers wrap up a day of construction on the new 4-acre community park atop Interstate 70.

Source: FHWA.

(an exception is granted for any displaced household members due to the Central 70 Project). Approximately 5,623 GES residents were eligible for the program, corresponding to just over half (53 percent) of all households in these communities. Funding for this program will come from CTIO's commitment to dedicate 15 percent of the net toll revenues from the Central 70 toll managed lanes.

### Mitigation Goals Met

Although it took a significant amount of time and resources, CDOT was successful at meeting their critical infrastructure goals by listening and establishing partnerships. When a construction project affects the lives of those in surrounding communities, it is necessary to spend the time to understand the surrounding communities' perspectives on those impacts and engage them in the development of mitigation plans. Similarly, learning from and listening to State and Federal agencies, city and county governments, and local organizations should also be intuitive. CDOT did all these things to such a high degree, and the outcome is a world-class I-70 facility not only for use by more than 220,000 vehicles a day, but also for use by the communities that have the interstate in their backyard. For these communities, the new I-70 facility reduces noise and dust pollution and restores connectivity and community cohesion. "We can't turn back time and change the fact that a highway was built through the middle of this neighborhood, an emblem of how infrastructure was built in the 1950s and 1960s," says Stephanie Pollack, former acting administrator of FHWA. "But we can be very clear moving forward. The purpose of transportation must always be to connect and not separate. And

## Fun Facts on the Public Park

The straight scoop on the Central 70 Project

September 2021

Students, parents and members of the surrounding community were involved in designing the park's amenities

**4** Acres of park space will extend over I-70 between Columbine and Clayton streets equivalent to more than 3 football fields

**22** Similar highway parks across the nation

The park connects the Elyria-Swansea neighborhoods

**Park amenities**

- Two 25 x 50 yard soccer fields for use of the elementary school during school hours
- Amphitheater artfully designed pavilion structure with tree-lined events lawn

**Splash pad**

five water features, designed with sustainability and energy conservation

**Tot lot and additional playground area**

1,500 square feet with seat walls for easy supervision

**100+** Number of trees that will be planted

**1,450** People the events lawn can accommodate

**2023** Year the park will open to the public

**2012** Year the concept of building a park over I-70 was first presented to the public

**Did you know?**

- The "bookends" or areas that extend west of Columbine and east of Clayton streets were added to the design and paid for by the City and County of Denver.
- An adventure playground with iconic climbing equipment is one of the elements in the east side community space.
- Public restroom facilities, bottle-filler and drinking fountains will be available.

[i70.codot.gov](http://i70.codot.gov)  
 Hotlines: 833-C70-INFO  
 Text: Central70 to 77948

Central 70

Fun facts about the new Interstate 70 park.

@ 2021 CDOT.

“faced between the choice of wallowing in the mistakes of the past and making new choices in the present for the future, we must choose to build our infrastructure with the intention and impact of connecting our communities.”

**SHAUN CUTTING**, a licensed professional engineer, is a program delivery team leader with the FHWA Colorado Division Office and holds a bachelor's degree in engineering from Union College.

For more information, see <https://www.codot.gov/projects/i70east>.





Sessions like the AASHTO RAC Annual Meeting bring together transportation professionals to share innovation and knowledge, and expand partnerships.

@Moiram / AdobeStock.com.

*Along the Road is the place to look for information about current and upcoming activities, developments, trends, and items of general interest to the highway community. This information comes from U.S. Department of Transportation sources unless otherwise indicated. Your suggestions and input are welcome. Let's meet along the road.*

## Public Information and Information Exchange

### AASHTO RAC Meeting Slated for July

Twice every year, subject matter experts from the Federal Highway Administration attend the American Association of State Highway and Transportation Officials (AASHTO) Research Advisory Committee (RAC) Annual National Meeting. While one session is conducted on the Sunday before the Transportation Research Board Annual Meeting in January, the second meeting is a more extensive four-day event in July—where transportation professionals gather in one of the four AASHTO regions. Each of the four regional RACs typically meet once a month as well.

The RAC community serves as an advocate for transportation by promoting the value of research and applying research findings to improve State transportation systems, and supports the activities of the Special Committee on Research & Innovation. FHWA's participation in regional and national RAC meetings provides division office research coordinators with firsthand knowledge. FHWA has traditionally used a multipronged approach to the deployment of transportation innovations, including collaboration.

In years past, Dr. Kelly Regal, the Associate Administrator for Research, Development, and Technology (RD&T) and the Director of TFHRC, has been an active participant in this event.

In 2021, Dr. Regal participated in panel discussions, while other FHWA staff presented updates on the State Planning and Research (SPR)-Subpart B Program—the regulatory actions and eligibility activities—as well as an overview and update on the Transportation Pooled Fund Program.

In 2022, Dr. Regal delivered a presentation entitled, “FHWA Update for AASHTO RAC: View From the Top,” where she gave attendees an overview of the impacts of the Infrastructure Investment and Jobs Act, the current status and look ahead at RD&T activities, and updates on SPR.

The 2023 AASHTO RAC meeting is scheduled for July 24-27, 2023.

### 2022 NLTAPA's National Program Achievement Awards

Formed in 1991, the National Local Technical Assistance Program Association (NLTAPA) represents the Local Technical Assistance Program (LTAP) and Tribal Technical Assistance Program (TTAP) member centers across the Nation and Puerto Rico. LTAP assists State and local highway agencies in maintaining and rehabilitating roads and bridges; TTAP provides transportation training and technical assistance to Tribal communities.



The National Program Achievement Award is presented by NLTAPA to individuals in recognition of their dedication, leadership, and effectiveness in promoting the goals and purposes of the association. The 2022 award recipients, announced at the LTAP/TTAP Annual Conference, included Dr. Earl “Rusty” Lee (director of the Delaware Center for Transportation and the director of the Delaware T<sup>2</sup>/LTAP Center) and Kim Carr (program coordinator of Operations, Outreach, and Communication at the West Virginia LTAP Center). Lee and Carr, in their 35 years of combined LTAP service, have demonstrated leadership and a commitment to work collaboratively with partners and peers nationwide. NLTAPA notes that both individuals demonstrate true dedication to going above and beyond in support of the association as well as the transportation industry and related workforce.

For more information and a listing of State LTAP Centers and representatives, visit: <https://nltapa.org/member-centers/>.

### More Pedestrians Killed in Evening Hours

An important piece of safety data led the Federal Highway Administration to publish the *Pedestrian Lighting Primer* in April 2022—most pedestrian fatalities resulting from vehicles occur during nighttime hours. This primer was published as a resource for transportation practitioners, especially those professionals installing and improving pedestrian lighting at locations with existing and future pedestrian activity.

According to the 2022 primer, lighting plays a key role in increasing the safety performance of the road network for all users.

Crossing the street can oftentimes be a tricky task for pedestrians. Pedestrians must predict vehicle speeds; when drivers will slow down or stop; and how to time crossings safely. Under low light or nighttime conditions, these types of predictions are made more challenging by vehicle headlights, which can make it more difficult to correctly judge vehicle speeds and the relative

location of a vehicle to a crosswalk. The primer also affirms that, “Effective pedestrian lighting installations are a means of addressing the vulnerability of pedestrians during dark conditions and improving the safety and security of all road users spanning different ages and abilities, including wheelchair and other mobility device users.” To review the primer in its entirety, visit, [https://safety.fhwa.dot.gov/roadway\\_dept/night\\_visib/docs/Pedestrian\\_Lighting\\_Primer\\_Final.pdf](https://safety.fhwa.dot.gov/roadway_dept/night_visib/docs/Pedestrian_Lighting_Primer_Final.pdf).



Lighting plays a key role in increasing the safety performance of the road network for all users.

Source: FHWA.

## Technical News

### Houston ConnectSmart App

Houston ConnectSmart is a new smartphone mobility app, a one-stop shop for mobility options, designed for Houston, TX, and launched in September 2022. The app is part of an effort to help residents beat Houston traffic and improve the region’s air quality by providing a more connected, less congested commuting experience. With the app, users can:

- Discover sustainable mobility options (carpooling, biking routes, and transit).
- View real-time traffic information including travel times, delays, and traffic incidents.
- Plan and schedule trips by seeing and using different transportation modes and services.
- Get turn-by-turn navigation for their selected trip for all travel modes.
- Find on-street and parking lot availability and be navigated to it.
- Access no-cost emergency roadside services.



- Plan, buy, store, and use bus and light rail tickets.
- Receive alerts when entering school zones, helping protect vulnerable road users.
- Access roadside cameras to view conditions along their route.
- Receive notifications before a trip about disruptions along upcoming routes.
- Find and plan trips using available bikeshare rentals.
- Earn rewards for free transit tickets and gift cards.

The Texas Department of Transportation (TxDOT) Houston District received an Advanced Transportation and Congestion Management Technologies Deployment grant from the U.S. Department of Transportation. With it, and alongside regional partners, they launched the app with the safety, reliability, and efficiency of Houston’s regional transportation system in mind as well as maintaining the area’s quality of life and economic vitality.

For more information visit the ConnectSmart website: <https://www.houstonconnectsmart.com/>

ConnectSmart is a smartphone mobility app designed for Houston to help residents beat traffic congestion, improve air quality, and provide different mobility options.

© TxDOT.



## Policy, Regulations, and Grants

### FDOT Awarded \$37 Million to Enhance Transportation Safety

In August 2022, the Florida Department of Transportation—in collaboration with the U.S. Department of Transportation—announced two grants to help reduce barriers to affordable transportation for all Americans. This reduction of barriers will improve access to jobs, schools, and healthcare for members of the traveling public without favor or bias.

With over \$37 million in recent funding, the first grant—with \$25 million—will be used to enhance safety along the Florida East Coast Corridor, which stretches across Miami-Dade, Broward, Palm Beach, Martin, St. Lucie, and Brevard counties. The construction of supplemental safety measures at 328 roadway-railroad grade crossings and installation of 33 miles of pedestrian protection features is included in this grant.

The second grant, utilizing the remaining \$12 million for technology, will go to improve the movement and safety of residents and visitors to the city of St. Augustine. The city of St. Augustine—as the Nation's first city and home of the Florida School for the Deaf and Blind—attracts millions of visitors each year; hence, accessibility to better parking and travel information is needed as well as smart traffic signals, sensors to detect street flooding, audible crosswalk signals; and mobility hubs with information kiosks for parking, bicycles, and electric vehicle charging.

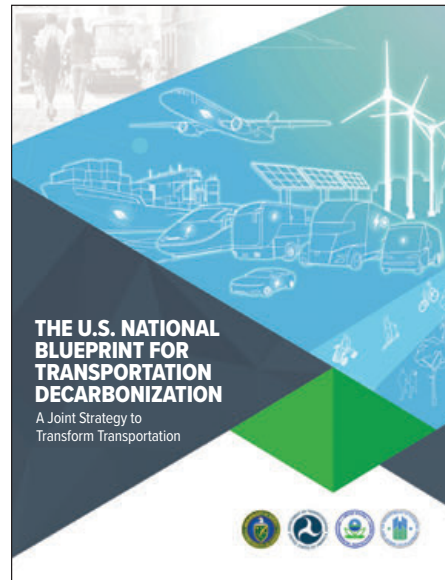
For more information, visit <https://www.fdot.gov/info/co/news/2022/08122022>.

### Wilmington MPO Amends Inequities with Transportation Justice Initiative

The Wilmington Area Planning Council (WILMAPCO), a metropolitan planning organization (MPO) in the State of Delaware, has established a transportation equity initiative that was 20 years in the making. In carrying out the transportation planning process for New Castle County, DE, and Cecil County, MD, WILMAPCO created the Transportation Justice (TJ) Plan from nearly six other initiatives the MPO generated through the decades. With each initiative building upon the next, WILMAPCO gathered all equity-related MPO and Federal requirements (i.e., Title VI, Environmental Justice, Americans with Disabilities Act, and Limited English Proficiency) into a single, comprehensive plan.

The TJ initiative, designed in conjunction with partner agencies, does not employ a one-size-fits-all approach to all neighborhoods and projects. It utilizes several different indices to identify communities facing barriers (e.g., environmental justice neighborhoods, areas of high social determinants of health concern, and urban technology deserts), and investigates an area's transportation affordability, multimodal connectivity, and crash frequency. The identification of such communities informs how projects are prioritized as well as community engagement considerations and technical equity analyses. For example, to yield an accurate depiction of an area's multimodal connectivity, an assessment is conducted from each housing unit to key destinations (e.g., work, education, healthcare, and grocery stores) by car, walking, biking, and bus. This information enables analysis of connectivity equity for project alternatives to be better weighed against one another and for stronger performance measurement.

For additional information, and to view the latest TJ initiative, visit <http://www.wilmapco.org/tj/>.



The U.S. National Blueprint for Transportation Decarbonization is the roadmap for how the American transportation system can provide better options, expand affordable and accessible options to improve efficiency, and transition to zero-emission vehicles and fuels.

Source: USDOT.

### First-Ever National Blueprint for Transportation Decarbonization

In January 2023, the U.S. National Blueprint for Transportation Decarbonization: A Joint Strategy to Transform Transportation (the *Blueprint*) was published—a first-of-its-kind, interagency framework of strategies and action plans to remove all greenhouse emissions from the transportation sector by the year 2050.

Created via a partnership between the Departments of Energy, Transportation, Housing and Urban Development, and Environmental Protection Agency, the *Blueprint* calls upon actions from Federal, State, local, regional, and Tribal governments, non-profit and philanthropic organizations, and private industry to address the growing climate crisis via a series of timed, coordinated behaviors. For example, years prior to 2030 will address research and investments to support the deployment of clean solutions; 2030-2040 will scale up the deployment; and 2040-2050 will support the full transition to a sustainable and equitable future.

A well-planned transition will help counter the negative effects emissions have on the health and well-being of millions, especially those in disadvantaged communities across the Nation. The transportation sector accounts for a third of all domestic greenhouse gas emissions, and transportation costs are the second largest annual household expense for the poorest Americans. In implementing the *Blueprint*, a decarbonized transportation system will result in more affordable and accessible transit options, more clean-energy transportation technologies, and more well-paying jobs in all segments of the transportation sector.

January's release of the *Blueprint* coincided with the Transportation Research Board's Annual Meeting held in Washington, D.C., where components of the *Blueprint* were discussed by many in leadership including U.S. Transportation Secretary Pete Buttigieg's extensive conversation on the opportunities and benefits of utilizing electric vehicles.

For more information, visit <https://www.energy.gov/eere/us-national-blueprint-transportation-decarbonization-joint-strategy-transform-transportation> and [https://www.transportation.gov/sites/dot.gov/files/2023-01/Factsheet\\_TransportationDecarbBlueprint2023.pdf](https://www.transportation.gov/sites/dot.gov/files/2023-01/Factsheet_TransportationDecarbBlueprint2023.pdf).





## Why Use Data Driven Safety Analysis (DDSA)?

by **THOMAS ELLIOTT** and **SABRINA SYLVESTER**

**D**ata Driven Safety Analysis (DDSA) provides evidence-based models that demonstrate how to quantify the safety impacts of transportation systems. Transportation professionals can effectively identify, apply, and explain DDSA to make the best decision in a transportation project's planning and process development.

The Federal Highway Administration's (FHWA's) National Highway Institute (NHI) developed new virtual training that provides information on how to use reliable analysis methods to make informed decisions and successfully discuss the results with transportation peers and the community-at-large.

### Achieving successful DDSA with NHI

The Introduction to Data Driven Safety Analysis (DDSA) (FHWA-NHI-380125), is a Web-based Training (WBT) that identifies and applies data-driven analysis for safety protocols in transportation systems. Participants will learn aspects of DDSA, including its terminology and benefits, how it impacts the transportation system's safety performance, and the application of analysis results on performance-based decisions.

Additionally, participants will learn of possible restrictions of current safety analysis methods (e.g., crash frequency and rate) and more reliable methods (e.g., predicted and expected crashes). Also, learners will be able to determine the appropriate scale and scope of safety analysis efforts and associated data requirements.



Source: NHI.

Knowledge from this WBT will provide transportation professionals the tools to effectively communicate findings with other transportation professionals and the public, supporting the disbursement of public funds for programs and projects to achieve well-defined performance goals. DDSA will provide decision-makers with the tools necessary to ensure safety protocols are in place for transportation systems. Visit NHI's website and register for this dynamic, engaging WBT.

### How to Attend or Host a Course

NHI invites all transportation professionals interested in a course to visit <https://www.nhi.fhwa.dot.gov/> to learn more about registering or hosting a course. The course catalog lists over 350 courses in 18 program areas.

NHI is an approved Accredited Provider by the International Accreditors for Continuing Education and Training (IACET). As an IACET Accredited Provider, NHI offers continuing education units for its programs that qualify under the American National Standards Institute/IACET Standard.

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