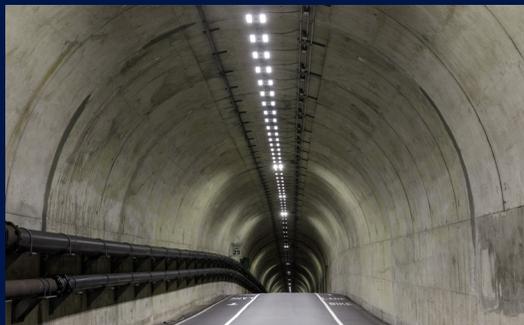
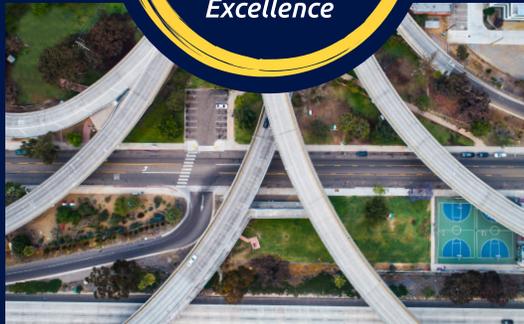


U.S. DOT  
**PROJECT DELIVERY**  
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# Delivering the Benefits of the Bipartisan Infrastructure Law

**A Thought Leadership Series** | Final Report



Sponsored by the U.S. DOT Project Delivery Center of Excellence  
at the Volpe National Transportation Systems Center

January 2024

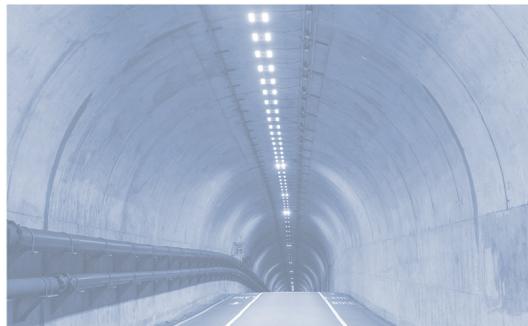
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*The views of the speakers may not represent the views of U.S. DOT.*



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# INTRODUCTION

The Bipartisan Infrastructure Law (BIL) represents a once-in-a-generation opportunity to rebuild our nation's infrastructure. Since President Biden signed the historic legislation on November 15, 2021, the Administration has announced nearly \$400 billion in BIL funding, including over 40,000 specific projects and awards, across over 4,500 communities in all 50 states, D.C., the territories, and for Tribes.

In October 2022, the Biden-Harris Administration released its [Action Plan for Accelerating Infrastructure](#), which outlined specific steps toward keeping those projects on time, on task, and on budget. One of those actions was to launch a new U.S. Department of Transportation (U.S. DOT) [Project Delivery Center of Excellence](#) at the Volpe National Transportation Systems Center. The goal is to support and educate recipients of federal funds—transportation infrastructure project managers in state, Tribal, local, regional, and territorial governments—in delivering transportation infrastructure projects more efficiently and effectively from concept to completion.

U.S. Transportation Secretary Pete Buttigieg launched the new U.S. DOT Project Delivery Center of Excellence and delivered keynote remarks at the kickoff of an eight-part thought leadership series on Delivering the Benefits of the Bipartisan Infrastructure Law in July 2023. The new Center of Excellence also launched its website, and a [Project Delivery Toolbox](#), which serves as a central repository for project delivery information and best practices across U.S. DOT. The toolbox provides resources and best practices organized by topic area—Public Engagement, Environment, Equity, Project Management, Financing, Pre-Construction, Risk Management, and Construction.



This document is the final report on the Delivering the Benefits of the BIL series, which ran from July to November 2023 and was moderated by U.S. DOT Volpe Center Director Anne Aylward. The virtual series was open to the public and designed for BIL project sponsors and other members of the transportation community working hard to help deliver infrastructure projects. More than 2,600 representatives from across the federal government, state and local agencies, tribal governments and organizations, the private sector, metropolitan planning organizations (MPOs), nonprofit organizations, academia, and international organizations attended the events. The series delved into multifaceted themes, ranging from identifying and managing common project delivery risks, embedding equity in project delivery, using National Environmental Policy Act (NEPA) review to define and shape better projects, and leveraging innovative approaches to finance and project delivery.

The series convened over 20 leading experts who provided viewpoints on these themes as well as best practices for project delivery and successful projects that make the transportation system safer, usher in a new era of clean energy and sustainable transportation, promote equity, connect communities, create good-paying jobs, and boost American manufacturing.

*This final report highlights some key takeaways and actionable insights from the series.*



# KEY TAKEAWAYS

The Delivering the Benefits of the BIL thought leadership series provided insights from experts and thought leaders on how to successfully deliver infrastructure projects and what that success looks like for communities. Throughout the series, leaders shared their expertise, insights, challenges, and best practices. This section highlights several common themes.

## **This is a once-in-a-generation opportunity to rebuild our nation's infrastructure.**

The BIL makes the largest investment in roads and bridges since the interstate system was built, the largest investment in transit in U.S. history, the greatest investment in passenger rail since the creation of Amtrak, and the largest investment in electric vehicle infrastructure in U.S. history. It is a monumental opportunity to transform our transportation system for the better. Now is the time to make good on that investment and deliver innovative projects that ultimately bring benefits to our communities. Progress is underway and, to date, over 40,000 projects have been awarded funding from the BIL. The finale event in the series commemorated the second anniversary of the landmark legislation and highlighted several impactful BIL projects that are currently being delivered.

## **Community and stakeholder engagement are key to successful project delivery.**

Fostering open communication and collaboration with communities and stakeholders significantly increases the likelihood of delivering successful, impactful projects with societal benefits. Early and sustained community and stakeholder engagement are vital to ensuring the success of a project. Community involvement fosters a sense of ownership and inclusivity, aligning a project's goals with the needs and values of those it affects.

By engaging stakeholders early on, a project gains invaluable insights, allowing for better planning, risk mitigation, and more effective decision making throughout the project lifecycle. This engagement also builds trust, encouraging cooperation and reducing potential conflicts. Moreover, stakeholders often bring diverse perspectives, expertise, and resources, contributing to innovative solutions and enhancing the project's overall quality and sustainability.

## **Ensuring equity in transportation is critical to delivery of projects that benefit communities.**

Equity in transportation plays a pivotal role in ensuring that projects benefit communities. For the first time, U.S. DOT has centered equity





as a Department-wide strategic goal. This is a critical step toward reducing inequities across our transportation systems and the communities they affect. When transportation systems are designed with equity in mind, they aim to provide fair and accessible options for all individuals, irrespective of their socio-economic status, race, or location. By addressing disparities in access to transportation, such projects can uplift underserved communities, granting them better connectivity to essential services like healthcare, education, and employment opportunities.

When equity is integrated into transportation projects, it enhances overall societal well-being by breaking down barriers and promoting economic development in historically marginalized areas. Moreover, an equitable approach fosters engagement with affected communities, incorporating their perspectives and needs into the project's design and implementation. This inclusive process not only ensures the delivery of projects that address specific community requirements, but also builds trust and social capital, strengthening the project's long-term sustainability and positive impact on diverse communities.

### **Alternative delivery methods can help to deliver projects more quickly and efficiently.**

Alternative delivery methods offer innovative approaches that can significantly contribute to successful project delivery. Using best value or alternative delivery methods—such as design-build, progressive design-build, and construction manager/general contractor—can help streamline project timelines, minimize delays, reduce costs, and accelerate project completion, enabling transportation infrastructure to meet and keep pace with evolving community needs.

Alternative delivery methods often encourage collaboration among stakeholders, promoting shared goals and risks and innovative problem solving. These methods also introduce flexibility and innovation into projects. They foster a more adaptive and responsive approach to project delivery, which is crucial in addressing complex challenges, allowing for the integration of new ideas or technologies that might not be feasible within traditional project delivery frameworks.

The key is to establish specific project goals and risks and then match the best project delivery tool to ensure project timetables and objectives are met.

# SERIES HIGHLIGHTS



Pictured left to right:  
Secretary Pete Buttigieg  
Bent Flyvbjerg  
Anne Aylward

## U.S. DOT Project Delivery Center of Excellence Launch and Thought Leadership Series Kickoff

July 26, 2023

**Pete Buttigieg**, U.S. Transportation Secretary

**Bent Flyvbjerg**, First BT Professor and Inaugural Chair of Major Programme Management, Oxford University's Saïd Business School and Villum Kann Rasmussen Professor and Chair of Major Program Management, IT University of Copenhagen

U.S. Transportation Secretary Pete Buttigieg launched the U.S. DOT Project Delivery Center of Excellence hosted at the Volpe Center and delivered keynote remarks at the first event in the series.

Professor Bent Flyvbjerg, the author of *How Big Things Get Done and Megaprojects and Risk*, joined the Secretary in a conversation about the importance of transportation infrastructure project delivery. Anne Aylward, U.S. DOT Volpe Center Director, moderated the event and the series.

Secretary Buttigieg noted that many of the event's almost 800 attendees across the transportation enterprise were a part of the story of the passage of the monumental BIL, and now it's time to be part of the story of "how we make good on its potential."

Now, these projects need to be built on time, on task, and on budget. The Secretary acknowledged that a large part of that work lies with non-federal entities—our state, Tribal, regional, territorial, local, and

industry partners—those who must deliver. Secretary Buttigieg underscored U.S. DOT's commitment to partnering with project sponsors to speed up project delivery and maximize and accelerate the benefits of the BIL. The Project Delivery Center of Excellence is one of the tools U.S. DOT is using to achieve such success. The Center of Excellence aims to bridge the gap between practitioners—those who plan, permit, design, construct and operate infrastructure projects—and leading thought leaders and academic researchers, to share perspectives, exchange expertise, and identify best practices. "We are optimistic about what can be done, but we also know that it won't happen on its own," said the Secretary. "The Volpe Center is such a great place to host this thought leadership [as] thought leaders for our Department and an extraordinary global hub for transportation expertise."

### Starting Projects the Right Way: "Slow Thinking" Prior to Acting Fast and Delivering

Secretary Buttigieg welcomed Professor Bent Flyvbjerg, whose extensive research in project management and project delivery aligns with the focus areas of the Project Delivery Center of Excellence and the series—advancing more efficient processes, collaboration, sharing of best practices, and rooting out the causes of delays and overruns. Starting projects the right way, long before construction begins, was the opening focus of the exchange. The Secretary asked Professor Flyvbjerg to share his insights on "slow thinking" prior to acting fast and delivering.

"It sounds like a paradox. But if you want to go fast, you've got to go slow first," Professor Flyvbjerg stated. He encouraged attendees not to run with their first idea, but instead, start with the questions: Why are

we doing this project, and how do we get to the desired outcome? He recommended spending a substantial amount of time answering both those questions and seeking feedback and input from project stakeholders. Once that has been ironed out and the project is in the delivery process, “you can actually move ahead fast, because you always know what you’re doing, and it’s well thought out and well programmed.”

### Project Successes and the Uniqueness Bias

The Secretary noted the importance of learning from both project failures as well as successes—and of identifying commonalities in successful projects.

Professor Flyvbjerg highlighted a few key elements in successful projects, particularly noting:

- Starting slow with an extended upfront period of planning, simulation, and experimentation
- Learning from other projects and avoiding the dangers of uniqueness bias and working in isolation.

Secretary Buttigieg and Professor Flyvbjerg engaged on how cognitive biases—particularly the uniqueness bias—is relevant in transportation project delivery. “Everything we work on is both unique and part of the class,” said Secretary Buttigieg. He referenced megaprojects such as the Hudson Tunnel Project in New York City and California High-Speed Rail Authority Project connecting San Francisco to Los Angeles—as first-of-kind, innovative projects that share fundamental principles, objectives, phases, regulations, stakeholders, and impact in the broader transportation domain.

Now is “the best chance probably in our lifetimes in the United States to transform our transportation systems for the better, to make communities safer, to make transportation cleaner, to advance equity, and to connect people to the resources, opportunities, and jobs that are going to shape their lives.”

#### **Pete Buttigieg**

U.S. Transportation Secretary



Secretary Pete Buttigieg, Volpe Center Director Anne Aylward, and Professor Bent Flyvbjerg at the series kickoff.

“You’re increasing the risk that your project is going to fail enormously if you don’t benefit from all the learning that is out there.”

#### **Bent Flyvbjerg**

First BT Professor and Inaugural Chair of Major Programme Management, University of Oxford’s Said Business School

“You’re unique, like everybody else,” Professor Flyvbjerg stated, further explaining that successful projects and leaders know that their project, no matter how singular it seems, typically falls into a project type. Leveraging the experiences and best practices from other projects in that type is critical for successful project delivery.

### Understanding and Managing Project Risks

Effective project delivery—and the U.S. DOT’s new Center of Excellence—must focus on understanding and managing project risks. Failure to address risk contributes to cost overruns and unnecessarily prolonged project schedules. Secretary Buttigieg and Professor Flyvbjerg shared their perspectives on how project sponsors and delivery teams can manage risks to achieve better outcomes on both small and large projects.

Professor Flyvbjerg mentioned the importance of considering the whole probability distribution for risk (not the average), factoring in contingencies to protect against mild risks, and eliminating any extreme outlier events or risks—often referred to as “black swans.”

## Community and Stakeholder Engagement Are Key to Successful Project Delivery

“There is a dependency between proper, good, inclusive engagement and good, strong time of delivery,” said Secretary Buttigieg. He noted that public and community engagement that describes project benefits and impacts and provides meaningful opportunities minimizes controversy, opposition, and delay and shapes better projects.

Successful project leaders take community and stakeholder engagement as seriously as project design, cost-benefit analysis, and environmental impact analysis, responded Professor Flyvbjerg. The social impact analysis and stakeholder engagement is just as critical.

## PROJECT DELIVERY TOOLBOX

Public engagement is one of the key components in the [Project Delivery Toolbox](#), an ever-growing resource library made available to stakeholders by the Center of Excellence.



Pictured left to right:  
Carlos Braceras  
Paula Hammond

## Thinking Outside the Box: Innovating for Better Project Delivery

August 3, 2023

**Carlos Braceras**, Executive Director, Utah Department of Transportation (UDOT)

**Paula Hammond**, Chair, American Road and Transport Builders Association (ARTBA), and Senior Vice President, WSP USA

### Speed to Market and Alternative Delivery

Carlos Braceras emphasized the importance of time as a key consideration in project delivery. He drew upon his decades of experience at UDOT to provide insight on project delivery and alternative delivery strategies. The faster a project is completed, the sooner critical safety and mobility benefits are provided to the public, ultimately saving lives, noted Braceras.

Hand in hand with rapid delivery is using best value or alternative delivery methods—such as design-build, progressive design-build, and construction manager/general contractor—to deliver projects

more quickly and efficiently. Braceras cited the reconstruction of Interstate-15 as an example of UDOT successfully using alternative delivery to complete a project ahead of schedule and under budget. UDOT needed to compress an eight-year construction schedule for 17 miles of freeway and over 140 bridges into a four-year window to be ready in time for the 2002 Winter Olympic Games. This led to UDOT’s successful entry into design-build as an alternative to the traditional method of awarding contracts to the lowest bidder for roadway construction.

Braceras suggested the lesson learned is to establish specific project goals and risks and then match the appropriate project delivery tool based on them. For example, design-build is suitable when time is the most important factor, while progressive design-build

“If a project is worth doing, it’s worth delivering fast.”

**Carlos Braceras**

Executive Director, UDOT

may be more suitable for innovative approaches or consensus-building with communities. Braceras added, the BIL has invested substantial resources in transportation, so now is the time to step back and ask: “Is there a better way to do things?”

Braceras also stressed the importance of building strong relationships between owners and contractors, focusing on listening, learning, and making decisions together for the project’s success. He highlighted the U.S. DOT Project Delivery Center of Excellence as a helpful resource for facilitating knowledge exchange and providing support for states willing to try new approaches.

### **Partnership and Collaboration**

Paula Hammond, former Secretary of Washington State DOT, emphasized the significance of timely infrastructure funding to improve the transportation system and ultimately benefit communities. She stressed the importance of delivering BIL projects successfully, particularly with the next reauthorization on the horizon—“all of us must show how well we can deliver BIL projects.”

Hammond focused on the importance of partnerships and collaboration in project delivery. She cited early involvement of agencies, regulators, contractors, and particularly, local, state, regional, and tribal governments as a key factor in project success. Their partnership and collaboration are essential throughout planning, designing, and building projects. “If there’s a disaster, you’re going to be sorry that you don’t have those phone numbers on speed dial,” she quipped.

“We’re at a place where we’re talking to and engaging communities differently than we have in the past,” said Hammond, noting the importance of engaging with communities early on for better project outcomes and minimizing any negative impacts. It is essential to understand their needs and build trust to ultimately deliver a project that benefits the public, she stated.

“Our transportation system is badly in need of investment, and we’ve got a real shot in the arm and opportunity with the Bipartisan Infrastructure Law.”

**Paula Hammond**

Chair, ARTBA, and Senior Vice President, WSP USA

### **Workforce Development and Risk Management**

Hammond acknowledged that one of the most serious challenges in project delivery is workforce shortages at the local, county, state, and federal levels of governments. Delivering a project rapidly demands a robust workforce that understands their roles and has the capability to make necessary decisions. Yet, accompanying this challenge is the “opportunity to build a new generation of transportation workforce,” that can inspire innovation while delivering projects rapidly and successfully.

Partnerships are critical to building that diverse and capable workforce for the future. She recognized the U.S. DOT Project Delivery Center of Excellence as a resource for working together to improve workforce capabilities and delivery opportunities.

Braceras and Hammond each raised the issue of the availability of insurance coverage on very large projects and touched on risk management, assigning appropriate responsibilities, and the need to transform transportation systems to meet future challenges, including the introduction of broadband and electric vehicles.

Hammond closed by reiterating the value of working together to improve infrastructure and deliver benefits to communities efficiently.

“It’s our responsibility to work together to understand how we can deliver infrastructure for the community.”

**Paula Hammond**

Chair, ARTBA, and Senior Vice President, WSP USA



Pictured left to right:  
Mayor Todd Gloria  
Kyle Wagenschutz  
Eric Macfarlane

## How Cities Are Reinventing Project Delivery

August 10, 2023

**Todd Gloria**, Mayor, San Diego, CA

**Kyle Wagenschutz**, Urban Mobility Planner, City Thread

**Eric Macfarlane**, First Deputy Commissioner, New York City Department of Design and Construction (DDC)

### Unlocking Community Challenges with New Implementation Approaches

Emphasizing the findings from the nonprofit City Thread’s work, Kyle Wagenschutz discussed how cities and municipalities across the country can accelerate building and completing mobility networks. He highlighted traffic congestion, climate change, and economic development among the shared challenges that U.S. communities face.

Wagenschutz noted that innovative transportation and mobility improvements could help address the challenges, yet cities often fail to unlock these solutions. Inefficient project delivery was not primarily

“One of the joys that we have in working with local communities is that we get to meet and work with people on the ground who are trying to tackle really big challenges. And those challenges sometimes are the challenges that many cities across the country and around the world face every single day.”

**Kyle Wagenschutz**

Urban Mobility Planner, City Thread

about funding or procedures, said Wagenschutz. Instead, the issues have been extended implementation schedules; small-scale, disconnected projects; and poor community outreach and communication leading to opposition and distrust. In response, City Thread developed the Accelerated Mobility Playbook to reestablish short-term goals on projects, align and engage community partners, identify resources, and improve consistency in the project delivery process.

Effective communication is central to this strategy, both internally among partners and externally to the public. Wagenschutz listed paid media and grassroots organization partnerships as methods used to convey their messaging effectively. Cities like Austin, Pittsburgh, and Providence have used the playbook to rapidly complete extensive bicycle networks, introducing new infrastructure and sparking economic development.

Wagenschutz attributed much of the success of these projects to public support, with surveys showing strong backing for the projects even amid potential trade-offs. This support empowered city staff and leaders to proceed confidently and at an accelerated pace.

### Improving Capital Project Delivery with Better Planning, Design, and Building

Eric Macfarlane focused on DDC’s efforts to secure federal funding for various capital projects across city agencies. DDC is a primary consortium manager for over 20 city agencies, managing a portfolio of more than \$30 billion in design and construction work. He highlighted the formation of a Federal Infrastructure Funding Task Force to help standardize funding requests and manage the multitude of projects from different agencies in preparation for New York City’s planned request of \$2.5 billion by the year’s end.

Macfarlane emphasized that DDC has adopted design-build methods for faster project delivery. Examples include an \$80 million garage project completed in 14 months and a \$65 million police precinct construction projected for completion in November.

“We have a continuous focus on planning better, designing better, and building better.”

**Eric Macfarlane**

First Deputy Commissioner, DDC

“We have a continuous focus on planning better, designing better, and building better,” said Macfarlane, noting DDC’s efforts to improve the capital project delivery process through better planning, designing, and building. He stressed improving design contracts and quality through collaboration with architects and using innovative ways to improve and accelerate construction, such as expanded work allowance and early completion incentives. Macfarlane also discussed the city’s initiation of a Capital Process Reform Task Force to enhance procurement procedures for project delivery. He identified several areas that required legislative action, including authorization for alternative delivery methods and the ability to bypass certain regulations as an authority.

**Reforming Funding Allocation and Optimizing Project Delivery Processes**

San Diego Mayor Todd Gloria discussed the city’s dedication to leverage the historic opportunities presented by the BIL to create a more equitable and transformed urban landscape. Mayor Gloria stressed the importance of efficiently utilizing federal funding for projects and highlighted several reform initiatives aimed at optimizing project delivery processes and maximizing external funding, particularly in historically disadvantaged neighborhoods.

For example, San Diego’s “Built Better SD” initiative addresses disparities in funding for streets, sidewalks, parks, libraries, and other public infrastructure by consolidating development impact fees into a single

citywide account. Mayor Gloria noted this move allowed for more strategic allocation of resources—for the city to “put those investments where they’re most needed, regardless of where those fees are generated.” The aim is to stimulate private investment in historically neglected areas and promote equitable growth. Mayor Garcia added, “without the investment in public infrastructure, it’s very difficult to invite private sector investment into those communities.”

Mayor Garcia emphasized the impact of these reforms on the city’s competitiveness for BIL projects and the ability to meet local match requirements for federal grants. He shared a successful example of obtaining a \$24 million grant through the Bridge Investment Program for the Bridge Rehabilitation Safety and Mobility Project on Interstate 805 in southern San Diego, which includes a host of motorist, bicyclist, and pedestrian safety improvements. The project leveraged local funding with BIL funding to stretch limited local dollars and deliver more benefits across communities.

Mayor Garcia also highlighted other reform initiatives in San Diego to increase funding allocation for infrastructure, streamline permitting processes, and accelerate affordable housing development. He stressed the importance of these reforms in improving quality of life across all neighborhoods and recognized the BIL as critical to helping cities and communities “get where we need to go.”

“Now that the federal government has stepped up to provide communities with the funding to build these projects, we need to make sure that we’re set up at the local level to successfully deploy that funding effectively and equitably.”

**San Diego Mayor Todd Gloria**



Pictured left to right:  
Emmanuella Myrthil  
Stephanie Wiggins

## Embedding Equity in Project Delivery

September 7, 2023

**Emmanuella Myrthil**, Chief Equity and Inclusion Officer, Southeastern Pennsylvania Transportation Authority (SEPTA)

**Stephanie Wiggins**, Chief Executive Officer (CEO), Los Angeles County Metropolitan Transportation Authority (LA Metro)

### Prioritizing Equity in Project Design and Planning

The concept of equity is not new, but it has assumed heightened importance as a policy priority in the BIL and under Secretary Buttigieg is a U.S. DOT strategic goal. Emmanuella Myrthil defines equity as the fair treatment and full participation of all individuals, including historically underestimated populations. Specifically, in the realm of project design, she noted it is critical to embed equity in every facet of our work and this begins with defining explicit equity goals. Myrthil emphasized that equity goals should not be an afterthought, but rather embedded in the strategic foundation laid at the very beginning of a project.

“We need to be very strategic about clearly articulating what our equity goals and objectives look like from the very beginning,” stated Myrthil. This involves scrutinizing and articulating what these goals and objectives entail and understanding the specific outcomes we aim to achieve.

Beyond a project’s immediate objectives, Myrthil stressed the need to consider the multifaceted impacts on diverse groups of people and determine potential mitigation strategies and prevention measures. This requires having the right conversations with the right stakeholders—both internal and external. Myrthil suggested that achieving equity goals is not a solitary endeavor but a collective pursuit where every voice contributes to the holistic understanding of the project’s societal impact.

Myrthil recognized empathy as a linchpin in successful infrastructure project planning and design. She noted that projects have the power to change lives; thus, the ability to approach them with empathy is vital. Myrthil recommended creating environments that encourage open dialogue and psychological safety, which allows individuals to share their perspectives freely.

### Moving Beyond Simple Stakeholder Engagement and Mentoring for Creativity

At SEPTA, one of the largest transit systems in the United States, Myrthil has embarked on a culture tour with every department, bus depot, and garage to gather feedback about how planned bus operational changes would impact communities.

Myrthil emphasized the need to move beyond simple “engagement” to active “enrollment” of stakeholders, “because it’s very important that we provide the opportunity for our stakeholders, our community members to be part of the process.” This includes recognizing that employees and small businesses in the community are also stakeholders, and their input should be valued, Myrthil said.

Myrthil stressed that our approach to equity must remain dynamic, welcoming new insights and perspectives. This journey requires a commitment to transparency, accountability, and the belief that equitable projects are the foundation for flourishing, sustainable communities. Achieving greater equity necessitates a culture of continuous learning and improvement, where creativity is nurtured alongside compliance.

“We don’t want to just monitor for compliance. We want to mentor for creativity.”

**Emmanuella Myrthil**

Chief Equity and Inclusion Officer, SEPTA

## Putting Equity into Action in Transit and Infrastructure

LA Metro CEO Stephanie Wiggins shared insights on how one of the largest transit agencies in the nation is actively putting equity into action in a diverse and dynamic Los Angeles County community. Wiggins emphasized the importance of equity in transit and infrastructure projects, highlighting the challenges faced by the region, as well as the agency's commitment to inclusive and intentional actions.

Wiggins noted that Metro operates in a local economy that produces a huge amount of wealth, but also has tremendous challenges as it grapples with the highest poverty rate in the state.

### Equity Tools to Inform Decisionmaking

Wiggins discussed Metro's equity platform, which serves to inform, shape, and guide every facet of Metro's business. The platform is built on four key pillars: define and measure; listen and learn; focus and deliver; and train and grow. Wiggins described how these driving principles are applied in practice, particularly in evaluating projects and initiatives through equity assessments and community engagement.

In 2021, Metro initiated equity evaluations on all board reports and actions, using a seven-question tool that considers the impact of decisions on various groups and communities. They also developed an equity-focused communities (EFC) map to help identify areas with the greatest transportation needs. How do these tools translate to project delivery?

"We are empowered by our board not only to plan and deliver projects that benefit our EFCs, but to develop and implement programming that maximizes our project's positive impact on the people living within the EFCs, whether through the procurement process, through community engagement, ...or support programming that benefits the neighborhood businesses," said Wiggins.

Wiggins highlighted Metro's more than \$22 billion in capital projects, each with equity investments embedded into them. She also noted that the BIL has helped advance and maximize a number of those benefits for Metro and LA residents.

### Inclusive Procurement, Workforce, and Metro Equity Information Hub

Wiggins stressed Metro's commitment to inclusive procurement, emphasizing the importance of supporting small businesses and disadvantaged workers. She highlighted the success of their Project Labor Agreement (PLA) and Construction Careers Policy (CCP) in ensuring a diverse and inclusive workforce. "The PLA and CCP have literally changed lives. We've applied it to more than 54 projects with a combined contract value of more than \$10 billion. No work stoppages or lockouts have occurred since the start of the program."

"Transit can be an excellent driver of economic and social equity, not only because it saves people time, reduces household costs, and connects people to jobs and opportunity, but also because these public investments can help build wealth and resilience in our communities if we take intentional and thoughtful action to build and operate them that way in true partnership with the people who live in those communities,"

#### Stephanie Wiggins

Chief Executive Officer, LA Metro

Wiggins noted the role of the BIL and the Justice40 Initiative in helping to ensure equity in project construction. "I believe the most effective way to incorporate equity in the construction part of the project delivery process is through the procurement actions," said Wiggins. Metro has started incorporating cultural competency evaluation criteria into new mega project procurements, such as the East San Fernando Valley Light Rail Project funded through the BIL. This helps to ensure that contractors understand and respect the cultural context of the communities they serve.

Intentionality and inclusivity are essential in addressing societal challenges and building a more equitable future for all, emphasized Wiggins.

"Now, we're in an era where the gap between rich and poor has never been greater, and we're headed into an era where we know climate change is going to affect the poorest the most. We got here because of intentional policy choices, many of which ignored or concealed the impact on communities at the lowest rungs of the income distribution. Intentionality got us here, and intentionality is the only thing that can help lead us toward a brighter, cleaner, and more equitable future."

#### Stephanie Wiggins

Chief Executive Officer, LA Metro



Pictured left to right: Nancy Daubenberger, Kammy Horne, Megan Blum, Emily Biondi

## Using NEPA Review to Define and Shape Better Projects

September 27, 2023

**Nancy Daubenberger**, P.E., Commissioner, Minnesota Department of Transportation (MnDOT)

**Kammy Horne**, Senior Vice President of Development and Planning, VIA Metropolitan Transit, San Antonio, TX

**Megan Blum**, Director for the Office of Environmental Programs, Federal Transit Administration (FTA)

**Emily Biondi**, Associate Administrator for Planning, Environment, and Realty, Federal Highway Administration (FHWA)

### Enhancing NEPA through Public Engagement: Minnesota’s Transportation Projects

Nancy Daubenberger described MnDOT’s approach to NEPA, showcasing key projects that highlight Minnesota’s commitment to meaningful public engagement and community-centric decision-making. She noted that NEPA regulations guide MnDOT in conducting environmental reviews for projects and permits. Daubenberger stressed that NEPA encourages consideration of potential impacts on both the natural and human environments, fostering a comprehensive understanding of a project’s consequences.

#### Early and Continued Engagement

Daubenberger emphasized the importance of early and sustained engagement with citizens, public officials, and stakeholders at key milestones. This approach aids in problem definition, information gathering, alternative development, and the establishment of evaluation criteria. It helps reduce rework, project risks, costs, and delays, while building public trust. “So, it’s not about better

environmental documents or processes, but better engagement and decision making in the project development process,” said Daubenberger.

#### Prioritizing Communities and Rethinking I-94

Daubenberger highlighted key projects that offer best practices for future success on project delivery. The projects prioritized community engagement to ensure community members have a “share in the power of transportation decisions.”

“We’re centering community voices in our approach and asking how people want to engage and what is important to them, and reflecting that in our work and in our alternatives.”

**Nancy Daubenberger**

Commissioner, MnDOT

One of the projects, Rethinking I-94, focuses on a 7.5-mile stretch between Minneapolis and St. Paul, an area that is economically and ethnically diverse. Daubenberger acknowledged the past impacts of freeway construction in the 1960s on lower-income, minority, and immigrant communities. She also noted that the Rethinking I-94 Project is one of the efforts that exemplifies MnDOT’s current prioritization of the wellbeing of people. MnDOT’s approach centers around community voices and engages stakeholders in every phase of a project. Daubenberger underscored that they want to understand the needs and aspirations of community members so their work “builds and sustains healthy communities.”

This approach includes various opportunities for involvement throughout the project's lifecycle, from planning to construction and maintenance. The commitment to community engagement ensures that the community's perspectives are heard before significant project decisions are made.

### *Twin Ports Interchange Project in Duluth*

MnDOT's Twin Ports Interchange Project in Duluth, Minnesota, is a \$435 million interchange reconstruction initiative. MnDOT uses the Construction Manager, General Contractor (CMGC) delivery method, which allows for better identification of construction impacts during development. It also ensures that alternative development aligns with informed decision-making, avoiding unnecessary delays and costs.

Daubenberger noted that public engagement during the NEPA process for the Twin Ports Interchange Project led to a partnership with the City of Duluth's Workforce Center. This collaboration focuses on diversifying the workforce for construction trades, benefiting the local community and the project.

### **Navigating NEPA: VIA Metropolitan Transit's Path to Success**

Kammy Horne described how NEPA plays a pivotal role in shaping successful projects in San Antonio. She highlighted VIA Metropolitan Transit's journey and the importance of early coordination, deliberate outreach, and creative tools to define and refine projects for the benefit of the community.

### *Transit and Improved Access and Opportunities*

Horne noted that San Antonio is one of the largest U.S. cities without a significant high-capacity transit system and is also one of the most economically segregated U.S. cities. To address this disparity, VIA Metropolitan Transit embarked on an ambitious project, the Rapid Green Line, to provide better access and opportunities for the city's underserved areas.

The Rapid Green Line encompasses nearly 12 miles and 26 new stations primarily along an exclusive guideway and is scheduled to open in 2027. It promises to revolutionize transportation in San Antonio by enhancing connectivity and accessibility, especially in areas experiencing persistent poverty. Horne emphasized how the NEPA process and its interdisciplinary coordination provided an excellent framework for planning a successful project, "because we

are introducing something new to our community that will provide much better access to many and will support the foundational ladder of opportunity that is public transportation."

### *Early Coordination and Deliberate Public and Stakeholder Outreach*

Horne noted that early coordination with FTA played a crucial role in shaping the project. FTA's insights from other bus rapid transit projects, such as those in Indianapolis and Albuquerque, provided critical lessons and best practices.

Deliberate outreach to stakeholders, including the public and other interested parties, helped VIA Metropolitan Transit identify concerns and areas requiring mitigation. Horne suggested that one-on-one outreach proved invaluable in understanding the community's needs and tailoring the project accordingly.

"FTA strongly encouraged us to get out with as much information as possible early in the process, and find creative ways to share information, even during COVID."

### **Kammy Horne**

Senior Vice President of Development and Planning, VIA Metropolitan Transit

Amid the challenges posed by the pandemic, Horne described VIA Metropolitan Transit's use of creative tools for outreach. Tele-town hall presentations, panel discussions, and an informative website were used to disseminate project information. A project outreach office on the corridor allowed for face-to-face interactions, enhancing community engagement.

Horne also recommended sharing information about community enhancements to highlight a project's broader benefits. With the Rapid Green Line, early communication of safety improvements and community enhancements, such as sidewalk access and pedestrian crossings, allowed the public to understand the project's positive impact.

## Navigating NEPA: A Path to Better Decision-Making

Megan Blum shed light on how NEPA serves as a critical planning tool to significantly improve our approach to decision-making. She shared key insights and recommendations, highlighting how NEPA can be harnessed effectively to drive better outcomes for projects and the environment.

### *Setting the Standard and Embracing Different Perspectives*

“We can make NEPA work for us, and our project work,” Blum said, noting that NEPA establishes a benchmark for responsible decision-making. It outlines the necessary requirements but also provides a substantial degree of flexibility, allowing project teams to tailor strategies for optimal efficiency. She suggested the key is to identify what truly matters to achieve the best results and the most significant impact.

Blum suggested that one of NEPA's strengths lies in its encouragement of diverse perspectives. She added that by involving various stakeholders, including the public and agency partners, NEPA enables project teams to gain a holistic view of a project's implications. This inclusive approach fosters a more comprehensive understanding of how different parties perceive the project and its potential effects.

“When we drafted our FTA environmental SOPs [standard operating procedures], we really focused on identifying what's required versus what is nice to have.”

#### **Megan Blum**

Director for the Office of Environmental Programs, FTA

### *Back to the Basics: Early Planning and Annotated Outlines*

To ensure the success of a project under NEPA, early planning is crucial. Blum recommended early collaborations and discussions with FTA Regional Offices: “FTA is your partner.” She also recommended the use of tools such as annotated outlines. These outlines, completed early in the environmental review process, help project teams meticulously plan document requirements, timing, and information structure and presentation. They also serve as a roadmap, streamlining the process and reducing potential revisions.

Horne also reiterated Blum's recommendation to use annotated outlines. She noted that VIA made an early determination to proceed with a categorical exclusion under NEPA. The annotated outline has been foundational to the project, helping to maintain clarity and focus, as well as define the project purpose and need at the outset.

In addition, Horne highlighted how deep dives into potential schedule impacts and regulatory processes, such as Section 4(f) and Section 106, allowed for the incorporation of design elements early in the project. This ensured that design changes were not rushed, resulting in a more realistic and well-thought-out project plan.

### *Best Practices for Success*

Blum shared several additional best practices to enhance the NEPA process. These include considering mitigation during the planning phase, adopting a bottom-up approach for classification, well-defined scoping, and ensuring that the analysis aligns with the scale of environmental issues. Moreover, concise and reader-friendly documents are recommended.

Blum stressed that NEPA is not just a set of regulations but a roadmap to better decision-making. By embracing its principles, incorporating diverse perspectives, early planning, and utilizing tools like annotated outlines and graphics, project teams can streamline their NEPA journey. With a clear focus on setting standards, embracing flexibility, and adhering to best practices, NEPA can lead us toward better decisions and a more sustainable future.

## **TOOLS TO SUPPORT NEPA PROCESS**

Annotated outlines, completed early in the environmental review process, help project teams meticulously plan document requirements, timing, and information structure and presentation. In addition, graphics are great tools for synthesizing complex information efficiently. By using visuals effectively, project teams can save time and enhance understanding, reducing the need for lengthy textual explanations.

## Leveraging NEPA for Better Transportation Projects: A Federal Highway Perspective

Emily Biondi provided insight into FHWA's role in utilizing NEPA to streamline decision-making processes and achieve better outcomes for communities across the United States.

### NEPA as an Umbrella for Environmental Considerations

FHWA refers to NEPA as an "umbrella law" because it encourages agencies to encompass various environmental and historic preservation requirements into a single analysis. This approach streamlines decision-making by addressing multiple regulations, including Section 4(f), the Endangered Species Act, and executive orders, within a unified framework.

Biondi emphasized the need for the NEPA process to be open and collaborative. Extensive public involvement is a crucial element that leads to better projects. Engaging the community, both those benefiting from and potentially impacted by the project, is vital for its success.

### FHWA and NEPA Implementation

Biondi noted that recent changes in statutory provisions, such as the BIL and the funding received through the Inflation Reduction Act, aim to facilitate the development and review of environmental documents. Additionally, changes to NEPA and proposed revisions to the Council on Environmental Quality's regulations offer further opportunities for improvement.

"Federal Highway Administration has long been a leader in improving the environmental review and permitting process."

#### Emily Biondi

Associate Administrator for Planning, Environment, and Realty, FHWA

### Projects That Shape the Future

Biondi highlighted projects that exemplify FHWA's commitment to delivering better transportation projects:

- **South Carolina I-526 Low-Country Corridor West Project:** This project in North Charleston aims to relieve traffic congestion and improve travel for area residents. The South Carolina Department of Transportation conducted extensive public outreach, resulting in a robust mitigation plan. Early engagement,

community advisory councils, canvassing, and targeted outreach ensured that community concerns were heard and addressed. In addition, the Acquisition Fairness Program was designed to compensate property owners affected by past highway projects.

- **I-35 Improvement Project in Detroit, Michigan:** This project seeks to replace outdated freeway infrastructure while enhancing safety and connectivity. Robust public outreach and the formation of advisory committees allowed Michigan DOT to address past impacts and engage with local communities. The project prioritizes safety, connectivity, and environmental considerations. Innovative approaches, like wildlife crossings, demonstrate the project's commitment to the environment and community values.
- **I-70 Floyd Hill in Colorado:** Focused on improving safety, reliability, and environmental considerations, this project also incorporates transit service, rural broadband access, and electric vehicle charging stations. It takes a holistic approach to address both transportation and environmental needs. The project followed the I-70 Mountain Corridor Context-Sensitive Solutions process, emphasizing interagency collaboration and community engagement.

## FHWA NEPA BEST PRACTICES AND RESOURCES

- [Environmental Review Toolkit](#) for NEPA-related information.
- [Environmental Excellence Awards](#) recognizing outstanding contributions in environmental considerations and project delivery.
- [Case studies](#) highlighting projects with notable practices and meaningful public involvement enhance understanding, reducing the need for lengthy textual explanations,



Pictured left to right:  
Morteza Farajian  
Maria Lehman  
Adie Tomer

## Accelerating Project Delivery through Innovative Procurement, Partnerships, and Financing Methods: Part 1

October 12, 2023

**Morteza Farajian**, Ph.D., Executive Director, U.S. DOT Build America Bureau

**Maria Lehman**, P.E., ENV SP, ASCE Fellow, President, American Society of Civil Engineers (ASCE)

**Adie Tomer**, Senior Fellow, Brookings Institution

### Unlocking Innovative Financing for Transportation Projects: U.S. DOT Build America Bureau's Role

Dr. Morteza Farajian shared insights on financing and promoting innovative project delivery. The Build America Bureau serves a crucial role as a one-stop shop, offering a consolidated resource for project sponsors to access various credit programs, grant programs, and technical assistance. By offering various funding programs, flexibility, and technical support, the Bureau aims to make projects more cost-effective and comprehensive.

“Project sponsors who are trying to learn a little bit more about innovative project delivery, innovative funding, and financing options don't have to go to different operating administrators. ...They can come to us, and we'll be able to help them.”

#### Key Initiatives and Benefits

Farajian emphasized that the Bureau is more than just a funding source; it also encourages projects that align with the U.S. DOT's strategic

goals. He shared a few initiatives that stimulate project development and provide options for critical infrastructure improvements:

- **TIFIA 49 Initiative:** Projects in certain categories receive more substantial financing, increasing project sponsors' funding to 49 percent of total project costs.
- **Transit-Oriented Development Program:** This program extends beyond traditional transportation projects to include public infrastructure affordable housing projects.
- **Rural Project Initiative:** For projects in rural areas with a population under 150,000 and costing less than \$100 million, the Build America Bureau offers reduced interest rates, promoting more cost-effective project execution.

Numerous projects have benefited from Bureau financing, and Farajian took the time to highlight a few, including an Oklahoma rural shoulder lane project, which achieved significant cost savings and reduced crash-related expenses, a public-private partnership project in northern Virginia that transformed an existing highway into express and transit lanes, as well as several multimodal projects with Seattle Sound Transit, the largest single borrower at \$4.17 billion.

Farajian noted the Bureau also offers technical assistance and grant programs to help project sponsors strengthen their capabilities and tackle complex challenges. He encouraged project sponsors to explore the opportunities to enhance the success of their initiatives and serve the community's needs while addressing transportation challenges.

### Advancing Infrastructure: ASCE's Blueprint for Timely and Effective Projects

Maria Lehman shared some key insights and perspectives from ASCE, which represents over 150,000 members worldwide. ASCE's core values prioritize the health, safety, and welfare of the public, and

## Build America Bureau Financing Programs

Farajian highlighted several financing programs offered by the Build America Bureau:

- **Lending Capacity:** The Bureau has over \$100 billion in lending capacity, making it a valuable resource for project sponsors. The financing programs are not oversubscribed, ensuring that eligible projects can secure funding.
- **Savings through Loans:** The Bureau's loans can save project sponsors substantial amounts, ranging from 20 percent to 40 percent, compared to market financing options. This is especially beneficial for projects with long lifespans like bridges and tunnels.
- **Flexible Payment Options:** Project sponsors can structure loans with deferred payments, sometimes up to 5 years after project completion. This flexibility is ideal for revenue-generating projects.
- **Private Activity Bonds (PABs):** The Bureau allocates PABs for transportation projects financed through the private sector. This serves as a valuable resource for public-private partnerships.

Lehman noted that this commitment to public welfare aligns with the goals of the U.S. DOT and the Project Delivery Center of Excellence in implementing the BIL and turning historic infrastructure investments into a reality.

Lehman referred to the BIL as a down payment on what will be a continual, multi-decade effort to catch up with our nation's infrastructure needs. She highlighted the need to now deliver major projects and programs on time and on budget. "We need to build public trust and demonstrate that we're capable of delivering big projects and big programs."

### *Streamlining Project Execution Focusing on Technical and Financial Capacities*

According to Lehman, one of the key indicators of ASCE's long-standing commitment to on-time project delivery is the development of crucial technical and financial capabilities. For example, through partnership with the National Society of Professional Engineers and the American Council of Engineering Companies, ASCE utilizes the Engineers Joint Contract Documents Committee (EJCDC) to simplify and improve construction contracting processes across the nation.

The resulting templates help to significantly expedite project delivery and facilitate efficient contracting processes, especially for the vast number of entities eligible for grant funding under the BIL.

"These fill-in-the-blank resources help communities that don't have the knowledge and provides that extra help that they need without having a whole lot of extra people involved."

**Maria Lehman**

President, ASCE

### *Workforce Challenges: Recruiting and Retaining Talent*

The growing magnitude of infrastructure projects raises concerns about workforce shortages in civil engineering. Lehman acknowledged these severe workforce shortages affect everything from planning and design to construction and long-term maintenance. She emphasized the need to recruit and retain talent effectively, streamline processes, and ensure people work in roles that align with their expertise.

Lehman also stressed the underrepresentation of minorities within the civil engineering field, noting the need to improve "at recruiting women and minorities into this business and keeping them, because they leave the profession in much bigger numbers than others."

To address the diversity gap within civil engineering, Lehman noted that ASCE is working with various federal agencies to encourage the recruitment and retention of women and minorities.

### *Leveraging Innovation and Investments*

Lehman reiterated that the BIL and collaborative private sector investments are ushering in an era of innovation. She stressed the importance of leveraging all available tools to achieve infrastructure goals, specifically recommending use of parallel processes, senior advisory teams that meet regularly, and extensive and transparent stakeholder engagement. "The public needs to understand what it is you're doing, and how you're doing it, and how they benefit from it."

She also noted that as natural disasters are becoming increasingly frequent, it is vital to promote resiliency in infrastructure. Developing resiliency standards for infrastructure can not only bolster project sustainability but also attract investors. Lowering costs through resilience can result in substantial savings that municipalities can reinvest in more resilient infrastructure. "Every day we work on this, there's new challenges, there's new solutions, and so there's best practices to take away."

## Navigating the Challenges of Transportation Project Delivery

Adie Tomer, of Brookings Metro, shared insights on the current state of infrastructure investment and the challenges facing transportation projects in the United States. He offered high-level perspective from a research institution, focusing on the macro-level fiscal environment, core challenges in project delivery, and ongoing innovations and gaps in the transportation sector.

### *The Macro-Environment: Historic Investments and Fiscal Sensitivity*

Similar to previous speakers, Tomer noted how the BIL is increasing federal spending on transportation and other infrastructure sectors at historic levels. This surge in investment brings both opportunities and challenges to the table. Tomer questioned whether the level of investment can continue over the longer term. He also noted sensitivity to rising project costs and inflation—the overall construction cost index—is a growing concern, impacting not only budgets but also the public perception of project efficiency.

*“People are starting to wonder if America can still deliver infrastructure, transportation included, at scale.”*

Another concern noted by Tomer is new motivations and new stresses related to surface transportation. He referenced emerging technology and climate, resilience, household affordability, resilience supply chains, and even inclusive economic development as all fundamentally different than they were a decade ago. “Your old projects and their old delivery methods may no longer work in the current macro environment.” In addition, citizenry, constituents, and businesses may no longer support those projects.

### *Core Challenges: Translating Values into Practical Projects, Ensuring Accurate Asset Inventories, and Addressing Workforce Gaps*

Tomer noted that due to these macro concerns, translating societal values and priorities into forward-looking infrastructure projects is critical. He cited the Katy Freeway highway expansion project in Houston as a perfect example of the need to translate our values and priorities into actual projects that we build. Shortly after its completion, the freeway experienced significant congestion, raising questions about the project’s objectives. This underscores the need to better align project goals with broader societal values and ensure that projects reflect real needs.

Additionally, Tomer noted the lack of comprehensive asset inventories as an issue that has persisted for years and is exacerbated in the current digitalized environment. Without accurate asset inventories, aligning projects with overarching objectives becomes challenging. Tomer

stressed the need to connect project selections, including new and maintenance projects, to broader goals.

Another challenge is institutional memory of past project failures and controversies, which has a lasting impact on project approvals. Tomer suggested the legacy of private finance challenges, exemplified by issues in projects like Chicago’s parking meters and the Purple Line, continues to influence project acceptance. This is a vital aspect to consider when seeking project financing and community support.

Tomer also pointed out the disconnect between workforce intermediaries and transportation agencies. Despite the need for more workers in the transportation sector, there is a lack of diversity, particularly involving race and gender. Also, although funding for workforce development is available, it’s often bundled with formula capital money at the state level. This disconnect needs to be addressed to ensure that resources are used more effectively for workforce development.

### *Embracing Innovations to Transform the Transportation Landscape*

Amidst these challenges, various innovations are reshaping the transportation landscape and the way projects are conceived, planned, and executed. Tomer highlighted innovations in transportation project delivery such as climate-sensitive capital budgeting, new approaches to fiscal regionalism, expanded community engagement, and modernized workforce systems. Climate-connected budgeting is gaining momentum, aiming to integrate resilience and environmental goals into project selection. Fiscal regionalism approaches offer cost-effective project delivery by pooling resources and utilizing fiscal instruments creatively. Empowering community voices and diversifying the talent pipeline are driving engagement and inclusivity. Finally, Tomer noted that modernizing workforce systems and investing in green careers ensure a skilled and diversified workforce.

“There are a ton of opportunities and innovations underway, but there are still some kind of root and core challenges we need to think differently about if we want to actually deliver the kinds of projects that set up America for long-term success in the transportation space.”

**Adie Tomer**

Senior Fellow, Brookings Institution



Pictured left to right:  
Brad Wieferich  
Susan Shaw  
Mike Johnson

## Accelerating Project Delivery through Innovative Procurement, Partnerships, and Financing Methods: Part 2

October 26, 2023

**Brad Wieferich**, Acting Director and Chief Operations Officer, Michigan Department of Transportation (MDOT)

**Susan Shaw**, P.E., DBIA, CCM, Vice President, Subject Matter Expert – Major Program Development, ATCS

**Mike Johnson**, Senior Vice President, Infrastructure Market and Strategy, Kiewit

### Innovative Infrastructure Projects in Michigan: Paving the Way for Progress

As Director of MDOT, Brad Wieferich shared insights on Michigan’s progressive approach to infrastructure development and its efforts to build a more connected and resilient future. He highlighted the following two infrastructure projects that showcase a commitment to innovation, community engagement, and the future of transportation.

#### *I-375 Reconnecting Community Project in Detroit*

Michigan’s ambitious Reconnecting Communities project focuses on the redevelopment of I-375 in Detroit, replacing a depressed freeway with an at-grade boulevard. The initiative includes reconfiguring interchanges, focusing on stormwater management, and promoting transit and multimodal connectivity.

Wieferich highlighted the project’s emphasis on equity and community engagement, aiming to address the historical impact of freeway development on African American communities like Paradise Valley and Black Bottom. MDOT is collaborating with local advisory groups and developing community enhancement and framework plans as part of this commitment.

“We’ll never be able to right a wrong, but we know that we have some work to do to make sure that we’re acknowledging some of the social and environmental justice issues here.”

#### **Brad Wieferich**

Acting Director and Chief Operations Officer, MDOT

Wieferich noted that Michigan secured an INFRA grant to expedite the I-375 project. By utilizing a progressive design-build approach, he suggested that MDOT will enhance collaboration and responsiveness, particularly with disadvantaged businesses, local contractors, and utility coordination. This approach ensures efficient construction while addressing the concerns of stakeholders, including nearby businesses.

#### *I-75 Modernization in Oakland County, Michigan*

Wieferich also shared insights on the I-75 modernization in Oakland County, north of Detroit. The project originally was planned to be delivered in nine separate contracts over 18 years—to be completed in 2034. “We walked back and said, no, we’ve got to do things differently.”

By rethinking their approach, Wieferich noted that MDOT has minimized project duration and costs while maximizing efficiency. Two of the accelerated segments were completed under design-build contracts. The more innovative segment uses a design, build, finance, maintain option with a 30-year term that will include maintenance by the concessionaire. The project incorporates several innovative concepts, including geometric improvements, a stormwater resiliency plan with a massive tunnel, divergent diamond interchanges, and high-occupancy vehicle lanes. “From a resiliency standpoint,” Wieferich acknowledged, “it’s really been kind of one of our poster child projects.”

## Partnering for Success in Virginia's Infrastructure Projects

Having transitioned from the public to the private sector right before the event, Susan Shaw discussed her experience and perspectives from an owner's standpoint in project delivery. Focusing on her years of experience with the Virginia Department of Transportation (VDOT), Shaw highlighted the significance of effective partnerships throughout the project lifecycle. Whether in project development, procurement, or design and construction, Shaw asserted that collaboration with internal teams, external agencies, and the public is vital for successful infrastructure projects. She noted that Virginia's I-66 Express Lanes network serves as an example of how strategic partnerships can lead to innovative and efficient project delivery, ultimately benefiting the public and stakeholders.

### Partnering in Project Development

During the project development phase, Shaw emphasized the importance of collaborating within an agency to establish specialized project teams that align with a project's unique requirements. Often, this involves augmenting an owner team to maximize continuity, maintain flexibility, and ensure integration with the owner, "because typically once these projects are completed, you may not need that project team." This approach allows for the development of an effective organizational structure, especially for complex projects.

Shaw also recommended leveraging technical advisory groups, federal agencies, local jurisdictions, and transit partners to ensure the incorporation of diverse perspectives and regional goals into the project scope. She highlighted VDOT's I-66 Express Lanes Outside the Beltway Collaboration project efforts in this area, as well as efforts to include public partners, elected officials, direct impact communities, and user groups like bike advocacy and trail advocacy groups who were also interested in the scope, scale, and impact of the project and establishing those communications channels. She added: "We also looked at transportation modes and made sure that we incorporated goals of the region so that we could gain local support for the overall project."

"One of the important things was to have as a goal of the project to move more people, not to move more vehicles."

#### Susan Shaw

Vice President, Major Program Development, ATCS

### Partnering in Procurement

Shaw noted that early industry and community outreach, including the use of requests for information, helped to establish the parameters for the procurement. She highlighted the innovative procurement approach used for the Virginia project—issuing three requests for qualifications for various project delivery methods. These included design-build, design-build-operate-maintain, and design-build-finance-operate-maintain. This approach led to greater competition and flexibility in selecting the most suitable delivery method.

### Partnering in Design and Construction

Shaw also discussed the importance of continued collaboration during the design and construction phases. She listed maintaining internal partnerships, engaging in regular design reviews, and conducting risk assessments as key components. She emphasized identifying and resolving issues efficiently to ensure smooth project progress. Monthly coordination meetings with local counties, transit agencies, and various stakeholders played a vital role in ensuring successful execution of VDOT's megaprojects.

## Navigating Complex Infrastructure Projects: A Focus on Collaborative Solutions

Mike Johnson shared insights on the challenges and opportunities associated with modern infrastructure development. He focused on the importance of aligning delivery methods with the complexities of projects, managing risks, and ensuring transparency and collaboration at every stage. He also highlighted adaptability to the ever-changing demands of infrastructure development; a commitment to addressing the needs of communities and stakeholders; and utilization of diverse delivery methods as keys to success.

### Adapting to Change

Johnson noted the infrastructure industry is currently under stress, with a substantial financial influx and a need for effective project delivery. He emphasized the necessity to adapt to new challenges, such as managing commitments to communities and aligning with future infrastructure plans. He noted that agencies are looking to diversify their toolkit of delivery methods to better align with project complexity and community needs, moving beyond traditional design-build approaches.

### Risk Sharing and Transparency

Johnson attributed challenges faced in the past to a lack of risk-sharing and transparency. He stressed the importance of addressing these issues, particularly when dealing with complex projects involving third-party agreements, utilities, and community engagement.

"I think the main word in all these projects that drives success is transparency. Transparency with the clients, and transparency with the design builder alike are going to bring project success," said Johnson.

### *Innovative Delivery Models*

Johnson stressed the importance of innovative delivery models like Progressive Design Build and Construction Manager/General Contractor (CMGC)/Construction Management At Risk (CMAR). He noted that early alignment of designers and contractors in complex projects can drive innovation and ensure goals are consistently met. “The most important thing that we can do on a project is get your designer and your contractor aligned early on.”

Johnson described CMAR as a simple structure in which the owner typically hires an engineer a few months in front of hiring their contractor, and the contractor sets up its subcontracts and other

consultants. He stressed the importance of risk allocation with alternative delivery. CMGC models typically share risk, although the owner takes on more of the design risk. CMAR and CMGC challenges revolve around the guaranteed maximum price and development of credible cost estimates by independent contractors.

Johnson also highlighted the progressive delivery method as a collaborative model and solution for complex projects. He noted with this method, the owner has one accountable design builder, subcontractors and suppliers, and engineering teams, all progressing as one delivery partner.

### *Project Certainty and Flexibility*

Johnson emphasized that whichever delivery method is used, ensuring project goals are met at each stage of development is essential. Collaborative approaches, transparent communication, and risk mitigation all contribute to greater price certainty and project success. He also recommended flexibility to adapt to changing circumstances, whether through design-build, design-bid-build, or other methods, as a valuable asset in achieving project goals.

“When it comes to alternative delivery, understanding risk allocation and risk registers is imperative.”

#### **Mike Johnson**

Senior Vice President, Infrastructure Market and Strategy, Kiewit



Pictured left to right:  
Governor Wes Moore  
Thomas Nissalke  
Christopher Puchalsky

## **Series Finale: Commemorating the Second Anniversary of the Bipartisan Infrastructure Law (BIL)**

November 15, 2023

**Wes Moore**, Governor, Maryland

**Thomas Nissalke**, Ph.D., Assistant General Manager of Planning and Development, Hartsfield-Jackson Atlanta International Airport

**Christopher Puchalsky**, Ph.D., Director of Policy and Strategic Initiatives, City of Philadelphia, Office of Transportation, Infrastructure, and Sustainability

## **Two Years of Infrastructure Transformation**

Deputy Secretary Polly Trottenberg delivered the opening message for the finale of the thought leadership series. Reflecting on the signing of the Infrastructure Investment and Jobs Act, also known as the BIL, she emphasized the importance of utilizing resources effectively for lasting community impact. Deputy Secretary Trottenberg highlighted successful projects, like the Arlene D. Williams Memorial Bridge Project, that were funded by such investments, acknowledging their job creation and community benefits. She stressed the challenge of timely and budget-friendly project delivery, praising the Project Delivery Center of Excellence for promoting successful models.

“I’m pleased to say that these past two years, many of us at U.S. DOT have gotten the chance to see firsthand how leaders like the ones we will hear from today are making the most of this infrastructure decade.”

**Deputy Secretary Polly Trottenberg**

### **Celebrating Partnership and Progress**

Maryland Governor Wes Moore focused on the significance of the Biden-Harris Administration’s support for Maryland, particularly Baltimore, highlighting recent projects funded by the BIL. He discussed job creation, economic progress, and the transformative impact of partnerships between the state and federal government.

Governor Moore expressed gratitude toward the Biden-Harris Administration and the U.S. DOT for their continual support and partnership, emphasizing the importance of collaboration in achieving transformative goals for Maryland.

### **Economic Impact and Job Creation**

Governor Moore shared the significant progress made in Maryland’s economic landscape, citing the state’s reduced unemployment rates and improved economic rankings. He highlighted projects like the Frederick Douglas Tunnel as critical to Maryland’s progress.

Governor Moore noted that the tunnel is the single largest choke point along the Amtrak northeast corridor, with constant delays for over 24,000 daily passengers. He stressed the significant impact of the Biden Administration’s \$4.7 billion investment to renovate the tunnel as critical in helping to reduce transit delays, improve the environment, and generate employment opportunities in Maryland.

“It’s not enough to create good jobs. We need to create good-paying union jobs with high labor standards and that actually support job training,” he stressed, recognizing the Biden-Harris Administration’s commitment to creating unionized jobs and investing in workforce training programs as pivotal for Maryland’s economic growth.

Governor Moore’s focus is on investing in Baltimore’s development for the broader benefit of the state.

### **Creating Pathways for Career Success**

In May, the Biden-Harris Administration announced that Baltimore would be one of the five workforce hubs in the nation. Earlier in November, Governor Moore announced Amtrak, Baltimore City, and the state of Maryland’s commitment to support the Baltimore Workforce Hub. Governor Moore mentioned this announcement

during the finale event, emphasizing the commitment to add a diverse and skilled workforce. He stressed the need to create diverse pathways for students beyond traditional four-year colleges. His aim in Maryland is to provide opportunities for successful, sustainable careers that can “change the trajectory of a family” through various vocational options and the workforce hub.

### **Collaborative Partnerships for Progress**

Governor Moore also stressed the importance of collaboration and coordination between federal and state entities for achieving substantial outcomes. He noted the success achieved in the past two years with the BIL, while emphasizing the ongoing need for partnership and the potential for continued progress and prosperity with the Biden Administration’s support.

He noted that Maryland will work with the Biden Administration to ensure that federal projects in Baltimore operate under the highest possible labor standards and the Maryland Department of Transportation’s commitment to project labor agreements for a number of strategic projects across the agency portfolio.

*“It’s partnership that really makes the difference in our work.”*

“The only way you’re going to get big things done is by listening and by collaborating. And you really don’t need to look any further than the Bipartisan Infrastructure Law to see what that actually looks like in practice.”

**Maryland Governor Wes Moore**

### **Transformative Expansion: Concourse D Widening at Hartsfield-Jackson Atlanta International Airport**

Thomas Nissalke shared his experience at Hartsfield-Jackson Atlanta International Airport, which handles approximately 104 million passengers annually. Nissalke discussed the Concourse D Widening project, made possible through a \$40 million grant from the U.S. Department of Transportation and the Federal Aviation Administration.

### **Overview of Hartsfield-Jackson Atlanta International Airport: The Need for Concourse D Widening**

Hartsfield-Jackson airport includes two terminals, five runways, and seven concourses housing 196 passenger boarding bridges. With passenger numbers soaring, the airport needed to widen its Concourse D from 60 feet to 99 feet to accommodate the increased passenger traffic.

The Concourse D Widening project plans to redesign the concourse to optimize space, increase passenger seating capacity, and accommodate larger aircraft. Nissalke noted that the redesign promises a more spacious concourse with increased ceiling height and ample ambient light, as well as increased space for amenities, restrooms, and hold rooms, ultimately improving overall customer experience and enhancing airline revenue.

### *Innovative Modular Construction Approach*

Nissalke shared insights on the project's phased modular construction approach to minimize gate losses and operational disruptions during the project's implementation. The innovative approach involves building 19 modules off site and then bringing them on site to an active operational environment. This modular method enables faster construction and fewer gate losses.

To further offset gate losses, the airport plans to construct four additional gates on Concourse E, facilitating airline operations while Concourse D undergoes expansion.

### *Commitment to Diversity*

Nissalke also highlighted the airport's commitment to involving minority and female-owned businesses, targeting approximately 40 percent of the project opportunities for these enterprises. "That will translate to something on the order of about 500 million dollars going to small minority and female business enterprises. And we're very, very excited about that."

### **Transforming Roosevelt Boulevard: A Vision for Safety and Progress**

Christopher Puchalsky shared insights from the City of Philadelphia's approach to revitalizing Roosevelt Boulevard, emphasizing safety, community engagement, and economic empowerment as integral parts of the transformative program.

### *Creating a Unified Vision*

Roosevelt Boulevard is a major thoroughfare in Philadelphia carrying significant traffic and transit ridership. However, the boulevard has an alarming record as one of the most dangerous roads in the United States due to its high fatalities. Between 2013 and 2017, it was the site of 2,846 crashes and 14 percent of all fatal crashes in Philadelphia.

"It is, or at least it was until we started making improvements, the most dangerous facility in America or pretty close to it, depending on the year. It was locally referred to as the Boulevard of Death."

Puchalsky recognized the long-standing struggle to unite the city and regional authorities for a unified vision of how to improve the boulevard, noting failed planning attempts in the past. "We've known

we need to do something for a time, but it's been hard to get the city and the region together on exactly what that something was."

"It was really this planning study that allowed us to win the federal grant, and it's this work that we did ahead of time, not when the NOFO came out, not a few weeks ahead of time, but for an extended period ahead of time that really set us up for success."

### **Christopher Puchalsky**

Director of Policy and Strategic Initiatives, City of Philadelphia, Office of Transportation, Infrastructure, and Sustainability

Thus, the City of Philadelphia conducted a detailed planning study before approval of the program grant. The planning process spanned several years and was vital in aligning diverse ideas with community values, securing funding, and aligning partnerships, both inside and outside government.

### *Implementing Change: Acting Now and Future Plans*

Puchalsky noted that the planning study revealed residents wanted to see more immediate, tangible solutions than a projected 2040 completion date. Thus, the program focused on both short-term and long-term improvements. More immediate actions included installing speed cameras, which resulted in a 93-percent reduction in speeding violations and a 27-percent reduction in fatalities and serious injury crashes on Roosevelt Boulevard. They also launched a bus rapid transit (BRT) light service, which reduced travel time and increased ridership. These actions provided more timely benefits to the community and addressed pressing safety concerns.

Puchalsky also outlined the future improvements funded by the mega grant, including transit enhancements, pedestrian safety measures, and intersection realignments. This includes installing bus-only lanes along Roosevelt Boulevard to further enhance the BRT light service. Puchalsky noted plans to improve transit options, realign problematic intersections, and reduce pedestrian crossing times and distance.

### *Community Empowerment and Economic Opportunities:*

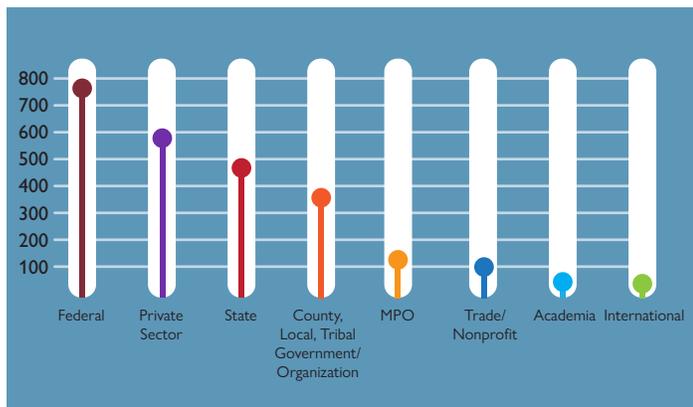
Puchalsky also stressed the broader impact beyond infrastructure of the program's plans. The program seeks to generate not just infrastructural improvements but also economic opportunities. It prioritizes job creation, workforce development, and economic empowerment for residents, highlighting efforts to create pathways to stable careers and generational wealth, especially for marginalized communities.

# ENGAGEMENT AND OUTREACH

The Delivering the Benefits of the BIL thought leadership series was global in reach with government, academic, and private sector representatives spanning 24 countries across 4 continents. The series engaged a diverse audience, with more than 2,600 attendees from across the federal government, state and local agencies, tribal governments and organizations, the private sector, MPOs, nonprofit organizations, academia, and international organizations.

Participants represented all 50 U.S. states, the District of Columbia, and Puerto Rico; nearly 700 U.S. cities; and 9 tribal governments or organizations.

Each event in the series sparked thoughtful questions from participants and incited engaging conversations. Participant questions covered a range of topics—such as identifying critical workforce skills and gaps, addressing bias, gaining public trust, establishing equity standards and requirements, addressing funding challenges, and more.



**OVER 2,600 ATTENDEES** from the federal government, state and local agencies, tribal governments, academia, and international organizations.

The Delivering the Benefits of the BIL thought leadership series sparked discussions, provided diverse perspectives, and hopefully inspired action—toward ensuring projects are delivered on time, on task, and on budget.

## Examples of Participant Questions

- Transportation project planning and delivery has often been a waterfall process, how can we enable more flexibility in the federal funding process to be more agile to allow for continuous evaluation of the project and adjustments (if needed)?
- What are the most important skills for project professionals working on major engineering projects in this digital era where data science and artificial intelligence are revolutionizing all fields?
- How do you improve public confidence in project success to get projects moving?
- How do successful projects involve all types of stakeholders so that their interests are addressed and project progress is achieved?
- To what extent do you find organizations are able to correct for their own biases, as opposed to needing an independent observer to identify the corrections needed?
- What role can technological advances play in accelerating project delivery and addressing workforce needs?
- How do you best work with your local government sponsors who are subject to project delivery requirements in a manner that doesn't delay the process?
- What are some examples of ways for impoverished rural governments to incorporate equity in railroad safety construction projects?
- What is the difference between community impact assessment and equity impact assessment? Is there a best practice for equity impact assessment?
- Have there been discussions around creation of equity requirements for work that is federally funded in order to drive expectations for achieving equity goals and directly operationalize equity in processes?
- What have been some challenges in engaging and gaining trust of communities in the project planning process?
- How do you recommend encouraging state and local agencies to strategically plan for resource allocation and project management when funding and political challenges may upset those plans?
- How can we meaningfully integrate the community into the decision-making process earlier for major infrastructure projects?
- How does the NEPA process influence the progressive design build process?



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