



INNOVATOR



Rethinking DBE for Design-Build: Open-ended performance plans offer solutions for improving Disadvantaged Business Enterprise participation in design-build contracts.

Credit: Colorado Department of Transportation

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Innovating Inclusivity:

Colorado's Approach to DBE Participation on Design-Build Projects

Design-build is an alternative contracting method that offers potential time and cost savings on transportation projects, but it can also present challenges to ensuring that equitable opportunities are realized for **Disadvantaged Business Enterprise** (DBE) firms to participate.

During Every Day Counts round seven (EDC-7), the **Rethinking DBE for Design-Build** team is promoting solutions for improving DBE opportunities through open-ended DBE performance plans (OEPPs). The Colorado Department of Transportation (CDOT) is one of several champions leading the charge to deliver a comprehensive and reliable OEPP oversight framework.

Under a traditional design-bid-build contract, a bidder is required to submit information with their bids or within 5 days of bid opening identifying DBEs to perform specific work at a specific price to verify their commitment to the DBE goal. An OEPP, by contrast, is a modified DBE commitment plan that allows the proposer to list anticipated work types for planned DBE participation throughout the life of the project. This flexible approach is specific to design-build contracting and enhances opportunities for DBEs by providing subcontracting opportunities to them when contract details are known.

"OEPP is a modification to a traditional DBE commitment plan that best fits the conditions of design-build contracting. The OEPP assures the proposer has a well thought out plan to achieve the DBE contract goals through listed anticipated work that can be fulfilled with DBE subcontracts as project details are known," said Christine Thorkildsen, DBE and Contractor Compliance Program Analyst at the FHWA Office of Civil Rights. "The plan also is flexible, meaning changes to the plan are expected as the project progresses, which is typical in design-build contracting."

"CDOT is a champion for implementing the OEPP, and their approach is a noteworthy example for other agencies that are interested in improving



Credit: FHWA

Learn more about rethinking DBE for design-build in this [EDC-7 spotlight video](#).

DBE participation and oversight on design-build projects," said Thorkildsen.

As CDOT began undertaking more design-build projects, it established a policy that a core team, made up of the project team and members of its civil rights office, must work jointly throughout the life of the project to ensure the effective implementation of the DBE program on design-build projects. Further, the State created a dedicated position to provide statewide support for the civil rights requirements on design-build and other alternative delivery contracts.

"CDOT knew communication and collaboration between the CDOT alternative delivery program, civil rights team, and the project team would be essential," said Kelly Whaley, who was hired to take on the civil rights alternative delivery program manager role at CDOT. "To be successful, everybody has to understand this commitment and be a part of it."

Oversight in OEPP Implementation

While not every State DOT may have dedicated staff for DBE oversight on alternative delivery projects, for the OEPP to be successful, the sponsor should support the collaboration of the State's design-build contracting experts and those with DBE program expertise.

On the cover: The Colorado DOT used an open-ended performance plan to improve DBE opportunities on its Region 2 Design-Build Bridge Bundle Project.

At CDOT, the early stages of this collaboration started with developing a request for qualifications (RFQ) that required the proposers to include a Civil Rights Program Manager as a member of their key personnel. The RFQ also informed the proposer of the OEPP approach and associated requirements during phase 2 of the procurement process.

When a contractor has been shortlisted by CDOT, the proposer, in their response to the request for proposals, must then submit the OEPP, which is considered a required part of a responsive bid. At CDOT an OEPP consists of a DBE Performance Plan Schedule and a narrative of good faith efforts (GFE) to achieve the design and construction DBE goals.

The DBE Performance Plan Schedule, submitted before an award, details the contractor's approach to reaching the DBE goal. Submitted and maintained after award, it outlines commitments and payments as design is completed and specific work items defined. In the GFE narrative, the proposer describes how they plan to engage with DBEs for the specific types of work involved throughout the life of the project to meet the goal. The OEPPs are scored by points that are factored into the overall evaluation of the proposal.

Once the contract is awarded, the design-builder is then required to meet with the CDOT civil rights taskforce to discuss issues that have prominent impact on the OEPP, such as networking events, outreach activities, and any anticipated delays or reductions. The project team and taskforce meet no later than 7 days after the kickoff of the design phase, then weekly for 6 months when the construction phase kicks off. The meetings then are reduced to no fewer than every other week thereafter.

In addition to the DBE Performance Plan, CDOT requires the design-build contractor to submit an annual commitment and utilization plan to named DBEs. A monthly DBE Performance Plan Schedule outlines actual commitments to named DBEs and the eligible payments made that are applied toward the goals. A semi-annual progress report is submitted to describe their progression toward meeting each DBE goal and outlines other GFE conducted during the reporting period.

"Because it may not be reasonable for a contractor to make full commitments with named DBEs prior to the project being designed, we've taken

CDOT OEPP Evaluation Factors

- *Analysis of work, particularly, scope versus cost*
- *Review of work type and anticipated timeline*
- *Verification of DBEs, which verifies whether there are DBEs certified to perform the listed work*
- *Review of comparative information between OEPPs submitted by different proposers*

the flexibility of the OEPP and included annual commitment requirements that can be tracked and monitored throughout the life of the project," Whaley said. "The civil rights task force meeting, along with the various reporting requirements, helps the design-builder and CDOT to monitor the progression of the DBE goals on the project."

Actions for OEPP Success

For other States or transportation agencies implementing DBE OEPPs for design-build, Whaley encourages them to educate contractors, the DBE community, and project stakeholders on the OEPP process.

"This is a very nuanced area because you can know the tenets of the DBE program and still find this new approach challenging. To find success in the OEPP method, you need to really understand the specific contract requirements of design-build," Whaley added. "The best way to foster success from the experience is for all parties involved to jump in and do it together."

MORE INFORMATION

- Visit the EDC-7 Rethinking DBE for Design-Build [webpage](#).
- 📄 Subscribe to the Rethinking DBE for Design-Build [e-bulletin](#).
- @ Contact [Kelly Whaley](#) at the CDOT Civil Rights and Business Resource Center for details on Colorado's program.
- @ Contact [Christine Thorkildsen](#) in the FHWA Office of Civil Rights for more information.



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From Flaggers to Leaders: Championing Diversity in the Highway Construction Sector

Rural regions thrive when local and Tribal communities participate in the transportation industry, benefiting from improved infrastructure, expanded economic opportunities, and a higher quality of life for residents. FHWA's **Every Day Counts** round seven (EDC-7) **Strategic Workforce Development** (SWD) initiative is promoting strategies to address the growing demand for a highway construction workforce while breaking down barriers for individuals seeking career opportunities and improvement in their communities.

One such individual is Daniel Webster, a member of the Oneida Nation. Daniel's journey from a highway flagger to the Director of Diversity and Inclusion (DEI) at a construction management company in Waukesha, WI, demonstrates the importance of combining opportunity and advocacy to benefit the community. His commitment to fostering DEI within the highway construction industry not only shaped his own career but also opened doors for and inspired numerous individuals from Tribal communities across the region to join him.

Creating Pathways

Daniel's introduction to the construction industry came through the **Highway Construction Skills Training (HCST) program**, an intensive 6-week training program sponsored by the Wisconsin Department of Transportation (WisDOT) that prepares workers for careers in the road construction industry. HCST strives to create opportunities for underrepresented groups, including women and people of color.

Despite lacking prior experience, he started as a flagger and eventually grew into a traffic control position. Later in his career, he pursued higher education while working, earning both bachelor's and master's degrees in business administration. Now, Daniel collaborates with Noel Vandiver, WisDOT's North Central Region HCST Director, to prepare graduates for their upcoming careers in highway construction with activities such as job interview preparation, résumé writing structure, and time and wealth management.

In 2018, Daniel joined his current company as a Human Resources Business Partner, marking the beginning of his journey in championing DEI. Daniel recognized the underrepresentation of Tribal members in the industry, leading to his advocacy for increased outreach and recruitment efforts in Northeast Wisconsin. His efforts led to the hiring of more than 50 individuals from Tribal communities into the highway construction industry. His firsthand experience, coupled with his deep understanding of and involvement in Tribal communities, uniquely positioned him to spearhead initiatives aimed at diversifying the workforce.

One of these initiatives encompasses collaboration with HCST programs, particularly in Tribal communities. Through partnerships and outreach efforts, Daniel facilitates entry of



Credit: Wisconsin Department of Transportation

Watch this [Wisconsin DOT video](#) to hear more about the benefits of the Highway Construction Skills Training program from graduates.



Tia Menore is one of a growing number of success stories emerging from Wisconsin DOT's Highway Construction Skills Training program.

numerous individuals into the highway construction industry, providing them opportunities and advice for training, mentorship, and employment.

Transforming Lives

The growing number of success stories emerging from these efforts is a testament to the transformative impact of proactive DEI initiatives within the heavy highway construction industry. Individuals who once lacked access to these opportunities now find themselves thriving in meaningful careers within the construction field.

Tia Menore, a materials coordinator with a concrete supplier in Green Bay, WI, is one of these success stories. Looking for higher earnings potential for the betterment of her family, Tia left her minimum wage job at a local drug-store to take HCST classes in 2015.

Tia, who is of Ho-Chunk and Menominee heritage, worked first as a flagger after completing HCST. During that first season, her sense of curiosity led Tia to wonder about other aspects of the job: What's in the dump trucks? How are the dump trucks being filled? Where did this material come from? How far did the dump truck have to drive?

Her interest was piqued, so Tia pursued a position working with materials. Today, she finds herself in her company's quality control testing laboratory, but not for long, as Tia is transitioning to a new role working with reclamation plans; engineering, procurement, and construction agreements; and the bidding process. This includes the opening and closing of pits and

quarries, rezoning and conditional use, permits, and more.

Tia credits HCST with helping her obtain more than just Occupational Safety and Health Administration certifications. The classes taught her what to expect on job sites: the importance of a good work ethic, timeliness, and professionalism.

As Daniel continues to pave the way for inclusivity and equity within the highway construction industry, Tia, too, is creating a legacy of her own. She now takes civil engineering classes at Northeast Wisconsin Technical College.

By amplifying diverse voices and fostering a culture of belonging, WisDOT's HCST Program is not only transforming lives but also reshaping the future of Wisconsin's highway construction industry.

Building a Workforce

"This example of building our highway construction workforce through the HCST in Wisconsin is a powerful one," said Chrisy Currier, FHWA's Strategic Workforce Development Program Manager. "Seeking diversity in building the workforce opens additional opportunities to recruit from all communities."

Information on additional programs and strategies that the construction industry and agency partners can use to help attract applicants, get them the training they need, and place them in long-term careers is available in the [EDC-7 Strategic Workforce Development Toolkit](#). The toolkit includes case studies, videos, marketing materials, and more, including a new [Workforce Development Resources for Local and Tribal Communities](#) brochure with details on resources for rural regions.

MORE INFORMATION

- ▶ Watch an [EDC Spotlight video](#) to learn more about the EDC-7 Strategic Workforce Development initiative.
- Visit FHWA's [Roads to Your Future webpage](#).
- @ Contact [Chrisy Currier](#), FHWA Strategic Workforce Development Program Manager, for information and technical assistance.



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Innovative Solutions for America's Roads: Targeted Overlay Pavement Solutions (TOPS)

The United States is currently facing an **\$852 billion highway repair backlog**, the pavement component of which is \$511 billion. Compared to pavement reconstruction, using asphalt or concrete overlays can be a cost-effective solution to helping address this highway repair challenge by extending pavement life and increasing load-carrying capacity while also improving safety, mobility, and user satisfaction.

During **Every Day Counts** round six (EDC-6), FHWA promoted **Targeted Overlay Pavement Solutions (TOPS)** to State departments of transportation (DOTs) and local agencies as a way to maximize their highway repair investments by improving on conventional overlay methods and including new overlay materials and techniques.

The EDC-6 TOPS team also set out to do something no other EDC team had done before—communicate and encourage the deployment of 11 products as part of one EDC initiative. EDC-6 outreach offered an opportunity to educate agencies and stakeholders about a collection of asphalt and concrete overlays that provide proven long-life performance under a wide range of traffic, environmental, and existing pavement conditions.

“Prior to the start of this EDC initiative, we identified some proven, yet underutilized types of pavement overlays,” said TOPS EDC Team Co-leader Tim Aschenbrener. “We were able to explain appropriate project selection practices, cost-effectiveness, performance, and reliability. I’m excited about the number of agencies that have deployed different types of overlays they had not previously tried but gave another look thanks to EDC.”

EDC Outreach

Case studies and research presented as part of EDC outreach efforts piqued the interest of States and local agencies. They learned how the

Asphalt TOPS Products

- *Asphalt rubber gap-graded*
- *Crack attenuating mix*
- *Highly modified asphalt*
- *High-performance thin overlay*
- *Open-graded friction course*
- *Stone matrix asphalt*
- *Ultra-thin bonded wearing course*

Concrete TOPS Products

- *Bonded concrete on asphalt*
- *Unbonded concrete on asphalt*
- *Bonded concrete on concrete*
- *Unbonded concrete on concrete*

New Jersey DOT's use of highly modified asphalt (HiMA) overlays over a decade increased “good condition” roads from 12 percent to 40 percent and how research in **Iowa** suggests concrete overlays will last 35 years—15 years longer than the previous life expectancy.

Other successful practices shared include research by the **Florida DOT** that showed the use of HiMA was significantly more effective at preventing rutting as the control mix and increased structural capacity by up to 20 percent, as well as a **Delaware DOT** concrete overlay that has required only minor maintenance during 30 years of service to maintain a smooth ride. Additionally, **Texas DOT** research showed that properly designed asphalt overlays with crack-attenuating mix may reduce the number of reflective cracks and slow the cracking process by up to 50 percent.



EDC-6 helped spread the word on concrete overlays with performance-engineered mixtures and new design procedures that improve durability and performance.

Success Stories

Forty-one States participated in the TOPS EDC-6 initiative—26 focused on asphalt overlays, 15 learned more about concrete, and 13 participated in both. As a result of EDC-6, 22 States advanced to a new phase in the implementation process from “not implementing” to the development, demonstration, assessment, or institutionalized phase. Nineteen States have institutionalized TOPS products by incorporating at least one overlay type as a standard fix option within the agency’s pavement management program.

Thanks in part to EDC, Utah DOT used HiMA at a port-of-entry weigh station where heavy trucks and high-volume traffic were causing pavement issues. “Word got out about this successful demonstration project, and now they’re on track

to use half a million tons of HiMA this year,” said Aschenbrener. **Utah DOT** researchers believe HiMA could extend pavement service life by up to 5 years.

EDC introduced the Arizona and New Mexico DOTs to stone matrix asphalt (SMA) and both are now working toward making it their go-to asphalt overlay, and the Montana DOT now plans to try a project with HiMA and another with SMA.

California, Pennsylvania, Nevada, and Virginia showed special interest in concrete overlays by scheduling in-person workshops. “I think our outreach efforts to create awareness of the viability of concrete overlays have encouraged many States to rethink their maintenance strategies and take steps toward adding concrete overlays as another asset management tool,” said TOPS EDC Team Co-leader Robert Conway.

Ongoing Efforts

The formal EDC-6 innovation cycle ended in December 2022, but TOPS implementation continues.

“We can tailor training for agencies that may need it due to staff turnover, want to re-evaluate the cost-benefit analysis of overlays, or need assistance making overlays standard practice,” said Conway.

Resources are also available on the **TOPS** webpage including articles, brochures, case studies, how-to reports, one-pagers, and webinars.



EDC-6 promoted asphalt overlay mixtures with materials and agents that reduce rutting, increase cracking resistance, and extend pavement life.

MORE INFORMATION

- Visit the **EDC-6 Targeted Overlay Pavement Solutions** webpage.
- 📄 Read the **EDC-6 Final Report** to see how TOPS progressed in round six of Every Day Counts.
- @ Contact **Tim Aschenbrener** (FHWA Office of Preconstruction, Construction, and Pavements) for asphalt information and technical assistance and **Robert Conway** (FHWA Resource Center) for concrete.



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States **innovate!**

Washington State Boosts Highway Construction Workforce

The **Pre-Apprenticeship & Supportive Services (PASS) Grant Program**, spearheaded by the Washington State Department of Transportation (WSDOT), has been instrumental in facilitating the entry of individuals, particularly from Tribal communities, into the highway construction workforce. Through strategic partnerships with training providers and targeted outreach efforts, PASS has successfully enrolled more than 230 individuals from federally recognized Tribes since 2015. The program's comprehensive support system extends beyond traditional training to address various barriers participants face such as transportation, housing, and educational resources. Read more about this **strategic workforce development** initiative in **EDC News** and watch a **WSDOT video** with interviews from several PASS participants.



Credit: Washington State Department of Transportation

Watch a Washington State DOT video to hear about the opportunities provided by its Pre-Apprenticeship & Supportive Services Grant Program.

Oklahoma Accelerates Digital Delivery

Through its **Digital Delivery Initiative**, the Oklahoma Department of Transportation (ODOT) is revolutionizing the way projects are planned, designed, and executed in the State, paving the way for a smarter and more interconnected

transportation department. ODOT's digital delivery program started as a pilot cross-functional design team in January 2022 and quickly evolved into a permanent, dedicated digital delivery team as the advantages of data-enhanced **3D models** became apparent. ODOT is also using an **Advanced Digital Construction Management Systems** grant to help fund a comprehensive program to accelerate the adoption of Building Information Modeling (BIM) for Infrastructure in Oklahoma. Program areas include design implementation, construction and inspection implementation, and workforce development. Read more about Oklahoma's progress in the May 2024 issue of FHWA's **Innovation in Project Delivery** newsletter.

Kansas Tool Supports Safety for Vulnerable Road Users

The Kansas Department of Transportation released a **new online tool** that employs **data-driven safety analysis** to help local public agencies learn about corridors where pedestrians and cyclists may be present and possible safety risks they could face. The Kansas Vulnerable Road User Safety Assessment Tool offers interactive mapping and data visualization and includes a **StoryMap** that explains how the data can be interpreted. Data gathered from the tool can assist agencies in understanding safety concerns for these local travelers. The tool will help support safety-conscious decision making, including investments in infrastructure, education, enforcement, or emergency services.

Alaska Advances Use of Docked UAS Unmanned aerial systems

(UAS) technology continues to play a vital role for the Alaska Department of Transportation and Public Facilities (ADOT&PF) crisis response team and their ability to share information and monitor changing landscapes. One of these technologies is a UAS docking station that facilitates remote deployment, offering a dependable infrastructure

for autonomous flights. During a previous closure of the Dalton Highway in northern Alaska due to flooding, the ADOT&PF deployed the docking station to support the emergency response. As shown in this [video](#), the dock was pivotal in monitoring the reconstruction of the highway through daily inspection updates, offering real-time insights to the response team. The agency is currently taking steps to deploy this same technology in Wrangell, AK, as part of the continued monitoring of a landslide area.

Maine Deploys Smarter Work Zones

The Maine Department of Transportation (MaineDOT) [reported](#) that the agency is using new [smarter work zone](#) technology this year to improve safety and awareness on road construction projects. The department has developed a specification for a Smart Work Zone System that involves deploying portable sensors miles ahead of interstate work zones. The sensors monitor vehicle speeds and volumes, allowing MaineDOT to collect real-time traffic information and put that information on digital message boards that give drivers early warnings about speed reductions or stopped traffic.

Pennsylvania Adds HFST to I-95 Repair

The Pennsylvania DOT (PennDOT) [announced in May](#) that permanent repairs to Interstate 95 (I-95) in northeast Philadelphia were complete, less than a year after a June 11, 2023, tanker truck crash and fire caused the roadway to collapse. PennDOT replaced the bridge and northbound ramp, adding enhanced traffic safety measures to the ramp such as [high friction surface treatment](#) (HFST). HFST is a treatment added to the top of a road surface that creates more friction on the pavement, helping keep vehicles in their lane and improving stopping distance around curves or other locations where wet pavement may contribute to crashes. PennDOT noted that the agency has implemented HFST across Pennsylvania, with [data](#) showing that the treatment decreases fatal and injury crashes where it is installed. Read more about PennDOT's use of HFST in the April 18 issue of [EDC News](#).



Watch a [video](#) on how Wyoming DOT is expanding access to its road closure data to keep drivers safe in severe weather.

Credit: U.S. DOT ITS Joint Program Office

Wyoming Widens Access to Road-Closure Data

When snow, high winds, and severe weather conditions require the Wyoming Department of Transportation (WYDOT) to close Interstate 80 (I-80), the State's primary east-west highway, conditions on secondary roads are often even more dangerous. However, without sufficient data on road closures, some navigational apps may reroute I-80 motorists onto those roads and leave them stranded. To help prevent such emergencies, WYDOT has [expanded third-party access](#) to its road-closure data via the Situation Data Exchange (SDX). The SDX stores and distributes data collected from wirelessly connected vehicles, including WYDOT fleet vehicles and snowplows. WYDOT also consults with individual counties to include information on local and conditional closures. This [road weather management](#) strategy will provide navigation companies with a reliable source of real-time travel information including weather advisories, variable speed limits, road closure notifications, and vehicle weight restrictions. WYDOT also plans to use SDX to create [smarter work zones](#) by communicating directly to drivers about hazards in addition to road closures, such as reduced speed limits, width restrictions, delays, and worker presence.



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INNOVATOR, published by the FHWA's Office of Technical Services, advances the implementation of innovative technologies and accelerated project delivery methods in highway transportation.

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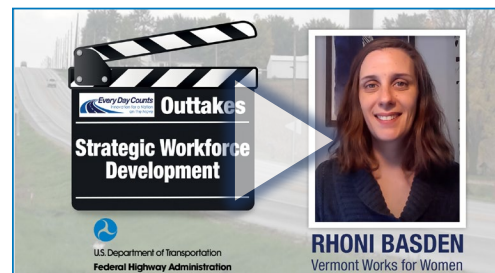
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EDC Outtakes: Strategic Workforce Development

The demand for highway workers is growing, so many States are promoting and supporting apprenticeship programs. However, recruiting and retaining apprentices can be challenging. Watch two of the latest editions in the Every Day Counts (EDC) Outtakes video series to learn how agencies in Vermont and Oregon are having success, and visit the EDC-7 [strategic workforce development](#) webpage for links to additional resources.



Rhoni Basden, executive director at Vermont Works for Women, discusses creating a diverse high-

way construction workforce and breaking down barriers that have limited women entering the construction field.

Larry Williams, operations and policy analyst for the Oregon Bureau of Labor and Industries, describes the key compo-



ponents that his agency has found have the most impact on helping apprentices remain in their programs.

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