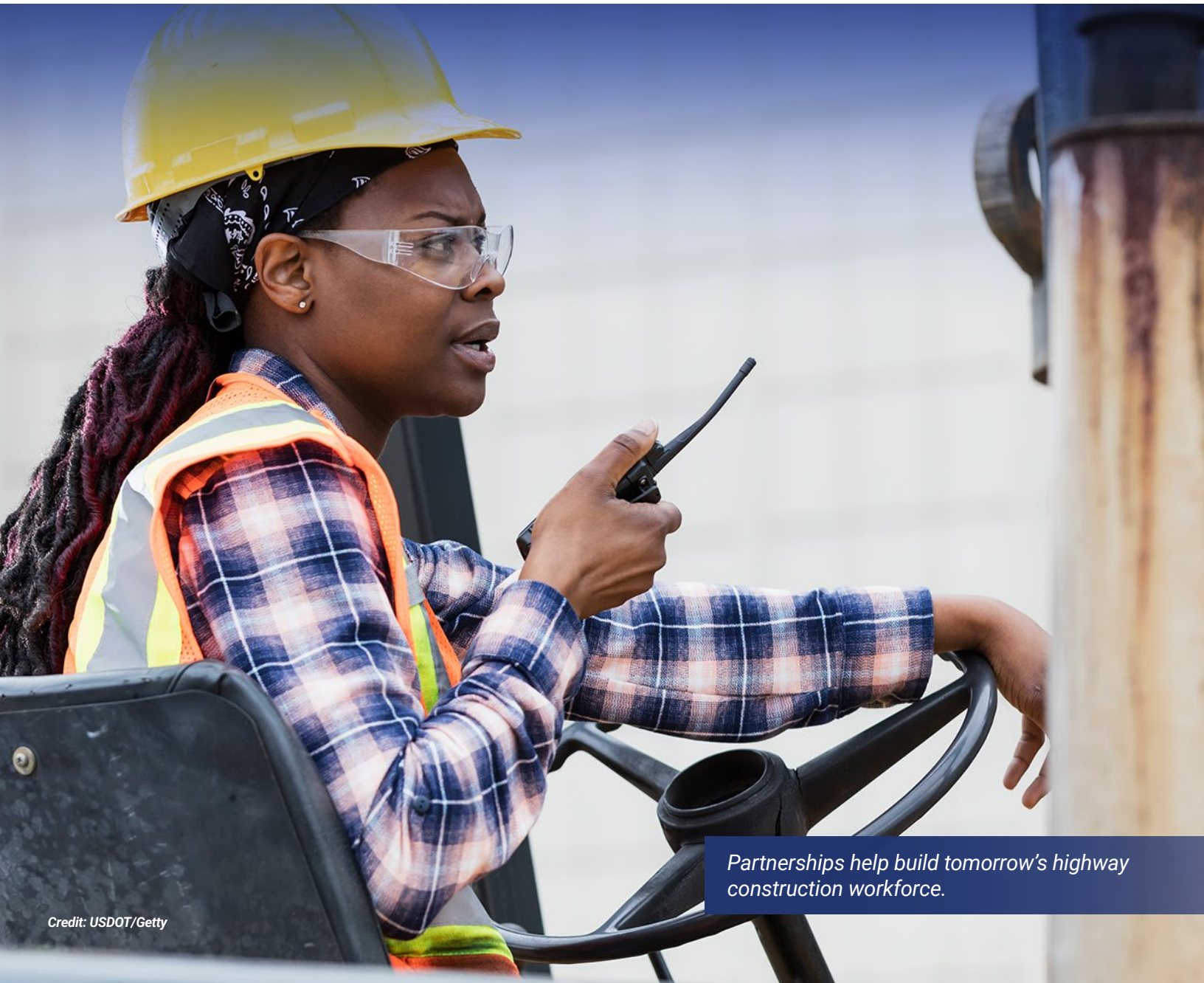




INNOVATOR



Credit: USDOT/Getty

Partnerships help build tomorrow's highway construction workforce.

2 **ConnectU2Jobs Graduate Shares Program Experience to Inspire Others**

4 *Hawaii DOT Gets Fast and Furious Installing Raised Crosswalks*

6 *States Report Success with Highly Modified Asphalt*

8 *Innovations Help States Deliver Award-Winning Projects*

10 *States Innovate!*

12 *Crash Responder Safety Week*

ConnectU2Jobs Graduate Shares Program Experience to Inspire Others

To fill vacancies across the highway construction workforce and help maintain safe roadways for all, the Texas Department of Transportation (TxDOT) established its **ConnectU2Jobs** program. ConnectU2Jobs is a **Highway Construction Workforce Partnership** program that prepares and trains justice-involved young adults between the ages of 18 and 24 for lasting careers in the highway construction industry.

In addition to TxDOT, the partnership includes the Federal Highway Administration, the Texas Workforce Commission, Dallas College, Workforce Solutions Greater Dallas, the Regional Black Contractors Association, the Regional Hispanic Contractors Association, Lone Star Justice Alliance, and the Associated General Contractors of Texas.

ConnectU2Jobs is designed to offer career opportunities to individuals who typically may not be provided access to such options. The program is based on an “earn-while-you-learn” concept that allows participants to earn income while receiving classroom-based instruction and on-the-job training.



Credit: FHWA

ConnectU2Jobs participants receive both classroom instruction and on-the-job training.

Recognizing a Life-Changing Opportunity

For Jeremiah Ramos, ConnectU2Jobs provided potential at a time when his future prospects seemed bleak. Ramos had dropped out of high school during ninth grade and had very little work experience after serving time in the Texas criminal justice system. He first heard about the ConnectU2Jobs program during a meeting with his probation officer and a judge. He says it offered him the chance to become a heavy equipment operator—a job he had been interested in for a few years but was not sure how to pursue.

“I saw an opportunity to do something I would enjoy in a positive environment,” said Ramos. “Instead of going back to my old ways, I had a chance to do something to better myself—and the lives of the people around me.”

“This program opened doors I never thought existed,” he continued. “After I completed the training, I was lined up with a job as a laborer right away—in just 3 months, I got a promotion.”



Credit: FHWA

Jeremiah Ramos, left, with other graduates from his Texas ConnectU2Jobs training cohort: Tarone Taylor, Eddie Nino, and Carlos Mendoza.



Credit: FHWA

One million jobs.
One should be yours.

Start your career in highway construction today. fhwa.dot.gov/RoadsToYourFuture

#RoadsToYourFuture

FHWA's [Strategic Workforce Development Toolkit](#) is new and improved with materials such as posters, flyers, postcards, and exhibit banners.

Receiving Support on the Road to Success

Ramos joined the ConnectU2Jobs inaugural class of 10 students in completing classroom instruction and on-the-job training. Throughout each step, the program provided resources like housing, transportation, and meals to help participants succeed.

From day one, he says the support he received made him feel unstoppable. "We were given gas cards to get to the college for class," said Ramos. "The program prepared us for stepping out into the field with real machines, but they also taught us everything from mathematics to basic life skills like saving and budgeting."

For additional support, students were paired with transition coaches who served as mentors both during and after the program. Since graduation and beginning his highway construction career, Ramos has seamlessly stepped into a mentorship role for new students.

"Someone showed me the way forward, and I feel like it's my job to share that," said Ramos.

"Coming into this industry can be scary. Every job is different. I make sure to teach new students everything I've learned."

Focusing on the Future

Ramos was quickly hired by Webber, the Texas construction firm where he completed his on-the-job ConnectU2Jobs training. Lawrence Texada, a regional human resources business partner at Webber, said it was instantly apparent that Ramos had a lot of potential.

"From his very first project, we knew he was going to be successful," said Texada. "I can't wait to see where he is in 5 or 10 years. He has the drive to become a supervisor and make \$120,000 to \$130,000."

"From personal growth to financial gain, the outside public doesn't understand how rewarding construction is," Texada continued. "To see the look of joy on the faces of these individuals when they succeed, it's like watching my own child accomplish something."

Ramos said ConnectU2Jobs has not only motivated him to advance at work, it also has inspired him in his personal life. "Some of the classes actually helped me pass my GED and prepared me to buy a house," said Ramos, who encourages others to take advantage of the opportunity. "You've got to have faith in the program, and in yourself. Just go for it."

MORE INFORMATION

- 📖 Read a **case study** on the Texas ConnectU2Jobs program.
- @ Contact **Chrisy Currier**, FHWA Strategic Workforce Development program manager, for information and technical assistance.
- @ Contact **Kim Hunziker** of TxDOT to learn more about the agency's ConnectU2Jobs program.
- Visit FHWA's **Highway Construction Workforce Partnership/Strategic Workforce Development** webpage for case studies, pilot profiles, marketing materials, and more.



Share this article on your social media accounts

Hawaii DOT Gets Fast and Furious Installing Raised Crosswalks

The Hawaii Department of Transportation (HDOT) is working to improve safety through the installation of raised pedestrian crossings, a traffic-calming measure that allows pedestrians to cross at grade with the sidewalk.

“By the end of 2022, we will have 150 raised crosswalks on our system,” said Ed Sniffen, HDOT’s deputy director for highways. “By the end of 2023, it will be 220. We don’t have to wait for crashes to happen and people to die before we install these. We know they work, and they can prevent tragedies.”

Sniffen was onsite during some road improvements in a residential area in urban Honolulu when he noticed people driving through the four-lane corridor at nearly double the posted speed limit.

“The speed limit was 35 and people were driving 60,” Sniffen said.

The corridor included three schools totaling 3,700 students, 80 percent of whom walk to school. In addition, many elderly pedestrians walk that corridor to access transit and the open market at the nearby park.

So, what could be done to be most effective in slowing drivers?

“We knew our problem was speed,” Sniffen said. “So we took on speed. But we wanted to make sure the system itself did most of the work. Raised crosswalks were the best option.”

A raised crosswalk is a variation of a flat-topped speed table that is marked and signed as a pedestrian crossing. They were one of the featured countermeasures in the EDC [Safe Transportation for Every Pedestrian](#) (STEP) initiative.

The most common type of raised crosswalk is constructed flush against the roadside curb and typically between 3 to 6 inches above street level. They slow vehicles and make pedestrians more visible to drivers. Raised crosswalks can [reduce all pedestrian crashes by 45 percent](#).

Sniffen’s team started by installing six raised crosswalks along the corridor. The results were immediate.

“We have had six minor crashes since we installed those raised crosswalks in 2019,” Sniffen said. “No severe crashes. The entire driving culture of that corridor has changed.”

The community in the area has also embraced the raised crosswalks.



Raised crosswalks improve the visibility of pedestrians and provide drivers a physical reminder to reduce their speeds.

“At first there was resistance from some drivers and others in the community,” Sniffen said. “But the overwhelming response was positive. Emergency responders told us the raised crosswalks had no effect on their response times and they actually prevent incidents the responders would have to respond to. Then we started getting requests from residents in other areas to install raised crosswalks in their communities.”

The agency is now proactively installing raised crosswalks systemically in other areas similar to their first raised crosswalk project and that have similar risks.

Another benefit of raised crosswalks is short installation time and cost-effectiveness, costing as little as \$4,000 to \$8,000, according to FHWA.

“We can have these on the ground in 2 days or less,” Sniffen said. “In fact, we have a contractor on standby who has a dedicated crew just to install these for us.”

“This is a great example of being proactive,” said Becky Crowe, transportation specialist with the FHWA Office of Safety. “HDOT stepped up to the challenge of eliminating fatal and serious injury crashes. They identified speed as a major risk and then quickly installed raised crosswalks.”



Hawaii DOT installed raised crosswalks on Kalihi Street in 2019, a section of roadway that had previously averaged two pedestrian-related crashes per year.

Credit: Hawaii Department of Transportation

“Our job is to make a safe system for everyone to travel,” Sniffen said. “At the HDOT, our part is infrastructure. We just want to do our part.”



Learn how [raised crosswalks](#) can reduce crash risk for pedestrians.

Credit: FHWA

MORE INFORMATION

- Visit the FHWA [STEP Resources](#) webpage for links to guidance, tech sheets, and case studies on raised crosswalks and other pedestrian safety countermeasures.
- 📖 Read the FHWA STEP program’s [Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations](#) for assistance in selecting appropriate countermeasures.
- Learn more about the [Safe System approach](#) and principles.
- @ Contact [Becky Crowe](#) or [Guan Xu](#) of the FHWA Office of Safety or [Peter Eun](#) of the FHWA Resource Center for information and technical assistance.



Share this article on your social media accounts

States Report Success with Highly Modified Asphalt

While it takes years to know if an overlay, specification, or technique will prove effective in the pavement world, the wait is over for news about highly modified asphalt (HiMA), as several agencies report success. HiMA contains more than two times the polymer content of traditional modified grades, which makes the binder behave more like rubber and enhances cracking resistance and rutting performance. This versatile product can be used in high-performance thin overlays (HPTO), stone matrix asphalt (SMA), crack attenuating mixtures, and open-graded friction courses—all of which are part of the FHWA [targeted overlay pavement solutions](#) (TOPS) Every Day Counts round six (EDC-6) initiative.

Oklahoma

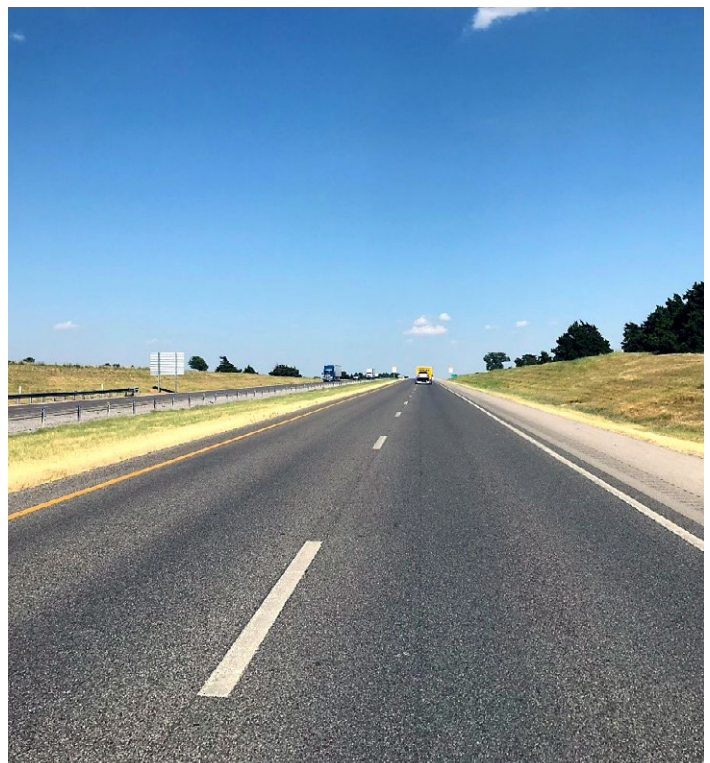
A decade ago, the Oklahoma Department of Transportation (ODOT) used mill and overlay with HiMA on a 2-mile stretch of Interstate 40 (I-40) west of Oklahoma City. The I-40 section endures more than 25,000 vehicles daily, 30 percent of which are trucks. Ten years after receiving the new overlay, the I-40 span's international roughness index averaged 50 inches per mile, which is smooth enough to result in ride quality bonuses for new construction in some States.

Conventional polymer concentration that exceeds 3 percent becomes more challenging to produce in the plant and less workable for the paving crew, but HiMA is a unique binder. The product can be used in significantly larger amounts than conventional polymer modifiers—up to 7.5 to 8 percent while retaining workability. The result is a more durable pavement that stands up to truck traffic while permitting thinner sections. While a highly polymerized mix is more expensive, reducing the required thickness can offset the cost and provide a longer-lasting pavement.

New York City

The New York City Department of Transportation (NYC DOT) typically resurfaces major arterial streets every 2 years, but an HPTO project with HiMA on 1st Avenue has provided significantly longer life.

There were two needs—repair a roadway in poor condition from years of utility projects and add lanes to accommodate buses and bicycles. This would require the costly rehabilitation of 53 city blocks and 11,000 tons of asphalt mix. Conventional pavement design practice would have required the closure of several blocks and intolerable disruption to residents and city leaders. Also, curb and utility cover requirements prohibit the use of thick asphalt overlay, and any



This stretch of I-40 in Oklahoma received a mill and overlay with HiMA in 2012.

Credit: Gary Fitts, Kraton Polymers U.S.

substantial removal of surface materials could damage underlying utilities.

The agency decided to place two exploratory HPTO sections on two blocks of 1st Avenue in 2012. A year later, the sections were in very good condition, so NYC DOT decided to move forward with an HPTO approach for the entire project conducted at night with minimal traffic disruption. The construction included micro-milling the existing surface, joint sealing and patching with a hot-applied polymer material, using a pavement fabric, and installing a 1.5-inch HPTO with HiMA. According to the NYC DOT website, the roadway is still in good condition 9 years later.

Virginia

The Virginia Transportation Research Council (VTRC), the research division of Virginia DOT, published a [report](#) detailing HiMA laboratory and field performance evaluations. VTRC initiated the study in 2014 to evaluate HiMA constructability, laboratory performance, and initial field performance. As part of this effort, in 2015 VDOT placed dense-graded and SMA overlays with HiMA over existing jointed concrete pavement and cracked asphalt pavements to mitigate reflective cracking. This project was the first in the United States to include an HiMA binder in an SMA mix. The objective was to assess the viability of using HiMA mixtures in Virginia as a reflective crack mitigation technique or as a tool for increased crack resistance on high-volume facilities.

Researchers concluded that the HiMA test sections showed the most promising performance 5 years after construction (2015 to 2020) regardless of traffic level and the pre-existing pavement conditions compared to conventional polymer-modified asphalt (PMA). They determined that HiMA extended the life of pavements by approximately 34 percent compared to PMA.

FHWA's Tim Aschenbrener, an EDC-6 TOPS team co-lead, said that, in addition to these promising performance reports, accelerated performance for HiMA was observed over multiple 3-year research cycles on the National Center for Asphalt Technology Pavement Test Track. "The HiMA and other TOPS overlays not only maximize previous investments," said Aschenbrener, "they also reduce user delays thanks to fewer



Credit: Virginia Department of Transportation

In 2017, Virginia DOT placed SMA HiMA in the right lane and kept conventional SMA in the left lane as a control for a field evaluation.

work zones due to the extended service life of pavement structures."

The TOPS team has developed several [resources](#) to help agencies learn more about HiMA, including a webinar, a case study on Florida DOT HiMA projects, and a one-page fact sheet.

MORE INFORMATION

- Visit the [TOPS webpage](#) for additional resources.
- @ Contact [Tim Aschenbrener](#) (asphalt) or [Robert Conway](#) (concrete), FHWA Office of Infrastructure Pavement Materials Team, to learn more about TOPS.



Share this article on your social media accounts

Innovations Help States Deliver Award-Winning Projects

Innovative **intersection designs**, **proven safety countermeasures**, **community connections**, **crowdsourcing**, and **virtual public involvement** were features of several of the winning projects for this year's America's Transportation Awards.

The 2022 awards recognized State department of transportation (DOT) projects for operations excellence, best use of technology and innovation, and quality of life/community development. The annual competition is sponsored by the American Association of State Highway and Transportation Officials (AASHTO), AAA, and U.S. Chamber of Commerce.

Read more about the following projects and the rest of this year's winners on the **America's Transportation Awards** website.

North Dakota Retrofits a Roundabout

The North Dakota DOT (NDDOT) improved safety and efficiency for motorists while saving money with an innovative **roundabout** design for a busy intersection. The **Beulah Retrofit Roundabout** project addressed safety challenges at an

intersection that had ranked fourth on the agency's rural intersection high-crash location list.

NDDOT retrofitted the roundabout on the existing intersection, which saved about \$2.5 million on the conventional cost of new construction. According to an **NDDOT video** about the project, the agency built the roundabout in less than 30 days, significantly less time than would have been needed for a full reconstruction. The savings in time and materials reduced the project's impact on both the environment and the traveling public. NDDOT reported it has also significantly improved the flow of traffic.

New York and Louisiana Combine Roundabouts with Road Diets

To improve safety in Utica, NY, the New York State DOT implemented a **road diet** and a **roundabout** to upgrade outdated roadways and improve all modes of transportation. The agency reported that its **multi-modal safety and connections enhancements** project improved traffic flows, reduced vehicle speeds, and reduced crashes.

The Louisiana DOTD's **Government Street** project addressed a road segment in Baton Rouge with crash rates greater than two times the statewide average. To make the road safer for all users and provide better multimodal options, the agency installed a **road diet** and replaced a signalized intersection with a **roundabout**.

West Virginia Increases Safety and Saves Money with an RCUT

West Virginia DOT implemented a **restricted crossing U-turn** (RCUT) on its **Oakwood**



Credit: North Dakota Department of Transportation

In this **project video**, the North Dakota DOT explains how the agency's roundabout retrofit design saved time and cost.

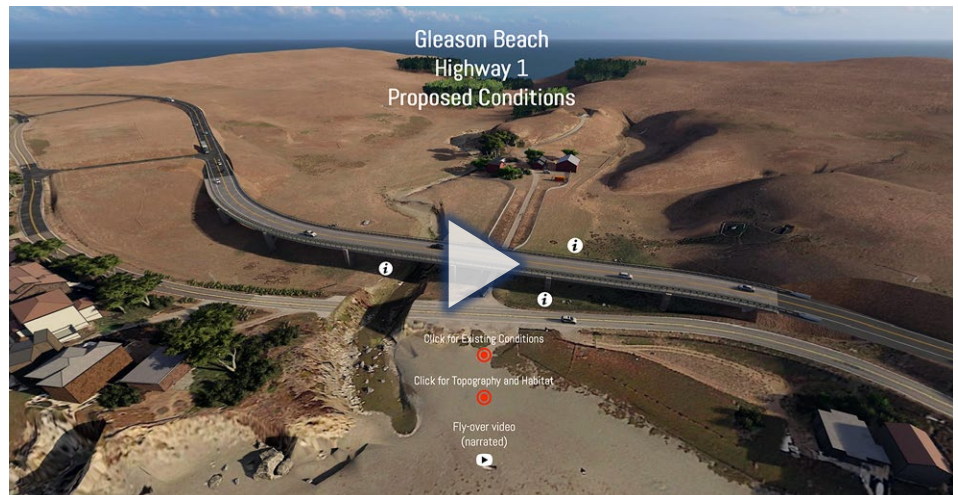
Drive RCUT project to address traffic congestion and safety issues on Interstate 64 in downtown Charleston. The RCUT design allowed the agency to use existing roadways and right-of-way and limited the infrastructure required for traffic signals, lighting, signage, and pavement markings. The West Virginia DOT reported an estimated savings of \$25 million.

Pennsylvania Improves Community Connections

The Pennsylvania DOT reconnected a neighborhood separated by interstate construction in the 1950s while also spurring new economic growth with its **I-579 Urban Open Space Cap project** in Pittsburgh. The project helped reestablish **community connections** by bridging the interstate with a park. The park area improved pedestrian and bicycle safety and access to the downtown core. It includes story walls, an outdoor classroom, and performance and green spaces as well as path lighting and improved links to public transit.

New Jersey Improves Safety with Crowdsourcing

The New Jersey DOT is using **crowdsourced data** to deliver real-time information to commercial vehicle operators to increase highway safety and efficiency. The agency alerts drivers to road



The [California DOT's 360 Tours website](#) includes project illustrations, videos, and interactive questions to promote public involvement.

Credit: California Department of Transportation

conditions through **a cell phone app or electronic logging device**. This advance warning of sudden slowdowns or congestion gives commercial drivers more opportunity to slow their speed or seek alternate routes, which helps improve safety for all drivers in the area.

California Enhances Public Engagement

The California DOT (Caltrans) developed a new online tool called **360 Tours** for enhancing **virtual public involvement** on current and upcoming projects. Caltrans consolidated software technologies into an interactive, web-based interface that delivers complex project information in a centralized 3D model. Visitors to the website can explore existing conditions and see conceptual solutions. For its State Route 37 **planning and environmental linkages** project, 360 Tours offered Caltrans stakeholders an opportunity to **view the effects of sea-level rise**. The agency has also used 360 Tours to facilitate project meetings and explain safety-related items.



Watch an [Adventures in Crowdsourcing](#) webinar to learn more about New Jersey DOT's use of crowdsourced data for commercial vehicles.

MORE INFORMATION

@ Contact **Maggie Kasperski** of AASHTO for information on America's Transportation Awards.



Share this article on your social media accounts

Credit: National Operations Center of Excellence

States **innovate!**

Maine Bundles Eight Bridges on I-95

The Maine Department of Transportation (MaineDOT) is using **project bundling** strategies to rebuild several aging bridges on a 4-mile stretch of Interstate 95 in Hampden. The **Hampden Bridge Bundle Project** includes the removal of eight existing bridges, which are 60 years old and reaching the end of their useful life, and design and construction of eight full replacement bridges using the **design-build** method. Project bundling, the process of awarding a single contract for several projects, can allow agencies to capitalize on economies of scale to increase efficiency.



Credit: Maine Department of Transportation

MaineDOT is using project bundling and design-build strategies in rebuilding eight bridges on I-95.

Iowa Helps Launch Highway Careers for Young Adults

The Iowa Department of Transportation (Iowa DOT) is offering training programs for non-traditional construction workers to boost diversity in its highway, street, and bridge construction workforce. The program prepares women, minority groups, and other disadvantaged persons for entry-level positions that can provide long-term career options. With **Highway Construction Workforce Partnership** (HCWP) funding, Iowa DOT is collaborating with industry representatives and community colleges to extend its training and placement services to young adults ages 18 to 24.

The expanded program highlights general construction knowledge like workplace safety, personal protective gear, equipment safety inspections, and safe operations. It prepares successful trainees to find jobs as construction laborers, heavy equipment operators, and highway maintenance workers. To increase career placement, Iowa also offers recruitment and networking services for program participants.

Puerto Rico Moves FoRRRwD with Roadway Departure Countermeasures

The Puerto Rico Highway and Transportation Authority (PRHTA) is working to reduce lane departure crashes by developing highway safety corridors to evaluate **countermeasures** such as rumble strips, horizontal curve warning signs, high friction surface treatments, SafetyEdgeSM, and guardrail upgrades. As part of the Focus on Reducing Rural Roadway Departures (**FoRRRwD**) initiative, Puerto Rico Local Technical Assistance Program staff provided translations that were used to develop Spanish-language versions of the **FoRRRwD trading cards**. Read more about Puerto Rico's project in FHWA's Summer 2022 **Safety Compass newsletter**.



Watch a [time-lapse video](#) of Michigan DOT moving a new bridge over I-94 into place.

Michigan Accelerates Bridge Move

The Michigan Department of Transportation (MDOT) used **accelerated bridge construction** methods on its **Second Avenue Bridge over Interstate 94** project in Detroit. The Second Avenue bridge, part of MDOT's larger I-94 Modernization Project, replaces the original bridge built in 1954 and will be the State's first network tied-arch bridge. MDOT received an FHWA **Accelerated Innovation Deployment (AID Demo)** grant for the network arch superstructure. The new bridge was built at a nearby location off-site while the on-site work (foundation and abutment walls) occurred, allowing both operations to occur simultaneously. MDOT moved the new bridge into place over I-94 using **self-propelled modular transporters**.

North Carolina Opens New TIM Training Track

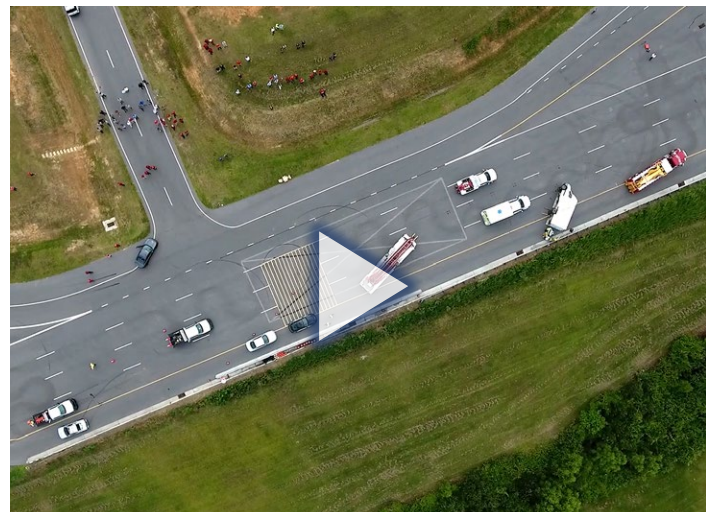
The North Carolina Department of Transportation (NCDOT) partnered with the North Carolina State Highway Patrol to construct a Traffic Incident Management (**TIM**) Training and Development Track in Raleigh. The TIM training track is a closed half-mile course that helps first responders safely train for real events on the State's highways. A **demonstration day** was held to mark the track's official opening and demonstrate the value of partnerships in clearing

roads safely and quickly. Read a **case study** for details on the new training facility and how NCDOT has advanced its TIM training program.

South Dakota Boosts Winter Road Safety

The South Dakota Department of Transportation (SDDOT) is seeing success with installation of high friction surface treatments (**HFST**) at strategic locations, especially those involving winter road conditions. As reported in FHWA's **Roadway Safety Champions Monthly Spotlight** series, SDDOT installed HFST in 2017 at 15 locations with a high frequency of winter-road-condition crashes. After two winters,

a before-after analysis of the crash data showed a 78-percent reduction in total crashes. SDDOT estimated that the use of HFST in the State will save \$18 million in societal crash costs. Due to the success of this project and others, SDDOT included biennial HFST treatment projects in its State Transportation Improvement Program.



Watch a [video of a demonstration day](#) at the North Carolina DOT's newly opened Traffic Incident Management training track.



Share this article on your social media accounts

INNOVATOR

INNOVATOR, published by the FHWA's Office of Innovation Management, Education, and Partnerships, advances the implementation of innovative technologies and accelerated project delivery methods in highway transportation.

Pete Buttigieg

Secretary, U.S. DOT

Stephanie Pollack

Acting Administrator, FHWA

Amy Lucero

Associate Administrator, Office of Transportation Workforce Development and Technology Deployment

Innovative Technologies and Collaboration Team:

Jeffrey Zaharewicz

Director

Sara Lowry

STIC Program Coordinator

Fawn Thompson

AID Demo Program Coordinator

Julie Zirlin

EDC Program Coordinator

Letha Cozart

Managing Editor

James Cline, Jr.

Designer

Pat Holcombe

Designer

Rodney Walker

Designer



U.S. Department of Transportation
Federal Highway Administration

Crash Responder Safety Week

November 14–18, 2022

Traffic incident responders put their lives at risk when clearing each of the nearly 7 million annual motor vehicle crashes or the broader range of incidents such as stalled vehicles or roadway debris. **Crash Responder Safety Week** (CRSW) is an FHWA-sponsored initiative that communicates simple steps everyone can take to help keep roadway responders and the public safe around traffic incidents.

CRSW offers an opportunity to promote road user awareness and adherence to Move Over laws and **Traffic Incident Management** (TIM) training for all traffic incident responders. Register now for the CRSW **National Kickoff webinar**, scheduled for Nov. 14, 2022, which will include U.S. DOT and national association executive leadership messages, proclamation signing, and responder struck-by testimonials.

The CRSW kickoff webinar takes the place of the November Talking TIM webinar hosted by **Jim Austrich**, **Paul Jodoin**, and **Joe Tebo**, FHWA Office of Operations, and the National Operations Center of Excellence. To view previous topics in the Talking TIM webinar series, visit the **Talking TIM webinar site**.



Credit: FHWA

Crash Responder Safety Week takes place Nov. 14–18, 2022.

Subscribe Today!

Don't miss an issue! **Sign up** to receive EDC News and Innovator newsletters.

Want More Innovator?

Access past issues in the **Innovator Archive** and have the next issue sent to your mobile device by texting "FHWA Innovation" to 468311. Email reprint requests to **Julie Zirlin**.