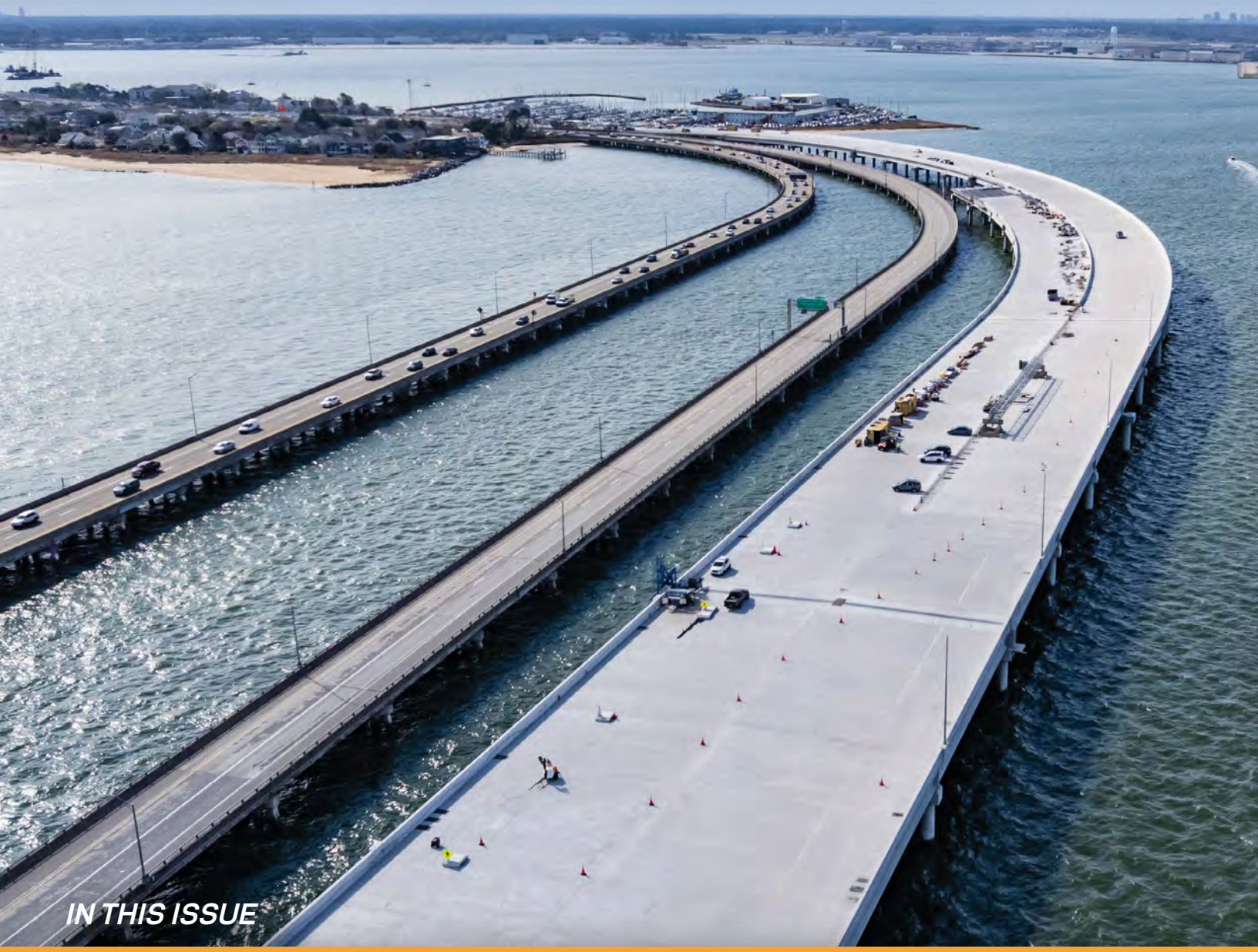
HRBT EXPANSION Magazine

Spring 2025



IN THIS ISSUE

Project Director Message

Ryan Banas, PE, CCM

Signs of Spring and new growth are all around, and signs of HRBT Expansion progress are as well. Since our Fall 2024 issue of HRBT Magazine was published, with stories of Mary The Tunnel Boring Machine's historic breakthrough and turnaround, we're pleased to report Mary is well on her way to the half-way point of constructing our second bored tunnel.

While 2024 may have been the year of Mary's breakthrough on North Island, 2025 stands to be the year of meaningful improvements to those who drive our corridor every day. In February the project team opened up the newly relocated I-64 East Bayville Street/Willoughby off-ramp in Norfolk. Later this summer we expect to shift two lanes of traffic to the new South Trestle to carry eastbound travelers between South Island and Willoughby Spit. Additionally, motorists can expect a new temporary bridge as westbound traffic approaches our South Island, new traffic patterns across the eastbound Willoughby Bay Bridge, and the first chance to test out our new pavement on eastbound lanes through Norfolk.

Inside this Spring edition, you'll read more about these projects and our people who are helping transform the region for the next century. Not enough? Please keep an eye on our social media to find your next opportunity to visit the project's very own Welcome Center located on 4th View Street in Norfolk.

I am consistently amazed at the hard work, dedication, and expertise our more than 2,000 staff and craft employees bring to work every day in the hopes of taking us one commute closer to an expanded HRBT. This team of professionals regularly execute what seems impossible in an effort to improve our region's most critical piece of infrastructure. I look forward to continuing to share with you the many reasons to be proud of the incredible efforts underway to solve Hampton Roads' biggest challenge and to turn it into our region's greatest accomplishment.

Drive Safe!

PROGRESS AT A GLANCE

Construction progress is evident across the 10-mile corridor of the HRBT Expansion Project, from new bridges and soundwalls to widened roadways and overpasses. Added to that is significant progress below the surface as Mary The Tunnel Boring Machine (TBM) works to build the second tunnel.

NORTH ISLAND

On the North Island, new tunnel approaches are being constructed to connect the North Trestle bridges with the new tunnels.

SOUTH ISLAND

On the South Island, crews build the reinforced walls to support the tunnel operations facilities that will be located atop the TBM launch pit.

PILE DRIVING

Across the HRBT Expansion Project, crews continue pile driving activities to provide the foundations for new and widened bridges.

TUNNEL WALLS

Crews install steel reinforcing to provide support to the new interior and exterior walls as you exit the tunnels.

MALLORY STREET BRIDGE

The northern portion of the existing Mallory Street Bridge has been demolished to make way for the new bridge.

The new westbound North Trestle takes shape as crews continue construction of the new structure between the original bridges.

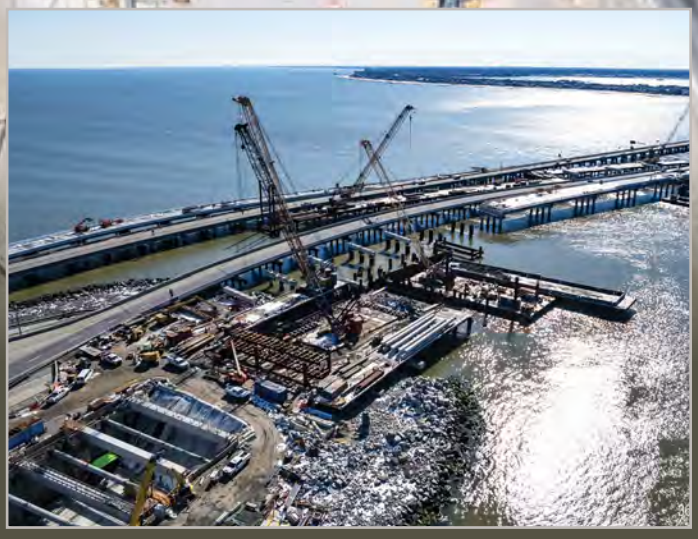
Taking the HRBT to New Heights:

South Trestle Superstructure with Superelevation

As you approach the Hampton Roads Bridge-Tunnel (HRBT) from Norfolk, you can't help but notice the massive new structure that is the new South Trestle bridge. This new superstructure will replace the two existing bridges connecting Norfolk to the South Island of the HRBT. At its widest point, the new bridge is 140-feet wide and can accommodate eight lanes of travel, including both east and westbound traffic, once completed.

The new bridge stands at 44 feet above the surface of the water at its highest point and ranges between 6 and 28 feet higher than the existing bridges to provide a more resilient structure out of reach from harmful sea spray. Additionally, the bridge deck and structure are being constructed with stainless steel reinforcement and the supporting piles use carbon fiber strand to reduce the potential for corrosion in the harsh saltwater environment.

Crews carefully remove segments of the old bridges, which will be treated and used in existing artificial reefs in partnership with the Virginia Marine Resources Commission.



The new bridge connection to the existing eastbound tunnel will accommodate a traffic shift onto the new South Trestle bridge in Summer 2025.

JUST THE FACTS:

497 beams

85-inches tall

Max of 123 feet long

372 piles

67,568 sq. yards of bridge deck

which is the equivalent of roughly 10.5 football fields

Caps are installed on top of the piles to support the girders.

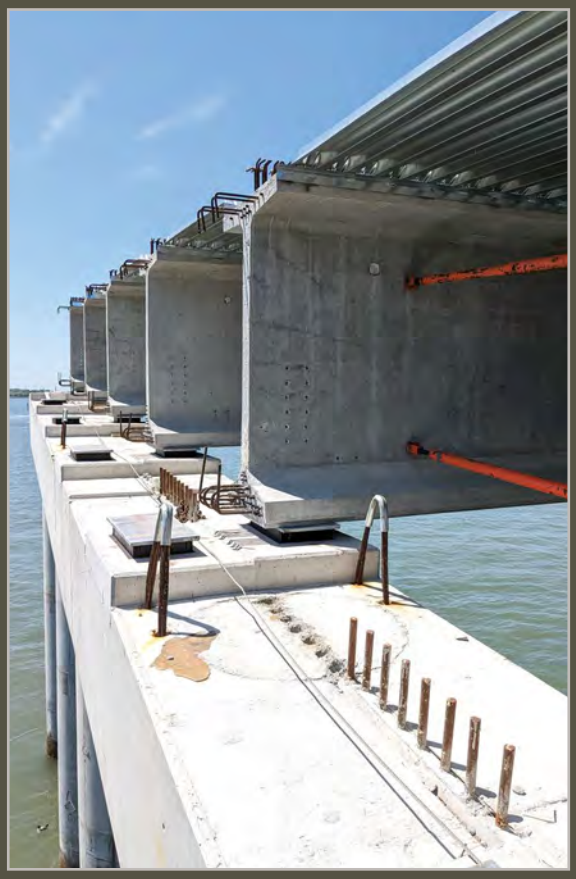
Concrete trucks deliver material to build parapet walls on new and widened structures.

The new superstructure includes features often seen on high speed racetracks; superelevation. By providing cross-slope along the bridge's surface, essentially tilting the roadway, the super elevation increases safety and allows drivers to maintain highway speeds along the curved roadway. In addition, to keeping cars in proper alignment as the forces of nature push them to the outside, the superelevation also promotes good drainage on the new structure.

As early as summer 2025, motorists on I-64 east, exiting the eastbound tunnel will be shifted onto two lanes of the new trestle as crews move into the next phase of construction. However, unlike driving on a racetrack, motorists should be mindful of the 55 mile per hour speed limit, especially when driving through a work zone.

Specialized equipment is used to ensure bridge deck concrete is precisely placed and leveled.

Pile caps are staged for placement.



85" concrete girders land on each pier cap with elastomeric bearings carrying the immense load.

New piles are driven deep into the seabed to provide support for the new bridges.

A view from the water of the piles, caps and girders for South Trestle bridge.

A crane is utilized to move the pile cap into place on top of the piles.

Crews work to prepare the pile caps to receive their bearing pedestals.

Instrumentation and Monitoring
at the HRBT Expansion Project

Sean Johnson, Geotechnical Instrumentation & Monitoring Specialist

Sean Johnson spends his days with a keen eye on "invisible" measurements across the Hampton Roads Bridge-Tunnel Expansion project. These measurements, sometimes as small as a one-hundredth of an inch, serve to inform the project team of any developing changes in the existing facility or newly constructed portions of the project. He reviews and interprets the real-time data streams which are designed to detect and send notifications in the event of unanticipated changes during construction.

Sean likens his job as a Geotechnical Instrumentation and Monitoring (I & M) Specialist to being a watchdog; screening for unforeseen changes that may require further investigation. The purpose of Sean's task is to validate that the design prescribed by engineers behaves as it was intended once constructed and that existing structures are not impacted by the ongoing construction that occurs in close proximity.

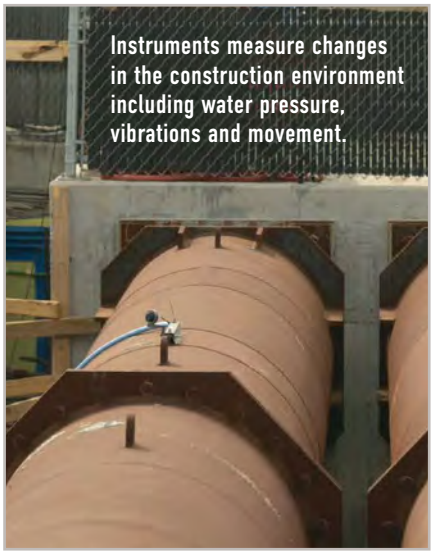
The scale and the scope of the project are reflected by the vast arrays of instrumentation used to inform the project team. The I&M program for the project commenced as one of the primary tasks in 2019. Since then, these measurements have been integral to the ongoing successes of the project and are consistently under the review of specialists such as Sean.

The instruments used across the project include a variety of above and below ground sensors to detect changes in the surrounding environment during construction. Some instruments rely on optical visibility (i.e., line of sight), while others are embedded in the ground (e.g., determine how much water pressure is in the soil). Most of these measurements go without notice or are otherwise imperceptible to the human eye, yet by design if something is operating outside its normal range, Sean will know about it. Additionally, sensor types can range from strain gauges that measure extremely small moves through the use of electrical wires where resistance is read as the wire becomes elongated, all the way to physical measurements made by human eye on less sophisticated manual instruments. Wherever the movement, whatever the size, you can rest assured Sean and his team have their eye on every aspect of the project.

The Dutchess County, New York native and Wentworth Institute of Technology (Boston) graduate arrived at the HRBT Expansion Project with extensive technical experience and project management credentials, including delivery of the monitoring program implemented during construction on the new Midtown Tunnel. He and his wife fell in love with the area and when the opportunity to join the HRBT project came along, Sean embraced the challenge to support this transformative project for the region with his expertise.

With tens of thousands of data points pouring in every single day, Sean is tasked with sorting through the noise and making sense of the data. Very akin to a data scientist, he and his team look for trends and correlations among data sets; did the bridge move because it was warm and in the sun all day, or is an unanticipated movement occurring? Watchdogs, investigators, or data scientist; they go by many names but the I&M team at the HRBT Expansion is a critical piece to ensuring a durable, long-lasting structure.

I&M is just one of the many unique aspects of the HRBT Expansion Project that requires a diverse set of technical experts.



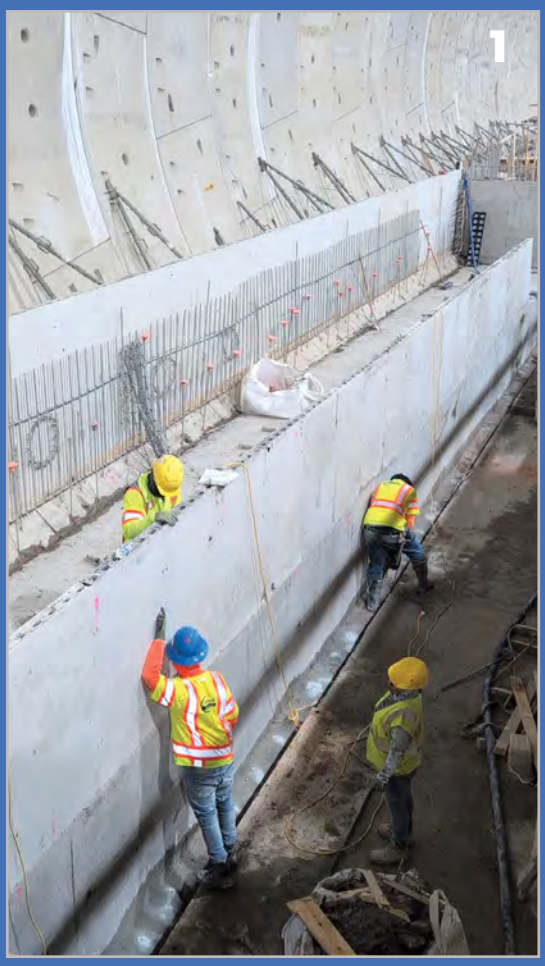
Instruments measure changes in the construction environment including water pressure, vibrations and movement.

Finishing the Tunnel

While Mary the Tunnel Boring Machine (TBM) has completed the excavation and placement of the tunnel segments for the first tunnel, significant work remains prior to accommodating any traffic. Currently, the the tunnel liner provides a blank canvas for the necessary interior outfitting work.

Crews must place roadway ballast, pour barrier walls, and fabricate the egress corridor prior to starting tunnel finishes.

A look into the two new tunnels from the North Island TBM receiving pit.



Preparing the Roadway

The segments placed by Mary form the outer liner of the tunnel, but the tunnel is far from finished. Now crews are busy constructing the roadway that will accommodate two lanes of travel. The first step is to prepare a stable base, which will support the concrete pavement. Installation of a tunnel drainage system is critical to collect and remove water that enters the tunnel. Rain water, water from vehicles tracking it into the tunnel, as well as the runoff from tunnel washing operations all must be treated for pollutants prior to discharge.

[ABOVE L TO R CLOCKWISE]: [1] Crews install formwork for the interior walls. [2] Crews work to form the roadway slab at the tunnel's low point. [3] Crews install reinforcing steel in the egress corridor wall. [4] Crews place concrete to allow the passage of segments, crew, and equipment. [5] Crews install ballast, or essentially a bed of gravel, to help with drainage and provide stability.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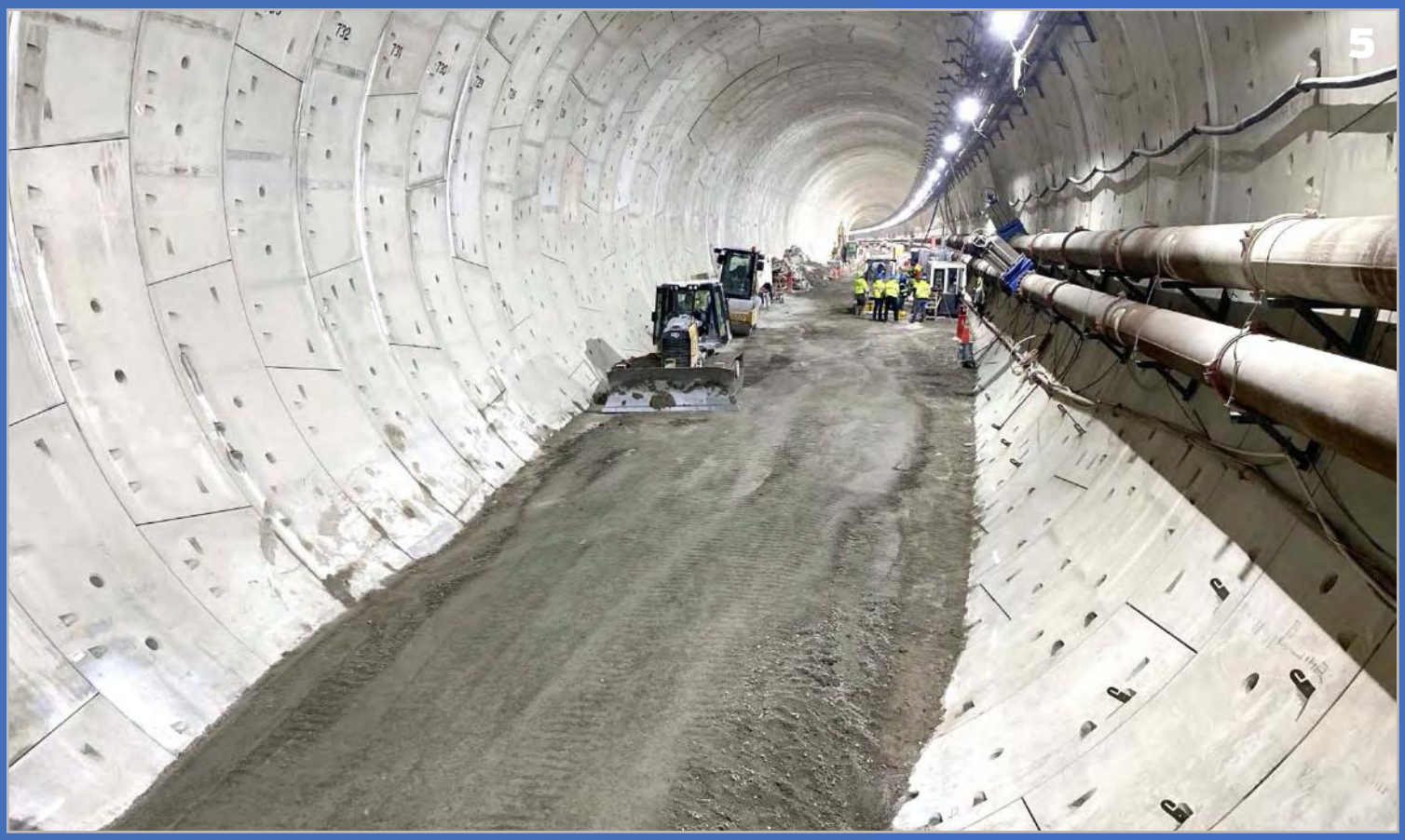
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A Safe Way Out:
Building Egress Corridors in the New Tunnels

If you've ever driven through a tunnel, you might have wondered what would happen in case of an emergency. That's where the tunnel egress chambers come in. The new HRBT tunnels will be equipped with completely separated egress corridors to provide a protected way out in case of a fire, accident or other hazard.

After Mary has completed her work placing tunnel liners and the roadway ballast has been compacted, crews get to work building the egress corridor. The walls, comprised of steel reinforced concrete, separate the roadway from the safe haven. Crews use a construction method called traveling formwork to construct reinforced concrete walls, which are also covered in fire protection board. The new tunnel egress corridors have a minimum height of 7.5 feet and width of 3 feet 8 inches. They are equipped with ventilation systems that provide a constant supply of fresh air from a bank of three pressurized fans at each of the islands. The fresh air is slightly pressurized to keep smoke, heat or any other harmful vapors from entering the corridor when the sliding emergency doors are opened. There are a total of 13 entrances to the egress corridor, so you'll never be farther than 320 feet from an entrance. Each entrance will be clearly marked with a lighted EXIT sign and the egress corridors connect to stairwells leading to the islands.

The HRBT Expansion has been designed and constructed with the traveling public in mind. The inclusion of the egress corridors provide an additional level of safety in the event of an emergency. By integrating state-of-the-art ventilation, fire-resistant materials, and accessible exit points, the tunnels are built with safety in mind.

Interior tunnel walls separate the roadway from a protected emergency egress corridor.

There are a total of 13 entrances to the egress corridor, so you'll never be farther than 320 feet from an entrance with lighted EXIT signs.

[L TO R]: Antonio Fasciani and Jose Urbano, two of four TBM operators, share a smile while hard at work.

STAFF SPOTLIGHT

Keeping Mary the TBM Moving

ANTONIO FASCIANI AND JOSE URBANO / Tunnel Boring Machine Crew

Mary the Tunnel Boring Machine (TBM) Operator **Jose Urbano** enjoys the rare feeling of sunshine on his face after working most of his professional life underground.

TBM programmer Antontio Fasciani has spent most of his career underground as well.

To see them on the job is to witness their professionalism and laser-focused attention to a bank of computer screens and controls that report critical data about Mary the Tunnel Boring Machine's mining operations and internal status. They monitor. They interpret. They adjust if necessary. They pause only long enough to greet an occasional visitor with a smile. Their work is intense and personally satisfying. "It pleases me to use an idea, translate it into logic in the software, and finally see that this idea is transformed into movements on the machinery," said Antonio. But what pleases him most, Antonio shared, "is working on sites (jobs) that are meant to improve the way of life in the countries where I work."

Jose views his work as "helping people save time on their commute," in addition to achieving milestones and solving challenges.

Jose first learned about TBMs by assembling them and understanding how they operate. Antonio develops software based on the needs of the mining operation and trains other operators who also help keep the boring machine working around the clock. He teaches that technology is always evolving so "there are differences between this machine (Mary) and others."

Fortunately, Mary has been operating nearly flawlessly since she first began tunneling in April 2023. Both men attribute her success to the quality of the equipment, years of experience operators bring to the project, and the dedication and hard work of the production and technical teams that prepared the South Island for her launch, the North Island for her "turn-around," and provide for Mary's needs every day.

On April 23, 2024, when Mary pushed through the headwall of the HRBT North Island, Antonio says, "I think it was one of the best breakthroughs I have ever seen in my career." Jose echoes the feeling of great satisfaction because to get to that day, he says they constantly had to adapt to the existing soil conditions and pilot Mary to break through exactly where it was designed to.

Both men have worked in big U.S. cities in the past. When time permits, they like to discover the local sites around their temporary homes. But when Mary completes her mission, which is expected to happen by early Fall 2025, they intend to take a little time off to spend with family, before going underground again on their next journey!

A National Best Practice
Ensuring Future Travel Reliability in Hampton Roads

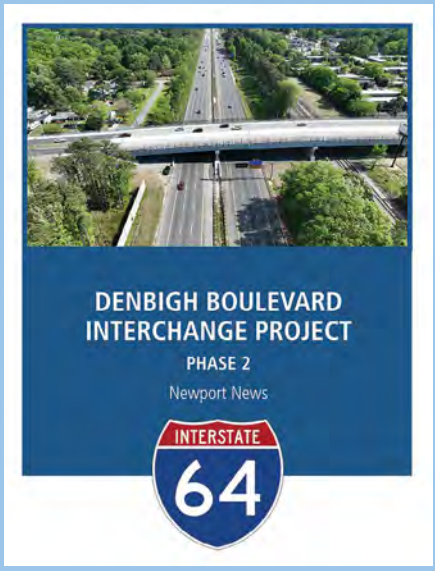
Hampton Roads is witnessing the largest and most transformative construction project in Virginia Department of Transportation history with the construction of the Hampton Roads Bridge-Tunnel Expansion Project. However, this $3.9B focal point of the region is just one on a long list of projects made possible through a unique and innovative funding mechanism controlled directly by the Hampton Roads region.

Dating back to 1990, the Virginia General Assembly in Richmond tasked VDOT with studying alternatives to relieve congestion at the HRBT. After many iterations of state and regional led studies kept coming back to the same conclusion; a transformative project on a scale like no other would be required. Taking matters into their own hands, General Assembly members from Hampton Roads joined several governors and spearheaded legislation in 2013 to create a stable and reliable recurring revenue stream generated through a regionally levied gas and sales tax for transportation and in 2014 to create the Hampton Roads Transportation Accountability Commission. Comprised of ten city mayors, four county board members, five state legislators, three members of the Governor's Cabinet and a Commonwealth Transportation Board (CTB) member, HRTAC determines how to invest this regional money to positively impact its citizens. Under the leadership of Executive Director Kevin Page, HRTAC continues to be an industry leader in public sector infrastructure investment and how one regional body has coupled with VDOT to deliver generational transportation projects that will improve the economic vitality and quality of life for all citizens in Hampton Roads.

To date HRTAC, through its ability to leverage debt, has contributed more than $5.4B to infrastructure projects throughout the region, delivered nearly 200 lane miles of improvements to I-64 between James City County and Chesapeake in under 10 years, including all three phases of the I-64 Peninsula Widening (between Williamsburg and Newport News), Phase I of the I-64/264 Interchange Improvements (between Norfolk and Virginia Beach), High Rise Bridge (between Bowers Hill and the I-64/I-264 interchange), and all phases of the Hampton Roads Express Lanes Network including 92% of the enormous $3.9B HRBT Expansion Project. The Hampton Roads Express Lanes Network (HRELN), ultimately a continuous 45-mile network of Express Lanes on I-64 (extending from Denbigh Boulevard in Newport News to the Bowers Hill interchange in Chesapeake) is designed to improve travel time reliability by providing motorists with more travel options. Highlights of the network include the continued operation of at least two general purpose lanes, free of charge, on both east and westbound I-64.

Across the HRELN, single occupancy users will have the ability to access high occupancy vehicle (HOV) capacity by paying a toll using E-ZPass open

[L TO R]: VDOT Hampton Roads District Engineer Chris Hall, PE, HRTAC Director Kevin Page and VDOT Commissioner Stephen Brich, PE onsite at the HRBT Expansion Project.



road tolling technology. These new high occupancy toll (HOT) lanes provide drivers additional choices as they navigate the network. Toll rates for the entire network are based on real-time traffic conditions and adjust approximately every 5 minutes to improve travel time reliability and help maintain traffic flow in both the general purpose and Express Lanes. The toll system operates by adjusting prices in response to congestion levels within the Express Lanes to manage the number of vehicles that enter the lanes.

Not only is the funding mechanism of the HRBT Expansion and HRELN unique, the relationship between HRTAC and VDOT is unlike any other throughout the country. VDOT, responsible for the planning and oversight of design and construction, will undertake the operation and maintenance of the new HRELN once open. Any remaining revenues as a result of the HOT lanes will be returned to HRTAC once operation and maintenance costs are covered. HRTAC will then have the ability to pay down its debt service and invest in future projects of regional significance across Hampton Roads. Future projects currently at various stages of consideration, planning, and construction include Denbigh Boulevard Interchange, Bowers Hill Interchange, I-64/464 Interchange, and subsequent phases of the I-64/264 interchange improvements.

To overcome a challenge as unique as the congestion at the HRBT required regional leadership and innovative thinking well beyond industry norms. Hampton Roads, through foresight and enabling legislation of our elected officials, and the financial acumen of HRTAC, have pioneered a unique approach to address regional transportation needs and can serve as a model for other local and state governments nationwide with limited transportation dollars.

HRTAC surely will shine for establishing what will likely be a National Best Practice for major infrastructure management. It's only a matter of time before the entire region will see the benefit from the innovative and forward-thinking solutions provided by our local, state and regional leaders.

HRTAC
Hampton Roads Transportation Accountability Commission

Shoring Up Bridges –
Widening and Rehabilitation

The HRBT Expansion Project includes 20 bridges that need to be widened to accommodate the added capacity the project will bring to the Interstate 64 corridor. This includes bridges over water like Willoughby Bay and Oastes Creek, as well as bridges over city streets such as 4th View and West Evans. Each type of bridge, whether it be over land or water, as well as the required repairs, adds to the complexity of the HRBT Expansion Project.

Widening existing bridges is no different than constructing a new bridge, but with the added challenge of construction immediately adjacent to an existing bridge with live traffic. Starting from the ground up, precast concrete piles are driven as deep as 115 feet into the ground to establish the bridge's foundation. Next caps are formed and poured, girders are set in place, and bridge decks are formed and steel reinforcing placed. Placement of bridge deck concrete is a precise operation that requirements specialized equipment designed to accurately place concrete at a prescribed elevation and cross slope. These exact design criteria ensure the final bridge deck includes a smooth ride as well as helps make sure water is drained off the bridge during rain events. Construction of the new structures alone would be a major project, but the work is even more complex because they must tie seamlessly into the existing adjacent bridges. However, the project doesn't stop there, it is also rehabilitating the existing bridges, to ensure their structural integrity.

The first step in bridge rehabilitation is the initial condition assessment performed by a bridge engineer. One of the biggest culprits in structure degradation is corrosion. Intensified by the saltwater environment of the Chesapeake Bay, corrosion, often resulting in the formation of rust, can rapidly degrade many of the a bridge's moving parts leading to early failure.

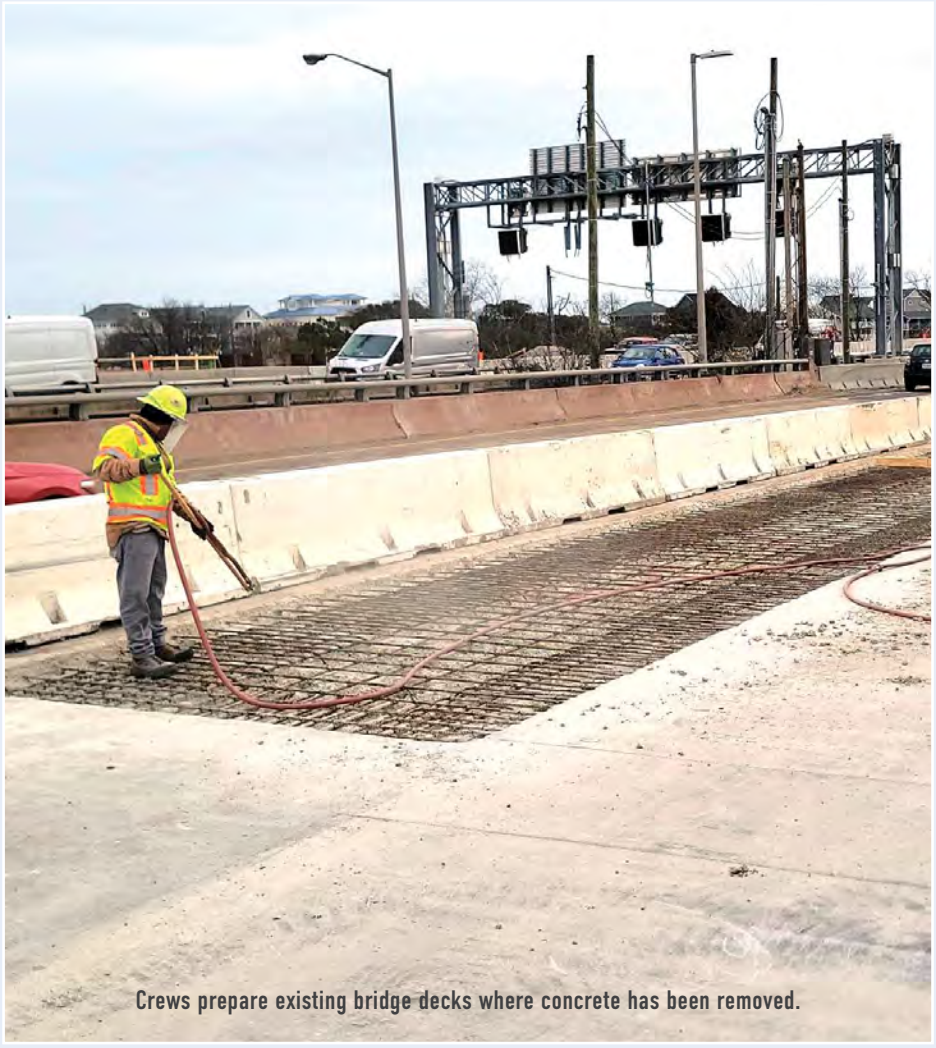
Concrete and bearings are removed and surfaces prepared for rehabilitation.

Beam ends are prepared and reinforcement receives a special coating to prevent future corrosion.

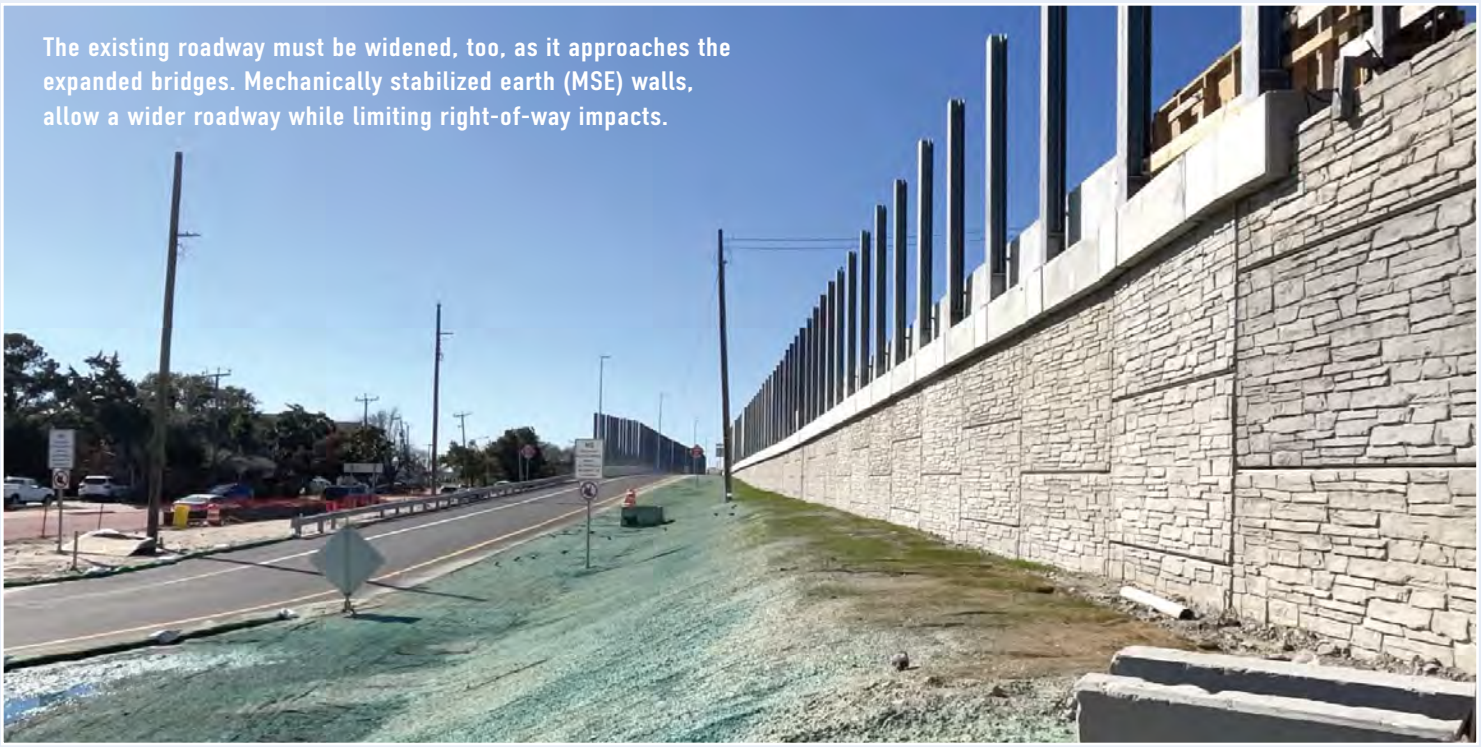
Crews install steel reinforcement in the bridge deck prior to concrete placement.

Items such as bridge joints, bearings that permit expansion and contraction, and steel reinforcing encapsulated within the structures' concrete are especially susceptible. This inspection, which focuses on areas of corroded steel and delaminated concrete, results in a plan set that details the work needed to extend the life of the structure. Repairs can include items as simple as removing and replacing bridge painting systems all the way to be as complex as requiring concrete bridge deck to be removed using water pressures as high as 18,000 pounds per square inch (PSI). The right combination of repairs, replacement, and recoating can extend the useful life of a bridge for decades.

Whether it be bridge widening or bridge rehabilitation, one of the biggest challenges is maintaining traffic flow while construction is underway. Engineers rely on innovative solutions to complete their work while balancing any impacts to motorists. Very often operations occur 24 hours a day to ensure work is completed efficiently as well as minimizes any disruptions to the traveling public.



Crews prepare existing bridge decks where concrete has been removed.



The existing roadway must be widened, too, as it approaches the expanded bridges. Mechanically stabilized earth (MSE) walls, allow a wider roadway while limiting right-of-way impacts.

What a Welcome!

The HRBT Expansion Project Welcome Center is open in Norfolk and has received hundreds of visitors in its first few months. From interested residents to career-aspiring students, visitors have been able to learn about the HRBT Expansion Project and see the progress. For a list of upcoming Welcome Center open house dates, please visit the HRBT Expansion Project website.

Inspiring the Next Generation

In addition to welcoming visitors at the Welcome Center, the HRBT Expansion Project team has been busy educating students around the region. Members of the project team shared updates on the project to high schoolers, college students, and lifetime learners.

Virginia Attorney General Jason Miyares and his staff tour the HRBT Expansion Project.

Chris Hall, VDOT District Engineer, presents to The Chamberlin senior living community.

Young enthusiasts view project models while University of Virginia graduate architecture students listen to presentations.

$603 Million Milestone; One Small Business at a Time

CERTIFIED SWaM Small, Women and Minority-Owned
Supplier Diversity Strengthens the Commonwealth
Virginia Department of Small Business and Supplier Diversity

DBE CERTIFIED

The largest roadway construction project also means the largest opportunity for small, women and minority-owned businesses (SWaM) and disadvanted business enterprises (DBE). Through March 2025, the HRBT Expansion Project has awarded more than $603 million in contracts to 381 SWaM and DBE businesses, of which 81% are Virginia-based businesses.

Relocated Off-Ramp in Willoughby from I-64 East

Motorists exiting I-64 east out of the Hampton Roads Bridge-Tunnel will find a relocated Exit 272-West Ocean View Avenue/ Willoughby Spit off-ramp.

Traffic changes, as a result of road improvements for the HRBT Expansion project, began on February 14, 2025 with the opening of the permanently relocated off-ramp from I-64 East and the temporary closing of the I-64 East 13th View/Bayville on-ramp in Norfolk. A temporary detour is underway during the on-ramp closure.

The relocated I-64 East Bayville Street/Willoughby off-ramp shifts the existing off-ramp two-thousand feet to the east and ends near the public boat ramp. There is a 4-way stop sign and signage at the foot of the off-ramp, allowing motorists to turn left or right, or proceed into the boat ramp parking lot.

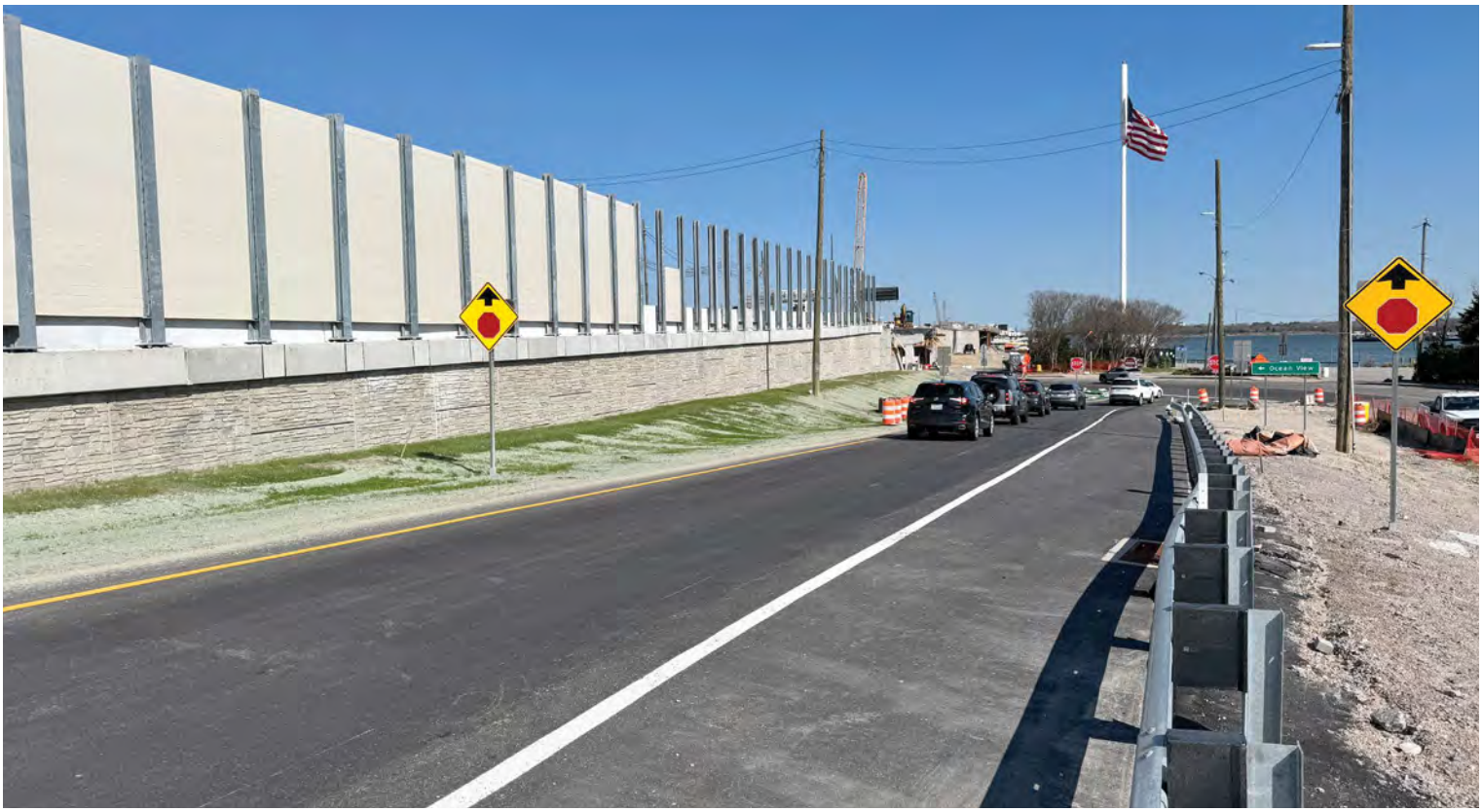
The relocated off-ramp and detour for the on-ramp closure are needed to complete tie-ins for the I-64 Eastbound South Trestle which is under construction and will open to Eastbound traffic in summer 2025.

The new off ramp intersects with Bayville Street and has stop signs in all directions.

Motorists who need to access I-64 East from Willoughby Spit and West Ocean View will be guided with detour signage to proceed along Ocean View Avenue to Granby Street and pick up the I-64 Eastbound on-ramp at Patrol Road, near Gate 22 at Naval Station Norfolk.

Current time of day restrictions for right turns from West Ocean View Avenue onto 4th View Street remain in place.

The on-ramp detour is anticipated to be in place through April 2025.



Tune In to Our Podcasts & Videos!

Dive deeper into industry topics for in-depth interviews with experts, thought-provoking discussions, and actionable tips and advice that will inform, inspire, and drive meaningful impact.

PODCASTS:

- Mary The Tunnel Boring Machine is heading toward the half-way point of her second HRBT tunneling journey
- Barges, Tugs, Boats and Bridges

VIDEOS:

- Meet a Team Member: Sean Johnson
- Exit 272 Off-ramp
- South Island Tower Crane

By following us on social media and tuning in to our news updates, you'll be the first to know about the latest developments and trends. Join the HRBT community today and stay informed!

@HRBTExpansion

Your Source for Project News Updates

HREL UPDATE

Two-Way Relief Coming Soon:

Inside Norfolk's Express Lanes Upcoming Operations

A new era of improved travel is coming to I-64 in Norfolk, not only with the completion of the HRBT Expansion Project, but also as the Hampton Roads Express Lanes (HREL) network expands through the region and through the Hampton Roads Bridge-Tunnel (HRBT) itself.

Adjacent to the HRBT Expansion Project footprint, construction is also underway on the first of two phases of Norfolk HREL projects, expanding driver choices and improving travel reliability.

Once these two phases of projects are complete, the Norfolk segment will combine two types of Express Lanes: the existing Reversible Express Lanes, which will continue to operate in one direction at a time, and a new part-time shoulder Express Lane on I-64 east and west, which will run in the opposite direction of the Reversible Lanes. This coordinated approach will now provide drivers the benefits of a high-occupancy toll lane option in both directions throughout the day.

Here's how the weekday operations will work:

In the **morning**, westbound drivers will use the Reversible Express Lanes, while eastbound drivers can use the new part-time shoulder Express Lane.

In the **afternoon**, the lanes flip; eastbound drivers use the Reversible Lanes, and westbound drivers get access to the shoulder lane.

All of these Express Lanes use dynamic tolling based on real-time traffic conditions to help manage traffic and maintain reliable travel times. A funded E-ZPass transponder is required to use the Hampton Roads Express Lanes, whether traveling solo or with a passenger. However, HOV-2+ vehicles ride toll-free with an E-ZPass Flex set to "HOV ON." Solo drivers will still always have the choice to use the free general purpose lanes too. Once complete, each direction of the Norfolk mainline corridor will consist of one part-time shoulder Express Lane and three free general purpose lanes, in addition to the Reversible Express Lanes.

The first phase of the Norfolk Segment "1A" Project, under construction now, spans approximately 2 miles from Patrol Road to Tidewater Drive and includes bridge work on eight existing bridges and installation of tolling infrastructure, noise walls and signage. The second Norfolk Segment "1B" Project, spanning approximately 7 miles from Tidewater Drive to I-264, is in design and also includes extensive bridge work, tolling infrastructure, and new noise walls. Together, the 9-mile Norfolk segment will connect directly to the HRBT's future Express Lanes, becoming part of the region's 45-mile continuous Express Lanes network.

To see how each of these Norfolk Express Lanes systems work together, **scan the QR code above** to view a short video.

To learn more about the Hampton Roads Express Lanes network, visit **64ExpressLanes.org**

DRONE ZONE:
Use of Drone Technology

Take a bird's-eye view of the progress at the HRBT Expansion Project over the past few months. From this persepective, it's clear to see how the new and newly widened bridges are taking shape.

Photo credit for aerial and drone photos: SWVM and Aerophoto America

HRBT EXPANSION | VDOT | HRTAC Hampton Roads Transportation Accountability Commission

For more project details visit: HRBTEXPANSION.ORG | #HRBTEXPANSION | HRBTinfo@VDOT.Virginia.gov