The New NY Bridge Project Magazine

NewNYBridge.com

THE NEW NY BRIDGE

SPRING 2016

IN THIS ISSUE

THE NEW NY BRIDGE

Andrew M. Cuomo
Governor of New York State

MESSAGE FROM THE GOVERNOR

New Yorkers have historically thought big. We thought of — and built — the Erie Canal, the tallest skyscrapers, the longest bridges, and hundreds of miles of subway tunnels. The list goes on and on. That spirit, that boldness, is embodied in the new bridge to replace the Tappan Zee currently taking shape in the Hudson Valley.

Now, construction of the bridge's iconic main span towers has passed the halfway mark. By year's end, those towers will reach their full height of 419 feet.

Beyond the impressive rise of the towers, progress continues across the Hudson River and beyond: The road deck for the northern span now extends almost a mile out from the Rockland shore. In Westchester, workers have completed the installation of the massive blue girders over Metro-North Railroad's tracks.

This spring, the Tappan Zee Bridge joined a growing number of bridges, tunnels and roadways across the nation with cashless tolling. Drivers now pay tolls while maintaining highway speeds, keeping traffic flowing safely while reducing vehicle emissions.

And tolls will remain steady. The recently approved 2016-17 state budget will invest $700 million in the Thruway Authority to support capital improvements on the entire system and the New NY Bridge, allowing the Authority to freeze tolls on the system until at least 2020.

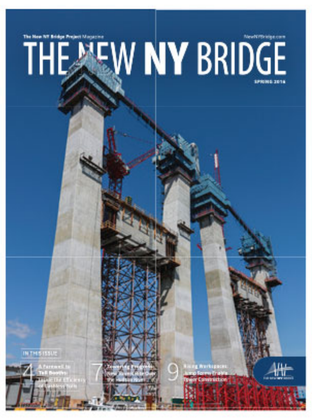
The New NY Bridge is a reminder of what the great state of New York can do when it thinks big, and is a testament to the thousands of hard-working men and women designing and building it.

Join me in taking a moment to marvel at our latest milestones on this great project. ■

Andrew M. Cuomo
Governor of New York State

FEEDBACK

We want to hear from you. Share your thoughts on the project and more by emailing us at *info@NewNYBridge.com*



ON THE COVER

The New NY Bridge continues to take shape above the Hudson River.

Andrew M. Cuomo
Governor

New York State Thruway Authority

New York State Department of Transportation

Federal Highway Administration

THE NEW **NY** BRIDGE
PUBLICATION ISSUE NO. 8

The New NY Bridge Magazine is produced by the New NY Bridge team of the New York State Thruway Authority.
The publication is created in collaboration with Tappan Zee Constructors, LLC, the design-build contractor for the project.

Andrew M. Cuomo, Governor of New York State
Joanne M. Mahoney, Chair, New York State Thruway Authority
Maria Lehman, P.E., Interim Executive Director, New York State Thruway Authority

PROJECT **UPDATE**

UP, UP AND ACROSS!

Aided by a mild winter, Tappan Zee Constructors, LLC (TZC) is pushing forward with construction of the New NY Bridge project, achieving several notable accomplishments in recent months.

With the new bridge's towers now surpassing the height of the existing bridge's road deck, the towers are well on their way to their ultimate 419-foot peaks. Recently-installed crossbeams are securing the outward-angled towers and will serve as the underpinning of the concrete road deck.

Progress on the new crossing's girders includes the first connections between river- and land-based steel in Rockland and Westchester counties, resulting in the sky-blue beams now extending more than a mile from the Rockland shoreline. A total of 100,000 tons of structural steel is scheduled to be installed this year.

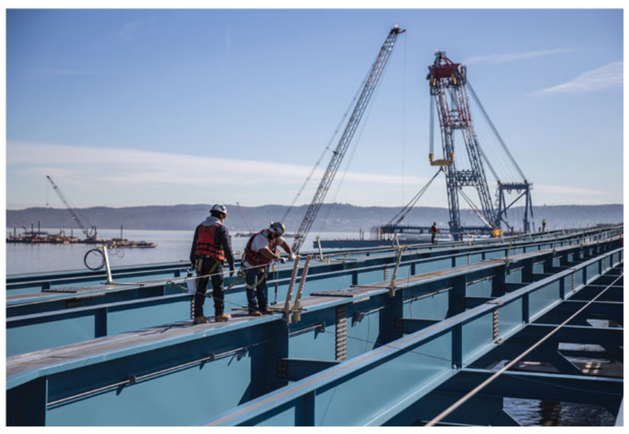
Atop the girders, TZC also is making great strides with concrete deck panels, having installed more than 1,000 by late April. The panels each weigh as much as 74,000 pounds and will form a base for the new bridge's driving surface. More than 6,000 steel-reinforced deck panels are expected to be installed this year.

TZC's work also extends beyond constructing the new river crossing.

In January, TZC started work on a state-of-the-art maintenance facility that will keep the new bridge in top shape as it carries billions of vehicles over the Hudson River throughout the coming century. The 26,000-square-foot structure will house several groups of Thruway personnel including: administration, emergency response, mechanics, welders, painters, electricians and dock crews.

Years of planning and design are culminating in the rapid construction of a modern marvel over the Hudson River. View the progress online via the project's webcams at **NewNYBridge.com/Webcam** ■

» The new bridge's structural steel now stretches more than a mile from the Rockland shoreline.



A FAREWELL TO TOLL BOOTHS

INSIDE THE EFFICIENCY OF CASHLESS TOLLS

This spring, the hassle of stopping or slowing down to pay Tappan Zee Bridge tolls became a thing of the past. The installation of a temporary overhead tolling gantry in South Nyack last summer was the first step toward establishing a cashless tolling system that will allow motorists to pay their toll at highway speeds.

A battery of tests that took place over the winter ensured that all cashless tolling equipment was fully functional and ready to be activated. The cashless tolling system collects tolls using *E-ZPass* (or *Tolls By Mail* as described below), detecting which classes of vehicles are traveling and applying the correct toll for passenger vehicles, commercial trucks, buses and motorcycles.

Familiar to most drivers, *E-ZPass* is an electronic toll collection system that removes cash, coins and toll tickets from the equation. Drivers establish a pre-paid account, attach an *E-ZPass* device inside their windshield and tolls are automatically deducted when their vehicle passes through a tolled facility. *E-ZPass* is accepted in 16 states across the Northeast and Midwest.

Tolls By Mail is for drivers who do not yet have an *E-ZPass*. If no *E-ZPass* is detected on a passing vehicle, the system will take a photo of the license plate and send a monthly toll bill to the vehicle's registered owner through the U.S. Mail.

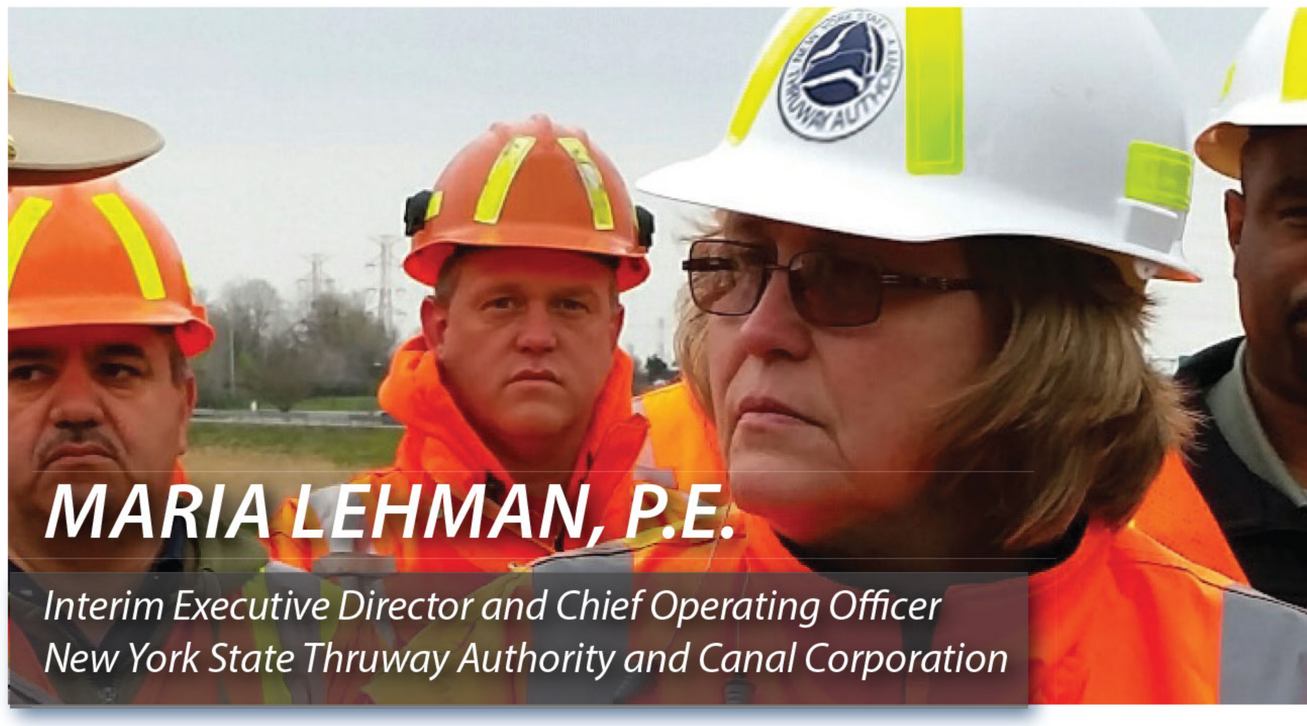
The opening of the South Nyack facility enabled the closure of the existing Tarrytown toll plaza and the construction of a permanent cashless tolling gantry in its location. The new equipment will mirror the lanes of the New York State Thruway (I-87/I-287), greatly reducing the physical footprint of the now-retired 12-lane toll plaza ■

E-ZPass®

Q&A CASHLESS TOLLING ON THE NEW BRIDGE

Maria Lehman, P.E. serves as the Interim Executive Director and the Chief Operating Officer of the New York State Thruway Authority and New York State Canal Corporation. With more than 34 years of diverse technical and leadership experience in both private and public sectors, Ms. Lehman has extensive expertise in transportation and facility planning, environmental assessment; design and construction; and program, risk, quality, emergency and project management.

She was elected to the National Board of the American Society of Civil Engineers for two terms, one as a Director and one as a Vice President. Ms. Lehman has a Bachelor of Science in Civil Engineering from SUNY Buffalo and is a licensed Professional Engineer in several states ■



Q: Why are bridges and highways across the country turning to Cashless Tolling?

Transportation authorities and private toll facility operators are increasingly turning to cashless tolling to reduce congestion, improve safety and reduce air pollution. On April 24, the Tappan Zee Bridge joined more than 35 other bridges, tunnels and toll roads across the nation that are now using cashless tolling, including the nearby Henry Hudson Bridge between the Bronx and Manhattan and San Francisco's Golden Gate Bridge.

Q: How will Cashless Tolling benefit motorists traveling across the new bridge?

The cashless tolling system promises to significantly improve traffic flow by collecting tolls at highway speeds. In addition, the new system will improve local air quality because vehicles no longer will idle in toll-collection lines. What's more, cashless tolling will enhance safety. Traditional toll plazas experience higher-than-average numbers of crashes because motorists often change lanes abruptly as they seek the shortest line and because they are traveling at varying speeds. As an example of how cashless tolling improves safety, the Florida Turnpike experienced a 37 percent decline in accidents during the first year after removing toll plazas at one location in 2011.

Q: What are the advantages of *E-ZPass*?

E-ZPass is accepted in 16 states across the Northeast and Midwest. It saves money and it saves time by allowing motorists to avoid toll plaza lines.

Q: Where can I sign up for *E-ZPass*?

Customers can sign up at **E-ZPassNY.com**, at hundreds of ***E-ZPass On-the-Go*** retailers or the New NY Bridge Outreach Centers in Tarrytown and Nyack.

Signing up for *E-ZPass* Has Never Been Easier

Customers can sign up at **E-ZPassNY.com** or the New NY Bridge Outreach Centers in Tarrytown and Nyack. In addition, ***E-ZPass On-the-Go*** allows busy travelers to open an *E-ZPass* account without filling out an application or waiting in line. Customers can purchase an *E-ZPass* device at a wide variety of retail locations (full list shown on **E-ZPassNY.com**), register the device and enjoy the time and money savings *E-ZPass* offers. New York customers also can stop at any New York State Bridge Authority or Metropolitan Transportation Authority bridge and tunnel cash lane to purchase a prepackaged device for $25.

TOWERING PROGRESS

New Towers Rise
Above the Hudson River

Now reaching nearly 200 feet above the Hudson River – on their way to 419 feet – are the centerpieces of the New NY Bridge project: the main span towers. The structures ascended past the existing Tappan Zee Bridge's road deck in January and will reach their full height later this year.

The towers are constructed in successive segments, each one built atop the previous. Crews are able to access and work in the constantly-rising job site with the assistance of mobile "jump forms." (Learn more about jump forms on ***Page 9***.)

The steel-reinforced vertical tower segments will require 24,000 cubic yards of concrete to reach their full height, more than half of which has now been poured and formed. The structures emerged from the water as rectangles whose perimeter increasingly narrows as they rise.

Forming the horizontal bar of the H-shaped towers are the recently-installed crossbeams. In addition to reinforcing the structure, the beams will support the future road deck of the main span. Deck operations are scheduled to begin this summer.

BUILDING UP

Constructing the main span towers requires rotating teams of ironworkers, dock builders and other professionals – each specialized in different aspects of the towers' construction. The process, which began last September, is expected to continue throughout 2016:

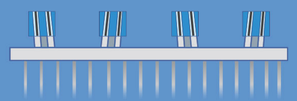
Jump Form Progress **Online**

Scan the QR code or visit the link below to access more information.

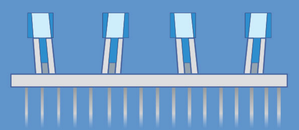
NewNYBridge.com

STEP 1 Tower construction follows the completion of their football-field-long bases, which rest on dozens of steel piles that were previously installed in the Hudson River.

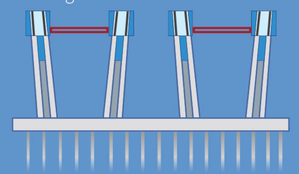
STEP 2 Ironworkers then assemble large cages of steel reinforcements on each of the bases and encase them in concrete with specialized equipment known as "jump forms."



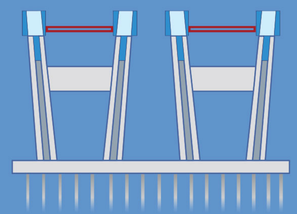
STEP 3 Once the first concrete segments are cured, crews raise the jump forms above them, creating a new work space for a higher segment.

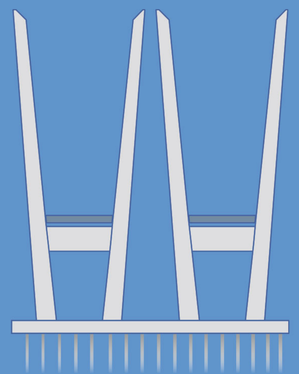


STEP 4 Construction of the next segment advances by setting in place additional steel and concrete. Dock builders also create temporary walkways for crews to access the higher segments.



STEP 5 When the tower legs reach approximately one-third of their ultimate height, concrete crossbeams are installed to link and secure the two legs as well as support the future road deck. The jump form process is repeated until the towers are completed.





DYNAMIC DUO
MEET TWO TOWER CRANE OPERATORS

Talk about an office with a view.

Perched more than 150 feet above the Hudson River, John Slegona and Mike Monahan spend their work day in the cabins of the project's two tower cranes, applying their combined 50 years of experience in lifting construction materials for the fast-rising towers.

"Our cranes are the workhorses of the main span," says Slegona. "We assist carpenters, ironworkers and other work teams, delivering all the materials they need to get their jobs done. It's up to us to make sure that everything from nuts and bolts to steel cages and concrete gets where it needs to be."

Like many project workers, Monahan and Slegona drive to get to work, but the final leg of their commute differs greatly from those of their counterparts. While other workers disperse horizontally across the main span after arriving by boat at the center of the project site, Slegona and Monahan go vertical, scaling the narrow tower cranes standing high above. Often encountering strong winds, the operators always ascend the spires wearing safety tethers.

"The climb is totally worth it," says Monahan. "By the time I reach the top, I can usually catch the sunrise over Westchester. From that high up, it's an incredible sight."

The pair of highly-trained specialists work as a team, in constant communication with one another and their supervisors at ground level, as they move equipment and materials across the tower construction site. Their cabins, colloquially known as buckets, provide all the amenities the operators need for their six-hour shifts.

Monahan and Slegona have been with the New NY Bridge project since construction began in 2013, assisting with the testing of foundation materials and operating a wide variety of machines across the site before their current assignment. When their work day ends, they carefully descend and swap places with the other two tower crane operators on the project, Bryan Smith and Bobby McKinney.

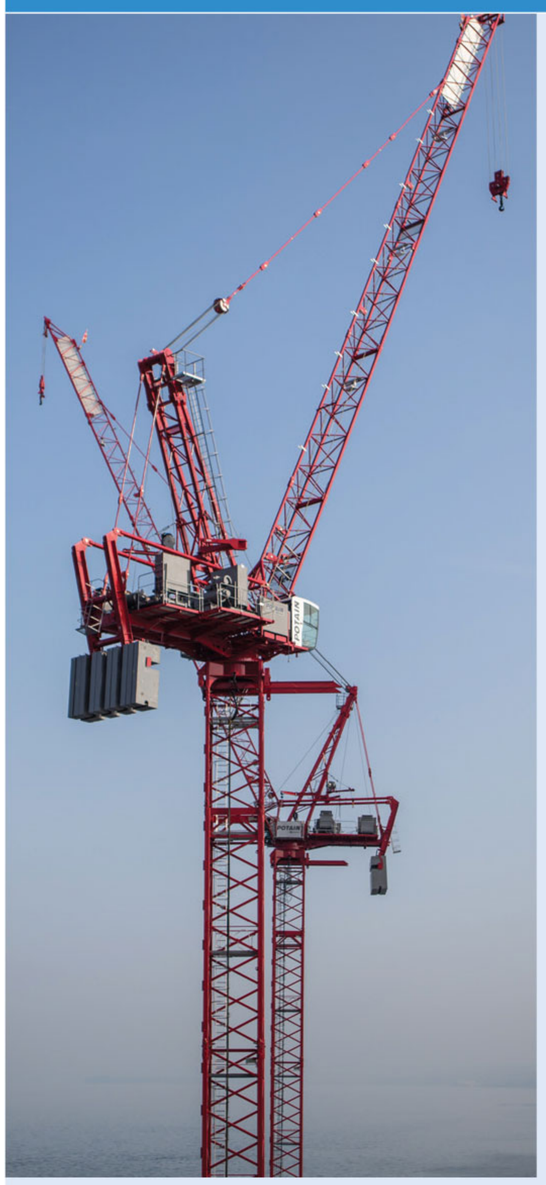
"I know that when the bridge is completed and I drive across it, the hair on the back of my neck is going to stand on end," remarked Slegona. "This is a once-in-a-lifetime job and I'm so proud to be a part of it."

You can learn more about other team members contributing to the success of the project by visiting **NewNYBridge.com** and subscribing to our monthly newsletter ■

Mike Monahan and John Slegona

were brought together by a partnership between two unions on the project, the International Union of Operating Engineers Locals 137 and 825. The labor organizations, based on opposite sides of the Tappan Zee, are jointly helping to build the new twin-span crossing.

Tower Cranes



Before the new bridge's main span tower legs began to rise above the Hudson River, a different set of vertical structures established themselves on the project site. Four fire-engine red cranes stand guard over the ever-growing towers, each capable of hoisting up to 25 tons of materials at a time.

While they currently stand more than 150 feet above the river, the extendable tower cranes will eventually rise up to 490 feet, about 70 feet taller than the highest point of the towers and nearly three times the height of Niagara Falls.

RISING WORKSPACES

JUMP FORMS ENABLE TOWER CONSTRUCTION

The most iconic features of the new bridge, the 419-foot towers, posed a tall challenge to bridge designers: What is the best way to erect structures in the middle of the Hudson River that are a third as tall as the Empire State Building yet no wider than 26 feet? Their solution was an innovative self-climbing workspace called a jump form that allows crews to create the towers in progressively-rising segments.

From the outside, the jump forms appear to be simple blue boxes, but inside are intricate sets of rails and jacks that allow the forms to "jump" higher once a segment is completed.

Temporary catwalks accompany the jump forms as they rise, extending both vertically and horizontally for safe and easy access. Staircases and temporary elevators also are mounted to the sides of the towers. Fall protection lines are installed around the forms to protect work crews from possible injury.

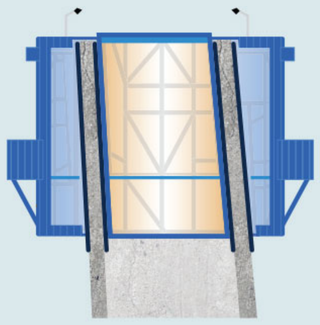
Eight jump forms, each covering an area as great as 650 square feet, are used simultaneously to create the towers. Each tower requires 26 jumps in total, with each jump rising between 12 and 18 feet.

The forms follow the slight outward angle of the towers as they continue upward. As they rise, the walls of the forms are narrowed to shape the decreasing perimeter of the towers. At the highest levels, anchorages for the new bridge's cables will be installed.

You can track the progress of the jump forms by visiting the project webcams, at **NewNYBridge.com/Webcam** ■

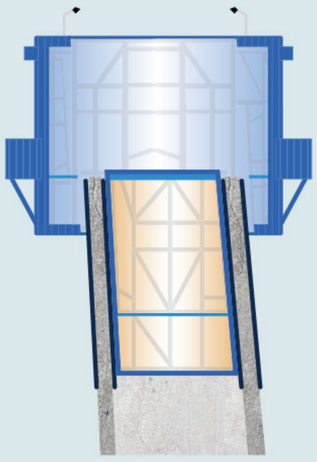
MAKING THE JUMP

1



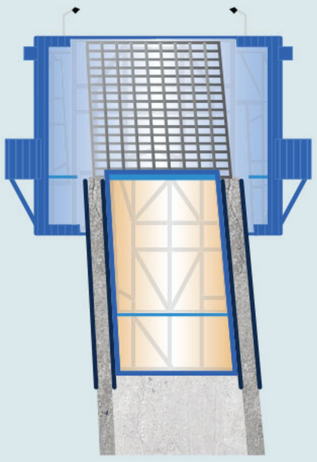
» Jump forms are composed of two frames, one internal and one external. Both frames begin the jumping process by being secured to the sides of a tower segment.

2



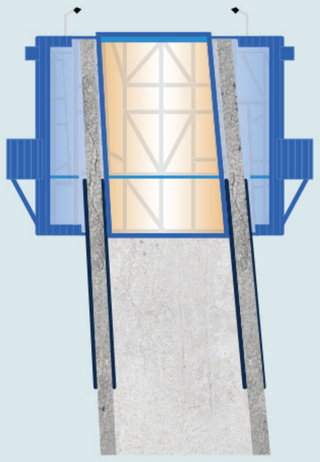
» The external frame is moved up first, creating a safe work area for crew members. The internal frame remains below, surrounding the previous segment of the tower.

3



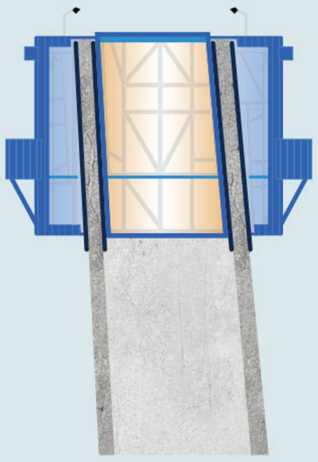
» Crew members then install the steel reinforcements for the new tower segment. Once the reinforcements are completed, the internal frame is raised to the new segment.

4



» The area inside the internal frame is then filled with concrete, acting like a casting mold, forming the shape of the towers as the concrete cures.

5



» Once the segment is complete, a series of rails are raised to the next level to allow the external frame to rise and the process begins again.

GAWKERS INVITED

Progress on the monumental new bridge is a sight to behold, especially from the shorelines of Rockland and Westchester counties. The New NY Bridge project's viewing platforms on both sides of the Hudson River give onlookers a front-row seat on the action.

A fishing pier at Nyack's Memorial Park and a landing at Tarrytown's Scenic Hudson RiverWalk Park provide unobstructed views of the project. The easy-to-access platforms are equipped with informational panels, including a spotter's guide that identifies the various types of construction equipment and vessels. Viewing scopes give visitors close-up views of the work.

The project's daily progress also can be watched on screen from anywhere, thanks to cameras situated around the project site. To view panoramic and zoomed-in views, visit **NewNYBridge.com/Webcam** ■

Learn More at Our Outreach Centers

As part of its commitment to the local community, the New NY Bridge project maintains two outreach centers. Located at 2 N. Broadway in Tarrytown and 142 Main Street in Nyack, the centers provide a window into the largest bridge and highway project in the nation.

The two centers offer a variety of informative materials on the project, including diagrams, visualizations and fact sheets. Visitors can even experience certain bridge elements, such as a cross section of a steel foundation that is large enough for an adult to walk through.

The outreach centers are open from 11 a.m. to 7 p.m. seven days a week and staffed by outreach team members and interns. Visitors also can stay up to date by signing up for informative weekly emails at the outreach centers or online at **NewNYBridge.com/Contact**.

Follow the Falcons

A pair of endangered peregrine falcons has again returned to the man-made nest box on top of the existing Tappan Zee Bridge for the nesting season. The project's FalconCam provides close-up views of the lives of these migratory raptors and their offspring. Take a look on **NewNYBridge.com/FalconCam.**

Following completion of the project's main span, once the nesting season is over, the nest box will be relocated to one of the new towers. Until then, a 100-foot construction-free buffer area is in place to help protect the falcons.

OUR COMMUNITY TIMELINE

The New NY Bridge project team is actively involved in the community, partnering with local stakeholders and groups, leading educational outreach efforts and sharing project updates.

HABITAT FOR HUMANITY

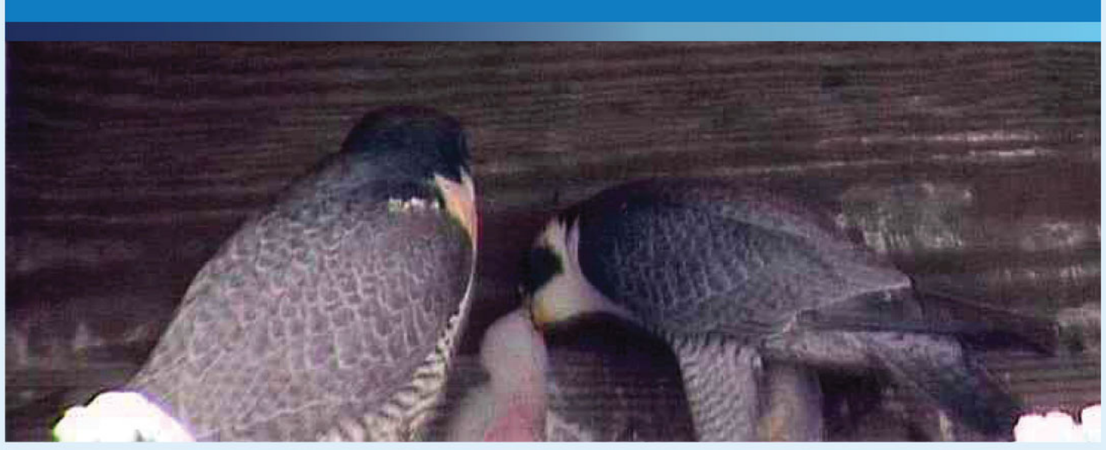
Volunteers from Tappan Zee Constructors, LLC lent their time and talent to Habitat for Humanity of Westchester's efforts to renovate homes for Iraq War veterans and their families.

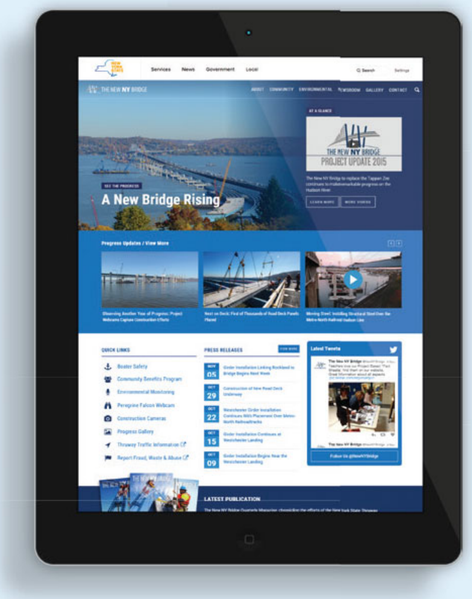
CONCORD ROAD ELEMENTARY

The project outreach team and project control manager Troy Calkins spoke to more than 700 students at Concord Road Elementary in Ardsley, including Calkins' own children.

FALCON CHICK HATCHES

The pair of peregrine falcons that live in a man-made nest box on the existing Tappan Zee Bridge became proud parents once again with the hatching of a nestling on April 10.





NEWNYBRIDGE.COM

The project website continues to provide a wealth of current and historical information about the project, including the latest news releases, videos and articles.

TAPPAN ZEE 60TH ANNIVERSARY

Students from Liberty Elementary in Valley Cottage created birthday cards in celebration of the Tappan Zee Bridge's 60th anniversary.

STEM CAREER DAY

Project civil engineers John Kowalski and Robert Conway spoke to students at Mamaroneck High School's STEM Career Day to discuss the importance of science, technology, engineering and mathematics.

SHARED-USE PATH PUBLIC MEETINGS

Rockland and Westchester residents voiced their opinions at a pair of public hearings after the release of an environmental assessment of the new bridge's shared-use path terminus.

@NEWNYBRIDGE

April 20, 2016

Tomorrow is the perfect day to visit our construction viewing platforms. Catch all the action in Nyack and Tarrytown.

THE NEW **NY** BRIDGE

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NEWNYBRIDGE.COM

The project website provides detailed information about the design and construction of the New NY Bridge project. Check back often to see the latest progress.

1-855-TZBRIDGE

Our phone hotline is open 24 hours a day, 7 days a week, ready for your questions and comments.
You can reach us at 1-855-TZBridge (1-855-892-7434).