

the magazine of kiewit corporation

KIEWAYS





Kiewit is one of North America's largest and most respected construction and engineering organizations. With its roots dating back to 1884, the employee-owned company operates through a network of offices and projects in the United States, Canada and Australia. Kiewit offers construction and engineering services in a variety of markets, including: transportation; water/wastewater; power; oil, gas and chemical; building; and mining. Kiewit had 2014 revenues of \$10.4 billion and employs more than 25,700 staff and craft employees.

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KIEWAYS

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IN THE NEWS

The Foothill Gold Line Extension's project team faced new challenges – most significantly, working within an active rail corridor. Read more on Page 16.



MINDING THE PAST AND LEADING THE FUTURE

It's been 70 years since the first issue of *Kieways* rolled off the press, but that inaugural issue wasn't called *Kieways*. The first cover read, "What'll We Call It?" and challenged employees to a companywide naming contest. You might get a kick out of the suggestions (Page 6) that almost made the cut.

When Peter Kiewit's name first appeared on this editorial page, the country was still reeling from World War II; the issue was published one month before Japan's surrender. Republished on Page 2, Peter writes about the company's extensive work related to the war effort and how employees took that responsibility seriously.

It's good to see that same sense of dedication alive and well within Kiewit today. Just take a look at the bridge rehabilitation work our crews are doing across New York City and New Jersey (Page 8). It's an enormous effort to keep traffic moving safely while preserving the integrity of those historic structures. While tending to the past, Kiewit is always moving into the future, as demonstrated by the highly anticipated extension of the Foothill Gold Line — a light rail system that touches five cities on the West Coast (Page 16).

The Kiewit family put a lot of thought — a lot of heart — into the culture of this company, as do the dedicated men and women who build on their legacy every day. When I reflect on 70 years of *Kieways* stories, I can't help but think about how proud Peter Kiewit would be right now. I know I am.

BRUCE GREWCOCK

Chairman and CEO



MARKING A MILESTONE

The issue of this publication marks a milestone in the history of Peter Kiewit Sons' Co.

The business was founded more than sixty years ago during the year 1884 by Peter Kiewit, Sr. He started the construction business in Omaha, Nebraska, with what would today be considered very meager tools and without any equipment. His policy was to build the best possible structure at the lowest possible cost with the tools and materials available. With this ever present desire, coupled with his thorough knowledge of the construction business and his outstanding reputation for integrity, he laid the foundation upon which the success of the Company has been built.

Personally, I recognize that Management is only a part of the job. The success of the Company in the past and in the future will be determined by the team work of the entire organization. Each and all members share in the responsibility.

When World War II came upon us the officers and supervising personnel of the Company, all of whom had come up through the ranks of employees, recognized the responsibility that would be placed upon us in connection with the winning of the war, and our activities during the war period have largely been devoted to work directly connected with the war. Our work has taken us into many different States and Canada. We have engaged in almost every type of construction work. Due to the loyal, patriotic and efficient support of our employees the Company and its affiliates have established an enviable record in every section of the United States.

The Management is convinced that with the continued loyalty and cooperation of its employees the Company will be able to maintain its present position in the industry.

It is the expectation of the Management that the publication will contain matters of sufficient interest to attract the attention of all employees. Suggestions of employees as to more efficient use and maintenance of tools and equipment, or ideas of any kind or nature designed to improve the efficiency of our operations, will be appreciated. These can pertain to office or field procedure and to any type of construction work. We particularly request that you send to our nearest District Office any ideas

or suggestions which you think would help make this magazine interesting.

My sincere wish is that through cooperation, mutual assistance, and unselfish contribution to its pages, each member of our organization may enjoy some additional measure of success and happiness in his or her job.

Yours sincerely,

Peter Kiewit

PETER KIEWIT SONS' COMPANY MAGAZINE

(See Naming Contest - Page 4)

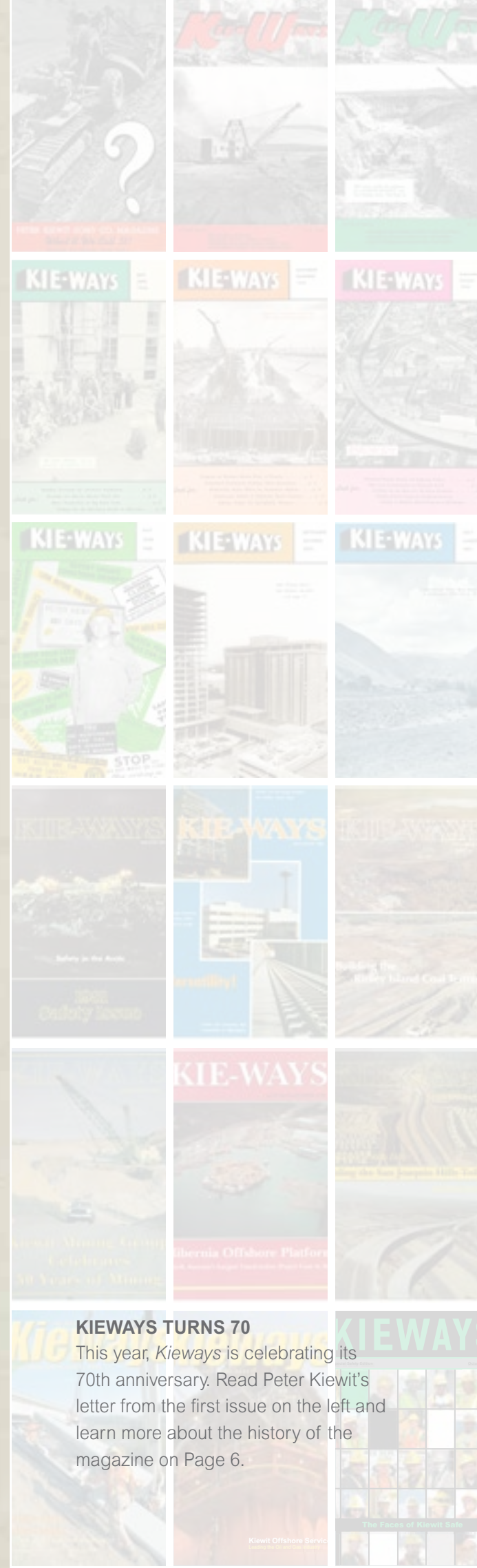
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 For nearly 50 years, Kiewit has been making its mark on New York City by building or repairing many of the city's most iconic bridges.

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 The Foothill Gold Line Extension project team's experience and careful planning has led to a long, successful track record of partnering.

KIEWAYS TURNS 70

This year, *Kieways* is celebrating its 70th anniversary. Read Peter Kiewit's letter from the first issue on the left and learn more about the history of the magazine on Page 6.

OUR MARKETS

 BUILDING
  MINING
  OIL, GAS & CHEMICAL
  POWER
  TRANSPORTATION
  WATER/WASTEWATER

What began in 1884 with two hardworking brothers has grown into a Fortune 500 construction and engineering leader. As a \$10.4 billion organization, Kiewit can manage projects of all sizes, in any market. Here's a few interesting facts about Kiewit.



IN THE NEWS

The **Elizabeth River Tunnels (ERT)** project team reached a major construction milestone on the new **Midtown Tunnel** with the immersion of the last tunnel element, connecting the shorelines of Portsmouth and Norfolk. Read more about Kiewit's work on the project in the 2014 Quarter 3 issue of Kieways.



FIRST DESIGN-BUILD CAMPUS

Kiewit completed construction on the **first design-build campus in Oahu**. The 78,000-square-foot elementary school embraces a 21st-century learning environment. The school will alleviate overcrowding in Kapolei schools and will be able to accommodate up to 750 students.



BORING THROUGH MILESTONES

The Shea-Kiewit joint venture finished boring nine-and-a-half miles of the **Deep Rock Tunnel Connector** project, also known as DigIndy. This is the first leg of the 27-mile combined sewer overflow for Indianapolis. When completed, Indiana's largest public works project will store 250 gallons of wastewater to stop sewage-laced storm runoff in the state's largest city.



IHI/Kiewit Cove Point — a joint venture of IHI E&C International Corporation and Kiewit — is serving as the engineering, procurement and construction contractor for the new **Cove Point Liquefied Natural Gas (LNG) Export Terminal**. The project will convert an existing gas terminal to a liquefaction terminal near Lusby, Md. Operations are estimated to begin in 2017.



Kiewit has been named the contractor of the Tennessee Valley Authority's (TVA) new

\$452 MILLION

Memphis Natural Gas Plant. Work on the plant will begin later this year. When completed in 2018, the facility will provide customers with reliable power and reduced emissions of up to 45 percent.



SWEET SCOOP

The first customer of Kiewit-mined coal was a sugar beet processor in Billings, Mont., in 1943. While the coal from the company's mines would eventually end up powering millions of homes across the United States, there's no way to count the number of cakes and pies made from the sugar the same coal helped to produce.



OUR VALUES

PEOPLE | INTEGRITY | EXCELLENCE | STEWARDSHIP

For more than 130 years, Kiewit's culture has been built on a foundation of strong core values — People, Integrity, Excellence and Stewardship. These remain the cornerstone of how Kiewit runs its business.

INVESTING IN TRAINING

It all started with a few small courses and roughly 220 students per year. Today, Kiewit's training center — named Kiewit University (KU) — is a bustling professional development center with four core schools and 12 technical schools that focus on a variety of disciplines.

To accommodate future growth, KU will be building a brand new education, innovation and leadership facility in Omaha, Neb.

"We started with one course in 2008 and now serve more than 3,000 employees per year with hands-on development," explained Vice President of Kiewit University Jim Rowings. "We're ready and excited to offer our employees better classrooms, improved technology and more space to foster a culture of progressive learning."

The 63,000-square-foot building will host ongoing education ranging from structural steel to communication courses for employees from the United States, Canada and Australia.

"This new facility reinforces our sustained commitment to



develop our employees and advance our company," said Tom Janssen, director of external affairs. "Kiewit spends more than \$80 million per year on training for salaried employees — six times the industry average."

Rowings says that's no accident. KU has been actively refining schools and courses to meet the needs of a growing workforce and ever-changing industry.

"We have reengineered our training programs to elevate the content, focus the applications to fit our current and future work skills and increase learner engagement in all of our programs," said Rowings.

The new facility will be constructed by Kiewit, and is expected to be finished in spring 2017.

INTERESTED IN WORKING FOR KIEWIT?

We provide the tools you need to succeed in and out of the workplace.

- CAREER AND PERSONAL DEVELOPMENT**
 Customized training to grow your skills and career with Kiewit
- EMPLOYEE PERKS AND DISCOUNTS**
 Offering you more ways to save money
- PAID TIME OFF**
 Begin accruing day one so you get the personal time you need
- RECOGNITION**
 From a pat on the back to prestigious awards, you'll be recognized for the work you do
- EXPOSURE TO NEW INTERESTS**
 Our diverse work provides multiple areas for you to explore
- TOP-TIER HEALTH, DENTAL AND VISION INSURANCE**
 Available day one with programs to reduce premiums
- RETIREMENT SAVINGS PLANS**
 Build your wealth with a dollar-for-dollar company match
- JOIN A FAMILY**
 Be more than an employee and a co-worker

Apply online at kiewitjobs.com

70 YEARS OF KIEWAYS

This year, *Kieways* is celebrating its 70th anniversary. The first issue of Kiewit's official magazine debuted in July 1945 and was distributed to all employees.

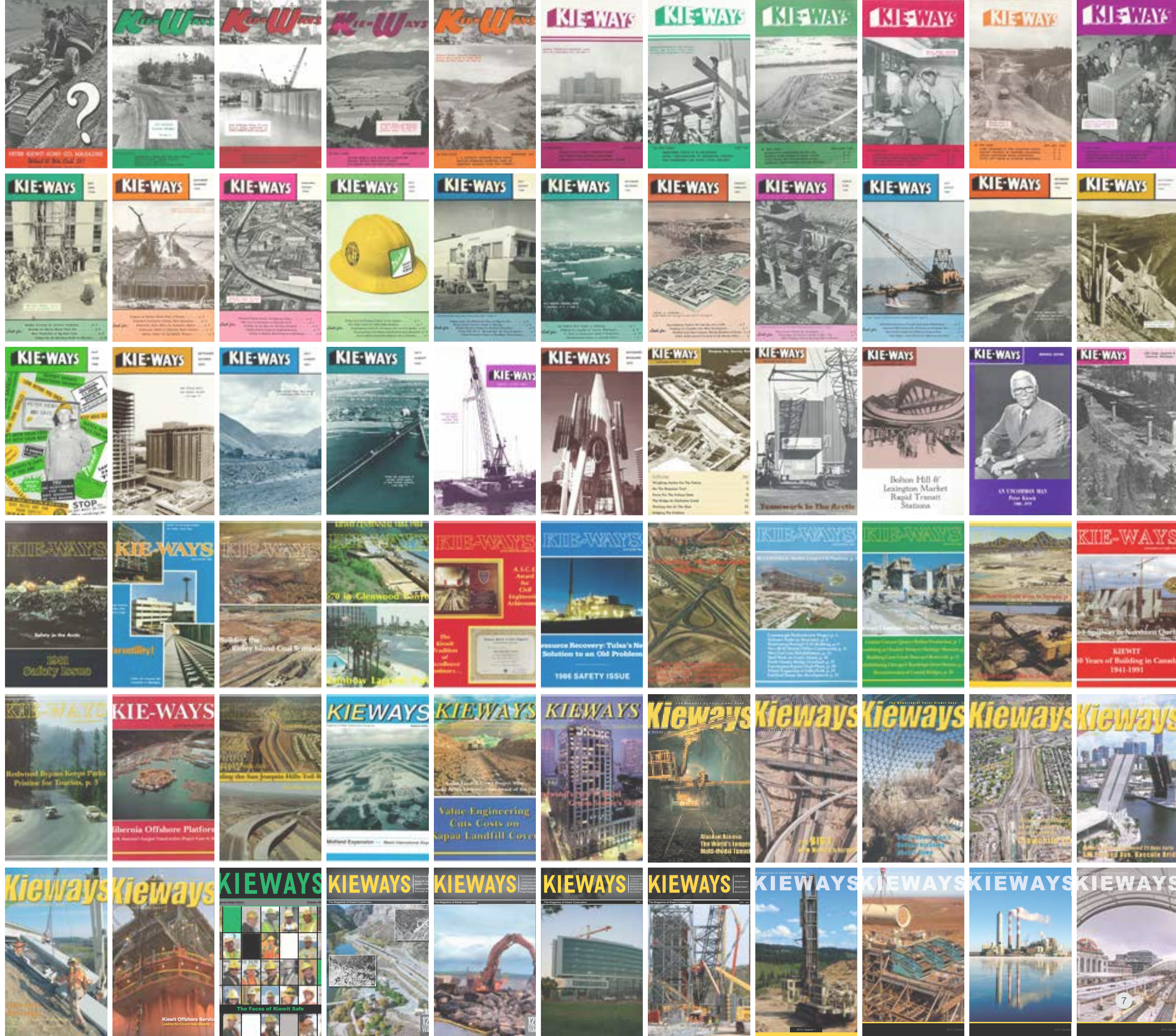
The importance of the publication was addressed in a letter from Peter Kiewit (Page 2). "My sincere wish is that through cooperation, mutual assistance and unselfish contribution to its pages, each member of our organization may enjoy some additional measure of success and happiness in his or her job."

The first issue of the magazine was unnamed — editors had difficulty with the decision and asked employees to submit their best ideas. The official name of *Kie-Ways* — now known as *Kieways* — was unveiled in the second issue in September 1945.

The winning name was submitted by Lon Carter, one of Kiewit's "best known and highly regarded employees." Carter began working at Kiewit in 1933 and retired from the accounting department in 1956. He was awarded \$25 for submitting the prize-winning name. Second and third places were Pee-Kins — after Peter Kiewit & Sons — and PKS-Crews-and NEWS.

Over the years, *Kieways* has undergone many changes in look, size, audience and content. The magazine is now distributed to employees, clients, partners, universities and other external audiences, and aims to give readers a look into the company's most important and innovative projects. Each quarter, *Kieways* is sent to thousands of readers in more than 30 countries and is viewed by thousands more online at kiewit.com/kieways.

After nearly 400 issues, *Kieways* has left its mark on the company.





CITY OF BRIDGES

At face value, a bridge is a simple concept: a road that stretches across an obstacle and carries people and vehicles safely from one side to the other. But to those who build the bridge, it's much more complicated.

- What type of bridge is it?
- Does it lift or swing?
- What travels under it? Or above it?
- What elements does it need to withstand?
- Will it be open to traffic during construction?
- And the list goes on and on.

Kiewit is currently asking these questions and many more about several bridge projects in New York City and New Jersey. In the densely populated metropolitan area entangled with buildings, utilities and other obstacles, the construction logistics for these projects become extremely complex. But Kiewit — which has been constructing bridges in the area for close to 50 years — is up to the challenge of improving infrastructure in perhaps the most iconic city in the United States.

REASONS TO (RE)BUILD

A recent New York Times article puts the number of bridges in New York City at nearly 1,500. Several agencies, including New York City Department of Transportation (NYC DOT), New York State Department of Transportation (NYSDOT) and Port Authority of New York and New Jersey (Authority), among others, are responsible for maintaining the structural integrity of those bridges.

But the reasons for either demolishing, rehabilitating or building a new bridge are varied.

“Each project has its own unique story behind the need for construction, from a historic storm to the local impact of changing infrastructure trends across the world,” said Kiewit Senior Vice President Wayne Thomas. “Our job as contractors is always the same: safely deliver a quality bridge, on time and on budget.”

On some projects, including the Kosciuszko Bridge (K Bridge) and Goethals Bridge, it's simply a matter of age and long-term public safety. At more than 75 years old, the bridges are past their prime and need to be rebuilt to more safely and efficiently handle increasing traffic.

The Metropolitan Avenue Bridge in Brooklyn, which opened in 1931, is being rehabilitated due to damages it

sustained during Superstorm Sandy. Water from the 2012 storm damaged the bridge's machinery and electrical components. Kiewit, which made upgrades to the bridge 10 years prior, was contracted to install a temporary operating system, remove and rehabilitate the existing machinery and electrical components, and reinstall them.

The Bayonne Bridge between Bayonne, N.J. and Staten Island has perhaps the most interesting story. More than 2,000 miles south, the Panama Canal is being widened to accommodate larger ships. At 151 feet, the existing Bayonne Bridge is too low to allow the new “post-Panamax” vessels access into New York and New Jersey ports. Instead of demoing and building a new bridge, a Skanska-Kiewit joint venture is “Raising the Roadway” 64 feet to a clearance of 215 feet.

COORDINATION IN THE COUNTRY'S LARGEST CITY

With more than 8.4 million residents and 54 million annual visitors, New York City is a crowded place, and that's just in terms of people. The infrastructure that supports 27,000 people per square mile is made up of more than one million buildings, 7,500 miles of sewer, more than 6,000 miles of gas line, and more than 20,000 miles of overhead electrical cable. The city's transportation network includes nearly 14,000 taxis and 5,000 buses, and residents spend more time in traffic commuting to work each week than any other metropolitan area.

All of this hustle and bustle, coupled with the multitude of construction projects going on in the NYC Metro, can challenge schedules.

“There's a lot of construction going on at many of the major crossings and highways nearby,” said Trent Andres, assistant project director on the Goethals Bridge. “We strategically plan deliveries, concrete pours, bridge closings, lane closures and other major operations that rely on timing and coordination with activity on other projects in the area.”

Travel under the bridges — be it highway, railroad or marine — poses its own unique issues.

“On the movable bridges, one of the greatest challenges is that the bridge needs to remain operational for marine vessels throughout construction,” said Pete Maglicic, project manager on Kiewit's movable bridge work at Metropolitan Avenue, Ward's Island and Willis Avenue. “Oftentimes, we get about a two-hour notice before the

Bridges of the New York City metro



1. Construction is underway in New York and New Jersey to raise the Bayonne Bridge by 64 feet in order to accommodate new, larger Post-Panamax vessels that will travel through the widened Panama Canal in Central America. 2. The new Goethals Bridge begins to come into view next to the nearly 90-year-old original structure. 3. A view inside what will be one of the new piers on the Kosciuszko Bridge. 4. Kiewit crew working on the Metropolitan Avenue Bridge. 5. The Willis Avenue Swing Bridge connects Manhattan and the Bronx over the Harlem River and swings open to accommodate marine vessels. 6. On its way to its final destination, the Willis Avenue swing bridge traveled under the Wards Island Bridge, which Kiewit was upgrading at the time.



It is estimated that there are nearly **1,500 BRIDGES** in the Big Apple.



bridge has to be opened, which impacts our schedule. It challenges us but is something we've learned to roll with, working on so many movable bridges."

At Bayonne Bridge, construction of the main span is a civil engineering landmark. The project team is building the new, higher bridge deck within the existing, lower bridge, which remains open to traffic.

"Safety is the most important thing on every project, but each job's unique approach to the work shapes our biggest concerns," said Kiewit Sponsor, Peter Potvin. "On Bayonne – where construction is above live traffic – access, fall protection and dropped object protection become an especially critical focus."

Even travel above the bridge must be accounted for during design and construction. For instance, much of the Goethals Bridge design is based on the close proximity of Newark Airport. Planes will take off and land over the bridge, so it's being built with a lower profile to comply with the Federal Aviation Administration (FAA) clearance zone.


POINT OF PRIDE

Taking into account its current bridge projects, Kiewit touches all five New York City boroughs and parts of New Jersey. For crews, working on iconic and historic structures adds to the excitement of construction.

"You can go to a place like Yankee Stadium and pass several projects Kiewit has worked on," said Scott Petrie, segment manager on the current K Bridge rebuild and formerly on the Willis Avenue and 145th Street Bridge projects across the Harlem River. "It's fun to drive by and tell family and friends 'I helped build that.'"

Thomas is quick to credit the hard work of Kiewit's people for the company's ability to help bring these mega projects to life.

"I've been with Kiewit for 27 years and this is some of the most technically challenging work I've ever seen," he said. "Of our three biggest bridge projects, we're working on a P3 (public-private partnership), a design-build and a bid-build, proving we can be competitive in almost any procurement model if we set our minds to it."

"We've been able to capitalize on the skills and experiences available across our company and our partners' companies. These are all signature projects in the NYC Metro and I'm very proud to be part of the teams that are building them." 

“ Each project has its own unique story behind the need for construction, from a historic storm to the local impact of changing infrastructure trends across the world. Our job as contractors is always the same: safely deliver a quality bridge, on time and on budget.”

WAYNE THOMAS,
KIEWIT SENIOR
VICE PRESIDENT

Connecting New York

Here's a look at some Kiewit bridge experience in New York City.

1. GOETHALS BRIDGE

Connects: Elizabeth, N.J., and Staten Island. The bridge is on I-278 and crosses over I-95 — the New Jersey Turnpike.

JV partners: KWM — Kiewit, Weeks Marine, Inc. and Massman Construction Co.

Project description: Built over 80 years ago, the original bridge was considered functionally obsolete. The new bridge will have more, wider lanes and better access for pedestrians. This is a P3 project — public-private partnership. NYNJ Link is the developer.

Construction: November 2013 - October 2018

2. BAYONNE BRIDGE

Connects: Bayonne, N.J., and Staten Island. The bridge gives marine access to Port Newark, Elizabeth and Howland Hook in Staten Island.

JV partners: Skanska and Kiewit

Project description: The Panama Canal is being widened for larger ships. These vessels will eventually make their way to New York and New Jersey ports. Dubbed "Raise the Roadway," this project will increase clearance of the 84-year-old bridge by 64 feet to 215 feet.

Construction: May 2013 - Fall 2018, with navigational obstruction removed by the end of 2015

3. WILLIS AVENUE SWING BRIDGE

Connects: Manhattan and Bronx over the Harlem River

JV partners: Kiewit and Weeks Marine, Inc.

Project description: The new bridge — which will completely replace the original swing bridge, built in 1901 — was fabricated offsite, floated down the river and installed. The project team also constructed the on-and off-ramps and replaced an approximately one mile stretch of north and southbound Major Deegan Expressway.

Construction: August 2007 - Summer 2015

4. WARDS ISLAND LIFT BRIDGE BRIDGE

Connects: East 103rd Street in Manhattan to Wards Island over the Harlem River

Project description: The bridge — built in 1951 — remained operational for marine vessels during replacement of the lift span deck and electrical and lighting systems. It is only 14 feet wide and only small equipment could be used during construction.

Construction: January 2009 - June 2013



1

2



STATEN ISLAND

NEW JERSEY

MANHATTAN

QUEENS



BROOKLYN



3

4

5

6



5. KOSCIUSZKO (K) BRIDGE

Connects: Brooklyn and Queens via the Brooklyn-Queens Expressway (Interstate 278)

JV partners: SKE a JV — Skanska, Kiewit and ECCO III

Project description: The new bridge will replace the deteriorating 75-year-old original. A 1.1-mile eastbound viaduct, cable-stayed bridge is being built alongside the existing bridge. The old bridge will then be torn down to make room for westbound lanes, which is not part of the current project.

Construction: Spring 2014 - Spring 2018

6. METROPOLITAN AVENUE BASCULE BRIDGE

Connects: Metropolitan Avenue through Brooklyn over the English Kills

Project description: Due to Superstorm Sandy's surge, water flooded the bridge's 84-year-old equipment. The project will install a temporary operating system before removing, rehabilitating and reinstalling the existing machinery and electrical. After the storm, operating times for the bridge grew to 30-40 minutes. The repairs will restore operating times to 8-10 minutes. Kiewit completed a rehab/replacement of this same bridge in the early 2000s.

Construction: May 2014 - March 2016



PRACTICE — MAKES — PERFECT

More than 20 years ago, Kiewit completed two light-rail bridge projects in Southern California. The reconstruction of the 100-year-old Arroyo Seco Bridge and construction of the Los Angeles River Bridge — both completed by Kiewit in the '90's — helped pave the way for light rail to ease the burden on the highly congested freeway system in Los Angeles. The bridges served as key connectors along an abandoned railroad that would eventually be transformed into a vibrant light-rail system — the Gold Line.

Fast forward to today. Residents and visitors log more than 1.2 million trips each month on the Foothill Gold Line from Los Angeles to Pasadena. The line's highly anticipated 11.5-mile westward extension to Azusa, Calif., is nearing completion, rounding out the more than 30-mile light-rail system.

BEFORE YOU PUT A SHOVEL IN THE GROUND

When Foothill Transit Constructors, a joint venture between Kiewit and Parsons Corporation, was selected to design and build the Foothill Gold Line Extension from Pasadena to Azusa in 2010, it had a significant advantage. A reputation to get the work done right, on time and on budget. In fact, it was a reunion of sorts for the key team members who had worked on the first phase of the rail line years earlier.

Chris Burner, chief project officer with the Metro Gold Line Foothill Extension Construction Authority, says that his experience with the team on the previous work greatly streamlined the project, which reached substantial completion in September 2015.

"There were valuable lessons learned, specifically around the planning that can be done before you even put a shovel in the ground," says Burner. "We've had

a long, successful track record partnering with Kiewit. We're able to work together and solve problems quickly. If you can do that, you can overcome a lot."

One of the great lessons learned was the importance of pre-construction planning. While key permits had previously been obtained after construction began, the Authority secured permits for all 34 street-level grade crossings before the contract was awarded.

"The Authority did a really good job of being ready for our construction crews and securing all permits well in advance of our construction schedule," said Steve McFadden, project manager. "Their proactive effort allowed us to build in an efficient, linear fashion."

CONSTRUCTION SITE OBSTACLES

While the long-term partnership was a benefit to the project, the team faced new challenges — most significantly, working within an active rail corridor. When picturing an active construction site, moving equipment, complex materials and workers donning yellow safety vests might come to mind. Now, imagine this

scene along with a moving freight train in the background.

Crews had to take special precautions on approximately four miles of the track — the active rail corridor — which required special training and safety measures. A crew member was assigned to stay in constant contact with freight trains and dispatchers to notify workers when a train was approaching to keep everyone involved safe.

Relocating the track was another critical part of the project. Before most of the construction could even start, the team had to relocate the current freight track and signal systems roughly 20 feet to make room for the new light rail track. To achieve this, the track was shifted in a phased approach with constant coordination with the project team and active trains.

THE THREE-DAY CHALLENGE

Another challenging feat for the team was the construction of the 700-foot San Gabriel River Bridge — the longest of the 24 bridges constructed or rehabilitated as part of the project.

1. Crews set the foundations for the crossing gate at Highland Avenue in the City of Duarte. 2. An active 4.3-mile shared corridor required meticulous planning and safety precautions. 3. During a 54-hour cutover in the City of Azusa, crews relocate the superstructure of an existing steel freight bridge to its new alignment.



The bridge was constructed adjacent to the bustling I-210 freeway within a river basin that was being used, in part, as a groundwater recharge basin. Stringent restrictions to the basin only allowed construction on the bridge when the river basin was dry and could be accessed by trucks, equipment and crews.

With limited staging space, the bridge's 21,000-pound girders had to be delivered, set and secured within a 72-hour window when the basin was dry. If the deadline was missed, the team was at risk of delaying the completion date by a whole year.

Roughly one year of planning and coordination with more than a dozen agencies and organizations was needed to successfully orchestrate the girder installation. In the end, the girders were set without a hitch, thanks to the meticulous preparation of the project team.

"This was a huge milestone and our careful planning paid off," said Wes Wegner, project controls manager at Kiewit. "It's a prime example of our ambitious culture of always



striving to improve and provide the best process and end product. We worked and re-worked our plans numerous times to ensure we had the right plan of attack in place."

Once the girders were set, the remaining work continued aerially, with limited disruption to the river basin and nearby traffic.

RAISING THE BAR ON SUSTAINABILITY

Once operational, 65 rail cars will carry passengers on the Foothill Gold Line extension on a regular basis, offering nearby residents a new mode of transportation and shorter commutes. Cleaning, inspecting and maintaining these rail cars, along with the overall operations of the tracks and signals, requires a centrally located operations and maintenance facility. The Authority identified a 24-acre site in Monrovia, Calif., and set its sights on Leadership in Energy and Environmental Design (LEED) Gold certification — a first for this type of facility.

The Gold Line Operations Campus, with its 132,000-square-foot main building, is a full-service facility that will employ more than 200 people. With around-the-clock operations, rail cars can be inspected, serviced and maintained at the facility. The campus also has approximately six miles of track to store light rail vehicles when not in service or undergoing repairs.

The campus was designed to be 35 percent more water efficient and 35 percent more energy efficient than other similar facilities. To achieve this high level of performance, the team used recycled materials, LED lighting and adopted a construction waste mitigation program. The 9,000-square-foot car wash facility was designed to use reclaimed water, eliminating the demand for roughly 60,000 gallons of water daily. Special consideration was also taken in the landscape design with drought-tolerant plants.

"The Operations Campus provided us a unique challenge to reduce water and energy usage without significantly impacting the project schedule and budget," said Foothill Gold Line Construction Authority CEO Habib F. Balian. "With the support and guidance of Kiewit-Parsons, this facility is now a model for others around the county and the nation."

Smart thinking by the design team helped the Authority best leverage the budget for the building. The project team engaged key subcontractors early in the design process and encouraged heating, cooling and plumbing contractors to work alongside designers to ensure project plans translated into cost-effective, efficient installations. Overall,

“We’ve had a long, successful track record partnering with Kiewit. We’re able to work together and solve problems quickly. If you can do that, you can overcome a lot.”

CHRIS BURNER,
METRO GOLD LINE
FOOTHILL EXTENSION
CONSTRUCTION
AUTHORITY

DID YOU KNOW ?

The very first train down a new railroad track is typically a “fake” train. Since rail cars can cost as much as \$4 million, many rail projects commission a wood cut of the exact dimensions of a rail car, which is set on a cart that is pushed along the rail line. This way, testers can ensure that the rail car has proper clearance at crossings and with overhead wires without damaging a real rail car.

GREEN FACTS

Construction and operations of the Foothill Gold Operations Campus will integrate many sustainable features including:

- Solar panels generating enough energy to power 24 homes
- Smart sprinkler technology reducing landscape watering by 50 percent
- More than a third of the facility is permeable, allowing rain water to recharge ground water
- Nearly 50 percent of construction materials included recycled content

this helped reduce change orders later in the project.

“We bid subcontracting work with the requirement that contractors support us in a design-assist role,” said John Bley, project manager at Kiewit. “The contractors helped make sure the designs could be built on budget. When contractors have a better understanding of the design, you get a better result.”

COMMUNITY INVOLVEMENT

Throughout the life of the project, the community played a vital role. The leadership of the five local cities connected by the rail line and hundreds of residents participated in planning meetings. Strong public involvement has solidified the light-rail system as a valuable community asset.

Public art installations at each of the six new stations are just one example of the strong connection between the project and community. Early in the design process, each of the five cities — Arcadia, Monrovia, Duarte, Irwindale and Azusa — was involved in choosing local artists to create design elements for the stations.


The completed stations provide memorable experiences for riders. From a 23-foot weather vane, to vibrant glass canopies, to mosaic-clad benches and stone sculptures, the artists’ work adds unique character to each of the stations and reflects the character and spirit of each city.

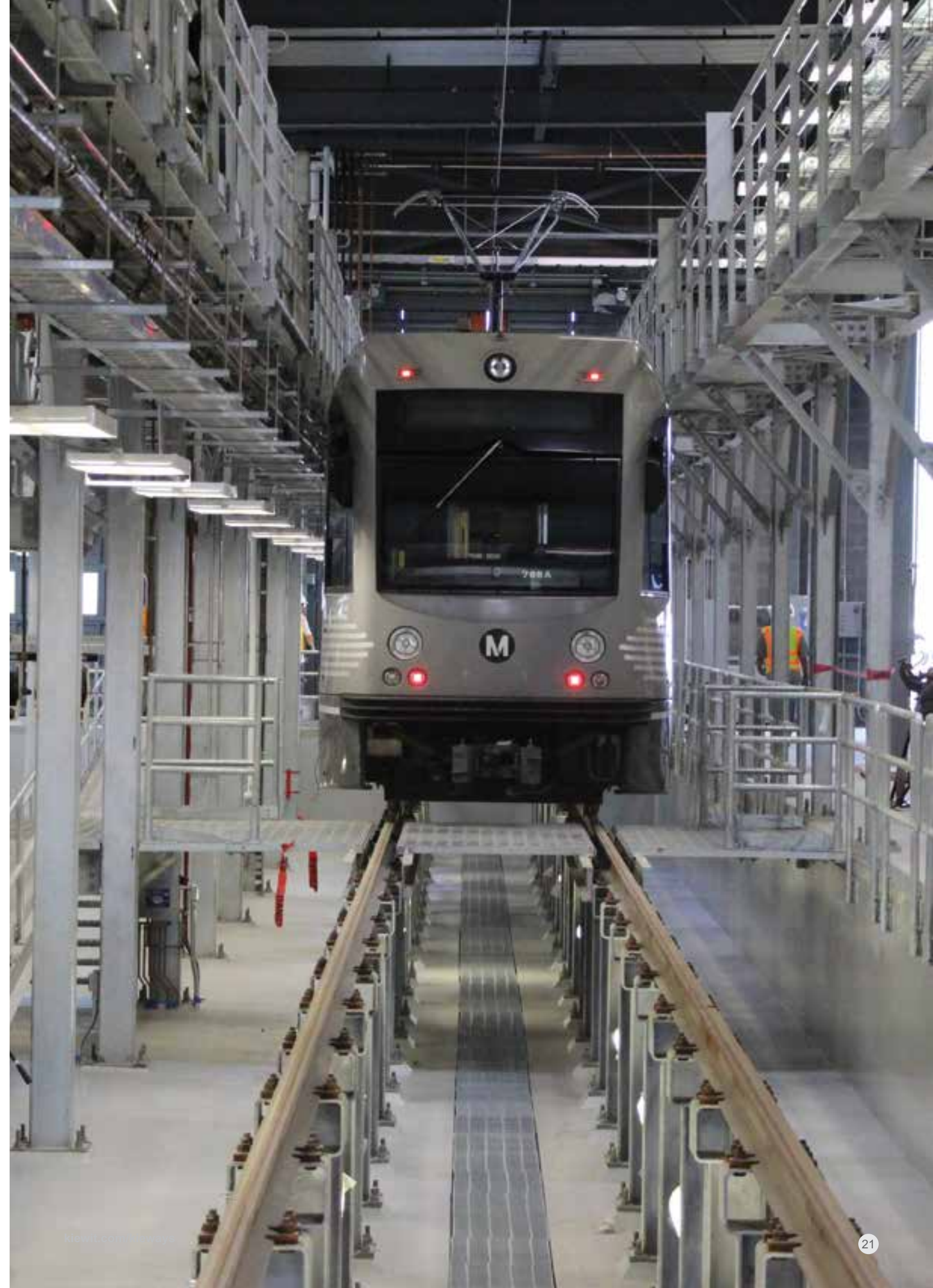
Art installations were also incorporated into the Gold Line Operations Campus through a glass tile mural and an ornate mesh fence that showcases California’s state flower, the California poppy.

Community support is crucial for future transit-oriented development. It is estimated that these cities could benefit from a possible \$3 billion in local investment. This is good news for the San Gabriel Valley, which is expected to see a more than 60 percent increase in population by 2035.

“The Gold Line extension travels through areas that are conducive to future development, offering another benefit to the communities served by the line,” commented Burner. “There is an increased demand for jobs, amenities and housing that is in close proximity to public transportation.”

THE NEXT PHASE

With the development of more than 30 miles of the Gold Line complete, the Authority will focus its next effort on extending the line an additional 12.3 miles eastward to Montclair, Calif. Ground-breaking could take place as early as 2017. 





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