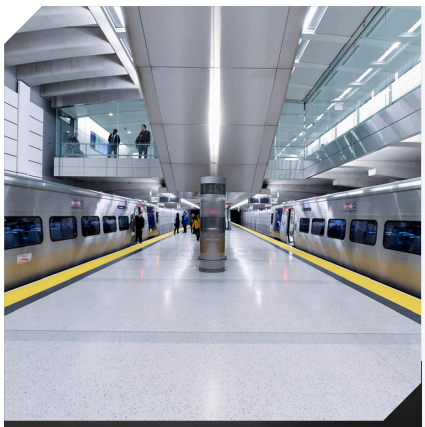


AECOM

Project:
MTA Grand Central Madison
(formerly East Side Access)

Project Location:
New York, NY

Client:
Metropolitan
Transportation Authority

GRAND **AWARD**

Grand Central Madison, formerly known as East Side Access, significantly upgrades Long Island Railroad service to Manhattan's East Side with 40 miles of new tracks, a new terminal, and extensive excavations deep below Park Avenue in Manhattan. MTA's largest capital project spanned three boroughs and included modernizing the Harold Interlocking, the busiest rail junction in the U.S.

Several innovations were incorporated, including the use of pneumatically applied concrete to vertical and overhead surfaces through the more powerful force of compressed air, rather than traditional cast-in-place methods.

The transformational project now provides a one-seat, shorter commute into Manhattan from Long Island. It also allows long-planned rehabilitation work on East River tunnels to begin next year.

COWI

Project:
Wellsburg Arch Bridge

Project Location:
Brilliant, Ohio and
Wellsburg, WV

Client:
West Virginia
Department of Highways

GRAND **AWARD**

As a key and reliable artery for northern West Virginia and eastern Ohio communities, Wellsburg Arch Bridge will foster economic growth for the region. It includes a distinctive arch design that was delivered in an unusual process.

The selected steel arch rib geometry is non-traditional, as opposed to the normal parabolic curve, which provides a lower rise and more efficient shape when combined with a network cable arrangement. The 830-foot main span was lifted onto two pairs of barges and moved into position in a massive, 13-and-a-half-hour operation. It was at the time the largest bridge float-in project performed in North America.

The new bridge is expected to reduce travel time between Wellsburg and Brilliant, stimulate economic development in the area, provide a new river crossing for commerce, and offer an alternative route across the river if maintenance work needs to be done on nearby bridges. The new crossing is a signature bridge for the community and will also serve as an attraction to the region. Not only is the tied arch bridge an efficient structural solution, but it is also an elegant architectural form that complements the surrounding environment.

HDR

Project:
Seward Highway Road and Bridge Rehabilitation

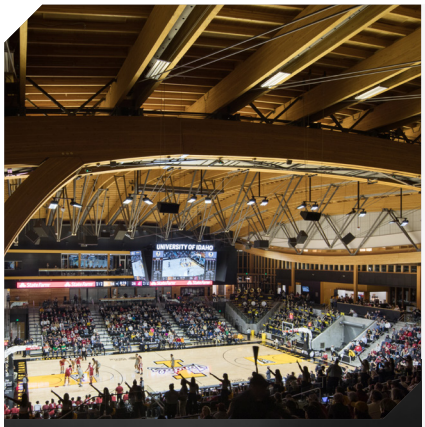
Project Location:
Anchorage and Kenai Peninsula Boroughs, Alaska

Client:
Alaska Department of Transportation & Public Facilities

GRAND **AWARD**

Nearly a half century after the Seward Highway was reopened in 1968 following the 9.2 Great Alaskan Earthquake, it had reached the end of its design lifespan. As the only route between Anchorage and the Kenai Peninsula and an All-American Road and National Scenic Byway, it became a source of severe regional congestion.

The new highway features straightened curves; nine reconstructed or rehabilitated and seismically upgraded bridges; five miles of passing lanes in each direction and turn lanes at critical intersections; an entirely repaved surface; enhanced pedestrian facilities; improved drainage; and protected shorelines. With three new underpasses and an extended multimodal scenic trail, the project increases pedestrian safety and improves access to recreational spots.



KPFF

Project:
University of Idaho ICCU Arena

Project Location:
Moscow, ID

Client:
University of Idaho

GRAND **AWARD**

With a vision to showcase what Idaho timber can do, the University of Idaho rejected easier routes using steel or concrete for its new arena, and utilized wood harvested from the state of Idaho, including some harvested from the university's Experimental Forest.

The striking shape of the building mimics the quintessential rolling hills of the surrounding Palouse region and innovative applications of wood to produce. After a series of iterations of central support designs, designers settled on a portal frame with king post trusses.

The mass timber featured in this project also includes glulam columns, and cross-laminated and dowel-laminated floors.

The arena has quickly become one of the most iconic wooden structures in the state.

Parametrix

Project:
Budd Inlet Treatment Plant Biological Process Improvements

Project Location:
Olympia, WA

Client:
LOTT Clean Water Alliance

GRAND **AWARD**

More than 80 wastewater plants discharge treated effluent to Puget Sound, contributing to nutrient loading (particularly nitrogen) that causes algae blooms and oxygen depletion, harming the marine ecosystem. Nitrogen levels can be greatly reduced through a biological nutrient removal (BNR) treatment process.

With the Biological Process Improvements project, the project team took the process to an entirely new level, reconfiguring and consolidating enhanced monitoring and controls. It also replaced aging equipment with state-of-the-art technologies. Treatment performance is highly effective, with total inorganic nitrogen (TIN) levels as low as 0.4 milligrams per liter (mg/L) and averaging 1.6 mg/L, compared to the 3 mg/L, permit limit.

This high performance improves water quality in Budd Inlet, LOTT's receiving waters, and has the capacity to meet community growth and comply with the more stringent discharge permit limits anticipated in the future. The upgrades included energy-saving technologies and operational strategies estimated to save about 20 percent of overall plant electrical usage.

Severud Associates

Project:
TSX Broadway and Palace Theater Redevelopment

Project Location:
New York, NY

Client:
L&L Holding Company

GRAND **AWARD**

Resourceful engineering produced a new, revitalized entertainment, retail, and hotel complex at the center of Times Square in New York City, while involving a historic lift of the historic Palace Theater.

The project team incorporated telescoping steel posts and computer-controlled hydraulic jacks, which allowed the entire Palace Theater structure to be raised an astonishing 31 feet. The 113-year-old structure, which occupies most of the project's densely urban site, is protected from demolition, but its original location would have limited use of the site if not lifted.

Raising the Palace Theater two stories into the air made the project physically and economically possible, freed valuable ground floor space, and allowed sidewalk access to expanded retail space by millions of visitors.

Stantec

Project:
Long Island Railroad Third Track Expansion Project

Project Location:
Long Island, NY

Client:
3rd Track Constructors (Joint Venture)

(Dragados USA, Picone, Halmar, CCA Civil)

GRAND **AWARD**

The Long Island Railroad (LIRR) is the busiest commuter railroad in North America. Originally built in the early 1800s, it has since consisted of two tracks serving about 50,000 people. Today, those same two tracks carry more than 72 million customers annually on 750 daily trains. The LIRR Expansion Project upgraded an extremely heavily utilized 9.8 mile two-track Main Line segment in Long Island, NY.

The enhancement involved new three-track-wide bridges that were cast in place adjacent to the existing tracks and then were hydraulically jacked into position beneath the LIRR. This process reduced the interruptions of train service at each crossing location to just one weekend where the tracks were taken out of service.

WSP USA | HOK (Joint Venture)

Project:
LaGuardia Terminal B Replacement Project

Project Location:
Queens, NY

Client:
LaGuardia Gateway Partners

GRAND **AWARD**

New York's LaGuardia Airport (LGA) is the nation's 19th busiest airport, serving more than 30 million passengers annually. LGA was consistently recognized as one of the worst airports in the country because of aircraft taxiway congestion and general passenger discomfort.

Following the opening of its new Terminal B, the tide has changed. The design team produced a reconfiguration of Terminal B from a finger concourse design to an island design connecting the concourses to the arrivals and departures hall via elevated pedestrian bridges. This solution reduces overall airside congestion by allowing air traffic to navigate beneath the bridges in both directions and offers passengers a view of the New York City skyline and airfield.

Other project design elements have contributed to its sustainability achievements, including the placement of vehicle charging stations; infrastructure to support a transition to all-electric ground support equipment on airside; and building innovations that ultimately cut energy consumption and greenhouse emissions. LGA's Terminal B is one of only 22 airports worldwide—and the first in North America—to earn a 5-star Skytrax rating.

AECOM

Project:
Governor Harry W. Nice/
Senator Thomas "Mac"
Middleton Bridge

Project Location:
Newburg, MD

Client:
Maryland
Transportation Authority

HONOR **AWARD**

The new Governor Harry W. Nice/Senator Thomas "Mac" Middleton Bridge (Nice-Middleton Bridge) improves regional traffic speeds and maritime travel for a key gateway over the Potomac River between Maryland and Virginia.

The new four-lane Nice-Middleton Bridge replaces the existing 1.9-mile, two-lane bridge originally opened in 1940 that had reliably stood the test of time. But after seven decades of dedicated service, the bridge no longer met current safety standards.

The new Nice-Middleton Bridge now provides twice the traffic capacity with its four 12-foot-wide lanes. It also includes shoulders to improve safety and facilitate access for emergency response, maintenance, and wide-load vehicles. Navigational vertical clearance of 135 feet also has been enhanced to enable tall ships to pass beneath.

AECOM

Project:
New York Penn Station LIRR
Concourse Improvements

Project Location:
New York, NY

Client:
MTA Construction &
Development

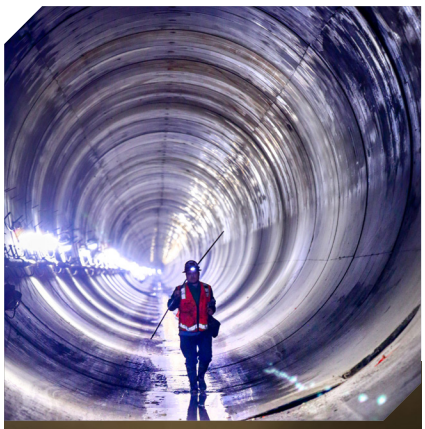
HONOR **AWARD**

As one of the busiest train stations serving Long Island Railroad (LIRR), NJ TRANSIT, and Amtrak, with direct connections to six New York City Transit (NYCT) subway lines, Penn Station hosted approximately 600,000 visitors daily pre-pandemic.

With expanding regional rail services, future demand is now projected at more than 830,000 daily commuters. The LIRR Concourse has doubled in width and the ceiling height raised to 18 feet.

An innovative structural framing system helped increase ceiling height while maintaining structural support to Madison Square Garden, sidewalks, and roadways above ground; and avoiding significant structural work in the train shed. The design and sequencing approach maintained pedestrian circulation at concourse level and traffic movements on 33rd Street throughout construction.

Penn Station remained fully operational through construction. Critical to ongoing 24/7 station operations, support and crew facilities for LIRR and the MTA Police Department were upgraded. While overcoming these complexities, no trains were delayed during construction.



Black & Veatch

Project:
Waterway Protection Tunnel

Project Location:
Louisville, KY

Client:
Louisville and Jefferson County Metropolitan Sewer District

HONOR **AWARD**

The Louisville and Jefferson County Metropolitan Sewer District entered into a Consent Decree with certain objectives aimed at eliminating more than five billion gallons of untreated combined storm sewer and wastewater overflows (CSOs) into local waterways each year.

As the sewer district sought one approach to handle CSOs, the project teams offered an alternative to handle overflows (CSOs) from 25 different locations using a deep bedrock tunnel alternative solution to provide much greater flexibility. The result is a 4-mile-long, 20-foot-diameter, 200-foot-deep CSO storage and conveyance tunnel with a capacity of 55 million gallons. During wet-weather events, a total of 25 CSOs are diverted to the tunnel for storage and conveyance.

The new tunnel is designed to prevent 439 million gallons of CSO from discharging to public waterways such as the Ohio River in a typical year. As the first deep bedrock tunnel in downtown Louisville, several crossings beneath stakeholder infrastructure were necessary. As of fall 2023, after 16 months of operation, the new tunnel captured more than 500 MG of CSO that would have otherwise polluted Louisville's waterways.

Brown and Caldwell/HDR (Joint Venture)

Project:
EchoWater Project

Project Location:
Elk Grove, CA

Client:
SacSewer

HONOR **AWARD**

A new treatment system produces cleaner water for discharge to the Sacramento River, as well as for potential reuse as recycled water, including for irrigation and use on landscapes. The project branded "EchoWater," reflects how wastewater would return to a clean, natural state—much like an "echo" returning to its original source.

Additionally, its new Nitrifying Sidestream Treatment facility converts ammonia to reduce chemical costs for odor control by $10,000 per day. Meanwhile, its Biological Nutrient Removal process, one of the largest in the country, removes 99 percent of the ammonia and 89 percent of the nitrogen from the wastewater.

The EchoWater Project resulted in cleaner discharge to the Sacramento River, provides recycled water for unrestricted beneficial reuse, and keeps SacSewer in compliance with regulatory permits.

Carollo Engineers

Project:
Pure SoJo Direct Potable Reuse Demonstration Facility

Project Location:
Riverton, UT

Client:
City of South Jordan, UT

HONOR **AWARD**

The city of South Jordan, Utah, has no culinary water rights of its own and currently obtains all its drinking water from a regional wholesaler. The city had been looking for a drought-tolerant, local water supply of its own to supplement wholesaler deliveries and assist with meeting new demands.

A direct potable reuse (DPR) was deemed the right solution, and the project team designed a DPR pilot for demonstration purposes and public outreach. Direct potable reuse—the process of purifying treated wastewater effluent to drinking water standards—is still relatively new with several implementation challenges.

With the Pure SoJo Demonstration Facility, the project team is introducing the following non-reverse osmosis treatment plan to meet the city's objectives: ozone/biologically active filtration, ultrafiltration, granular activated carbon, ultraviolet disinfection, ion exchange, and chlorine disinfection. This treatment has produced safe, clean drinking water that has met all regulatory requirements with additional levels of safety.

The city and Carollo have hosted multiple tours at the pilot facility and will soon be offering taste-testing events. The Demonstration Facility will operate for five years.

D&B Engineers and Architects

Project:
Clean Water for Carlls River

Project Location:
North Babylon, NY

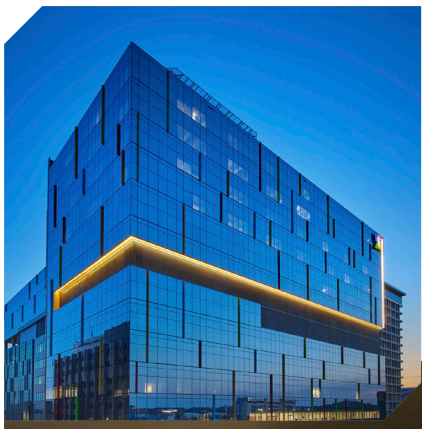
Client:
Suffolk County Department of Public Works, NY

HONOR **AWARD**

Discharge of untreated organic matter and chemical contaminants from cesspools and septic systems in Deer Park, North Babylon, West Babylon, and Wyandanch seriously impacted human and wildlife health, creating algae blooms, brown tides, and high nitrate levels that deteriorated wetlands; and making shorelines of the Great South Bay dangerously flood prone.

The project incorporated a low-pressure sewer system to redirect sanitary waste from more than 2,300+ private residences directly to the Bergen Point Wastewater Treatment Plant. The project involved construction on thousands of private residential properties. A portion of the sewer was connected to Suffolk County Sewer District via a 48-inch sewer interceptor extension. Micro-tunneling beneath Southern State Parkway minimized traffic disruptions and kept the artery open.

The project preserves the Great South Bay's wetland ecosystems. The low-pressure sewer system mitigates nitrogen buildup and diverts other contaminants.



Dunbar/ Walter P Moore

Project:
Wonder Tower at Children's Hospital of Richmond at VCU

Project Location:
Richmond, VA

Client:
VCU Health

HONOR **AWARD**

The 560,000-square-foot Wonder Tower provides emergency, trauma, and inpatient care services in one state-of-the-art, kid-friendly facility. A part of the VCU hospital network, the project includes a 280-foot-long enclosed pedestrian skybridge that spans one of the city's busiest intersections to connect the new Children's Hospital to the VCU Medical Center Main Hospital building.

Constructed overtop and alongside CHoR's existing outpatient pavilion, the horizontal and vertical expansion presented a host of engineering challenges. It is also the first major Richmond project incorporating the state's rigorous new seismic design code.

Additional engineering challenges included designing the innovative new tower on a confined urban site while keeping the adjacent hospital buildings operational and minimizing disruptions to surrounding vehicle and pedestrian traffic.

Freese and Nichols

Project:
Bois d'Arc Lake Water Supply Program

Project Location:
Bonham, TX

Client:
North Texas Municipal Water District

HONOR **AWARD**

Facing some of the most explosive population growth in the U.S., the North Texas Municipal Water District needed a new, long-term water source added to their system to operate in concert with their smart water management and conservation efforts.

The result was the new $1.6 billion Bois d'Arc Lake water supply program, a crucial new water source that started serving some 2 million people in more than 71 communities in spring 2023. Two decades in the making, Bois d'Arc Lake, Texas' first major reservoir in 30 years, initially provided 70 million gallons of drinking water a day for North Texans.

The main elements include a 2-mile-long, 90-foot-tall earthen dam and 16,641-acre reservoir; a treatment plant and transmission systems that include two huge pump stations and 60 miles of pipelines for raw and treated water; and multiple sites of forested and emergent wetlands, grasslands, and stream restoration, including the planting of 6.3 million trees.

Gresham Smith

Project:
Broadway Viaduct Bridge Replacement

Project Location:
Nashville, TN

Client:
Tennessee Department of Transportation

HONOR **AWARD**

As the new main western gateway into Nashville, the Broadway Viaduct Bridge spans five active CSX railroad lines, 11th Avenue South, and a greenway, and it serves as a crucial arterial for the city, carrying not only 26,000 vehicles daily but also critical telecommunications for the downtown area.

To minimize impacts of construction to the travelling public, the team used accelerated bridge construction techniques that resulted in the complete replacement of the bridge superstructure during a mere eight-week full closure of the bridge.

An integral part of the construction was the use of shallow 32-inch web depth steel girders featuring high-performance Grade 70 steel flanges, spanning all five CSX railroad tracks. Steel beams not only improved vertical clearance over the tracks but also provided span lengths with sufficient railroad horizontal clearance that eliminated the need for bent protection.

HNTB Corporation

Project:
Orlando International Airport Terminal C

Project Location:
Orlando, FL

Client:
Greater Orlando Aviation Authority

HONOR **AWARD**

Facing demand projected to increase by 12 million passengers annually, Orlando International Airport needed to expand. The new Terminal C introduces multiple industry firsts that increase safety, efficiency, and mobility, including a terminal-wide, 100 percent trackable RFID baggage handling system.

Stunning architectural elements and artistic interpretations create a sense of place and invite passengers to experience Florida's famous natural elements of water, garden, and light.

Terminal C elevates the value of engineering by demonstrating how a well-designed project can not only advance the owner's objectives but the aviation industry's objectives as well. Terminal C features special systems design engineering for state-of-the-art connectivity, including virtual ramp control systems, 100 percent automated screening lanes at TSA checkpoints, and visual docking guidance systems that allow pilots to park aircraft themselves.

Jaros, Baum & Bolles

Project:
555 Greenwich

Project Location:
New York, NY

Client:
Hines

HONOR **AWARD**

Completed as New York City's first entirely fossil-fuel-free commercial office building, 555 Greenwich employs a revolutionary infrastructure that breaks new ground for sustainable design.

The project team had to overcome both the challenge of designing thoroughly sustainable systems for a first-of-its-kind building, and then coordinating those systems with those of 345 Hudson—the existing building to which the first-of-its-kind was being attached.

The solution was an ingenious and intricate weave of innovative systems: dedicated outside-air units, geothermal heating and cooling, industrial scale air-source heat pumps, radiant heating and cooling, and increased air filtration—innovations previously unheard of in a commercial office building in New York City.

The two buildings are now interconnected with a thermal network designed to shift heating and cooling energy between the structures, thus maximizing the HVAC system efficiency of each.

Kimley-Horn

Project:
LAX West Gates at Tom Bradley International Terminal

Project Location:
Los Angeles, CA

Client:
Los Angeles World Airports

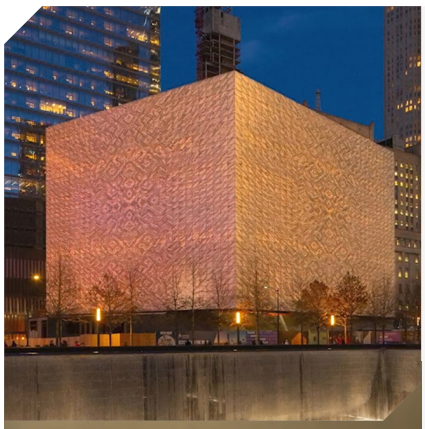
HONOR **AWARD**

The new Midfield Satellite Concourse North "West Gates at Tom Bradley International Terminal" is part of a major terminal expansion program at Los Angeles International Airport. The new facility accommodates both domestic and international flights and enables flexibility in scheduling at other LAX facilities.

The project combined cutting-edge technology, engineering ingenuity, and practical sustainability to deliver a $1.73 billion program that touched every aspect of engineering.

The West Gates project featured use of lightweight cellular concrete, sustainable and recycled concrete material, and a Siphon Pump System.

The project also integrated sustainability through the low impact development principles utilized in stormwater management measures and ultimately earned Gold certification from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program.



Magnusson Klemencic Associates

Project:
Perelman Performing Arts Center

Project Location:
New York, NY

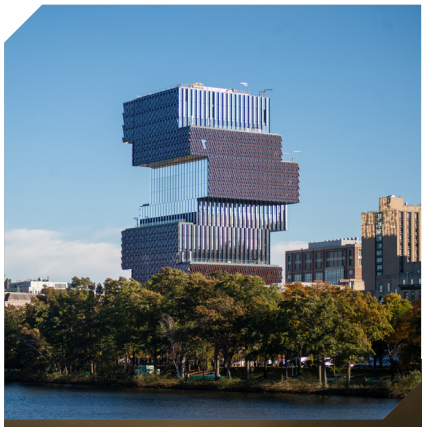
Client:
Davis Brody Bond Perelman Performing Arts Center

HONOR **AWARD**

Simple and elegant during daylight, a warm illuminating lantern at night, the new Perelman Performing Arts Center is the newest jewel and culminating piece of the 9/11 memorial site.

A deceptively simple cube that belies an internal one-of-a-kind, immensely complex structural system performing engineering "gymnastics." Its three principal theaters "float" inside the exterior like three ships in a bottle or three boxes inside their marble cube. These floating boxes are structurally independent and acoustically isolated from each other, the building itself, and the infrastructure below.

The structure's three main theaters and two adjoining storage areas, or "scene docks," can be reconfigured, coupled, and de-coupled (transformed) into an unheard-of 11 different theater volumes and more than 60 different configurations. Balconies roll in and out, seating platforms rise and drop to create raked or flat seating surfaces—all seamlessly transforming three performance spaces into many configurations ranging from intimate 100-person black-box venues to epic 1,000-person concerts.



Nitsch Engineering

Project:
BU Center for Computing & Data Sciences

Project Location:
Boston, MA

Client:
Boston University

HONOR **AWARD**

The Boston University Center for Computing and Data Sciences (CCDS) exemplifies cutting-edge sustainable engineering and design. The project team provided innovative civil engineering, permitting, and land surveying services to convert a former parking lot into Boston's greenest building—a LEED Platinum building that will reach carbon neutrality by 2040.

The project team overcame significant site constraints on the two-acre urban area to design an innovative stormwater management system which also required coordination with 31 geothermal wells, associated piping, and sewer infrastructure for the new building.

The iconic offset façade allows more space for green roofs, which reduce the carbon footprint. An integrated rainwater harvesting system irrigates the roofs, and the CCDS meets sustainability goals through renewable energy.

The CCDS provides a high-profile model for future successful sustainable engineering and design.

RS&H & AtkinsRéalis

Project:
Central 70

Project Location:
Denver, CO

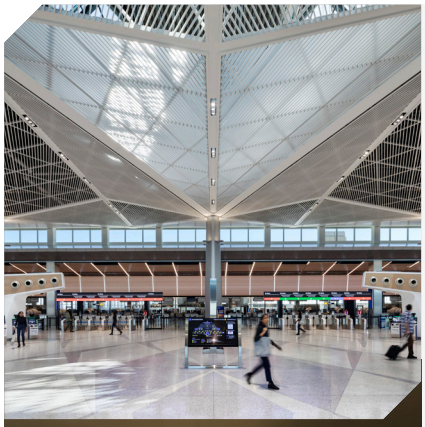
Client:
Colorado Department of Transportation

HONOR **AWARD**

This new 10-mile, $1.2 billion massive highway project totally enhances traffic flow west of downtown Denver, while improving capacity and reliability and reducing congestion.

The project removed a failing 57-year-old viaduct before lowering a portion of the reconstructed interstate and covering it with a four-acre park to reconnect the long-divided Swansea and Elyria neighborhoods.

Features included the reconstruction of ten miles of I-70, demolition of 16 bridges with major structural deficiencies, and construction of 24 new concrete and steel bridges, two of which are rail bridges. It is projected to result in $18 billion in increased regional economic activity by 2040.



STV

Project:
Newark Liberty International Airport New Terminal

Project Location:
Elizabeth, NJ

Client:
Port Authority of New York and New Jersey

HONOR **AWARD**

The new Terminal A at Newark Liberty International Airport replaces the existing facility with a new one-million-square-foot, 33-gate domestic terminal. Opened in January 2023, Terminal A was the largest design-build infrastructure program in New Jersey state history.

The $2.7 billion Terminal A Redevelopment Program includes eight new bridges and roadways, a new car rental and parking facility, and 1.4 acres of airfield paving improvements. As one of the region's three major airport gateways, Newark's new terminal is emblematic of the airport renaissance in New Jersey and the New York Metropolitan region.