

ACEC Missouri 2026 Engineering Excellence Awards

Grand Conceptor Award



HDR

PROJECT TITLE:

Kansas City Streetcar Main Street Extension

CLIENT/OWNER:

City of Kansas City, MO / Kansas City Streetcar Authority

— from horse- and mule-drawn cars to cable lines, electric traction, and trolley buses. In 2016, the Kansas City Streetcar Authority opened the Downtown Streetcar line, a 2.2-mile system through the heart of Downtown, with free ridership to and from all 16 stops. Upon completion of the Downtown line, the corridor quickly cemented its status as a major hub for Downtown residents, visitors, commuters, and developers. This convenient transportation option has become an iconic part of Downtown. The \$352 million Main Street Extension adds 3.5 routemiles of new streetcar service, starting at Union Station and ending at the University of Missouri-Kansas City (UMKC). The expanded route will include 15 new stops, improved pedestrian access and public space, and eight new cars, evolving to a true spine in the regional transit system. The fare-free, zero-emission transit service will connect dense neighborhoods, busy business districts, world-class cultural institutions, and vibrant academic communities within Kansas City.

“This is the first time streetcars have passed south of Pershing Road since 1957,” noted Tom Gerend, Executive Director of the KC Streetcar Authority as testing of the new alignment began in fall 2024. The Main Street Extension continues the four themes that propelled the Downtown line: connect, develop, thrive, and sustain. It provides mobility and connectivity, economic development and growth, community amenities and improved livability, and sustainability. It expands mobility choices for the area; adds new connection points for regional transit; improves accessibility; provides efficient, reliable, and safe transit; encourages development of underutilized and vacant property; supports existing residential and commercial activity; and enhances the desirability of the corridor for employment and residential growth.

In contrast to the Downtown line, which passes through the region’s central business district on historic streets, the Main Street Extension passes through the gentle density of Midtown Kansas City on a wider thoroughfare that offers the opportunity to integrate dedicated transit lanes. The project also includes a new operations control center and expands the existing maintenance yard. New signature stops at Plaza Transit Center and UMKC integrate the project into the local community. A multi-year, intense public outreach effort has resulted in overwhelming positivity and enthusiasm for the project. The project incorporates accessibility, reduces emissions, and integrates regional planning and complete street principles. The project team overcame significant challenges, including designing the extension through a developed, urban landscape, with faster speeds and more hills than the starter line; hazardous materials; floodplains; and coordinating with agencies, governments, partners, and stakeholders.



The result is one of the most ambitious transit expansions in recent local history. The project will improve the quality of transit and improve opportunities for Kansas Citians for decades to come. “The grand opening of the Main Street Extension represents our community’s investment in generational growth, providing more opportunities for more residents and visitors alike, while remaining fare-free for all,” said Kansas City, Missouri, Mayor Quinton Lucas.



Burns & McDonnell

PROJECT TITLE:

Limestone Ridge Reliability Project

CLIENT/OWNER:

Wabash Valley Power Association, Inc.

To boost power supply reliability for one of its utility co-ops in Missouri, Wabash Valley Power Alliance constructed several substations and transmission lines, including a complex river

crossing. Through meticulous planning and collaboration, the project team addressed environmental challenges, coordinated with large industrial clients and enhanced infrastructure while minimizing impact.

Burns & McDonnell served as the engineer-procure-construct (EPC) contractor for the Limestone Ridge project, enhancing electric reliability in southeast Missouri. The project was completed safely, on schedule, and within budget, strengthening Wabash Valley Power Alliance's ability to provide reliable power to residential and industrial customers.

- Collaboration was key throughout the project, involving multiple client teams, regulatory agencies, and industrial customers. Key components included: Wittenberg Substation, a new 138kV four-breaker ring bus substation.
- Trail of Tears Expansion Substation, a new 161kV three-bay breaker-and-a-half substation adjacent to an existing 138/69kV substation.
- Charmin Bulk Substation Brownfield upgrades, including four 161kV breakers, to a 161/13kV facility that serves a critical industrial customer.
- Transmission Line T21, one-mile 69kV relocation with 13kV distribution underbuild.
- Industrial Customer to Trail of Tears Lines, two 1-mile, 161kV lines.
- Transmission Line T23, two miles of 69kV relocation.
- Grand Tower-to-Wittenberg Line, two miles of 138kV rebuild, including a half-mile Mississippi River crossing.

The Limestone Ridge project required strategic coordination to overcome key challenges. Close collaboration with the U.S. Coast Guard confirmed safe helicopter operations and managed river traffic for the Mississippi River crossing. An alternate power source minimized industrial outages to five days. Environmental compliance was met through permits and mitigation measures, including bat conservation credits and a 300-foot streambank culvert. Proactive planning addressed supply chain delays while extensive civil work prepared the flood-prone site for construction.

Crawford, Murphy & Tilly, Inc.

PROJECT TITLE:

St. Louis Citywide Transportation & Mobility Plan

CLIENT/OWNER:

City of St. Louis



The St. Louis Citywide Transportation & Mobility Plan (TMP)

is a landmark initiative – the City's first comprehensive transportation plan in over 75 years. It sets a bold, long-term vision for how people move and how communities thrive, guiding investments and decisions over the next 10 to 25 years. Developed through robust public engagement and a statistically valid survey, the TMP reflects the lived experiences and values of St. Louis residents, prioritizing safety, connectivity, and maintenance across all modes of transportation.

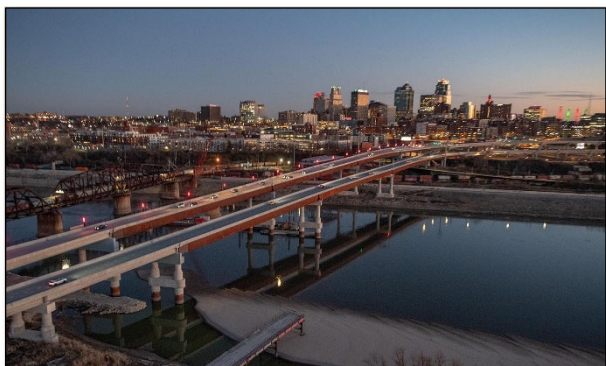
One of the plan's most innovative components is the Street Design Framework, which reimagines how streets function – not just as conduits for cars, but as public spaces that support walking, biking, transit, and accessibility. The framework categorizes every street based on its surrounding context and outlines how each should be designed to serve people first.

Safety is a foundational pillar of the TMP, which introduces a data-driven Safety Action Plan designed to reduce traffic fatalities and serious injuries by 50% by 2050 through targeted countermeasures and annual progress tracking.

Implementation is addressed through a strategic roadmap that links vision to action. The TMP outlines steps for project delivery, funding alignment, and performance tracking. It fosters transparency and collaboration, acknowledging that success stems from the shared commitment of city staff, elected officials, residents, and partner organizations. Public dashboards and equity-centered design have garnered regional recognition, serving as a model for peer cities.

The TMP also addressed complex challenges, from navigating governance transitions to responding to a natural disaster during the planning process.

Slated for official adoption into the City's Comprehensive Plan on November 12, 2025, the TMP redefines transportation planning in St. Louis, grounded in community trust, technical excellence, and a commitment to inclusive, sustainable mobility.



HNTB Corporation

PROJECT TITLE:

MoDOT Buck O'Neil Bridge Design-Build Project

CLIENT/OWNER:

Missouri Department of Transportation

The MoDOT Buck O'Neil Bridge Design-Build Project represents a transformative infrastructure initiative in downtown Kansas City, Missouri, addressing critical transportation needs while honoring a local legend. Initially constructed in 1956, the aging bridge was nearing the end of its service life. Following a temporary major rehabilitation and closure of the bridge in 2018, the Missouri Department of Transportation (MoDOT) determined a full replacement was needed and awarded a \$220 million design-build contract in early 2021 to the Massman-Clarkson Joint Venture (MCJV). HNTB Corporation (HNTB) designed a permanent solution for carrying US-169 over the Missouri River.

The project's scope included the construction of 10 new bridges totaling over 9,000 feet in length, including twin long-span river bridges, flyover ramps to I-35, and improved ramp connections to the downtown airport. The new flyover structures significantly improved traffic flow, removing thousands of vehicles from local signalized intersections and reducing commute times by several minutes during peak hours.

Each of the twin bridge river crossings features a 1,200-foot steel unit with a 455-foot main navigation span, supported by 11-foot-diameter, 100-foot-deep drilled shafts engineered to withstand vessel collisions. This design ensures long-term structural integrity and safety amid the dynamic conditions of the Missouri River. At the north end, a historically problematic curve was redesigned with improved geometrics, a longer deceleration lane, and new overhead signage, enhancing safety and access to the airport. The south side connects US-169 to downtown Kansas City with capacity and pedestrian safety improvements at the Broadway/5th Street intersection.

Due to Federal Aviation Administration (FAA) height restrictions, the new bridge replaced the original steel truss design with a streamlined plate girder structure, striking a balance between efficiency, cost, and durability. The new northbound bridge includes a dedicated shared use path with decorative LED lighting and a scenic overlook platform. The new path closes a missing link between neighborhoods, the Wheeler Downtown Airport, and Riverfront Heritage Trail system.

Urban design enhancements were a key focus, with realigned city streets improving traffic flow on 3rd Street, Beardsley Road, and Woodswether Road which together link Kansas City's River Market and West Bottoms neighborhoods. Landscaping and aesthetic improvements were integrated throughout the corridor. The project also

celebrated Kansas City's cultural diversity, providing interpretive panels along the pedestrian walkway, and funding a large mural by a local artist.

Despite challenges — including COVID-19 disruptions, an accelerated schedule, coordination with multiple stakeholders (FAA, the Federal Highway Administration [FHWA], United States Army Corps of Engineers [USACE]), several railroads, and major events like the 2023 NFL Draft — the MCJV team delivered the project on time and within budget. Fully opened in November 2024, the new bridge now carries approximately 50,000 vehicles daily. Designed for a 100-year lifespan, it stands as a resilient, multimodal gateway that supports Kansas City's growth, honors its history, and enhances regional mobility for generations to come.

HR Green, Inc

PROJECT TITLE:

Cedarhurst Drive Creek Bank Stabilization

CLIENT/OWNER:

Metropolitan St. Louis Sewer District



In 1989, residents of the 10,000 block of Cedarhurst Drive in unincorporated north St. Louis County reported severe erosion along the east bank of Black Jack Creek. At the time, the issue was a single 40-foot bank slump. Over the next three decades, as agricultural land within the 4.1-square-mile Black Jack Creek watershed gave way to suburban development, impervious surfaces dramatically increased. Peak storm flows that once averaged 660 cubic feet per second (CFS) for a two-year storm more than doubled to over 1,300 CFS.

This surge in runoff triggered accelerated channel degradation. By 2016, two bank slumps had developed along the east bank, each approximately 280 feet long. Yards, fences, and outbuildings had been lost, and the stability of adjacent homes and utility poles was severely compromised. The channel itself had become deeply entrenched, with steep banks approaching near-vertical slopes and a trapezoidal cross-section 25 to 35 feet wide. The creek had become entrenched and disconnected from its historic floodplain. Stormwater now flowed through the channel as if through a confined gorge, amplifying erosive forces.

The project site also contained four storm sewer outfalls discharging directly into the creek, all of which were in poor condition. Geomorphological and economic analysis indicated that a comprehensive solution rather than piecemeal repairs was appropriate. The comprehensive solution would consider structural stability, public safety, community needs, and long-term watershed resiliency.

The Metropolitan St. Louis Sewer District selected HR Green, Inc. to deliver a full-scale stabilization project along the 1,300-foot reach of Black Jack Creek behind Cedarhurst Drive. After completing a geomorphological evaluation of the creek, HR Green developed four stabilization alternatives. Following hydraulic and economic evaluation of the alternatives, Alternative 4 – Long-Reach Stabilization was selected. This approach provided the most comprehensive protection by addressing not only the existing failures but also adjacent unstable segments. Key components of the design included:

- **Channel Realignment:** Shifting the creek westward to avoid threatened small-lot residential properties and away from utilities.
- **Grading and Slope Stabilization:** Flattening near-vertical banks to stable 3:1 slopes, reducing shear stress during high-intensity storm events.
- **Toe Protection:** Installing heavy stone revetment at the toe of banks to resist erosive forces, with height of the toe protection extending through the four-foot bank-forming depth.
- **Grade Control Structures:** Adding riprap with engineered cross-channel structures to stabilize the longitudinal profile and prevent future downcutting.
- **Vegetated Bank Treatments:** Using native grasses, sedges, and live staking to establish deep-rooted vegetation that reinforces bank stability while restoring habitat.
- **Floodplain Benches:** Creating inset benches to reconnect portions of the creek to a floodplain, distributing flow energy and improving channel resiliency.

The Cedarhurst Drive Creek Bank Stabilization project has delivered measurable, long-lasting benefits to the community. The team transformed an unstable waterway into a resilient and sustainable community asset—protecting critical infrastructure, preserving property values, and enhancing the quality of life for residents along Cedarhurst Drive.



IMEG

PROJECT TITLE:

**Washington University School of Medicine
BJC Institute of Health's Vertical Expansion**

CLIENT/OWNER:

Washington University School of Medicine

The new 160,000-sf addition to Washington University School of Medicine's Lipstein BJC Institute of Health provides five floors of laboratory and mechanical equipment space, dramatically increasing the facility's research capacity.

The addition houses a 7,900-sf Biosafety Level 3 (BSL-3) laboratory designed to support research of high-risk airborne pathogens, a 5,100-sf Biologic Therapy Core Facility designed to ISO-7 cleanroom standards and compliant with FDA cGMP requirements for cellular therapies, 103,000 square feet of flexible laboratory space, and 44,000 square feet of mechanical and support areas.

Faced with the complex site and environmental challenges of constructing an addition within a dense medical campus, wind tunnel testing and exhaust dispersion modeling were conducted using scale models of adjacent buildings to ensure the safe release of laboratory exhaust without risking recirculation into nearby buildings.

Additionally, the dangerous viruses present in the BSL-3 lab made safety for research staff a critical aspect of the design. Liquid effluent decontamination systems and dedicated ventilation and exhaust systems were designed with full N+1 redundancy and advanced exhaust air HEPA filtration for the safe study of these viruses to develop treatments, vaccines, and diagnostic tools to help control virus epidemics.

The project achieved LEED Silver certification through recycled, local, and low-carbon building materials; pollution prevention and optimized energy performance plans; and water-efficient landscaping, increased ventilation, and outdoor air delivery monitoring.

Through close collaboration among the design team and the Washington University School of Medicine, the new vertical expansion of the Lipstein BJC Institute of Health is a showcase of engineering innovation and state-of-the-art research facilities.

Olsson, Inc.

PROJECT TITLE:

**High Service Pump Station for Blendville
Water Treatment Plant**

CLIENT/OWNER:

Missouri American Water



Through a partnership with Missouri American Water Company, Olsson brought forward-thinking solutions and strong collaboration to the High Service Pump Station at the Blendville Water Treatment Plant, helping Joplin overcome significant water system challenges with reliable, modern infrastructure. Olsson's water experts addressed a critical need by replacing aging infrastructure and enhancing the reliability of Joplin's water supply.

The problem: The Blendville Water Treatment Plant's original high service pump station faced significant challenges in maintaining reliable water delivery, especially when the primary storage tank was out of service. The existing station housed five constant-speed pumps and relied on the 4th Street elevated tank to control water levels for the main pressure zone. When this tank was unavailable, the plant struggled to supply water to the distribution system, risking service interruptions for thousands of residents. Additionally, the parts of the existing pumping facility were over 100

years old and this limited the ability to upgrade capacity, improve energy efficiency, and adapt to future needs, all while requiring the facility to remain operational during construction.

The solution: Olsson's water experts addressed these challenges by designing a new high service pump station equipped with variable frequency drives (VFDs) for flexible and efficient pump operation, along with upgraded electrical systems to support backup power for 4 high service pumps. The new building was constructed to house six pumps with a firm capacity of 22.5 million gallons per day, and the layout was designed to allow for future capacity increases. The project included a discharge manifold with two separate mains, providing operational flexibility and redundancy. Careful phasing and overnight work enabled the team to tie into the new suction line while keeping the existing pump station in service, limiting the longest outage to just six hours. This comprehensive approach delivered a reliable, future-ready solution that supports uninterrupted water service and positions the Blendville Water Treatment Plant to meet Joplin's needs for years to come.

The high service pump station project at the Blendville Water Treatment Plant stands as a testament to engineering excellence, showcasing how inventive design, collaborative problem-solving, and strong partnerships can deliver transformative water infrastructure that goes beyond technical requirements. This project was constructed during the Covid-19 pandemic, so equipment delivery was an issue, but now it is fully operational and sets a new standard for water system improvements in Missouri. The result of the project is a dependable, modern facility that sustains the community's water needs while supporting economic growth and environmental stewardship. The new facility is designed to deliver up to 22.5 million gallons of drinking water per day and is expandable to support the health, safety, and economic vitality of the region.

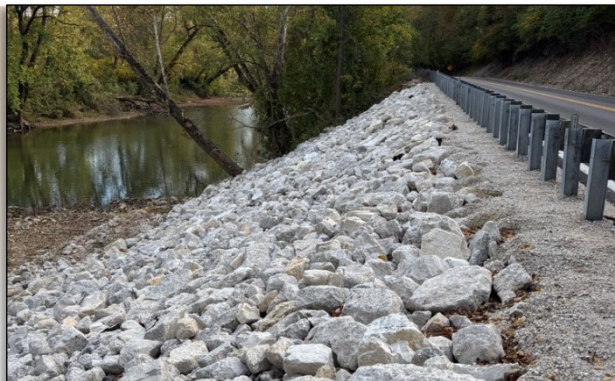
SCI Engineering, Inc.

PROJECT TITLE:

Route W Slide Repair

CLIENT/OWNER:

Missouri Department of Transportation



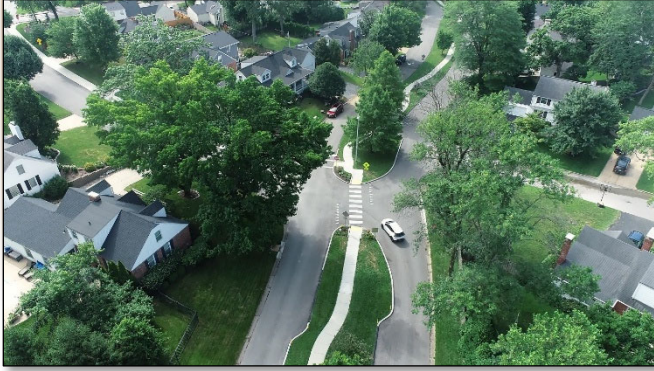
The Route W Slide Repair project highlights the strong partnership between SCI Engineering (SCI) and the Missouri Department of Transportation (MoDOT). In April 2025, a portion of Route W in Jefferson County failed due to a landslide along the Big River. Route W serves more than 231,000 Jefferson County residents, connecting them to jobs, schools, and everyday services. SCI's geotechnical services played a critical role in the repairs of this vital transportation infrastructure. This included rapid response, solutions to complex geotechnical conditions, and making sustainable recommendations.

SCI has partnered with MoDOT for more than 25 years, providing timely responses, reliable solutions, and innovative engineering across a wide range of transportation projects. For this project, this meant providing flexible solutions in response to extreme weather while simultaneously managing challenging subsurface conditions.

The site presented significant geotechnical challenges, including steep slopes, variable soil conditions, and ongoing movement along the Big River bank. SCI mobilized quickly to conduct subsurface investigations, evaluate stability, and make design recommendations. The team recommended design improvements that minimized future risk while maintaining project timeline efficiency and a proactive focus on constructability.

Environmental stewardship was prioritized in making recommendations that minimized the impact to the Big River ecosystem. With the river being approximately 35 feet away from the road, SCI worked to develop a solution to restore the toe of the embankment to the pre-failure location, thereby maintaining pre-failure river flows. The team also worked closely with MoDOT and Gershenson Construction to maximize efficiency in schedules and ensure clear communication. SCI's rapid response allowed work to begin within hours over the weekend, and a drill rig was mobilized to the site within 72 hours, keeping the project moving forward so that disruption to the community was minimized.

The Route W Slide Repair project demonstrates SCI's ability to deliver responsive and sustainable engineering solutions. By restoring a critical roadway and enhancing long-term design resilience, SCI exceeded client expectations and reinforced its commitment to collaboration, safety, and public service. The completion of this project reestablished an essential roadway connection for Jefferson County residents and stands as a testament to SCI's dedication to engineering excellence and community impact. This project exemplifies the innovation, sustainability, complexity, and client-focused excellence recognized by the ACEC Engineering Excellence Awards.



TWM, Inc.

PROJECT TITLE:

Longview Boulevard Improvements

CLIENT/OWNER:

City of Kirkwood, MO

Thouvenot, Wade & Moerchen, Inc. (TWM) partnered with the City of Kirkwood to design and deliver safety and

accessibility improvements along Longview Boulevard between Taylor Avenue and Woodlawn Avenue, and along East Essex Avenue between Longview Boulevard and Woodlawn Avenue. The corridor, located in a mature residential neighborhood near Kirkwood High School, lacked continuous pedestrian facilities and had become a high-risk area for speeding and pedestrian conflicts. The City identified this project as a priority under its Vision Zero Action Plan and Pedestrian and Bicycle Plan to reduce crashes and enhance walkability.

TWM served as the lead design engineer, providing full project development services including surveying, roadway and sidewalk design, ADA compliance analysis, traffic-calming design, utility coordination, and construction support. The \$956,426 project featured pavement resurfacing, new ADA-compliant sidewalks, raised medians, curb bump-outs, chicanes, high visible crosswalk markings and speed humps to reduce vehicle speeds and improve pedestrian visibility. The corridor also included stormwater management elements and landscape restoration consistent with neighborhood character.

One of the project's defining features was the meandering median sidewalk, designed to preserve mature trees while maintaining full ADA accessibility. This required precise geometric design and grading adjustments to achieve compliant cross slopes within constrained right-of-way limits and was coordinated directly with the City's arborist. The alignment provided both an aesthetic enhancement and a traffic-calming element by visually narrowing the roadway.

TWM worked closely with the City of Kirkwood, Shockey Consulting, and residents to develop a context-sensitive design. Rather than presenting pre-determined plans, the project team led an engagement-first process, conducting one-on-one homeowner meetings, public surveys, and neighborhood discussions. This proactive collaboration reduced right-of-way conflicts and ensured the final design reflected community priorities while achieving the City's engineering standards.

To minimize construction disruption, TWM developed phased traffic control and pedestrian access plans, maintaining two-way traffic and property access throughout construction. Coordination with MSD sewer district and multiple utility providers ensured compliance with drainage and permit requirements while avoiding service conflicts.

Construction was completed in June 2024, on schedule and within budget. The corridor now provides continuous, ADA-compliant pedestrian facilities and safer vehicular operations. The Longview Boulevard Improvements project demonstrates how innovative, small-scale transportation design can deliver measurable community benefits and serve as a model for neighborhood-scale infrastructure improvements.

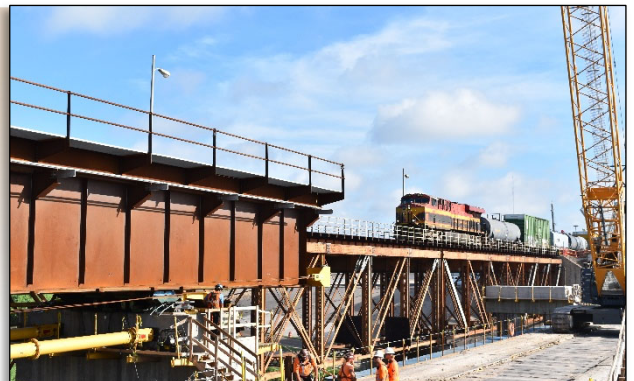
Wilson & Company, Inc., Engineers & Architects

PROJECT TITLE:

Ottensmeyer International Railway Bridge

CLIENT/OWNER:

Canadian Pacific Kansas City



The second track span, the Patrick J. Ottensmeyer International Railway Bridge (Ottensmeyer Railway Bridge), is a remarkable testament to cross-border collaboration, engineering excellence, and a shared vision for advancing North American trade. Spanning the Rio Grande River, this new rail bridge is the only international railroad crossing between Laredo, Texas, and Nuevo Laredo, Tamaulipas, two critical logistics hubs in the most trafficked freight corridor between the United States and Mexico. Developed by Canadian Pacific Kansas City (CPKC), the bridge represents a \$100 million investment to enhance the safety, efficiency, and capacity of North America's premier railway trade route. Completed on schedule, the bridge is a strong long-term investment that will pay for itself by streamlining the movement of goods, improving delivery reliability, and reinforcing trust throughout the supply chain.

The bridge, named in honor of legacy KCS Railway's last President and CEO, Patrick J. Ottensmeyer, whose leadership helped lay the foundation for integrated North American rail service, reflects CPKC's commitment to innovation and service. With Mexico being the United States' largest trading partner, the bridge addresses a long-standing bottleneck by more than doubling capacity at this strategic border crossing. The addition of a second track enables simultaneous northbound and southbound train movements, significantly improving rail logistics and turnaround times.

Completed under the authority of a US Presidential Permit issued in July 2020, the project required an extraordinary level of international coordination. Engineering teams developed and managed all construction documents in English and Spanish and in International System of Units (metric) and imperial measurement systems, ensuring regulatory and operational alignment between the two nations. This binational collaboration underscores the project's complexity and significance.

The new 1,160-foot-long ballasted steel bridge includes six reinforced concrete bents and was constructed approximately 35 feet from the original bridge. In addition to the bridge itself, 6,500 feet of new track were laid to support expanded operations. Modern border security features were also integrated, including a state-of-the-art Vehicle and Cargo Inspection System (VACIS) X-ray railcar inspection system and a comprehensive network of surveillance cameras, demonstrating CPKC's dual commitment to operational efficiency and security of international trade.

The Ottensmeyer Railway Bridge is more than infrastructure; it is a symbol of economic partnership, engineering achievement, and regional resilience. Its successful delivery reinforces CPKC's position as a leader in shaping the future of freight rail across North America.



Woodard & Curran and Alberici Construction

PROJECT TITLE:

Wright City Wastewater Treatment Facility

CLIENT/OWNER:

**American Foods Group / Public Water
Supply District #2**

The Wright City Wastewater Treatment Facility (WWTF) Upgrades project represents a transformative investment in public infrastructure for Wright City, Missouri. Originally constructed in 1986 and last upgraded in 2008, the existing lagoon-based system had reached its operational limits and could no longer support the community's growth or meet evolving environmental standards. In response, the Public Water Supply District #2 and American Foods Development Co., LLC partnered to develop a new, advanced treatment facility designed to serve both municipal and industrial users. This project is an example of how public-private partnerships can address evolving infrastructure needs and meet the challenges of environmental protection, economic development, and fostering community vitality.

The upgraded WWTF is designed for a permitted flow of 3.5 million gallons per day, replacing the previous 0.5 MGD capacity. It accommodates 2.0 MGD of municipal flow, including 1.5 MGD of future capacity, and 1.5 MGD of industrial flow from a new beef processing facility. This expansion ensures Wright City can support residential development, commercial growth, and industrial operations without compromising environmental quality or regulatory compliance.

The facility incorporates a four-stage Bardenpho biological nutrient removal (BNR) process, which enables efficient removal of nitrogen and phosphorus. This is critical for protecting the Peruque Creek watershed from nutrient pollution and meeting stringent effluent limits established. The BNR system is supported by side-stream reactors for enhanced phosphorus removal and flexible chemical dosing systems that respond to variable influent conditions.

Innovative technologies are used throughout the facility. Aeration is provided by Invent hyperbolic mixer/aerators, which improve oxygen transfer efficiency and reduce energy consumption. Tertiary filtration is achieved using cloth media disk filters housed indoors for year-round reliability. UV disinfection is delivered through inclined, removable modules with mechanical wiping systems, delivering consistent performance and safe maintenance access.

The project also includes robust solids handling systems, with aerobic sludge storage tanks and mechanical dewatering via centrifuges. Electrical resilience is built into the design with dual power services and backup generators capable of maintaining full compliance during outages. All infrastructure is located above the 100-year floodplain, protecting the facility from flood damage and providing uninterrupted operation.

By replacing aging infrastructure with a modern, scalable, and resilient system, the Wright City WWTF Upgrades project delivers measurable benefits to the community. It improves public health, protects local waterways, supports economic development, and ensures long-term environmental stewardship. The facility was completed on schedule and is fully operational as of May 29, 2024, meeting all client goals and regulatory requirements.

This project demonstrates how thoughtful engineering can solve complex challenges and create lasting value for both public and private stakeholders.

Honor Awards

Bartlett & West, Inc.

PROJECT TITLE:

Jerseyville, IL: Hollow Avenue Reconstruction

CLIENT/OWNER:

City of Jerseyville



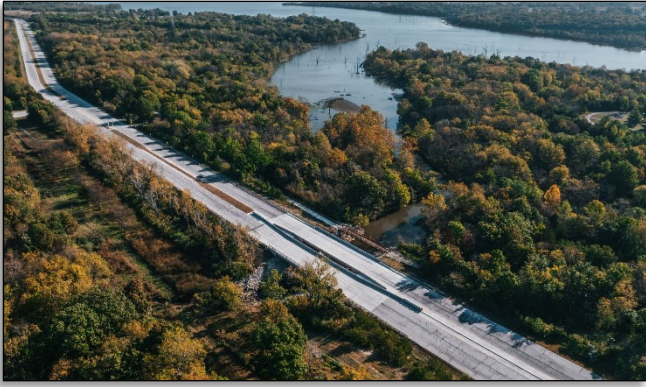
The Hollow Avenue Reconstruction Project in Jerseyville, Illinois, exemplifies engineering excellence through innovative design, strategic collaboration, and community-focused execution. Spearheaded by Bartlett & West in partnership with the City of Jerseyville, this project initiatively transformed a deteriorating corridor into a resilient, multimodal roadway designed to meet the city's long-term transportation needs.

Bartlett & West played a pivotal role from inception to completion. Our team identified and secured funding through the Federal Highway Administration's Accelerated Innovation Deployment (AID) grant program, unlocking \$1 million to support the use of compacted concrete pavement—a forward-thinking solution aimed at enhancing durability and reducing lifecycle costs. This grant not only catalyzed the project but also strengthened trust between our firm and the City, laying the foundation for future collaboration.

Our scope included comprehensive design services: roadway alignment and profile, storm sewer systems, intersection and sidewalk design, environmental clearances, public engagement, and construction inspection services. We navigated complex right-of-way acquisitions, including coordination with a private golf course and residential properties, ensuring the project served the broader community interest. Public involvement was central to our approach, with in-person meetings designed to gather and incorporate stakeholder feedback into the final design.

Construction engineering services were delivered in close coordination with the help of 2 trusted Sub-Consultants, Heneghan & Associates and SCI Engineering. Bartlett & West maintained strict budget discipline, completing our portion of the work within the agreed allocation, while managing evolving costs related to material testing and documentation. Our team authored, in close coordination with the Illinois Department of Transportation and the University of Illinois, a Compacted Concrete Pavement (CCP) report for FHWA, contributing to the broader knowledge base on innovative pavement technologies.

The Hollow Avenue Reconstruction project stands as a model of how strategic funding, technical innovation, and community engagement can converge to deliver infrastructure that is both functional and future-ready. Bartlett & West is proud to have led this effort and to submit it for recognition in the ACEC Engineering Excellence Awards.



Benesch

PROJECT TITLE:
Raytown Road Over Tributary to Longview Lake

CLIENT/OWNER:
City of Grandview

The Raytown Road Bridge Replacement project solved a critical infrastructure and safety problem along a corridor traveled by over 20,000 vehicles per day. Two aging corrugated metal pipes beneath the roadway had created a hydraulic choke point, caused ongoing scour and channel degradation, and posed increasing risk to motorists and nearby waterways. Despite repeated repair attempts, deterioration continued, threatening mobility, emergency access, and the health of Longview Lake's tributary.

Rather than pursuing another short-term fix, the project team re-envisioned the site with a long-lasting and community-centered solution. The twin, single-span prestressed I-girder bridges eliminated the failing pipes entirely, restored proper channel flow, and were designed for a service life exceeding 75 years. Advanced hydraulic modeling ensured no rise in water levels and secured environmental approvals without impacting the lake.

Originally planned for phased construction to maintain traffic, a record rainfall event caused a washout of the site and forced a full closure. Though frustrating initially, this allowed construction to accelerate and finish ahead of schedule. A complex network of utilities and multiple agencies were coordinated to streamline permitting, design and delivery. A cost-sharing partnership also enabled the integration of a prefabricated pedestrian bridge, improving trail connectivity and recreational access.

This solution delivered far more than structural replacement—it removed a persistent hazard, enhanced safety, protected natural resources, and expanded access for motorists and pedestrians. The City of Grandview's goals for long-term performance, aesthetics, and minimal maintenance were fully met through proactive planning, innovation, and collaboration.

BFW Engineering & Consulting

PROJECT TITLE:
Cape Rock Drive Intersection Improvements

CLIENT/OWNER:
City of Cape Girardeau



BFW Engineers (BFW) proudly delivered the Cape Rock Drive and Route 61/Kingshighway intersection improvement project. This project retrofitted Americans with Disabilities Act compliant pedestrian facilities including pedestrian walkways, signals and compatible geometric improvements into the existing facility, providing for safe and efficient pedestrian movements at an extremely busy intersection in Cape Girardeau Missouri. This project included Transportation Alternatives Program funding in collaboration with the Missouri Department of Transportation.

BFW provided the following services to the City of Cape Girardeau:

- Surveying
- Transportation and Civil-site design
- Specification development
- Utility Coordination
- Plans, Specifications, and Estimate QC/QA
- Project management
- Advertising, bidding, review, and analysis
- Support of the MoDOT permitting process

- Construction phase support

BFW is proud to have supported this project that provides an improved connectivity and walkability between Arena Park and the surrounding municipal facilities and neighborhoods, including:

- Final piece in the multi-modal connectivity of Arena Park and Capaha Park
- Pedestrian access to the Municipal Courts and City Police Department
- Future connection to Dennis Scivally Park with the next phase of Cape Rock Drive sidewalks



BFW Engineering & Consulting

PROJECT TITLE:
Jackson Municipal Splashpad

CLIENT/OWNER:
City of Jackson, MO

BFW Engineers (BFW), in collaboration with Brandstetter Carroll's Recreation and Aquatics Team (BCI) and Zoellner

Construction, proudly delivered the Jackson Municipal Pool Splash Pad, which opened in May 2025. This new feature replaced the outdated Junior Pool with a vibrant, ADA-accessible recreational space that operates independently from the main pool, requiring fewer supervisory sta1 and extending the operational season of the facility.

BFW provided the following services to the Jackson Parks and Recreation Department:

- Surveying
- Ground Penetrating Radar (GPR) analysis and directed core drilling
- Civil-site design
- Specification development
- Plans, Specifications, and Estimate QC/QA
- Project management
- Advertising, bidding, review, and analysis
- Construction contract administration
- Construction inspection and testing

Splash Pad Features:

- ADA-accessible recreational splash area
- Independent access and operational systems from the main pool
- Rain Deck splash pad products
- Color palette selected to complement nearby Jackson City and Public-School facilities

BFW is proud to have supported this project that brings fun, accessibility, and updated amenities to the Jackson community.

BFW Engineering & Consulting

PROJECT TITLE:
Juden Creek Bridge Replacement

CLIENT/OWNER:
Cape Special Road District



BFW Engineers (BFW), in collaboration with C-Hill Civil Contractors, proudly delivered the Cape Special Road District

County Road 643 Juden Creek Bridge Replacement, which opened in October of 2024. This new structure replaced the outdated existing bridge, which had been load rated at 14 tons and was no longer capable of meeting the needs of the surrounding community. The old bridge was unique in that it was trapezoidal in shape with one end being wider to accommodate a turning movement at the intersection.

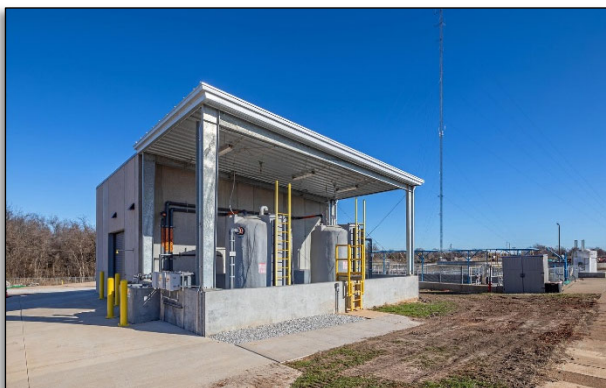
BFW provided the following services to Cape Special Road District:

- Surveying
- Geotechnical
- Specification development
- Roadway and bridge plans
- Construction estimate
- Project management
- Advertising, bidding, review, and analysis
- Construction contract administration
- Construction inspection and testing

Bridge Design Features:

- Adjusted bridge dimensions to compensate for geometry of the intersection and roadway.
- Drilled shaft and piling layout that compensated for rock conditions
- Standardized railing anchors that allowed CSRD to install and replace the bridge railing posts and rail as needed.

BFW is proud to have supported this project that provides a safe crossing and renewed utility to this bridge and adjacent intersection for the foreseeable future.



Burns & McDonnell

PROJECT TITLE:

Wastewater Treatment Plant (WWTP) Peak Wet Weather Blending

CLIENT/OWNER:

City of Republic, MO

Republic, Missouri, one of the fastest-growing cities in the state's most rapidly expanding region, faced mounting challenges in supporting continued development due to limitations in its wastewater utility. For decades, compliance issues—particularly peak wet weather overflows—had constrained the City's ability to grow. The population boom since 2020 has significantly intensified these challenges. When the Missouri Department of Natural Resources (MDNR) issued a new Administrative Order on Consent (AOC), the City needed a fast, forward-thinking solution to meet regulatory requirements and accommodate future expansion.

To address this, Republic launched the **Wastewater Treatment Plant (WWTP) Peak Wet Weather Blending project**, which aimed to eliminate the plant's secondary outfall, expand treatment capacity beyond existing limits, and achieve full compliance with MDNR requirements. The City partnered with **Burns & McDonnell** to deliver this project, in addition to four other critical infrastructure upgrades, through a progressive design-build contract.

This first-of-its-kind solution in Missouri was executed through a two-phased approach that included influent screening structure upgrades, mechanical bar screens, screenings dewatering, clarifier recoating, a new transfer pump station, cloth media disc filtration, and a chemical disinfection system. These enhancements raised the plant's peak wet weather capacity to a future **16 million gallons per day (MGD)**, supporting reliable performance during high-flow events and surpassing discharge quality standards.

The project's success was driven by early collaboration, value-based equipment selection, and a shared commitment to innovation. By integrating design and construction under a single contract, the team accelerated delivery, controlled costs, and met all compliance goals—on time and within budget. This strategic investment not only resolves immediate regulatory challenges but also strengthens the City's infrastructure for long-term growth and resilience.

Burns & McDonnell / Crawford, Murphy & Tilly, Inc.

PROJECT TITLE:
Route 86 Crossing of Table Rock Lake

CLIENT/OWNER:
Missouri Department of Transportation



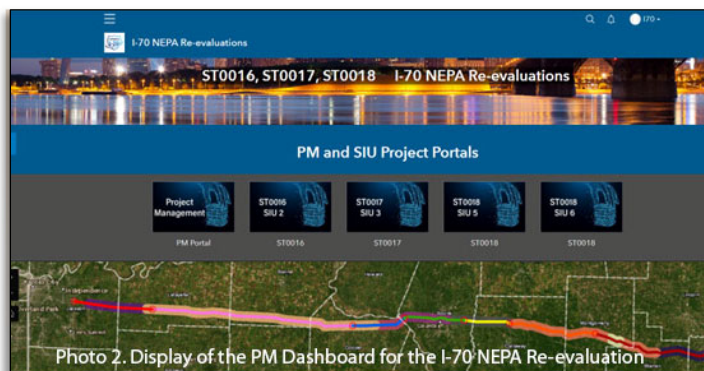
The site is characterized by deep water, limited construction access and difficult geotechnical conditions. Construction needed to be carried out without disrupting thousands of residents, tourists and commercial vehicles who rely on this vital route daily.

Burns & McDonnell partnered with MoDOT to deliver an innovative and comprehensive solution. The result is a new 1,815-foot-long, multimodal bridge that enhances regional connectivity and public safety. A critical early decision was to design the new bridge on an offset alignment, allowing the existing structure to remain fully operational during construction. This decision provided relief for nearly 10,000 vehicles per day that would have 54 miles of adverse travel each time they crossed Table Rock Lake. This user-focused approach addressed MoDOT's primary goal of protecting public access.

The project's complexity demanded solutions beyond standard practice. A foundation system using deep-water drilled shafts was utilized to meet the challenge of constructing in lake depths of up to 115 feet with no overburden to rock. The drilled shafts ranged in diameter from 5 feet to 11 feet, 6 inches and socketed into rock up to 26 feet. The superstructure design solved complex roadway geometry through advanced structural detailing, including a 7-foot grade change and superelevation transitions. This solution included hybrid steel sections combining Grade 50W and high-performance HPS 70W steel and custom-shaped prestressed concrete girders with strategically offset bearings to manage structural loads.

Integrating an Alternative Technical Concepts (ATC) process within the design-bid-build framework was a key innovation. This enabled bidding contractors to propose alternative construction methods for the nearly 140-foot-tall intermediate bents, fostering innovation and providing cost-effective solutions. The project also delivers significant community benefits, most notably a new 10-foot shared-use path that enhances safety and creates new recreational opportunities.

The Route 86 project, praised by MoDOT and the construction contractor for "outstanding" work and professionalism, is a testament to engineering excellence. It fulfilled MoDOT's needs by replacing a structurally deficient bridge with a community-focused asset. The project demonstrates innovation, sustainability and complexity that define a landmark achievement in transportation engineering.



CDM Smith Inc.

PROJECT TITLE:
I-70 NEPA Re-Evaluation

CLIENT/OWNER:
Missouri Department of Transportation

The I-70 NEPA Re-evaluations, led by the Missouri Department of Transportation (MoDOT), focuses on improving the I-70 corridor through re-evaluation of the previous National Environmental Policy Act (NEPA) Studies and conceptual engineering for four Sections of Independent Utility (SIU); SIU 2 (Odessa to Booneville), SIU 3 (Booneville to Columbia), SIU 5 (Columbia to Kingdom City), and SIU 6 (Kingdom City to New Florence).

The I-70 NEPA Re-evaluations project is a strategic initiative to upgrade and modernize the I-70 corridor, addressing current deficiencies and preparing for future growth. The proposed improvements will enhance safety, capacity, and freight efficiency while ensuring environmental stewardship.

- **Enhance Safety and Efficiency:** Upgrade roadway design, interchanges, and crossroads to meet current standards and improve traffic operations.
- **Expand Capacity:** Accommodate future traffic volumes by increasing corridor capacity from 2 lanes in each direction to 3 lanes in each direction.
- **Support Freight Movement:** Improve freight flow to bolster economic development.
- **Ensure Environmental Compliance:** Conduct assessments to meet federal and state environmental regulations.

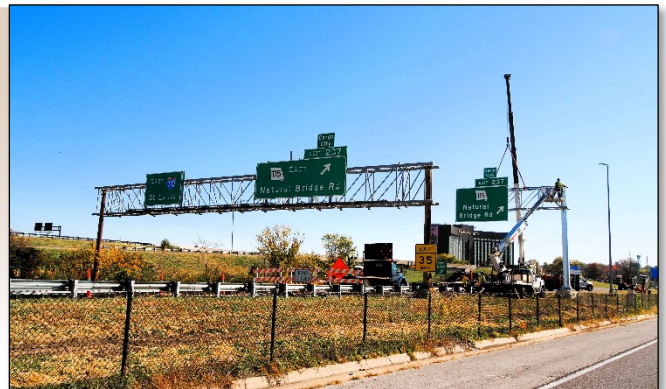
Key components of the study included:

- **I-70 Improvements:** Lane widening, pavement upgrades, and enhanced safety features.
- **Interchange Analysis:** Develop interchange concepts to reduce congestion and improve flow.
- **Bridge Analysis:** Evaluate bridges to meet design criteria standards and recommend reconstruction or replacement.
- **Traffic Analysis:** Study current and projected traffic patterns and develop travel demand model to guide design decisions.
- **NEPA Re-evaluations:** Ensure that the proposed action remains in compliance with environmental regulations and is consistent with the purpose and need of the original documentation.

Civil Design, Inc.

PROJECT TITLE:
I-70 & I-270/255 Structural Sign Replacement

CLIENT/OWNER:
Missouri Department of Transportation – St. Louis District



The Challenge. The Missouri Department of Transportation (MoDOT) St. Louis District faced a critical safety challenge. Nearly 1,700 structural signs spanning 76 miles of I-70 and I-270/255 needed inspection and potential replacement. Many were past their intended lifespan, posed safety risks, and required evaluation while maintaining traffic flow on one of the region's busiest corridors.

The Innovation. Civil Design, Inc. (CDI) revolutionized the traditional sign inspection process by developing a custom Geographic Information System (GIS) database and web-based mapping platform. This groundbreaking approach transformed how transportation agencies manage largescale asset inspections, replacing cumbersome spreadsheets and email chains with real-time, collaborative data management accessible from any device, in the field or office.

The Impact. CDI's GIS platform enabled simultaneous inspection, review, and design coordination across multiple teams, dramatically improving efficiency and safety. The database integrated inspection findings, photographs, design files, and recommendations into a single georeferenced system. When two I-270 overhead structures were discovered with critically damaged members, including a 100% cracked compression member, the real-time system enabled immediate emergency response, preventing potential catastrophic failure.

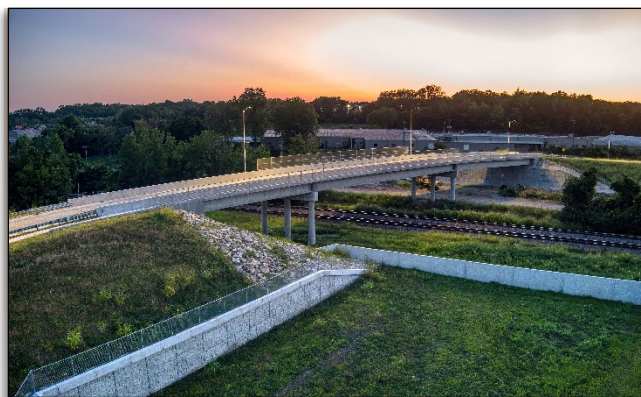
The Results. The project successfully inspected and documented conditions for nearly 1,700 sign assemblies, identified critical safety issues requiring immediate attention, and delivered comprehensive replacement designs that brought entire corridors up to current standards. By developing automated reporting scripts and streamlined data workflows, CDI delivered the project on schedule despite the complexity of inspections adjacent to active freeway traffic.

The Legacy. This project establishes a replicable model for asset management that other agencies can adopt. The GIS-based approach enhanced public safety by ensuring travelers have reliable, legible guide signage while creating a sustainable framework for future inspection cycles. MoDOT now has a comprehensive digital record of their sign infrastructure, setting the foundation for the next inspection cycle, and demonstrating how technology can transform traditional engineering practice.

corridor because of the safety and efficiency benefits. Prior to this study, specific intersection locations, implementation thresholds, and phasing strategies for roundabouts had not been determined. The absence of this guidance limited the City's ability to plan coordinated intersection improvements as development occurs and work with developers to implement their preferred intersection control.

Solution

The study evaluated existing and future traffic conditions, operational characteristics, and projected land uses to identify appropriate roundabout locations and traffic volume triggers for construction. The recommended alternative identified six existing and future intersections suitable for roundabout implementation. These recommendations provide a data-driven approach to intersection planning that enhances safety, improves long-term mobility, and supports consistent development along South Liberty Parkway. The study equips the City of Liberty with a strategic, phased plan for implementing roundabouts as traffic volumes reach identified thresholds, allowing the corridor to remain functional and safe as the surrounding area continues to develop.



Hanson Professional Services Inc.

PROJECT TITLE:

Swope Park Industrial Area Flyover Bridge

CLIENT/OWNER:

City of Kansas City, MO

The Swope Park Industrial Area Flyover Bridge project marks the culmination of efforts initiated in the 1990s, representing a transformative milestone for the region. The Blue River in Kansas City, Missouri, subjected the nearby Swope Park Industrial Area to numerous floods for years. Home to a variety of manufacturing facilities that are critical to the surrounding community's economic well-being, the industrial park endured millions of dollars of damage from the flooding. An added complication was an at-grade railroad crossing on the only access road to the area. The crossing was often blocked for prolonged periods by stopped trains. Trains blocking 75th Street delayed employees, supply deliveries and emergency responders, creating a safety issue.

To address the flooding, the U.S. Army Corps of Engineers (USACE) Kansas City District designed an approximately 7,000-foot system of floodwalls and levees with the ability to protect the industrial area from flooding up to a 500-year event. The city initiated a counterpart project to enhance access to the industrial area by removing the at-grade rail crossing and keeping the access above the 500-year floodplain, which entailed relocating the access road and building a bridge over the railroad and floodwall.

In August 2017, a significant flood event underscored the critical need for this infrastructure. During this event, 40 individuals had to be rescued from their flooded workspaces within the industrial area. This incident highlighted the vulnerability of the area and the importance of the flyover bridge in providing a reliable and safe route for both daily commutes and emergency situations.

Hanson took on the challenge of designing a solution for this complex project, which involved tying the bridge into one of the new levees and spanning over existing, large sanitary sewer lines while reserving land for planned development. The project team conducted a study to determine the ideal roadway alignment and the right type, size and location for the bridge. The new 352-foot-long bridge was constructed on a new alignment approximately 2,500 feet long to prevent interference or delays with traffic during construction. The new bridge is a three-span, prestressed concrete girder structure that clear-spans the railroad's right of way.

The USACE was pleased with Hanson's work. "This is a complex bridge design task order, requiring coordination with a railroad, city government, the levee designer, state transportation department and utilities companies," said Michael Chapman, chief of the USACE Kansas City District. "Hanson's products, including a type/size/location study and 35% design, were well thought out, coordinated, high-quality products that met the government's needs. The team demonstrated expertise, ambition, reliability and punctuality."

HDR

PROJECT TITLE:

De Soto Local Roadway Improvements

CLIENT/OWNER:

**Kansas Department of Transportation /
Clarkson Construction Company**



In 2022, Kansas Governor Laura Kelly announced that Panasonic Energy would build the largest electric vehicle battery manufacturing facility of its kind in De Soto, Kansas. The \$4 billion investment is expected to bring 4,000 new jobs and \$500 million in annual labor income. The primary concern was that the surrounding infrastructure lacked the capacity to accommodate the influx of workers, increased freight traffic, heightened demand on the surrounding roadways or projected commercial and residential growth.

The \$74 million De Soto Local Road Improvements Project is the Kansas Department of Transportation’s (KDOT) first progressive design-build (PDB) project, setting a new standard for project delivery across the state. The project widened approximately 4.5 miles of a two-lane asphalt road to a new 4-lane divided roadway. It added three multi-lane roundabouts, two bridges, shared-use paths and sidewalks. It included storm drains, lighting, curbs and gutters, culverts and utility improvements. The project also accommodates future growth, with roundabouts designed for future roadway tie-ins, and roadways that can accommodate additional truck and traffic volumes.

The project is set to transform the future of project delivery across the state. The PDB method offered exceptional flexibility and collaboration, allowing the team to adapt to evolving project needs and aggressive schedule demands. The local design and construction teams integrated community outreach throughout the project and designed the project to maintain access to park and recreational areas. Their constant communication through open houses, newsletters, social media and community event participation kept residents and workers apprised of construction changes.

Perhaps most important, the team improved safety both during construction and for future road users. The new roundabouts reduce the likelihood and severity of crashes while a temporary shoofly kept traffic off Astra Parkway while maintaining traffic operations. Their efforts improved user wellbeing with shared use paths, sidewalks and bike lanes that promote active transportation options as well. The team wove environmental protection as well – reducing vehicle idling, improving traffic flows, decreasing emissions, increasing efficiency, preventing stormwater pollution, and minimizing traffic impacts.

Opened in phases to align with the Panasonic plant and surrounding developments, the project marks the beginning of a transformation industry in Kansas. The project was officially open to the public in full capacity in December 2024.



Horner & Shifrin, Inc.

PROJECT TITLE:

Jefferson/22nd Traffic Flow and Corridor Improvements

CLIENT/OWNER:

City of St. Louis Board of Public Service

For decades, the remnants of the failed Route 755 freeway project sat as an oversized, incomplete interchange at the western edge of downtown St. Louis. Acres of land were consumed by redundant ramps and confusing roadways, leaving Downtown West disconnected, unsafe, and cut off from redevelopment opportunities. By reconfiguring the corridor into a split-diamond interchange with I-64, the Jefferson/22nd Street Corridor Improvements transformed this long-neglected space into a modern, multimodal

gateway that restored the street grid, introduced safe and accessible facilities for all users, and created opportunities for redevelopment, including support for the new MLS stadium district and the Brickline Greenway.

Delivered in parallel with MoDOT's interchange reconstruction, this \$11.6 million effort demanded extraordinary coordination among multiple agencies, contractors, and stakeholders. Designed largely during COVID restrictions, the project overcame challenges of remote collaboration, complex funding requirements, and overlapping construction schedules. The result is a corridor that not only improves safety and mobility but also reconnects communities, catalyzes investment, and serves as a model for other cities reclaiming outdated freeway infrastructure.

General Description

The Jefferson/22nd Street Corridor Improvements addressed long-standing safety and mobility concerns in the heart of St. Louis. The project replaced an outdated system of ramps and frontage roads with a simplified, intuitive street network that reconnects neighborhoods and supports future redevelopment. By providing full interstate access to Jefferson Avenue, the project relieved pressure on downtown surface streets, created new multimodal connections, and improved access to major destinations including the new St. Louis CITY SC stadium district.

Before design began, an Access Justification Report was prepared by others in coordination with the City of St. Louis. This report established the traffic and access needs in the corridor and set the framework for the improvements that followed. It served as an important foundation that allowed the Jefferson/22nd Street Corridor Improvements to advance into design and construction.

The project was designed in tandem with MoDOT's I-64/Jefferson Avenue interchange reconstruction. While the MoDOT project was constructed slightly earlier, both were closely coordinated ensuring the improvements worked together seamlessly. This partnership was central to achieving the larger vision of restoring connectivity and improving mobility in Downtown West.

Horner & Shifrin led a team of specialized subconsultants to complete this complex design— including Civil Design, Inc. for survey and engineering support, CBB for lighting and signal design, Alta Planning and Design for pedestrian planning and pavement markings, Arcturis for landscape architecture, Kivindyo Engineering Services for utility coordination, and TSi for geotechnical services. The project incorporated multimodal improvements, including new shared-use paths, wider sidewalks, and enhanced pedestrian crossings, while also addressing vehicular congestion and safety at multiple intersections. Together, these upgrades provide more efficient traffic flow, better connectivity to downtown destinations, and a safer, more accessible environment for all users.

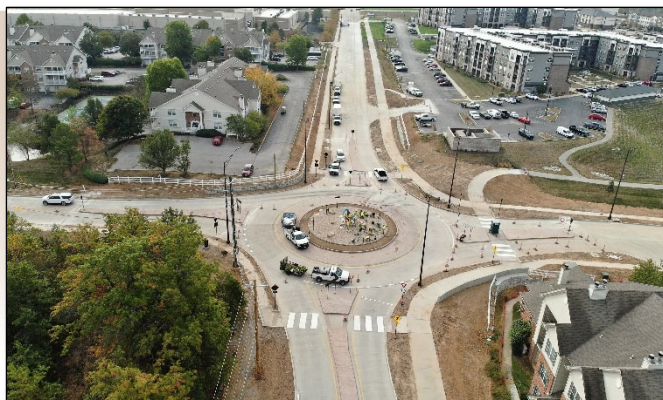
Oates Associates, Inc.

PROJECT TITLE:

Weldon Spring Road Phase I

CLIENT/OWNER:

City of O'Fallon, MO



With ongoing high density residential development along Weldon Spring Road, Oates Associates partnered with the City of O'Fallon, Missouri to improve the corridor between Technology Drive and Valleybrook Drive. For years, this stretch of roadway had struggled to keep pace with the community around it. The narrow lanes, deteriorating pavement, and poor drainage created daily challenges for residents, school traffic, and local businesses. At Crusher Drive, the steep grade and limited visibility at the stop-controlled intersection made turning movements difficult and raised safety concerns for both drivers and pedestrians.

The improvements were designed to address these long-standing issues while preparing the corridor for future growth. The roadway was reconstructed and widened to a three lane, 39-foot-wide section with pedestrian accommodations. Near Crusher Drive, the alignment was raised up to 10 feet to platform the intersection, allowing for the installation of a single lane roundabout that improves sight distance and enhances safety and traffic flow.

Additional improvements included an enclosed storm sewer system, box culvert reconstruction, drainage modifications, utility relocations, ADA upgrades, and retaining walls. Together, these upgrades transformed a once outdated and congested corridor into a safer, more accessible route that better serves the needs of a growing community.



Olsson, Inc.

PROJECT TITLE:
**MoDOT Route 160 at Route AA and Route CC
Intersection Improvements**

CLIENT/OWNER:
Missouri Department of Transportation

The Missouri Department of Transportation (MoDOT) Route 160 at Route AA and Route CC intersection improvements project, led by Olsson in partnership with MoDOT, addresses critical transportation challenges in southwest Missouri through innovative engineering and collaborative problem-solving.

The Problem: Route 160, a vital artery for Missouri communities, faced escalating complexities in traffic flow and safety. Traditional intersection designs were proving inadequate to manage growing traffic volumes and complex turning movements, leading to congestion and safety concerns. Compounding these issues were significant environmental constraints, particularly the need to protect the sensitive recharge area for the endangered Ozark cavefish, complex stormwater management requirements, and addressing a pattern of inclement weather-related crashes in the northbound direction of Route AA. Furthermore, the project's extended timeline and the need for public engagement during the COVID-19 pandemic presented additional logistical and communication hurdles.

The Solution: Olsson spearheaded the design combination and implementation of Missouri's first Continuous Green-T and continuous flow intersection on Route 160. This pioneering design fundamentally re-engineered traffic flow, significantly enhancing safety and efficiency by optimizing traffic movement and reducing congestion. Olsson's comprehensive engineering services encompassed detailed roadway geometry, pavement design, drainage systems, signage, and lighting, all tailored to the continuous flow principles.

Beyond the core design, Olsson meticulously addressed the project's multifaceted challenges:

- **Environmental Stewardship:** Rigorous environmental impact assessments and mitigation strategies were developed to protect the Ozark cavefish habitat, balancing infrastructure development with ecological preservation.
- **Stormwater Management:** Advanced stormwater infrastructure was designed to manage runoff effectively, preventing environmental degradation and guaranteeing long-term resilience.
- **Safety Improvements:** Olsson implemented safety improvements such as better drainage, high-visibility markings, and advanced warning signage. These efforts reduced crash risks in the northbound direction at Route AA.
- **Community Engagement:** Innovative online and in-person public engagement strategies were deployed during the COVID-19 pandemic to provide continuous community input and foster local support.
- **Value-Added Enhancements:** Olsson proactively incorporated a pedestrian crosswalk, exceeding MoDOT's initial requirements and providing safe, equitable access for community members to essential businesses, thereby enhancing public welfare and mobility.

The MoDOT Route 160 at Route AA and Route CC intersection improvements project stands as a testament to engineering excellence, demonstrating how innovative design, strategic problem-solving, and robust partnerships can deliver transformative infrastructure solutions that not only meet technical specifications but also provide substantial social, economic, and environmental benefits to the community. The project was delivered on schedule and is now in use, setting a new benchmark for transportation engineering in Missouri.

Walter P Moore

PROJECT TITLE:

NW Waukomis Drive Complete Streets Upgrade

CLIENT/OWNER:

City of Kansas City, MO



The NW Waukomis Drive project transformed a deteriorating, two-lane roadway into a safe, efficient, and sustainable corridor that better serves the residents of Kansas City's Northland. This vital north-south connection provides daily access for more than 4,500 vehicles and links neighborhoods, schools, parks, and recreation destinations including Line Creek Elementary, the Clay-Platte Montessori School, the Line Creek Community Center and Ice Rink, and the Kansas City Northern Miniature Railroad.

From the start, the project presented numerous challenges. The existing roadway was narrow, unsafe, and lacked turn lanes, creating daily congestion and safety concerns. The new corridor embodies the principles of Complete Streets, adding bike lanes, sidewalks, a multiuse path, enhanced crossings, balancing the needs of all users.

Beneath the surface, a dense web of public and private utilities required careful coordination and relocations. Highly variable soil conditions also emerged during construction, prompting the team to combine multiple solutions into an integrated approach which allowed construction to continue seamlessly. Adjacent archaeological sites, including one on the National Register of Historic Places, were carefully protected. When third-party precast delivery delays arose, the team innovated by creating an on-site precasting yard. Components were cast, inspected, and installed locally which helped maintain schedule, cost, and quality.

At the heart of the project is innovation. Facing the challenge of two offset side streets, the design team developed a peanut-shaped roundabout which improved safety and traffic flow while minimizing property acquisitions. The roundabout now serves as both a traffic-calming feature and a welcoming gateway to the community attractions. Sustainability and environmental protection were key priorities. Landscaped medians feature native plantings and water-quality inlets to reduce runoff and protect the nearby Line Creek. Stabilized streambanks safeguard the roadway from future erosion.

Public engagement was another key element. From multiple public meetings to participation in school and community events, the project team built awareness about the project and excitement for the role of engineering in everyday life.

The City needed a partner who could navigate the complexities of reconstructing a major roadway. Through collaboration, creativity, and experience, Walter P Moore delivered a project that met City goals for safety, sustainability, and community value.



Wilson & Company, Inc., Engineers & Architects

PROJECT TITLE:

Chipman Road Improvements

CLIENT/OWNER:

City of Lee's Summit

The NW Chipman Road Improvements Project transformed a narrow, outdated, and unsafe two-lane roadway into a modern, multimodal corridor that enhances connectivity, safety, and quality of life for residents, businesses, and visitors in the City of Lee's Summit, MO. As lead design consultant and engineer of record, Wilson & Company provided alignment studies, preliminary and final design, and engineering support during construction.

Before reconstruction, NW Chipman Road was a constrained, winding corridor with limited sight distance, outdated geometry, and a notorious one-lane railroad tunnel that created a traffic bottleneck and safety hazard. The corridor's numerous direct driveway connections, encroaching utilities, floodplain constraints, and the Cedar Creek crossing compounded design and safety challenges. The roadway also lacked pedestrian and bicycle accommodation, limiting mobility and access to schools, parks, and the regional Rock Island Trail.

A transformative redesign balanced the competing demands of safety, access, environmental sensitivity, and multimodal functionality. The new three-lane facility features improved horizontal and vertical alignment, new sidewalks, bike lanes, a shared-use path, modern lighting, and upgraded drainage infrastructure. A key innovation was the removal of the single-lane tunnel and the construction of a new pedestrian bridge over NW Chipman Road, which eliminated the corridor's primary bottleneck and created safe, direct trail connections to the Rock Island Trail.

The project exemplified collaboration among the Cities of Lee's Summit and Kansas City, MO, and Jackson County. Wilson & Company's design integrated intersection and signal improvements at View High Drive, bridge-supported utility crossings, and multimodal trail connectivity, all while maintaining continuous neighborhood access during construction. Through creative phasing and alignment adjustments, residents and businesses retained access throughout the multi-year construction effort.

From geotechnical coordination to floodplain modeling, the project demanded innovative problem-solving. The design achieved a balance between minimizing property impacts and maximizing corridor safety and functionality. Beyond its engineering achievements, the project serves as a model for complete-street planning and regional cooperation. It demonstrates how thoughtful engineering can enhance safety, spur economic development, and foster active transportation. The corridor now offers safer travel for all users, improved access to regional trails, and a renewed sense of community connectivity.

The NW Chipman Road Improvements Project stands as a testament to engineering excellence, transforming a challenging corridor into a safe, efficient, and sustainable transportation asset that will serve the community for generations.

Wilson & Company, Inc., Engineers & Architects

PROJECT TITLE:

Markey Parkway Extension

CLIENT/OWNER:

City of Belton, MO



The Markey Parkway Extension Project represents a strategic infrastructure investment for the City of Belton, guided in part by the Belton 2050 Master Plan. At its core, the project addresses a critical need for improved connectivity, linking Belton's west side to the central commercial district to the east. This connection supports increased mobility, economic development, and lays the groundwork for future growth in the City. Constructed for \$4.8 million, the project includes a divided four-lane roadway, an enclosed storm sewer system, a temporary traffic signal, sidewalks, and a mixed-use trail. This project serves as an example of a successful consultant-client partnership, where close collaboration, shared vision, and technical expertise came together to deliver a cost-effective, high-impact solution that meets both immediate needs and long-term goals of the City.

Wilson & Company served as the project's lead designer, providing survey, design, coordination, and permitting efforts for a project with an accelerated design (seven months) and construction (six months) schedule. To meet these aggressive timelines, the team implemented a series of innovative solutions. A model-based design approach provided an integrated 3D model connecting all infrastructure components to one single source. This allowed the team to rapidly iterate, coordinate with all design sub-disciplines, and streamline major design decisions to remain on time and under budget. Additionally, the design of a temporary traffic signal at an offset intersection avoided a costly realignment in the interim.

The Markey Parkway Extension Project demonstrated the power of collaborative public engagement, with city and consultant-led public meetings providing a forum for community input and transparency throughout the design process. Complementing these efforts, the City of Belton launched a dedicated social media campaign during the life of the

project, generating over 100,000 local impressions. This coordinated outreach strategy strengthened public trust, increased awareness, and reinforced the value of infrastructure investment in shaping the daily lives of residents.

Delivered on time and under budget, the Markey Parkway Extension Project stands as a benchmark for successful infrastructure delivery, demonstrating the power of technical innovation, strategic planning, and a strong public-private partnership. It reflects what's possible when a shared vision, responsive collaboration, and disciplined execution come together to meet community needs and drive long-term value.



Wilson & Company, Inc., Engineers & Architects

PROJECT TITLE:

Southwest Boulevard Transportation Plan

CLIENT/OWNER:

City of Kansas City, MO

The Southwest Boulevard Transportation Plan is a community-driven effort to reimagine one of Kansas City's most historic corridors as a safer, more accessible, and culturally vibrant public space. Developed through the Planning Sustainable Places program in partnership with the Mid-America Regional Council, the plan addresses long-standing issues of traffic safety, social equity, and neighborhood disconnection, particularly for the predominantly Hispanic Westside community.

Wilson & Company led a multidisciplinary team including HOXIE Collective, SWT Design, and SingleWing Creative to deliver a plan built on inclusive engagement, technical analysis, and culturally responsive design. A bilingual outreach strategy reached hundreds through walking tours, focus groups, surveys, and a design workshop, ensuring that the community's voice shaped every element of the plan.

Three catalyst projects anchor the plan's vision: a road diet with a center turn lane, a 12-foot-wide shared-use path, and raised pedestrian crossings. These recommendations, supported by data and community input, prioritize safety, connectivity, and placemaking, while laying the foundation for long-term improvements.

Selected for a Reconnecting Communities grant, the plan positions the Westside to address the impacts of I-35 and reconnect divided neighborhoods. The Southwest Boulevard Transportation Plan stands as a model for inclusive planning and equitable infrastructure, demonstrating the power of public engagement, innovation, and shared vision to create lasting community value.