

Program Management

Efficiency and Innovation





WHAT WE DO

The successful delivery of projects in line with stakeholder objectives is a trademark of WSP USA. We leverage our extensive experience in program delivery and our understanding of technical, environmental and commercial issues to plan and implement projects efficiently, with a focus on cost, schedule, quality, and safety.

From the outset, our priority is to establish a strong partnership that protects our client's best interests throughout the planning, implementation, and commissioning stages. WSP has successfully managed complex programs around the world in all major market sectors. Our team's wide-ranging experience—backed by a commitment to technical excellence and innovation—ensures that we offer the right plan and delivery strategy to achieve optimal results.

On every assignment, we emphasize the importance of visionary planning, creative funding strategies, organizational efficiency, and risk management, as well as strong project controls to analyze performance and support decision-making. We serve as a trusted partner to our clients to make certain that their strategic goals are met or exceeded.

OUR VALUE PROPOSITION



Trust

We take pride in the long-lasting relationships we develop with our clients, building our processes around excellent service delivery.



Experience

Our experts have extensive technical and management experience on complex programs worldwide. Our clients have access to a range of professional skill sets, supported by more than 125 years of experience, insight, and proven methodologies.



Unique Solutions

We go beyond the goal of meeting technical requirements, adding value through strategic solutions that provide cost and schedule benefits.



Lifecycle Approach

We combine high-level advisory solutions with practical insight to assist clients at any stage of a project's lifecycle.



Passion

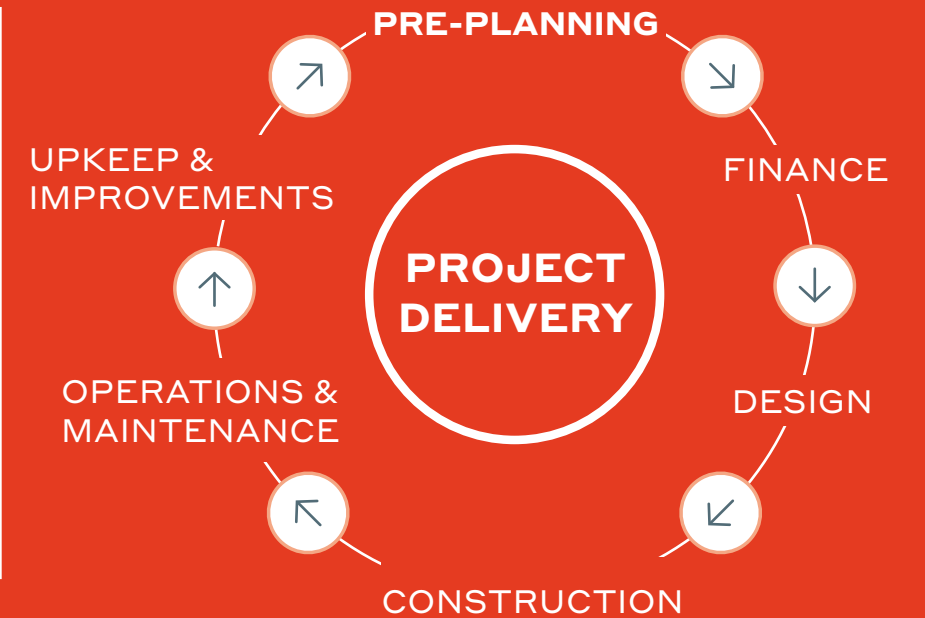
Our experts are highly invested in project performance and client success. We are enthusiastic and dedicated to making a difference.



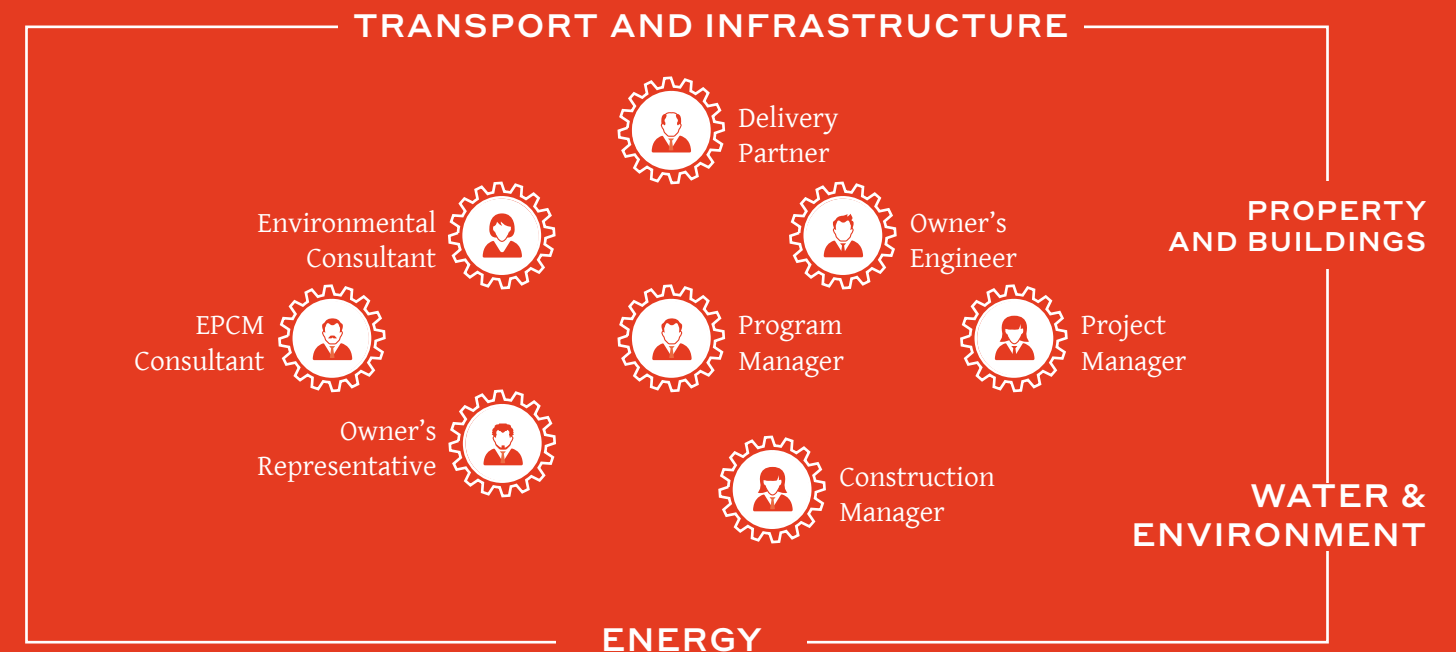
OUR SERVICE OFFERINGS

Our experience and expertise allow us to deliver a diverse range of services across all phases of a project's lifecycle, from pre-planning to operations and maintenance.

- Advisory Services
- Project and Program Management
- Planning, Environmental, and Design Management
- Commercial Management
- Commissioning and Startup Management
- Construction Management
- Project Controls
- Quality Assurance
- Stakeholder Management



DIVERSE MARKETS



Fostering Teamwork and Trust Across All Delivery Methods

WSP has developed field-proven best practices to implement projects successfully under a wide range of delivery methods

- Traditional Design, Bid, Build (DBB)
- Design/Build (D/B) and Fast Track
- Owner's Authorized Representative (OAR)
- Construction Management (CM)
- Construction Engineering & Inspection (CE&I)
- Engineering, Procurement, Construction Management (EPCM)
- Integrated Project Delivery (IPD)
- Public Private Partnership (PPP or P3)
- Program Management (PM)

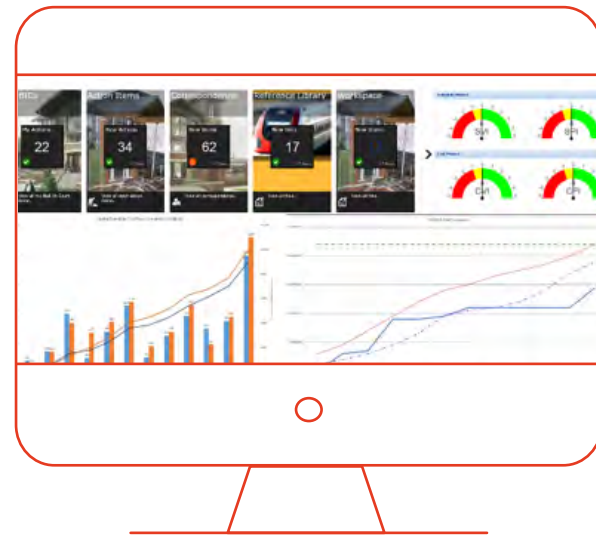
Innovations

WSP has developed powerful, configurable software systems that easily integrate with industry-standard software tools to support and facilitate the successful ...execution of projects.

Our Program/Project Management Information System (PMIS) is a dashboard application that integrates business information and key performance indicators (KPIs) in a centralized information package. It assists project management personnel in monitoring and managing project activities to control safety, quality, costs, schedule, risk, general documents management, and other key functions.

PMIS applications are an integrated suite of normally independent project control software tools. Used in conjunction with established business processes, they provide effective project management, improve service, increase revenue and reduce costs.

The PMIS is customized to individual projects and specific client requirements.



Key Benefits

Cost Reduction

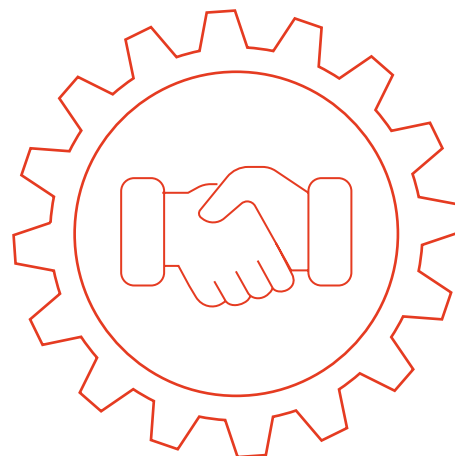
- Reduced analytical labor costs when producing project reports
- Reduced costs through standardization

Efficiency

- Customization of user interface while pulling data from numerous applications
- Data consistency delivering a single source of information
- Easy query generation
- Intuitive integration with project Work Breakdown Structure (WBS)

Accessibility

- Web-based application accessible from anywhere at anytime
- Ease of access to multiple project information
- Single-source access to all relevant project data

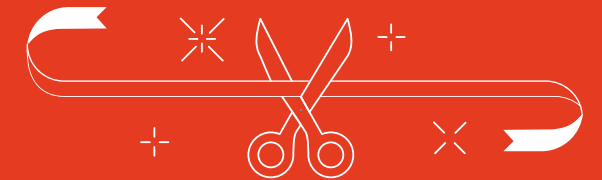


WHAT MAKES PROGRAM DELIVERY SUCCESSFUL?



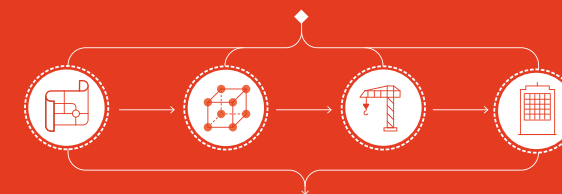
IMPROVED COST-EFFICIENCY

Project/Program Controls are the cornerstone of a well-organized and efficient program. WSP has developed a dynamic, flexible, and robust system that helps ensure the overall project/program scope is monitored and executed according to cost and schedule requirements, quality and safety standards, and regulatory requirements.



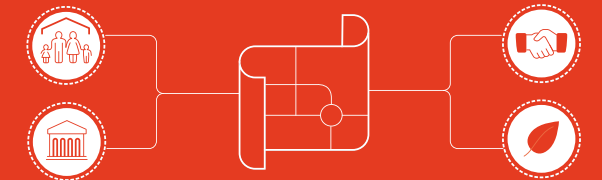
INNOVATIVE METHODOLOGY

Our teams develop innovative approaches and apply cutting-edge technology to increase value for our customers. We implement sound and efficient processes within a collaborative environment, and prioritize compliance and assurance throughout all project phases.



GUARANTEED DELIVERY

Close collaboration with our clients ensures project delivery is effective, from beginning to end. We represent our client's interests throughout all project phases. Our project/program manager oversees implementation across the planning, design, procurement, construction, and operations stages, resulting in projects being delivered on schedule.



QUALITY OF LIFE

Conscious of the social and economic importance of each asset being built or rehabilitated, WSP takes great pride in delivering projects that will make life better for communities. Client satisfaction is our key focus from a project management and user experience perspective.



Selected projects

CALIFORNIA HIGH-SPEED RAIL

Location: California
Client/Owner: California High-Speed Rail Authority (CHSRA)
Services: Advisory Services; Project and Program Management; Planning, Environmental and Design Management; Commercial Management; Commissioning and Start-up Management; Construction Management; Project Controls; Quality Assurance; Stakeholder Management

The California High-Speed Rail System will be the first of its kind in the U.S. It will connect California's mega-regions, contribute to economic development, promote a cleaner environment, create jobs, and preserve both agricultural and protected lands.

The system will run from San Francisco to Los Angeles in less than three hours, at speeds of more than 200 mph, by 2029, and will eventually extend to Sacramento and San Diego, totaling 800 miles and up to 24 stations.

WSP has been helping to shape high-speed rail in California since the earliest feasibility studies. We are now serving as the Authority's rail delivery partner (RDP), a seven-year engagement from the planning and preliminary design phase through project delivery and operations. The RDP role builds on our previous work as the Authority's program management team; in this capacity, we coordinated the activities of multiple subconsultants and prepared the program-level environmental impact report (EIR) and environmental impact statement (EIS).

AVANGRID BULK ELECTRIC SYSTEM PROGRAM MANAGEMENT

Location: New York
Client/Owner: Avangrid
Services: Program Management; Conceptual Design Engineering; Quality Control; Project Controls

WSP provides p Avangrid provides electricity to more than two million customers through their 69kV, 115kV, 138kV, 230kV and 345kV transmission systems. WSP manages and coordinates the activities of assigned projects from inception through commissioning. The scope of services includes project management, project controls, procurement support, conceptual engineering, quality control, construction management and commissioning support, as well as establishing and maintaining document control and records management systems for design activities.

A key task is to make certain that program processes consistently deliver quality without adverse impacts on health, safety or the environment, using cutting-edge technology, software, and best practices to meet budget, quality and schedule milestones. As a member of the Avangrid team, we provide a clear understanding of strategic program objectives, identify potential issues, and provide solutions to keep the program on track.



MOYNIHAN TRAIN HALL AND FARLEY BUILDING REDEVELOPMENT

Location: New York City
Client/Owner: Empire State Development
Core Services: Project and Program Management; Project Controls; Construction Management

Set below Madison Square Garden and Two Penn Plaza, today's New York Penn Station welcomes millions of Amtrak and Long Island Rail Road (LIRR) passengers to Manhattan each year into a confined, crowded, poorly lit environment. In an effort to recreate the grand entrance to the city lost when the original Penn Station was demolished, Empire State Development (ESD) is dramatically reconfiguring the James A. Farley Post Office, which sits 50 feet above Penn Station's platforms, to create the Moynihan Train Hall.

Since 1991, WSP has worked with ESD, Amtrak, the U.S. Post Office, developers Related and Vornado, and countless other stakeholders to advance the project. Work on Phase 2 of the project, which will transform the Farley Building into a grand transit hall for LIRR and Amtrak passengers and provide 750,000 sq. ft. of retail and office space, began in the spring of 2017. We are continuing our involvement in the project by providing program management services during Phase 2 construction.

HARTSFIELD-JACKSON ATLANTA INTERNATIONAL AIRPORT CAPITAL DEVELOPMENT PROGRAM

Location: Atlanta, Georgia
Client/Owner: City of Atlanta
Core Services: Program/Project Management Support; Quality Management; Project Controls

WSP leads the joint venture providing program management support services for the \$6 billion ATLNext program, a complex set of improvements designed to enhance the passenger experience, increase service capacity and optimize airport operations at the world's most traveled airport. The joint venture is responsible for program/project management support, quality management, safety oversight, project controls, contract administration, document control, invoice compliance, constructability reviews and supplier diversity outreach, monitoring and reporting.

The program entails landside, terminal and airside facility renewal, replacement, and modernization projects to meet increasing demand at ATL. Key program elements include a five-gate addition to Terminal T, a new sixth runway, and an extension of the underground APM, as well as improvements to the domestic terminal complex, parking decks, baggage handling systems and end around taxiways. Dramatic new curbside canopies, more open and brighter terminals, better parking options, and other modern amenities will enhance the passenger experience. The improvements will expand capacity including the ability to accommodate A380 aircraft.

OREGON DEPARTMENT OF TRANSPORTATION DESIGN-BUILD PROGRAM

Location: Oregon
Client/Owner: Oregon Department of Transportation
Core Services: Design-Build Guidebook; Procurement; Contract Administration; Construction Oversight

WSP piloted a major design-build program for the Oregon DOT that delivered 12 projects worth \$600 million in 4 years. This effort involved developing technical requirements and criteria for evaluation of qualifications and proposals for design-build projects ranging in size from \$5 million to \$500 million in construction cost. WSP also provided engineering services to provide design-builders with information for the final design and construction effort.

Services included project management support, including all preliminary engineering, construction administration and engineering oversight. The legislation that funded the program called for a strategy to maximize "expedited delivery" which was successfully implemented on this program.



MANCHESTER METROLINK

Location: Manchester, U.K.

Client/Owner: Transport for Greater Manchester (TfGM)

Core Services: Project and Program Management; Planning, Environmental and Design Management; Commercial Management; Commissioning and Start-up Management; Construction Management; Project Controls; Quality Assurance; Stakeholder Management

WSP served as TfGM's delivery partner for the \$2.85 billion Metrolink extension and enhancement program. Our services included comprehensive engineering management, program management, commercial management, project controls, and stakeholder engagement services.

Our accomplishments as part of the integrated delivery team are extensive, including bringing

five new lines into service in eleven phases, with 24.5 km of new track opening ahead of schedule, and developing innovative solutions to meet tram management system requirements to allow new lines to open as expected. The project, which is widely recognized as a success story, received numerous awards including the National Transport Awards special award for "Outstanding Performance."



WOODROW WILSON BRIDGE

Location: Washington, DC area

Client/Owner: Virginia Department of Transportation/ Maryland State Highway Administration/ Federal Highway Administration/ District of Columbia Department of Transportation

Core Services: Program Management; Construction Management

This award-winning project—one of the most ambitious transportation programs in the U.S. at the time—replaced a functionally obsolete bridge on the Capital Beltway with twin 1.4-mile-long structures carrying 12 lanes of traffic over the Potomac River. The new crossing replaced an obsolete six-lane bridge that had become a major bottleneck, with long backups and delays at rush hour. The project also included four new highway interchanges, two in Maryland and two in Virginia, and redevelopment of Jones Point Park.

WSP served as lead member of the joint venture that served as general engineering consultant

providing program management, construction management and inspection services. The bridge's location in a heavily developed metropolitan area, rich in parks and natural areas, required compatibility with local environmental, traffic, aesthetic, historic and socioeconomic concerns. Design-related responsibilities included implementing public information and involvement programs; obtaining environmental permits; contract administration; and establishing project-wide cost and schedule controls. During construction, the project team also provided hands-on construction engineering and inspection services.



UTAH TRANSIT AUTHORITY FRONTLINES 2015 PROGRAM

Location: Salt Lake City, Utah

Client/Owner: Utah Transit Authority

Core Services: Project and Program Management;
Design Management; Conceptual Planning;
Construction and Safety Oversight; Quality
Assurance; Communications

WSP provided program management services for this major rail expansion program adding a commuter rail line and four new light rail lines—a total of 70 miles of service—to Salt Lake City’s transit network. This major undertaking included the FrontRunner commuter rail line connecting Ogden and Provo to Salt Lake City, as well as the Mid-Jordan line, the West Valley line, the Airport line and the Draper line.

We were responsible for a full range of program management tasks. Activities included design oversight, construction management, project contract administration, vehicle procurement, project controls, public outreach, financial and budget planning, and preparation of implementation and development plans. In addition, we provided value engineering and risk management services over the course of the program.

DENVER INTERNATIONAL AIRPORT CAPITAL IMPROVEMENT PROGRAM

Location: Denver, Colorado

Client/Owner: Department of Aviation for the City and County of Denver

Core Services: Program Management; Design
Management Overview; Construction Management

The sixth busiest airport in the U.S. and the Gateway to the Rockies, Denver International Airport has undertaken a capital improvement program to ensure that the airport continues to provide superior service to its patrons and users. WSP has provided program management services to support the implementation of multiple projects included in the capital program. Individual tasks included preparing project definition documents for more than 250 projects; supporting the

creation of an asset management policy, strategy, procedural handbook and condition assessment methodology; and developing a new set of project delivery procedures and workflows. The firm has also managed a range of mechanical engineering projects, including terminal air handling unit upgrades and rooftop HVAC unit replacement, as well as providing civil engineering services for landside projects such as roadway and parking lot improvements and bridge rehabilitation.



JETBLUE TERMINAL 5 PROGRAM MANAGEMENT

Location: Jamaica, Queens

Client/Owner: JetBlue Airways

Core Services: Project and Program Management, Commissioning and Start-up, Construction Management, Project Controls

WSP provided program management services for construction of JetBlue's Terminal 5 at John F. Kennedy International Airport as well as access roadways, an airside apron, a ramp layout, a 1,500-space parking garage, and a pedestrian connector to the garage and AirTrain.

The terminal's opening was the culmination of a three-year effort aimed at doubling capacity while transforming the passenger experience. The 640,000-square-foot terminal incorporates the

1962 classic modernist TWA terminal designed by Eero Saarinen. The new terminal is designed to handle 20 million passengers a year. Its security checkpoint accommodates 20 screening lanes and its 26 gates—each with dual taxiways—support 250 daily departures.

The terminal set a new standard for airline facilities. The exterior of the new portion of the facility is deliberately understated to quietly complement the soaring curves of Saarinen's iconic building.

TAIWAN HIGH SPEED RAIL

Location: Taiwan

Client/Owner: Taiwan High Speed Rail Corporation

Core Services: Project and Program Management; Planning; Design; Construction Services

Traveling at top speeds of 186 miles per hour, trains on Taiwan's high speed rail system make the 214-mile trip between Taipei in the north and Kaohsiung in the south in as little as 90 minutes. WSP worked on the initial feasibility studies in the early 1990s, and supported the Taiwan High Speed Rail Corporation with program management, planning, design, construction, and operations and maintenance services to help deliver this complex project successfully.

The \$18 billion high-speed rail system was one of the largest build-operate-transfer projects in the world at the time. The line consists of 30 miles of tunnels, 160 miles of viaducts and bridges, 25 miles of cut-and-fill, eight stations, and five maintenance facilities. It features Japanese-built trains and high-speed Shinkansen technology, in its first application outside Japan. Taiwan's high-speed rail system represents a viable alternative to cars, delivering significant environmental benefits through reduced emissions and improved air quality.



RYERSON STUDENT LEARNING CENTRE

Location: Toronto, Canada

Client/Owner: Ryerson University

Core Services: Project and Program Management; Project Controls; Planning, Environmental and Design Management; Quality Assurance; Commercial Management; Stakeholder Management

The new Ryerson Student Learning Centre is a 156,000-square-foot, nine-story building that showcases an impressive glass facade, including an elevated plaza and bridge connecting to the existing library. The ground floor and basement feature prominent commercial retail space, with a transparent glass skin that creates a variety of lighting throughout the building. The facility is barrier-free to encourage social interaction and engagement. Conceived as a library without books, it is a library built for the digital age that encourages students to interact with their physical environment.

WSP was commissioned to manage the project, the professional teams, and the construction manager from project initiation to year end warranty reviews. We implemented project management procedures, managed costs and budget monitoring systems, oversaw commissioning and LEED Gold accreditation, monitored risks and opportunities, and managed project changes and documentation.

ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER

Location: Anaheim, California

Client/Owner: City of Anaheim

Core Services: Project and Program Management; Master Planning; Architectural and Engineering Services

The City of Anaheim and the Orange County Transportation Authority (OCTA) collaborated on the development of the Anaheim Regional Transportation Intermodal Center (ARTIC), envisioned as a regional transportation gateway for Orange County. In addition to project management, WSP provided master planning, architectural and engineering services for Phase 1 of the transportation center facility for ARTIC.

The contract called for designing and laying the groundwork for the transportation hub on a site just south of the Honda Center. The state-of-the-art transportation hub will accommodate Metrolink commuter rail, OCTA buses, Amtrak, high-speed rail, and future maglev connections. The facility was designed as a platinum LEED-certified building and follow-on phases will include a mixed-use activity center and commercial and residential development.



GENERAL MOTORS TECHNICAL CENTER

Location: Detroit, Michigan

Client/Owner: General Motors

Core Services: Project and Program Management, Project Controls, Commissioning and Startup Management

WSP provided program and construction management services for the renovation of General Motors' (GM) Technical Center in Warren, Michigan, one of three technical centers supporting GM's worldwide car engineering operations. The center comprises engineering offices, lab and test space in a campus setting and houses 18,000 employees.

The \$1 billion renovation of the campus complex involved the rehabilitation of multiple office and prototype manufacturing buildings, construction of new parking decks, and infrastructure improvements throughout the site. WSP managed the overall Warren Technical Center Program for GM.

The scope of work included project and construction management; architecture and engineering; technical assistance; project administration and controls; selection of construction contractors; management of the master safety program; installation of furniture, fixtures and equipment; contracting services; project scheduling; and cost estimation and value engineering. The renovation of the Warren Technical Center was one of the largest construction projects under way at the time. Even before construction began, WSP was able to assist in reducing the projected construction cost by nearly \$100 million with a partnering approach and value engineering.

LOUISIANA TIMED PROGRAM

Location: Louisiana

Client/Owner: Louisiana Department of Transportation

Core Services: Project and Program Management; Project Controls; Financial Consulting; Stakeholder Management

The Transportation Infrastructure Model for Economic Development (TIMED) Program is the largest transportation program in Louisiana's history. It comprises 16 transportation projects, including widening of more than 500 miles of state highways, improvements or new construction on three major bridges including the John James Audubon Bridge and the Huey P. Long Bridge, and improvements to the Port of New Orleans and Louis Armstrong International Airport.

After slow progress in the early stages, the Louisiana Department of Transportation and Development (LaDOTD) recognized that the program needed an overhaul to get back on track.

WSP led a private management joint venture providing program and financial management. The financing strategy was also switched to a bond-financed program, and alternative project delivery models were adopted. These measures significantly reduced the original program schedule.

The management joint venture served as an extension of client staff, providing project development services for selected projects including design management, utility relocation and environmental services; construction management; oversight of major bridge components; and management and execution of the public outreach program.



UNIVERSITY OF MONTREAL HEALTH RESEARCH CENTER

Location: Canada
Client/Owner: University of Montreal Health Centre
Core Services: Project and Program Management; Project Controls; Quality Assurance

This 15-story building is linked to both the University of Montreal Hospital Centre (CHUM) and the Champs-de-Mars metro station. The facility is dedicated to fundamental medical, clinical, and public health research. The project was implemented as a public-private partnership. As part of a consortium, WSP oversaw cost and schedule and provided project management services from the definition stage until final delivery. The project, which has LEED Gold certification, won PMI Montreal's 2014 Project of the Year award.



MEDUPI POWER STATION

Location: Limpopo, South Africa
Client/Owner: Eskom
Core Services: Project Management Support; Engineering Support

WSP supported Eskom, South Africa's power utility, on the development of the 4,800-megawatt Medupi power station, one of the largest in the world. The power station, designed with a planned operational life of 50 years, features six coal-fired supercritical boilers operating at high temperatures and pressures. Supercritical boilers provide greater efficiency and better environmental performance than older-generation boilers. We developed and implemented solutions to drive efficiencies during construction. The development of the station and associated infrastructure involved multiple large contracts and a peak workforce of more than 8,000. The plant, located north of Johannesburg, will provide a reliable and much-needed supply of power to meet the needs of a growing population.



FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) HOUSING INSPECTION SERVICES

Location: United States
Client/Owner: FEMA
Core Services: Project Management; Inspection; Project Controls

Since 1995, WSP has supported FEMA as a nationwide contractor responsible for inspecting homes damaged in presidentially-declared disasters. To achieve the greatest efficiency and security, we maintain a cadre of experienced inspectors, as well as field incident managers, quality assurance personnel, software development and computer operations staff, prepared to respond to incidents immediately at FEMA's direction and capable of "ramping up" to sustain a high production level of daily inspections.

Inspections are documented using tablets containing software that efficiently and thoroughly describes the nature and extent of the damage. The data collected by these inspections is used by FEMA to determine the type and amount of assistance to be provided to applicants.



PROGRAM MANAGEMENT SERVICES FOR SECURITY CAPITAL PROGRAMS

Location: New York/New Jersey

Client/Owner: Port Authority of New York & New Jersey (PANYNJ)

Core Services: Program Management; Security Engineering Project Management and Project Control Services

WSP has provided program and project management services to the PANYNJ for delivery of its security capital program. The scope included a wide range of projects and initiatives aimed at enhancing security at the agency's rail system, marine, aviation, tunnels, bridges, terminals, and office buildings. Security initiatives have included access control, CCTV, structural strengthening, perimeter hardening and intrusion detection, and video analytics.

We were engaged to provide coordination, scheduling, and monitoring of design and/or preparation of contract drawings and specifications and construction estimates. The team developed and implemented project procedures and control systems that have helped ensure program success. Our program management services extended from project inception through design, construction and commissioning. We provided staff resources including project managers, project control specialists, contract managers, and document control specialists.

PURPLE LINE LIGHT RAIL

Location: Montgomery County and Prince George's County, Maryland

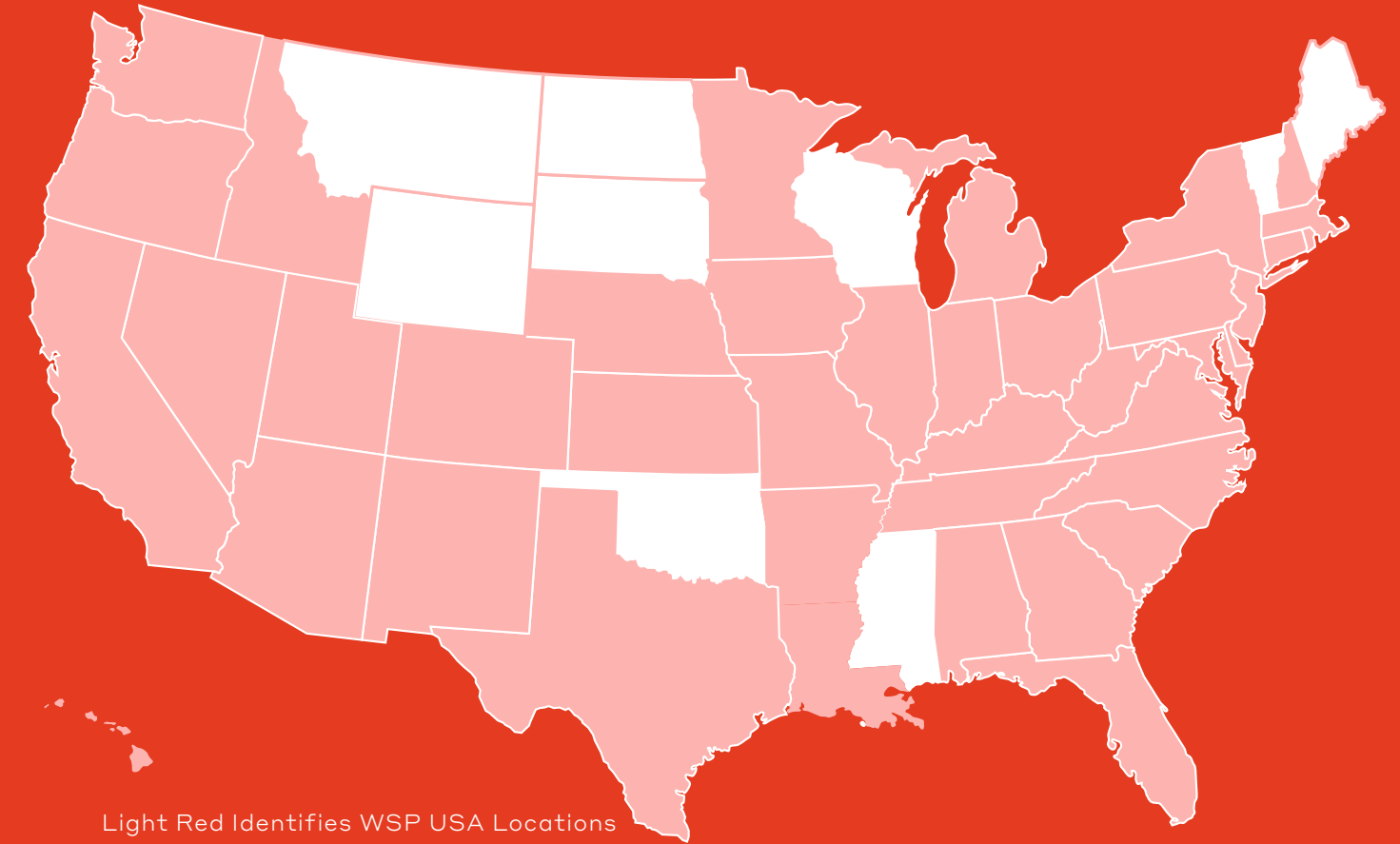
Client/Owner: Montgomery County and Prince George's County, Maryland

Core Services: Project and Program Management; Environmental Oversight; Financial Consulting; Public Involvement; Engineering; Risk Analysis

WSP is part of a joint venture serving as program management consultant to develop the \$2 billion, 16-mile Purple Line light rail line between Bethesda and New Carrollton, with 21 stations. The project, which will provide faster and more reliable transit service, is being delivered under a public-private partnership (P3).

We worked closely with the owner and the project's numerous stakeholders to bring this project from

vision towards completion in a manner that will provide lasting benefits to the region. We provided support throughout the P3 solicitation process and document preparation, including technical provisions and performance requirements. We also provided planning, engineering, ridership forecasting, environmental impact analysis and documentation, and cost estimating, and assisted with documentation requirements to obtain a \$900 million federal capital grant.



Light Red Identifies WSP USA Locations

I-75 MODERNIZATION PROGRAM

Location: Oakland County, Michigan
Client/Owner: Michigan Department of Transportation (MDOT)
Core Services: Project Management; Planning and Environmental; Engineering; Construction Oversight; Financing; Procurement; Stakeholder Engagement

WSP has been providing owner's representative services since 2014 on this major highway modernization program involving widening and reconstruction of approximately 18 miles of I-75, a key commercial and commuter route. Key components include rehabilitation of bridges; reconstruction of the roadway and ramps along the corridor; utility relocation; and upgrades to geometrics, signage, guardrail, median barriers, carpool lots, noise walls (where needed), lighting, intelligent transportation systems, and pavement markings.

The firm is serving as an extension of MDOT staff, providing support for technical and project management activities vital to the program's success. Services include project management, planning and environment, traffic and intelligent transportation systems, engineering and construction, financing and procurement for alternative delivery, stakeholder engagement and public information. The modernization program, which includes Michigan's first high-occupancy vehicle (HOV) lane, significantly improves safety and mobility along the corridor.

7000
PEOPLE

100
OFFICES

Multidisciplinary Expertise



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About WSP USA

WSP USA, formerly WSP | Parsons Brinckerhoff, is the U.S. operating company of one of the world's leading engineering and professional services firms—WSP. Dedicated to serving local communities, we are engineers, planners, technical experts, strategic advisors and construction management professionals. WSP USA designs lasting solutions in the buildings, transportation, energy, water and environment sectors. With more than 7,000 people in 100 offices across the U.S., we partner with our clients to help communities prosper.