Parsons PLUS envision more SM

Parsons

Parsons is a technology-driven engineering services firm with more than 70 years of experience in the engineering, construction, technical, and professional services industries. The corporation is a leader in many diversified markets with a focus on infrastructure, defense, and construction.

Parsons delivers design/design-build, program/construction management, systems design/engineering, cyber/converged security, and other professional services packaged in innovative alternative delivery methods to federal, regional, and local government agencies, as well as to private industrial customers worldwide.

Whether it's conducting rail transit feasibility studies, implementing a new rail line, or expanding an existing system, Parsons provides engineering and project management services for the planning, design, integration, and construction support of all elements of mass transit, including mainline railways, commuter rail, and light rail transit.

Partnering with more than 400 transit agencies, we have worked on every major transit system in North America and many of the most renowned systems overseas, helping our customers achieve their strategic visions.

70+
Years

80+
Languages

10,000+
Degrees/Certifications

27
Countries

$700B+
Construction

$5.65B
LRT Design Constructed Value

Exceptional Reputation Worldwide

ENR Engineering News-Record

TOP 10

2016 World's Most Ethical Companies® WWW.ETHISPHERE.COM

7 YEARS

ABS Quality Evaluations, Inc. Management System Certification

ISO 9001
ISO 14001

Information Week

TOP INNOVATOR

Parsons' Core Values

Safety | Quality | Integrity | Diversity | Innovation | Sustainability

Delivering Complex Rail & Transit Projects and Programs Worldwide

Houston METRO Light Rail Expansion
Houston, TX | USD $1.225 Billion

Silver Line Extension to Dulles Airport
Washington, D.C. | USD $1.2 Billion (approximate)

Dubai Metro Red & Green Lines and Expo 2020 Link
Dubai, UAE | USD $8 Billion + $2.7 Billion (approximate)

Metrolink PTC
Los Angeles, CA | USD $129.4 Million

Dallas to Irving Light Rail Extension Phase 1 & 2
Dallas, TX | USD $437 Million

Riyadh Metro
Riyadh, KSA | USD $22.5 Billion (approximate)

Parsons' Rail & Transit Services

Program Management | Construction Management | Design | Design-Build
Systems Integration | System Safety

Civil & Track

- Alignment/3D Modeling
- Special Trackwork
- Utilities
- Roadways/Grading
- Track (Ballasted, Direct Fixation, etc.)
- Track Drainage
- Electromagnetic Interference
- Signalized At-Grade Crossing
- Signal Preemption
- Safety & Environmental Considerations
- Associated Infrastructure
- Corrosion Control

Bridges & Structures

- Aerial Guideway Design
- Grade Separations
- Tunnel Construction Alternatives (TBM, Cut/Cover, Mined, NATM)
- Tunnel Design
- Bridge Inspections
- Bridge Architecture & Aesthetics
- Rail Structure Interaction Analysis (Direct-Fixation Bridges)
- Fundamental Mode of Vibration Frequency Criteria (Long-Span Structures)

Systems & Rail Cars

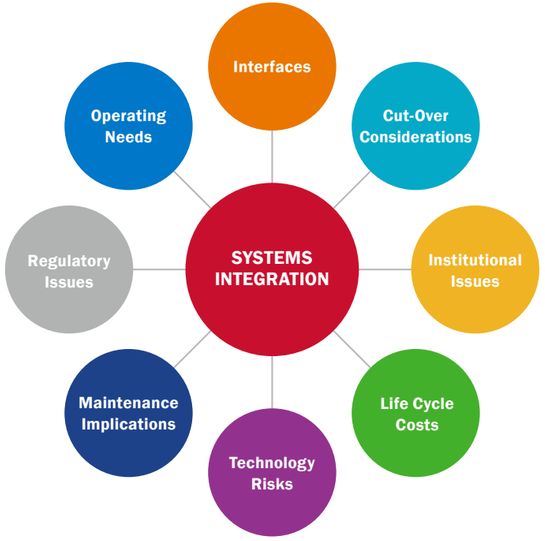
- Traction Power/Load Flow Analysis
- Overhead Contact System
- Communications
- Signaling
- Communications-Based Train Control
- Positive Train Control
- Fare Collection
- Control Centers
- Systems Integration
- Testing/Commissioning
- Rail Car/Locomotives Procurement
- Electronic Security (CCTV, Access Control, Intrusion Detection)
- Fire Protection
- Tunnel Ventilation
- System Safety Certification Process

Stations & Facilities

- Operations & Maintenance Facilities
- Storage Yards
- Architecture/Structural Design
- Urban Design/Landscape
- Parking Facilities/Structures
- Entry Plazas/Pavilions
- Pedestrian Bridges
- Visual/Aesthetic Concepts
- Signage
- Fire/Life/Safety
- Accessibility/Code Compliance
- Security

Systems Engineering & Integration

Parsons has delivered the final designs for more LRT projects than any other firm, and has played an integral role on many others. We are a trusted partner because we combine our unique expertise with innovative technology as well as systems engineering and integration experience to ensure that project design, construction, and operational capability are the most effective and cost-efficient over the facility's planned life cycle.



Industry-leading expertise in light rail final design and rail systems integration programs

Houston METRO Light Rail Expansion
Houston, TX

Houston METRO Light Rail Expansion

Houston, TX

Client: Metropolitan Transit Authority of Harris County (Houston METRO)
Program Value: USD $1.225 Billion

Program Scope of Work

As program manager and managing partner of the design-build joint venture, Parsons was responsible for designing and building the expanded light rail system, which includes 3 new rail lines totaling 15 miles of LRT, 24 stations, and new storage and inspection facilities. The joint venture was also responsible for system safety and operational upgrades to the existing 7.5-mile LRT system and major renovations to the existing operations center. As program manager, Parsons was responsible for overall project oversight, the acquisition and commissioning of 58 new light rail vehicles, and the community outreach program. The project was completed and opened for revenue service ahead of schedule, and Parsons achieved a safety record with a lost-time incident rate that is half the national average for this type of work.

Parsons' Services

Facility Provider

- Project Oversight
- Procurement of Light Rail Vehicles
- Award-Winning Public/ Stakeholder Outreach
- Construction Communications

Design-Builder

- Design
- Construction
- Systems Integration
- Requirements Management
- Configuration Management
- Installation and Testing
- Commissioning
- Startup and Integrated Testing

Project Details

- 3 new rail lines totaling 15 miles
- 24 stations
- 8 light rail bridges (1 mile) and 1 underpass
- Operations control center renovations and upgrades
- New maintenance/inspection facility
- New storage facility
- Roadway and sidewalk improvements along the guideway (62 lane-miles)
- 87 signalized at-grade crossings
- Design and relocation of 36 miles of public utilities

Foothill Gold Line LRT Extension
Pasadena, CA

Foothill Gold Line LRT Extension

Pasadena, CA

Client: Metro Gold Line Construction Authority
Program Value: USD $482 Million

Program Scope of Work

This design-build joint venture involved 11.5 miles of double mainline track and all related structures and systems. The facilities design included 6 new at-grade passenger stations and a 132,000-square-foot LEED® Gold maintenance/operations facility—currently the only building of its kind to receive this distinction for the highest level of achievement in sustainable design.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Systems Integration

Pasadena Gold Line LRT

Pasadena, CA

Client: Metro Gold Line Construction Authority
Program Value: USD $480 Million

Program Scope of Work

Linking Los Angeles, Pasadena, and South Pasadena, this design-build joint venture involved 14 miles of LRT, including architectural, civil, structural, and systems elements, plus a maintenance facility, 13 stations, and 2 tunnels. The work included complex vibration mitigation in historic and residential areas.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Integrated Testing
- Systems Integration

DART Irving Orange Line LRT Extensions 1 & 2
Dallas, TX

DART Irving Orange Line LRT Extensions 1 & 2

Dallas, TX

Client: Dallas Area Rapid Transit
Program Value: USD $437 Million

Program Scope of Work

This first design-build project by DART involved 9 miles of LRT with architectural, civil, systems, and structural elements, including a 7,558-foot-long bridge over the Trinity River, 5 news stations, 6 traction power substations, and modifications to existing yards and shops.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Testing and Integration Plans
- Systems Integration

DART Irving Orange Line LRT Extension 3 to DFW

Dallas, TX

Client: Dallas Area Rapid Transit
Program Value: USD $148 Million

Program Scope of Work

Parsons was a design-build joint venture partner and the lead designer for 5 miles of at-grade, retained-fill, and aerial LRT from the end of Irving Extensions 1 & 2 into the Dallas/Fort Worth International Airport. Design included all civil, structural, and systems elements, plus allowance for a future airport station and a Phase II build-out.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Integrated Testing
- Systems Integration

Mid-Jordan LRT
Salt Lake City, UT

Mid-Jordan LRT

Salt Lake City, UT

Client: Utah Transit Authority
Program Value: USD $272 Million

Program Scope of Work

This was a design-build project for 10.6 miles of doubletrack, catenary, 10 stations, 5 bridges, and a portal underneath the Union Pacific Railroad mainlines. Additional scope elements included the design of track, systems, 8 structures, civil, grading, utilities, as well as park-and-ride lots. The systems work included traction power, communications, signals, traffic preemption, and integration into the UTA Control Center.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Testing and Integration Plans
- Systems Integration

Draper LRT

Salt Lake City, UT

Client: Utah Transit Authority
Program Value: USD $97 Million

Program Scope of Work

This design-build project involved a 3.8-mile LRT extension from the existing Sandy Civic Center Station to Draper Town Center, including 3 stations, park-and-ride lots, an equestrian tunnel, systems, drainage facilities, utility work, and at-grade crossings. An award-winning aspect of this project was a formal partnering charter to ensure superior communication with the Sandy and Draper communities.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Integrated Testing
- Systems Integration

Courtesy Gregg Gargan, CDOT

Southeast Corridor Transportation Expansion (T-REX)
Denver, CO

Southeast Corridor Transportation Expansion (T-REX)

Denver, CO

Client: Colorado Department of Transportation and Regional Transportation District
Program Value: USD $1.287 Billion

Program Scope of Work

Parsons was a member of the design-build joint venture responsible for the design and construction of this integrated multimodal project that included high-capacity LRT plus highway, pedestrian, and bicycle facilities along the I-25 and I-225 corridors. As lead designer, Parsons' role involved civil and structural design for 19 miles of double-track light rail, 13 transit stations, 3 parking garages, a new operations control center, and construction-period traffic maintenance and control plans. Parsons' scope of work also included the design of traction power and signal systems for the new LRT, as well as supervisory control and data acquisition (SCADA) systems for the existing transit line as well as the new T-REX line.

Parsons' Services

- Final Design
- Engineering Services during Construction
- System Safety Certification
- Requirements Management
- Testing and Integration Plans
- Systems Integration

Project Details

- 17 miles of highway improvements on I-25 and I-225
- 19 miles of LRT
- 13 new stations
- New operations control center plus power and signal systems in Elati Yard
- SCADA systems along entire system and new T-REX line
- Systems design
- Systems integration
- ITS design
- Extensive formal partnering program
- Completed 22 months ahead of the original schedule

Delivering the largest and most advanced metro rail programs in the world

Dubai Metro Red & Green Lines and Expo 2020 Link
Dubai, UAE

Dubai Metro Red & Green Lines and Expo 2020 Link

Dubai, UAE

Client: Dubai Municipality's Roads and Transport Authority (RTA)
Program Value: USD $8 Billion + $2.7 Billion Expo 2020 Link (approximate)

Program Scope of Work

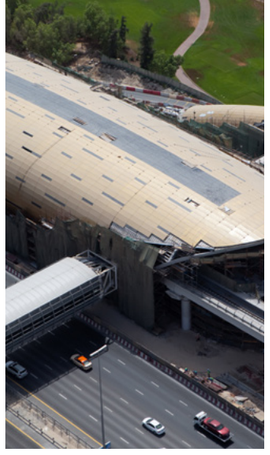
Parsons provided program management and supervision for each phase of the Dubai Metro project, focusing on safety, quality control, schedule, cost, and risk. As part of the joint venture team, Parsons assumed responsibility for design review, including verification, quality assurance, and value engineering. In addition, Parsons performed project and construction management for this fast-track, 91-kilometer driverless rail system project. Combined, the Red Line and Green Line consist of 13.5 kilometers of tunnels, 37 elevated stations, 12 underground stations, and 62.5 kilometers of elevated viaducts. The transit stations feature various designs, including at-grade concourse, elevated concourse and platform, as well as elevated concourse and platform with an extra (pocket) track for operational flexibility. The Dubai Expo 2020 Link will be a 15-kilometer, 7-station extension of the Red Line. Parsons will provide project management, including a feasibility study, concept design, and preliminary design, as well as tendering/contract award.

Parsons' Services

- Program Management
- Design Review
- Construction Supervision
- Rolling Stock Procurement

Project Details

- First major urban railway project in Gulf region
- Longest fully automated metro rail network in operation (Red & Green Lines)
- Expo 2020 focus: opportunity, mobility, sustainability



King Abdullah Financial District Station on Line 1
Riyadh, Saudi Arabia

Riyadh Metro

Riyadh, Saudi Arabia

Client: Arriyadh Development Authority
The executive arm of the High Commission for the Development of Arriyadh
Program Value: $22.5 Billion (approximate)

Program Scope of Work

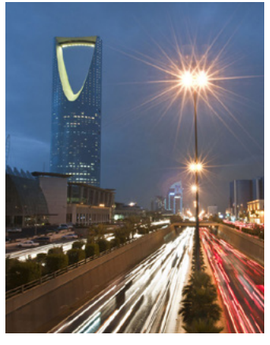
A Parsons-led joint venture is performing project and construction management for 3 of the 6 lines of the $22.5 billion Riyadh Metro mega-project, which is one of the largest metro projects ever launched. The 6-rail-line, 176-kilometer system with 85 stations is projected to be delivered in 60 months. The stations will be elevated, at-grade, deep underground, and shallow underground facilities. The Parsons-led joint venture will be responsible for 60 percent of the program, totaling 104 kilometers, with 55 standard rail stations, 5 large stations (4 of which are transfer stations), 5 depots, and 4 park-and-ride facilities. It will involve bored as well as cut-and-cover tunnels, viaducts, and trackwork. Parsons' work will include management of design, construction, procurement, schedule, documentation, safety and quality, communications, testing, commissioning, as well as contracts administration.

Parsons' Services

- Project Management
- Construction Management

Project Details

- 6 lines with a total length of 176 kilometers
- All metro lines fully automated/driverless and independently operated
- 85 new stations
- Ultimate design capacity at 3.6 million passengers per day
- 60-month projected project delivery



Rendering courtesy of Metrolinx

Eglinton Crosstown LRT
Toronto, ON

Eglinton Crosstown LRT

Toronto, ON, Canada

Client: Metrolinx
Program Value: CAD $5.3 Billion

Program Scope of Work

This is one of the First Wave regional rapid transit projects of The Big Move, Metrolinx's 25-year, CAD $50-billion regional plan for integrated transportation and transit in the Greater Toronto and Hamilton Area. It is the largest transit expansion in the history of Toronto. Running under and along Eglinton Avenue through the heart of Toronto, the Eglinton Crosstown LRT will feature intersection priority signaling to ensure travel times, as well as rail cars with multiple entrances and low floors to accommodate fast and accessible boarding. The project also includes a rail car maintenance and storage facility. As part of a joint venture, Parsons is providing a broad range of services, including project management,right-of-way engineering, traffic planning, facilities engineering and architecture, urban and landscape design, third-party coordination and stakeholder management, utilities coordination, property acquisition coordination, transit systems engineering (traction power and overhead catenary systems, signaling, and communications), system safety design, operations and maintenance planning, systems integration, and construction phase services. In addition, the team prepared reference concept designs and project-specific output specifications for Metrolinx's design-build-finance-maintain contract that is now in the design and construction phase.

Parsons' Services

- Design/Design Management
- Project Management
- Preliminary Engineering
- Systems Engineering
- Systems Integration
- Construction Management

Project Details

- 19 kilometers of new LRT, including a 10-kilometer underground section
- Connection to 54 bus routes, 3 subway stations, and various other transit lines
- 15 new underground stations
- 10 at-grade stops
- Dedicated right-of-way lanes away from regular traffic
- Twin tunnels
- Expected completion in 2021
- Ridership projected at 5,500 per hour in the peak direction by 2031

Trusted worldwide for low-cost, full-cycle solutions and practical, fundable plans for new transit

Broad Street Corridor Transit Study
Richmond, VA

Broad Street Corridor Transit Study

Richmond, VA

Client: Virginia Department of Rail and Public Transportation
Program Value: USD $3 Million

Program Scope of Work

Prime consultant for alternatives analysis and environmental assessment to address facility and operational improvements for new transit service on the 7-mile Broad Street corridor. Work allowed the Greater Richmond Transit Corporation to receive a TIGER grant.

Parsons' Services

- Alternatives Analysis
- Environmental Assessment
- Conceptual Design
- Cost Estimating
- Financial Planning
- Station/Land Use Planning
- Public Involvement

Columbia Pike/Leesburg Pike Transitway

Falls Church, VA

Client: Washington Metropolitan Area Transit Authority
Program Value: USD $266,000

Program Scope of Work

Studied impact of bus rapid transit and light rail transit on two routes in both median-running and curbside-running locations. Analyzed impacts to traffic, transit, and travel times—with traffic and transit signal optimization—in order to determine feasibility and impact of integrating light rail into the urban street network, including capacity for light rail and bus station layouts. A total of 16 new scenarios were included, plus past, present, and future baseline years with no transitway improvements.

Parsons' Services

- Feasibility/Impact Study

Market leader in advanced train control systems installation and integration

Caltrain Communications-Based Overlay Signal System (CBOSS) PTC
San Francisco, San Mateo, and Santa Clara Counties

Parsons is the recognized leader in communications-based train control (CBTC) in the United States. Utilizing Parsons' systems integration approach, we leverage new and cutting-edge CBTC and positive train control (PTC) technology to deliver scalable solutions for improved safety, operations, and reliability—all while ensuring minimal impacts to existing systems.

Safe. Reliable. Sustainable.

World-class rail transit for a vibrant, more connected community.

PARSONS

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