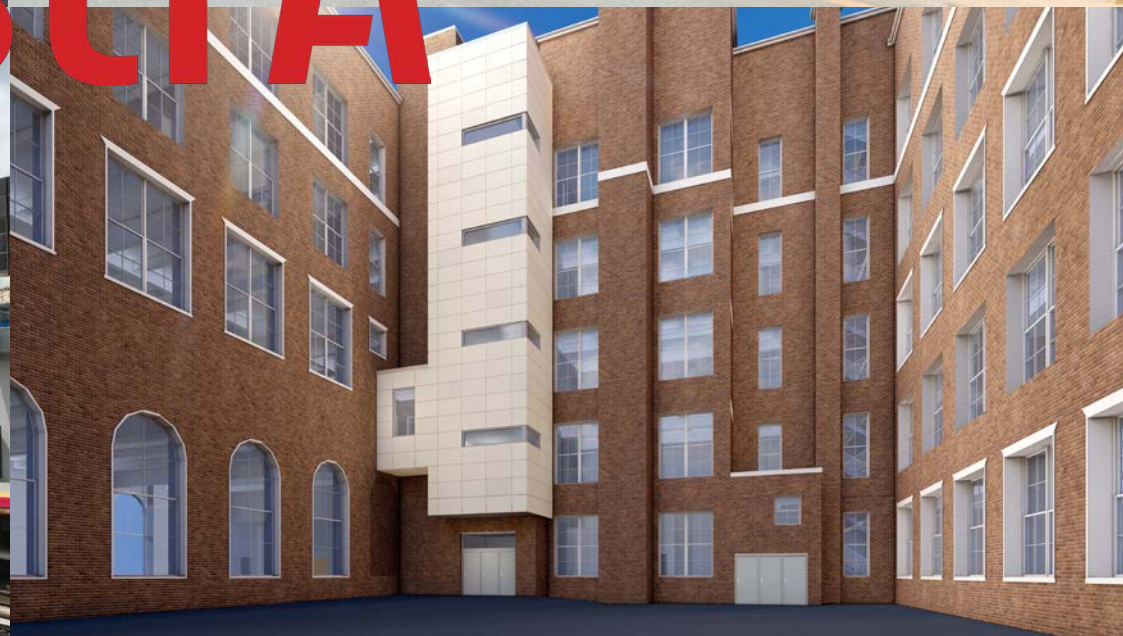




SYSTRA



THE SIGNATURE TEAM FOR TRANSPORTATION AND FACILITIES SOLUTIONS

Who We Are

SYSTRA USA is dedicated to delivering results for our clients and partners.



SYSTRA USA, Inc. is home to designers, engineers, architects, and construction and program managers who partner with clients that deliver public transportation, educational facilities, and affordable housing to our communities.

A trusted partner to public agencies and operators throughout the United States since 1985, SYSTRA USA's commitments to safety, the environment, quality, ethics, and sustainability are the basis of our daily activities.

Using a collaborative approach built on the firm's value of Connected Teams, SYSTRA USA offers clients and partners access to the best skills worldwide via sharing information, tools, best practices, and processes.

Part of SYSTRA Group, a world-leading engineering and consulting firm, SYSTRA USA is supported by more than 10,000 employees worldwide. We are shaped by our shareholders, SNCF (French National Railway) and RATP (Paris Metro operator), and these strong ties allow us to draw on the expertise of talented engineers and innovative solutions developed by pioneers of newly developed technologies.

The world leader in automatic metro systems, SYSTRA Group has worked on 60% of the world's automated lines. We deployed the first automatic driving system in Lille, France in the 1980s--a revolutionary breakthrough as the first truly autonomous urban transportation system. And largely designed Paris Metro Line 14, the world's first 100% automatic high-capacity rapid transit line, which remains the showcase for expertise in driverless rapid transit systems.

SYSTRA GROUP IN NUMBERS

- ✓ 10,300 employees worldwide
- ✓ 200 employees in US
- ✓ 65 years of international experience
- ✓ 38 years of US experience
- ✓ 80 countries in which we operate
- ✓ 40+ CBTC projects
- ✓ Worked on 1 of 2 high-speed rail lines worldwide
- ✓ Designed 1 of 2 mass rapid transit systems worldwide

Engineering News-Record (ENR) Rankings

| | | |
|---|--|--|
| No. 18 US mass transit and rail design* | No. 3 international mass transit and rail design** | No. 8 international transportation design* |
| No. 5 international bridge design** | No. 24 international design firm* | No. 150 global design firm* |

*published August 2023, based on 2022 review
**published December 2022, based on 2021 review



Working at SYSTRA USA means being driven by our values: **Excellence, Connected Teams, and Bold Leadership**, which are rooted in our history and culture. These values drive us to meet our clients’ challenges and show them that they were right in choosing our team.

To meet our standards, SYSTRA USA employs the talent of our colleagues who share SYSTRA’s enthusiasm.

EXCELLENCE

SYSTRA USA cultivates the highest level of technical excellence, understanding the local context and environmental challenges. Rooted in our engineering culture, excellence is an objective that drives the way we work to design optimal solutions tailored to our clients’ needs.

CONNECTED TEAMS

We connect our people and their expertise to help improve the lives of our communities. SYSTRA USA’s work model enables our people to execute a project with teams around the world. Using the right tools, processes, and skills, we are able to master the complexity of our projects and apply our talents to make us all successful.

BOLD LEADERSHIP

Being bold means drawing on our collective expertise and ability to innovate to create new solutions for an ever-changing world. It also means having the courage and ambition to make difficult decisions, specifically when safety is a concern.

What We Do

Markets We Serve

Bus

Bridges and
Tunnels

Commuter and
Intercity Rail

Freight Rail

High-Speed
Rail

Light Rail
Transit

Mass Rapid
Transit

Services We Offer

Architecture

SYSTRA USA's architecture group, SYSTRA A+E, is passionate and collaborative, integrating sustainability and innovation in our designs. Our dynamic professionals are committed to delivering exceptional results for the communities we serve, enriching learning through design to inspire future generations, and creating dynamic transportation facilities to enhance the travel experience.

Engineering

Many of us rely on operative, safe, and accessible public transportation daily and, although we may not be aware, we depend on engineers and designers to keep us connected.

SYSTRA USA delivers specialized solutions to help maintain, improve, and expand the nation's rail and transit networks. We design and support the implementation of critical programs across the country and support the renewed emphasis on a public transit-oriented lifestyle.

Construction and Program Management

SYSTRA USA's earnest construction management team effectively manages each project's schedule, cost, quality, safety, scope, and function.

We also define, progress, and deliver management services for capital programs of various sizes. SYSTRA USA has the experience and expertise to support the development and improvement of our nation's rail and transit systems and infrastructure and public housing and schools.

Alternate Project Delivery

SYSTRA USA offers the winning combination of technical interdisciplinary expertise and resources that can be rapidly mobilized to meet contractor's needs. Our architects and engineers engage in project delivery from prebid work, initial requirements analyses, and feasibility studies to final design, quality management, and oversight during construction.

RAILSIM® and Digital Solutions

We work hard to better design and facilitate the operation of safe and sustainable mobility solutions.

Through our proprietary, state-of-the-art simulation modeling software, RAILSIM®, and digital solutions, SYSTRA USA helps owners and operators make informed decisions and improve the performance of projects.

What We Do



SYSTRA USA offers a three-step support solution to make your project a reality.

- 1 Understanding the environment and customizing solutions:** as part of the process to define the project's requirements, SYSTRA USA performs evaluations and carries out design and feasibility studies and comprehensive technical analysis of potential solutions.
- 2 Designing systems and preparing for operations:** we get involved at the initial phases to design optimal systems and co-construct a road map to implementation.
- 3 Implementing the project:** we work with our clients throughout implementation and oversee the verification and validation for testing and commissioning. Innovative projects require specific management techniques to adapt to unique technical challenges. SYSTRA USA has the proven technical expertise to walk our clients through these challenges.

We support our clients and partners throughout the project life cycle.



Our Culture and Commitments

Our people work daily to solve technical challenges. Through our work, we facilitate access to employment, education, healthcare, and leisure. Committed to working ethically and responsibly, SYSTRA USA ensures sustainability is a key component to all we do.

We put our most valuable asset first--our people and support our employees to be their best and do their finest work for our clients and partners.

Fortunate to work for a company where technical excellence is connected to diversity, equity, and inclusion, our employees come from different backgrounds. We enjoy a rich and open corporate culture where all perspectives are purposefully regarded, creating value for our employees, clients, partners, and communities.

We want SYSTRA USA to be a place where we all belong.



SYSTRA Group's **General Policy** defines the company's mission, vision, and expectations and outlines our common values and pillars of ethics, health, safety, and security (3S), and sustainable development.

Ethics



Resolute business ethics are central to our operations. We are committed to doing our work ethically, responsibly, and with integrity. Our **Business Ethics and Compliance Policy** sets the tone for ethical behavior and provides clear guidance to our employees.

Health | Safety | Security



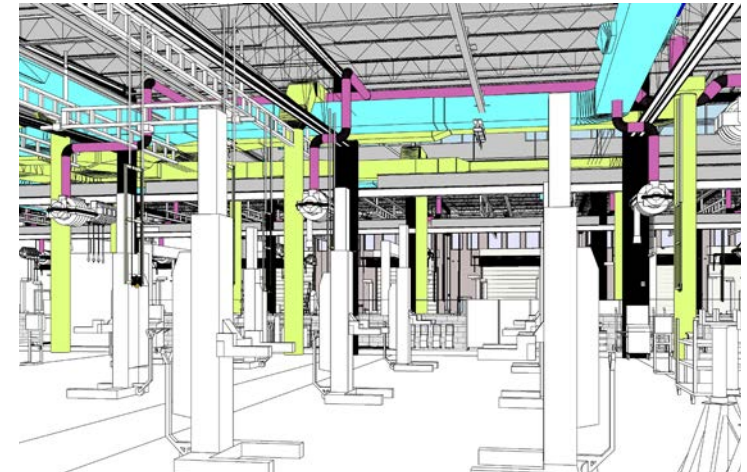
Central to how we operate is ensuring the health, safety, and security of our people and partners. Our **3S Management System** is an organizational framework used to measure our 3S and operational performance.

Quality



Quality standards are integral to our processes. SYSTRA USA has an established **Quality Management System** that sets our high quality standards and ensures that client, statutory, and regulatory requirements are met.

MOVING TO A SUSTAINABLE FUTURE



Sustainability is at the center of SYSTRA Group's business. Through our projects and global footprint, we work to reduce environmental impacts, enhance sustainable development by optimizing the performance of the entire transportation system, control costs, and secure returns on investment over a project's life cycle. We have a community that shares best practices and lessons learned from projects worldwide.

Our **proactive sustainable design approach** involves all disciplines contributing to a project throughout all phases and promotes efficiency and zero emission mobility. SYSTRA USA partners with local, minority, women, and veteran-

owned businesses to deliver signature projects and support the growth of local professional communities. This helps create a robust network of firms that deliver meaningful projects to communities throughout the country.

Working with our clients, our diverse team blends creativity, technical expertise, and experience with state-of-the-art technology such as Building Information Management () to measure the efficiency of designs. Our LEED-certified professionals offer sustainable solutions that emphasize high performance, energy efficiency, and environmental sensitivity.

Our Responsibilities



Environmental responsibility to respond to the challenges posed by our environment and the preservation of biodiversity.



Societal responsibility to help our clients and communities move to more sustainable networks and facilities.



Responsibility as an employer to give meaning to what our employees do and foster their commitment to our work.

Our Expertise and Portfolio



By sharing our global talents, skills, and experiences, we develop projects that are impactful.

Collaboration, modernization, innovation, and sustainability are SYSTRA USA hallmarks, which derive from our international roots.

SYSTRA USA engages the brightest minds to design, engineer, and help construct public transportation systems and infrastructure that invigorate communities. A holistic and collaborative enterprise, we draw knowledge from international experience and innovative technology creators and blend these with local experts working in the communities we serve.

Using this distinctive balance, we enhance our US technical acumen and capabilities with talent from abroad to offer resources not readily available in the US, and apply knowledge garnered from working on advanced rail and transit systems globally to help solve our clients' challenges.

This has been brought to bear on large signal modernization programs involving communications-based train control (CBTC). SYSTRA USA has been working with the New York Metropolitan Transportation Authority on its CBTC Modernization Program since 2015 and the San Francisco Bay Area Rapid Transit's (BART) program since 2020.



Architecture



SYSTRA A+E

SYSTRA A+E, SYSTRA USA's architectural studio, provides comprehensive architectural, design, and planning services. Enthusiastic and collaborative, SYSTRA A+E's professionals create customizable solutions for our clients.

We are an integrated, multidisciplinary practice that provides professional services to public transportation (maintenance and support), public education, and public housing clients. Our work revolves around efficient, sustainable, safe, and attractive designs that connect, sustain, and educate our communities.

Rail and Transit Facilities, Public Schools, Public Housing

Master Planning



Our professionals help plan urban districts and developments, transportation centers, and residential communities. Bringing together stakeholders,

we work to shape projects that will benefit owners and users, focusing on sustainability and socio-economic wellbeing.

Architectural Design



We address all aspects of a project, developing designs that meet clients' needs, enhance the wellbeing of users, protect

the environment, and contribute to communities. SYSTRA A+E provides personalized services while living up to our values.

Facility Condition Assessments



We perform facility condition assessments to help owners make informed and confident decisions on how to best protect and maximize their

assets. SYSTRA A&E delivers objective and accurate assessments that maximize reliability, performance, cost savings, and longevity to help owners identify and plan their capital investments.

Building Envelope Design



Specialists in building envelope design, façade restoration, roofing, and waterproofing, we develop customized

and cost-effective solutions for all building envelope components and systems. Our professionals understand budgetary constraints and the logistical demands of working in occupied facilities.

Interior Design



SYSTRA A+E designs spaces to enhance traveling, living, learning, and relaxing. Our designers work hard to deliver

spaces that promote health, safety, and sustainability, collaborating with clients to create spaces that reflect their culture and identity.

Civil, Electrical, and Structural Engineering



Our architects work closely with our civil, electrical, and structural engineering teams to find balance among the demands of aesthetics,

efficiency, functionality, safety, sustainability, and constructability.

Featured Projects



Community Center Upgrades at New York City Housing Authority Developments

Via an on-call contract with NYCHA, the largest public housing authority in North America, SYSTRA A&E is delivering architectural design services for community center upgrades at five NYCHA developments.



NJ Transit Maplewood Bus Operator's Facility and Parking Project

SYSTRA A&E is leading the team providing architecture and engineering design for an elevated bus operator day room, surface parking lot, and roof over the parking expansion area.



MTA Construction & Development Escalator Replacements

As lead designer on the design-build team, SYSTRA A&E is providing architectural and civil and structural engineering design and construction oversight for the replacement of escalators at 161st Street/Yankee Stadium and Dekalb Avenue stations.



New York City School Construction Authority Capital Improvement Projects

SYSTRA A+E has two on-call contracts through which we are providing design services for various upgrades to help provide safe, secure, attractive, and sustainable public schools throughout New York City.



Amtrak Beech Grove Shops Upgrades

SYSTRA A&E led the design and multiple system upgrades to the locker rooms and bathrooms located in the diesel shop. This involved a redesign for ADA compliance, as well as the reconfiguration of the spaces to adjust to an increasingly diverse workforce.

Engineering



Bridges

SYSTRA IBT is a cornerstone of SYSTRA Bridges, a network of 350 bridge engineers who have extensive experience in all facets of bridge design, construction, and maintenance.

A world leader in rail and transit guideway design and Engineer-of-Record for design-bid-build and design-build projects, SYSTRA IBT develops signature bridge designs that are customized to their environment, constructible, and economical.



Electrical and Traction Power

Our engineers and designers have diverse engineering backgrounds that enable us to analyze and design power distribution systems used in our rail and transit systems. Our services include:

- Traction power
- Facility power
- Overhead contact systems
- Power systems analysis
- Corrosion control



Infrastructure

We design new and rehabilitated stations, maintenance facilities, and trackwork. Our multidisciplinary staff deliver sound, cost effective solutions to solve our clients' challenges with the same commitment and quality work regardless of project size. SYSTRA USA's ingenuity is derived from our involvement in the infrastructure lifecycle, from preliminary studies to commissioning.



Rolling Stock

SYSTRA USA is a specialist in all aspects of modal and emerging technologies, mobility management, vehicle procurement support, and the development and oversight of the systems to make them work seamlessly. We work with major rail car suppliers and understand the difference between assembling a vehicle and integrating the components of a vehicle through detailed attention to systems integration.



Signals and Communications

An expert in the design and installation oversight of signaling and communications systems, SYSTRA USA helps our clients' keep their systems in a state-of-good-repair and guides them through options available for their next capital investment.

Using our understanding of operational needs, we incorporate design considerations into projects, such as optimized construction staging plans to facilitate uninterrupted service.



Train Control and Systems Safety

SYSTRA USA is integral to the modernization of signaling systems to improve reliability and passenger safety nationwide. We anticipate challenges to provide a robust, original, and competitive solution, integrate operating and maintenance conditions from the start of design, employ the latest technology to accommodate operating conditions while meeting deadlines and working within budgets.



Tunnels and Underground Structures

SYSTRA Group's international tunneling group, SYSTRA SWS, specializes in the design of tunnels and underground structures.

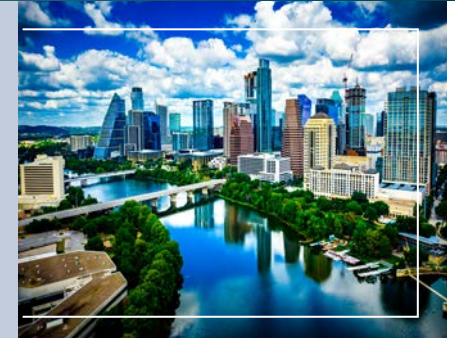
SYSTRA SWS designed the longest rail tunnel in the world and has three trademarks, five patents and copyrights, and has engineered over 800 miles of railway and over 400 miles of tunnels.

Featured Projects



Amtrak Penn Station New York (PSNY) Expansion: SYSTRA USA is an integral member of the team preparing the preliminary design of the first new tracks, platforms, and concourses connected to PSNY in more than a century. The team will produce railroad concepts that will be analyzed as part of the Federal environmental review for the expansion.

Austin Capital Metro Project Connect Program Manager Owner Representative (PMOR): SYSTRA USA is providing systems and vehicle engineering consulting services for the light rail vehicle selection and procurement oversight and management of development of the vehicle technical specifications and RFP package.



Bay Area Rapid Transit Train Control Modernization Program (CBTC): SYSTRA USA is leading the team providing design services during construction for the deployment of BART's next generation train control system (CBTC). This is one of the most complex CBTC modernization programs in North America.

California High-Speed Rail Merced-Madera Design: An integral member of the team responsible for the design of the Merced to Madera extension of the high-speed rail system, SYSTRA USA is responsible for risk/configuration management, systems design, systems integration, and structural and seismic support for the preliminary design to define the project's footprint.



Los Angeles County Metropolitan Transportation Authority Systems Design and Engineering Services: SYSTRA USA has helped shape the train control and signaling systems throughout the LA Metro's rail network, through various multi-year, multi-million-dollar systems engineering task-order based contracts and standalone projects.

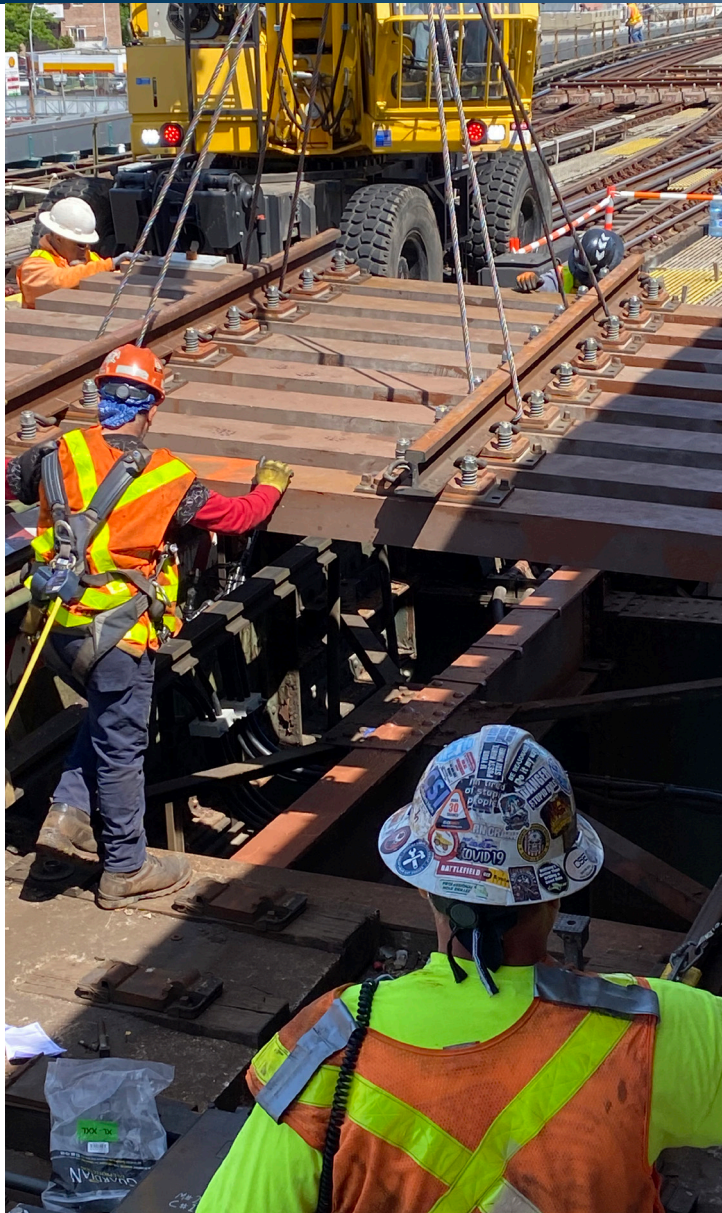
MTA C&D East Side Access Harold Interlocking Reconfiguration: SYSTRA USA is responsible for the final design of the 12kV 25 Hz AC traction power catenary system used by Amtrak in Harold Interlocking and Sunnyside Yard in Queens, NY, and the construction effort to enact the final design.



Construction and Program Management

Transforming Designs into Reality

SYSTRA USA offers the full range of construction management services. We provide specialty services for project scheduling, construction staging plans, document control, contract administration, safety expertise during construction, quality control, inspection, and payments.



Having a proficient construction management team is essential to peace of mind for owners, operators, and stakeholders. SYSTRA USA represents our clients' interests and works with all parties to deliver the project on time, within budget, and to our clients' standards of quality, scope, and purpose.

Our multidiscipline team and flexible approach accommodates requirements for a team working in the field as the owner's representative and as an extension of staff to owners.

Our professionals possess the engineering and construction experience to provide real-world,

cost-effective solutions to the challenges that owners, contractors, engineers, and architects face throughout construction.

We establish plans for project safety and security and help our clients manage risks using project management information systems and planning techniques, like critical path and construction methods.

From our years of experience, SYSTRA USA understands how to advance construction while minimizing interruptions to operations and impacts to customers.

Featured Projects



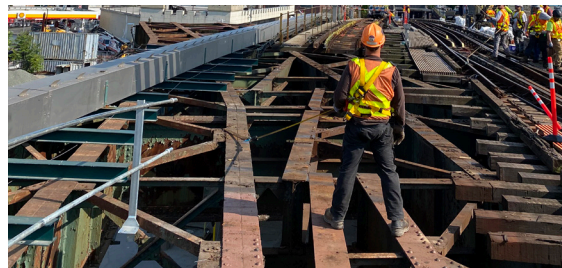
Construction Management Services

- ✓ Change order analysis
- ✓ Constructability
- ✓ Contract administration
- ✓ Contract review and negotiations
- ✓ Design-build management
- ✓ Design review
- ✓ Dispute avoidance and resolution
- ✓ Extension of staff
- ✓ Factory acceptance testing (FAT)
- ✓ Force account management
- ✓ Inspection
- ✓ Owner's representative
- ✓ Preconstruction services
- ✓ Project closeout and acceptance
- ✓ Project controls
- ✓ Quality assurance
- ✓ Risk reviews
- ✓ Start up, testing, and commissioning support
- ✓ Training
- ✓ Value engineering



Connecticut Department of Transportation Metro-North Railroad Network Infrastructure Upgrade:

SYSTRA USA is providing construction engineering and inspection support for this multi-phase infrastructure upgrade resulting in 800 new security cameras along Metro-North's New Haven Line.



MTA Construction & Development Culver Line Signal Modernization: SYSTRA USA is overseeing the installation, testing, and commissioning of the CBTC system, auxiliary wayside system, and solid state interlocking system.



MTA Construction & Development 149th Street-Grand Concourse Station Complex:

SYSTRA USA is coordinating the design and overseeing the construction of ADA upgrades to this the multilevel station-the fourth busiest in The Bronx, with nearly four million riders a year.



MTA Construction & Development Passenger Identification Closed-Circuit Television (CCTV) System at 88 Stations: SYSTRA USA is overseeing, coordinating, and monitoring the furnishing and installation of a new CCTV passenger identification system throughout New York City's subway network.

Alternate Project Delivery



We are your delivery partner

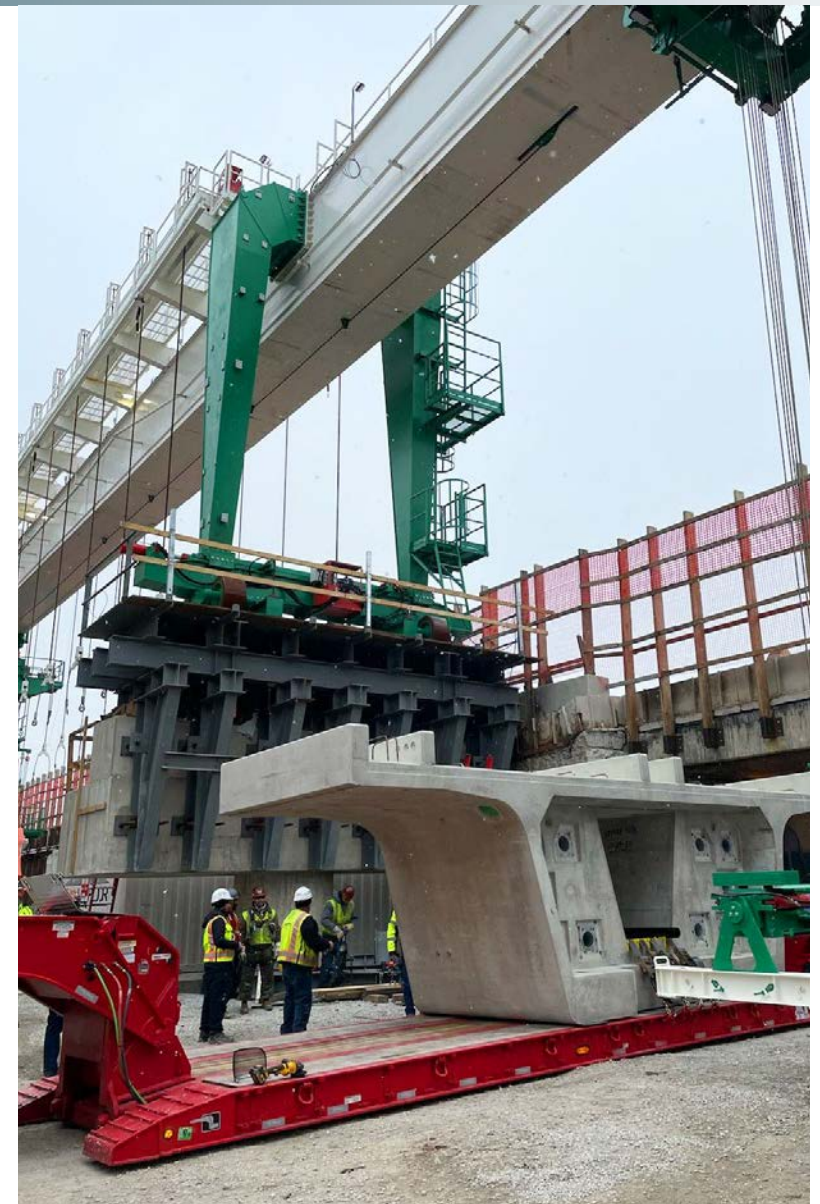
The use of alternate project delivery methods is growing steadily. In this evolving and increasingly complex environment, the designer is more essential than ever to help secure and deliver safe, sustainable transportation solutions.

The SYSTRA USA Advantage

We have the experience to deliver successful projects in terms of cost reduction, rapid delivery, innovation, alternative technical concepts, safety, and quality. SYSTRA USA understands what is at stake during the project life

cycle and develops efficient, technically sound, and creative solutions that contractors and owners expect.

With access to engineering centers of excellence throughout the world, SYSTRA USA offers project delivery efficiencies by way of work performed in overlapping time zones yielding shorter design times and lower production costs. This distinctive advantage helps contractors differentiate themselves to secure and deliver successful projects.



Featured Projects



Chicago Transit Authority Red-Purple Modernization Program: SYSTRA USA is designing the systemwide grounding system and elevated guideway, as well as managing stray current/corrosion and isolation scheme across multiple disciplines for four newly rebuilt stations, elevated guideway, and six relay rooms over four tracks.



Long Island Rail Road Mainline Third Track Expansion: As part of the program management team, SYSTRA USA planned, oversaw, and monitored construction activities, monitored the contractor's QA/QC compliance and cost and schedule controls, and coordinated force account and start up, commissioning, and acceptance.



Metropolitan Washington Airports Authority Dulles Railyard and Maintenance Facility: SYSTRA USA led the design and coordination of trackwork and structures, third rail, the traction power system, and electrical substations. We also coordinated the design of the automatic train control system and supported testing and certification.



New York Metropolitan Transportation Authority Penn Station Access: A major subconsultant to the lead designer of the \$1.85 billion design-build project, SYSTRA USA is performing design and engineering of track, AC traction power, signals, stray current and corrosion control, and systems integration.



Washington Metropolitan Area Transit Authority Andrews Federal Center Bus Facility: SYSTRA USA was the lead designer/engineer of record for architecture and communications, electrical, and industrial engineering. The project was Engineering News Record's Mid Atlantic 2019 Best Project.



Washington, DC, Department of Transportation H Street-Benning Road Streetcar Project: SYSTRA USA was the lead designer responsible for design management, architecture, electrical traction power, and track alignment design.

Innovation

The Product of Bold Leadership and Collective Intellect.

Our work features innovative, yet practical solutions that help shape tomorrow's world. At SYSTRA USA, when faced with a complex problem, we innovate. The human experience is our focus when considering potential design issues. We thoughtfully consider these challenges while working to:

- Improve the performance and safety of transportation systems.
- Design and promote sustainable infrastructure.
- Leverage new technology.



Foster New Ideas: employees are at the center of our innovation strategy. In 2020, SYSTRA Group launched the SPARK intrapreneurship program to encourage the creation of new services and help our clients respond to their challenges.



Promote Efficiency: innovation means knowing how to enhance traditional design methods to reduce and optimize the use of resources over time. Through honest and innovative value loops, SYSTRA USA works to preserve resources and anticipate market opportunities and logistics, as well as thinks in terms of versatility of the infrastructure created.



Ensure Progress: the design and application of technological solutions raise technical, economic, and organizational uncertainties. Beyond the hype, how feasible is this technology for your system? SYSTRA USA helps our clients analyze the practicality of deploying new technologies on conventional and emerging modes of transportation.

Software and Digital Solutions

The RAILSIM® Software Suite Advantage

RAILSIM® is SYSTRA USA's proprietary, state-of-the-art simulation modeling software for the public transportation industry. Using RAILSIM, we provide information and data to operating staff and engineering teams to help manage their systems effectively. RAILSIM is designed to simulate all facets of rail systems, as well as the interactions of trains with infrastructure, control systems, and complex rail network operations.

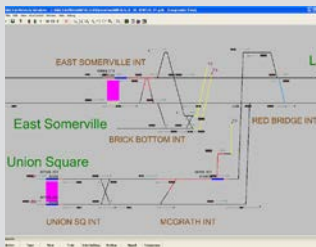
RAILSIM can simulate all aspects of passenger and freight rail systems, be customized and enhanced to meet the unique needs of a rail and rapid transit system, and used for data collection and to provide information to support essential business decisions and requirements.

- Schedules and Operating Plan Development
- Alternatives Analyses
- Equipment and Rolling Stock Performance
- Network Operations (Delay & Performance Analysis)
- AC and DC Electric Traction Power Load Flow
- Signal Systems Designs

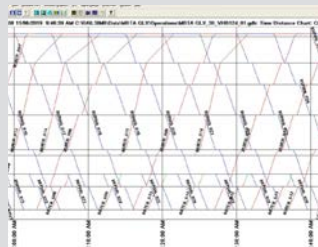
The software suite is comprised of multiple modules that simulate and analyze specific features of rail and rapid transit systems relating to operations, signal engineering, and electric traction power networks.

This includes examining power demand, consumption, and system performance, as well as alternatives analysis for track outages, existing and future infrastructure configurations, and engineering designs.

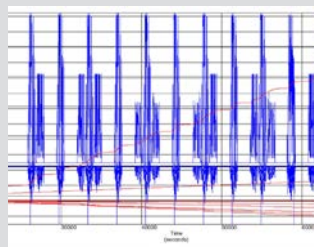
Network Simulator



Report Generator



Load Flow Analyzer

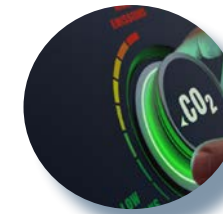


Boost your performance and make informed decisions with our digital solutions.

SYSTRA USA uses these digital solutions to collaborate and optimize the performance of your projects.



BIM In One Click makes BIM linear infrastructure modeling.



Carbontracker monitors the carbon footprint of your project.



eLODy performs multifformat verification in BIM.



SAFEbyBIM identifies and manages security risks.



PABLO builds BIM data of the asset information model.



TESS optimizes electric vehicle infrastructure, fleet, and operations.



Vizeo manages and coordinates design reviews.



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