

Infrastructure

SYSTRA is a multidisciplinary engineering firm that has in-house capability for providing complete infrastructure design services for transportation operations including commuter rail, heavy and light rail, high speed rail, and freight. Our infrastructure is comprised of transportation experts in:

- Track and Right of Way
- Industrial Engineering
- Mechanical Engineering
- Civil Engineering
- Structural Engineering
- Architecture

SYSTRA's architectural group has expertise to provide complete design services on bus and rail transportation projects, including maintenance facilities, multi-modal terminals, and rail stations. Our experts bring knowledge of all phases of architectural design such as programming, schematic design, construction document preparation and construction management. As routine practice, we maintain continuous collaboration between our in-house architectural and engineering design disciplines, including any outside consultants, in order to effectively execute project-specific facility needs and client requirements.

To the design and construction of large and mid-sized maintenance facilities, SYSTRA brings industrial engineering specialization that can only be acquired through practical, hands-on experience. All of our industrial engineers come from operating backgrounds, having experienced the daily and long-term needs and challenges of maintaining rail, bus, and other heavy vehicles. At the planning stage, SYSTRA advises on facility layouts and equipment requirements to cost effectively meet the client's needs and constraints. We work closely with the planner architect, structural engineer, and facility staff to assist in designing the optimum layout for facilities, and with other disciplines to provide the appropriate lighting and utilities.

SYSTRA solves routine and one-of-a-kind design challenges by providing custom and standard mechanical, HVAC, plumbing and fire protection design solutions for stations, welfare facilities, substations, electrical and battery rooms, emergency generator rooms, offices, bus, rail, and locomotive maintenance facilities, among others. Additionally, our civil engineering group provides transportation design services from the initial life cycle and initial feasibility studies, to site and facility designs and construction phase services. Services range from the design of parking lots and facilities, access improvements, hydrological analysis, drainage, to permitting. In all cases, SYSTRA solves challenges by providing economical solutions and sustainable designs, sensitive to client needs.

Our structural engineering group is also involved in all stages of a project, from feasibility study to detailed design and construction support services. We have the resources and expertise of more than one hundred SYSTRA engineers in our worldwide offices, providing diversified experience for railroad stations, industrial buildings, bridges, foundations, catenary systems, inspections and investigations, and construction support services.

Lastly, SYSTRA's trackwork team has the design and construction experience to quickly identify the needs of any track-related assignment. Our team has a broad range of civil engineering expertise, able to solve the most complex trackwork issues and design for new alignments and capacity additions. SYSTRA has the in-house technical expertise to perform services including alignment and turnout design, trackwork procurement, creation of non-standard special trackwork solutions, technical assistance on the use of innovative materials, track inspection and standards preparation.

