Train Control Systems
Transportation

Transforming the Way We Travel

gaiconsultants.com/transportation
Streamlining Solutions

GAI brings years of experience and specially trained individuals to signaling system projects. That means proven professionals who deliver customized packages and successful outcomes. Our team of experts approaches each project with a cost-effective strategy for each client’s specific needs.

Applying innovative engineering concepts and sound signaling system principles, GAI has the capability to address every facet of signaling system engineering for the railroad and transit industry.

We have a strong working knowledge of ground equipment from all major domestic and European suppliers. Additionally, we have designed systems utilizing motion detectors/predictors; TWC; relays; and solid-state equipment, including PLCs, VP1®, VHLC®, Microlok II®, and European processors.

We are experienced in project compliance, claims support, implementation oversight, and systems integration. GAI works within each client’s budget, schedule, infrastructure, and site constraints to achieve complete satisfaction with every project detail.
What Distinguishes GAI

- Comprehensive services for each project’s lifecycle, delivering a complete package from one reliable source
- Professionals recognized by signal suppliers, consultants, installers, and authorities throughout the U.S. and Canada for a collaborative effort that yields success
- Independent selection, recommendation, and hardware integration that defines products best suited to the application
- Professional engineers who perform required engineering checks for timely project execution
- Extensive experience with multiple suppliers to support successful integration of legacy and emerging technologies and hardware
- A valued design-build partner with a willingness to share project liability/risk and supply performance and/or payment bonds, as required

GAI’s success is built on trusted relationships and respected professional reputations.
Train Control Systems Services

**Engineering**
- Complex signal designs
- Vital and non-vital logic design
- Vital circuit verification and circuit check
- Simulation
- Math models for track circuits and headway calculations
- Multi-discipline engineering support

**Systems Integration and Operation**
- Signaling systems
- Communication systems
- Traction power systems
- Overhead catenary systems
- Ductbank
- Facilities development
- Construction management
- Training support

**Project Oversight and Management**
- Project compliance
- Claims support
- Installation, wiring, and assembly coordination
- Field installation and commissioning oversight
- Factory and on-site testing
- Design-build

**Hardware Selection and Integration**
- Equipment identification and sourcing
- Solid-state signal equipment from all major suppliers
- Ground equipment from all major domestic/European suppliers
H Street/Benning Road Streetcar, Automatic Train Control Design Services, Washington, D.C.

Conceptual, preliminary, and final signaling design for a new three-mile streetcar line, making travel easier for residents, workers, and tourists.
About GAI Consultants, Inc.

Transforming ideas into reality® since 1958, GAI is an employee-owned engineering, planning, and environmental consulting firm providing local expertise to worldwide clients in the energy, transportation, development, government, and industrial markets.

gaiconsultants.com