Interdisciplinary Approach

HR Green's interdisciplinary approach to traffic operations and intelligent transportation system (ITS) design projects is based on the belief that the client, and ultimately the community, benefits from melding the perspectives of traffic engineers, broadband specialists, and other technical professionals.

Our team specializes in traffic and operations design, undertaking projects that vary from simple traffic control and signal designs to complex, community-wide ITS master planning and major interstate interchange systems with advanced fiber optic interconnection pre-emption intricacies.

When appropriate, we also work in tandem with our broadband specialist team to manage fiber optic system deployment and can help plan and implement system upgrades to meet growing demands in a flexible manner.

> **HR Green can help communities manage the complete life cycle of traffic design and operations.**

In collaboration with our geometric engineers, we tackle both the complex urban environment and the rural setting; developing cost-effective solutions for interchanges, rural expressway intersections, arterial intersections, ADA compliance, and pedestrian safety. We identify safety or operational concerns and implement innovative geometric or technological solutions. From planning and feasibility, through design, construction and operation, we manage the complete life cycle of traffic design and operations.

TRAFFIC DESIGN + OPERATIONS SERVICES

- Traffic / ITS Infrastructure Inventory
- ITS Master Planning / Systems Engineering
- Plan / Specification + QC Checklist Development
- Traffic Signal System Design
- Traffic Signal Interconnect Design
- Adaptive Traffic Signal Control Systems / Automated Traffic Signal Performance Measure Evaluations
- ITS / Traffic Network / Traffic Management Center Planning and Design
- Lighting + Electrical Design
- Innovative Technology Deployment Planning and Design
- Traffic Operations Modeling, Simulation + Optimization
- ITS / Signal System Operations, Construction + Special Events Coordination

TRAFFIC DESIGN + OPERATIONS SERVICES

▶ **Traffic + ITS Infrastructure Inventory**

We are well versed with inventorying existing traffic signal/ITS infrastructure, including traffic signal system equipment, fiber optic infrastructure, and ITS devices. We have a proven record of developing innovative technology/GIS based methods to collect, manage, and display data.

▶ **ITS Master Planning + Systems Engineering**

Our approach is scalable, customizable, and integrates community-specific fiber broadband needs. We utilize the systems engineering process for ITS Master Plan projects to meet system requirements and federal aid requirements, including documentation for adaptive signal control and automated traffic signal performance measure management systems. Additionally, we provide RFP development, system selection, design, and oversight of signal detection and communication systems.

▶ **Traffic Signal System Design**

With advancements in technology, traditional traffic signal design has undergone considerable changes and the scope, magnitude, and complexity of each project can vary significantly. Through our proficiency at both permanent and complex temporary installations during construction, we have a defined playbook of efficiently producing quality design PS&E documents.

▶ **Traffic Signal Interconnect Design**

We have extensive experience with communication system designs that interconnect traffic signals or provide communication back to a central management system, using fiber optic systems or wireless equipment.

▶ **ITS / Traffic Network / Traffic Management Center Planning + Design**

Our ITS engineers and our fiber broadband specialists have extensive experience in all areas of ITS including master planning, network architecture and systems engineering, traffic management center, and fiber optic deployment. We have assisted multiple DOTs and communities in preparing for the connected and autonomous vehicle frontier as well as working towards a smart, safe, and efficient transportation network.

▶ **Adaptive Traffic Signal Control Systems + Automated Traffic Signal Performance Measure Evaluations**

We evaluate, plan, and implement advanced traffic signal systems and understand that partnering with the community to truly understand the needs and desires is paramount to implementing the system.

▶ **Innovative Technology System Planning + Design**

We provide an ideal blend of traditional traffic design in combination with technology/ITS device/application aptitude to develop innovative technology systems. Our projects include freeway off-ramp queue detection warning systems that are interconnected with downstream traffic signals, as well as specialized freeway/arterial coordinated pre-emption signal timing and phasing plans.

▶ **Traffic Operations Modeling, Simulation + Optimization**

We develop signal timing plans (both corridor and network based) for traffic signal systems that increase safety and efficiency for not only vehicles, but pedestrians, cyclists and transit users, balancing safety and efficiency for all modes of travel.

▶ **ITS / Signal System Operations, Construction + Special Events Coordination**

Our planning and analysis studies regularly evolve into design projects and then transition to construction implementation. We coordinate closely with municipalities and state DOTs to provide safe and efficient travel during construction and special events with capabilities to remotely assist with Advance Traffic Management System (ATMS) software and video monitoring platforms.

Scan the QR Code or follow the link below for your local contacts, project information, or industry insights.

▶ **www.hrgreen.com/traffic**