Traffic Engineering

Established in 1894, Freese and Nichols (FNI) has built its reputation on a strong foundation of client service and a commitment to project excellence. Our award-winning staff is continually expanding to accommodate the needs of municipal transportation and traffic engineering projects. Our technical staff includes professional engineers, professional traffic operations engineers, certified planners, LEED-Accredited Professionals, registered architects and landscape specialists. We offer unique solutions through a blend of aesthetics, innovative technology and consideration of environmental impacts.

Our traffic engineering team develops and integrates transportation plans into our traffic engineering concepts to understand all project components and provide comprehensive solutions for each project. Our extensive experience includes all aspects of traffic engineering, analysis and design.

In addition, we are experienced in the Complete Streets process, and FNI is a Bronze Partner of the National Complete Streets Coalition.

pearland parkway
CITY OF PEARLAND
FNI designed the 3.5-mile Pearland Parkway extension as a major arterial, four-lane divided concrete roadway. The project included a 700-foot twin bridge, a 162-acre-foot detention pond, 360-foot roundabout at McHard Road, a signalized intersection at Beltway 8 and coordination with multiple agencies.

adaptive signal control
CITY OF TYLER
FNI presented a cost-benefit study and prepared construction documents for implementation of an adaptive signal control (ASC) system, ASC Lite. ASC systems coordinate control of traffic signals across a signal network, adjusting the lengths of signal phases based on real-time traffic conditions.
Freese and Nichols has provided innovative engineering solutions for Texas since 1894, when founder John Hawley became one of the state’s first independent water and sewer engineers. We are a multi-discipline engineering, architecture, environmental science, construction services and master planning firm with offices across Texas to better serve our clients.

Comprehensive Traffic Engineering Team

FNI provides fully integrated traffic engineering services to support all phases of project development, analysis and design and helps clients address the following traffic-related challenges and issues:

- Tackling traffic congestion without compromising traffic operations or safety
- Leveraging available transportation funding with cost-effective solutions
- Establishing rough proportionality and impact fees
- Integrating new technology into existing system components and overcoming communication challenges
- Upgrading traffic signal systems
- Incorporating access management techniques to balance land use with traffic mobility
- Incorporating sustainable development
- Managing neighborhood traffic

SERVICES

FNI’s traffic engineering services include:

- Traffic Signal Design and Construction Management
- Signing, Striping and Traffic Control Plans
- Traffic Impact Analyses
- Signal, All-Way Stop and Roundabout Warrant Analyses
- Roadway Lighting Study/Design
- Speed Zone Studies
- Signal Systems Planning, Control and Timing
- Railroad Crossing Quiet Zone
- Parking Planning, Analysis and Design
- Intersection and Roadway Operational Analysis/Design
- Roadway Impact Fee Study
- Roundabout Design and Analysis
- Roadway Proportionality Assessments
- Access Management and Operational Improvement Studies
- Micro-simulation Modeling and Visualization

TxDOT PRE-CERTIFICATIONS

Our TxDOT Pre-Certifications include:

- 1.1.1  2.12.1  6.1.1
- 1.2.1  2.13.1  7.1.1
- 1.3.1  2.14.1  7.2.1
- 1.4.1  3.1.1  7.3.1
- 1.5.1  3.2.1  7.5.1
- 1.6.1  3.3.1  8.1.1
- 2.1.1  3.4.1  8.2.1
- 2.3.1  3.5.1  8.3.1
- 2.4.1  3.6.1  8.5.1
- 2.4.2  4.1.1  9.1.1
- 2.5.1  4.1.1  10.1.1
- 2.5.1  4.3.1  10.2.1
- 2.6.1  4.4.1  10.3.1
- 2.6.2  5.1.1  10.4.1
- 2.6.3  5.2.1  10.4.2
- 2.7.1  5.3.1  10.4.3
- 2.9.1  5.4.1  10.5.1
- 11.1.1
- 11.2.1
- 14.1.1
- 14.2.1
- 14.3.1
- 14.4.1
- 15.1.1
- 16.1.1
- 18.2.1

F NI designed the widening of the 5.2-mile Dixie Farm Road, an 80-percent TxDOT-funded project. The team worked closely with the TxDOT Houston District and the City to prepare a preliminary engineering report and environmental assessment. The project also included public meetings, a traffic study, surveying, mapping, widening of three existing bridges and reconstruction of a new bridge.

dixie farm road
CITY OF PEARLAND

F NI provided comprehensive transportation plan update
CITY OF CEDAR HILL

FNI developed a thoroughfare master plan using travel demand modeling to forecast traffic volumes and develop alternative transportation networks. The plan also included a hike-and-bike plan and addressed connectivity to regional rail initiatives.