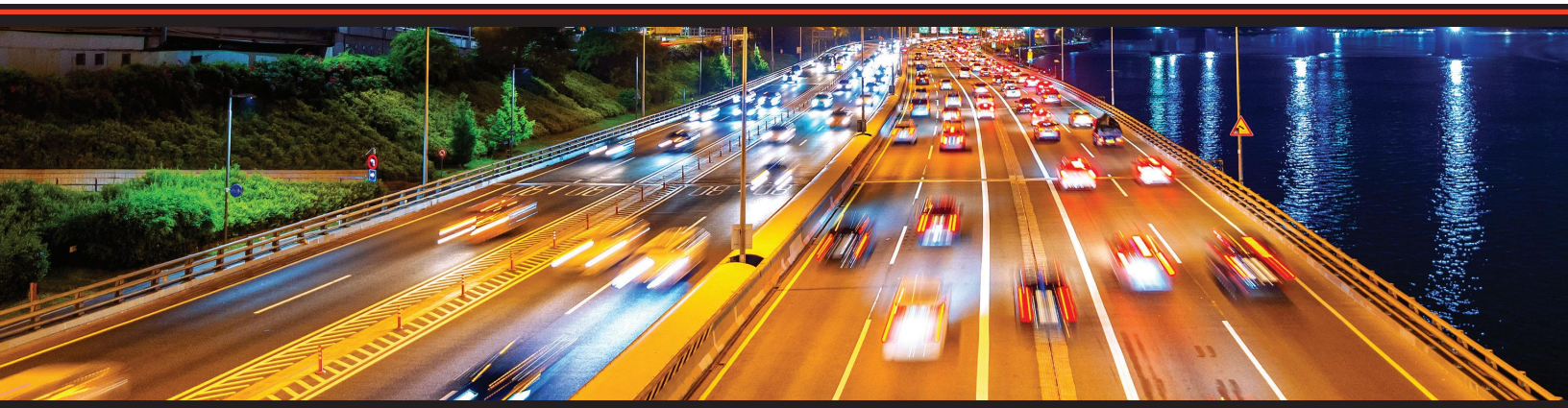
Borra Consulting

borraconsulting.com



CAPABILITY STATEMENT

Borra Consulting provides **Civil Engineering Consulting Services** to the government and civilian business sectors at the federal, state and local levels.

We are driven by our core values, ethics, and service commitment.

We strive to maintain lasting partnerships by serving our client needs on time, within budget and maintaining client satisfaction.

27 Years Experience in Civil Engineering Consulting with Private & Public Sector Clients.

CORE COMPETENCIES

- ✔ PROPOSAL WRITING
- ✔ GRANT APPLICATIONS
- ✔ SIGNAL DESIGN
- ✔ TRAFFIC SIGNAL TIMING
- ✔ TRAFFIC IMPACT STUDIES
- ✔ CORRIDOR STUDIES
- ✔ ITS PLANNING & DESIGN
- ✔ TMC OPERATIONS
- ✔ SYSTEMS ENGINEERING & MAINTENANCE
- ✔ MODELING
- ✔ QA/QC

COMPANY DATA

DBE CERTIFIED IN MO, TN & GA

NAICS: 541611, 541330
DUNS: 118098618

ADDITIONAL CERTIFICATIONS:

- Professional Engineer (PE)
- Professional Traffic Operations Engineer (PTOE)
- **Advanced Degree:** MS Civil Engineering

PAST PERFORMANCES

- **TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT)**
  Key member of a team that worked with TDOT for installing the first ITS system in Nashville. TDOT used this as a base to expand their ITS system throughout Tennessee.
- CITY OF MEMPHIS
- CITY OF CHATTANOOGA
- CITY OF KNOXVILLE
- METRO NASHVILLE
- CITY OF FRANKLIN
- CITY OF PIGEON FORGE

COMPANY INFO

BORRA CONSULTING

Gupta Borra | PE, PTOE

615.479.4362

gupta@borraconsulting.com

H. GUPTA BORRA, P.E., PTOE

615-479-4362, gupta@borraconsulting.com

Experience

28 Years

Education

Master's Degree, Civil Engineering, Virginia Tech, 1993

Professional Registrations

Registration Type: Professional Engineer Tennessee (106904), 07/2023; Nebraska (E-8904),12/2023; Mississippi (19523),12/2023; Missouri (2014006711), 12/2024; Georgia (047634), 12/2023.

PTOE (1397)

Professional Affiliations

ITE, ITSTN, ITSA

CAREER SUMMARY

Gupta Borra has experience in traffic engineering, transportation planning, ITS including: corridor analysis, traffic operations, major commercial developments and downtown areas, ITS planning, ITS design, CEI, Systems Integration, TMC Operations and Maintenance, parking analysis and layouts for various land use types, and traffic signal design.

Borra has extensive experience in project management and control, client communications, and public presentations.

PROFESSIONAL EXPERIENCE

TDOT Traffic Engineering Design Services, TN: Borra Consulting is a subconsultant to AECOM (prime consultant) for the Traffic Engineering Design Services contract. The prime consulting firm holds an IDIQ contract with TDOT for three years. The following professional engineering services are provided: Traffic Engineering Design, Traffic Signal Design, Traffic Signal Timing Plans, Traffic Signal Warrant, Capacity, and Safety Analysis, Corridor Improvements, Traffic Signing and Pavement Marking Design, Temporary Traffic Control, ITS & TSMO, CEI, etc.,

Traffic Calming Program, City of Franklin, TN: Participated in several neighborhood meetings to address the traffic, sight distance, safety issues of various neighborhoods in City of Franklin following the city's traffic calming policy. Traffic analysis, accident analysis, Signal timing, Signal warrant analysis, check the signal designs submitted by consultants, etc., were performed to address the various traffic problems/issues reported by the residents of City of Franklin, TN.

SR 96 Traffic Signal Timing Upgrade, City of Franklin, TN: Senior Engineer for a project that includes retiming fourteen traffic signals along SR 96 corridor. Mr. Borra was responsible for data collection, developing new traffic signal timing using Synchro, staffing, budgeting, invoicing.

TDOT I-440 Design-Build, Nashville, ITS Lead: Mr. Borra served as the ITS Discipline lead for the I-440 Design-Build project, a 7-mile roadway widening and improvement project in Nashville, TN. Specific elements included adding a lane in each direction by removing a center raised island. Mr. Borra was responsible for addressing all the RFI's related to ITS/Traffic/Signals during construction.

TDOT Smartway Knoxville, Memphis Maintenance, Project Manager: This project includes annual preventive and unscheduled maintenance on the Knoxville, Memphis ITS equipment, including the TMC. Mr. Borra is responsible for staffing, budgeting, tracking the timeline, and invoicing.

Nashville MPW, *ITS Manager:* Mr. Borra worked as Project Manager on this project. This project includes developing project architecture, systems engineering analysis, ITS strategic deployment plan, communications plan, operations plan, and Transportation Management Center (TMC) layout, developing Plans, Specifications & Estimates (PSE) documents and providing construction management services.

Vietnam Veterans Boulevard (SR 386) Ramp Metering Project, TDOT, Senior Engineer: Mr. Borra was part of project team that evaluated the feasibility of implementing ramp metering on SR 386. This project includes data collection, crash data analysis, literature review, developing a spreadsheet tool to screen candidate locations, report.

Signal Retiming for eight intersections along SR 87 Corridor in City of Macon, GA, GDOT, Principal Engineer: Mr. Borra was part of project team that retimed eight intersections which includes intersection inventory, clearance calculations, performance measures, operational analysis, develop time of day signal timing plan, database testing, field implementation, fine tuning, and reports.

Downtown Nashville Transportation Model, *Project Engineer:* Mr. Borra was part of the Project Team responsible for developing a model for eighty-four intersections within the study area. A Synchro model was developed using current peak period traffic volumes, roadway lane configurations, on- street parking areas, and traffic signal timing or other traffic control plans. The objective was to analyze existing traffic conditions and year 2006 traffic conditions considering different roadway improvements, land use/development scenarios

Black Hawk Metropolitan Area Signal Optimization Study, Blackhawk, IA, Project Engineer: Mr. Borra was Project Engineer for a project to prepare and recommend timing plans for 228 intersections in the Waterloo/Cedar Falls, Iowa metropolitan area. The study involves detailed data collection and analysis, timing plan development and implementation, evaluation, and follow-up analysis.

I-4/ US 27 Interchange, Tampa, FL, *Task Manager:* Mr. Borra was Task Manager of this traffic analysis of I-4/US 27 interchange modification in Haines City, FL using SYNCHRO software. He utilized traffic data for existing and future horizon years. Ramp merges were modeled using dummy nodes to obtain statistics. The recommended geometry at four intersections was tested using the animation feature of the SIMTRAFFIC module.

Council Bluffs Corridor Study, Council Bluffs, IA, Project Engineer: Mr. Borra was Project Engineer responsible for analysis of traffic operations using CORSIM on the mainline sections, ramp junctions, weaving segments on I-80, I-29, and I-480. Traffic analysis was performed to evaluate several potential designs.
Design of Traffic Signals at FDR/UNO, Omaha, NE, Project Engineer
Mr. Borra was Project Engineer responsible for the design of four Traffic signals at the new FDR/UNO research facility in Omaha, Nebraska according to the City of Omaha regulations. He was also responsible for the interconnection of these signals to the city's computerized signal system.

Trunk Highway (TH) - 65 Corridor Study, Minneapolis, MN, Project Engineer: The overall objective of the Trunk Highway (TH) 65 Corridor Study was to analyze the current and future traffic operations and identify capacity improvements to serve the existing and future traffic needs. Mr. Borra was involved in the following phases of the project:

- Analyzed the existing conditions and provide recommendations to improve the current isolated and system wide operations.
- Performed a study of the accident data and report significant accident patterns and trends and identify potential mitigation measures.
- Developed future year peak hour traffic volumes.
- Analyzed the future year conditions and provide recommendations to accommodate the future year traffic needs.
- Based on detailed traffic analyses, the types of mitigation required to accommodate current and future travel demand and to meet Mn/DOT signal design specifications were determined.

I-81 Corridor Study, Roanoke, VA, Project Engineer: Mr. Borra was Project Engineer for a study of a 46-mile interstate highway corridor, which included eleven interchanges and 31intersections. He was responsible for the accident analysis and analysis of traffic operations for existing conditions and projected future demand. Traffic

simulation was performed using the CORSIM program developed by the Federal Highway Administration (FHWA). Per lane measures of effectiveness were calculated to evaluate alternatives with the help of computer simulations to maximize capacity and minimize construction cost.

10th, 11th, 12th Street Corridor, Sioux Falls, SD, Project Engineer: Mr. Borra was Project Engineer for a comprehensive study of future traffic operations in the 10th, 11th, and 12th Street corridors. The study included an assessment of potential geometric improvements and signal operation improvements. A detailed Traf-NETSIM analysis was performed to model the complexities that exist in the study area.

New York State Department of Transportation (DOT), Jericho, NY, I-495 Environmental Impact Analysis, Junior Engineer: Mr. Borra was responsible for the environmental impact analysis for construction of service roads and relocation of ramps on New York's Long Island Expressway (I-495) between exits 63-67. The project aimed at improving the capacity and safety at 21 intersections along the 6.5-km I-495 corridors. He was responsible for traffic data collection, exporting the ATR data through EI90-44 filter. Mr. Borra balanced the data for existing, build and no- build conditions. He performed capacity analyses for existing and no-build conditions in accordance with 1994 Highway Capacity Manual.

Nassau County Computerized Traffic Signal Control System, Long Island, NY, Junior Engineer: Mr. Borra was Project Engineer for the design and interconnection of twenty-two signals along Bellmore and Jerusalem Avenues in Nassau County, NY. Construction cost was estimated at $2 million. Mr. Borra was responsible for field verification of existing drawings, preparing base plans, traffic signal design, handicapped access ramp design, and interconnection of all twenty-two signals to the county's computerized signal system. All work was performed in accordance with New York State DOT and Nassau County procedures and standards.

Triborough Bridge and Tunnel Authority, New York, NY, Junior Engineer: Mr. Borra carried out design services for the New York Triborough Bridge and Tunnel Authority for traffic safety improvements at various bridge and tunnel facilities. Design work included striping, overhead signing, impact attenuation, and call box motorist aid system. Mr. Borra as a member of engineer team specifically organized to progress the project from 40 percent detail to final plans, specifications, and estimates. The team prepared all necessary details, wiring plans, specifications, and cost estimated for nine facilities. The construction cost was estimated at $4 million.
He was responsible for the design of highway guide signs in accordance with New York State DOT's MUTCD using the software GUIDSIGN. Mr. Borra was responsible for research, design, and placement of emergency call boxes on Triborough Bridge. He was responsible for design and placement of various kinds of impact attenuators like G-R-E-A-T systems, Hex-Foam Sandwich systems, Hi-Dro cell clusters, and sand barrels at 127 locations, taking into consideration the maintainability, interference with present traffic, maintenance, and appropriateness of the proposed attenuator locations.

Roslyn Road, Village of East Hills, New York, Roslyn, NY, Roslyn Road Traffic Impact Study, Junior Engineer: Mr. Borra carried out a traffic study for New York of Roslyn Road where it intersects with Round Hill Road and Lincoln avenues. His services included documenting field conditions, performing traffic counts, traffic signal warrant analysis, and capacity and queuing analysis for three improvement alternatives.

Park and Ride, New Jersey DOT - Bureau of Suburban Mobility, Various Sites, NJ, Project Engineer: Mr. Borra evaluated fifteen potential sites on the criteria presented in American Association of State Highways and Transportation Officials (AASHTO) guide for the design of park and ride facilities. He progressed eight of the sites to conceptual design. Work included study of traffic, data collection, field surveys and parking lot layout design. Layout design was performed according to AASHTO and involved design of the access, internal circulation, striping, parking lot lighting and pavement. Construction quantities and cost estimate calculated to each of the eight sites, documentation of report.