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# Districtwide Active Arterial Management Operations Contract

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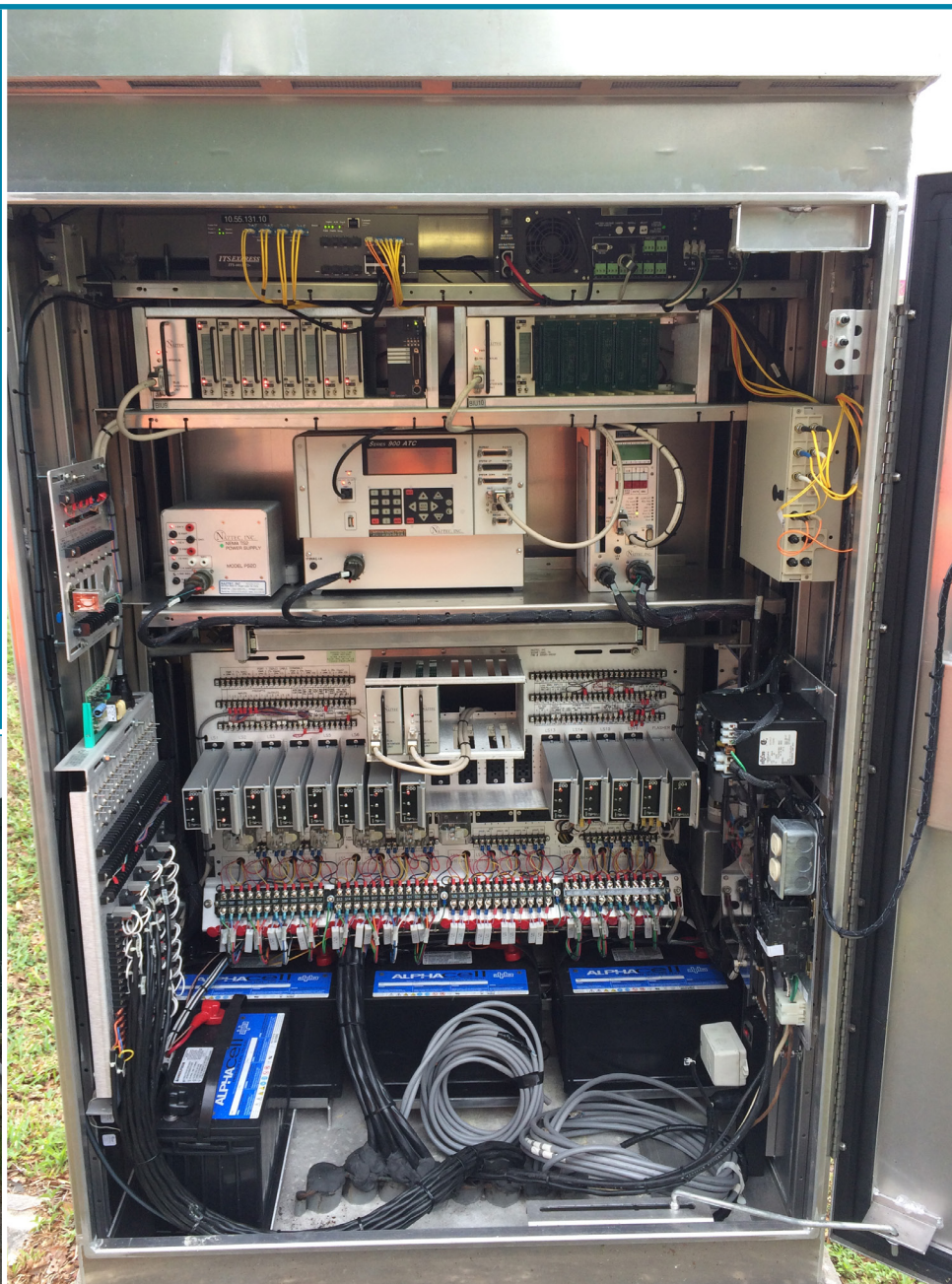
Centennial FDOT 1915 ★ 2015

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# 1: Resumes

# Bo Gao, PE, PTOE

PROJECT MANAGER

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## EXPERIENCE

Mr. Gao has over 16 year of professional experience in traffic management systems, traveler information systems, systems engineering, Intelligent Transportation Systems (ITS) design and system integration, communications, Traffic Management Center (TMC) design and deployment, signal timing development, adaptive signal control implementation and traffic signal control software development. He has managed and delivered many arterial and freeway ITS design and operation projects. His traffic management systems experience includes development, installation, operation and maintenance of central traffic signal control and freeway management systems. These experiences includes development of Siemens TACTICS central signal control system and M50 controller firmware, installation and maintenance of TransCore TransSuite TCS and FMS systems with different hardware platforms such as Siemens M50, Econolite ASC/3, and McCain ATC. Mr. Gao's ITS design and implementation experience includes self-healing fiber optic communication system, CCTV, DMS, BlueTooth/WiFi Data Reader, wireless radio, video display wall, and vehicle detections.

## VALUE ADDED EXPERTISE

- More than 16 years of traffic management system experience including ITS design and implementation
- Project Manager for the retiming and optimization of more than 500 intersections
- Firsthand knowledge of most popular hardware and software applications
- IMSA Traffic Signal Technician Level II

## PROJECTS

Active Arterial Management Phase II Design, Florida Department of Transportation, District 5, Project Manager: An initial study followed by design of the arterial management system on six corridors across multiple public agencies including Seminole County, City of Orlando and Orange County. The system is one of the vital components of the District TSM&O program and provides travel time, Origin-Destination information, traffic volume and speed data which can be used by FDOT RTMC timing engineers and operators to conduct arterial performance measures and signal timing adjustments.

Traffic Signal Optimization Program (TSOP), Maricopa Association of Governments (MAG), Arizona, Project Manager: Led new signal timing plans development and deployment:

- Thunderbird Road (34 intersections) – Cities of Peoria and Glendale and Arizona Department of Transportation
- Rittenhouse Road and Ellsworth Loop (26 intersections) – Town of Queen Creek
- Olive Avenue (23 intersections) – City of El Mirage and MCDOT

Responsibilities included project management, turning movement counts (TMC) and field data collection, base SYNCHRO model development and calibration, new coordination plans development, field implementation and fine-tuning. The new signal timing plans were implemented in ASC/2 and ASC/3 controllers via Centracs central system and Siemens I2TMS. Also conducted performance measurements using TRU-Traffic software and BlueTooth technology to evaluate corridors' before-and-after travel time.

TMC Upgrade, City of Phoenix, Arizona, Project Manager: Mr. Gao served as the ITS engineer and project manager for project oversight, developing system requirements, time and budget control and operator training. The project consisted of new video display system design, installation and integration of new Mitsubishi LED video cubes and Barco wall processor, and Luxriot video control system installation along with 12 CCTV IP cameras integration. The

project also included installation and configuration of a video recording server and internet access from the TMC via a Cisco ASA 5510 firewall.

ITS On-Call, Phoenix, Arizona, Project Manager: Responsible for the City's ITS planning and implementation tasks. The typical tasks include:

- Preparation of TMC Standard Operating Guidelines (SOG) including operating procedures for city-wide traffic signal (central system and local controllers), Downtown Management System (DTMS), CCTV camera systems, and coordination guideline between the TMC and other city departments such as signal shop, right-of-way and fire department.
- Development of the City-wide communication master plan including design of a fiber optic video and data communication backbone comprised of multiple IP Layer 2 and Layer 3 Gigabit, 100Mbps Ethernet switches and meshed wireless network configured in a redundant, self-healing, interconnected ring configuration providing communications between the TMC and field devices.

Adaptive Control System Design-Build Phase II, City of Santa Rosa, California, Project Manager: Oversight and design of an IP communication network, installation of system detectors, intersection personality files configuration, wireless radio, Ethernet over copper devices and 2070 controllers, along with installation and integration of eight CCTV cameras into the central Video Control software via a VLAN multicast network. Installation of SCATS adaptive signal control system at 36 intersections on three different corridors.

Transit Priority Evaluation, City of Reno, Nevada, Project Manager: Established a VISSIM model to evaluate the efficiency of transit priority and queue jump operation at 35 intersections. The simulation model generated six bus routes to simulate AM and PM situations. Two 3-D traffic simulation videos were generated to display the operations of pedestrian, transit vehicles and other ground vehicles.

Phoenix TransSuite TCS Maintenance Contract, Phoenix, Arizona, ITS Engineer and Project Manager: Regular software upgrades, bug-fixing and preventative maintenance, as well as generating customized signal timing and critical alarm reports using Crystal Report.

Reems Road Traffic Signal Optimization Study, City of Surprise, Arizona, Project Manager: Responsible for existing traffic operations analysis, developing and optimizing new signal timing plans using SYNCHRO 8.0 model, conducting field deployment and adjustment, and travel time data collection for before and after conditions. This project prepared new coordination timing plans at 17 intersections with ASC/3 controllers.

Traffic Signal Controller Upgrade, City of Phoenix, Arizona, Project Manager: Citywide traffic signal controller replacement for 1,100 intersections. Conducted needs assessment, defined functional requirements of the ATC controller, investigated product options and prepared procurement documentation to address capabilities and features, such as hardware, operating system, firmware, network, security, transit signal priority (TSP), emergency vehicle preemption (EVP), and user interface.

## CREDENTIALS

Education: MS, Civil Engineering, University of South Florida; BS, Traffic Engineering, Beijing University of Technology

Total Years of Experience: 16

Professional Engineer: Florida, Arizona, Colorado, and Texas

Professional Traffic Operations Engineer

Professional Qualifications: ISMA Traffic Signal Technician Level II

# Gene Howerton, PE

PRINCIPAL-IN-CHARGE

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## EXPERIENCE

Mr. Howerton specializes in transportation and traffic design and project management of roadway projects. Design responsibilities include interchange layout, roadway design, drainage design, traffic signal systems, signing and pavement marking, and traffic studies. He is responsible for the technical development of the firm's roadway design and design methodologies.

## VALUE ADDED EXPERTISE

- More than 30 years working with the FDOT
- First hand knowledge of your standards and submittal requirements
- Makes certain projects are appropriately staffed and ARCADIS QC process is adhered to
- Experience FDOT Project Manger and Engineer-of-Record for roadway and drainage design projects

## PROJECTS

SR 40, Florida Department of Transportation, District 5, Volusia County, Florida, Project Manager: Design and permitting for the widening and reconstruction of a 5.6-mile section from a two-lane to four-lane divided highway. Design included eight stormwater collection and management systems, and acquisition of required individual permits from St. Johns River Water Management District.

SR 44, Florida Department of Transportation, District 5, Sumter County, Florida, Project Manager: Design for the widening and reconstruction of a 3-mile section of SR 44 including design of two stormwater collection and management systems.

SR 15A (Plymouth Avenue to Greens Dairy Road), Florida Department of Transportation, District 5, DeLand Florida, Project Manager: A "fast track" project included the design and permitting for the widening of a 1.0-mile corridor from a two-lane rural section to a four-lane urban section.

SR 520 (Tosahatchee State Preserve to the St. Johns River), Florida Department of Transportation, District 5, Orange County, Florida, Project Manager: An "environmentally sensitive" project. Included design and permitting for the widening of a 2.2-mile corridor from a two-lane rural section to a four-lane rural section with an innovative "vegetated natural buffer" stormwater treatment system and wildlife protection.

University Bridge Replacement over the Arlington River Design-Build, Florida Department of Transportation, District 2, Jacksonville, Florida, Engineer of Record: Replacement of the structurally deficient bridge over the Arlington River with a two-lane bridge consisting of a single 12-foot travel lane in each direction, bike lanes and sidewalks. Also includes the design of a temporary Acrow bridge on a modified alignment to simplify maintenance of traffic and allow construction from one trestle between the temporary and proposed bridge. Additional improvements include a roundabout at the nearby intersection..

SR 9B from I-95 to North of US 1 Design-Build-Finance, Florida Department of Transportation, District 2, Jacksonville, Florida, Engineer of Record: This innovative project includes the construction of 2 miles of new limited access highway including two new interchanges, eight bridges, 2 million cy of embankment, over 200,000 sf of sound walls and 15,000 LF of storm drainage along with widening 1 mile of I-95.

I-95 Overland Bridge Replacement Study, Florida Department of Transportation, District 2, Jacksonville, Florida, Project Manager: A study to analyze the replacement of the existing I-95 overland bridge near downtown Jacksonville. This study reviewed all major and minor issues of replacing the structure in a highly urbanized area with extreme high traffic volumes. The major issue was maintaining existing traffic volumes throughout construction.

Beach Boulevard and Kernan Boulevard Interchange Design-Build, Jacksonville Transportation Authority, Jacksonville, Florida, Principal-in-Charge: Design of a new six-lane urban interchange. The structure consists of a 515-foot-long three-span continuous steel plate girder bridge located on a 2,292-foot radius horizontal curve. The project includes a 12-foot multi-use path, sidewalks, signalization, utility relocations and landscaping.

I-95 and St. Augustine Road Interchange, Flagler Development Company, Jacksonville, Florida, Engineer of Record: Improvements include a new partial cloverleaf interchange with two diagonal ramps and two loop ramps, widening St. Augustine Road from an existing two-lane rural section to a four-lane divided urban section, addition of acceleration and deceleration lanes along I-95 and the construction of stormwater treatment facilities. Responsibilities included pavement design, horizontal and vertical geometry design of the roadway and interchange, maintenance of traffic plans, signing and marking plans, and signalization plans. Also designed and permitted the stormwater treatment/collection system and provided plans for relocation of a 16-inch forcemain and addition of a 20-inch reuse main.

Plantation Oaks Boulevard over SR 23 (Branan Field and Chaffee Road Design-Build), Florida Department of Transportation, District 2, Clay County, Florida, Engineer of Record: Replacement of an existing signalized at-grade intersection with a new overpass structure, including substantial lengths of MSE walls to minimize additional right-of-way.

I-95 and Martin Luther King, Jr. (MLK) Parkway PD&E Study, Florida Department of Transportation, District 2, Jacksonville, Florida, Principal-in-Charge: An alternative analysis and interchange operational report (IOR) for improving interchange mobility at I-95 and MLK Parkway. This corridor is a major connector from the shipyards to the CSX and Norfolk Southern rail yards, resulting in heavy truck traffic. The PD&E study determined the best configuration of lanes and ramps in an effort to eliminate or decrease weaving problems, while minimizing impacts and costs.

I-10 Rest Area PD&E Study, Florida Department of Transportation, District 2, Madison County, Florida, Principal-in-Charge: PD&E study and design for site and roadway improvements for the replacement of two existing rest areas. The project was one of the first pilot programs for Construction Manager at Risk with the FDOT. Responsibilities included all aspects of Phase 1 PD&E, as well as site design for parking expansion, new utility services (wastewater and water treatment plants) and site lighting, as well as coordination of architectural design to update the existing facility.

## CREDENTIALS

Education: BS, Civil Engineering, University of Florida
Total Years of Experience: 31
Professional Engineer: Florida
Member: Florida Engineering Society

# Shahram Malek, PhD, PE

SENIOR ADVISOR

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## EXPERIENCE

Dr. Malek has more than 24 years of experience in ITS and traffic engineering services. He has extensive knowledge and hands-on experience with planning, design, deployment, operation and maintenance of system ranging from small traffic control systems to large-statewide ITS systems. Dr. Malek served as the curriculum developer and principal instructor for the Federal Highway Administration's Demonstration Project 105 which provided technology demonstration and instructional presentation on traffic operations principal and practices to more than 2,000 transportation professionals across 45 states.

## VALUE ADDED EXPERTISE

- 24+ years in project management and development of ITS/transportation engineering solutions
- Curriculum Developer and Principal Instructor for FHWA's Demonstration Project 105

## PROJECTS

Regional Traffic Operations Program (RTOP), Georgia Department of Transportation, Project Manager: Operating and maintaining the existing RTOP of 558 signals across 12 regionally significant corridors in the metro Atlanta area. This multi-faceted program has defined performance measures requiring specific uptime for traffic control and monitoring devices and defined goals for increased throughput and reduction in delays/stops during peak periods. To accomplish objectives, we are upgrading the field infrastructure, including detection, control, surveillance, displays and communications. The new architecture allows for a unique regional system to communicate with the traffic control and monitor assets in all 13 participating agencies through a single system at the GDOT TMC. Performing routine and preventative maintenance to meet program thresholds for operation uptime. Milestones include center-to-center communication of traffic signals, traffic signal communications from the GDOT TMC, video sharing architecture across all RTOP agencies, and implementation of an Ethernet-based shared communication network across multiple stakeholders' network. As Program Manager, ARCADIS performs all Construction, Engineering and Inspection services on all installation and maintenance done by our contractor partners, and assists in review and acceptance of work done by other entities and contractors on project corridors.

ITS On-Call Services, Alabama Department of Transportation, Statewide Alabama, Project Manager: Design and implementation of the Transportation Management Center (TMC) that monitors numerous tunnels and bridges. Responsible for QA/QC of the regional ITS architectures developments throughout the State. Also contributed to the State's standards and specifications rewrite activity which resulted in the new ITS field hardware and communication standards for the State of Alabama.

ITS Maintenance On Call, Georgia Department of Transportation, Atlanta, Georgia, Project Manager and Technical Lead: Maintenance of ITS assets of the Georgia NaviGAtor system. Managed the inventory task and development of repair and replacement diagnostics of the CCTV and Incident Video Detection Systems. Designed and implemented a new distributed digital video transport system removing requirements for maintenance of the analog video switching and video transport equipment. Also upgraded and maintained all ramp meter components and exceeding the target goal of 90% with 99.8% of uptime performance.

Signal Modernization Phase I and II, Central Atlanta Progress/City of Atlanta Downtown, Atlanta, Georgia, Project Manager: Upgrade of more than 100 traffic signals including

concept development, design, intergration, signal timing, operation and maintenance of traffic signal control and monitoring assets. ARCADIS helped evaluate, test, and validate wireless and wireline communication technologies supporting not only traffic control but the Atlanta Police Department's (APD) needs for transmitting video. Upgrades included traffic control hardware (cabinets and controllers), vehicular and pedestrian detections and displays, all communication to Ethernet based via mesh wireless and first ever Ethernet over Copper for the City. Upon completion of the infrastructure upgrades evaluation of the entire downtown district and developed and implemented optimized signal timing to improve traffic flow along the more than 100 grid network.

Hattisburg ITS System Integration, Mississippi Department of Transportation, Project Manager: Delivery of all communication, software, and system components. Performed configuration of all field devices including CCTV systems, DMS system, Radar Detection Stations and supporting communication electronics, and made all system work back at the two responsible TMCs. Responsible for all submittal deliveries, and delivery and execution of the various acceptance testing plans for each of the system components and the overall project.

Fast Forward Traffic Signal Design, Georgia Department of Transportation, Project Manager: Design of over 300 traffic signals with multiple stakeholders, including, GDOT General Office, GDOT District, local agencies, utilities, railroads, and environmental with various responsibilities for different stakeholders. The project had to meet a set schedule to allow for funding year construction expenditure and funding year design. Overall 30+ task orders were developed, executed, and completed for construction letting during the three year term of the contract summing up to nearly $30 million dollars of construction.

Demand Services Contract, Gwinnett County Department of Transportation, Gwinnett County, Georgia, Project Manager: Services for management and technical activities on the following:

- TCC Master Plan and Concept of Operation
- ATIS ConOp and System Design
- Buford Highway and Jimmy Carter Boulevard signal timing
- Old Norcross ATMS Design
- SR 120/Pike Street ATMS design (downtown Lawrenceville)
- SR 120 and Langley Drive operational improvement analysis
- SR 120 (SR 316 to Hurricane Shoals) operational improvement analysis
- TCC Integration/System Manager services

Advanced Transportation Controller Program Implementation phases I, II, and III, Georgia Department of Transportation, Project Manager: Managing activities for the deployment of 2070 controllers and ITS cabinets for the replacement of more than 5,000 traffic signal controllers including hardware and software procurement, training, technical support, migration planning, funding and project programming, traffic management system, integration, testing services and deployment. Managed day-to-day activities and led development of the implementation plan, scheduling activities, and managing budget on numerous overlapping and concurrent tasks.

## CREDENTIALS

Education: PhD, Transportation Engineering, Georgia Institute of Technology; MS, Transportation Engineering, Georgia Institute of Technology; BS, Civil/Structural Engineering, Clemson University

Total Years of Experience: 24

Professional Engineer: Georgia

Professional Qualifications: Georgia and International Institute of Transportation Engineers, ITS Georgia Transportation Research Board

# Ken **Montgomery**

## TMC OPERATIONS AND SUPPORT

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### EXPERIENCE

Mr. Montgomery has 26 years of experience in traffic engineering and intelligent transportation systems (ITS)/advanced transportation management systems (ATMS). He has experience timing traffic signal systems across Georgia, evaluating and documenting district signal timing performance, and installing traffic signal central software and controller firmware statewide for state, county and city offices. He has provided ITS and traffic signal equipment installation and equipment specification including Specifications 647 (installation) and 925 (material). Mr. Montgomery has provided signal timing and equipment training and technical support to local governments, consultants and contractors. He has participated in several National Standard Development efforts as an AASHTO, ITE, and GDOT-sponsored representative that included working on the National ITS Cabinet Working Group and NTCIP Communication Protocol Working Group. He utilizes several computer applications, including TPRO, PeopleSoft, FLEET, SYNCHRO, PROCOM, FileMaker PRO, Remedy, NavWeb, ACTRA/TACTICS, SEPAC/SEMARC, CANOGA, NAGIOS, MS Outlook, MS Word, MS Excel, MS PowerPoint, and MicroStation.

### VALUE ADDED EXPERTISE

- 26 years of traffic engineering and ITS/ATMS experience
- Extensive management experience
- Former Statewide Signal Engineer for Georgia Department of Transportation

### PROJECTS

Regional Traffic Operations Program (RTOP), Georgia Department of Transportation, Statewide, Georgia, Traffic Signal Operations Specialist: RTOP, actively monitors 558 signals for more than eight local agencies in the Metro Atlanta area. Responsible for coordinating with corridor managers to improve traffic signal throughput by improving signal operations and maintenance. Assisted in developing new signal timing (cycle length, split and offset), implemented new signal timing and fine-tuning of the new signal timing for all signals in the program. Other responsibilities included the design, installation and integration of Ethernet equipment with the existing traffic signals and ITS networks to provide communication backbone for the system to GDOT TMC. Provide and maintain HCM LOS for each system under the program.

Assistant State Signal Engineer, Georgia Department of Transportation: Managed the Traffic Signal Timing/Operation Unit; Statewide Traffic Control Device Installation/Maintenance Section; Electronic Repair Shop and a Statewide Traffic Signal Parts Warehouse. He managed a consultant services contract for the Fast Forward-Metro Signal Optimization-Advanced Transportation Controller Deployment-Program Management, including six Fast Forward labor contracts for ATC equipment upgrades, and traffic signal maintenance and six statewide labor contracts for loop replacement. Provided ITS and traffic signal technical support. Provided software, firmware and equipment training statewide for state, county and city personnel. Worked with district traffic personnel and local jurisdiction traffic engineering personnel to develop and address traffic signal maintenance needs. Installed traffic signal central software and controller firmware statewide for state, county and city offices. Developed and maintained central software and controller firmware specifications and requirements. Responded to customer concerns and trouble calls. Utilized various computer applications to perform routine work, including TRO, PeopleSoft, FLEET, SYNCHRO, PROCOM, FileMaker

Pro, REMEDY, NavWeb, ACTRA/TACTICS, SEPAC/SEMARC, TEMPO, CANOGA, NAGIOS, MS OUTLOOK, MS Word, MS Excel, MS PowerPoint, and MS VISIO.

State Signal Timing Manager, Georgia Department of Transportation: Managed statewide signal timing unit. Responsible for timing traffic signal systems statewide, evaluating and documenting district signal timing performance. Provided technical support to local governments, consultants, contractors, and other department sections. Provided signal timing and equipment training. Served as a guest instructor at the Georgia Institute of Technology as part of a Traffic Engineer Short Courses program. Researched, tested, de-bugged, and evaluated hardware, firmware, software and manuals. Developed and maintained signal timing, signal installation, signal maintenance, and signal procurement specifications. Utilized several computer applications in performing routine work, including TPRO, PeopleSoft, FLEET, SYNCHRO, PROCOM, FileMaker PRO, Remedy, NavWeb, ACTRA/TACTICS, SEPAC/SEMARC, CANOGA, NAGIOS, MS Outlook, MS Word, MS Excel, MS PowerPoint, and MicroStation. Worked with the GDOT Information Technology Section to develop a Traffic Signal Remedy Application and a Warehouse Material Request Application. Responded to customer concerns and trouble calls.

Signal Timing Engineer, Georgia Department of Transportation: Developed and organized a statewide signal timing unit responsible for evaluating, calculating, programming, and optimizing the operation of isolated traffic signals and signal systems. Performed statewide traffic signal timing on isolated traffic signals and traffic signal systems. Participated in the development and implementation of signal design and operation policies and procedures. Served as Training Officer. Utilized several computer applications in performing routine work, including TPRO, PeopleSoft, FLEET, SYNCHRO, PROCOM, FileMaker PRO, Remedy, NavWeb, ACTRA/TACTICS, SEPAC/SEMARC, CANOGA, NAGIOS, MS Outlook, MS Word, MS Excel, MS PowerPoint, and MicroStation. Worked with the GDOT Information Technology Section to develop a Traffic Signal Remedy Application and a Warehouse Material Request Application. Responded to customer concerns and trouble calls. Served on a GDOT New Product Evaluation Committee.

Traffic Signal Technician, Georgia Department of Transportation: Performed traffic control device installations, including traffic signals, school flashers and flashing beacons, and associated communication devices. Performed traffic control device maintenance and repairs. Operated and maintained equipment and vehicles utilized in traffic control device installation, maintenance and repairs. Responded to customer concerns and trouble calls. Scheduled and coordinated traffic control device work with internal and external work units. Used electronic test equipment to test and adjust traffic control equipment, inspected signal contract work, and completed routine maintenance reports and logs. Utilized guidelines listed in the MUTCD (manual on uniformed traffic controlled devices), NEC, and local guidelines. Attended training sessions. Programmed signal controllers utilizing laptop computers. Served as on-call technician, working after normal working hours and weekends.

## CREDENTIALS

Education: AS, Computer Science, Floyd College; AS, Engineering Technology, Floyd College; AS, Electrical Technology, Marietta-Cobb Vocational Technical School

Total Years of Experience: 26

# Ben **Robinson**

## ARTERIAL MANAGEMENT

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### EXPERIENCE

Mr. Robinson has more than 25 years of experience successfully delivering traffic projects. His diverse experience includes traffic engineering, traffic signal design, signal timing, implementation, construction, operations, and maintenance. His traffic signal timing experience and knowledge of the entire traffic signal operation from hardware system to software, gives him the ability to deliver successful signal operations projects. He has managed/implemented some of the industry's newest technologies, including TSP, Centracs, TACTICS, Maptime, ACS Lite, BlueTOAD, and Sensys, as well as legacy technologies such as M50, BiTran 170 and Peek 3000 series.

### VALUE ADDED EXPERTISE

- More than 25years of traffic management system experience
- IMSA Traffic Signal Technician Level II
- Experience with TSP, Centracs, TACTICS, Maptime, ACS Lite, BlueTOAD, Sensys, M50, BiTran 170 and Peek 3000 series

### PROJECTS

Regionwide Prioritization Signal Retiming Program, Georgia Department of Transportation, Georgia, Project Manager: Evaluating status of the traffic signal system and retiming for review of field equipment, turning movement count collection, 24-hour directional counts, and performs before/after travel time studies. Development of traffic signal timing plans using Synchro, programing and testing new timing plans, installs new 2070 controllers as needed, implementing new timings, and field fine-tune new timing plans.

Downtown Atlanta Traffic Signal System Upgrades and Timing (Phase I & II), Atlanta, Georgia, Project Manager: Developing, implementing and fine-tuning new traffic signal timing for 110 intersections. Integration of the wireless communication back to the City of Atlanta Traffic Control Center (ATCC) and provided signal timing maintenance for the system.

14th Street Bridge Reconstruction Signal Timing, City of Atlanta, Georgia, Project Manager: Developing, implementing and fine-tuning new traffic signal timing. Evaluated the operational impact of the road closure of 46 intersections in Midtown Atlanta. Provided traffic field analysis and adjusted the signal timing for six stages of construction.

Metro Signal Timing Program, Georgia Department of Transportation, Georgia, Project Manager: Managed the development of a six-step signal timing implementation procedure and the Metro Atlanta loop maintenance activities, including installation, inspection, and acceptance of about 3,000 loops. Responsible for all reporting activities and a GIS website that documented and tracked program progress.

Statewide Signal Timing Program, Georgia Department of Transportation, Georgia, Project Manager: Task orders, including collecting data, developing, implementing and fine-tuning signal timing plans, and conducting effectiveness studies. Evaluated operational status of field equipment, collected turning movement counts and 24-hour directional counts, performed before-and-after travel time studies, developed traffic signal timing plans (Synchro), developed/updated the ACTRA database for intersections, programmed/tested new timing plans, installed new 2070 controllers as needed, implemented new timings, and field fine-tuned new timing plans. Served as the instructor for the traffic signal timing and controller training program for GDOT staff and local agencies, and provided oversight of contractors.

Fulton Industrial Boulevard Signal Timing, Fulton County, Georgia, Project Manager: Upgrading all traffic signal equipment and installing the ASC-3 controllers. Ben provided Ethernet connection for all field devices to the Fulton County Traffic Control Center, retimed all of the traffic signals, installed a Centracs adaptive system, and installed 10 BlueTOAD units along the corridor. Work included retiming 17 traffic signals, first under regular time of day, and then under adaptive settings.

Cascade Road Signal Timing, Fulton County, Georgia, Project Manager: Installation of adaptive signal system. Developed new signal timing (cycle length, split and offset), implemented new signal timing and fine-tuning of the new signal timing. Implemented and fine-tuned the adaptive signal system for eight intersections arterial progression along Cascade Road in Fulton County. The project included traffic analysis, data collection, MOEs and modeling using Synchro and SimTraffic software to develop signal timing. These signals utilized ACS Lite in 2070 controllers with the SEPAC software.

Cobb County Signal Timing, Cobb County, Georgia, Project Manager: Development, implementation and fine tuning of 40 intersections. Included traffic analysis and modeling to develop signal timing. These signals utilized 2070 controllers with the SEPAC software.

Midtown Alliance Signal Timing, Midtown Atlanta, Georgia, Project Manager: Developing, implementing and fine-tuning new traffic signal timing for 85 intersections. Included traffic analysis, arterial progression analysis, data collection, and modeling using Snychro and SimTraffic software. These signals utilized 2070 controllers with the SEPAC software.

Steve Reynolds Boulevard Signal Timing, Gwinnett County Department of Transportation, Gwinnett County, Georgia, Traffic Engineer: Implementing new timing on a 2-mile and eight-intersection urban corridor. The project included traffic analysis and modeling to develop signal timing. Responsible for implementation and fine-tuning of the traffic signal timing.

North Druid Hills, Mountain Industrial Boulevard, and Lawrenceville Highway Traffic Signals Upgrades, DeKalb County Department of Transportation, DeKalb County, Georgia, Traffic Design Manager: Developing traffic signal designs for traffic signals along North Druid Hills Road, Mountain Industrial Boulevard, and Lawrenceville Highway. Responsible for the development of signing and marking, signal, and ATMS construction plans. Project included fiber optic cable design for the signals and CCTV communication. The state-funded project followed the Georgia DOT plan development process through final design.

Central Atlanta Progress Demonstration Project, Atlanta Downtown Improvement District, Downtown Atlanta, Georgia, Deputy Project Manager: Development of signing and marking, signal, and communication construction plans. The designs provided the interface for the traffic signals with wireless ethernet connections. Development of construction documents, quantities, cost estimates, and specifications. Also responsible for the developing, implementing and fine-tuning of the new traffic signal timing for 16 intersections for the project and integrating the wireless communication back to the Traffic Control Center.

## CREDENTIALS

Education: BS, Electronic Engineering, DeVry Institute of Technology

Total Years of Experience: 25

Professional Qualifications: ISMA Traffic Signal Technician Level II, Institute of Transportation Engineers Intelligent Transportation System (ITS Georgia)

# Andy **Wang, PE**

## ARTERIAL MANAGEMENT

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### EXPERIENCE

Mr. Wang is a project transportation engineer with 12 years of experience in transportation. His responsibilities include developing construction plans for signal design and signing/pavement marking projects. Additional responsibilities include system timing plan development, implementation and adjustment to traffic signal operations. He is also specializes in traffic analyses, signal warrant studies, and railroad diagnostic investigations.

### VALUE ADDED EXPERTISE

- 12 years of experience developing signal timing plans
- IMSA Traffic Signal Technician Level II

### PROJECTS

Regional Traffic Operations Program (RTOP), Georgia Department of Transportation, Statewide, Georgia, Traffic Signal Operations Specialist: RTOP, actively monitors 558 signals for more than eight local agencies in the Metro Atlanta area. Responsible for coordinating with corridor managers to improve traffic signal throughput by improving signal operations and maintenance. Assisted in developing new signal timing (cycle length, split and offset), implemented new signal timing and fine-tuning of the new signal timing for all signals in the program. Other responsibilities included the design, installation and integration of Ethernet equipment with the existing traffic signals and ITS networks to provide communication backbone for the system to GDOT TMC. Provide and maintain HCM LOS for each system under the program.

ATC Traffic Signal Upgrade, Georgia department of Transportation, Cobb/DeKalb/Fayette/Fulton Counties, Georgia, Project Engineer: Responsible for database development, preliminary design, final design and project management for preparation of construction plans for more than 100 signalized intersections within the State of Georgia. This project was done in accordance with the GDOT PDP, the Traffic Signal Design Guidelines and the ATMS Design Manual.

Statewide Signal Timing, Georgia Department of Transportation, Banks/Bibb/Glynn/Dodge/Muscogee/Richmond/Tift Counties, Georgia, Project Engineer: Responsible for developing and implementing a safe and efficient traffic signal operating plan for over 70 signalized intersections in various counties in the State of Georgia. This work includes data collection, system timing plan development, implementation and adjustment, and conducting before and after studies.

Statewide Hazard Analysis and Plan Development, Georgia Department of Transportation, Statewide, Georgia, Project Engineer: Responsible for field investigation, analysis, and design of at-grade railroad crossings throughout Georgia. The design included the installation of traffic control devices at designated railroad crossings.

Cumberland CID Signal Timing, Cumberland CID, Cobb County, Georgia, Project Designer: Responsible for analysis and optimization of signal timing at intersections utilizing traffic software. The design included the calibration of numerous intersections.

Downtown Atlanta Traffic Signal Upgrade and Timing, Central Atlanta Progress & Atlanta Downtown Improvement District, Fulton County, Georgia, Project Engineer: Responsible for the conducting field investigation to upgrade the traffic control electronics and hardware, and

assisted in the wireless Ethernet Communication design to provide communications for over 80 signalized locations and to improve the intersection signal operations by conducting timing plan development and implementation.

West Peachtree Place Signal Timing, City of Atlanta, Fulton County, Georgia, Project Engineer: Responsible for developing and implementing a safe and efficient traffic signal operating plan for 4 signalized intersections in City of Atlanta. This work includes data collection, system timing plan development, implementation and adjustment, and conducting before and after studies.

Howell Mill Road Signal Timing, City of Atlanta, Fulton County, Georgia, Project Engineer: Responsible for developing and implementing a safe and efficient traffic signal operating plan for 5 signalized intersections in City of Atlanta. This work includes data collection, system timing plan development, implementation and adjustment, and conducting before and after studies.

SR 17 Improvements, Georgia Department of Transportation, Franklin and Stephens Counties, Georgia: Responsible for traffic analysis, signing, pavement marking, and signal design for the 15-mile corridor in northeast Georgia. The project consisted of analyzing two signalized and 26 unsignalized intersections and determining the configuration along the corridor. The state-funded project will follow the Georgia DOT plan development process through final plans.

Autry Mill Road and Old Alabama Road, Reynolds, Inc., Fulton County, Georgia: Signal warrant study, signing, pavement marking, and signal design at the intersection of Autry Mill Road and Old Alabama Road. The design included the selection and location of conduits, controller assemblies, pull boxes, etc.

Watson Boulevard (SR 247C) Cost-Benefit Analysis, Georgia department of Transportation, Houston County, Georgia: Assisted with a cost-benefit analysis for a 6-mile road improvement project. The analysis included preparing two build alternatives based on traffic demand and geometric constructability.

Old National Highway and Sullivan Road Improvements, Collaborative Partners, Fulton County, Georgia: Responsible for conducting field investigation, developing traffic volume diagrams, and performing operational and capacity analyses for existing, future, and long-range traffic operations.

## CREDENTIALS

Education: BS, Civil Engineering Technology, Southern Polytechnic State University
Total Years of Experience: 12
Professional Engineer: Georgia
Professional Qualifications: ISMA Traffic Signal Technician Level II

# Michael **Johnson**

## MAINTENANCE MANAGEMENT

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### EXPERIENCE

Mr. Johnson has 28 years of experience in civil design. He has worked on a variety of projects including ITS, complex roadway and drainage design, as well as land development. His experience includes extensive coordination with utility owners for both public and private facilities.

### VALUE ADDED EXPERTISE

- More than 28 years of engineering and drafting experience
- Extensive experience coordinating with utility companies
- ITS Facility Management User License

### PROJECTS

Districtwide Active Arterial Investigation, Florida Department of Transportation, District 5, Designer: This project determines the preferred locations for the installation of Bluetooth readers on seven highly congestion corridors in the Orlando area. Tasks include field investigation, and geotagging photographs of existing equipment to determine locations based on peak traffic counts.

I-95 Intelligent Transportation System (ITS), Florida Department of Transportation, District 2, St. Johns County, Florida, Senior Designer: This project provides a construction plan set for field equipment, communication and devices along a 34-mile segment that seamlessly integrates with the existing FDOT SunGuide System. The deployment includes freeway and arterial dynamic messaging signs, closed circuit televisions, multi-point vehicle detection systems, and Bluetooth units. The project involves extensive coordination with St. Johns County Public Works Department and other local and Federal agencies. Responsibilities include layout, design and plans production.

SR 50 (West Colonial Drive), Florida Department of Transportation, District 5, Orange County, Florida, Roadway Design: Reconstruction of a 3.5-mile roadway from a four-lane rural section to a six-lane urban section between Good Homes Road and Pine Hills Road in Orlando, Florida. Design responsibilities included production of roadway plans.

SR 200 Design-Build, Florida Department of Transportation, District 2, Nassau County, Florida, Utility Coordination: Widening of just over 6 miles of SR 200 (US 301) from two to four lanes. The proposed roadway consists of 2.3 miles of a four-lane divided urban typical section followed by 3.8 miles of a four-lane divided rural typical section. This widening also includes the replacement of two bridge structures. Responsibilities include the design of electrical and water utility upgrades and relocation as part of the roadway design changes. Also included utility coordination, plans production, permitting and final plans.

University Boulevard Bridge Replacement over the Arlington River Design-Build, Florida Department of Transportation, District 2, Jacksonville, Florida, Utility Coordination: Replacement of the structurally deficient bridge with a two-lane bridge consisting of a single 12-foot travel lane in each direction, bike lanes and sidewalks. Also includes the design of a temporary Acrow bridge on a modified alignment to simplify maintenance of traffic and allow construction from one trestle between the temporary and proposed bridge. Responsibilities include the design of utility upgrades and relocation as part of the roadway design changes, plans production, permitting and final plans.

SR 9B from I-95 to North of US 1 Design-Build, Florida Department of Transporation, District 2, Duval County, Florida, Senior Designer: Responsible for taking 60% design drawings to 100% construction documents for this $96 million project. The project includes constructing a new system-to- system interchange, widening of I-95, and completion of US 1 Interchange, widening I-95, and new freeway alignment for SR 9B. Permitting and Utility coordination and connection drawings were also submitted for final approval.

City of Jacksonville Sports Complex, HOK Sports Venue Event, Jacksonville, Florida, Senior Designer: A 10,000 seat baseball stadium and a 450,000 SF arena. Responsible for all site grading, earthwork, stormwater collection and treatment, and establishing an underground under-drain system capable of removing 3" of rainwater from the field surface within 30 minutes. All geometry, pavement design, utility relocation and pedestrian/ADA walkways were included as part of the design documentation. The task also included constructing a 700-car parking facility and retention pond which involved the demolition of approximately 48 residential homes and businesses to transform the area into the "Park and Ride Facility". Served as the A/E liaison between the client and the contractor for infrastructure improvements.

Veterans Memorial Wall Park, City of Jacksonville, Jacksonville, Florida, Project Manager: Design challenges to create a park-like setting in the middle of a parking lot. The layout and design made the new park a focal feature along the pedestrian access route. Responsible for the site layout, geometry, typical roadway and concrete sections, ADA and pedestrian routing and access. Conducted pre-construction meeting, meetings with local veteran groups and suppliers, coordination meetings, reviewed shop drawings, review and approved pay requests, negotiated change orders and reviewed construction activities for plan and specification compliance.

Chef Menteur Bridge and Approaches (EA), Route US 90, Orleans Parish, Louisiana, Roadway Designer: Responsible for geometry and roadway design for a high-priority bridge replacement. Movable and fixed-span designs are under consideration. Key issues included minimizing impacts to Bayou Sauvage National Wildlife Refuge, avoiding Fort McComb, avoiding the existing bridge that is eligible for the NRHP, and providing alternatives that would comply with the state design criteria, as well as local Compete Streets Policies.

U.S. Army Corps of Engineers, Omaha District, Garrison, Gavins, Big Bend, Fort Randall and Oahe Dam Rehabilitation and Spillway Slab Assessment, Omaha, Nebraska, Senior Designer: Assessment of spillway slab conditions following the 2011 flood event. Identify deficiencies and determine the structural integrity of downstream paving and stilling basin of each spillway through physical inspection, coring and other geophysical survey methods. Underwater inspection of submerged features and remote camera inspection of vertical and lateral drain pipes may also be required to fully assess condition. Responsible for producing design documentation to accurately depict areas requiring repairs. The design packages consisted of specifications, design analysis, drawings and construction cost estimates.

## CREDENTIALS

Education: AS, University of Florida
Total Years of Experience: 28
Professional Qualifications: ITS Facility Management User

# Pete Estes, GISP

## MAINTENANCE MANAGEMENT

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### EXPERIENCE

Mr. Estes has 17 years of experience with GIS, project management, stormwater utility development, asset management, inventories, spatial database development, and cartographic design. His software experience includes ArcGIS10, ArcView 3.2, ArcPad 10, Spatial Analyst, 3D Analyst, Network, Microsoft Project, Microsoft Visio, Cartegraph, SQL, Lucity, SQL. Mr. Estes has managed technology projects related to transportation, stormwater, sanitary sewer collection systems, potable water distribution, power, and sanitation.

### VALUE ADDED EXPERTISE

- More than 17 years of GIS and asset management experience
- Proficient in ArcGIS10, ArcView 3.2, ArcPad 10, Spatial Analyst, 3D Analyst, Network, Microsoft Project, Microsoft Visio, Cartegraph, SQL, Lucity, SQL

### PROJECTS

Cobb County ESRI Roads and Highways Evaluation, Cobb County Department of Transportation, Georgia: Evaluated Cobb ETRANS LRS model against ESRI Roads and Highways. Conducted use case interviews with eight departments to understand current needs and processes. Evaluated these needs against current ETRANS LRS and ESRI Roads and Highways. Provided positives and negatives of migrating to Roads and Highways.

Positive Train Control, Confidential Client, Southeast US: Comprehensive asset management and GIS program to serve with client proprietary system. Creation of a regional response platform ensuring rapid response and field team deployment from a company-wide network across the southeast United States.

- Responsible for IT/GIS related aspects of program
- Technical development of data interface and GIS data modeling
- Exceeded client specified tolerances of asset locations by utilizing a combination individual state Virtual Reference Systems (VRS) and private satellite subscription services to ensure remote GPS coverage and accuracies
- Development of reporting standards and deliverables

Enterprise LRS Development (ETRANS), Cobb Country Department of Transportation, Georgia: Conducted use case interviews with all County DOT departments. Based on results of interviews designed Geodatabase model based on Unitrans LRS data model. Developed suite of tools to operate and maintain LRS and events. Implemented LRS solution for County DOT. Multiple updates to model including adding Networking capabilities.

Enterprise LRS Business Process Review and Database Design, Arizona DOT, Phoenix, Arizona, Project Manager and Principal Investigator: A Business Process Review of the data storage and maintenance procedures for maintaining the State's Linear Referenced transportation network. Devised new strategies and data models to support analysis and reporting of the HPMS to FHWA and development of the State Highway System Log.

Small Meter Audit, City of Atlanta Watershed Management, Georgia, Project Manager: Inspecting and locating 80,000 meters less than 1" in size. Project had an extremely difficult schedule as 65,000 meters needed to be inventoried in within three months. ARCADIS developed a process and deployed 27 location technicians with Trimble GeoXH 6000 GPS units to locate and inspect the meters.

Statewide Stormwater Assessment Program, Georgia Department of Transportation (GDOT), Project Manager: Inventory and inspection of all stormwater structures, conveyances, and BMPs associated with GDOT rights-of-way. The first phase is to collect and inspect the stormwater structures and BMPs, this is completed at either survey or sub-meter grade as directed by GDOT. The second phase is to inspect all of the conveyances with CCTV to record a video log using Pipeline Assessment and Certification Program (PACP) codes to rate the pipes on a consistent scale. Where pipes are in need of repair the program identifies the preferred method of rehab. Hydraulic studies are done prescriptively to determine the source of problems which have been previously documented. All data was delivered in geodatabase format linked to video and geo-tagged photos of the structures and conveyances.

Stormwater Inventory and Capital Improvement Plan (CIP), City of Sandy Springs, Georgia, Project Manager: Assessment of 60,000 stormwater assets. All data collected was pulled into GBA Master series to manage maintenance against the assets. CCTV was also completed on more than 2,000 conveyances. Once the system was complete a risk/consequence GIS based tool was developed with the City to determine CIP priority. The tool provided a 100 year CIP based on environmental, social, physical condition, performance, and financial risk categories.

Stormwater Inventory and Asset Management Consulting, Clayton County Water System, Georgia, Project Manager: Inventory and inspect 18,000 stormwater structures and conveyance in Clayton County, GA. Provided finalized data with six months of notice to proceed. Once project was completed managed tasks consulting on City works Asset Management system to streamline office and field activities.

DeKalb County Stormwater Inventory, Public Works Department, DeKalb County, Georgia, Project Manager: Overseeing all tasks included in the collection, compilation, and QA/QC of approximately 110,000 stormwater structures, 4,000 detention facilities, and 100,000 closed conveyances to date. Participates in coordination of in-house and subcontracted location team members. Leads on-going training for all subcontracted location team members. Directed design team tasked with developing the web-based ARCADIS Inventory Data Management System and its customizations for DeKalb County. Participates in troubleshooting technical issues with GPS units, ArcPad, and ToughBooks. Participates in hardware and software acquisitions for all storm structure location projects.

Gwinnett County Stormwater Inventory, Gwinnett County Department of Public Works, Gwinnett County, Georgia, Project Manager: The project objective was to assemble a geodatabase of all stormwater infrastructures located in Gwinnett County. The infrastructures were to be located via a global positioning system (GPS) with a horizontal accuracy of less than 1 meter. Gwinnett County supplied ARCADIS with a data dictionary listing data fields that needed to be evaluated and assessed for each structure collected with the GPS. ARCADIS collected more than 140,000 structures.

## CREDENTIALS

Education: BA, Geography and Environmental Studies, University of Tennessee

Total Years of Experience: 17

Professional Qualifications: Southeast Regional ARC/Info Users Group, Urban and Regional Information Systems Association

# Satya **Kolluru, PE, PTOE**

ARTERIAL MANAGEMENT

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## EXPERIENCE

Mr. Kolluru has more than 12 years of experience in transportation engineering, with an emphasis on traffic operations and safety, signal design, travel demand modeling, geometric design, and environmental impact analysis. Mr. Kolluru's expertise includes Interstate master plans, project development and environment studies, NEPA Process, Interchange Modification Report/Interchange Justification Report development, preliminary planning, corridor and alternative analysis, emissions, modeling, benefit-cost analysis. Mr. Kolluru is skilled in traffic signal optimization techniques, traffic signal design, maintenance of traffic sequencing, signing and pavement marking design, and traffic control plans. His strengths involve traffic modeling, design software, problem solving skills, planning, organization and report writing.

## VALUE ADDED EXPERTISE

- More than 12 years traffic engineering experience
- Profecient in SYNCHRO and VISSIM traffic modeling
- ITS Facility Management User License

## PROJECTS

I-10 Managed Lanes Feasibility Study, Florida Department of Transportation, District 2, Jacksonville, Florida, Senior Traffic Engineer: Feasibility of implementing managed lanes on I-10 form CR 215 to I-95. Project includes traffic analysis and concept development for multiple corridor typical section alternatives and interchange designs for managed lane ingress and egress along with cost estimates and right-of-way impact analysis.

Jacksonville International Airport and Airport Road (SR 102) PD&E, Florida Department of Transportation, District 2, Jacksonville, Florida, Project Manager: Development and completion of a preliminary engineering concepts and operational analysis for this Project Development and Environmental (PD&E) study that involves development of alternatives to fix existing operational analysis problems within the I-95/SR 102 Interchange area.

I-295 East Express Lanes Systems Interchange Modification Report (SIMR), Florida Department of Transportation, District 2, Jacksonville, Florida, Project Engineer: Development of a SIMR for I-295 East Express Lanes. Analysis of the existing condition calibration report and the SIMR report for the I-295 East Corridor. Responsibilities included coordination with the Department and preparation of weekly progress reports.

SR 202 (J.T. Butler Boulevard)/I-95/US 1 Interchange PD&E Study, Jacksonville Transportation Authority, Jacksonville, Florida, Project Engineer: Developed the preliminary engineering, project development summary, and the Type II Categorical Exclusion Reports. Task leader for the development of the Interchange Modification Report necessary for the required federal action for the project. Performed QA/QC on tasks completed by other offices and individuals.

I-95 Master Plan, Florida Department of Transportation, District 2, Jacksonville Florida, Senior Project Engineer: Development of the 15 interchange, 31-mile I-95 Master Plan. Assisted in the development of the data collection and analysis, design traffic, interchange operational analysis, Tier I conceptual multimodal alternatives reports and the interchange master plan. Performed QA/QC on tasks. Developed the CORSIM models to evaluate various project alternatives.

I-75/US 441 Interchange PD&E Study, Florida Department of Transportation, District 2, Columbia County, Florida, Project Engineer: Responsible for the operational and environmental impacts analysis, and performed alternatives evaluation. Developed the traffic, interchange operational analysis and the preliminary engineering reports. Developed the safety analysis and performed QA/QC on tasks completed by other offices and individuals.

TSM&O Consultant, Florida Department of Transportation, District 2, Jacksonville/Lake City, Florida, Project Engineer: Hard Shoulder Running (HSR): Responsible for developing the criterion for the implementation of HSR along SR 202 (J. T. Butler Boulevard). Prepared design concepts and performed operational analysis to assess the feasibility of implementing HSR. Ramp Meter: Assisted in the development of the criterion for the implementation of Ramp Meters within the Jacksonville urban area. Senior Engineer responsible for the preparation of CORSIM models to evaluate the effectiveness of Ramp Meters.

Long Range Transportation Plan (LRTP) 2040 Update, North Florida Transportation Planning Organization, Jacksonville, Florida, Project Engineer: Responsible for the LRTP update for the North Florida region. Engineer responsible for the traffic demand modeling and socio-economic data preparation.

Long Range Transportation Plan (LRTP) 2035 Models Review, North Florida Transportation Planning Organization, Jacksonville, Florida: Conducted an independent review of the LRTP 2035 models developed by the North Florida Transportation Planning Organization. Developed GIS based analysis tools to identify the model deficiencies. Traffic Analysis Zones (TAZs) data was reviewed and modifications suggested.

SR 570 Polk Parkway Design Speed Assessment Report, Florida's Turnpike Enterprise, Ocoee, Florida, Project Engineer: Responsible for identifying the existing design deficiencies along SR 570 Polk Parkway for a 60 mph design speed. Identified design element deficiencies for a design speed upgrade to 65 or 70 mph. Conducted a safety analysis for this corridor. Compiled a report summarizing the findings.

SR 202 (J.T. Butler Boulevard)/I-95/US-1 Interchange Design-Build Criteria Package, Florida Department of Transportation, District 2, Jacksonville, Florida, Project Engineer: Responsible for the signing and pavement marking plans, Maintenance-of-Traffic concepts, traffic control plans, ITS plans and the design variations and exceptions for this project.

Regional Strategic Safety Plan, North Florida Transportation Planning Organization, Jacksonville, Florida, Project Engineer: Responsible for the preparation of a Regional Strategic Safety Plan for the North Florida region. Performed safety analysis using ArcGIS and identified crash hot-spot locations.

## CREDENTIALS

Education: MS, Transportation Engineering, University of Cincinnati; BS, Civil Engineering, Andhra University, Visakhapatnam, India

Total Years of Experience: 12

Professional Engineer: Florida and Ohio

Professional Traffic Operations Engineer

Professional Qualifications: Institute of Transportation Engineers, Institute of Transportation Engineers (ITE) First Coast Chapter, Jacksonville, FL, ITS Facility Management User License

# Jim Tolson, PE
## QUALITY ASSURANCE/QUALITY CONTROL

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### EXPERIENCE

Mr. Tolson has 30 years of experience in traffic engineering and ITS. He makes certain all project designs conform to current state and federal guidelines, policies and plan development procedures related to traffic signal design. He also coordinated project development, scope of work, and conducted field plan reviews with local government agencies for local let signal projects in construction work program. He has a working knowledge of advanced signal field equipment such as Intersection Video Detection (IVDS), wireless devices and state-of-the-art signal cabinet equipment.

### VALUE ADDED EXPERTISE

- More than 30 years experience in traffic and ITS engineering
- Former GDOT State Signal Engineer
- Proficient in signal timing and design

### PROJECTS

Statewide Signal Maintenance Traffic Operations, Georgia Department of Transportation: Administered 21 annual statewide signal maintenance contracts valued at $5 million per year. Task orders included preventative and responsive activities to preserve traffic signal infrastructure and control devices necessary for the safe and efficient utilization of the traffic signal systems. Activities included loops replacement/repair, traffic signal controller and cabinet upgrades, and communication repairs.

Metro Signal Timing Program, Georgia Department of Transportation: Administered six signal timing contracts with total value of $12 million and 120+ consultant task orders. Task orders consisted of repairing infrastructure (loops and communication), developing traffic signal timing plans, entering the plans into the database, and testing new timing plans in the controllers before implementing them in the field.

Statewide Signal Timing, Georgia Department of Transportation: Signal timing contract with a total value of $2 million and 37 task orders. Task orders evaluated the operational status of field equipment and collecting turning movement counts and 24-hour directional counts.

Regional Transportation Operations Program (RTOP), Georgia Department of Transportation: Evaluating and reporting performance measures for 12 corridors covering 550 intersections. Utilizing base information from inception of RTOP in 2010, evaluation of and reporting on operational factors such as peak period volumes, travel times, delay, fuel benefits, and corridor performance index.

Railroad Highway Crossing Program, Georgia Department of Transportation, Project Manager: Contract to evaluate and report on the railroad crossing deficiencies across the State. The team has evaluated more than 300 crossings documenting existing assets including signs, markings, and crossing warning devices. The team makes recommendations for safety improvements and construction projects.

### CREDENTIALS

Education: BS, Civil Engineering, Southern Polytechnic State University
Total Years of Experience: 30
Professional Engineer: Georgia
Professional Qualifications: IMSA Traffic Signal Technician Level II

# Kari Bishop, EI

## ARTERIAL MANAGEMENT

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### EXPERIENCE

Ms. Bishop is an engineering intern in the ARCADIS Traffic and ITS Division. She provides assistance with SYCHRO and VISSM modeling, as well as CADD support. She is also proficient in the use of GIS for applications. Ms. Bishop previously worked as an intern with the Florida Department of Transportation District 2 ITS Division.

### VALUE ADDED EXPERTISE

- Former intrern with FDOT D2 - ITS Division
- Skilled with SYNCHRO and VISSM modeling

### PROJECTS

I-95 Intelligent Transportation System (ITS) Design, Florida Department of Transportation, District 2, St. Johns County, Florida, Engineering Intern: Design of construction plan set for field equipment, communication and devices along a 34-mile segment that seamlessly integrates with the existing FDOT SunGuide System. The deployment includes freeway and arterial dynamic messaging signs, closed circuit televisions, multi-point vehicle detection systems, and Bluetooth units. The project involves extensive coordination with St. Johns County Public Works Department and other local and Federal agencies. Responsibilities include design support and plans production.

I-295 East Express Lanes Systems Interchange Modification Report (SIMR), Florida Department of Transportation, District 2, Jacksonville, Florida, Engineering Intern: Development of a SIMR for I-295 East Express Lanes. Responsibilities included modeling of options through SyNCHRO and VISSIM.

Intelligent Transportation System Division Intern, Florida Department of Transportation, District 2, Jacksonville, Florida: Gained a working knowledge of ITS systems and devices including implementation on local roadways by assisting the Traffic Operations Office. Also learned to navigate the process of state and federal funding sources.

Harmon Stadium Redesign, University of North Florida, Jacksonville, Florida, Project Engineer: As a senior engineering student, led the process to redesign the existing baseball stadium in a new location with additional amenities. Focus areas included structural elements, water resource evaluation, and geotechnical sampling

Mason Construction, Jacksonville, Florida: While a student, designed and fabricated a pump loop model to assist the education of dredged sediment. Compiled and organized various data to aid the estimation department.

### CREDENTIALS

Education: BS, Civil Engineering, University of North Florida
Total Years of Experience: 1
Engineering Intern: Florida
Professional Qualifications: American Society of Civil Engineers, Society of Women Engineers, Women's Transportation Society

# Megan **McGinley**

## TMC OPERATIONS AND SUPPORT

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### EXPERIENCE

Ms. McGinley has one year of experience monitoring traffic conditions for the City of Gainesville in the Traffic Management Center. She has implemented preemptions and traffic shifts during congestion cause by incidents. She will graduate from the University of Florida in December with a BS in Civil Engineering

### VALUE ADDED EXPERTISE

- Hands on monitoring traffic conditions in TMC
- Implementation of traffic timing patterns.

### PROJECTS

Signals Operators, Florida Department of Transportation, District 2, Gainesville, Florida: Monitoring 216 city traffic controllers and 248 cameras for coordination, detector and communication failures including the AM or PM peak period. Implemented preemptions and traffic patterns during incident induced congestion. Adaptations included extended cycles, major arterial preference and queue clearance. Alerted public of real-time conditions via social media and relayed I-75 status to FL-511.

Transportation Research Assistant, University of Florida, Gainesville, Florida: Tested an Active Traffic Demand Management software that modeled freeway performance based on strategies such as HOT lanes and variable message signs. Verified performance measures (VMTD, VMT, VHT, VHD) with 2015 HCM equations. Corrected the hard-coded FFS equation by adding a weather adjustment factor. Iterated through a signalized intersection software and created a 20 page user guide.

### CREDENTIALS

Education: BS, Civil Engineering, University of Florida (expected graduation December 2015)
Total Years of Experience: 1
Professional Qualifications: Women's Transportation Seminar, American Society of Civil Engineers

# Naresh **Machavarapu, PE, PTOE**

## TMC OPERATIONS AND SUPPORT

AECOM

### EXPERIENCE

Mr. Machavarapu has six years of professional experience in various aspects of traffic engineering, intelligent transportation systems (ITS), and transportation systems management and operations (TSM&O). His expertise includes operational analysis, signal timing and optimization, active traffic management, traffic simulation (macro, meso and micro), safety studies, and access management. He has hands-on experience with Naztec traffic signal controllers and ATMS.now central signal software platform and is proficient in performing real-time signal timing adjustments. Mr. Machavarapu is experienced in developing and implementing special timing plans including incident management flush plans, preemption and priority timing plans. He also has hands-on-experience with various traffic engineering software applications, including HCS+, SYNCHRO, SIMTRAFFIC, CORSIM, and VISSIM.

### VALUE ADDED EXPERTISE

- Hands-on experience with Naztec traffic signal controllers and ATMs.now signal software
- Extensive development of signal timing plans

### PROJECTS

Districtwide ITS Operations Support – Arterial Management, Florida Department of Transportation, District 4, Traffic Signal Engineer/TMC Coordinator: On-site support at the Palm Beach Transportation Management Center (TMC) for managing recurring and non-recurring congestion on the arterial street network. Responsibilities include:

- ATMS.now Central Signal System: Supports the operation of approximately 800 on-line traffic signals. Tracks signal system alarms and detection system failures; design and implement temporary signal system if needed based on phase recall conditions.
- Freeway Incident Management Timing Plans: Developed pre-planned timing plans for different incident scenarios on I-95 in Palm Beach County. Support Freeway ITS Operations staff during I-95 incidents by implementing pre-developed timing plans and performing additional real-time “on-the-fly” signal timing adjustments to minimize diversion impacts and increase the efficiency of arterial network.
- Arterial Incident Management – Palm Beach “Living Lab” Initiative: Performing real-time signal timing adjustments during incident conditions on TSM&O and other major arterial corridors in Palm Beach County.
- Performance Measures: Developed a methodology and standard report to quantify the benefits of active arterial traffic management program. Prepares monthly report on the signal system performance based on predefined measures of effectiveness.
- Corridor Retiming: Assists the County Signal Timing staff in conducting corridor-wide signal retiming and fine tuning activities.
- Advanced Signal Operations: Supports field implementation and validation of innovative signal phasing and operations techniques including twice per cycle left-turns, conditional service, queue detection, virtual loops and emergency priority timing.

Transportation System Management & Operations (TSM&O) Services, Florida Department of Transportation, District 6: Assisted with literature review and preparation of TSM&O Strategic Plan and in the development of regional TSM&O roadway network and performance measures. Also, worked on developing functional specifications for District 6 Roadway System Performance Module (RSPM) software.

I-95 Ramp Metering Feasibility Study, Florida Department of Transportation, District 4, Broward and Palm Beach Counties, Florida: Analyzed the raw detector data and computed average speed profiles. Also, reviewed the existing geometric and operational characteristics of each on-ramp to determine the potential arterial impacts associated with ramp metering operations. Also, performed an independent review of CORSIM (micro-simulation) models for the existing and ramp metering scenarios and validated the operational analysis results.

Districtwide Traffic Safety and Operational Studies, Florida Department of Transportation, District 6, Miami, Florida: Assisting in conducting numerous intersection and arterial safety improvement studies which involved field inventories, traffic data review, crash analyses, collision diagrams, intersection condition diagrams, intersection level-of-service and operational analyses.

Districtwide ITS Technical Support, Florida Department of Transportation, District 6, Miami, Florida, Engineer Intern: Primarily responsible for preparation and review of ITS design plans, review of shop drawings, development of conceptual schematics, quantities and cost estimates, and preparation of RFP packages. Some of the key projects are:

- DMS Replacement and ITS Device Installation Project RFP: Assisted in the preparation of RFP package including scope of services, price proposal and RFP front end. Also, developed ITS plans for utility coordination.
- ITS Maintenance Contract RFP: Assisted in the preparation of RFP package including scope of services, price proposal and RFP front end. Also, assisted in the development of ITS Maintenance Standard Operating Guidelines (SOG) as part of this project.
- Districtwide ITS Maintenance Database: Assisted in the development of ITS maintenance database using MS Access. Tasks included data preparation and software debugging.
- Regional Fiber Sharing Effort: Assisted in the development of conceptual schematics for regional sharing effort between FDOT and other agencies.

Sunguide Traffic Management Center, Florida Department of Transportation, District 6, Miami, Florida: Florida Advanced Traveler Information Systems (FL-ATIS) Intern who assisted with the new state-wide 511 system. Responsibilities included ensuring correct traveler information is disseminated through both 511 website and interactive voice recognition system (IVR), incident detection and traffic monitoring. Also, evaluated ATIS system performance through the estimation of traffic diversions.

## CREDENTIALS

Education: MS, Civil Engineering, Florida International University; BS, Civil Engineering, Acharya Nagarjuna University, India

Total Years of Experience: 6

Professional Engineer: Arizona

Professional Traffic Operations Engineer

Professional Qualifications: ISMA Traffic Signal Technician Level I and II

# Ravi **Sabbisetti, PE, PTOE**

## ARTERIAL MANAGEMENT

### EXPERIENCE

Mr. Sabbisetti has more than nine years of experience in traffic simulation, traffic signal retiming, traffic operations studies, traffic safety studies, and transportation planning projects. He has extensive knowledge of CORSIM, VISSIM, SimTraffic, Synchro, Tru-Traffic, TRANSYT-7F and Highway Capacity Software (HCS) as well as modeling tools like Cube and ArcGIS and other data analysis software. He has hands-on experience in programming traffic signal controllers including NAZTEC 970 and 980 series, Eagle EPAC300 series, PEEK LMD 3000, TRANSYT 1880EL, and ECONOLITE ASC/2. During his Masters program he worked on National Transportation Communications for ITS Protocol (NTCIP) standards implementation for a small-town traffic control system and evaluation of signal timing plans for traffic diversion during incident situations.

### VALUE ADDED EXPERTISE

- More than 9 years of traffic engineering experience
- IMSA Traffic Signal Technician Level II
- IMSA Traffic Signal Inspector
- Local knowledge of maintaining agencies preferences

### PROJECTS

Traffic Operations Continuing Services, Florida Department of Transportation, District 5, Districtwide, Florida: Overseeing traffic data collection activities, conducting fieldwork involving preparation of intersection inventories, traffic signal retiming and implementation, delay studies, qualitative assessments, signal warrant analysis, composite studies, crash analysis and report documentation.

Traffic Signal Retiming, Florida Department of Transportation, District 5, Districtwide, Florida: Signal controller equipment inventory, data collection, development and optimization of time-of-day and day-of-week system timing plans, implementation and fine-tuning.

Traffic Operations Studies, Orange, Seminole, Lake and Volusia Counties, Florida: Overseeing traffic data collection activities, conducting fieldwork involving preparation of intersection inventories, traffic signal retiming and implementation, delay studies, qualitative assessments, signal warrant analysis, composite studies, crash analysis and report documentation.

CR 535 Small Area Study, Orange County, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

SR 436 and Red Bug Lake Road Interchange, Seminole County, Florida, Subarea/Corridor Planning: Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

Traffic Signal Retiming, Florida Department of Transportation, District 4, Districtwide, Florida: Signal controller equipment inventory, data collection, development and optimization of time-of-day and day-of-week system timing plans, implementation and fine-tuning.

SR 426 at Tuskawilla Road, Seminole County, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

Lake Mary Boulevard, Seminole County, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

Systems Planning and Access Management Database, Florida Department of Transportation, District 1, Districtwide, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

Long Range Transportation Planning, Glades County, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

Benefit-Cost Analysis: Tasks include collecting traffic data such as delay, travel time, and stops for signal retiming projects, daytime and nighttime crash analysis, lighting installation costs, average annual daily traffic data for lighting justification projects, and preparing cost estimates for proposed improvements in case of intersection improvement projects. Mr. Sabbisetti also conducted benefit-cost studies using the SYNCHRO software for various intersection improvements scenarios which included comparison of the MOE's indicators for the before and after scenarios to calculate the benefit-cost ratios for the proposed improvements.

Downtown Transportation Plan, Orlando, Florida: Identifying vehicle capacity enhancements at various intersections balanced with pedestrian, parking, freight, and transit improvements. The improvements were identified using the downtown street network developed in Synchro with 84 signalized intersections covering Downtown Orlando.

Traffic and Parking Management Plan, Orlando Events Center, Orlando, Florida: Evaluating the parking demand for the proposed Events Center and collecting available parking inventory within 10-minute walking radius. Mr. Sabbisetti conducted a comprehensive traffic analysis using the Synchro software for pre-event and post-event traffic circulation based on the traffic arrival patterns.

Mapping and Data Development, Florida Department of Transportation, District 1, Distirctwide, Florida: GIS-based access management database for all state roads within a 12-county area. Based on field visits, video log and Roadway Characteristics Inventory (RCI) data all median openings including full, directional and signalized locations were located and documented with the existing and recommended access classifications. ArcView GIS was used to map the locations of median openings to match with the aerial images and provided access to data created in MS Excel associated with each median opening.

## CREDENTIALS

Education: MS, Civil Engineering, University of Idaho; BS, Civil Engineering, V.R.S. Engineering College
Total Years of Experience: 9
Professional Engineer: Florida
Professional Traffic Operations Engineer
Professional Qualifications: ISMA Traffic Signal Technicial Level II, IMSA Traffic Signal Inspector

# Dante **Gabriel, PE, PTOE**

## PERFORMANCE MANAGEMENT AND REPORTING

### EXPERIENCE

Mr. Gabriel has 32 years of experience in all facets of traffic engineering and transportation planning activities including traffic engineering design activities, traffic operations studies, and traffic impact studies. He is responsible for all production work involving traffic operations studies, traffic signal systems and signal timing, pavement markings and signing plans, maintenance of traffic plans, lighting plans, parking, Intelligent Transportation System (ITS) Design and other design activities. Mr. Gabriel has managed several continuing services contracts for FDOT, counties, and local municipalities that include traffic operations studies, signal retiming, transportation modeling support, and traffic design.

### VALUE ADDED EXPERTISE

- 32 years of traffic engineering experience
- Local knowledge of maintaining agencies preferences
- Well-established relationships with key stakeholders

### PROJECTS

Traffic Operations Studies, Florida Department of Transportation, District 5, Districtwide, Florida: On-call contract for signal warrant studies, intersection analysis to improve traffic operations efficiency and safety, arterial studies to evaluate access management, safety, and traffic flow, data collection, pushbutton design and signal timing optimization and retiming.

I-95 ITS Relocation Plan, North of SR 50 to North of SR 46, Brevard County, Florida, ITS Design: ITS services include dynamic message signs, fiber optic interconnect plans, closed circuit television systems, AVI systems, emergency vehicle management systems utilizing Opticom and highway advisory radio plan design.

Fiber Optic Cable Interconnect Plans, ITS Design: Projects include design of dynamic message signs, fiber optic interconnect plans, closed circuit television systems, AVI systems, emergency vehicle management systems utilizing Opticom and highway advisory radio plan design.

Community Traffic Safety Program, Florida Department of Transportation, District 5, Districtwide, Florida: Services include signal warrant studies, intersection analysis for traffic operations efficiency and safety, arterial studies to evaluate access management, safety, and traffic flow, data collection, pushbutton design and signal timing optimization and retiming.

International Drive and Tangelo Park Pedestrian Study, Continuing Professional Engineering Studies, Orange County, Florida: An assessment of pedestrian flows. Also developed recommendations to enhance the pedestrian walking experience through this tourist corridor.

ITS Improvement Project, University of Central Florida, Orange County, Florida, ITS Design: Projects include dynamic message signs, fiber optic interconnect plans, closed circuit television systems, AVI systems, emergency vehicle management systems utilizing Opticom and highway advisory radio plan design.

Traffic Signal Retiming, Florida Department of Transportation, District 4, Palm Beach and Martin Counties, Florida: Design plans and technical specifications for traffic signal systems, data collection and development of time-of-day and day-of-week system timing plans, implementation and fine-tuning.

Traffic Signal Retiming Program, Orlando MPO, Florida: Design plans and technical specifications for traffic signal systems, data collection and development of time-of-day and day-of-week system timing plans, implementation and fine-tuning.

Walt Disney World Traffic Control Management System, Orlando, Florida: Design plans and technical specifications for traffic signal systems, data collection and development of time-of-day and day-of-week system timing plans, implementation and fine-tuning.

I-95 Widening from North of SR 50 to North of SR 46l: Signing and Pavement Marking, Lighting, ITS and Signalization Plans.

Design Traffic for PD&E Studies, Florida Department of Transportation, District 5, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

SR 526 PD&E, Florida Department of Transportation, District 5, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection. Alternatives evaluation of potential improvement options fitting within the overpass bridge supports of I-4.

Doctor's Drive Extension Alternative Alignment Study, Oviedo, Florida, Subarea/Corridor Planning: Include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

I-4/Conroy Road Interchange Justification Report, Orlando, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

I-4/Republic Drive (Universal Boulevard) Interchange Modification Report, Orlando, Florida, Subarea/Corridor Planning: Tasks include Build/No Build capacity improvements for arterials and interchanges, multi-modal travel demand modeling, capacity analysis and traffic flow simulation, and data collection.

## CREDENTIALS

Education: MS, Civil Engineering, University of Minnesota; BS, Civil Engineering, University of the Philippines
Total Years of Experience: 32
Professional Engineer: Florida and Georgia
Professional Traffic Operations Engineer

# Erik **Spillman, PE**

## TMC OPERATIONS AND SUPPORT

### EXPERIENCE

Mr. Spillman has extensive experience in Intelligent Transportation System (ITS) design, ITS CEI, communication systems design and integration, fiber optic design, lighting design, traffic signal design and timing. Services provided to multiple clients throughout the State including FDOT (Districts, 1, 3, 4, 5, 6, and Turnpike); Cities (Orlando, Winter Haven, Punta Gorda) and Counties (Charlotte, Manatee, Orange, Seminole, Volusia, Miami-Dade) in nearly all capacities from Field Technician to Project Manager.

### VALUE ADDED EXPERTISE

- More than 17 years of ITS and signalization experience
- Local knowledge of maintaining agencies preferences
- Well-established relationships with key stakeholders

### PROJECTS

St. Lucie Advanced Traffic Management System (ATMS) Master Plan, Florida department of Transportation , District 4, St. Lucie County, Florida, Project Manager: Development of an ATMS Master Plan which defined the ATMS infrastructure and TSM&O strategies that are to be deployed in the county. Project tasks included updating existing inventory GIS files, identifying TSM&O applications and strategies to be implemented, stakeholder coordination, developing ATMS system requirements, investigating funding opportunities, and developing the System Engineering Management Plan (SEMP) and Concept of Operations as per FHWA's Rule 23 CFR Part 940.

Conceptual Design and Studies, Florida Department of Transportation, District 4, Traffic and Design Engineer: Tasks involved conducting traffic operational studies and design producing analysis results, conceptual recommendations, and conceptual design plans of sufficient detail to include in the FDOT's Work Program. Additional tasks included presentation of findings to representatives of different agencies and review by a multi-disciplinary team, data collection, timing analysis for various signalized intersections and arterials within District 4 using Signal 94, AAP and TRANSYT-7F.

I-95 ITS, Florida Department of Transportation, District 4, Martin, St. Lucie, & Indian River Counties, Florida, Design Project Manager: Design and implementation of SunGuide Software at Treasure Cost Operation Center (TCOC), Center to Center integration between TCOC and District 4 TMC, design of a fiber optical communication network subsystem, a power subsystem, a CCTV subsystem, a DMS subsystem, a vehicle detection subsystem, a VoIP subsystem, a Road Weather Information System (RWIS) subsystem, and a highway advisory radio (HAR) subsystem within the I-95 corridor from the Palm Beach/Martin County line to the Indian River/Brevard County line (approximately 71 miles).

Districtwide General Planning Consultant, Florida Department of Transportation, District 6: GIS/mapping support on two prime and one subcontractor contracts. He assisted in the development of the scope of services for the Miami-Dade County Roadway and Jurisdictional Study, which involved ownership criteria development and evaluation of the existing Dade County roadway system; coordination between the department and local government agencies; and implementation and accomplishment of the recommendations. Tasks included federal functional classification task and jurisdictional roadway transfers and in providing required documentation and supporting material. Other roles included highway and traffic

data technician and performing RCI/HPMS/SLD regeneration, preparation of Base Map/RCI discrepancy packages, RHCI routine traffic counts, vehicle classification counts, saturation flow and headway measurement, vehicle delay, arterial travel time and delay, origin-destination surveys, condition diagram, vehicle gap measurement, spot speed measurement, design traffic, vehicle occupancy survey, and general statistics support including providing on-site support.

SR 821 Florida Turnpike Managed Lanes Design-Build Project, Florida Turnpike Enterprises, Miami, Florida, ITS Design: Three separate managed lanes projects. The project included widening the limited access highway from three to four lanes to five to six lanes to create two managed lanes in each direction. The projects included arterial and mainline dynamic message signs, a travel time system, a microwave vehicle detection system, an array of verification and mainline monitoring cameras, and a new fiber optic backbone communication system.

Districtwide General Planning Consultant, Florida Department of Transportation, District 6: GIS/Mapping support on two prime and one subcontractor contracts. He assisted in the development of the scope of services for the Miami-Dade County Roadway and Jurisdictional Study, which involved Ownership Criteria Development and Evaluation of the Existing Dade County Roadway System; coordination between the Department and Local Government Agencies; and implementation and accomplishment of the recommendations. Tasks included federal functional classification task and jurisdictional roadway transfers and in providing all required documentation and supporting material. Other roles included Highway and Traffic Data Technician and performed RCI/HPMS/SLD regeneration, preparation of Base Map/RCI discrepancy packages, RHCI routine traffic counts, vehicle classification counts, saturation flow and headway measurement, vehicle delay, arterial travel time and delay, origin-destination surveys, condition diagram, vehicle gap measurement, spot speed measurement, design traffic, vehicle occupancy survey and general statistics support including providing on-site support.

## CREDENTIALS

Education: BS, Civil Engineering, University of Central Florida
Total Years of Experience: 17
Professional Engineer: Florida
Professional Qualifications: Institute of Transportation Engineers

# Chris **Walsh, PE**

## ARTERIAL MANAGEMENT

TEDS

### EXPERIENCE

Mr. Walsh has 19 years of diverse experience in both transportation planning and traffic engineering projects within Florida, including detailed operational assessments of roadways, intersections and interchanges, safety evaluations, and traffic operation design. He has served as project manager on a significant number of continuing contracts and has a proven ability to lead and integrate multiple disciplines, leading projects from the initial planning stages, developing real-world implementable solutions, and ultimately directing a team of design engineers during plans preparation. Mr. Walsh also provides public and private sector perspectives which have been beneficial to public clients when long range planning, operational needs and funding considerations are addressed.

### VALUE ADDED EXPERTISE

- 19 years of traffic engineering experience
- Extensive signal design and timing through the D5 Traffic Operations On-Call Contract

### PROJECTS

Traffic Operations Continuing Services Contract, Florida Department of Transportation, District 5:

- SR 436 at Montgomery, Essex, and Hattaway – Signal Design (Mast Arm conversion)
- US 17/92 at Packwood and Park – Signal Design (Mast Arm conversion)
- US 92 at Midway and Adams – Signal Design (Mast Arm conversion)
- US 1 at 3rd Street and Venture – Signal Design (Mast Arm conversion)
- Leesburg School Zone –Signing/pavement marking plans
- US 27 at Tally Road – Signal Warrant Analysis
- SR A1A at Camino Del Mar – Signal Warrant Analysis
- SR 519 at Levitt – Signal Warrant Analysis
- SR 100 at Old Kings – Left-Turn Phase Warrant Analysis
- SR 526 at Mills – Left-Turn Phase Warrant Analysis
- SR 40 from Magnolia to SE 1st – Qualitative Assessment
- SR 44 at Airport – Signal Warrant Analysis
- SR 50 at Max Hooks Road – Qualitative Assessment
- SR 100 at CR 305 – Qualitative Assessment
- I-4, I-75, and State Road 528 – Traffic Control Plans for Contra-Flow

Wekiva Parkway Section 7A, Engineer of Record: Responsible for following component plan sets:

- Approach and underdeck lighting on SR 46 frontage roads (conventional roadway lighting)
- Signal Design on SR 46 at Orange Boulevard (mast arm signal)
- Signing and Pavement Marking Design on SR 429 and SR 46

Interstate 75 from Hernando County Line to State Road 48 (Design-Build), Engineer of Record: Responsible for following component plan sets:

- Interchange Lighting at SR 48 and CR 476 (conventional roadway lighting)
- Signal Design on northbound off ramp of Interstate 75 at SR 48 (strain pole)
- Signal Design on SR 48 at Lowry Street (strain pole)

### Continuing Safety Contract, Florida Department of Transportation, District 5

- SR 436 Access Management Study – Safety study for a raised median on this seven-lane section (included evaluation of crash data, qualitative assessments, and improvement concepts/costs)
- SR 482 Skid Hazard Study – Milling and resurfacing this section of six-lane roadway due to wet-weather crashes (included evaluation of crash data, qualitative assessments, and improvement concepts/costs)
- SR 50/SR 520 Audible Pavement Markings –Signing/pavement marking plans
- US 1 Audible Pavement Markings – Signing/pavement marking plans

### Continuing Traffic Engineering, Volusia County, Florida

- Williamson Boulevard at Midway – Signal Design (Mast Arm conversion)
- Beach Parking Management System Feasibility Study – Prepared feasibility study to evaluate DMS signs
- Pioneer Trail at Turnbull Bay Road Horizontal Curve Sight Distance Analysis – Evaluated sight distance
- Pedestrian Signals for S. Atlantic at 7th and 24th – Signal Design (pedestrian signals)

### Lake County Continuing Transportation Engineering

- Hancock Road at Fosgate – Signal Design (new signal)
- Micro Racetrack Road – Speed Study
- CR 44A from State Road 19 to SR 44 – Truck Evaluation and Speed Study
- Waycross at Abrams – All-Way STOP Warrant Analysis

## CREDENTIALS

Education: BS, Civil Engineering, Vanderbilt University
Total Years of Experience: 19
Professional Engineer: Florida

# Tucker **Brown**

## TMC OPERATIONS AND SUPPORT

### EXPERIENCE

Mr. Brown serves as the project manager overseeing the development and system engineering process of the traffic management system, SunGuide® for the Florida Department of Transportation. He has overseen the development of enhancements to the Reporting subsystem allowing users to schedule and e-mail reports, queue up multiple reports to be run at a later time, or manage the reports that are currently running. In addition to overseeing development, he also served as the primary developer on two projects that integrated new probe detection protocols into the SunGuide system.

### VALUE ADDED EXPERTISE

- Project Manager for the development of the SunGuide software system
- Skilled in the usage of C#, C++, C, Perl, UNIX, Assembly, XML, Orcad Suite, Eagle Layout Editor, MATLAB, Wonderware SCADA, SKM Power*ToolsE

Mr. Brown developed test tools allowing a user to test the Center-to-Center (C2C) data being sent in and out of C2C infrastructure components. He has also designed several interfaces for the Incident Detection Subsystem (IDS) to allow data from third-party sources to be processed by SunGuide. Mr. Brown also contributed to the development of the Pricing Subsystem which allows operators the ability to control variable tolling on Florida's managed lanes. He has also contributed to the support plan for SunGuide by addressing bugs, failures, and enhancement requests from individual districts when needed. He has overseen projects to incorporate a SunGuide integrated smart-phone application for Florida's Road Rangers to use while assisting motorists. He managed the development of the Connected Vehicle Subsystem which is the first deployed system to use DSRC equipment and the J2735 standard to produce probe data for an ATMS system as well as send Traveler Advisory Messages to motorists. He led the software conversion of SunGuide to support either Oracle or SQL Server as its primary database. He also led efforts to implement the NTCIP version 2 protocol for Dynamic Message Signs (DMS) as well as an enhanced scheduling module to support scheduled tasks within SunGuide. In addition to leading those efforts, Mr. Brown also developed an interface to TrafficCast's BlueTOAD system allowing collection and display of speed and travel time data as well as an interface to create and track origin/destination pairs within SunGuide to aid in traffic operations management decisions on how to best divert traffic in congested areas

Additionally, Mr. Brown was a part of an internally funded research project which investigated alternative event management techniques. Recently, he led and internally funded project to incorporate a traffic signals interface into SunGuide.

Mr. Brown is also involved in the research of Mobile Robotics. Mr. Brown has done work in autonomous vehicles where he designed an application for communicating between manned and unmanned vehicles for vehicle convoy operations. He has also done work on smaller robotic platforms including fabrication new platforms, interfacing sensors to microcontrollers, design and implementation of intelligent autonomous algorithms, sensor and algorithm simulation, development of a rapid prototyping tool, and the development of a graphical user interface.

### CREDENTIALS

Education: BS, Electrical Engineering and Computer Science, Texas Tech University
Total Years of Experience: 7

# Wuping **Xin, PhD, PTOE**

## PERFORMANCE MANAGEMENT AND REPORTING

KLD

### EXPERIENCE

Dr. Xin's expertise include ITS system integration, adaptive traffic control, big-data management system for real-time control, traffic modelling and analysis, and software/hardware development for ITS applications. He has extensive experience in the development and implementation of real-life adaptive control systems and real-life big-data management systems for real-time control purpose, with expert knowledge of NEMA-TS/NTCIP/SNMP protocols. He has more than 15 years of programming experience in C++/C, Delphi and binary level system integration. Dr. Xin is an expert of VISSIM and Aimsun simulators with binary-level insights of their inner workings, APIs/SDKs, and modelling details. He is the chief architect of the ACDSS adaptive control system as part of the overall active traffic and congestion management efforts in New York City's Manhattan. He has been heavily involved in the Region 2 University Transportation Research Center (UTRC) Connected Vehicle research collaborating with NYU researchers.

### VALUE ADDED EXPERTISE

- More than 15 years traffic engineering experience
- Leading congestion management efforts for Manhattan in New York City

### PROJECTS

Chief Technology Officer, KLD: Leading the efforts for deploying adaptive control system ACDSS in the U.S. and internationally.

Chief Scientist, KLD:

- Project Director, Commercialization of ACDSS as a generalized ITS technology. Research funded by New York State Energy Research and Development Authority (NYSERDA).
- Lead developer of the core DTA model of the emergency evacuation technology DYNEV-II, employed in the Evacuation Time Estimates (ETE) studies for more than 75% nuclear reactors throughout the U.S.

Senior Traffic/Software Engineer, KLD:

- Technical lead for developing ACDSS adaptive control system with real-time simulation; also providing engineering support for various projects sponsored by New York State Energy Research and Development Authority (NYSERDA), NYCDOT, MTA, Port Authority.
- System architect and technical lead of NYCDOT next generation adaptive control decision support system deployed in Staten Island.
- System architect and technical lead in the development of a two level traffic control system (travel time, flow and occupancy) for midtown Manhattan. Adaptive signal control is an active traffic management strategy for alleviating congestion and improving mobility in midtown Manhattan. Technical expert for the model development, calibration and validation for NYCDOT SAS and QBB/TWT projects.
- Part of the technical team in the training courses for NYCDOT personnel related to the application of simulation modeling tools such as AIMSUN, VISSIM and SYNCHRO/SimTraffic. The courses were geared to provide insights into the use of modeling in a range of applications that arise in New York City's multimodal environment. Case studies were drawn from real applications in simulation modeling, maintenance and

protection of traffic (MPT), transit priority, ped-friendly design, safety issues, adaptive control within an ITS environment, model calibration, and data exchange between different tools.

Researcher, Civil Engineering Department, University of Minnesota: Developed methodology and software tools to collect, analyze and validate vehicle trajectories for collusive-inclusive car-following behavior modeling. Research on collision-inclusive car-following behavior to replicate real-life rear-ends collisions for improved safety-oriented microscopic traffic modeling.

## CREDENTIALS

Education: PhD, Traffic and Transportation Engineering, Polytechnic School of Engineering, NYU; MS, Civil Engineering, University of Minnesota at Twin Cities; MS, System Engineering, South China University of Technology, China; B.Eng., Automatic Control, Harbin Engineering University, China

Total Years of Experience: 15

Professional Engineer:

ARCADIS

*Infrastructure · Water · Environment · Buildings*

# 2: Organization Chart

# Organizational Chart

**Active Arterial Management Team**

**ARCADIS U.S., Inc. (AUS)**

AECOM Technical Services (AECOM)

Vanassee Hangen Brustlin, Inc. (VHB)

Traffic Engineering Data Solutions (TEDS) - DBE

KLD Engineering (KLD)

Southwest Research Institute (SwRI)

**FDOT Project Manager**
Ray Martin

**Senior Advisor**
Shahram Malek, PhD, PE (AUS)

**ARCADIS Project Manager**
Bo Gao, PE, PTOE, IMSA II (AUS)

**Principal-in-Charge**
Gene Howerton, PE (AUS)

**Quality Control/Quality Assurance**
Jim Tolson, PE, IMSA II (AUS)

**Arterial Management**

**Ben Robinson, IMSA II (AUS)**
Satya Kolluru, PE, PTOE (AUS)
Andy Wang, PE, IMSA II (AUS)
Kari Bishop, EI (AUS)
Ravi Krishna Sabbisetti, PE, PTOE, IMSA II (VHB)
Chris Walsh, PE (TEDS)

**Maintenance Management**

**Bo Gao, PE, PTOE, IMSA II (AUS)**
Pete Estes, GISP (AUS)
Michael Johnson (AUS)
Erik Spillman, PE (VHB)

**TMC Operations and Support**

**Ken Montgomery (AUS)**
Kari Bishop, EI (AUS)
Naresh Machavarapu, PE, PTOE, IMSA II (AECOM)
Erik Spillman, PE (VHB)
Tucker Brown (SwRI)
Megan McGinley (AUS)

**Performance Management and Reporting**

**Jim Tolson, PE, IMSA II (AUS)**
Satya Kolluru, PE, PTOE (AUS)
Dante Gabriel, PE, PTOE (VHB)
Wuping Xin, PhD, PE (KLD)
Chris Walsh, PE (TEDS)

**Product Support Services**

Econolite | Rhythm Engineering | Siemens | Trafficware

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# 3: Key Contact Persons

# References

ARCADIS
Infrastructure · Water · Environment · Buildings

| CLIENT | KEY CONTACT | PHONE | RELATED PROJECT |
|---|---|---|---|
| Florida Department of Transportation, District 5 | Mark Herring | 386.943.5165 | Districtwide AAM Phase II Design |
| Florida Department of Transportation, District 2 | Pete Vega | 904.360.5463 | I-95 ITS Design in St. Johns County |
| City of Atlanta, Georgia | Lawrence Waring | 404.330.6501 | ATMS Modernization and Development of a Communications Master Plan |
| Georgia Department of Transportation | Chester Thomas | 404.635.2851 | Regional Traffic Operations Program (RTOP) |
| Florida Department of Transportation, D2 | Jim Knight, PE | 904.360.5646 | I-295 East Express Lane Phase 1 (SR 9B to SR 202) SIMR |
| City of Sandy Springs, Georgia | Bill Andrews | 770.206.2525 | SR 9 ATMS Installation and Integration |
| DeKalb County, Georgia | Peggy Allen | 404.294.2041 | Transit Signal Priority (TSP) Implementation (Memorial Drive) |
| Georgia Department of Transportation | Kate D'Ambrosio | 404.635.2842 | Prioritized Regionwide Signal Retiming Services |
| Georgia Department of Transportation | Kate D'Ambrosio | 404.635.2842 | Statewide Signal Timing |

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# 4: Required Certifications

# TRUTH IN NEGOTIATION CERTIFICATION



Pursuant to Section 287.055(5)(a), Florida Statutes, for any lump-sum or cost-plus-a-fixed fee professional services contract over the threshold amount provided in Section 287.017, Florida Statutes for CATEGORY FOUR, the Department of Transportation (Department) requires the Consultant to execute this certificate and include it with the submittal of the Technical Proposal, or as prescribed in the contract advertisement.

The Consultant hereby certifies, covenants, and warrants that wage rates and other factual unit costs supporting the compensation for this project's agreement are accurate, complete, and current at the time of contracting.

The Consultant further agrees that the original agreement price and any additions thereto shall be adjusted to exclude any significant sums by which the Department determines the agreement price was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs. All such agreement adjustments shall be made within (1) year following the end of the contract. For purposes of this certificate, the end of the agreement shall be deemed to be the date of final billing or acceptance of the work by the Department, whichever is later.

ARCADIS U.S., Inc.
Name of Consultant

By: _____ 5/13/15
Date

# CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY) 12/17/2014

**THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.**

**IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).**

**PRODUCER**
Aon Risk Services South, Inc.
Franklin TN Office
501 Corporate Centre Drive
Suite 300
Franklin TN 37067 USA

**CONTACT NAME:**
**PHONE (A/C. No. Ext):** (866) 283-7122 **FAX (A/C. No.):** 800-363-0105
**E-MAIL ADDRESS:**

| INSURER(S) AFFORDING COVERAGE | | NAIC # |
|---|---|---|
| INSURER A: | Greenwich Insurance Company | 22322 |
| INSURER B: | XL Specialty Insurance Co | 37885 |
| INSURER C: | | |
| INSURER D: | | |
| INSURER E: | | |
| INSURER F: | | |

**INSURED**
Arcadis U.S, Inc.
630 Plaza Drive
Suite 200
Highlands Ranch CO 80129 USA

**COVERAGES** **CERTIFICATE NUMBER:** 570056163317 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **Limits shown are as requested**

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | |
|---|---|---|---|---|---|---|---|---|
| A | X COMMERCIAL GENERAL LIABILITY | | | GEC001076113 | 01/01/2015 | 01/01/2016 | EACH OCCURRENCE | $1,000,000 |
| | CLAIMS-MADE X OCCUR | | | | | | DAMAGE TO RENTED PREMISES (Ea occurrence) | $1,000,000 |
| | X Contractual | | | | | | MED EXP (Any one person) | $10,000 |
| | GEN'L AGGREGATE LIMIT APPLIES PER: | | | | | | PERSONAL & ADV INJURY | $1,000,000 |
| | POLICY X PRO-JECT X LOC | | | | | | GENERAL AGGREGATE | $2,000,000 |
| | OTHER: | | | | | | PRODUCTS - COMP/OP AGG | $2,000,000 |
| B | AUTOMOBILE LIABILITY | | | AEC001075813 | 01/01/2015 | 01/01/2016 | COMBINED SINGLE LIMIT (Ea accident) | $1,000,000 |
| | X ANY AUTO | | | AOS | | | BODILY INJURY ( Per person) | |
| | ALL OWNED AUTOS / SCHEDULED AUTOS | | | | | | BODILY INJURY (Per accident) | |
| | X HIRED AUTOS / X NON-OWNED AUTOS | | | | | | PROPERTY DAMAGE (Per accident) | |
| | UMBRELLA LIAB OCCUR | | | | | | EACH OCCURRENCE | |
| | EXCESS LIAB CLAIMS-MADE | | | | | | AGGREGATE | |
| | DED RETENTION | | | | | | | |
| B | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY | | | RWD943516309 | 01/01/2015 | 01/01/2016 | X PER STATUTE / OTH-ER | |
| B | ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N: N (Mandatory in NH) N / A | | | AOS RWR943516709 WI | 01/01/2015 | 01/01/2016 | E.L. EACH ACCIDENT | $1,000,000 |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | E.L. DISEASE-EA EMPLOYEE | $1,000,000 |
| | | | | | | | E.L. DISEASE-POLICY LIMIT | $1,000,000 |

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**
Evidence of Insurance.

**CERTIFICATE HOLDER**

ARCADIS U.S., INC.
630 Plaza Drive, Suite 200
Highlands Ranch CO 80129 USA

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

**AUTHORIZED REPRESENTATIVE**

Aon Risk Services South Inc.

Holder Identifier :

Certificate No : 570056163317



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# CERTIFICATION FOR DISCLOSURE OF LOBBYING ACTIVITIES ON FEDERAL-AID CONTRACTS (Compliance with 49CFR, Section 20.100 (b))

The prospective participant certifies, by signing this certification, that to the best of his or her knowledge and belief:

(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

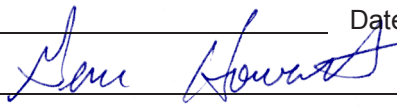
(2) If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities", in accordance with its instructions. (Standard Form-LLL can be obtained from the Florida Department of Transportation's Professional Services Administrator or Procurement Office.)

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Name of Consultant: ARCADIS U.S., Inc.

By: Gene Howerton Date: 5/13/2015

Authorized Signature: 

Title: Principal-in-Charge

# CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION – LOWER TIER COVERED TRANSACTIONS FOR FEDERAL AID CONTRACTS

(Compliance with 49 CFR, Section 29.511)
(Appendix B Certification]

It is certified that neither the below identified firm nor its principals are presently suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

Name of Consultant: ARCADIS U.S., Inc.

By _____ Date: 5/13/2015
Authorized Signature

Title: Principal-in-Charge

## Instructions for Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.

4. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded*, as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the Department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled *Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction*, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which the transaction originated may pursue available remedies, including suspension and/or debarment.

# VENDOR CERTIFICATION REGARDING SCRUTINIZED COMPANIES LISTS

Respondent Vendor Name: ARCADIS U.S., Inc.

Vendor FEIN: 57-0373224

Vendor's Authorized Representative Name and Title: Gene Howerton

Address: 1650 Prudential Drive, Suite 400

City: Jacksonville State: Florida Zip: 32207

Phone Number: 904.861.2840

Email Address: gene.howerton@arcadis-us.com

Section 287.135, Florida Statutes, prohibits agencies from contracting with companies for goods or services of $1,000,000 or more, that are on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List. Both lists are created pursuant to section 215.473, Florida Statutes. This requirement is not applicable to federally funded contracts.

As the person authorized to sign on behalf of Respondent, I hereby certify that the company identified above in the section entitled "Respondent Vendor Name" is not listed on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List. I understand that pursuant to section 287.135, Florida Statutes, the submission of a false certification may subject company to civil penalties, attorney's fees, and/or costs.

Certified By: Gene Howerton

who is authorized to sign on behalf of the above referenced company.

Authorized Signature Print Name and Title: Gene Howerton, Principal-in-Charge

Date: 5/13/2015

# EXEMPT DOCUMENTS / SECURITY SYSTEM PLAN DISTRIBUTION FORM



**Exempt Documents** being requested or received are included in those exempt from public disclosure as provided by Section 119.071(3)(b), Florida Statutes (Attached). **Security System Plans** being requested are confidential and exempt as provided by Section 119.071(3)(a), Florida Statutes (Attached). The Exempt Documents relate to work being performed for or required by the Florida Department of Transportation, or work related to the Department's structures. The following information is being provided as a record of this request or receipt, and distribution of the Exempt Documents or Security System Plans.

Completion of this form and a signature is required before information will be released (* Indicates Required to Obtain Security System Plans):

**A. Entity Requesting/Receiving Documents: (Check All That Apply and Provide Full Name of Entity.)**

☐ **State Agency*:** _____

☐ **Federal Agency*:** _____

☐ **Governmental:** _____

☐ **Architect:** _____

☒ **Engineer:** ARCADIS U.S., Inc.

☐ **Contractor:** _____

☐ **Other:** _____

**B. Entity Name:** ARCADIS U.S., Inc.

**Address:** 1650 Prudential Drive, Suite 400, Jacksonville, FL 32207

**Phone:** 904.721.2991

**C. Exempt Documents / Security Systems Plans requested or provided:** (Be specific on what is requested or to be provided, and include description, project numbers, FIN, contract numbers, etc.)

_____

**D. Reason for Request/Intended Use:** _____

**E. RECIPIENT CERTIFICATION:** I, personally, and/or as representative of the above entity, fully understand (check the applicable certification block)

☒ the exempt nature of the Exempt Documents I am receiving and agree to maintain the exempt status of this information in accordance with Florida law.

☒ the confidential and exempt nature of the Security System Plans I am receiving and agree to maintain the confidential and exempt status of these Security System Plans in accordance with Florida law.

**F. Name of person receiving Exempt Documents / Security Plans:** (Printed): Gene Howerton

Signature: Gene Howerton Date: 5/13/15

Email: gene.howerton@arcadis-us.com

**G. Driver license or photo identification number of recipient:** _____

(Recipient must provide verification of employment with the above entity and verify identity with photo ID)

**H. FDOT Employee or Other Individual Providing Exempt Documents or Security Plans:**

FDOT Office: _____ Employee Name: _____

Other Individual Name: _____

Name and Office Address of Employer: _____

**I. Exempt Documents / Security Systems Plans provided if different than requested:** (Be specific on what is provided, and include description, project numbers, FIN, contract numbers, etc.)

_____

**J. Signature of Person Authorizing Distribution:** _____ Date: _____

**Provider's Signature (if different than person authorizing distribution):** _____

**K. Method of delivery:** ☐ Pick-up by requestor _____ other (specify other method of delivery)

**Date Provided:** _____

# EXEMPT DOCUMENTS / SECURITY SYSTEM PLAN DISTRIBUTION FORM



**EXEMPT DOCUMENTS - Section 119.071(3)(b), Florida Statutes, provides:**
Building plans, blueprints, schematic drawings, and diagrams, including draft, preliminary, and final formats, which depict the internal layout and structural elements of a building, arena, stadium, water treatment facility, or other structure owned or operated by an agency are exempt from s. 119.07(1) and s.24(a), Art. I of the State Constitution. This exemption applies to building plans, blueprints, schematic drawings, and diagrams, including draft, preliminary, and final formats, which depict the internal layout and structural elements of a building, arena, stadium, water treatment facility, or other structure owned or operated by an agency before, on, or after the effective date of this act. Information made exempt by this paragraph may be disclosed to another governmental entity if disclosure is necessary for the receiving entity to perform its duties and responsibilities; to a licensed architect, engineer, or contractor who is performing work on or related to the building, arena, stadium, water treatment facility, or other structure owned or operated by an agency; or upon a showing of good cause before a court of competent jurisdiction. The entities or persons receiving such information shall maintain the exempt status of the information.

**SECURITY SYSTEM PLAN -** ***Section 119.071(3)(a), Florida Statutes, provides:***
As used in this paragraph, the term “security system plan” includes all Records, information, photographs, audio and visual presentations, schematic diagrams, surveys, recommendations, or consultations or portions thereof relating directly to the physical security of the facility or revealing security systems; Threat assessments conducted by any agency or any private entity; Threat response plans; Emergency evacuation plans; Sheltering arrangements; or Manuals for security personnel, emergency equipment, or security training. A security system plan or portion thereof for: Any property owned by or leased to the state or any of its political subdivisions; or Any privately owned or leased property held by an agency is confidential and exempt from s. 119.07(1) and s. 24(a), Art. I of the State Constitution. This exemption is remedial in nature and it is the intent of the Legislature that this exemption apply to security system plans held by an agency before, on, or after the effective date of this paragraph. Information made confidential and exempt by this paragraph may be disclosed by the custodian of public records to The property owner or leaseholder; or Another state or federal agency to prevent, detect, guard against, respond to, investigate, or manage the consequences of any attempted or actual act of terrorism, or to prosecute those persons who are responsible for such attempts or acts.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

# PROFESSIONAL SERVICES DBE OR SMALL BUSINESS COMMITMENT FORM

375-030-83
PROCUREMENT
02/15

Firms will submit this form in response to the Request for Proposal or alternatively, at the time of Expanded Letter of Response submittal.

Used for Professional Services:

- BDI Set-Asides (Standard note 7 of Professional Services advertisement)
- Advertisements that contain Under-Utilized Work Groups (Standard note 8 of professional services ad)
- Advertisements that contain a DBE/Small Business Aspiration Goal (Standard note 9 of professional services ad)

| | |
|---|---|
| **Contract/Advertisement No.:** | 16502 |
| **Project Description:** | Advanced Traffic Management System (ATMS) for Active Arterial Management |
| **Prime Consultant:** | ARCADIS US, Inc. |

The Prime is a Department of Transportation certified Disadvantaged Business Enterprise (DBE). ☐ Yes ☒ No
The Prime is a Non-DBE Small Business. ☐ Yes ☒ No
The Prime is a Small Business. ☐ Yes ☒ No

Expected percentage of contract fees to be utilized by DBE(s): 13 %. (Combine DBE Prime and DBE subconsultants, if applicable).

Expected percentage of contract fees to be utilized by Non-DBE Small Businesses 0 %. (Combine Non-DBE Small Business Prime and Non-DBE Small Business subconsultants, if applicable).

The proposed Prime and subconsultants/subvendors are as follows:

| Prime (If applicable) | Type of Work | Percentage | DBE | Small Business | "Non-DBE" Small Business |
|---|---|---|---|---|---|
| N/A | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| **Subconsultant/Subvendor (If applicable)** | **Type of Work** | **Percentage** | | | |
| Traffic Engineering Data Solutions | Traffic Counts | 13% | ☒ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |
| | | % | ☐ | ☐ | ☐ |

Please note, the number one ranked firm is required to enter DBE Participation in the Equal Opportunity Compliance (EOC) System subsequent to contract award and any future contract amendments or task work orders (if applicable).

Firms listed in the table as DBEs should appear in the Department's listing of DBE's at:
http://www3b.dot.state.fl.us/EqualOpportunityOfficeBusinessDirectory/CustomSearch.aspx

Professional Services firms listed as "Non-DBE" Small Businesses should appear on the Department's listing of all Non-DBE Small Businesses at: http://www2.dot.state.fl.us/procurement/professionalservices/lppc/sbeonly.htm. Road and bridge construction firms and other non-professional services firms should appear on the Department's listing at: http://www2.dot.state.fl.us/sasweb/cgi-bin/broker.exe?_service=default&_program=inetprog.db2.smbusform.scl

By: _____

Title: Gene Howerton, Principal-in-Charge Date: 5/13/15

**ARCADIS U.S., Inc.**

1650 Prudential Drive
Suite 400
Jacksonville, FL 32207
Tel 904.721.2991
Fax 904.861.2450

www.arcadis-us.com

ARCADIS