RESOLUTION NO. 2013-41

A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, SELECTING ATKINS NORTH AMERICA, INC. TO PREPARE A TRAFFIC STUDY RELATING TO A PROPOSED DEVELOPMENT ALONG CRANDON BOULEVARD AND HARBOR DRIVE; AUTHORIZING THE VILLAGE MANAGER TO NEGOTIATE AND EXECUTE AN AGREEMENT CONSISTENT WITH THE TERMS SET FORTH IN THE PROPOSAL ATTACHED AS EXHIBIT "A;" AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS,the Village Manager, in accordance with Section 2-82(b) of the Village Code of Ordinances, recently sought proposals for a traffic study relating to a proposed development along Crandon Boulevard and Harbor Drive (the "Study"); and

WHEREAS, after careful review of the proposals submitted, the Village's selection committee recommended Atkins North America, Inc. (the "Atkins") for the Study; and

WHEREAS, the Village Council selects Atkins for the Study, and authorizes the Village Manager to negotiate and execute an agreement with Atkins consistent with the proposal attached as Exhibit "A;" and

WHEREAS, the Village Council finds that this Resolution is in the best interest and welfare of the residents of the Village.

NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:

Section 1. **Recitals Adopted.** Each of the above stated recitals are hereby adopted, confirmed and incorporated herein.

Section 2. **Atkins Selected.** The Village Council hereby selects Atkins for the Study.

Section 3. **Village Manager Authorized.** The Village Manager is hereby authorized to negotiate and execute an agreement, consistent with the proposal attached hereto as Exhibit "A," with Atkins for the Study, subject to approval as to form, content, and legal sufficiency by the Village Attorney.

Section 4. **Effective Date.** This Resolution shall be effective immediately upon adoption.

PASSED AND ADOPTED this 12th day of November, 2013.

MAYOR FRANKLIN H. CAPLAN

ATTEST:

CONCHITA H. ALVAREZ, MMC, VILLAGE CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

VILLAGE ATTORNEY

AGENDA ITEM 11A
TAB 6

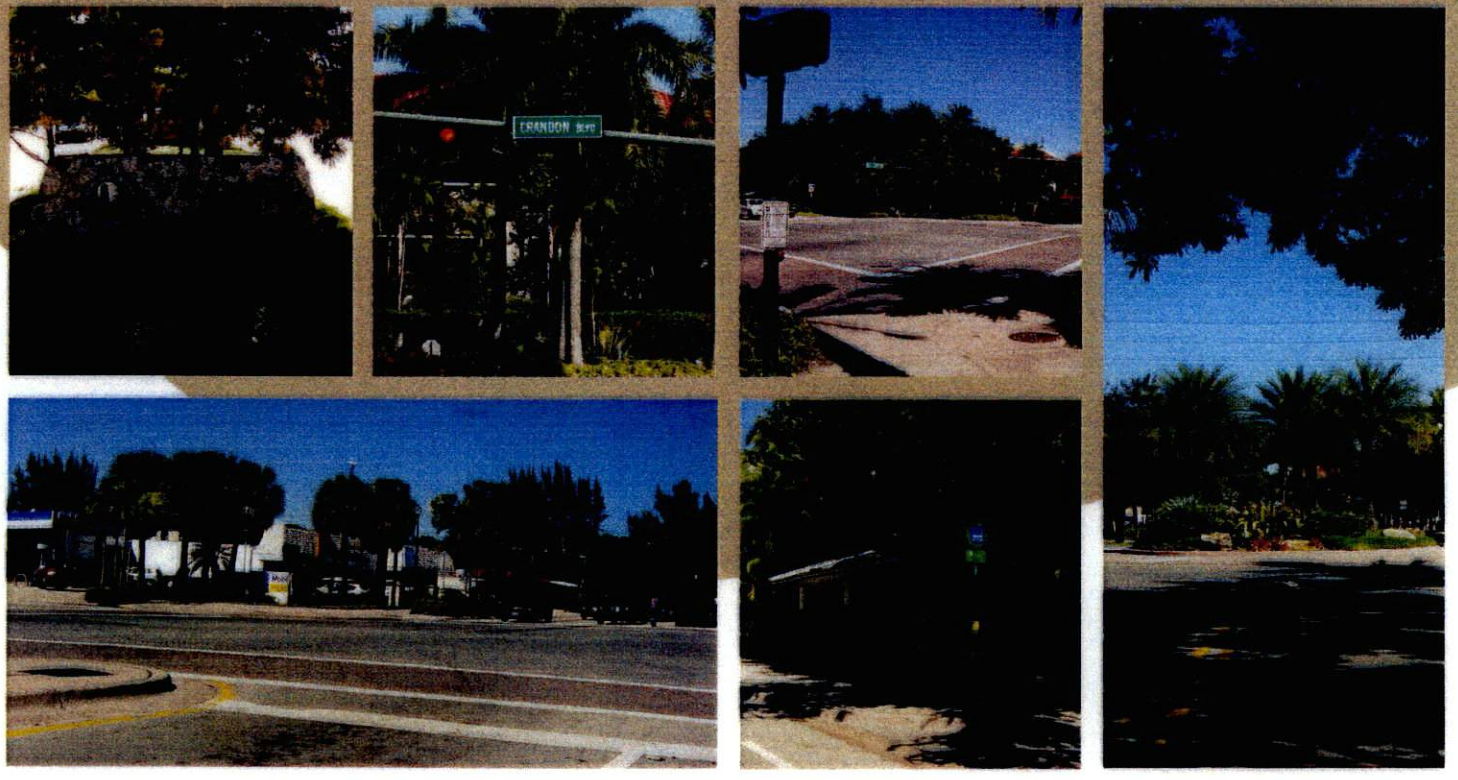
ATKINS

EXHIBIT "A"

Village of Key Biscayne

12-22-24 Crandon Boulevard and 51 Harbor Drive Traffic Study

October 25, 2013



Plan Design Enable

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ATKINS

Atkins North America, Inc.
2001 Northwest 107th Avenue
Miami, Florida 33172-2507

Telephone: +1.305.592.7275

www.atkinsglobal.com/northamerica

October 25, 2013

Village of Key Biscayne
88 W. McIntyre Street
Suite 220
Key Biscayne, Florida 33149

RE: 12-22-24 Crandon Boulevard and 51 Harbor Drive Traffic Study

Dear selection committee members,

Thank you for the opportunity to present our qualifications and cost proposal for the Traffic Study at 12-22-24 Crandon Boulevard and 51 Harbor Drive. Atkins takes pride in our commitment to personal service and our ability to meet our clients' needs in an efficient and cost-effective manner. We possess the experience, staff, and qualifications to ensure that projects developed in the Village meet all municipal codes and standards as well as the service standards set by the community. The need for a proven team to provide engineering advisory services is crucial to meet the Village's needs for the successful completion of the Traffic Study. Atkins is that team.

Experienced, responsive, and committed. These three characteristics define our approach to meeting your traffic engineering service needs. Atkins has reviewed and conducted many Traffic Impact Studies for development projects throughout the communities of Miami-Dade and Broward Counties. We have worked with municipalities like the City of Miami Beach and City of Coral Gables to ensure the highest standards of traffic engineering are taken into consideration during the planning and design of projects. Atkins is dedicated to listening to our client's concerns and addressing issues which could affect the communities' quality of life.

Experienced. This project demands staff experience with traffic engineering projects in high-quality urban development areas. Our team consists of project manager, Darlene M. Fernandez, PE, who has worked for the Florida Department of Transportation (FDOT) and the City of Miami Beach. Darlene understands the sensitivities and needs of municipalities and understands the challenges presented by developments in small cities. Darlene's prior experience reviewing traffic impact studies for the City of Miami Beach Public Works Department as part of the City's development review process, makes her the ideal project lead this effort. The team led by Darlene includes staff experienced and qualified in all technical elements required by the Traffic Study. Our combined team has experience working with planning and zoning review boards as well as traffic, transportation engineering, and planning personnel.

Responsive. We understand that things may be time sensitive when you are working with a developer and that municipalities have a responsibility to diligently move projects through the review process. We are focused on meeting all your deadlines and having a quick turn around on all reports and documentation needed. Our experience with these types of studies will decrease the response time required to keep this project on schedule and on budget. Additionally, we will support the Village's public involvement and public meeting process to ensure that the review process does not impede project progress.

ATKINS

Committed. We are focused on the client's and resident's needs in the community. Atkins is committed to supporting the Village as it explores this development, its benefits and its potential impacts. Moreover, Atkins will work closely with the Village's leadership and staff to support their efforts to make the best decision. We are committed to always providing you with quality, cost-effective services and committed to making our working relationship successful.

If you have any questions or require clarification, please contact me or Ms. Darlene M. Fernandez, respectively at 305.796.7584 and 305.514.3232. Our individual e-mail addresses are humberto.alonso@atkinsglobal.com and darlene.fernandez@atkinsglobal.com.

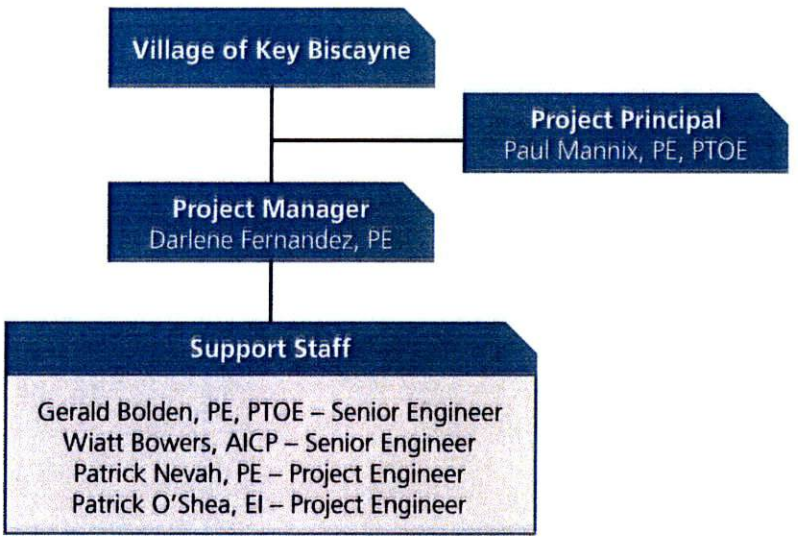
Sincerely,

Humberto P. Alonso Jr.
Vice President

I. Personnel

Our project manager, Darlene Fernandez, is the perfect fit to lead this team given her experience conducting similar traffic studies. As a former City of Miami Beach and FDOT employee, Ms. Fernandez brings a broad understanding of the traffic issues that various agencies are facing. She will use her experience to ensure the Village's goals are achieved. Darlene is excited to help you with this study. She is supported by a team of professionals who bring an experienced traffic study resume. We believe a lean team provides you with the best combination of experience, expertise, and efficiency. Members of our team were selected specifically for unique benefits they provide for the success of this study. Our team organization and brief biographies follow, and resumes are provided in the Appendix.

Team Organization



Darlene Fernandez, PE, Project Manager

Ms. Fernandez has 10 years of experience in traffic operations analysis, traffic modeling, access management, and traffic signalization design including signing and pavement markings, transportation planning, design, construction management and project management. She is proficient in Synchro/SimTraffic, HCS, GIS applications, and Microstation. Ms. Fernandez's project experience includes:

- Districtwide Traffic Operation Studies, FDOT District Six
- West Avenue PD&E Study, City of Miami Beach
- Indiantown Area wide Traffic Study, Centex Homes, Martin County

Paul Mannix, PE, PTOE, Project Principal

Mr. Mannix has 18 years of experience and serves as the traffic engineering group manager for Atkins' ITS sector in the company's central Florida location. His experience includes extensive traffic signal design and traffic engineering study development as well as signing and pavement marking design plus ITS planning, design, construction, operations, and maintenance. Mr. Mannix's project experience includes:

- Maintenance Management and Traffic Operations Engineering Management Consultant Services - Florida's Turnpike Enterprise (FTE)
- Orlando-Orange County Expressway Authority (OOCEA) General Engineering Consultant
- Orange County Advanced Traffic Management System (ATMS) Feasibility Study, Orange County

Gerald Bolden, PE, PTOE, Senior Engineer

Mr. Bolden has 16 years of experience in traffic engineering, transportation planning, and functional design. His specific experience includes ITS construction management; traffic signal design; operations and timing; ITS planning and design; capacity analysis and modeling using HCS, CORSIM, and Synchro; corridor studies; roadway safety audits; interchange studies; traffic impact studies; intersection geometric designs; workzone traffic control plans; and cost estimates. Mr. Bolden's project experience includes:

- Central Business District Signal Timing and Circulation Study, City of Franklin (TN)
- Continuing Traffic Engineering Services, TDOT, Statewide Tennessee
- Cool Springs Area ITS Expansion Project, City of Franklin (TN)

Wiatt Bowers, AICP, Senior Engineer

Mr. Bowers is a senior transportation and land use planner with over 18 years of experience. His primary areas of expertise include corridor studies and master plans, development of long-range transportation plans, travel demand modeling, transit planning, traffic impact studies for Developments of Regional Impact and other large projects, concurrency studies, and mobility plans. Mr. Bowers' project experience includes:

- Parking Garage Traffic Impact and Circulation Study, University of Florida
- Shands Hospital at the University of Florida Master Plan, Shands Healthcare
- Tampa Bay Intermodal Centers Study, FDOT District Seven

Patrick Nevah, PE, Project Engineer

Mr. Nevah recently joined Atkins and brings nine years of experience as lead designer, project engineer, and engineer-of-record for projects including signalization and signing and pavement markings, turnpike and interchange ITS, minor district-wide roadway work, and traffic engineering studies. His expertise includes the development of specifications, technical special provisions, technology review of new products, cost estimates, typical section packages, and pavement design. Mr. Nevah's project experience includes:

- Yates Road at West Pipkin Road Intersection Improvements Traffic Study, Alternative Analysis and Design Services, Polk County
- SR 189 (Beal Parkway), Okaloosa-Walton Transportation Planning Organization, Okaloosa County
- District-wide Traffic Operations Safety Studies Consultant, FDOT District Five

Patrick O'Shea, EI, Project Engineer

Mr. O'Shea has two years of transportation engineering experience. He has been responsible for utility coordination for various clients such as FDOT District Five and Osceola County. His additional experience includes the design, production, and installation of the cabinets that control the timings of traffic lights for 60 intersections within Sarasota County. Mr. O'Shea's project experience includes:

- Mast Arm Replacement Design-Build, FDOT District Five
- I-4 Dynamic Message Signs Replacement Design-Build, FDOT District Five
- Osceola County Traffic Signal Retiming Design Build, Osceola County

II. Firm Information

Atkins offers comprehensive consulting services to public and private clients facing the challenges of new and aging infrastructure, sustainability and smart growth, and program funding. Our integrated approach to project solutions builds value for clients and helps advance the best practices of the industries we serve.

Ranked 31st among *Engineering News-Record's* annual list of the largest engineering firms in the nation, Atkins has 2,700 employees in 70 offices across the U.S. and was founded in 1960. Our clients represent a mix of both the public and private sectors and include counties and municipalities; state departments of transportation; land developers; power utilities; contractors; and other regional, state, and federal agencies. Our goal is to be a single-source solution for clients through the provision of world-class technology and personal service on all of our projects, whether large or small.

Our corporate structure allows us to draw upon the technical resources of our entire firm, as needed, to successfully accomplish any assignment. Atkins provides world-class technology and services to all of our clients, and our large volume of repeat business—90 percent—reflects the firm's commitment to:

- Professionally complete assignments on time and within budget
- Seek innovative, but practical solutions to problems when more traditional approaches do not meet the client's needs

Atkins has developed a reputation of excellence with our clients by providing client-focused, quality, innovative, and responsive service. We are prepared to uphold this reputation by providing you with respected, qualified personnel who are experts within their respective disciplines. You have our commitment to provide the Village with the same client service.

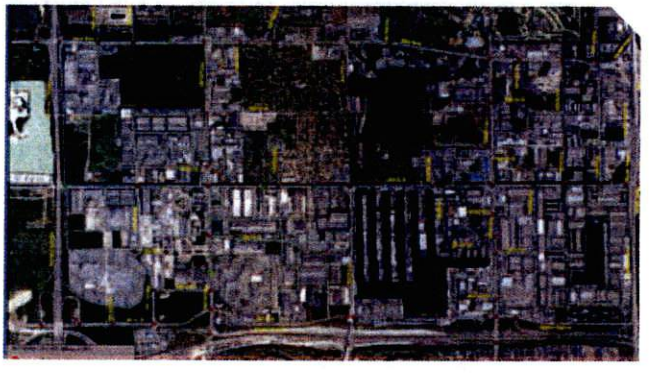
III. Similar Project Experience

Our team continues to exceed client expectations with innovation, attention to detail, and the effectiveness of our work. We have included projects that highlight the cost-effective and proven delivery you can expect to receive—demonstrating our ability to communicate, coordinate, and exceed project goals.

Seminole Hard Rock Casino Traffic Access, Circulation, and Parking Studies, Hollywood/Tampa

This traffic/transportation study evaluated existing conditions and examined projected development and vehicular trips accordingly. The work involved estimating potential impacts and general traffic conditions within the area of influence of the proposed sites and generating several improvement alternatives that were then analyzed to arrive at the recommended alternatives. To secure approval for the solutions developed, Atkins worked with our client and presented the findings of the study to the interested entities including FDOT, FTE, Broward County, Metropolitan Planning Organization, City of Hollywood, City of Davie, and other local governments. Atkins was responsible for all aspects of this study including implementation of quality control measures, attendance at presentations, and coordination with client.

Doral Traffic Impact Study, Signal Design, and Warrant Study, Doral

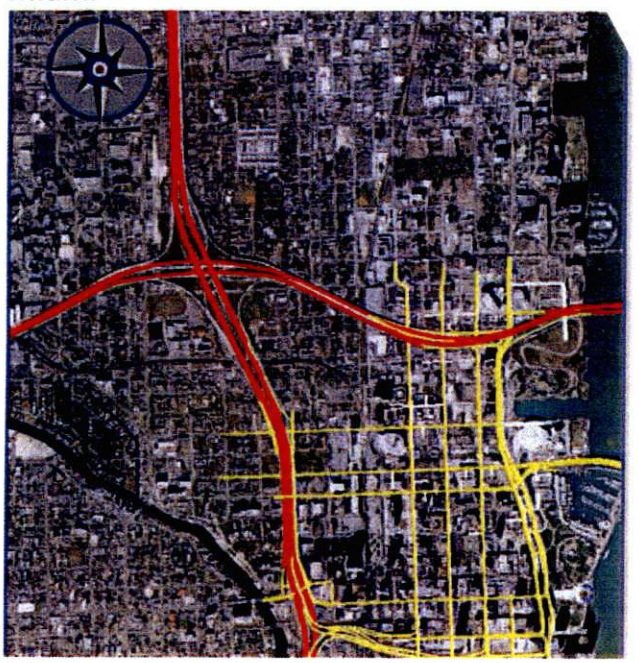


Atkins evaluated the existing traffic conditions within the area of impact of the proposed facility, estimated the traffic impact of the development within the study area, and provided recommendations to mitigate adverse traffic impacts on the roadway system. Atkins was responsible for all aspects of this study including implementation of quality control measures, attendance at presentations, and coordination with client.

General Transportation Planning and Traffic Engineering, Miami Beach

Atkins provided consulting services to perform traffic operation assessments and completed over 20 traffic impact studies for the City of Miami Beach including I-95 Hot Lanes, 5th Street Medical Office, 71st Street and Bonita Drive, Sheridan Avenue, 420 Lincoln Road, Dade Boulevard, Sun Terminal, and Walgreens at Normandy Drive. Atkins responsible for all aspects of these services including implementation of quality control measures, attendance at presentations, and coordination with client.

Port of Miami Traffic Access Study Miami



Atkins performed traffic circulation studies, field observation and data collection, truck traffic circulation and access monitoring, and microscopic simulation of traffic conditions within Miami's downtown area. The scope of work also included the evaluation of improvement alternatives of signal timing within the entire area of study, coordination with the client, attendance at presentations and meetings, and preparation of reports and documentation. Atkins was also responsible for developing detailed microscopic traffic impact analyses of the area to determine existing and future traffic conditions, identifying alternative port truck access points to minimize delays, and evaluating the proposed port tunnel.

IV. Project Experience with the Village of Biscayne

One O One Apartments Plan Review, Key Biscayne

Atkins provided emergency management services for this project. The project consisted of a structural peer review for a private residential development in Key Biscayne. We reviewed the structural calculations and models and provided peer review comments on the structural design as depicted in the construction plans. Atkins coordinated with the Chief Building Official and the Engineer of Record to expedite the review comments and plan approvals.

V. Price Proposal

Our price proposal is provided on the following page.

ATKINS

Traffic Impact Study for Walgreens at 12-22-24 Crandon and 51 Harbor Drive in the Village of Key Biscayne

Man-Hour and Fee Compensation

Task	Description	Principal		Project Manager		Senior Engineer		Engineer		Clerical		TOTALS	
		Man Hours	Cost	Man Hours	Cost	Man Hours	Cost	Man Hours	Cost	Man Hours	Cost	Man Hours	Cost
1	**Traffic Data Collection**	0	0	1	145	8	1,048	20	2,320	1	58	30	3,571
2	**Traffic Circulation and Level of Service Analysis**	0	0	2	290	27	3,537	16	1,856	0	0	45	5,683
3	**Technical Memorandum and documentation**	0	0	2	290	6	786	4	464	2	116	14	1,656
4	**Site Visits, Meetings, and Presentations**	2	348	8	1,160	4	524	4	464	2	116	20	2,612
	TOTALS	**2**	**348**	**13**	**1,885**	**45**	**5,895**	**44**	**5,104**	**5**	**290**	**109**	13,522

Total Salary Cost	**$13,522**
Traffic Counts	**$14,190**
Direct Expenses	**$250**
GRAND TOTAL	**$27,962**

Traffic Counts (subconsultant fee)	**No. of**	**Cost**	**Total**
7 Day Automatic Counts-2 Lane	2	$575	$1,150
7 Day Automatic Counts-4 Lane	3	$650	$1,950
Turning Movement Counts+DVD	22	$495	$10,890
Tube Set Up Fee	1	$200	$200
TOTAL			**$14,190**

Hourly Salary Rates	**$/hr.**
Principal	174
Project Manager	145
Senior Engineer	131
Engineer	116
Clerical	58

Appendix

ATKINS

Darlene Fernandez, PE

Project Manager

Darlene Fernandez has 10 years of experience in traffic operations analysis, traffic modeling, access management, and traffic signalization design including signing and pavement markings, transportation planning, design, construction management and project management. Darlene worked for FDOT and the City of Miami Beach and understands the needs of local municipalities and understands the potential challenges in working with developers in small cities. She has reviewed many traffic impact studies for the City of Miami Beach Public Works Department prior to approval of permits for new developments throughout the city. She is proficient in Synchro/SimTraffic, HCS, GIS applications, and Microstation.

Ms. Fernandez's project experience includes:

Capital Projects Coordinator/Project Manager, City of Miami Beach, FL. Perform highly responsible work of an administrative nature, managing the various phases of construction and development of major capital improvement projects within the City. Obtain funding for construction of Capital Projects by preparing applications for grants from various Federal, State and County agencies. Assist in the selection of consulting architects and engineers to design Capital Projects. Direct and assist in the design of projects, i.e. preparation of construction plans, specifications, permitting and contracts. Provide construction contract administration and inspection by reviewing and approving contract payment applications, change orders, budget allocations, construction schedules, and compliance with contract plans and specifications.

Central Bayshore A, City of Miami Beach, FL. Project manager. Managing the construction project for the Central Bayshore A neighborhood. Central Bayshore A is located within the mid beach area. The project limits are generally bounded to the north by west 40th Street; west along Chase Avenue; east along Flamingo Drive; and south along West 28th Street. The scope of work includes water main installation, storm water drainage, road paving and restoration, concrete sidewalks, valley gutters, and landscaping. The total contract amount is estimated at $22 million.

Transportation Coordinator/Acting Transportation Manager, City of Miami Beach, FL. Performed work in organizing and managing the operations and implementation of the City's Transportation Management Plan. Responsible for initiating, researching, evaluating, coordinating and resolving transportation management issues within the City. Coordinated the Land-Use-Transportation models involving mobility, livability, accessibility, sustainability and procurement of funding for the planning, design and construction of transportation projects. Facilitated the addition of new and the completion of existing transportation/transit projects by providing liaison between the City and various Federal, State, Regional, County, and local agencies including the Metropolitan Planning Organization (MPO). Performed a variety of administrative and/or field duties relative to the identification of transportation problems, evaluation of alternative solutions, evaluation of program or projects effectiveness, and management of technical support functions. Managed the PTP funds for the City of Miami Beach and prepared the quarterly and annual reports on PTP funding for the Department. Managed and prepared contracts for minor right of way improvements throughout the City, design project and traffic studies and requirements for the City. Coordinated and assisted in FDOT Construction projects within the City.

Education

B.A., Civil Engineering, Florida International University, 2005

Registrations/licenses

Professional Engineer
Florida 76507, 2013

Software

Synchro 8
Highway Capacity Software (HCS)
Microstation
GIS
CorSIM

Darlene Fernandez, PE
Project Manager

West Avenue PD&E Study, City of Miami Beach, FL. Project manager. Project included managing a PD&E study documenting the requirements for preliminary design, including existing conditions, typical sections, right of way requirements, traffic control plans, environmental impacts, and costs improvements for a low-level bridge over the Collins Canal at West Avenue. Also, managed the work from the Consultant, FDOT and the permitting agencies involved on this project.

Highway Design for US 1 (SR 5) from SW 264 Street and SW 304 Street, FDOT District Six, FL. Project engineering. Project involves widening and reconstruction, overbuild, milling and resurfacing, lighting and new French Drain systems for approximately 3.5 miles of roadway. Assisted in the signalization design and review of signing and pavement marking plans within the project limits.

Districtwide Traffic Operation Studies, FDOT District Six, FL. Project engineering. Responsible for data collection efforts, field reviews, crash analysis, traffic modeling and analysis, development of recommendations and preparation of reports for different traffic operation studies.

I-595 (SR 862) Corridor Roadway Improvements Project, I-75 to I-95, FDOT District Four, Broward County, FL. Project consists of working on developing the Operations and Maintenance requirements and serving as an extension to District Four staff in the project development and design management of the 11-mile, $1.5 billion widening and reconstruction program that includes a proposed three-lane, variable-toll, reversible, express lanes system in the I-595 median, major improvements to the I-595 median and to the I-595/Turnpike Interchange. Responsible for assisting in crash analysis throughout the corridor.

I-95 Managed Lanes, FDOT Districts Four and Six, Broward and Miami-Dade Counties, FL. Responsible for data collection and field reviews for the I-95 corridor extending from I-395 in Miami-Dade County to Broward Boulevard in Broward County. The project was conducted in two phases, the Miami-Dade section and the Broward section. The analysis assesses the feasibility of converting the existing high-occupancy vehicle lane on I-95 to two express toll lanes.

Miami-Dade Signal Retiming Project, Miami-Dade Signal Retiming Study, Miami-Dade County, FL. Project engineer. Project involved retiming several signalized intersections along three corridors in Miami-Dade County: Collins Avenue, US 1/South Dixie Highway and NW 103rd Street. Project also consisted of developing four timing plans for the traffic control sections along the corridor. Responsible for data collection, field reviews and creating the synchro files with existing data. The timing plan included AM peak, PM peak, midday peak, Saturday midday peak and one off-peak periods. 2007 Safe Routes to Schools Pilot Program, Miami-Dade Metropolitan Planning Organization, Miami-Dade County. FL. Responsible data collection, field reviews, and design of safe walking routes for pilot schools in the south Florida area of Miami-Dade County.

Indiantown Area wide Traffic Study, Centex Homes, Martin County, FL. Project engineering. The project consists of determining the future (2003) roadway levels of service and improvement needs for the defined study area. Assisted in gathering data for the trip generation models and provided GIS support.

Darlene Fernandez, PE
Project Manager

PD&E Studies, SR 968 Flagler Street and SW 1st Street from 27th Avenue to Miami River, FDOT District Six, FL. Project engineering. Conducted level of service analysis at signalized intersections throughout the project, performed crash and safety analysis, traffic modeling and analysis and responsible for the data collection efforts and field reviews within the project limits.

SR 80 PD&E Study, FDOT District Four. Project includes evaluating travel demand forecast and arterial operations for the possible replacement of an existing bascule bridge and tidal-relief bridge along Southern Boulevard in Palm Beach County. Responsible for assisting in the crash analysis and data collection.

I-75 PD&E, FDOT Districts Four and Six, Broward and Miami-Dade Counties, FL. Project includes traffic forecasting and operational analysis for the I-75 corridor extending from I-595 in Broward County to SR 826/Palmetoo Expressway in Miami-Dade County. This project may involve improvements such as reversible/special-use lanes, interchange improvements and a transit component. Responsible for data collection, field reviews and the crash analysis for the corridor.

Krome Avenue Truck Bypass Study, FDOT District Six, Miami-Dade County, FL. project includes preparing a study documenting the requirements for preliminary design, including existing conditions, typical sections, right of way requirements, traffic control plans, environmental impacts, and costs improvements for the Truck bypass on SR 997/Krome Avenue from Flagler Avenue to SW 316 Street. Responsible for the traffic data collection and crash analysis. Also helping in developing synchro analysis for the different alternatives.

SIS Master Plan, FDOT District Six, Miami-Dade County, FL. Includes a review of the SIS network in order to develop improvements for bottleneck/congestion locations for project implementation. In addition, task work orders include the SR 826 Managed Lanes Feasibility Study, review of SIS Data and Designation Updates and presentations to agencies on the District 6 SIS process. Responsibilities include crash analysis and conducting LOS analysis.

While employed with FDOT District Six, Ms. Fernandez worked on the following projects.

Districtwide Traffic Operations Studies, FDOT District Six, Miami-Dade, FL. Project manager/traffic operations analyst/project manager- . Performed advanced traffic engineering analysis using in-house resources. Analyzed traffic data using traffic models such as TEAPAC, Synchro/Sim Traffic, Corsim and HCS. Prepared Traffic Engineering studies according to current practice. Performed traffic engineering analysis and prepared traffic safety and operational studies. Provided justification for traffic control devices and prepared the necessary traffic regulations. Responsible for collecting and compiling data according to accepted practice including approach counts, turning movement counts, pedestrian counts, speed, delay, gap, crash data, etc. Reviewed and analyzed engineering reports prepared by Consultants, other Departmental units and other agencies. Developed minor design projects for Traffic operations. Used GIS application for traffic analysis. Conducted plans review and compiled comments with overall review. Project Manager for the Districtwide Traffic Operations Studies contract.

Traffic Operations Division–Engineer Technician, FDOT District Six, Miami-Dade County, FL. Maintained the fatality database for Traffic Operations. Extracted crash

Darlene Fernandez, PE
Project Manager

data from the mainframe and prepared crash summary reports and collision diagrams. GIS system tasks included creating shape files of District wide pedestrian and fatal crashes. Coordinated with local police departments to obtain hard copy police reports. Provided technical support to the traffic operations staff.

Maintenance Division–Engineer Technician, FDOT District Six, Miami-Dade, FL. Conducted semi-final and final field reviews for projects. Routed plans (60, 90,100). Conducted plans review and compiled comments with overall review. Attended design meetings and preconstruction meetings. Tracked traffic service requests in the District. Maintained and updated the District wide attenuators and guardrail inspections, post-mounted sign structures, signing and pavement marking and illegal encroachments. Assisted and inspected striping and symbols, overhead signs for replacement and roadways for isolated asphalt replacements. Monitored and tracked the RCI data input. Assisted with construction management for the Department. Monitored assigned projects until completion. Assisted the Roadside/Roadway Administrator.

Procurement/Contracts Division Procurement Assistant, FDOT District Six, Miami-Dade, FL. Entered bids into the info fax and Transport. Entered new contractors into the PES and LAS system. Ran transport reports. Set up technical review memos and pre-bid meetings. Distributed packages to contractors. Set up contract documents. Closed out contracts and archived the files. Advertised projects for the procurement office.

ATKINS

Paul Mannix, PE, PTOE

Project Principal

Mr. Mannix has more than 18 years of experience and serves as the traffic engineering group manager for Atkins' intelligent transportation system (ITS) sector in the company's central Florida location. His experience includes extensive traffic signal design and traffic engineering study development as well as signing and pavement marking design plus ITS planning, design, construction, operations, and maintenance.

Mr. Mannix's project experience includes:

I-75 Smoke and Fog Protection ITS Deployment Project, FDOT District 2, Alachua County, FL; Will Lyons, PE, (904) 360-5574; November 2012 - July 2013. *Role: Engineer-of-Record.* This project consisted of the design of ITS devices along the SR 93 (I-75) Corridor and the SR 25 (US 441) Corridor in Alachua County. The project limits along SR 93 (I-75) are from the Alachua/Marion County line to the Archer Road interchange, a distance of approximately 11 miles. The project limits along SR 25 (US 441) are from SW 109th Place to SW 63rd Avenue, a distance of approximately 2.5 miles. The work includes microwave vehicle detection systems (MVDS), dynamic message signs (DMS), closed circuit television (CCTV) cameras, road weather information systems (RWIS) and fiber optic and wireless communications as well as other incidental construction within the project limits.

Lake Nona Blvd. at Narcoossee Road Signal, Myrtle Creek Improvement District, Orlando, Florida; John Florio, PE, (407) 644-4068; October 2012 – July 2013. *Role: Project Manager and Engineer-of-Record.* This project consisted of the design of a new traffic signal at the intersection and included a mast arm signal, signing and striping, interconnect to an existing fiber optic system, and coordination of utilities and a close railroad crossing for pre-emption. Mr. Mannix managed the overall project design and all other efforts on the project to provide final constructible plans for bidding to a contractor.

Ishops LLC Development Signal, Unicorp, Orlando, Florida; Joe Bathalter, (407) 999-9985; September 2012 – June 2013. *Role: Project Manager and Engineer-of-Record.* This project consisted of the design of a new traffic signal at the intersection of International Drive and Jamaican Court to upgrade the existing signal due to development modifications at the intersection. The project included a mast arm signal, signing and striping, and coordination of utilities. Mr. Mannix managed the overall project design and all other efforts on the project to provide final constructible plans for bidding to a contractor.

Josie Billie Highway (Snake Road/BIA 1281) Segment 3-B Signing and Striping. This project consisted of the reconstruction and widening of a 2 mile segment of roadway. Mr. Mannix conducted the final signing and pavement marking design along with an emergency traffic signal and was the engineer-of-record for this portion of the project.

Maintenance Management and Traffic Operations Engineering Management Consultant Services, Florida's Turnpike Enterprise, Ocoee, FL; John Easterling, PE, PTOE, (954) 934-1620; September 2002 - December 2011. *Role: Sr. Traffic Engineer/ITS Planning Engineer/ITS Design Engineer/Traffic and ITS Engineering Program Manager.* Mr. Mannix was a dedicated on-site staff member to Florida's Turnpike Enterprise through this contract for over 9 years. Mr. Mannix started his time

Education

M.S., Civil Engineering (Transportation Emphasis), University of Wyoming, 1995

B.S., Civil Engineering, Montana State University, 1993

Registrations/licenses

Professional Engineer
Florida 57712, 2001
Colorado 35289, 2001
Utah 369569, 1999

Certifications

Professional Traffic Operations Engineer (PTOE), 890, 2002

Florida Department of Transportation Advanced Maintenance of Traffic Certification, 2009, 2013

Software

NETSIM, TRANSYT-7F, HCS, INTEGRATION, ITE Trip Generation software and SunGuide TMC Software (configuration).

Paul Mannix, PE, PTOE
Project Principal

at the Turnpike by managing the Traffic Engineering group for four years. The group, located in Ocoee and Fort Lauderdale, is responsible for all of the existing signing and striping on the Turnpike roadway system, as well as reviewing the signing, striping, and maintenance of traffic plans for all future Turnpike construction projects. In addition, this group conducts various traffic engineering studies, crash analysis, evaluates all fatal crashes, and analyzes and responds to customer complaints relating to traffic engineering issues on Florida's Turnpike roadways.

Mr. Mannix has also held the ITS planning and design engineer positions for Florida's Turnpike Enterprise. As the ITS planning engineer, Mr. Mannix was responsible for managing the periodic updates to the Turnpike's ITS business plan outlining all funded and unfunded ITS needs on the Turnpike roadway system. In the role of ITS design engineer, Mr. Mannix managed a very aggressive ITS Program that included five major design bid build deployment projects in addition to eight design build projects that occurred in a five year period. In addition to the ITS stand alone projects, major sections of the FTE ITS program were deployed along with two design build and two design bid build roadway widening projects. Paul was involved in all aspects of these deployment projects from managing the concept and design efforts to overseeing the FTE construction personnel responsible for administering the construction contracts.

Finally, Mr. Mannix served as the Traffic and ITS Engineering Program Manager. In this role, Mr. Mannix oversaw the Traffic Engineering, ITS Deployment, ITS Systems and ITS Maintenance sections of the Turnpike. These groups provide traffic engineering services as well as the planning, design, maintenance and back room operations of the Turnpike's ITS devices. The work conducted within these groups allows the Turnpike's Traffic Management Center (TMC) to provide incident management services to customers of Florida's Turnpike. The following list highlights some of the main projects that Mr. Mannix was responsible for during his time with Florida's Turnpike.

SunNav℠ ITS Phase II Turnpike Mainline MP 75 to MP 155, FTE. Mr. Mannix served as the Turnpike's Project Manager for the completion of the design build criteria package for this project. The criteria package included the request for proposal, conceptual plans and preliminary specifications necessary to hire a design build team. In addition, Mr. Mannix oversaw the FTE construction personnel responsible for administering the contract. The project included the installation of 80 miles of fiber optic conduit and fiber and 92 CCTV cameras.

SunNav℠ ITS Phase III Sawgrass Expressway MP 0 to MP 22, FTE. Mr. Mannix served as the Turnpike's Project Manager for the completion of three ITS design build criteria packages for this project. The criteria packages included the request for proposal, conceptual plans and preliminary specifications necessary to hire a design build team. Two of the packages were combined with roadway widening projects and the third was a standalone ITS project. In addition, he was the Turnpike's Project Manager for the design of this project and assisted the FTE construction personnel responsible for administering the construction contract. The project consisted of a 44 mile fiber optic system, 6 DMS, 26 CCTV, 1 HAR and 64 detection devices between MP 0 and MP 22 on the Sawgrass Expressway in Ft. Lauderdale, Florida.

SunNav℠ ITS Phase IV, Segment 1 and Segment 2 Turnpike Mainline MP 155 to MP 309, FTE. Mr. Mannix served as the Turnpike's Project Manager for the completion of two design build criteria packages for this project. The criteria packages included the requests for proposal, conceptual plans and preliminary specifications necessary to hire design build teams. In addition, Mr. Mannix oversaw the FTE construction

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personnel responsible for administering the contracts. The project included the installation of 155 miles of fiber optic conduit and fiber and 183 CCTV cameras.

Sawgrass Smart Highway Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the completion of the design build criteria package for this project. The criteria package included the request for proposal, conceptual plans and preliminary specifications necessary to hire a design build team. In addition, Mr. Mannix oversaw the FTE construction personnel responsible for administering the contract. The project included 15 arterial DMS, 27 detection devices, 4 speed monitoring devices and 3 road weather information system (RWIS) devices between MP 0 and MP 22 on the Sawgrass Expressway in Ft. Lauderdale, Florida.

Broward County Camera Project Part 1 and 2, FTE. Mr. Mannix served as the Turnpike's Project Manager for the completion of these two design build criteria packages for this project. The criteria packages included the requests for proposal, conceptual plans and preliminary specifications necessary to hire design build teams. In addition, Mr. Mannix oversaw the FTE construction personnel responsible for administering the contract. The project included 35 CCTV cameras and 23 detection devices on the Turnpike mainline in the Ft. Lauderdale area.

South Florida Arterial DMS Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the completion of the design build criteria package for this project. The criteria package included the request for proposal, conceptual plans and preliminary specifications necessary to hire a design build team. In addition, Mr. Mannix oversaw the FTE construction personnel responsible for administering the contract. The project included 10 arterial DMS approaching the Turnpike Mainline and the HEFT in the Miami and Ft. Lauderdale, Florida areas.

South Florida Part A ITS Improvement Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and oversaw the FTE construction personnel responsible for administering the construction contract. The project consisted of a 12 mile fiber optic system, 2 DMS, 50 CCTV, 1 HAR and 177 detection devices between MP 0 and MP 118 on the Turnpike Mainline and the HEFT as well as the Golden Glades Spur.

Dynamic Message Sign Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and oversaw the FTE construction personnel responsible for administering the construction contract. The project consisted of 22 mainline DMS on the Turnpike Mainline and HEFT between MP 0 and MP 309 as well as 16 arterial DMS approaching the Turnpike Mainline. In addition, the project included the installation of public information displays for traffic information at each of the Turnpike's eight service plazas.

Central Florida ITS Improvement Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and oversaw the FTE construction personnel responsible for administering the construction contract. The project consisted of a 24

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mile fiber optic system, 9 DMS, 49 CCTV, 1 HAR and 130 detection devices on the Turnpike's portions of SR 429, and SR 417 in the Orlando, Florida area.

West Florida ITS Improvement Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and oversaw the FTE construction personnel responsible for administering the construction contract. The project consisted of a 77 mile fiber optic system, 10 DMS, 103 CCTV, 3 HAR and 292 detection devices on the Turnpike's portions of SR 589 in the Tampa, Florida area and SR 570 in the Lakeland, Florida area.

Incident Detection System Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and oversaw the FTE construction personnel responsible for administering the construction contract. The project consisted of a 589 detection devices on the Turnpike mainline from MP 116 to MP 309 in the Tampa, Florida area.

Beachline West ITS Improvement Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and oversaw the FTE construction personnel responsible for administering the construction contract. The project consisted of a 4 mile fiber optic system, 1 DMS, 7 CCTV, and 24 detection devices on a portion of the Turnpike's section of SR 528 in the Orlando, Florida area.

Beachline East ITS Improvement Project, FTE. Mr. Mannix served as the Turnpike's Project Manager for the development of a concept report and request for proposal package for this design bid build project. In addition, he was the Turnpike's Project Manager for the design of this project and assisted the FTE construction personnel responsible for administering the construction contract. The project consisted of a 4 mile fiber optic system, 3 DMS, 5 CCTV, 1 HAR and 13 detection devices on a portion of the Turnpike's section of SR 528 in the Orlando, Florida area. This ITS project was combined with a roadway widening project for construction.

General Engineering Consultant, Orlando-Orange County Expressway Authority (OOCEA), Orlando, FL; Corey Quinn, PE (407) 690-5332; April 2001 - September 2002 and December 2011 - Present. *Role: Sr. ITS Specialist.* Mr. Mannix has participated in many ITS projects for OOCEA. His duties have included assisting with the management of an engineering consultant conducting the design of a closed circuit television (CCTV) expressway monitoring system; assisting with the development of the ITS functional requirements for the deployment of CCTV monitoring cameras, dynamic message signs, and sensors to determine vehicle travel times; assisting with the deployment of service vehicle patrols to assist with stranded travelers; designing conduit and fiber optic cable and equipment enhancements; reviewing roadway design plans to help prevent conflicts with an existing fiber optic network and to assist in the planning of future ITS deployments; and reviewing shop drawing submittals for the installation of conduit, fiber optic manholes, and other items related to fiber optic network construction.

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Orange County Advanced Traffic Management System (ATMS) Feasibility Study, Orange County, Orlando, Florida, Sr. ITS Specialist. Mr. Mannix participated in the research and development of the operational requirements for an advanced traffic management system for Orange County, Florida. His specific duties included conducting the space planning for a traffic management center and conducting an alternative analysis of video wall options.

Additional Professional Experience
Sear-Brown - April 1995 to March 2001
Before joining Atkins, Mr. Mannix was a key member of a Utah transportation group with six years of experience. He performed many traffic impact studies, conducted the design and project management for over 100 traffic signals, and helped perform the signing and striping design for a three-km roadway section. Beyond his transportation design experience, he has worked with NETSIM, TRANSYT-7F, HCS, INTEGRATION, and ITE Trip Generation software.

As senior transportation engineer/transportation project manager, Mr. Mannix managed the following projects:

- Six Signals in Region 1 (One Signal with Video Detection), Utah, Department of Transportation (UDOT) Region 1
- Four Signals in Region 3, UDOT Region 3
- Sunset at Bluff and Valley View (2 Traffic Signals with Video Detection), UDOT Region 4
- Washington Home Depot Traffic Signal
- Riverdale Road 900 West Traffic Signal
- West Jordan Home Depot Traffic Signal

Mr. Mannix's duties included managing all aspects of these projects including schedule, budget, quality, review coordination, client management, and plan set preparation, and providing design assistance and evaluation. He conducted the major internal review and evaluation for these projects while overseeing two engineers conducting the major design. Additional duties included checking all of the design elements against Utah Department of Transportation and national standards to ensure the quality of the design, and critiquing the overall look of the plans to be sure they met client expectations. He was responsible for the final design decisions, including signal layout, engineer's cost estimate, and specification needs.

As transportation engineer, Mr. Mannix coordinated the following projects:

- Three Signals in Region 1, UDOT Region 1
- Three Signals in Region 3, UDOT Region 3
- 5600 West Reconstruction: 2100 South to 3100 South (Signing, Striping, Roadway Design, and Three Traffic Signals), UDOT Region 2
- Three Signals in Region 2, UDOT Region 2
- Fourteen Salt Lake City Traffic Signals
- 500 West Reconstruction (Signing, Striping, and Two Traffic Signals)
- Pioneer Road Reconstruction (Three Traffic Signals)
- Wasatch Boulevard Reconstruction (Two Traffic Signals), Salt Lake County
- 1400 North 600 East Traffic Signal, Logan City, Utah
- River Road Reconstruction (One Traffic Signal with Video Detection), St. George City/UDOT Region 4
- Interstate 80 Major Investment Study (Integration Analysis), UDOT Region 2

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- St. George McDonald's Traffic Impact Study, McDonald's Corporation
- Orem McDonald's/Chevron Traffic Impact Study, McDonald's Corporation
- Interim Traffic Control (Site Design for Ten Highway Video Monitoring Cameras), UDOT Region 2

Mr. Mannix's duties on the traffic signal design projects included designing the signal installation, determining required right-of-way takes and easements, determining utility relocations, designing drainage facilities for intersections, writing specifications for any construction items not covered by standard drawings or specifications, conducting quantity estimates, and calculating construction cost estimates. The signal installation design included designing signal equipment locations, types, and sizes; designing striping modifications with turn bay and taper lengths; designing the type and location of signs necessary for public safety and traveler information; and designing pedestrian facilities that conform to American Disability Act standards. The final step of this design process was assembling a plan and specification package that was released to the public for construction bids by contractors. Mr. Mannix was also involved with the construction observation assistance for 26 Salt Lake City traffic signals.

His duties on the traffic impact study projects included managing and conducting field data collection, including turning movement counts and 24-hour mechanical counts, to determine the existing traffic patterns; performing trip generation calculations for the new developments using the ITE Trip Generation software; distributing the proposed development traffic onto the study network; performing capacity analysis at signalized and unsignalized intersections using the Highway Capacity Software (HCS); determining impacts to the existing street network caused by the new development; and recommending improvements to the street network to mitigate the traffic impacts.

As traffic engineer, Mr. Mannix was involved in the design of the following projects:

- Five Signals in Region 3, UDOT Region 3
- Two Signals in Region 2, UDOT Region 2
- One Signal in Region 2, UDOT Region 2
- Redwood Road Reconstruction (Signing, Striping, and Two Traffic Signals), UDOT Region 2
- Fifteen Salt Lake City Traffic Signals
- 2100 South Reconstruction (Three Traffic Signals)
- 1400 North Reconstruction (Two Traffic Signals), Logan City, Utah
- Antelope Drive Traffic Signals (Four Traffic Signal Reviews), Layton City
- Provo Town Center (Signing, Striping, and Two Traffic Signals with Video Detection)
- West Jordan Home Depot Traffic Signal
- Little America Traffic Signal, Little America Hotel
- Main Street Closure Traffic Analysis (Netsim), Latter Day Saints Church
- Stonebridge Residential Traffic Impact Study
- Atkinville and State Trust Lands Traffic Impact Study
- Winter Quarters Traffic Impact Study

Mr. Mannix's duties on the traffic signal projects included major design and drafting work for the signal installations; assisting with the determination of required right-of-way takes, easements and utility relocations; assisting with design of drainage facilities for intersections; writing specifications for any construction items not covered by standard drawings or specifications; conducting quantity estimates; and calculating

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construction cost estimates. He also assisted with assembling the final plan and specification package that was released to the public for construction bids by contractors.

Mr. Mannix has experience in the modeling of transportation systems and was responsible for the modeling of traffic patterns along an eight-mile section of Interstate 80 through Salt Lake City and all major cross streets in the corridor for the afternoon peak time period. He conducted the majority of the model calibration for this time period and assisted with the alternative evaluation. This work was conducted using the transportation modeling program INTEGRATION.

Mr. Mannix has also used NETSIM to model a 56-intersection grid in downtown Salt Lake City. His duties included setting up the initial model, calibrating the model to existing conditions, and modeling the network using projected future traffic volumes to determine locations for roadway and signal improvements to accommodate future demand.

Professional Development

- Traffic Management of Land Development Workshop, The Northwestern University Traffic Institute, 1997.
- Intersection Design and Channelization Workshop, The Northwestern University Traffic Institute, 1996.
- Advanced Maintenance of Traffic Course, Florida Department of Transportation, 2003
- Advanced Maintenance of Traffic Refresher Course, Florida Department of Transportation, 2006, 2009
- QuickZone Training Course, ITS Florida, 2002
- Adaptive Signal Control, ITS Florida, 2004
- Florida Engineers' Laws and Rules, PBS&J University, 2004, 2009
- Florida Engineers' Laws and Rules, Atkins University, 2011, 2013
- The Florida Board of Professional Engineers Laws and Rules Errors and Omissions Training, Florida Department of Transportation, 2005
- Safe Highways of the Future – An International Perspective, PBS&J University, 2005
- Roadside Design III: Roadside Barriers, PBS&J University, 2005
- Parking Lots – Parking Geometrics, PBS&J University, 2005
- Traffic Calming, PBS&J University, 2005
- Highway Rumble Strips, PBS&J University, 2005
- Parking Lots – Parking Demand, PBS&J University, 2005
- Better Roadway Design – Intersection Signalization, PBS&J University, 2005
- Better Roadway Design – Intersection Signing, PBS&J University, 2005
- Better Roadway Design – Lane Assignment, Signals & Lighting, PBS&J University, 2005

Professional Affiliations

Institute of Transportation Engineers (ITE)
Intelligent Transportation Society of America (ITS America)
Intelligent Transportation Society of Florida (ITS Florida)
International Bridge, Tunnel and Turnpike Association (IBTTA)

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Awards & Honors

Florida's Turnpike Enterprise FLIGHT School
Florida's Turnpike Enterprise FLIGHT School Part 2
Atkins Leadership Program

Papers/Publications

Easterling, John R. and Mannix, Paul J. Every Second Counts, How Joined-Up Thinking is Delivering Faster Incident Response Times. Traffic Technology International, April/May 2008.

ATKINS

Gerald Bolden, PE, PTOE

Senior Engineer

Gerald Bolden has 16 years of experience in traffic engineering, transportation planning, and functional design. His specific experience includes ITS construction management; traffic signal design; operations and timing; ITS planning and design; capacity analysis and modeling using HCS, CORSIM, and Synchro; corridor studies; roadway safety audits; interchange studies; traffic impact studies; intersection geometric designs; workzone traffic control plans; and cost estimates.

Mr. Bolden's project experience includes:

Phase 3 ITS SmartWay CEI Services, Tennessee Department of Transportation (TDOT), Nashville, TN. Served as project manager responsible for implementation of all technical aspects of the job, which included 119 miles of fiber infrastructure, 63 new CCTV systems, 231 RDSs, and 22 DMS. The existing system was operating on leased AT&T lines. Another key aspect of this project was not only to install and configure a new gigabit Ethernet network for TDOT, but also to integrate all existing ITS devices/subsystems into the new IP network.

Metro Top Intersections Project, Nashville, TN. Project manager responsible for leading RPM's evaluation and design for 34 intersection identified by Metro as high-crash location. This project included updating crash data and proposing safety mitigation strategies were necessary. RPM is under contract to provide final design plans and assist Metro with the bid packages for these improvements along with CEI services once projects have be let to contract.

Chattanooga Regional ITS System Phase I CEI, City of Chattanooga, TN. Project manager and resident engineer for coordination, administration, and oversight of the CEI activities. Project includes extending via wireless mesh communications the central traffic signal control system to include an additional 115 signalized intersections, implementation of Wavetronix and Sensys Network detection devices throughout the system, and implementation of Insync adaptive traffic signal control along the Highway 153 corridor.

Continuing Traffic Engineering Services, TDOT, Statewide TN. Project manager. Continuing services contract with TDOT for traffic signal, roadway lighting and ITS design services. The scope of projects included traffic signal design, signal phasing and timing, fiber-optic communications design, geometric design, and interchange lighting.

Cool Springs Area ITS Expansion Project, City of Franklin, TN. Project manager and lead engineer. Design of the City of Franklin ITS expansion project in the Cool Springs area. The scope included layout of more than 9.5 miles of new fiber optic conduit, interconnection of 32 signalized intersections, and 12 CCTV cameras.

Concord Road CCTV and Signal Interconnect, Brentwood, TN. Project manager. Design of three CCTV cameras and traffic signal interconnections along the heavily traveled commuter corridor in Brentwood, Tennessee. The interconnection was accomplished with both aerial and underground fiber optic cable.

Smartway Phase 1, TDOT, Nashville, TN. Project engineer. Design of the first TDOT Smartway ITS deployment in Nashville. The scope included design and deployment of permanent devices (detection units, DMS, CCTV, and HAR) for the interstate system around Nashville. A major component of the project was the design and deployment

Education

B.S., Civil Engineering, Auburn University, 1996

Registrations/licenses

Professional Engineer
Tennessee 106514, 2001
Alabama 24234, 2001

Certifications

Professional Traffic Operations Engineer 1180, 2003

Professional affiliations

American Society of Civil Engineers

Institute of Transportation Engineers

Intelligent Transportation Society of America, Secretary, Tennessee chapter (2011-12)

Software

Highway Capacity Software (HCS)

CorSIM

Synchro

Professional Development

Highway Capacity Manual Workshop, University of Tennessee Transportation Center, 1997

Traffic Signal Workshop, Northwestern University Traffic Institute, 1998

National ITS Architecture, FHWA, Intelligent Transportation Systems (ITS) Software Acquisition, FHWA, 2000

Video for Traffic Management, Supported by FHWA, 2001

Traffic Simulation Using CORSIM, 2002

Planning and Functional Design of Freeways and Interchanges, 2002

ITS Standards Training, FHWA and TDOT, 2003

Roadway Paving Inspection

Gerald Bolden, PE, PTOE
Senior Engineer

of both permanent and temporary devices on an eight mile segment of the interstate 65 north corridor during the roadway widening reconstruction.

Workshop, Metro Nashville Public Works, 2003

Central Business District Signal Timing and Circulation Study, City of Franklin, TN. Project engineer. Provided traffic data collection, evaluation, analyses, signal timing plan development, and field implementation of multiple time-of-day timing plans, along with a before and after travel time study for 14 signalized intersections within the central business district.

ITS Planning, TDOT, Nashville, TN. Project engineer. Functional layout phases of ITS devices along the interstate 65 north and interstate 24 east corridors in Nashville. The scope included locating ITS devices (DMS, CCTV, and HAR) along these two corridors, preparing Engineer's Opinion of Probable Cost, and identifying potential communication alternatives.

Presentations

â€œU.S. Space and Rocket Center - Campus Transportation Master Plan," presented at 2002 Southern District ITE meeting, New Orleans, Louisiana, April 2002.

ATKINS

Wiatt Bowers, AICP

Senior Engineer

Wiatt Bowers is a senior transportation and land use planner with over 18 years of experience. His primary areas of expertise include corridor studies and master plans, development of long-range transportation plans (LRTP), travel demand modeling, transit planning, traffic impact studies for Developments of Regional Impact (DRI) and other large projects, concurrency studies, and mobility plans.

Mr. Bowers' project experience includes:

North Florida Transportation Planning Organization (TPO), Clay Transit Vision, Clay County, FL. Serving as project manager on study to identify short and long range enhancements to transit services in Clay County. This effort included outreach to area stakeholders, on-board rider surveys, analysis of possible funding sources, and prioritization of improvement projects.

ETDM Support, FDOT District Three, Districtwide, FL. This contract involves providing general consulting support involving the ETDM process, policy-related incidental tasks, environmental document reviews, and miscellaneous environmental reviews for the FDOT District Three Environmental Management Office (EMO). Drafted and reviewed purpose and need statements for various transportation projects that have included new toll expressways, bridge replacements, new roadway alignments, existing roadway widenings, bus rapid transit, and rail.

Woodville Highway Corridor and Project Development and Environment (PD&E) Study, Capital Region Transportation Planning Agency, Tallahassee, FL. Internal project manager for study examining land use and transportation opportunities for a fifty year horizon. Future year traffic projections were developed and analyzed, and potential circulation enhancements have been identified. The study also entails extensive public involvement, including a visioning charrette, stakeholder interviews, and multiple agency meetings.

Blanding Boulevard Corridor Master Plan, North Florida TPO, Clay County, FL. Served as project manager on study which examined roadway capacity and safety issues. Developed short-term, mid-term, and long-term recommendations to enhance mobility and connectivity in the area and identified opportunities for redevelopment/placemaking.

ETDM Support, FDOT District Two, Districtwide, FL. This project involves assisting with the implementation of the ETDM process and the sociocultural effects assessment process for metropolitan planning organizations, regional planning councils, and local governments throughout the district. Drafted and reviewed purpose and need statements for various transportation projects that has included new toll expressways, bridge replacements, new roadway alignments, existing roadway widenings, bus rapid transit, and rail.

Florida-Alabama TPO Blueprint 2035 LRTP, West Florida Regional Planning Council (WFRPC), Pensacola, FL. Served as senior planner in summarizing future deficiencies, identified potential mobility projects, and developed cost estimates for needed projects.

Envision 2035 LRTP Update, North Florida TPO, Jacksonville, FL. Deputy project manager responsible for developing a list of potential projects, cost estimates for those

Education

M.S., Urban & Regional Planning, Florida State University, 1996

B.A., Broadcast Journalism, Temple University, 1993

Certifications

American Institute of Certified Planners (AICP), Florida (013748), 1998

Professional affiliations

American Institute of Certified Planners (AICP)

Urban Land Institute (ULI)

American Planning Association, Vice President of Conference Services, Florida chapter

Program Officer, First Coast section

Institute of Transportation Engineers

Software

FSUTMS

TRANPLAN

Cube Voyager

Highway Capacity Software (HCS)

Synchro

GIS software

Professional development

Mr. Bowers has participated in several FDOT DRI modeling workshops as a guest instructor.

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projects, and revenue estimations. Also assisted in developing and refining future land use scenarios with stakeholders and the general public, conducted travel demand model testing for the scenarios, and developed potential roadway and transit projects for the trend and selected alternative land use scenarios.

Fruitville Initiative Comprehensive Plan Amendment Traffic Analysis, Sarasota County, FL. Conducted transportation study for proposed land use amendment. The study included developing trip generation, trip distribution, LOS analyses, and potential mitigation projects for two development scenarios.

St. Johns County Transit Development Plan, North Florida TPO, St. Augustine, FL. Project manager for a major plan update, which updated the study and extended it to 2021. A ridership survey was conducted, potential route modifications and service enhancements were evaluated, and a financial plan was developed. Potential locations for shelters were also identified. Two annual minor updates were also completed under separate tasks.

St. Andrew Bay Land Company, Forest Park District Mobility Plan, Panama City, FL. Worked with Panama City, Bay County, and FDOT staff to develop a multimodal transportation plan for area surrounding the former Panama City-Bay County International Airport. The plan includes identifying roadway, transit, and bike/ped projects as well as funding sources.

General Planning Consultant, FDOT District Three, Districtwide, FL. Assistant project manager and lead reviewer for DRI and comprehensive plan reviews. Also assists in development and updating of LOS databases, travel demand modeling, and other planning studies.

Multimodal Transportation Concurrency Manual, City of Temple Terrace, Temple, FL. Project manager for the development of a Concurrency Ordinance and Manual to implement a Multimodal Transportation District (MMTD) encompassing the entire City. The project also involved coordination with FDOT and Florida Department of Community Affairs (DCA) on implementation of the MMTD.

General Planning Consultant, Baker County, FL. Served as senior planner in creation of a transportation concurrency system, including drafting of ordinance and manual, as well as development of a tracking database. Other tasks have included reviewing traffic studies and developing a thoroughfare master plan outlining a 25-year vision.

SunWest Harbourtowne DRI, Pasco County, FL. Served as lead transportation planner for the DRI and comprehensive plan amendment for this 2500-acre mixed-use development. The project involved extensive analysis and coordination with FDOT staff regarding impacts to US 19, development of proportionate share calculations, and costs estimates for roadway improvements.

Parking Garage Traffic Impact and Circulation Study, University of Florida, Gainesville, FL. Served as the project manager on a traffic impact study for a proposed parking garage on campus. The study involved collecting existing traffic data, developing project traffic, and analyzing circulation for two potential sites. Additional services including developing conceptual layouts and cost estimates for each site, and recommending a preferred site to the University. The project also involved developing

Wiatt Bowers, AICP
Senior Engineer

concepts and renderings for potential modifications to the Archer Road corridor through the campus.

Wildwood Springs DRI, Crosland, Wildwood, FL. Conducted impact assessments for various phases of the project and identified potential mitigation projects. Worked with the City of Wildwood, Sumter County, ECFRPC, and FDOT District Five on Development Order and Proportionate Share Agreements language to gain DRI approvals for the project.

Shands Hospital at the University of Florida Master Plan, Shands Healthcare, Gainesville, FL. Assisted in the development of the master plan for the 25 year growth of the Shands Hospital at the University of Florida. Developed transportation alternatives which address all modes of transportation, conducted impact assessments for the first phase, and provided input on parking circulation on-site. Also served as the project manager for other tasks, including environmental planning and permitting and civil engineering.

Southside DRI, The St. Joe Company, Tallahassee, FL. Project manager for transportation, environmental, and archaeological aspects of the DRI. Conducted impact assessments for various phases of the project and worked with the City of Tallahassee and Leon County to gain DRI and concurrency approvals for the project. Also involved in an update to the Southeast Sector Plan which was required for the project to be consistent with the local comprehensive plan.

Seahaven Development Company, Towne of Seahaven, Panama City Beach, FL. Served as the lead transportation planner in the development of a mixed-use high density redevelopment on Panama City Beach. The development included completing a DRI and Planned Unit Development (PUD) traffic study.

Tampa Bay Intermodal Centers Study, FDOT District Seven. Assisted in the evaluation of regional travel demand patterns and the identification of potential intermodal sites in Hillsborough and Pinellas Counties. This study also involved the development of project traffic at the preferred intermodal center sites and participation in public hearings, workshops, and agency coordination.

2030 LRTP, Polk County TPO, Polk County, FL. Assisted in the development and testing of 2020 and 2030 Florida Standard Urban Transportation Model Structure (FSUTMS) models for use in the LRTP. This included identifying deficiencies and evaluating potential needs plan improvements. The study also included a more detailed sub-area study for central Polk County, as well as developing cost estimates for projects, ranking potential projects, updating the TPO multi-modal LOS standards, and identifying potential ITS and traffic calming improvements.

SouthWood DRI, St. Joe Company, Tallahassee, FL. Conducted daily and peak period FSUTMS modeling for a variety of transportation and land use scenarios as part of the DRI study and subsequent Notifications of Proposed Change (NOPC). Evaluated transportation deficiencies throughout Leon County, and developed potential transportation improvements to satisfy DRI and concurrency requirements. This effort also included developing innovative Travel Demand Management (TDM)-based strategies to reduce the impact of the development. Involved with other DRI elements, the comprehensive plan amendment and PUD developed to facilitate SouthWood, and assisted in an assessment of transportation and land use issues in southeast Leon County preceding the DRI.

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Senior Engineer

General Planning Consultant for DRI Reviews, City of Lakeland, FL. Assisted City staff in the review of large projects, including the Williams DRI and the new University of South Florida at Lakeland campus along I-4.

General Planning Consultant for Large Project Reviews, Manatee County Planning Department, Manatee County, FL. Project manager for contract in which Atkins assisted County staff in the review of DRIs and other large projects throughout the County. Tasks include evaluating trip generation and trip distribution for projects, as well as analyzing impacts and developing appropriate mitigation strategies. These tasks often involved the review of land use changes made as part of notice of proposed change (NOPC) and substantial deviations.

St. Joe Company and Panama City-Bay County International Airport and Industrial District, West Bay Area Vision, FL. Developed transportation and circulation plan for a 75,000-acre sector plan in Bay County, including a new location for the Panama City-Bay County International Airport. This study involved significant public involvement and interaction with land use and environmental planning efforts for the area. More detailed analyses, including peak period traffic impact studies, have been conducted for the proposed airport and a 15,000-acre mixed-use community surrounding the airport site.

Bi-county Corridor Study, Lee County Department of Transportation, FL. Developed travel demand forecasts for 35-mile roadway corridor in Lee and Charlotte counties. The study included modifying the adopted FSUTMS model to account for updated socioeconomic data, and the identification of improvements needed in ten year increments from 2010 through 2050.

2010 Campus Master Plan Update, University of Florida, Gainesville, FL. Documented existing roadway, transit, and non-motorized facilities on campus and in the surrounding context area. Conducted analyses to determine future level of service deficiencies expected to occur as a result of university growth. Developed recommended transportation improvements for all modes of travel and prepared goals, objectives, and policies for the transportation element.

South Arlington Transportation and Land Use Study, Arlington County Planning Department, Arlington, VA. Evaluated transportation and land use modifications in a heavily developed suburb of Washington D.C. This sub-area study included using the MINUTP travel demand model to test alternatives, as well as developing innovative TDM techniques.

Miscellaneous Projects, St. Joe Company, FL. Assisted in transportation planning for several St. Joe developments in northwest Florida, including the WaterColor and WaterSound DRIs in Walton County and the Pier Park DRI in Panama City Beach. Analyzed existing transportation infrastructure and planned improvements in a 13-county area of north Florida, using a GIS database. Evaluated potential St. Joe development locations and made recommendations on future transportation improvements.

US 301 Corridor Study, FDOT District One, Sarasota County, FL. Evaluated existing and future traffic conditions along an already developed roadway corridor in Sarasota. This study also involved developing and analyzing potential roadway improvements for the corridor.

Wiatt Bowers, AICP
Senior Engineer

Conflict Resolution Process, West Central Florida Metropolitan Planning Organization (MPO) Chair's Coordinating Committee, Pasco County, FL. Developed a conflict resolution process for the six MPOs in the Tampa Bay region. This study included researching existing processes throughout Florida and the nation as well as coordination with the Conflict Resolution Consortium at Florida State University.

1996 Highlands County Model Validation, FDOT District One, FL. Revalidated the 1996 FSUTMS travel demand model for Highlands County, including refinements to the highway network, distribution, and assignment modules.

Roadway LOS Databases, City of Lakeland and City of Winter Haven, Polk County, FL. Developed databases that include information on all major roadways in Lakeland and Winter Haven. The databases were designed to be linked to both cities' GIS systems for additional analyses.

1990 Lee County and Collier County Travel Demand Model Validations, FDOT District One, FL. Refined previously developed highway networks and modified external traffic data. Developed new parameters for use in the trip generation, trip distribution, and highway assignment modules, including a new approach to modeling high occupancy vehicles (HOV). As part of the study, 1998 employment data for Collier County was also developed.

SR 542 Corridor Study, FDOT District One, Winter Haven, FL. Analyzed existing traffic, developed potential roadway improvement alternatives, and analyzed future traffic forecasts along the constrained corridor.

West Memorial Sub-area Study, FDOT District One. Lakeland, FL. Analyzed existing and future traffic conditions in an area of Lakeland with significant freight activity. This study also involved the recommendation of future truck travel routes, future land use scenarios, and potential highway network improvements to enhance freight mobility.

2010 Woodlands Transportation Plan, The Woodlands Operating Company, Houston, TX. Developed travel demand forecasts for a large multi-use planned community near Houston. Efforts included refinements to the previously developed MINUTP network, modifications to zonal data representing different phases of development, and revised traffic forecasts to identify future needs.

HNET Procedural Enhancements Study, FDOT Central Office, Tallahassee, FL. Efforts included coding, testing, and validation of new highway network area types/facility types and related speed/capacity parameters for the Florida Statewide Model Task Force. New coding methodologies, default model parameter settings, and FSUTMS file enhancements were also developed.

Transit Greenways Studies, Lake Park and Tallahassee, FL. The Lake Park Transit Greenways Study included evaluating current travel patterns in the area using the Palm Beach FSUTMS model and evaluating potential ridership based on possible future land use scenarios, route configurations, headways, and costs. The Tallahassee Transit Greenways Study included preliminary work evaluating nodes of activity to be served by transit greenways, researching vehicle types, and initiating a public/private partnership to continue the study.

Wiatt Bowers, AICP
Senior Engineer

2020 Statewide Model Update, FDOT Central Office, Tallahassee, FL. Involved with model validation and prepared statewide existing-plus-committed, 2010 Florida Intrastate Highway System (FIHS) Needs Plan and 2020 FIHS Cost Feasible Plan highway networks. Reviewed and updated socioeconomic data compiled for all of Florida's metropolitan areas and analyzed historic traffic count data along the state line and several screenlines throughout the state. This study included the production of future year trip databases, identification of future year LOS deficiencies, and the development of needs plan alternatives.

1996 Model Validation Study, Broward County MPO, Fort Lauderdale, FL. Enhanced the model network to provide more accurate detail in many of the major corridors including I-95 and I-595. Recoded the highway network to include newly expanded area types and facility types developed as part of the HNET Procedural Enhancements Study.

2020 LRTP Update, Tallahassee-Leon County Planning Department, FL. Assisted in estimating costs for projects in the 2020 Needs Plan and in the development and evaluation of alternatives for the 2020 Cost Feasible Plan.

Pensacola Urbanized Area Congestion Management Plan, West Florida Regional Planning Council (WFRPC), Pensacola, FL. Involved with development of the plan and creation of a database which summarized the status of all congested roadways in the greater Pensacola area. Also assisted with network modeling as part of the Pensacola Urbanized Area 2020 Transportation Plan Update.

US 19 Action Plan, FDOT District Two, Taylor, Madison, and Jefferson Counties, FL. Efforts included extensive alternatives testing with the Statewide Model and the North Central Florida Regional Planning Model, as well as the preparation and evaluation of growth trend forecasts for the entire corridor.

FSUTMS ZDATA2 Development Process Study, FDOT District Four, FL. Developed, tested, and evaluated alternate procedures for producing trip attraction data required for trip generation modeling. Included use of ArcView GIS for geocoding employer addresses to traffic analysis zones.

Northwest Florida Hurricane Evacuation Restudy, Florida Department of Community Affairs, FL. Allocated data to evacuation zones and formatted the data for transportation modeling. Analyzed hourly traffic count trends from permanent count station data during the evacuation for Hurricane Opal.

SR 826/Palmetto Expressway Multi-Modal Master Plan, Miami-Dade County MPO, FL. Summarized projected Year 2020 traffic volumes along the corridor and analyzed forecasts of turn movements for all SR 826 interchanges.

Florida State University
While at Florida State University, Mr. Bowers was involved with an economic analysis of Gadsden County, an evaluation of the University's Campus Master Plan, and redevelopment studies for the Gaines Street and Pensacola Street corridors. He also participated in a studio project entitled The Eglin Air Force Base Strategic Partnering Initiative, which included evaluation and coordination of the institution's plans with those of adjacent local governments.

Wiatt Bowers, AICP
Senior Engineer

Baltimore Metropolitan Council
Mr. Bowers was previously employed as a transportation planning intern with the Baltimore Metropolitan Council. While working at the MPO, he assisted in the development of the 2020 Regional Plan, analyzed traffic forecasts for the Baltimore Beltway, and wrote a report documenting numerous para-transit and private transit services in the Baltimore region.

Central Philadelphia Development Council (CPDC)
While working as an intern at CPDC, he was involved with numerous projects, including a feasibility study for a proposed downtown baseball stadium, the formation of a transportation management association, an inventory of downtown parking facilities, and a preliminary study of future development along the Ben Franklin Parkway.

ATKINS

Patrick Nevah, PE

Project Engineer

Patrick Nevah recently joined Atkins and brings nine years of experience as lead designer, project engineer, and engineer-of-record for projects including signalization and signing and pavement markings, turnpike and interchange ITS, minor district-wide roadway work, and traffic engineering studies. His expertise includes the development of specifications, technical special provisions, technology review of new products, cost estimates, typical section packages, and pavement design.

Education
B.S., Civil Engineering, University of South Florida, 2004

Registrations/licenses
Professional Engineer
Florida 72369, 2011

Mr. Nevah's Atkins project experience includes:

Yates Road at West Pipkin Road Intersection Improvements Traffic Study, Alternative Analysis and Design Services, Polk County, FL. Project engineer responsible for the design of signalization and signing and pavement marking plans for a new intersection using a diagonal strain pole signal system with presence and advance loops. Utilizing electrical wood pole on one side due to roadway widening occurring within the next 3-5 years. Prepares plans and coordinates requirements with the maintaining agency.

Mr. Nevah's previous experience includes:

ITS

SR 417 and SR 91 (Florida's Turnpike) Partial Interchange, Orlando-Orange County Expressway Authority, Orange County, FL. Lead designer for plans preparation and development of the ITS plans for the partial interchange between SR 417 (Central Florida GreeneWay) and Florida's Turnpike (SR 91). The project included new ramps from southbound SR 417 to southbound Florida's Turnpike and from northbound Florida's Turnpike to northbound SR 417. Two separate plans were created to meet OOCEA Standards along SR 417 and FDOT Standards along SR 91. Project consisted of the relocation of the existing gigabit Ethernet fiber-optic communications network along both state roads to avoid present and future construction impacts.

John Land Apopka Expressway ITS Phase II, Orlando-Orange County Expressway Authority, Orange County, FL. Lead designer for design and development of the John Land Apopka Expressway ITS Phase II. The project included the design of a new gigabit Ethernet fiber-optic communications network consisting of closed-circuit televisions (CCTV), additional dynamic message signs (DMS), data collection sensors (DCS), and traffic monitoring system (TMS) along portions of SR 429, SR 451 and SR 414.

SR 414 (Maitland Blvd Extension) Phase I Management System, Orlando-Orange County Expressway Authority, Orange County, FL. Lead designer for plans preparation and development of the Phase I Expressway Management System for SR 414. The project included the design of a new gigabit Ethernet fiber-optic communications network consisting of CCTV, DCS, and toll plaza communications. Electrical distribution systems included UPS systems, step up/down transformers, and various ground and surge suppression designs. Specialized wiring diagrams were developed for each local hub.

Patrick Nevah, PE
Project Engineer

SR 417 Widening Between SR 528 and Curry Ford Road, Orlando-Orange County Expressway Authority, Orange County, FL. Lead designer and project manager for the ITS, lighting and signing, and pavement markings components for the project, which consisted of the widening of SR 417 from four to six lanes between SR 528 and Curry Ford Road, and new auxiliary lanes to improve access to SR 417 from Curry Ford Road and Lee Vista Boulevard. Project required the relocation of the existing gigabit Ethernet fiber-optic communications network along the southbound portion of the road, and determining the type of protection for the northbound portion, that included a leased line for Sprint within the conduit.

Mainline Turnpike Widening, Florida's Turnpike Authority, Orange County, FL. Project engineer for ITS plans in conjunction with a roadway widening (four to eight lanes) and ramp reconstruction project from Beulah Road to SR 50. Project consisted of designing the replacement of the existing gigabit Ethernet fiber-optic communications network and supporting devices (CCTV, VDS, TTS, DMS & AVI readers), which included both a temporary and permanent network configuration. Project also included the replacement of the existing county fiber network cable and drops for signalization interconnect within the project limits. Technical specifications were developed for all equipment as required, as well as wiring diagrams for each local hub.

SunNav ITS West Florida ITS Improvements Project, Florida's Turnpike Enterprise, Polk County, FL. Project engineer for the design of a 25-mile ITS along the Polk Parkway utilizing gigabit Ethernet communications with field installations of CCTV sites, VDS, travel time systems (TTS), and highway advisory radio (HAR) systems. Data transmission for all field devices was aggregated at a master hub site for transmission via a long-haul edge switch back to the Turnpike Enterprise traffic management center (TMC) on the Mainline Turnpike in Orange County. Work for this project included permitting for the crossing of railroad right-of-way, County right-of-way, and navigable waterways. Work included designing electrical services for all field devices and developing an intricate grounding system for protection from lighting strikes. Detailed specifications were developed for all communications and field devices.

SunNav Dynamic Message Signing Contract, Florida's Turnpike Enterprise, Various Counties, FL. Project engineer for the design for the installations of DMS along the Mainline Turnpike and various major arterial roadways having interchanges with the Mainline Turnpike. Work included coordination with various agencies such as FDOT districts and counties for development of fiber sharing agreements for communicating with the arterial signs. Wireless communications were also used. Major emphasis was placed on utility coordination to avoid all utility conflicts. Detailed specifications were developed for all components. Coordination with various other construction projects was performed to ensure the sign structures would not conflict with the proposed construction. Also served as engineer-of-record for three revisions for the addition of DMS at mile posts 90.2, 48.2, and 65.

Lake Jesup Toll Plaza Conversion, Florida's Turnpike Enterprise, Seminole County, FL. Project engineer involved in the preparation of ITS plans for the Lake Jesup Toll Plaza open road tolling conversion and SR 417 widening. Project consisted of the relocation of the existing gigabit Ethernet fiber-optic communications network and ITS devices (VDS and CCTV) due to widening.

Patrick Nevah, PE
Project Engineer

SR 408 OOCEA Project 253C, Orlando-Orange County Expressway Authority, Orange County, FL.

Project engineer for new gigabit Ethernet fiber-optic communications design for the transmission of data and video images and video control as well as toll collections. Connections to CCTV sites, data collection sites, DMS and toll plazas. Ethernet hardware installed in the toll plazas used to aggregate data and regenerate signal for transmission to OOCEA headquarters and the regional traffic management Center. Assisted in the troubleshooting of systems that were not online after installation.

Signalization and Signing/Pavement Markings

SR 5 from Bowden Road to John Street, Florida Dept. of Transportation (FDOT) District Two, Duval County, FL. Engineer-of-record and project manager for the signalization and signing and pavement markings components of the project. Project is a 3-mile milling and resurfacing job from Bowden Road to John Street. It included the addition of a bicycle lane throughout the corridor and the upgrade of six intersections to countdown pedestrian signals.

SR 16 from Toms Road to San Marco Avenue, FDOT District Two, St. Johns County, FL. Engineer-of-record and project manager for the signalization and signing and marking components for two FDOT projects. Lead project was the addition of sidewalks on both sides of the road from Toms Road to Kenton Morrison Boulevard, including the intersection with I-95. Project required the adjustment of crossings, sign locations, and signal timings along the corridor. Secondary project was a 3.5-mile milling and resurfacing job from Green Acres Road to San Marco Avenue. It included the addition of a bicycle lane and the upgrade of six intersections to pedestrian countdown signals and three intersections upgraded to video detection. Designs included developing technical specifications for video detection system.

Range Road, Brevard County, FL. Engineer-of-record for the signalization and signing and pavement markings components for Range Road Safe Path to Schools sidewalk addition. Design included adjustments for side street crossings and sign locations along the corridor.

SR 100, Flagler County, FL. Engineer-of-record for signalization and signing and pavement markings components for SR 100 sidewalk addition. Design included adjustments for side street crossings, sign locations and signal timings along the corridor.

SR 500, FDOT District Five, Lake County, FL. Project engineer assisting in the preparation of signalization design and signing and pavement marking design for a roadway widening project from four to six lanes through a suburban area. Assisted in the design of the Guide Signs with GuidSIGN Software.

SR 111 (Edgewood Avenue) Intersection Reconstruction, FDOT District Two, Duval County, FL. Project engineer for the upgrade of seven intersections to mast arms with fiber-optic interconnect along a 2-mile segment of roadway. Designs included developing specifications for fiber-optic communications equipment, extensive utility coordination, and permitting for a CSX crossing.

Patrick Nevah, PE
Project Engineer

SR 152 (Baymeadows Road) Intersection Reconstruction, FDOT District Two, Duval County, FL. Project engineer for the upgrade of three intersections to mast arms with fiber-optic interconnect. Designs included developing specifications for fiber-optic communications equipment and extensive utility coordination.

SR 483, FDOT District Five, Volusia County, FL. Project engineer for roadway, signalization, and signing and pavement marking component of project which included a pavement design, typical section package, roadway design, signalization design, signing and pavement marking design and electronic submittal for adding a turn lane at the intersection of N. Clyde Morris Blvd. and Mason Ave.

Minor Roadway

SR 546 (US 92), FDOT District One, Polk County, FL. Engineering intern responsible for the preparation of cross sections, plans and development of quantities, and computation book. The project consisted of milling and resurfacing from I-4 to the CSX bridge.

SR 710, FDOT District One, Okeechobee County, FL. Engineering intern responsible for the preparation of typical sections, plans preparations, development of quantities and preparation for electronic submittal for a two-lane undivided rural road with a gore area at the junction with SR 70.

SR 9 (I-95), FDOT District Five, Brevard County, FL. Engineering intern assisting in the development of mainline and ramp profiles, and preparation for electronic submittal for the interchange at I-95 and Wickham Road.

SR 528 (Beachline Expressway), Florida's Turnpike Enterprise, Orange County, FL. Engineering intern assisting in plans preparations, development of quantities, computation book, and construction cost estimating. The project consisted of the widening of a limited access toll road that is 8 miles in length from I-4 to McCoy Road.

District-wide

District-wide Traffic Operations Push Button Contract, FDOT District Four, FL. Project engineer for this contract with more than 88 task work orders for miscellaneous traffic operations design services throughout District Four. The projects included resurfacing, turn-lane additions, median modifications, signal modifications, and all related components required. Projects were developed in response to traffic safety issues, public concerns and local agency requests. Representative projects included:

SR 84 at SR 817, Broward County, FL. A fast-response contract which consisted of the installation of a pedestrian crossing on the north side of westbound SR 84 at SR 817. A key element of this project was the reconstruction of the barrier wall in front of the North New River Canal to provide an ADA-compliant opening for the pedestrian crossing. A ROW occupancy permit was obtained from the SFWMD in order to perform these tasks. Project engineer for roadway, signing and pavement markings, and signalization plans for this project.

SR 7 at NW 31st Street, Broward County, FL. Project engineer for the realignment of the southbound frontage road along SR 7. Scope included the addition of a

Patrick Nevah, PE
Project Engineer

directional median opening at NW 29th Street. Plans included typical sections, pavement design, maintenance of traffic, and signing and pavement markings.

SR 869 at SW 28th Avenue, Broward County, FL. Project engineer for adding a right turn lane from SR 869 to SW 28th Avenue. Plans included pavement design, typical section package, roadway design, signalization design, signing and pavement markings, and maintenance of traffic.

Traffic Engineering Studies

SR 189 (Beal Parkway), Okaloosa-Walton Transportation Planning Organization, Okaloosa County, FL. Lead engineer in producing a corridor management plan (CMP) for SR 189 (Beal Parkway). The study corridor consisted of 5 signalized intersections along 1.5 miles from SR 393 (Mary Esther Boulevard) to SR 188 (Racetrack Road). The CMP developed recommendations to reduce the level of service rating from an 'F' to a 'C' on a very busy commercial district.

District-wide Traffic Operations Safety Studies Consultant, FDOT District Five, FL. Project engineer for districtwide studies contract involved in qualitative assessments, left-turn phase warrants, signal warrant analysis, intersection delay studies, and crash analysis. Engineer-of-record for more than a dozen task work order studies during this contract.

SR 19, FDOT District Five, Lake County, FL. Project engineer assisting in the signal warrant analysis and intersection delay study of SR 19 and CR 450 in Umatilla. Provided a report with the necessary documentation determining that a signal was not warranted at that time. While warrant 1 and warrant 2 were met, the operational and safety deficiencies observed would not be eliminated with the installation of a signal at the intersection of SR 19 and CR 450. It was determined that the operational deficiencies at the intersection were due mostly to the proximity of the Hatfield Drive intersection (less than 60 feet). In order to improve the operational and safety deficiencies between SR 19 and CR 450, it was recommended to provide a right-in/right-out situation for Hatfield Drive. Recommendations for improvement were developed based on field observations, traffic counts, and crash data.

SR 434 at Artesia, FDOT District Five, Seminole County, FL. Project engineer assisting in the qualitative assessment and signal warrant analysis at the intersection of SR 434 and Artesia. Provided a report with the necessary documentation determining that a signal was not warranted at that time. While warrants 1 and 2 were satisfied, there were no observed operational or safety problems at the intersection. The delay for the eastbound traffic on Artesia Street was proposed to be mitigated through the installation of a right turn lane. Recommendations for improvement were developed based on field observations, traffic counts, an intersection delay study, and crash data.

SR 426, FDOT District Five, Seminole County, FL. Project engineer assisting in the qualitative assessment of the intersection operation of SR 426 at Tuskawilla Road in Oviedo. This study involved a high number of rear-end collisions at two approaches to the intersection due to the perception of existing free flow right turns. Provided a recommendation to remove all channelizing striping lines and accompanying chevron markings from the intersection. This would remove the perception of a free flow right turn, and complement the recommended "No Turn on Red" signs to prevent the sudden stops that were leading to the rear end collisions. Recommendations for

Patrick Nevah, PE
Project Engineer

improvement were developed based on field observations, traffic counts and crash data.

SR 435, FDOT District Five, Orange County, FL. Project engineer assisting in the qualitative assessment of the intersection operation of SR 435 at Carrier Drive in Orlando. This study involved the visibility of left turns across three lanes of through traffic and an operational issue due to a sub-standard left turn lane. Recommended that the left turn lane phases be changed from protected/permissive to protected phases. Also recommended that the northbound left turn lane be extended to meet the total deceleration distance needed for a 45 mph roadway plus a 125-foot queue. This should alleviate potential conflicts and operational issues due to the sub-standard left turn lane and short weave length created by the merging traffic from SR 482 eastbound and westbound vehicles heading northbound on SR 435. Recommendations for improvement were developed based on field observations, traffic counts, a left-turn phase warrant, and crash data.

SR 535 at US 17/92, FDOT District Five, Osceola County, FL. Project engineer for qualitative assessment of intersection operations. Intersection was a T-intersection which involved several crashes and fatalities. Recommendations for improvement were developed based on field observations, traffic counts, and crash data.

ATKINS

Patrick O'Shea, EI

Project Engineer

Patrick O'Shea has recently begun his career with Atkins as a project engineer. While completing his studies at the University of Central Florida, Mr. O'Shea developed two projects with various clients in the state of Florida. The latter of which was a land development project that required the design of a 2-acre stormwater retention pond, as well as the placement of utility and stormwater lines. The project required him to determine level of service (LOS) through the Florida Department of Transportation (FDOT), parking design compliance with FDOT and Orange County; and water quality volume, drop structure design, permanent pool volume, and phosphorous removal were all designed according to the Lake Apopka rule and St. John's River Water Management District (SJRWMD).

Upon graduating UCF, Mr. O'Shea successfully made the transition into the transportation group at Atkins. During his one-year tenure, Mr. O'Shea has been responsible for utility coordination for various clients such as FDOT District Five and Osceola County; his additional accomplishments have included the design, production, and installation of the cabinets that control the timings of traffic lights for 60 intersections within Sarasota County.

Mr. O'Shea's Atkins project experience includes:

Mast Arm Replacement Design-Build, FDOT District Five, Volusia County, FL. This design-build project involves the replacement of rusted signal mast arms on SR 40 and SR 430 in Volusia County, beachside. The replacements include new signal heads and back plates, and signals are to remain functional during the installation process. Mr. O'Shea served as a team member responsible for utility coordination. He was responsible for coordinating Atkins' plans with the utility companies to ensure that the plans would not conflict with utility power lines or any other property of the utility company.

ITS GEC Selection 3 TO#4, Home Office Staffing, FDOT Central Office, Statewide, FL. Atkins is providing technical, management, and administrative services related to the planning, architecture and standards development, integration, operations, maintenance, telecommunications, and mainstreaming of ITS throughout Florida. The agreement also involves preparation of design criteria packages for ITS implementation, deployment, and integration. Major initiatives include coordinated operations for all modes, active facilities management, and information sharing through central data warehousing and advanced traveler information systems (ATIS). Mr. O'Shea served as design and production project engineer. He was responsible for gathering project data from three different companies and recommending the most accurate data to the Florida Department of Transportation. He also gathered ground data via GPS measurements and created a program in Excel to compare and analyze the data, and compare speeds and travel times from Point A to Point B.

I-4 Dynamic Message Signs Replacement Design-Build, FDOT District Five, Orange County, FL. This design-build DMS replacement project was initiated by FDOT in anticipation of the ITS World Congress held in Orlando in October 2011. To date, a portion of the signs near the Orange County Convention Center have been replaced. Work performed as a subconsultant includes utility coordination, investigation of conduit routing and device locations, plans preparation, construction support, as-built drawings, QA/QC, and geotechnical engineering. Mr. O'Shea served as a team member responsible for utility coordination. He was responsible for coordinating

Education

B.S., Civil and Environmental Engineering, University of Central Florida, 2011

Certifications

Engineering Intern: Florida, 1100015965

Software

GEOPAK, MicroStation, ROSA, Toray, Hydrauntics, InPHorm, Avista Advisor 3, ICPR, AutoCAD, SMADA

Professional development

Toastmasters International

Patrick O'Shea, EI
Project Engineer

Atkins' plans with the utility companies to ensure that the plans would not conflict with utility power lines or any other property of the utility company.

Osceola County Traffic Signal Retiming Design Build, Traffic Control Devices Inc., Osceola County, FL. This project consists of collecting data and presenting information describing motorized travel times and speeds, LOS and delays on roadways as well as new signal timing plans. Each of these items are a direct measure of the performance of the roadway network, and provide an indication of congestion, delay, loss of time by drivers, increased fuel use and increased pollution emissions. Increasing travel times combined with decreasing travel speeds and LOS may signal a need for increased road or transit capacity, or for greater attention to other forms of congestion management such signal coordination. Mr. O'Shea served as a team member responsible for utility coordination and production. He analyzed plan sheets and assisted in capturing aerial views of the roadway territory.

Countywide Intelligent Transportation Systems Program Management Services, Sarasota County, FL. This contract with Sarasota County involves providing system management services for the $15-million, countywide advanced traffic management system (ATMS) deployment including the continued maintenance of the project system engineering management plan (PSEMP), stakeholder coordination, and the development of a concept of operations (CONOPS) and requirements traceability verification matrix (RTVM) that will form the basis for final plans. Final plans will be prepared for ATMS to modify signal controllers, add CCTV cameras, add arterials dynamic messaging signs (DMS), and deploy a fiber telecommunications network to support these devices all controlled via the regional traffic management center (TMC) in Manatee County. Construction engineering and inspection services will also be provided during construction. As a project engineer, Mr. O'Shea was responsible for the design, production, and installation of the cabinets that control the timings of the traffic lights for 60 intersections. He monitored the efficiency of the tracking devices and added markups and revisions to the original plans.

Sarasota Countywide Emergency Signal Preemption Devices Installation Design Services (TO 1), Sarasota County, FL. As an on-call assignment with the Sarasota County ITS library services contract, Atkins has been tasked with developing plans to equip an estimated 200 intersections and 86 emergency vehicles with a GPS-based emergency signal preemption system in Sarasota County. Atkins is responsible for identifying project intersections for the installation of preemption devices as well as functional and operational requirements of the system. Once these are established, Atkins will develop construction plans, signal timing modifications, specifications, and a contract booklet for a competitively bid countywide emergency signal preemption system that includes both field and in-vehicle equipment. Atkins is working with FDOT District One; Sarasota County; the Cities of Sarasota, Venice, and North Port; and the Sarasota County Fire Department. As a project engineer for design and production, Mr. O'Shea reviewed aerials and plan sheets of the GPS devices atop of traffic light cabinets on more than 200 intersections. At the intersections, he monitored the length of time the light would change to green when an emergency vehicle approaches the light. In addition, he monitored the general timings of the traffic lights and modified the plan sheets per the revisions from Sarasota County and the State of Florida.

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