

RSQ No: 21-0940



ON-CALL TRANSPORTATION AND TRAFFIC ENGINEERING SERVICES

SECTION 3: PROPOSED SOLUTION



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Proposed Solution

There are two dimensions of a “Proposed Solution” response – the Managerial Approach to developing a scope of services and managing an assigned task, and the technical capabilities the team can bring to bear on the assigned task. This section addresses these issues, and concludes with a discussion of our “special strengths”.

1. Management Approach

The services to be provided will be coordinated through WEO-PE. County staff should initially coordinate with Mr. Oliver to discuss the nature of the task and specific skills needed. Depending on the nature of the task, Mr. Oliver will assemble a team that provides the needed skills. Leaders of that team will prepare a project approach, defining questions to be answered and a technical approach to answering the questions. Information (content and format) needed from the County or other agencies will be identified. The approach will be discussed with County staff, and when accepted, a fee proposal and schedule will be provided. Work will be initiated upon receipt of notice to proceed.

Day-to-day production will be coordinated through routine meetings or “check-in” calls. It is not anticipated, but if production schedules are at risk, we will call upon other members of the team to

support us. As the prime engineer, it is Mr. Oliver’s responsibility to be sure production is moving in accordance with schedules, and to be sure communication with the County staff occurs if issues arise.

One of the more common challenges to a production plan can arise when there is a particular urgency with a task. For example, maybe a Commissioner has inquired about an issue that would be analyzed under this contract. Or maybe there has been public outcry on an issue. These types of occurrences can increase the urgency of a task. In those cases, the ability to apply wisdom quickly and staff availability become critical. Analysis tasks need to be completed and an accurate answer delivered as quickly as possible. Our team is uniquely qualified to address this issue. With our experience and overlapping and complementary skills, we can ensure that good advice is delivered on schedule.

This team has been doing this type of work literally for decades, and we are engineers who love to solve problems. We know how to do this work, and we have the resources to do it.

Day-to-day production will be managed by a qualified assigned task manager. Part of the culture of a good consulting practice is to

schedule weekly or bi-weekly project review meetings where project status (e.g. production issues, policy matters, and resource scheduling issues) are reviewed and addressed. When appropriate, direct communication between the task managers and County staff will be encouraged when needed for production quality and efficiency – provided responsible task managers are included in the communication loop. It is Mr. Oliver’s responsibility to ensure production schedules are followed and that appropriate communication occurs.

A second, knowledgeable task manager will review deliverables to ensure issues are addressed accurately and comprehensively, and that deliverables are clear and understandable by their intended audience.

If at any time Mr. Oliver is not available, Mr. Matthew Wey will also serve as deputy project manager and be available for consultation. Either one, or both, will be available for presentations to the public or County Commission, as appropriate.

Quality Assurance – The cornerstone of our quality management program is the quality and commitment of the individuals involved – each member of this team cares deeply about what the quality of work says about them

individually and what it says about the County as an agency accountable to its citizens. Each of the professional team members own their respective companies, bringing a personal interest in providing quality services.

Quality begins at the outset of each task assignment by clearly identifying the objectives of the study. This is accomplished by defining the questions that are to be answered by the work. The work will be executed under the direction of knowledgeable supervisors. We have a vested interest in ensuring that in-house and client reviews are undertaken at intermediate “milestone task” check-points – first to be sure effort is not wasted and to be sure that subsequent analysis is based only on a technically correct foundation and more importantly, second, to be sure the analysis is meeting County expectations and objectives. Each deliverable will be

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peer-reviewed by someone who understands the objective of the study, the technical process, and the reader audience to be sure the deliverable is of good quality.

2. Technical Approach

From the technical perspective, there are a variety of types of tasks that could be assigned. Thus, this discussion seeks to cover some of the approaches that may be common to multiple tasks. On the following page, we have provided a “quick-reference” matrix of the skills and resources available through our team.

In the following paragraphs, we have commented on the scope-listed tasks, indicating procedures this team is likely to use (depending on specific task needs), and how they may be potentially modified or sources of information that might be drawn upon to enhance the quality of the study. We have also noted a few additional tasks on which the team is capable of supporting the County.

Traffic Studies -- Traffic studies include many types of studies, such as signal warrant studies, delay studies, sight distance studies, audits of the safety and design of roads, bike, or pedestrian facilities. For these studies a variety of data collection and analysis procedures are relevant. Procedures we use for such studies would be consistent with adopted industry procedures, such as are outlined in the FDOT Manual on Uniform Traffic Studies. In addition, the analyst will be knowledgeable of the design standards that apply to the specific facility, such as the AASHTO “Green Book” and FDOT’s new “Florida Design Manual”.

Level of Service Analysis – (See also “Roadway Segment and Intersection Capacity”, below.) We have access to all appropriate roadway operational analysis software (e.g. Synchro, Sidra, HCS, FDOT LOS-Plan). The role of development traffic in creating deficiencies will be identified (for proportionate share purposes) using these tools, as well as potential solutions to identified deficiencies.

When appropriate, we also utilize micro-simulation analysis, which is able to model the interaction between adjacent traffic signals, roundabouts, and consider pedestrian and bicycle movements. Agencies are realizing micro-simulation is able to provide better insight into future roadway operations. The team brings strong capabilities in micro-simulation, and would seek to build and maintain a model that reflects local conditions as this contract proceeds. If the specific study poses issues that are better addressed through a micro-simulation analysis, that resource is available.

Finally, maintaining an inventory of mobility facility level of service through time allows the County to monitor conditions at a “30,000 foot level”. This lends itself to financial planning and revenue needs assessment. While it is natural for mobility systems in Florida to become more congested as population grows, the rate at which the County’s mobility system is expanded should be managed in a

Team Skills Matrix



	WEO-PE	WEY Engineering	Roark Engineering	Hagen Consulting Services	MSR Consulting Group	JRB Solutions	Bayer United	National Data Services
Education	BSCE, MSCE UVA	BSCE, MSCE USF, USF	BSCE USF	BSCE, MSCE UF	MSCE USF	BSCE UF	BSCE UCF	
Years Experience	43	24	26	35	20	15	17	
Professional Licenses	P.E., PTOE	P.E., PTOE	P.E., CTL	P.E., PTOE, RSP	P.E., PTOE	P.E., LEED AP	P.E.	
Data Collection								
TMC-manual		X	X	X	X			X
TMC-Video				X				X
24-72-hour hose counts				X (via video)	X			X
Parking		X	~	X	X			X
Capability/Experience								
Systems Planning	X	X	X					
Revenue Forecasting	X		~					
Zdata Forecasting	X	X	X		X			
Public Engagement	X	X	X		X	X		
Design Traffic	X	X	X	X	X			
Operational/LOS Analysis	X	X	X	X	X	X		
Traffic Impact Analysis	X	X	X	X	X	X		
Impact/Mobility Fees	X	X	X	X	X			
PD&E		X	X		X			
Bicycle Planning/Design						X		
Pedestrian Planning/Design						X		
Transit Planning/Operations						X		
Graphics		X	~	~	X			
Roadway Design							X	
Traffic Signalization Plans	X		X	X	X			
Signing and Marking Plans				X				
Construction Phase Traffic Plans (MOT)				X	X			
"Big Data" (HERE/Inrix/Streetlight/RTIS)	~	X	~		X			
ITS				X				
Safety								
Crash Records Management	X	X	X	X	X			
Location-Specific Analysis	X	X	X	X	X			
Signal4 Analytics		X	X		X			
Traffic/Transportation Analysis Software								
Synchro	X	X	X	X	X			
HCS		X	X	X	X			
Sidra		X	X		X			
Sim-Traffic	X	X	X		X			
CORSIM		X	X	X	X			
Transmodeler	X							
Vissim					X			
Cube	X		~		X			
GIS	X	X	~		~			
Access/Python/R/SQL/SAS		X	~		X			
Office (Word, Excel, Sharepoint, Teams)	X	X	X	X	X			
Adobe Suite		X			X			
Website design (wordpress, php)			~	X	~			
Tableau / Power BI					X			

pro-active, rather than re-active way, to ensure that mobility corridors are provided at a scale that aligns with the walking, bicycling, transit and automobile continuum.

Mobility Plans for Greenways, Bicycles, and Pedestrians –Lake County is a popular location for cyclists. The South Lake and Lake Minneola Trail and the Hancock Trail are part of a developing regional and statewide network of trails that will bring even more touring and recreational riders to Lake County. As the area continues to develop, we will look for opportunities to not only promote the safety of these trails, but to expand the trail network and to make the facilities that provide access to these trails safer.

Transit Studies –Through more than ten years of personal and professional experience on both large and small bus networks, James Fogarty understands how transit can help to shape a community in many positive ways. Lake County has seen explosive and transformational growth over the last two decades. Access to transit service can be leveraged to provide modal options and to protect the quality of life that Lake County residents have come to expect. The LakeExpress service on SR 50 and adjacent connections to Lynx service makes Clermont a gateway and critical multimodal connection between Lake County and nearby Orlando. Through his passion for small Florida cities, urban form, and transit we can make sure that transit services are accessible

and work well for Lake County’s residents.

Roadway Segment and Intersection Capacity – See “Level of Service Analysis”, above. Level of service analysis tools also provide information regarding capacity and saturation levels.

Adequacy of Transit, Bicycle, Pedestrian, and Parking Facilities -- We have conducted multimodal and transit access studies for various jurisdictions throughout Florida. Within the last year, JRB Solutions conducted the transportation impact and parking analysis for the only truly non-auto oriented development in the greater Tampa Bay region, the first in 50 years. His analysis for multimodal connections through central Tampa for Hillsborough County’s Bicycle and Pedestrian Advisory Committee helped to shape what ultimately will become the Green Artery perimeter trail along the Hillsborough River.

When Florida’s coast-to-coast trail is completed, Lake County stands to become a cornerstone as the central point along the trail between the coasts. This will surely reinforce Lake County as the ‘choice of champions’ and make it an even more ideal place for training and athletic events. Lake County can take maximum advantage of this strategic position with supportive transportation infrastructure that safely accommodates bikes and pedestrians. The team will leverage its experience to help the County

develop safe and innovative bicycle and pedestrian infrastructure.

Synthesizing Crash Data / Safety Analysis – Bill Oliver and Larry Hagen have participated in Highway Safety Manual training, and have undertaken Highway Safety Manual analyses. Further, we have participated in training and applied the FDOT Safety Performance for Intersection Control Evaluation (SPICE) analysis tool.

All traffic engineers are taught the concepts of analyzing specific locations for recurring patterns, and identifying if the frequency of crashes are unusually high and warranting treatment. Sri Meka and Matt Wey have both worked with the University of Florida's Signal4 Analytics software tool for crash analysis.

Development of Calming Plans/Complete Streets Design – - Understanding that streets make up more than 80% of all public space in cities is key to designing a street that serves as a front yard for residents while providing a safe place for people to get around by foot, by bicycle, by transit or by car.

In its new Roadway Design Manual, FDOT has recognized that roadways aren't always meant for speed and capacity. FDOT has embraced Complete Streets Design and is determining context classification for each state roadway and are preparing resources for complete

streets planning and design. We also are avid users of NACTO's "Urban Street Design Guide", a design guide that strives to create a new DNA for County streets.

Members of our team have undertaken traffic calming plans with the understanding that significant involvement by affected neighborhoods is critical to such projects.

Traffic Control Plans – Historically known as Maintenance of Traffic Plans (MOT), the team includes members that have not only completed FDOT certification training in MOT plans, but one who served as the instructor of the Advanced MOT training course.

Traffic Counts – National Data Services has a long history of traffic data collection throughout Florida. They provide traditional hose counts and manual turning movement counts, and also provide for video-recording services to enhance the types of analysis that can be done, such as saturation flow rates and delay studies.

Signing and Pavement Marking Plans – Team members have provided signing and pavement marking plans for roadway improvement projects and resurfacing projects, in accordance with Florida DOT standards.

Cost Estimates – We make use of FDOT compiled bid item unit costs as

well as generalized costs for roadway and transit improvements, and cost inflation factors provided by FDOT for planning purposes, as is appropriate for the specific improvement.

Development Impact Analysis

-- Having held similar contracts in the past, this proposer is very familiar with traffic impact study procedures -- both how to do such studies and how to review them. The major steps of the analysis include:

- Methodology discussion
- Data collection
- Trip generation, distribution and assignment
- Background traffic growth
- Operational analysis of total traffic volumes
- Recommendations for needed improvements
- Negotiating developer responsibilities
- Preparation of approval conditions
- Public hearings

Traffic impact analysis procedures have not changed significantly in recent years, but shifting emphasis in modal strategies changes the reasons we do the studies and the kind of information

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we want to get out of the development impact analysis. In previous work, this proposer has defined different review procedures for development in different areas of a County, in concert with varying mobility strategies. With the adoption of consistently-applied impact/mobility fees, the monetary mitigation requirement aspect of the traffic impact study is no longer the

primary focus, so the traffic study can actually identify good circulation solutions.

Growth Management

Policy/County-wide Mobility Plan Update -- Recent years have seen quite a bit of “push” and “pull” in mobility-related growth management policy. Generally, the traditional concurrency strategy of seeking to make developers mitigate their mobility impacts and maintain level of service “D” has been removed from State statutes. The mantra in these times is to lessen reliance on the single mode of personal automobile and promote alternative modes of mobility,

Mobility means different things to different population groups and in different areas of the County.

typically walking, bicycling, and public transit. In the extreme, this occurs to the exclusion of

seeking to mitigate traffic congestion.

Our approach to mobility planning is to recognize first that mobility means all of these modes play a role – as well as modes that may not be present today, and second, that mobility means different things to different population groups in different areas of the County. Certainly, better provision needs to be made for the more vulnerable modes of travel throughout the County.

Key to successfully delivering a suitable mobility system is to establish a consensus on the forms of mobility to be provided, and what quality of service is to be provided (leading to the quantities needed and costs) in different areas of the County. Bicycle and pedestrian movement is critical in urbanized areas, and should carry a high priority. In the more dispersed suburban areas, motorized vehicles will be more heavily relied upon. This team's planning and engineering capabilities can be used to refine strategies and support the implementation of the general guidance of the County's transportation plan, and to help define the role of various interest groups in funding the plans.

3. Special Strengths

The team operates with state-of-the-art traffic operations analysis software tools commonly used for this type of work, including:

- Synchro, Sidra, and Highway Capacity Software for road operations deterministic analysis,
- Vissim, Transmodeler, CORSIM, and Sim-Traffic for multi-modal micro-simulation,
- Cube/FSUTMS for application of the Central Florida Regional Planning Model,
- Arc-GIS or QGIS for geographic information system analysis,
- Auto-CAD for roadway design,
- Microsoft Office (Word, Excel, Powerpoint, Access) for document production, computational analysis, and presentation preparation,
- Microsoft Teams, and Skype for video-conferencing.

All of the team members have long careers in Florida, and thus have established working relationships with the mobility agencies with which the County interfaces, including the Florida DOT, Lake Xpress, and the Lake-Sumter MPO.

We are also familiar with the policies and procedures of these agencies, thus making interface requirements efficient and streamlined.

Furthermore, we have extensive experience in Florida Growth Management laws and procedures. We can provide advice regarding

changes the County may desire to its growth management policies, developer impact fees, or strategic direction for continuing to develop its mobility strategies in different areas of the County.

Mobility is a need that is rapidly changing in today's society due to the attributes of modern technology. These changes have created the need to evaluate the public infrastructure in new ways. Our team provides a mixture of seasoned, experienced personnel and younger practice-builders that can continue to work with County staff for years to come.

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