



Transportation Systems Management & Operations

Advisory Committee

Agenda & Supporting Documents

April 22, 2016



**Transportation Systems Management and Operations (TSMO)
Advisory Committee**

MEETING NOTICE

DATE: Friday, April 22, 2016
TIME: 8:30 a.m.
LOCATION: MetroPlan Orlando
David L. Grovdahl Board Room
250 South Orange Avenue
Suite 200
Orlando, Florida 32801

AGENDA

Chairman Corey Quinn, Presiding

(Wi-Fi network = MpoBoardRoom, password = mpoaccess)

- I. Call to Order - Chairman Corey Quinn**
- II. Confirmation of Quorum - Ms. Lena Tolliver**
- III. Agenda Review/Staff Follow-Up - Mr. Eric Hill**
- IV. Public Comments on Action Items**

Comments from the public will be heard pertaining to items on the agenda for this meeting. People wishing to speak must complete a "Speakers Introduction Card" at the reception desk. Each speaker is limited to two minutes.

V. Action Items

A. Approval of the February 26, 2016 TSMO Meeting Minutes (Tab 1)

Approval is requested of the February 26, 2016 TSMO meeting minutes provided at **Tab 1**.

B. Approval of FDOT Amendment to 2015/16-2019/20 TIP (Tab 2)

Mr. Jamil Gutierrez, FDOT, is requesting the TSMO to recommend that the FY 2015/16-2019/20 TIP be amended to include funding for improvements on Goldenrod Road and on US 192 at Hoagland Boulevard. A letter explaining the amendments is provided at **Tab 2**.

C. Approval of Traffic Signal Retiming Task Force (Tab 3)

Staff is requesting approval of a Task Force to assist in the procurement and management of the Traffic Signal Retiming Contract. A copy of the scope of work for the contract is in **Tab 3**.

D. Change Project Limits for Shingle Creek Trail Phase 4 (Tab 4)

Action is requested to recommend approval of changing the project limits for Shingle Creek Trail Phase 4 in Kissimmee. Mr. Randy Schrader, City of Kissimmee, will give a presentation on the proposed changes to the project limits prior to action being taken. An attachment is provided at **Tab 4**.

E. Approval of Funds for Traffic Homicide Investigation (Tab 5)

Mr. Bryan Homayouni, P.E., Central Florida Expressway Authority, is requesting the TSMO to provide funds for a pilot project of traffic homicide investigation technology.

Recognizing the impacts of traffic homicides on surface transportation, a collaborative effort between the Central Florida Expressway Authority (CFX), FDOT District Five and MetroPlan Orlando completed an investigation of new technological methods that would assist local and state law enforcement agencies to expedite their traffic homicide investigations. Based on this research two technologies, the Leica and the Riegl Scanstations were recommended for pilot tests with the Orlando Police Department (OPD) and Florida Highway Patrol (FHP). The CFX will serve as the Project Manager, purchase a single unit for each agency to allow each agency to independently evaluate the units, vendor services and provide the required feedback to the sponsors for the pilot test period. The Riegl unit will be tested by FHP; the Leica unit will be tested OPD.

The budget estimate for the pilot test is \$300,000. FDOT District Five has committed \$100,000. A commitment to fund the remaining portion is under review by CFX and will be presented during the May board meeting. The CFX is requesting \$100,000 from TSMO funds to support the pilot tests. A copy of the Open Roads Policy Agreement Technology Research Report is provided at **Tab 5**.

VI. Common Presentations/Status Reports (Presentations will be made at the TAC meeting)

A. *Presentation on East Central Florida Regional Planning Council Route Condition Tool*

Mr. PJ Smith, East Central Florida Regional Planning Council (ECFRPC), will give a presentation on the Council's Route Condition Tool, which pertains to safety and access for bicyclists and pedestrians.

B. *Overview of Upcoming Project Prioritization Meeting Agenda and Policy Discussion*

Mr. Alex Trauger, MetroPlan Orlando staff, will provide an overview of the proposed May 27, 2016 TSMO Workshop which will serve as the annual project review and prioritization meeting. The presentation will also focus on policy elements relating to historical prioritization practices while allowing time of Advisory Committee discussion and recommendations.

C. *Update on 2016 Florida Legislative Session*

Ms. Virginia Whittington, MetroPlan Orlando staff, will report on the 2016 Florida Legislative Session.

VII. General Information

(Tab 6)

A. *FDOT Quarterly Variance Report*

FDOT's latest Quarter Variance Report on cost estimate changes for projects in the TIP is enclosed for information purposes.

B. *FDOT Monthly Construction Status Report*

The latest FDOT Monthly Construction Status Report for the Orlando area is enclosed for information purposes.

C. *MetroPlan Orlando Board Highlights*

A copy of the March 9th Board Meeting Highlights is enclosed for information purposes.

D. *Air Quality Report*

The latest air quality report for the MetroPlan Orlando area will be provided at the meeting for information purposes.

E. *Unified Planning Work Program (UPWP)*

A summary of changes that will be made to the UPWP from the draft that was approved by the Board on March 9, 2016. All comments have not been received by FDOT and FHWA, therefore, additional changes may be made as necessary. A copy of the summary is attached.

VIII. Upcoming Meetings of Interest to TSMO Members

A. ITS Master Plan Workshop

The first workshop for the MetroPlan Orlando ITS Master Plan will be held on Friday, April 29, 2016, 9:00 a.m. to 12:00 p.m., in the MetroPlan Orlando, Board Room, 250 South Orange Avenue, Suite 200, Orlando, Florida 32801. The objective of this workshop is to reach consensus on a Vision, Goals and Objectives for the ITS Master Plan (Task 1) and to complete a portfolio of ITS services and devices in the MetroPlan Orlando area (Task 2). Please RSVP to Ms. Lena Tolliver by Tuesday, April 26, 2016.

B. Next TSMO Meeting

The next TSMO meeting will be held on May 27, 2016 at **8:30 am** at MetroPlan Orlando

IX. Other Business

X. Public Comments (General)

XI. Adjournment

In accordance with the Americans with Disabilities Act (ADA), if any person with a disability as defined by the ADA needs special accommodations to participate in this proceeding, he or she should contact Ms. Lena Tolliver, MetroPlan Orlando, Park Building 250 S. Orange Avenue, Suite 200, Orlando, Florida, 32801 or by telephone at (407) 481-5672 x307 at least three business days prior to the event.

Persons who require translation services, which are provided at no cost, should contact MetroPlan Orlando at (407) 481-5672 x307 or by email at ltolliver@metroplanorlando.com at least three business days prior to the event.

As required by Section 286.0105, Florida Statutes, MetroPlan Orlando hereby notifies all interested parties that if a person decides to appeal any decision made by MetroPlan Orlando with respect to any matter considered at such meeting or hearing, he or she may need to ensure that a verbatim record is made to include the testimony and evidence upon which the appeal is to be based.

TAB 1





**Transportation Systems Management and Operations (TSMO)
Advisory Committee**

MEETING MINUTES

DATE: Friday, February 26, 2016

TIME: 8:30 a.m.

LOCATION: MetroPlan Orlando
David L. Grovdahl Board Room
250 South Orange Avenue
Suite 200
Orlando, Florida 32801

Chairman Corey Quinn, Presiding

ATTENDANCE

Voting Members Present:

Mr. Brett Blackadar, Seminole County
Mr. Benton Bonney, City of Orlando
Mr. Chris Kintner for Ms. Sheryl Bower, City of Longwood
Mr. Kelly Brock, City of Casselberry
Mr. Michael Cash, City of Sanford
Mr. Frank Consoli, City of Orlando
Mr. Noel Cooper, City of Maitland
Mr. Jay Davoll, City of Apopka
Mr. Hazem El-Assar, Orange County
Mr. Kevin Felblinger, City of St. Cloud
Mr. Brian Fields, City of Winter Springs
Mr. Azim Hosein, City of Kissimmee
Mr. Doug Jamison, LYNX

Mr. Steve Krug, City of Ocoee
Mr. Butch Margraf, City of Winter Park
Councilman Robert McKinley, Town of Windermere
Ms. Mary Moskowitz, Osceola County
Ms. Lee Pulham, Reedy Creek Improvement District
Mr. Corey Quinn, Central Florida Expressway Authority
Mr. Brian Sanders, Orange County
Mr. Ramon Senorans, Kissimmee Gateway Airport
Mr. Charlie Wetzel, Seminole County
Mr. Tim Wilson, City of Altamonte Springs
Ms. Joedel Zaballero, Osceola County

Non-Voting Members/Advisors Present:

Mr. Eric Gordin, Florida Turnpike Enterprise
Mr. Glen Hammer, Osceola County CTST
LT. Pete Kelting, Seminole County CTST
Councilman Robert McKinley, Town of Windermere
Mr. John Rogers, Orange County CTST
Ms. Maria Teimouri, UCF

Voting Members Absent:

Mr. Donald Cochran, City of Winter Garden
Mr. Brad Friel, GOAA
Mr. John Omana, City of Lake Mary

Non-Voting Members/Advisors Absent:

Ms. Heather Garcia, FDOT
Mr. Chris Rader, City of Edgewood

Others in Attendance:

Mr. Jamil Gutierrez, FDOT
Mr. Eric Hill, MetroPlan Orlando
Ms. Lena Tolliver, MetroPlan Orlando

I. Call to Order

Chairman Corey Quinn called the meeting to order at 8:30 a.m. and announced that today was Mr. Brett Blackadar's last day with Seminole County and thanked him for his service.

II. Confirmation of Quorum

Ms. Lena Tolliver confirmed the presence of a quorum.

III. Agenda Review/Staff Follow-Up

Mr. Eric Hill reported that agenda item VI. B. *Discussion on Support for Innovative Traffic Signal Technologies Pilot Project* was removed from the agenda. He also reported that staff will begin work on the Tracking the Trends report and will be reaching out to members for their feedback.

IV. Public Comments on Action Items

None

V. Action Items

A. Approval of the January 22, 2016 TSMO Meeting Minutes

Approval was requested of the January 22, 2016 TSMO meeting minutes provided.

MOTION: Mr. Jay Davoll moved approval of the January 22, 2016 TSMO meeting minutes. Mr. Ramon Senorans seconded the motion, which passed unanimously.

B. Approval of FDOT Amendment to 2015/16-2019/20 TIP

Mr. Jamil Gutierrez, FDOT, requested that the FY 2015/16-2019/20 TIP be amended to include funding for improvements on Goldenrod Road and on US 192 at Hoagland Boulevard. A letter explaining the amendments was provided.

MOTION: Mr. Hazem El-Assar moved approval of the amendment request to include funding for improvements on Goldenrod Road and on US 192 at Hoagland Boulevard. Mr. Jay Davoll seconded the motion, which passed unanimously.

C. Approval of State District Dedicated Revenue Funds Process

As a follow-up to the discussion at the February Board meeting on MetroPlan Orlando's process regarding the use of DDR funds for premium transit projects, action was requested by Mr. Gary Huttman, MetroPlan Orlando staff, to recommend approval of this process. A draft resolution and overview of the overall prioritization process was provided electronically prior to the meeting and a copy was also provided at the meeting. Mr. Brian Sanders recommended that the wording referring to a process be clarified by changing process to schedule. Discussion ensued relative to any impact on the Transportation Improvement Program and if a subcommittee should be tasked with exploring the impact on percentages and the prioritization process. Ms. Mary Moskowitz requested that the 4th Whereas be modified as "LYNX is one of the transit operators". Discussion ensued.

MOTION: Ms. Moskowitz moved approval of the State District Dedicated Revenue (DDR) funds Resolution No. 16-07 to include changing the language relative to the 4th Whereas as "LYNX is one of the transit operators". Mr. Frank Consoli seconded the motion.

Mr. Brian Sanders asked for clarification of the motion and requested that the motion include his recommendation to change process to schedule. The motion maker and the seconder accepted this amendment.

AMENDED MOTION: Ms. Moskowitz moved approval of the State District Dedicated Revenue (DDR) funds Resolution No. 16-07 to include changing the language relative to the 4th Whereas as **“LYNX is one of the transit operators** and change the wording referring to a process to schedule. Mr. Frank Consoli seconded the motion, which passed unanimously.

D. Approval of FY 2016/17-2017/18 UPWP

Action was requested by Mr. Gary Huttman, MetroPlan Orlando staff, to recommend approval of the FY 2016/17-2017/18 Unified Planning Work Program (UPWP). A link was provided to the draft UPWP.

MOTION: Mr. Jay Davoll moved approval of the FY 2016/17-2017/18 Unified Planning Work Program. Mr. Ramon Senorans seconded the motion, which passed unanimously.

VI. Presentations/Status Reports

A. Discussion on Traffic Signal Retiming Contract

Mr. Jim Stroz, FDOT, discussed an opportunity to transfer the traffic signal retiming contract from FDOT D5 to MetroPlan Orlando and explained the benefits of the transfer. Mr. El-Assar expressed possible scheduling challenges with the coordination of two entities prioritizing and scheduling projects on the local and state side. Chairman Quinn suggested that early coordination would be beneficial to the process for both the local and state.

B. Discussion on Support for Innovative Traffic Signal Technologies Pilot Project

This item was removed from the agenda.

VII. Common Presentations/Status Reports (During the Technical Advisory Committee Meeting)

A. Presentation on Efficient Transportation Decision Making Planning Screen for SR 434 Widening Project

Mr. Keith Caskey, MetroPlan Orlando staff, gave a brief overview of the SR 434 widening project, and committee members were given an opportunity to provide comments or input they would like to have considered in the Planning Screen review of the project. The Purpose and Need Statement for the SR 434 project was provided.

B. Project Application Tool Demonstration/Tutorial

Mr. Alex Trauger, MetroPlan Orlando staff, presented a demonstration/tutorial for the new Project Application Tool that will be used in the development of the Prioritized Project List.

C. Status Report on Intelligent Transportation System (ITS) Master Plan

Mr. Eric Hill, MetroPlan Orlando staff, presented a status report on the ITS Master Plan that is currently under development. Additional information was provided at the meeting.

D. BPAC Crash Trends

Mr. Mighk Wilson, MetroPlan Orlando staff, gave a presentation on pedestrian and bicycle crash trends in the three-county area.

VIII. General Information

A. FDOT Monthly Construction Status Report

The latest FDOT Monthly Construction Status Report for the Orlando area was provided for information purposes.

B. 2016 Preview/Approval Schedule for TIP & Prioritized Project List

The 2016 preview and approval schedule for the FY 2016/17-2020/21 TIP and FY 2021/22-2039/40 Prioritized Project List was provided for information purposes.

C. Legislative Update

The latest legislative update was provided for information purposes.

D. MetroPlan Orlando Board Highlights

A copy of the February 10th Board Meeting Highlights was provided for information purposes.

E. 2015 TSMO Attendance Report

The 2015 TSMO Attendance Record was provided for information purposes.

F. Clean Air

A link was provided along with a flyer which was provided at the meeting.

G. Florida Sunshine and Public Record Laws

A copy of the Florida Sunshine and Public Record Laws was provided for information purposes.

IX. Upcoming Meetings of Interest to TSMO Members

A. Next TSMO Meeting

The next TSMO meeting to be held on April 22, 2016 at **8:30 am** in the new MetroPlan Orlando Board Room.

X. Other Business

None

XI. Public Comments (General)

None

XII. Adjournment

There being no further business, Chairman Quinn adjourned the meeting of the Transportation Systems Management & Operations Advisory Committee at 9:17 a.m. The meeting was recorded and transcribed by Ms. Lena Tolliver.

Approved this 22nd day of April, 2016

Mr. Corey Quinn, Chairman

Ms. Lena E. Tolliver,
Recording Secretary

As required by Section 286.0105, Florida Statutes, MetroPlan Orlando hereby notifies all interested parties that if a person decides to appeal any decision made by MetroPlan Orlando with respect to any matter considered at such meeting or hearing, he or she may need to ensure that a verbatim record is made to include the testimony and evidence upon which the appeal is to be based.

TAB 2





Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 S. Woodland Boulevard
DeLand, Florida 32720-6834

JIM BOXOLD
SECRETARY

April 13, 2016

Mr. Gary Huttman
Deputy Executive Director
MetroPlan Orlando
250 South Orange Ave.
Suite 200
Orlando, FL 32801

Dear Mr. Huttman:

Subject: REQUEST FOR TRANSPORTATION IMPROVEMENT PROGRAM CHANGES

The Florida Department of Transportation requests the following changes be made to the MetroPlan Orlando Adopted Fiscal Year FY 2015/16 – 2019/20 Transportation Improvement Program (TIP) in coordination with the corresponding changes to the Department's Work Program:

Orange County

Project:

FM 437592-1 State Road 600/State Road 500/US 441/US 17-92, From South of State Road 482 (Sand Lake Road) to North of State Road 482. Intersection Safety Improvement Project.

Current TIP Status:

Project currently is not in Fiscal Year 2015/16 – 2019/20 TIP

Proposed Amendment:

Adding Phase 31 (Design-In House) – \$10,000 in Highway Safety Program (HSP) Funding in Fiscal Year 2015/2016.

Explanation:

Adding In-House charges for FDOT Staff to charge time-sheets.

Osceola County

Project:

FM 434916-1 West Oak Street Intersection Improvements at John Young Parkway.

Current TIP Status:

Project currently is not in Fiscal Year 2015/16 – 2019/20 TIP

Proposed Amendment:

Adding Phase 48 (Right of Way Acquisition) – \$400,000 in Urban Attributable Funding (SU) and \$400,000 in Local Funding (LF) in Fiscal Year 2016/2017.

Explanation:

The Department is programming the next phase of this project which is Right of Way. This Project is MetroPlan Orlando's priority #2 on their Transportation Systems Management and Operations Projects List in the currently adopted FY 2020/21-2039/40 Prioritized Project List.

Seminole County

Project:

FM 432642-1 State Road 434 at Winding Hollow Boulevard, Add Right Turn Lanes.

Current TIP Status:

Project currently is not in Fiscal Year 2015/16 – 2019/20 TIP

Proposed Amendment:

Adding Phases 4B (Right of Way Support) \$16,000, 41 (Right of Way In-House Charges) \$5,000, and 43 (Right of Way Acquisition) \$320,000 in Urban Attributable Funding (SU) in Fiscal Year 2016/2017.

Explanation:

The Department is programming the next phase of this project which is Right of Way. This Project was MetroPlan Orlando's priority #2 on their Transportation Systems Management and Operations Projects List in the FY 2018/19-2029/30 Prioritized Project List that was adopted in 2013.

If you have any questions please contact me at 386-943-5791.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jamil Gutierrez', with a long horizontal flourish extending to the right.

Jamil Gutierrez
FDOT MPO Liaison

cc: Harry Barley, Executive Director, MetroPlan Orlando
Keith Caskey, Managing of Planning Services, MetroPlan Orlando

TAB 3



EXHIBIT A

SCOPE OF WORK

ORANGE, OSCEOLA & SEMINOLE COUNTIES - TRAFFIC SIGNAL RETIMING CONTRACT

I GENERAL REQUIREMENTS

The purpose of this contract is to provide MetroPlan Orlando with professional services for conducting needed corridor retiming efforts. The developed timing plans will be implemented directly into the field by the CONSULTANT, unless directed by the MetroPlan Orlando Project Manager.

A major objective of this contract is to improve efficiency and safety along the corridors as expeditiously as possible while maintaining a high degree of thoroughness and professionalism. The CONSULTANT shall be aware that multiple Work Orders can be open concurrently.

The CONSULTANT shall ensure that all tasks and studies requiring field activities are conducted professionally and in a manner that utilizes accepted safety methods and practices. The safety of the traveling public and the CONSULTANT'S field staff shall be an essential goal of each field study activity.

Acronyms:	CADD	Computer Aided Design and Drafting
	FDOT	Florida Department of Transportation
	FHWA	Federal Highway Administration
	IMSA	International Municipal Signal Association
	MUTCD	Manual of Uniform Traffic Control Devices
	MUTS	Manual of Uniform Traffic Studies
	TMC	Turning Movement Counts
	TSMO	Transportation Systems Management and Operations

Personnel

The CONSULTANT's work shall be performed and/or directed by the key personnel identified in the technical/fee proposal presentations by the CONSULTANT. Any changes in the indicated personnel or the CONSULTANT's office in charge of the work as identified in the CONSULTANT's proposal shall be subject to review and approval by MetroPlan Orlando.

Subcontracting

Should the CONSULTANT require the services of a specialist for specialty work, the CONSULTANT is authorized to subcontract these services under the provisions of the Standard Consultant Agreement. Firms selected for subcontracts must be approved in writing and be an FDOT-qualified firm prior to the CONSULTANT authorizing any such work. The CONSULTANT shall be fully responsible for the satisfactory performance, conclusions and recommendations of all subcontracted work.

Issuance of Work Orders

Authorization to perform one or more of the tasks described in this scope of services shall be

conveyed to the CONSULTANT through a written work order or a verbal work order (followed by a faxed written or e-mailed work order) issued by the MetroPlan Orlando Project Manager. The work order shall specify the task to be conducted with a brief description; the location and project limits of each area; the desired tasks within the composite task; the date on which each task is to be completed and submitted to MetroPlan Orlando; and the total price to be paid to the consultant for each task type or additive. Each work order issued by the MetroPlan Orlando Project Manager shall serve as formal notice to proceed, effective on the date of the work order or on a subsequent date, if specified.

Preliminary Report

All tasks requiring a report shall have a preliminary report submitted to the Project Manager, Maintaining Agency and Task Force prior to the submittal of the Final Report. The Project Manager, Maintaining Agency and Task Force shall review and comment upon the Preliminary Report and return comments to the CONSULTANT. The Final Report will reflect the comments of the Project Manager and Maintaining Agency.

Final Report

All final reports (and copies) submitted to the Project Manager and Maintaining Agency shall be signed, sealed, and dated by a Florida Registered Professional Engineer of the CONSULTANT (including all subcontracted work). Final hardcopy reports submitted to the Project Manager and Maintaining Agency shall also include a compact disk (CD) with an electronic copy of the final report in Adobe Acrobat PDF format (not scanned), any associated CADD files in DGN format, Synchro Files, and Spreadsheets.

II STUDY TYPE

This scope of work contains one (1) study type for which the CONSULTANT will be issued work orders. The study type and the work tasks associated are shown below:

Study Type I - Arterial Retiming

- Task 1 - System Operation Review and Traffic Signal Equipment Inventory
- Task 2 - Analysis, Implementation and Documentation
- Task 3 - 8-Hour Turning Movement Count (with pedestrians, bicycles and trucks)
- Task 4 - 4-Hour Turning Movement Count (with pedestrians, bicycles and trucks)
- Task 5 - 24-Hour Traffic Count (Intersection)
- Task 6 - 7-Day Continuous Traffic Count (Both Directions)
- Task 7 - Public Presentation
- Task 8 - Miscellaneous Items

III DESCRIPTION OF STUDY TASKS

This section describes the study type included in this scope, the work required in each task and the task product(s). Also, the unit of payment for each work task is defined for the purpose of payment, and the period of performance typically expressed as a function of the number of units to be studied by the CONSULTANT. Payment for a supplemental work task is in addition to the payment for the study type.

STUDY TYPE I: ARTERIAL RETIMING

1. Purpose

This is intended to provide MetroPlan Orlando with specialized expertise in the retiming of arterials in Osceola, Orange and Seminole Counties upon request by the MetroPlan Orlando TSMO Advisory Committee Task Force.

2. Basis of Payment

Payment is based upon the unit price for each arterial system (assuming a minimum of three intersections in the system) plus an additive for each additional intersection within that arterial/network. The established unit price for each system will be considered full compensation for all work required to perform this study. An additional established fee will be earned for each additive or supplemental work task if authorized by the Project Manager.

3. Period of Performance

The normal period allowed for the completion of an arterial retiming study is six (6) weeks (for a system of three intersections). For each additional signalized intersection an additional one (1) week of study time will be authorized. If multiple corridors are issued on a single work order, completion dates shall be specified on the task work order.

4. Scope of Work

This section specifies the work task to be performed by the CONSULTANT and the responsibilities of the CONSULTANT and MetroPlan Orlando.

Task 1: SYSTEM OPERATION REVIEW AND TRAFFIC SIGNAL EQUIPMENT INVENTORY (IMSA Level II certification required to complete this task)

Review and document the type, age, condition, capability of the equipment, and existing timing plan at each intersection within the arterial, existing phasing, number of lanes and lane assignments, and the coordinating medium on an agency of FDOT inspection form. Report to the Project Manager and Maintaining Agency any deficiencies noted upon discovery.

Task Products:

- Traffic signal equipment inventory.
- Existing traffic signal timing/phasing plan
- Sketch of lane configurations.

Subtask 1A: Additive Intersection

Additional intersection for same route and/or study.

Task 2: ANALYSIS, IMPLEMENTATION AND DOCUMENTATION (IMSA Level II certification required to complete this task)

Determine the optimum system timing pattern(s) for the optimum cycle length during different

times of the day/week. When a system analysis is performed, the necessary settings to be developed will include but not limited to the following:

- Cycle Length
- Force-offs
- Day-of-Week Plan
- Splits
- Permissives
- Offsets
- TOD Plan

These parameters will be developed for the following timing plan periods:

- Day Plan: Inbound & Outbound Peak Hour(s) and Off-Peak Hour(s)
- Week Plan: Day plan to be implemented for each day of the week

For the purpose of this task, the following definitions apply:

A traffic control timing pattern is a set of cycle length(s), splits and offsets for a section.

A section is a portion of a traffic control system which can be controlled by a single set of timing parameters.

An analysis shall consist of at least the following steps:

1. Analyze and design local intersection timings for each intersection. Local timings to include all clearance intervals (yellow, all-red, and pedestrian clearance intervals).
2. Analyze and design coordinated intersection (system) timings with **Synchro** (or a similar design tool/software that is approved by MetroPlan Orlando and the Maintaining Agency with Existing Phasing).

The CONSULTANT is responsible for selecting all input values required for the analysis. The CONSULTANT must use their own computer for all analyses to be performed under this study (the software used must be approved by the Project Manager and Maintaining Agency). Submit a CD(s) of all input/output timing development runs and data files (i.e., initial and final runs); along with any link/node diagrams. The format of the timing charts will be approved by MetroPlan Orlando and Maintaining Agency.

All traffic count data required for the purpose of this study will either be provided by MetroPlan Orlando or will be obtained by the CONSULTANT under additional tasks (i.e. Task 3 - Task 6).

The CONSULTANT will obtain from the Maintaining Agency existing controller timings.

The CONSULTANT shall provide the Project Manager and Maintaining Agency two copies of the documentation for each of the timing patterns in an acceptable format. The report shall contain, but not limited to the following information:

1. Executive Summary
2. Optimum controller and coordination timing that can be implemented on existing hardware.
3. Master Clock Chart (Hardwire, TBC, UTCS, CLS)
4. Link/node diagrams
5. Data files on CD(s)

6. Arterial analysis and documentation.

After acceptance of the initial timings and patterns by the Project Manager and Maintaining Agency this task includes entering the intersection, system timings, developed by the CONSULTANT into the controller units, coordination units and master units by a IMSA - Level II signal technician. The CONSULTANT shall notify the Maintaining Agency prior to implementation and request their authorization during the implementation.

Also perform fine tuning of implemented timing(s) for each arterial based on field observation of the traffic operation during all developed peak hour patterns. The traffic engineer will observe the operation of the arterial for each timing pattern. *The traffic engineer shall be available to investigate and fine-tune any adjustments for a period of 30 days after the submittal of the final report.*

Should an existing controller, coordination unit, or master unit be inoperative or additional hardware or cabinet modifications be required at an intersection the CONSULTANT will give verbal notification of the problem to the Project Manager and Maintaining Agency within the same day. Document in the report the nature, extent and probable solution(s) to the problem(s) within one week.

The CONSULTANT shall provide the Project Manager and Maintaining Agency two copies of the final documentation for each of the timing patterns in an acceptable format. The report shall contain, but not limited to the following information:

1. Final Implemented Timings
2. Day Plans
3. Week Plan

At the completion of the study, submit to the Project Manager and Maintaining Agency two (2) copies of a report (in an acceptable format) containing the following information:

1. Study Summary
2. Equipment Inventory
3. Final Intersection and System Timings
4. 24-hour, 7-day counts arrayed in an acceptable format.
5. 8-hour turning movement count arrayed in an acceptable format.

Task Product:

- Final report that is signed, sealed and dated by a professional engineer.

Subtask 2A: Additive Intersection

Additional intersection for System Timing Plan for same route and/or study.

Subtask 2B: Additive Plan (Weekend)

Additional System Timing Plan for same route and/or study on a weekend day (Saturday or Sunday), as determined by the Project Manager.

Subtask 2C: Additive Intersection (Weekend)

Additional intersection for a Weekend System Timing Plan for same route and/or study.

Task 3: 8-HOUR TURNING MOVEMENT COUNT/PEDESTRIANS AND BICYCLES

An 8-Hour TMC shall be taken for those hours encompassing the morning, midday peak and afternoon traffic periods and/or peak periods during which warranting volumes exist and an off-peak period. Each period shall normally consist of a minimum of eight (8) consecutive 15-minute intervals (2 hours) during each period which yields the highest total volume of vehicles entering the intersection. Note that the 2-hour period could begin on any quarter hour. For example, the afternoon peak could be from 4:45 PM to 6:45 PM. Vehicles must be counted by personnel or other approved automated equipment as directed by Task Force. They may use tally sheets or turning movement counter boards (mechanical/electronic) and must separately record the number of pedestrians and bicycles. The need for additional personnel to count traffic may be authorized as a supplemental (Task 3A).

A sketch of sufficient detail shall be made to show the approach lanes, left and right turn lanes, and whether there is a median or other type of separation. The traffic signal head arrangement and pedestrian features should be shown. The sketch should show whether the intersection is a "T" or a "Plus" type intersection, any offset, and the approximate skew if one exists. North shall be to the top of the page.

Task Products:

- 8-hour TMC providing hourly volume summaries.
- 8-hour TMC providing 15-minute volume summaries.
- 8-hour truck volume summaries.
- 8-hour pedestrian movement counts providing hourly summaries.
- Sketch of lane configurations.

If this data is provided as a separate document, it should include a title page, location map, the data presented on standard FDOT forms or as approved by the Project Manager, and any narrative necessary for the understanding or interpretation of the data.

Subtask 3A: Additive - Additional Person

One or more additional persons may be authorized by the Project Manager for the conduct of a TMC on an as needed basis.

Task 4: 6-HOUR TURNING MOVEMENT COUNT/PEDESTRIANS AND BICYCLES

A 6-Hour TMC shall be taken for those hours encompassing peak periods determined by the Project Manager. Each period shall normally consist of a minimum of eight (8) consecutive 15-minute intervals (2 hours) during each period which yields the highest total volume of vehicles entering the intersection. Note that the 2-hour period could begin on any quarter hour. For example, the afternoon peak could be from 4:45 PM to 6:45 PM. Vehicles must be counted by personnel or other approved automated equipment as directed by Task Force. They may use tally sheets or turning movement counter boards (mechanical/electronic) and must separately record the number of pedestrians and bicycles. The need for additional personnel to count

traffic may be authorized as a supplemental (Task 4A).

A sketch of sufficient detail shall be made to show the approach lanes, left and right turn lanes, and whether there is a median or other type of separation. The traffic signal head arrangement and pedestrian features should be shown. The sketch should show whether the intersection is a "T" or a "Plus" type intersection, any offset, and the approximate skew if one exists. North shall be to the top of the page.

Task Products:

- 6-hour TMC providing hourly volume summaries.
- 6-hour TMC providing 15-minute volume summaries.
- 6-hour truck volume summaries.
- 6-hour pedestrian movement counts providing hourly summaries.
- Sketch of lane configurations.

If this data is provided as a separate document, it should include a title page, location map, the data presented on standard FDOT forms or as approved by the Project Manager, and any narrative necessary for the understanding or interpretation of the data.

Subtask 4A: Additive - Additional Person

One or more additional persons may be authorized by the Project Manager for the conduct of a TMC on an as needed basis.

Task 5: 4-HOUR TURNING MOVEMENT COUNT/PEDESTRIANS AND BICYCLES (OPTIONAL)

To be determined by the Task Force, a 4-Hour TMC shall be taken for a period of 4 hours encompassing the peak periods as determined by the Project Manager, which warranting volumes exist. Each period shall normally consist of a minimum of eight (8) consecutive 15-minute intervals (2 hours) during each period which yields the highest total volume of vehicles entering the intersection. Note that the 2-hour period could begin on any quarter hour. For example, the afternoon peak could be from 4:45 PM to 6:45 PM. Vehicles must be counted by personnel or other approved automated equipment. They may use tally sheets or turning movement counter boards (mechanical/electronic) and must separately record the number of pedestrians and bicycles. The need for additional personnel to count traffic may be authorized as a supplemental (Task 5A).

A sketch of sufficient detail shall be made to show the approach lanes, left and right turn lanes, and whether there is a median or other type of separation. The traffic signal head arrangement and pedestrian features should be shown. The sketch should show whether the intersection is a "T" or a "Plus" type intersection, any offset, and the approximate skew if one exists. North shall be to the top of the page.

Task Products:

- 4-hour TMC providing hourly volume summaries.
- 4-hour TMC providing 15-minute volume summaries.

- 4-hour truck volume summaries.
- 4-hour pedestrian movement counts providing hourly summaries.
- Sketch of lane configurations.

If this data is provided as a separate document, it should include a title page, location map, the data presented on standard FDOT forms or as approved by the Project Manager, and any narrative necessary for the understanding or interpretation of the data.

Subtask 5A: Additive - Additional Person

One or more additional persons may be authorized by the Project Manager for the conduct of a TMC on an as needed basis.

Task 6: 24-HOUR TRAFFIC COUNT (Intersection)

The CONSULTANT shall collect traffic count data on each approach to the intersection for a minimum period of 24 hours during typical weekday traffic conditions. In conducting the counts, the CONSULTANT shall utilize an automatic traffic counter which produces a written record of the traffic volumes and the time of day, either directly or through subsequent interconnection and processing with external electronic hardware. The count data shall be presented in an acceptable tabular form showing 15-minute interval volumes and hourly summaries.

Task Product:

- 24-hour approach volume counts.

If this data is provided as a separate document it should include a title page, location map, the data presented on standard FDOT forms or as approved by the Project Manager, and any narrative necessary for the understanding or interpretation of the data.

Subtask 6A: Additive - 24-Hour Traffic Count (Additional Approach)

When an intersection has more than 4 approaches or when there are adjacent legs or driveway openings that should be counted with the regular intersection the Project Manager may authorize the CONSULTANT to collect hourly traffic count data on one or more additional approaches to an intersection for a minimum period of 24 hours. In conducting these supplemental counts, the CONSULTANT shall utilize an automatic traffic counter which produces a written record of the traffic volume and the time of day as defined in Task 5 above.

Task 7: 7-DAY CONTINUOUS TRAFFIC COUNT

A count station is 1 location, 2 directions, or in the case of one-way pairs, 1 count for each direction.

To determine the volume of traffic utilizing a road, the Project Manager may authorize the collection of seven-day continuous traffic counts at select stations. In conducting the counts, the CONSULTANT shall utilize an automatic traffic counter which produces a written record of the traffic volume and the time of day, either directly or through subsequent interconnection and processing with external electronic hardware. From the count data, an acceptable tabular

presentation of directional traffic volumes shall be developed showing 15-minute interval volumes and hourly summaries over the 7 consecutive day period. A graphical presentation shall be developed showing hourly interval volumes over the 7 consecutive day period. The 7-day period shall not include a holiday unless otherwise directed by the Project Manager.

Task Product:

- 7-day graphs and tables.

If this data is provided as a separate document it should include a title page, location map, the data presented on standard FDOT forms or as approved by the Project Manager, and any narrative necessary for the understanding or interpretation of the data.

Subtask 7A: ADDITIVE (Additional Count Stations)

Additional 7-Day Continuous Traffic Count Stations requested for the same route and or study.

Task 8: PUBLIC PRESENTATION (OPTIONAL)

To be determined by the Task Force, the CONSULTANT shall prepare and present a PowerPoint (or approved alternative) presentation to summarize the scope of the project and steps taken to perform the retiming effort. The presentation shall summarize the improvements and show benefits in forms of reduced delay to the corridor.

Task 9: MISCELLANEOUS ITEMS

This task shall involve items that are generally difficult to anticipate at the initiation of a work order. Compensation for tasks issued under this item shall be negotiated on a case by case basis. Work Orders to be issued under this task may include but are not limited to updating system retiming plans.

TAB 4





April 14, 2016

Harold W. Barley
MetroPlan Orlando
250 S. Orange Ave., Suite 200
Orlando, Florida 32801

Re: **Request to extend the project limits for the Shingle Creek Regional Trail (SCRT) on the Prioritized Project List - FY 2020/21 – 2039/40**

Dear Mr. Barley:

Please accept the City of Kissimmee's request to modify the Prioritized Project List (PPL) and convert Phase 7 of the attached application map to Phase 3 of the City/Osceola County's portion of the SCRT.

The current PPL and original application designate the limits to be from the Orange/Osceola County Line to the Shingle Creek Park (Vine St/US 192) with future phases to remain for consideration. In essence, the limits would now extend to the City's Lakefront Park.

It is in our opinion that the intent of the original application is being met as this is a regional project shared by for Central Florida jurisdictions consisting of Orange County, City of Orlando, Osceola County and City of Kissimmee, all of which benefit from the project and requested modifications.

A presentation will be made to the appropriate committees at which time detailed information will be conveyed.

If you have any questions, please contact me at (407) 518-2315.

Sincerely,

Jim Swan
Mayor

cc: City Commissioners

Office of the Mayor - City Commission

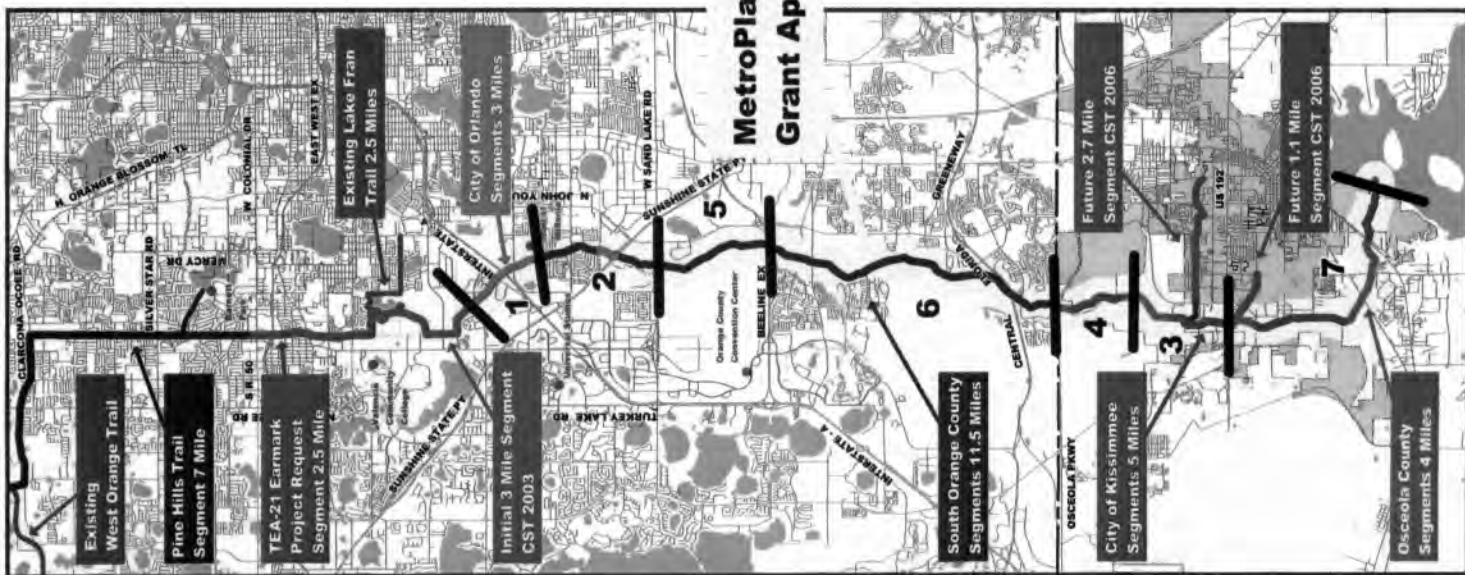
City of Kissimmee • 101 N. Church Street • Kissimmee, FL 34741-5054 • Phone 407-518-2300 • FAX 407-846-8369

SHINGLE CREEK REGIONAL TRAIL

_____ PHASE LINE
 1 PHASE NUMBER

 4 GRANT APPLICATION

MetroPlan Enhancement Grant Application Segment



TAB 5



Open Roads Policy Agreement Technology Research Report (Abstract)
For Surveying Equipment Technology

Prepared for:



CENTRAL FLORIDA EXPRESSWAY AUTHORITY
General Engineering Services for Traffic Operations Contract Number
ATKINS No. 100005585 Task 0108.L.0100

Prepared by:



482 S. Keller Road
Orlando, FL 32810

November 2015

BACKGROUND

In 2002, the Florida Department of Transportation (FDOT) and the Florida Highway Patrol (FHP) executed a policy called the Open Roads Policy, which was revised and updated January 2014. The policy focuses on the quick clearance of highway crashes and mobility in the State of Florida by placing an emphasis on expediting the removal of vehicles, cargo and debris from Florida's state roadways in an urgent manner. The overall object is to safely and quickly restore traffic to normal conditions, following a motor vehicle crash or other traffic incident on the state highway system.

The January 2014 Open Roads Policy Agreement (see Exhibit A) Section 7 states:

"FHP, together with FDOT, will research, evaluate, and conduct training in the most advanced technologies, equipment, and approved methods for the documentation and investigation of crash or traffic incident scenes."

When a fatality occurs during a traffic incident, the site of the incident becomes a crime scene. For a guilty party to be prosecuted, a court case requires homicide investigators to provide very specific details of the road conditions, speed limits, distance between vehicles and a full inventory of what is found on the road, such as skid markings or debris. Throughout the investigator's work, the site of the incident typically requires multiple lanes or the entire road to be closed. Investigators may spend many hours manually surveying the crash scene, taking measurements, collecting evidence and interviewing witnesses which can lead to long road closures. The effect of long road closure has a significant impact on traffic and pose a consequential cost to the economy.

Recognizing the severity of these impacts to the economy, a collaborative effort between the Central Florida Expressway Authority (CFX), FDOT District Five, MetroPlan Orlando Metropolitan Planning Organization (MPO) and the Florida Turnpike Enterprise was launched to investigate new technological methods that would assist the Florida Highway Patrol (FHP) with conducting their traffic homicide investigations quicker.

CFX and FHP proposed using the same technology used for roadway surveying to be utilized for image and data collection of traffic homicide investigations. Using surveying technology for roadway homicide investigations is an internationally practiced solution intended to expedite law enforcement's investigative process, thereby opening roads quicker. The stakeholders agreed to investigate a solution using a roadway surveying technology. To champion this effort, CFX requested the assistance of Atkins North America (Atkins), their General Engineering Consultant.

PURPOSE

The intent of this report is to describe the process and research conducted by Atkins on behalf of the stakeholders to determine the most appropriate traffic homicide data collection technology solution to best achieve the desired results as present in the Open Roads Policy Agreement (See Exhibit A).

Additionally, this report is intended to be a resource for the stakeholders to determine the best suited product to procure for a one (1) to two (2) year pilot project. This document will discuss the following:

- Introduction to Surveying Technology
- Operations of the Surveying Technology
- Comparison Analysis
- Summary of Next Steps

Introduction to Surveying Technology

A description of the technology types, features, pros and cons is discussed in detail within this section. As a part of this research effort, two technology options were evaluated; Robotic Total Stations and LiDAR 3D Laser Scanning Stations.

Robotic Total Stations (Theodolite)

Theodolite technology is used as a precision instrument for measuring angles in the horizontal and vertical planes. A Robotic Total Station uses Theodolite technology and is equipped with an electronic distance meter which is used in surveying to read slope distances from the instrument to a particular point. Traditional surveying equipment is typically a two-man operated unit, requiring one person to operate the scan station unit while another person walks to the desired points of measure with a prism to take measurements from the unit to the prism. In the case with robotic scan stations, the unit can be operated remotely while the operator walks to each desired point of measurement with a prism making the system a one man operation. The unit automatically makes a wireless connection with the prism and follows the prism as the operator moves from point to point. At each point location to be measured, the operator uses the prism to send commands to the unit to calculate measurements.

The unit uses a modulated infrared carrier signal which is generated by a small solid-state emitter located inside the unit. The signal is then reflected back to the unit from the prism or the surveyed object. The modulation pattern in the returning signal is interpreted by the unit's software. A Robotic Total Station can typically measure distances with an accuracy of about 1.5 millimeters + 2 parts per million over a distance of up to 1,500 meters (4,900 ft).

The measurements taken from the instrument are measured by angles with the capability of measuring distances and X-Y-Z coordinates to 0.5 arc-seconds. Coordinates are determined using the unit's built-in Global Positioning System (GPS). Surveyed points are relative to the Robotic Total Station's position and are calculated using triangulation.

Vendors typically supply a software package that is used for post processing the data collected by the instrument. They often create useful diagrams or graphical depictions of the measure points.

Most units are built to handle harsh environments such as rain, fog and snow. Additionally, the units are capable of taking measurements with various distracting lighting conditions such as bright sunlight, nighttime and flashing LED strobe lights from patrol cars.

Some drawbacks to Robotic Total Stations are that they only collect measurements for specific points using the prism. The investigator must go to every location that needs to be measured similar to the manual method of data collection. This limits the amount of data points collected at the crash scene to whatever location the investigator can reach or has time to reach. Also, during the data collection process, the investigator must devote his undivided attention to collecting the data using the prism which doesn't afford the investigator the option to multitask.

3D Laser Scanner (LiDAR)

LiDAR is a technology that measures distance by illuminating a target with a laser and analyzing the reflected light. A 3D Laser Scanner uses LiDAR technology for data collection and is a one-man operated instrument. Unlike the Robotic Total Station, the 3D Laser Scanner system does not require the use of a prism to calculate measurements. Therefore, the operator can set the instrument to scan an area and leave the unit unattended until the scan is completed, which frees the operator to conduct other tasks. In the case of a traffic homicide investigator, the investigator has the ability to conduct witness interviews away from the crash scene while the system is scanning the scene.

The system is used to take distant measurements by means of using a controlled high speed oscillating mirror, which reflects a rapid pulsing laser beam emitted from the instrument and aimed at the surveyed object. The mirror rotates on the vertical axis while the instrument rotates 360 degrees on the horizontal axis, thus resulting in a continuous laser beam sweep of the surveyed area. The instrument calculates the distant using the time it takes for the laser beam to reflect off an object and return back to the instrument. The instrument also takes into account its horizontal positioning and the mirror's vertical positioning to create an X-Y-Z coordinate for each point of measurement collected. This produces a detailed 3D representation of the scene called a point cloud. The instrument also has the options of using a built-in or external high resolution camera to take capture 360 degree images of the crash scene. The Vendor provided software will then align the images with the laser scanned point within the point cloud. Each scan time can range from 4 to 6 minutes and collects up to 1 million data points per second with an accuracy of approximately 5mm at a range of up to 600 meters (this may vary between devices).

The 3D Laser Scanner can be relocated at different vantage points during the scanning of a large scene. During the post processing of the data, Vendor-furnished software will merge multiple scans (point clouds) into one defined point cloud, resulting in one full 3D scanned scene. Using the software, the investigator can then measure distances between any of the elements of the crash scene within the point cloud and retrieve X-Y-Z coordinates.

Most laser scanning units are also built to handle harsh environments such as rain, fog and snow. Additionally, the units are capable is taking measurements with various distractive lighting conditions such as bright sunlight, nighttime and flashing LED strobe lights from patrol cars.

Operations of Surveying Technology

Laser Scanners Used Abroad

3D laser scanners have been used internationally by multiple law enforcement agencies, yielding very positive results as report by the law enforcement and transportation agencies in those regions.

The United Kingdom (UK) has estimated roadway closures following serious crashes cost the economy £1 billion (\$1.1b US dollars) a year, as freight and work commuters are caught in long traffic delays. In 2010, the UK government reported more than 18,000 full or partial roadway closures lasting a total of more than 20,000 hours, at a cost of £50,000 (\$57K US dollars) per hour.

In the UK, law enforcement agencies have been utilizing LiDAR laser scanning technology for traffic homicide investigation for over 4 years. Much of the funding for the equipment has been through the England Department for Transport (DfT). In December of 2011, the DfT and the National Police Improvement Agency (NPIA) jointly awarded £2.8m (\$3.2m US dollars) to purchase 37 laser scanners for 27 police forces for traffic homicide crash scene investigations. Police forces have provided case specific feedback to date reporting an average time saving of 44 minutes in investigation time when laser scanner were used on the strategic road network (SRN). The business case for the £2.8m (\$3.2m US dollars) DfT grant was based on an estimated time-saving of 39 minutes, and projected a high to very high benefit to cost ratio.

Sited from the DfT, "Investigation and Closure Procedures for Motorway Incidents," February 2013 Report;

"The most effective introduction of new technology has been the use of laser scanners by the police, as purchased by DfT and National Policing Improvement Agency (NPIA) grant. There has been positive press coverage of laser scanner use by Thames Valley Police and Leicester forces."

UK's success with this technology has influenced other regions to consider laser scanners for crash scene investigations. The Australian government is soon to make a very similar investment in laser scanners on behalf of their law enforcement agencies.

In the US, various states such as California, have already purchased and put in use laser scanners for the same purposes. The San Diego County Public Works department reported that laser scanners have reduced the average crash scene data collection time during a road closure of homicide traffic events from 3 to 4 hrs to less than 1 hour.

Benefit to Law Enforcement Agencies

The laser scanning method for traffic homicide crash scene data collection provides many benefits to law enforcement officers such as

- Time and Cost Savings
- Highly Accurate Crash Scene Data Collection
- Archival of Crash Scenes

Time and Cost Savings

As discussed previously, the manual method of crash scene data collection which typically involves developing a baseline, is a long and tedious process. To create survey baselines, investigators typically use handheld equipment such as tape measurers or a measuring wheel. The investigator would first need to identify a reference or starting point which could be any permanent roadway fixture such as a light pole. The investigator measures from the starting point and perpendicular to an established baseline such as the edge of pavement line. The investigator records the distance of all crash evidence from each piece of evidence to the baseline or starting point. They must also record the distance of roadway features such as signs and lane striping which will be used to create a scaled diagram. Although the process is a little quicker with a Robotic Total Station and only requires one investigator to complete the task, the same steps have to be taken for accurate measurements to be collected.

The laser scanning method eliminates the need for the investigator to establish baselines in the field, and manually taking measurements and pictures of the crash scene, saving a tremendous amount of time. Depending on the complexity (e.g. large number of debris, off road vehicle into a ditch or slope, or spills of material) and the length of the crash scene, the tasks involved with developing a baseline will become increasingly difficult, tedious and long. The more time it takes to complete the data collection process, the longer the road is closed and the most costly it becomes.

Highly Accurate Crash Scene Data Collection

As discussed earlier, the manual data collection or Robotic Total Station method relies on handheld tools such as a measuring wheel. While this practice requires very little training, it is very susceptible to mechanical and human error and may be inadequate for certain types of scenes. As an example, physical imperfections of the equipment and rolling over debris like rocks and cracks limit a measuring wheel's accuracy which may increase or decrease the total length measured. Results may also vary from person to person operating the tool. Additionally, since a measuring wheel is two dimensional (measuring the X & Y axis only) if elevation (z-axis) is a contributing factor in a crash, it cannot be measured using this tool and will not be accounted for.

The laser scanning method overcomes these challenges by taking numerous data points with millimeter precision covering large areas and provide X, Y, & Z axis data points. The laser scanners are not impeded by road elements or slopes. The instrument relies on highly accurate tools such as GPS for location references, continuous laser pulse technology, and software-encoded mathematical formulas to eliminate human error.

Archival of Crash Scenes

As stated before, investigators are limited to the number of data points they can collect using the manual data collection or Robotic Total Station method. For instance, for a vehicle involved in a crash, the investigator will measure only certain points of the vehicle such as the front and back of the bumper, tire position and skid marks. This is a major drawback of the manual method of crash scene data collection. This method does not allow the investigator to measure crash impacts to the vehicle such as dents created after being struck by another vehicle which can be crucial to an investigation.

Additionally, any evidence missed or not taking into account while on scene will forever be lost once the scene is cleared.

With the use of a laser scanner, the full scanned scene and all data points collected can be archive for later use. One enormous benefit to this method is that if an investigator mistakenly left out some form of evidence or data from his field data collection, the investigator has the ability to go back to the archived data and search for such evidence and extrapolate new measurements as needed. Having the data available empowers investigators to be able to analyze the entire crash scene.



Figure 1: Mock Crash Scene Laser Scanned Imaged by Leica 3D Scanner

Benefit to Transportation Agencies

The laser scanning method also provides a multitude of benefits for transportation agencies, including:

- Achieving Open Roads Policy Goals
- Reducing the Impact to the Economy
- Safety Enhancements and More Reliable Roadways

Achieving Open Roads Policy Goals

The Open Roads Policy is largely centered on restoring mobility of the State Highway System to its normal condition within 90 minutes of the arrival of the first responding officer, following an incident. With the use of laser scanners, this goal is far more attainable. Several law enforcement agencies have reported a time saving of up to 44 minutes per incident, when using LiDAR technology for investigative purposes. In the Central Florida region, the volume of vehicles on an interstate or state road corridor during the peak traffic time and can range from 5000 – 8000 vehicles per hour (VPH). In 2014, there was

a total of 54 traffic homicide related incidents closing the roadways at an average of 5 hours per incident. Utilizing LiDAR technology, the average road closure length can be reduced down to 4.15 hours per incident. At this rate, Central Florida can expect a reduction of road closure time of up to 40.5 hours per year helping to achieve the open road policy goals.

Reducing the Impact to the Economy

The cost of the economy during road closure traffic fatality incidents have been greatly reduced due to the use of laser scanners, proven in the US and internationally. Depending on the size of the crash scene, a typical traffic homicide investigation can last anywhere from 1.5 to 4 hours. Several law enforcement and government agencies reported substantial time saving in getting roads open quicker following road closures due to traffic homicide incidents on an average of 39 to 44 minutes. This has the potential to reduce a typical 4 hour road closure down to less than 3 ½ hours. While laser scanner may come with an initial cost, ranging from \$75k to \$115k per unit, the potential economic cost saving provided by utilize the equipment, far exceeds the cost per unit over time.

Additionally, statistics from the U.S. Department of Transportation, reports that Americans lose 3.7 billion hours of time and 2.3 billion gallons of fuel every year sitting in traffic. While traffic homicide crash scene incidents may not be responsible for all congestion presented on roadways, it does make a major impact to the road traffic network. Using the laser scanner has a high potential of helping to avoid countless hours and billions of dollars lost due to the congestion created by traffic homicide crash incidents. This will also reduce vehicle emissions and improves quality of life.

Safety Enhancements and More Reliable Roadways

Studies have shown that the likelihood of a secondary crash occurring increases by 2.8 percent for each minute the primary accident continues to be a hazard. This increases the time that first responders must spend on roadway collision being exposed to hazards. Secondary crashes due to congestion caused by a previous crash are estimated to represent 20% of all crashes. Utilizing laser scanners to assist with getting roads open more expediently greatly reduces the potential for secondary crashes down to 2.45 percent and reduces the amount of time first responders are exposed traffic.

Comparison Analysis

Several factors were taken into consideration during the product analysis. Each vendor had to meet the stakeholders' minimum requirements. This included participating in a live product demonstration, passing a stakeholder evaluation, and submitting a list of documents. These documents included letters of recommendation, product brochures, pricing quotations, proof of court acceptance and documentation describing customer service, technical support and training.

Analysis Approach

In order to determine the most appropriate and cost efficient solution, Atkins first identified the stakeholders. Atkins conducted a needs assessment interview with each stakeholder. The intent of the needs assessment was to determine the business needs of each stakeholder and to use those needs to develop a set of functional requirements that the equipment would be required to meet in order to

achieve the desired results. The resulting functional requirements served as a standard checklist to narrow down the manufacturers (Vendors) whose product potentially meets the requirements to gauge their interest in a pilot project that would later be developed as a result of this study.

Atkins compiled a list of potential Vendors and sent an email solicitation to each. The solicitation composed of the description of the stakeholder's needs and product functional requirements. Once the interested vendor replied, each vendor was requested to send specific information related to the product they felt meets the functional requirements. Each vendor was then required to participate in a demonstration that would allow all stakeholders, Sponsors and Users, to evaluate each product based on the functional requirements.

Prior to demonstrating Vendors' products, FHP set up the mock scene and took manual measurements using traditional measuring wheel, paper, and pen. This process was timed to establish a baseline to compare against the Vendors' products.

The product demonstration included two parts; part one was a field demonstration of the product and part two was a presentation of the product in conference room setting (see Exhibit B). Atkins coordinated with FHP and CFX to set up a mock traffic homicide scene in the parking lot of the CFX Headquarters. At the end of each demonstration, all the stakeholders' evaluations were collected and tallied and placed in a summary score card (see Exhibit C) to determine an apparent winner for product selection.

Upon the conclusion of demonstrations, the stakeholders determined that the 3D laser scanning LiDAR technology was the preferred technological option but was not yet sold on the vendor. Therefore, a second demonstration was then scheduled to compare the winner from the first demonstration with the awarded Vendor selected by law enforcement agencies in the United Kingdom and California. The mock scene of the second demonstration was also set up by FHP; however, the second scene was considerably larger (see Exhibit B). At the end of the second demonstration, all the stakeholders' evaluations were collected and tallied and placed in a summary score card (see Exhibit C) to determine an apparent winner for product selection.

The score cards from both demonstration periods were distributed to the Sponsors to make a final determination of vendor, product and procurement method.

Stakeholder Participation

Each stakeholder was categorized either as a sponsor or a user. These two roles are defined as:

- **Sponsor:** An agency that will benefit directly from the use of the technology and has committed to producing funds to procure the equipment.
- **User:** An agency that will benefit from the technology by utilizing the equipment but would not be financially obligated to participate in the procurement of the equipment.

The Sponsors for this pilot project are as described below:

- **Central Florida Expressway Authority** – A Florida state tolling agency that is responsible for the operations and maintenance of several state tolls roads in Central Florida including SR 528, SR 408, SR 417, SR 429, SR 414, SR 451, the tolled section of SR 551, and Osceola Parkway.
- **The Florida Department of Transportation, District Five** – A Florida state transportation agency responsible for the operation and maintenance of all interstate and state roads in the Central Florida region.
- **The Florida Turnpike Enterprise** – A Florida state tolling agency, under the governance of the FDOT, responsible for the operation and maintenance of Florida Turnpike System throughout the state of Florida.
- **MetroPlan Orlando** – A metropolitan planning organization that is responsible for planning and prioritizing projects for funding for local government transportation agencies in Orange, Seminole and Osceola Counties.

The Users for this pilot project are as described below:

- **Florida Highway Patrol** – A Florida state law enforcement agency responsible for conducting homicide investigations on state roads and interstate system for the entire state of Florida.
- **City of Orlando Police Department** – A local law enforcement agency responsible for conducting homicide investigations on portions of State Road 408 and portions of Interstate 4 in Central Florida.

Through the participation of stakeholder meetings, all stakeholders identified has played an integral role determining vendor product requirements, product evaluations, and performance measures. Together, they will decide on final product selection.

Vendor Participation

Vendors are product manufacturers or resellers of the equipment considered for use in this project.

Vendors that participated in the equipment comparison demonstrations include:

- **TopCon** – Product manufacturer of the Power Station PS-103 Robotic Total Station (Theodolite)
- **Trimble** – Product manufacturer of the Trimble S6 Robotic Total Station (Theodolite)
- **Faro** – Product manufacturer of the FARO X-330 3D Laser Scanning System (LiDAR)
- **Leica** – Product manufacturer of the C-10 & PS40 3D Laser Scanning Systems (LiDAR)
- **Reigl** – Product manufacturer of VZ400 3D Laser Scanning System (LiDAR)

Product Minimum Requirements

To ensure stakeholders would receive the most appropriate product to suit their needs, Atkins met with each stakeholder to identify their individual needs and later compiled those need to develop what is now a list of minimum requirements. For Vendors to be considered as a participant in the demonstration, each Vendor had to agree that there product met the minimum requirements that were developed by the Users and Sponsors. Some of the important criteria included *:

- Must be reliably functional in harsh weather conditions such as heavy rain, fog and smoke
- Must be fairly simple to learn and easy to use

- Must be acceptable by the Florida court system for court cases involving traffic fatalities
- Data collected from the product must be compatible with FHP's backend data processing software
- Must be capable of producing at minimum a 2D crash scene reconstruction diagram
- Product must be accompanied with training for multiple offers, warranty and 24hr technical support and customer service.

*Note: A full list of requirements is shown in Exhibit D.

Product Evaluation

Based on the minimum requirements, an evaluation scorecard was developed. Each stakeholder had the opportunity to observe the product in person and engage the Vendor to gain clarity of the product demonstration. Stakeholders used the scorecards during the presentations to evaluation specific criteria for each Vendor's product. As part of the evaluation, Vendors were asked to submit product literature that would be used to assist stakeholders with evaluating the Vendors training program, technical support capabilities, customer service (through testimonials and letters of recommendation), product warranties and court acceptance. Price was not considered as part of the evaluation process; however, price may be a determining factor as a part of the sponsor's decision to move forward with the procurement process.

Cost Comparison

The table below shows the price comparison between each 3D Laser Scanner of the Vendors that participated in the live demonstration hosted at CFX. The prices are reflective of the actual price quotations provided by the Vendors at the time of the live demonstration.

Table 1: 3D Laser Scanner Price Comparison

Description	Riegl	Leica	Faro
Laser Scanner & Peripherals {Tripod, Batteries, Power Adapter, 1 yr Warranty}	\$79,133.00	\$107,450.00	\$49,661.18
Camera (2 Photogrammetry)	\$8,750.00	\$3,995.00	\$0.00
Training (2 day up to 14 ppl)	\$7,000.00	\$2,940.00	\$25,389.00
System Maintenance (2 yrs)	\$0.00		
Extended Hardware Warranty (2 year)	\$0.00		\$6,572.66
Extended Hardware Warranty (3 year)	\$0.00	\$39,100.00	\$9,022.16
Software	\$7,117.00	\$16,700.00	\$12,167.69
Extended Maintenance & Support (2 years)	\$0.00		\$1,796.00
Extended Maintenance & Support (3 years)	\$0.00	\$7,650.00	\$2,258.00
State Discount	-\$3,000.00	\$0.00	\$0.00
Total w/o Software Package	\$91,883.00	\$114,385.00	\$75,050.18
Total w/Software Package	\$99,000.00	\$177,835.00	\$105,070.69

Summary and Next Steps

Both the Robotic Total Station and the 3D Laser Scanners offer significant advantages over the tradition method of crash scene data collection. The Robotic Total Station presents the advantage of being a one man operation but the investigator is tied to the device by having to hold a prism for data collection and it is still limited to the amount of data points that can be collected while attempting to expedite the process of opening the roads quicker. The 3D Laser Scanner's ability to collect much more data points at a much faster rate while operating unattended for the majority of the data collection process provides a very efficient method for reducing the road closure times.

Based on the positive results reported from other agencies utilizing the LiDAR 3D laser scanning systems and the live demonstrations observed, the Sponsors and Users have very high expectations for the deployment and use of this technology in Central Florida area. Stakeholders had confidence that the laser scanning system will achieve the goal of getting roads open quicker thus making roads safer while reducing the overall cost to the economy. Sponsors will convene at a later date to discuss product selection and procurement as well as expected performance measures from the equipment and users. A pilot project will be developed, jointly by the Sponsors, to support this effort and the project will be followed by a comprehensive study to determine the equipment's effectiveness. This study will also help Sponsors make a decision as to whether or not the investment is worth making a long term investment towards the procurement of additional 3D laser scanners.

Product Procurement

Sponsors will determine based on the findings in this report and other information, the most well-suited product to procure for a pilot project. Sponsors will also need to determine the most appropriate contract mechanism to use, the number of units to purchase and the terms of agreement between Sponsors and Users. A stakeholder's meeting will take place at the completion of this report to discuss these matters.

Performance Measures

Sponsors have developed a set of performance measures that the products will be expected to achieved once the equipment is purchased and given to the Users to utilize in the field. Sponsors will expect the Users to coordinate all Traffic Homicide Incidents (THI) with their respective Traffic Management Center's (TMC's) and confirm the method used for data collection (manual or advance technology).

This requirement is to assist stakeholders with:

- Understanding the frequency of use of the equipment during incidents
- Documenting the incident clearance times of traffic homicide investigations for performance reporting
- Determining the number of traffic homicide incidents occurring on each roadway
- Compare results of technology to determine the need for additional equipment

The table below is a draft list of performance measures and objectives that will be further defined by the stakeholders as they progress further toward the procurement and deployment of the equipment.

Table 2: Performance Measures

Category	Objective	Performance Measures	Owner
Reliability	Reduce delay associated with traffic homicide incidents by reducing roadway clearance time per incident	Reduce Law enforcement man-hours spent on THI by use of technology (develop baseline and compare time with the use of technology) Show average time of incident before and after technology use. Measure from traffic homicide investigator time of arrival.	Law Enforcement Agency
		Increase at the frequency, in hours, of technology used to conduct THI's.	Law Enforcement Agency
		Reduce time, in hours, to remove all road debris and vehicles to provide a safe passage for vehicles.	Tow Trucks Company & Agency Maintenance Contractor
Safety	Reduce secondary crashes during traffic homicide investigations by .35 percentage in 1 year	Reduce the overall time in minutes of an incident requiring a road or lane closures.	Law Enforcement Agency
Quality of Life	Increase the reliability of free movement of people, vehicles and commerce on the freeway system during traffic homicide incidents	Reduce the amount of lanes closed during THI's without reducing the quality of safety for emergency responders involved during incident.	Law Enforcement Agency
TMC Coordination	Increase emergency incident coordination efforts between Traffic Management Centers and Law Enforcement officers during emergency incidents on the freeway system	Law enforcement notify the TMC of all THI's and detail THI arrival on scene.	Law Enforcement Agency
		Law enforcement notify the TMC of equipment used to conduct each THI's along with the start and end time of the investigation and incident.	Law Enforcement Agency
		Document the length of congestion/queuing during traffic homicide investigations (results should show a reduction or increase in queuing with the use of advanced technology).	TMC Operators

Recommendation

The purpose of the live demonstrations was to assist the stakeholders with making a decision on the most appropriate technology, vendor, product and number of units to purchase for a pilot project. Based on the evaluation score cards of the live demonstrations, the Leica and the Riegl Scanstations were scored the highest of the products demonstrated with Riegl as the highest overall. The users slated to receive the new equipment, FHP and OPD, will not be able to share a single unit due to security constraints within both organizations. To that end, it would be beneficial as a pilot project to purchase a single unit for each agency to allow each agency to independently evaluate the units, vendor services and provide the required feedback to the sponsors for the pilot test period. If the price, of Leica unit can be reduced to a price comparable of the Riegl, then it would be beneficial to purchase 2 units, one from each vendor, and provide one unit to each agency to fully evaluate the unit for the duration of the pilot project.

Post Implementation Study

Once a surveying technology is deployed, stakeholders will conduct an additional study. This study will gauge the effectiveness of the technology and will be based on the performance measures outlined above. It will analyze any potential cost saving, roads closure and open times with use of scanners, reduction of secondary crashes at incidents in which the product is used and any other factors.

References

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Exhibits

- Exhibit A – Open Roads Policy Agreement
- Exhibit B – Demonstration Instructions Documents
- Exhibit C – Demo Evaluation Scorecards
- Exhibit D – Product Minimum Requirements

State of Florida

OPEN ROADS POLICY AGREEMENT

(Revised January 2014)

Quick Clearance for Safety and Mobility

This Open Roads Policy Agreement (Agreement) is entered into between the Florida Highway Patrol (FHP) and the Florida Department of Transportation (FDOT) and establishes a policy for FHP and FDOT personnel to expedite the removal of vehicles, cargo, and debris from roadways on the State Highway System to restore, in an **URGENT MANNER**, the safe and orderly flow of traffic following a motor vehicle crash or other traffic incident on Florida's roadways.

Whereas, public safety is the highest priority and must be maintained on Florida's roadways before, during, and after traffic incidents; and

Whereas, the quality of life in the State of Florida is heavily dependent upon the free movement of people, vehicles, and all types of commerce, and FHP and FDOT share the responsibility for achieving and maintaining the degree of order necessary to make this free movement possible; and

Whereas, traffic incidents account for approximately twenty-five percent of non-recurring congestion and the impacts on commerce can be minimized with sound traffic incident management practices by responding agencies; and

Whereas, nationally, it is estimated that five fire personnel, twelve police officers, and sixty tow truck operators are killed in struck-by incidents each year, and governmental entities have the responsibility to do whatever is reasonable to reduce the risks to responders; and

Whereas, secondary crashes pose safety risks to incident responders and all motorists; and

Whereas, the expeditious clearance of traffic incidents promotes safety, and that vehicle removal, move-over laws, and quick clearance policies minimize exposure and the potential for secondary crashes; and

Whereas, it is understood that damage to vehicles or cargo or both may occur as a result of clearing the roadway on an urgent basis. While reasonable attempts to avoid such damage shall be taken, the priority of responders is to safely restore traffic to normal conditions because traffic incident related congestion has an enormous cost to society. This cost is significantly greater than the salvage value of an already damaged vehicle and its cargo.

NOW, THEREFORE, in consideration of the mutual covenants contained in this Agreement, the parties agree as follows:

1. Roadways will be cleared of damaged vehicles, spilled cargo, and debris as soon as it is safe to do so. Reasonable attempts will be made to avoid unnecessary damage to vehicles and cargo in the process of clearing the roadway.

2. The following operating standards are based on the philosophy that the State Highway System will not be closed or restricted any longer than is absolutely necessary following a traffic crash or other roadway traffic incident.

3. Florida Highway Patrol Operating Standards:

a. Members of FHP who respond to the scene of traffic incidents will make clearing the travel portion of the roadway a high priority. When an investigation is required, it will be conducted in as expedient a manner as possible considering the severity of the incident. Non-critical portions of the investigation may be delayed until lighter traffic conditions allow completion of those tasks. FHP will close only those lanes absolutely necessary to safely conduct the investigation. FHP will coordinate with FDOT representatives to set up appropriate traffic control, establish alternate routes, expedite the safe movement of traffic at the scene, and restore the roadway to normal conditions as soon as possible.

b. Whenever practical, damaged vehicles on access-controlled roadways will be removed to off ramps, accident investigation sites, or other safe areas for completion of investigations to reduce delays. Tow truck operators will be requested as soon as it is evident that they will be needed to clear the roadway. FHP will assure that all authorized tow operators have met established competency levels and that the equipment is of appropriate size, capacity, and design to meet all standards of the State of Florida.

c. FHP will not unnecessarily cause any delay in reopening all or part of a roadway to allow a company to dispatch its own equipment to off-load cargo or recover a vehicle or load that is impacting traffic during peak traffic hours or creating a hazard to the public. FHP and FDOT will cooperate in planning and implementing clearance operations in the most safe and expeditious manner, to include the use of FDOT's Rapid Incident Scene Clearance (RISC) Procedure Number 750-030-020 when and where appropriate.

4. Florida Department of Transportation Operating Standards:

a. When requested by FHP or any other emergency response agency, FDOT will respond and deploy resources to major traffic incidents 24 hours a day, 7 days per week. Each FDOT District will develop and implement response procedures to meet the goal of providing initial traffic control within **30 minutes** of notification during the assigned working hours of each maintenance yard, and **60 minutes** after hours.

b. FDOT, in coordination with FHP, will upgrade traffic controls, determine detour routes, and discuss clearance strategies. When requested, FDOT will provide temporary traffic controls to ensure a safe work zone for all responders and the motoring public.

c. FDOT, in cooperation with FHP, will determine and deploy the necessary heavy equipment and manpower to reopen the roadway if there is a delay in clearing the travel lanes, or if the task is beyond the capabilities of the tow truck operator on scene. If cargo or spilled loads [non-hazardous] are involved, FDOT will make every effort to assist in the relocation of the materials in the shortest possible time, using whatever equipment necessary. All such materials or any vehicles relocated by FDOT will be moved the minimum practical distance to eliminate traffic hazards.

d. FDOT personnel will document all hours and equipment used for traffic control, roadway clearance, and debris clean up. FDOT will place traffic control devices at the scene should any damaged vehicles or cargo remain on the shoulder adjacent to the travel lanes for removal at a later time.

5. FDOT and FHP will continually work together to ensure that the needs of motorists on state roadways are being met in the most professional, safe, and efficient manner.

6. FHP and FDOT will evaluate and continually update and modify their operating policies, procedures, rules, and standards to assure they are consistent with this Agreement.

7. FHP, together with FDOT, will research, evaluate, and conduct training in the most advanced technologies, equipment, and approved methods for the documentation and investigation of crash or traffic incident scenes. FHP, using these techniques, will prioritize the investigative tasks that impede traffic and reopen travel lanes upon completion of such tasks that must be conducted in order to minimize impeding traffic.

8. Roadways will be cleared as soon as possible. It is the **goal** of all agencies that **all incidents be cleared from the roadway within 90 minutes of the arrival of the first responding officer**. This goal is made with the understanding that more complex scenarios may require additional time for complete clearance.

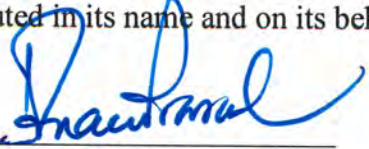
9. This Agreement applies to the impacts of roadway traffic incidents and does not apply to closures that are necessary for the furtherance of motorists' safety such as those undertaken for high winds, flooding, ice, fog, smoke, or other circumstance.

10. FHP and FDOT will actively solicit and enlist other state, county, and local agencies, political subdivisions, industry groups, and professional associations to endorse this Agreement for the State of Florida.

11. FHP will be responsible for calling a meeting with FDOT in July of each year to review this policy, and make changes as necessary.

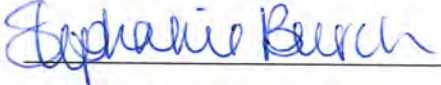
12. With the mutual agreement of both parties, this policy agreement may be terminated on an agreed upon date without penalty to either party.

In witness whereof, each party to this Agreement has caused this Agreement to be executed in its name and on its behalf by its duly authorized representative.

By: 
Ananth Prasad, P.E.
Secretary
Florida Department of Transportation

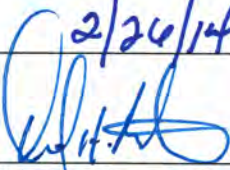
Date: 1-31-14

Legal Review:


Stephanie Burch

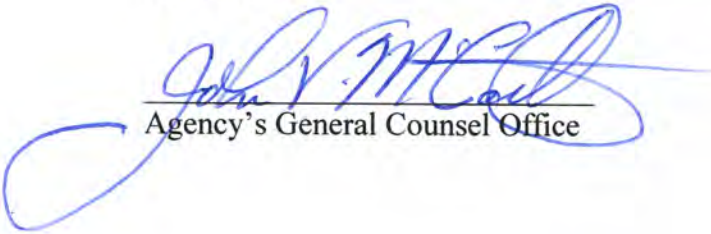
By: 
Julie L. Jones
Executive Director
Florida Department of Highway Safety and
Motor Vehicles

Date: 2/26/14

By: 
Col. David H. Brierton, Jr.
Director
Florida Highway Patrol

Date: 2/17/14

Reviewed By:


Agency's General Counsel Office

Event Schedule

Enhancing Open Roads Live Demonstration

Hardware Demonstration –
West Parking Lot

Software Presentation –
Pelican Conference Room

Thursday, October 30, 2014

8:00 a m	Begin Demonstration	
8:00 a m – 10:00 a m		Vendor 1 – Trimble Hardware – Trimble S6 (Robotic Station)
		Software – Edge FX
10:00 a m – 10:15 a m		Transition
10:15 a m – 12:15 p m		Vendor 2 – Leica Hardware – C-10 (3D Scanner)
		Software – Cyclone
12:15 p m – 1:15 p m		Lunch Break
1:15 p m – 3:15 p m		Vendor 3 – FARO Hardware – FARO X-330 (3D Scanner)
		Software – The CAD Zone
3:15 p m – 3:30 p m		Transition
3:30 p m – 5:30 p m		Vendor 4 – TopCon Hardware – Power Station PS-103 (Robotic)
		Software – Magnet Software
5:30 p m	End Demonstration	

Sponsored By:



metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP

Live Demonstration Presentation Layout and Instructions

Introduction:

The purpose of this document is to provide stakeholder expectations to Vendors participating in the live demonstration of surveyor equipment to be utilized during traffic homicide investigations by law enforcement officers. This document will describe in detail the time frames allotted for each Vendor to present, the time slots allocated to each Vendor, the evaluation form to be completed by each stakeholder and the next steps for each Vendor.

Mock Scene:

The mock accident will consist of 2 vehicles (1 car and 1 motorcycle) simulating the end result of a head on collision with 1 ejected body. The total scene will be no more than 250' long and conducted in a parking lot area at the Central Florida Expressway Authority Headquarters. There will also be a simulation of rain on part of the scene and 2 patrol vehicles with red and blue LED strobe lights.

Presentation:

Hardware: There will be a total of 4 Vendors participating and each Vendor will have a total of two (2) hours (1 hour for field data collection/scanning and 1 hour for post processing using Vendor software) to complete their presentation. For the field demonstration, **only the Vendor conducting the demonstration will be escorted from the lobby area to the field demo area.** Each Vendor will be given 5 minutes to walk the scene. Time will start when after the 5 minutes have elapsed. This time will include the initial setup of the equipment and end when the Vendor has completed the data collection process, packed up the equipment and is off the scene. **Please note, there will be a rain simulation during this demonstration.**

Hardware Evaluation: See Form 101 below

Each Vendor will be evaluated on Ease of Use – the complexity of using the equipment, Speed – the time it takes from initial setup to break down, Data Precision – the accuracy of measurements compared to tape measurements, and Reliability – equipment use during harsh environmental conditions. Each category will be given a point value in which the highest total point value is 100.

Field Data Evaluation – Form 101		Points
Ease of Use (25)		
Scale 1-5 (diff to ez)	Setup	Value
Scale 1-5	Taking measurements	Value
Scale 1-5	Inputting parameters for data collection	Value
Scale 1-5	Repositioning device for additional data collection	Value
Scale 1-5	Break down	Value
Speed (25)		
Time _____:	Total scan time of scene	Value
Time _____:	Length of time to setup	No Value
Time _____:	Amount of time repositioning unit between scans or data collection (scanners only)	No Value
Time _____:	Break down	No Value
Precision (25)		No Value
	Identifying a Zero/Reference Point	Value
	Compared discrete points to ground truth (Tape Measurements) See measurements on 2D diagram	Value
Reliability (25)		
	Weather conditions (rain, fog, smoke, etc.)	Value
Total Points Given		

Software: After the hardware demonstration, the Vendor will then be escorted to a conference room along with the stakeholders in which the Vendor will use their laptop connected to a CFX provided projector to allow evaluators to observe the post processing process using the Vendor software. The Vendor will need to demonstrate how to download the field data, reconstruct the scene and create a court admissible 2d diagram with measurements of all crime scene components with an identified reference point. The Vendor, in addition, may choose to demonstrate and explain some of software

features that the Vendor feels may be beneficial to the stakeholders, show a short film or power point presentation as well; however, the Vendor still must complete the presentation within the hour allotted.

Each Vendor will be required to provide the meeting facilitator with sample field collected data from its hardware on a compact media storage that can be shared with other Vendors for the use of the compatibility evaluation portion of the software demonstration. This will only be used to demonstrate capability of another Vendors data into the Vendor's software.

Each Vendor will be required to provide documentation of the items labelled as "Provide Documentation" in the evaluation form to the stakeholder to review as the Vendor discusses the documentation provided during the presentation. (e.g. The Vendor will be expected to provide documentation describing Warranty options as well as discuss them during the presentation.) All required documentation should be handed out in a presentation folder.

Software Evaluation: See Form 102 below

Each Vendor will be evaluated on Ease of Use, Speed – the time it takes to create a 2d diagram, Reliability – proven ability to be admissible in court, Compatibility – usable with other Vendors hardware. Each category will be given a point value in which the highest total point value is 100.

Software Evaluation – Form 102		Points
Ease of Use (30)		
Scale 1-10 (diff to ez)	Download data into software	Value
Scale 1-10	Reconstruction of scene	Value
Scale 1-10	Creation of 2D diagram	Value
	Use of point cloud technology (scanners only)	No Value
	Bring in images for overlay (scanners only)	No Value
Speed (10)		
Time _____:	Total time to create a 2D diagram for court submission	Value
Reliability (30)		
Score 1-15	Proven acceptability into the court system (<i>Provide Documentation</i>)	Value
Score 1-15	References of other law enforcement agencies (<i>Provide Documentation</i>)	Value
Customer Support (25)		
Score 1-5	Technical support (<i>Provide Documentation</i>)	Value
Score 1-5	Customer reviews or testimonials (<i>Provide Documentation</i>)	Value
Score 1-5	Training (<i>Provide Documentation</i>)	Value
Score 1-5	Warranty (<i>Provide Documentation</i>)	Value
Score 1-5	Closest Local Support Representative (<i>Provide Documentation</i>)	Value
Compatibility (5)		
Score 1-5	Usability with of Vendors data	Value
Total Point Given:		

Vendor Rules:

For hardware presentations, the Vendor cannot begin setup or unpacking equipment until given the go ahead by the meeting facilitator. Once given the "Go", time will start which will be after the 5 minute mock scene review time allotted. The focus should be on time and precision. The Vendor may describe the process and data entry during the field collection or during the software demonstration. The Vendor may also elect to setup the hardware unit in the conference room to demonstrate data entry into the unit but this must take place after the software demonstration. No extra time will be allotted for this portion of the demonstration and the Vendor must complete the entire demonstration in the 2 hour time frame allotted.

For software presentations, only the Vendor conducting the presentation will be allowed in the conference room during the Vendor presentation, all others Vendors will be asked to wait in the lobby area until the presentation is complete. The Vendor will be allowed to enter the conference room to setup a laptop and prepare for the software presentation prior to completing the hardware demonstration. This request must be made to the meeting facilitator prior to or during the hardware demonstration.

Stakeholder Rules:

All Stakeholders will be asked to hold all questions during the field demonstration. This demonstration will not be a time for field training, only evaluation of the functionality of the equipment. This will not be viewed as a time to learn how to use the equipment but only to see what the equipment is capable of doing. Each Stakeholder will be an evaluator of the equipment and will complete both Forms and submit them to the meeting facilitator at the end of the demonstration. Scores will be tallied and given to the Sponsors for review.

Schedule and Vendor Presentation Order:

Time slots for presentation have been predefined and Vendors will be randomly selected and given a time slot. Please see presentation schedule below.

Evaluators:

Florida Highway Patrol
Orlando Police Department
Florida Department of Transportation, District 5
MetroPlan Orlando
Florida Turnpike Enterprise
Central Florida Expressway Authority

Participants:

Trimble
TopCon
FARO
Leica

Event Schedule

Enhancing Open Roads Live Demonstration Part 2

Hardware Demonstration –
West Parking Lot

Presentation –
Pelican Conference Room

Thursday, April 16, 2015

8:00 a m	Begin Demonstration
8:00 a m – 10:00 a m	Vendor 2 – Leica Hardware – PS40 (3D Scanner)
10:00 a m – 10:15 a m	Transition
10:15 a m – 12:15 p m	Vendor 1 – Riegl Hardware – VZ400 (3D Scanner)
12:15 p m – 1:00 p m	Lunch Break
1:00 p m – 2:30 p m	Vendor 2 – Leica Oral Presentation
2:30 p m – 2:45 p m	Transition
2:45 p m – 4:15 p m	Vendor 1 – Riegl Oral Presentation
4:15 p m	End Demonstration

Sponsored By:



Live Demonstration Presentation Layout and Instructions

Introduction:

The purpose of this document is to provide stakeholder expectations to Vendors participating in the live demonstration of surveyor equipment to be utilized during traffic homicide investigations by law enforcement officers. This document will describe in detail the time frames allotted for each Vendor to present, the time slots allocated to each Vendor, the evaluation form to be completed by each stakeholder and the next steps for each Vendor.

Presentation:

Hardware: There will be a total of 2 Vendors participating and each Vendor will have a total of three and a half (3.5) hours (2 hours for field data collection/scanning and 1.5 hours for post processing using FHP Crash Zone software and an oral presentation. For the field demonstration, **only the Vendor conducting the demonstration will be escorted from the lobby area to the field demo area.** Each Vendor will be given 5 minutes to walk the scene. Time will start when after the 5 minutes have elapsed. This time will include the initial setup of the equipment and end when the Vendor has completed the data collection process, packed up the equipment and is off the scene.

Hardware Evaluation: See Form 101 below

Each Vendor will be evaluated on Ease of Use – the complexity of using the equipment, Speed – the time it takes from initial setup to break down, Data Precision – the accuracy of measurements compared to tape measurements, and Reliability – equipment use during harsh environmental conditions. Each category will be given a point value in which the highest total point value is 100.

Field Data Evaluation – Form 101		Points
Ease of Use (25)		
Scale 1-5 (diff to ez)	Setup	Value
Scale 1-5	Taking measurements	Value
Scale 1-5	Inputting parameters for data collection	Value
Scale 1-5	Repositioning device for additional data collection	Value
Scale 1-5	Break down	Value
Speed (25)		
Time _____:	Total scan time of scene	Value
Time _____:	Length of time to setup	No Value
Time _____:	Amount of time repositioning unit between scans or data collection (scanners only)	No Value
Time _____:	Break down	No Value
Precision (25)		
	Identifying a Zero/Reference Point Compared discrete points to ground truth (Tape Measurements) See measurements on 2D diagram	Value
Reliability (25)		
	Weather conditions (rain, fog, smoke, etc.) <i>Provide Documentation</i>	Value
Total Points Given		

Oral Presentation: After the hardware demonstration, the Vendor will export the field collected data onto a USB thumb drive in a format compatible (PST file) with FHP's Crash Zone software and provide it to the meeting facilitator. The Vendor along with all stakeholders will then be escorted to a conference room. An FHP officer will import the data from the USB thumb drive into Crash Zone and create a 2D diagram with measurements. The FHP laptop will be connected to a CFX provided projector to allow evaluators to observe the post processing process using the FHP software. The Vendor will need to assist FHP with downloading the field data, reconstructing the scene and creating a court admissible 2D diagram with measurements of all crime scene components with an identified reference point. The Vendor may then present information to the stakeholders describing the referenced information with the Oral Presentation Evaluation Form below. The Vendor must also set up the hardware unit in the conference room to demonstrate the ease of use of the hardware by training one of the officers to conduct a scan in the conference room. The vendor may choose to

explain some of the software and hardware features that the Vendor feels may be beneficial to the stakeholders and/or show a short film or power point presentation as well; however, the Vendor still must complete the presentation within the time allotted.

Each Vendor will be required to provide documentation of the items labelled as “Provide Documentation” in the evaluation form to the stakeholder to review as the Vendor discusses the documentation provided during the presentation. (e.g. The Vendor will be expected to provide documentation describing Warranty options as well as discuss them during the presentation.) All required documentation should be handed out in a presentation folder.

Software & Presentation Evaluation: See Form 102 below

Each Vendor will be evaluated on Speed – the time it takes to create a 2d diagram, Reliability – proven ability to be admissible in court, Compatibility – Vendors hardware data compatibility with FHP software and Customer support. Each category will be given a point value in which the highest total point value is 100.

Software & Oral Presentation Evaluation – Form 102		Points
Compatibility (30)		
Scale 1-10 (diff to ez)	Download data into FHP software (limited or no errors)	Value
Scale 1-10	Reconstruction of scene using Vendor data	Value
Scale 1-10	Creation of 2D diagram using Vendor data	Value
	Bring in images for overlay	No Value
Speed (10)		
Time _____:	Total time to create a 2D diagram for court submission	Value
Reliability (30)		
Score 1-15	Proven acceptability into the court system (<i>Provide Documentation</i>)	Value
Score 1-15	References of other law enforcement agencies (<i>Provide Documentation</i>)	Value
Customer Support (30)		
Score 1-5	Technical support (<i>Provide Documentation</i>)	Value
Score 1-5	Customer reviews or testimonials (<i>Provide Documentation</i>)	Value
Score 1-5	Training (<i>Provide Documentation</i>)	Value
Score 1-5	Warranty (<i>Provide Documentation</i>)	Value
Score 1-5	Closest Local Support Representative (<i>Provide Documentation</i>)	Value
Total Point Given:		

Vendor Rules:

For hardware presentations, the Vendor cannot begin setup or unpacking equipment until given the go ahead by the meeting facilitator. Once given the “Go”, time will start which will be after the 5 minute mock scene review time allotted. The focus should be on time and precision. The Vendor may describe the process and data entry during the field collection or wait until the oral presentation.

For the oral presentations, only the Vendor conducting the presentation will be allowed in the conference room during the Vendor presentation. All others Vendors will be asked to wait in the lobby area until the presentation is complete. The Vendor will be allowed to enter the conference room to setup and prepare for their presentation prior to completing the hardware/field demonstration. This request must be made to the meeting facilitator prior to or during the hardware demonstration. The Vendor will also be expected to setup the hardware unit in the conference room to demonstrate data entry into the unit during the oral presentation. The Vendor must complete the entire presentation within the time frame allotted.

Stakeholder Rules:

All Stakeholders will be asked to hold all questions during the field demonstration. This demonstration will not be a time for field training, only evaluation of the functionality of the equipment. Please treat the field demonstration as a time to understand the functional capabilities of the equipment. To that end, we ask that all questions are held until the oral presentation. During the oral presentation, stakeholders will have an opportunity to see the equipment up close and ask the Vendor questions regarding the hardware and functionality. Each Stakeholder will be an evaluator of the equipment and will complete both forms and submit them to the meeting facilitator at the end of the demonstration. Scores will be tallied and given to the Sponsors for review.

Schedule and Vendor Presentation Order:

Time slots for presentations have been predefined and Vendors will be randomly selected and given a time slot. Please see presentation schedule below.

Evaluators: (20 members)

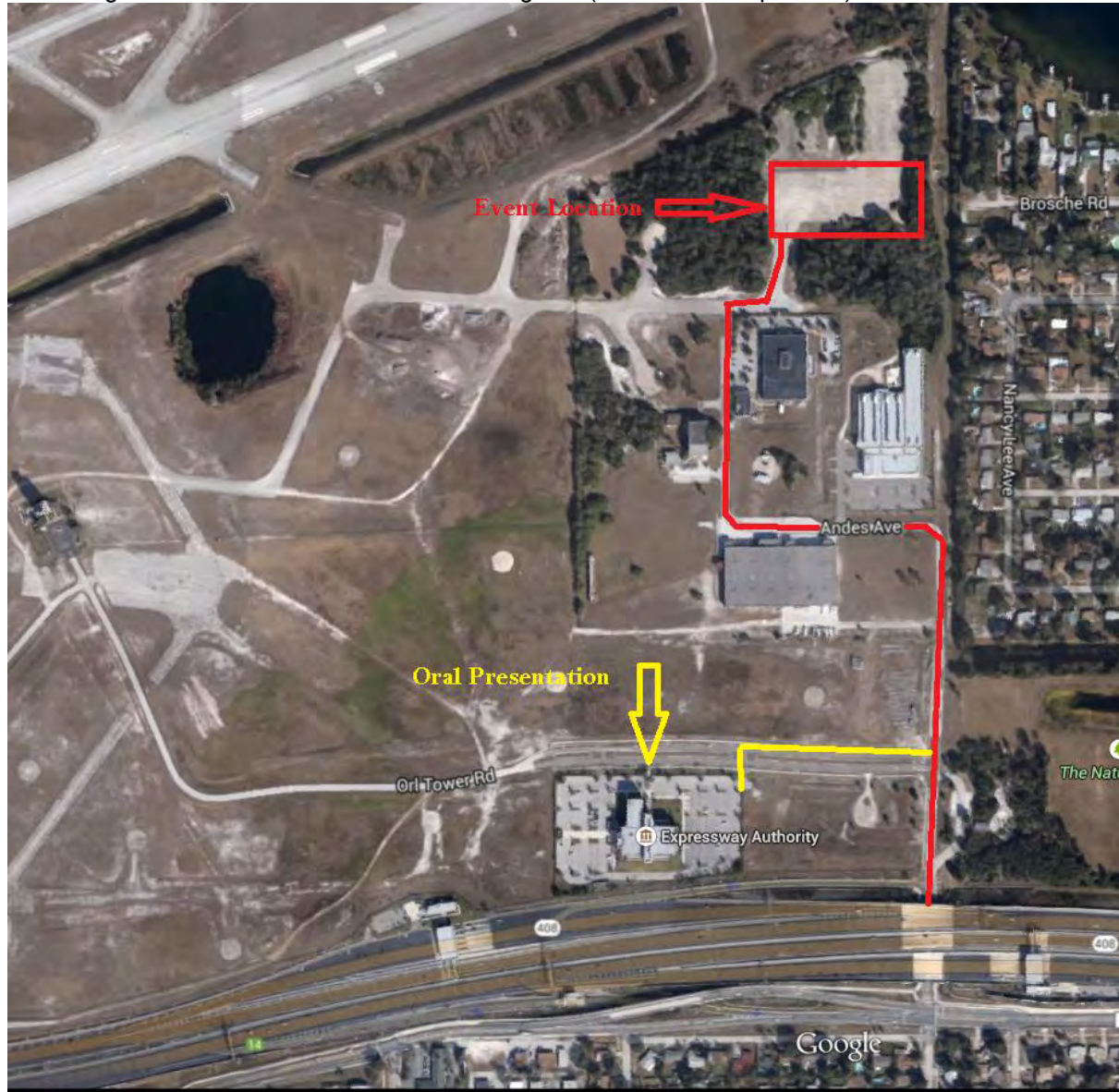
Florida Highway Patrol
Orlando Police Department
Florida Department of Transportation, District 5
MetroPlan Orlando
Florida Turnpike Enterprise
Central Florida Expressway Authority

Participants:

Leica
Riegl

Location & Directions:

From I-4 take exit 82A to SR 408 East.
Head East on SR 408, then take exit 14 for Semoran Blvd.
Make the first left on Andes Ave.
Continue on Andes Ave until it dead ends.
Make a right then a left toward the North Parking Lot. (Please see map below)



Product Requirements

Capabilities:

- Usable in all weather conditions (through rain, fog and smoke)
- System must be usable during all lighting conditions, (red & blue strobe lights, nighttime, etc.)
- Take images through vehicles
- Needs to be mobile and accessible to multiple officers
- Single person use system
- All equipment must be provided
- Downloaded data compatible with FHP software or software provided
- Software compatible with FHP hardware
- Photos must not be capable of being altered
- Server must be secured in an FHP location
- Enough data storage to archive 5 years of data of 365 homicides a year
- Photos must be able to be downloadable to give to a third party
- System output MUST be acceptable by the court system (State Attorney's Office)
- Must Plot scene on a 2d diagram with measurements, zero points and reference lines (to scale)
- Need to be able to plot specific points of a scene and send data to appropriate folks
- Data points must be accurate along with distances and elevation
- Scientific proven history and trace record
- Software to reconstruct the scene
- GPS coordinate – Feature
- User friendly
- Software needs to have vehicle specifications in its database. Updated at least annually.

Warranty:

- Include maintenance of units including calibration
- 24 hr Technical Support to cover manufacturer's defects of issues
- Provide spare unit in the event the owners unit becomes faulty

Training:

- 1 week initial training for staff, then Ongoing annual training
- Training for 15-20 people

Possible Vendors:

- Leica
- Laster Technology Inc LTI
- Aras 360 Software – Compatible with other scanning stations
- The CAD Zone Software – Currently used by OPD
- Tremble
- TopCon
- Sokkia

Vendor Evaluation Score Card																
Vendor		Trimble														
Hardware		Trimble S6 Robotic Station														
		FHP	FHP	FHP	FHP	OPD	MPO	FHP	FHP	CFX	FHP	Atkins	FDOT	FDOT CO		
Rating Criteria	Weighted Factor	Tony Delneese	J. Starling	LT. Eddie Herrell	Catherin Oliver	Orlando PD	Anthony Washington	CPL. L. Lawerence	Brian Gensler	Corey Quinn	SGT. Francina L. Ogburn	Demetrius Lewis	Edward Grant/Jim Miller	Ronald Hanson	Points Avg	Weighted Score
Ease of Use	0.06	18.0	17.0	10.0	18.0	13.0	19.0	18.0	16.0	9.0	18.0	20.0	20.0	11.0	15.9	1.0
Speed	0.06	0.0	20.0	1.0	2.0	10.0	19.0	17.0	15.0	0.0	0.0	10.0	8.0	10.0	8.6	0.5
Precision	0.06	25.0	25.0	25.0	22.5	13.5	20.0	24.0	24.0	11.0	25.0	25.0	20.0	25.0	21.9	1.3
Reliability (Environmental)	0.06	25.0	25.0	25.0	4.0	0.0	25.0	20.0	23.0	20.0	0.0	25.0	25.0	25.0	18.6	1.1
Reliability (Court Admissibility)	0.40	0.0	18.0	2.0	20.0	30.0	12.0	20.0	16.0	24.0	14.0	2.0	15.0	15.0	14.5	5.8
Customer Support	0.06	0.0	17.0	9.0	17.0	20.0	19.5	21.0	19.0	13.0	21.0	20.0	19.5	20.0	16.6	1.0
Compatibility (Export to Crash Zone)	0.30	0.0	0.0	5.0	3.0	5.0	5.0	3.0	4.0	3.0	5.0	5.0	3.0	0.0	3.2	0.9
Total Weighted Score															11.6	
Comments																
Ease of Use	Runs on window platform and began running window updates during the data collection process. Update issues and system communication issues, data collection has to be coded. Didn't explain data input into hardware.															
Speed	Total scan time of 53:51 due to windows updates. Should've completed updates prior to presentation.															
Precision	Measurements were accurate in comparison to FHP's measurements															
Reliability (Environmental)	No issues with rain															
Reliability (Court Admissibility)	Did not provide court admissible documentation or law enforcement references															
Customer Support	Offers hardware support which is separate from software support (seemed to be two different companies under 1 roof), offers classroom instructor led training and field training, also software and hardware certification offered and online training. Warranty covers calibration, firmware updates but discludes product neglect. 24/7 response time and provides a loaner. Local rep in orlando (Ivanhoe near I4).															
Compatibility (Export to Crash Zone)	Uses USB to export hardware data to PST file for compatability with Crash Zone software.															
General	2D diagram was backwards. Had some issues with vendor laptop during presentation.															

Vendor Evaluation Score Card																
Vendor		Leica														
Hardware		C-10 Laser Scanner														
		FHP	FHP	FHP	FHP	OPD	MPO	FHP	FHP	CFX	FHP	Atkins	FDOT	FDOT CO		
Rating Criteria	Weighted Factor	Tony Delneese	J. Starling	LT. Eddie Herrell	Catherin Oliver	Orlando PD	Anthony Washington	CPL. L. Lawrence	Brian Gensler	Corey Quinn	SGT. Francina L. Ogburn	Demetrius Lewis	Edward Grant/Jim Miller	Ronald Hanson	Points Avg	Weighted Score
Ease of Use	0.06	25.0	21.0	12.0	8.0	25.0	24.0	25.0	19.0	19.0	15.0	24.0	15.0	17.0	19.2	1.1
Speed	0.06	24.0	1.0	0.0	0.0	0.0	24.0	20.0	3.0	0.0	15.0	10.0	0.0	20.0	9.0	0.5
Precision	0.06	25.0	25.0	0.0	22.0	25.0	25.0	24.0	24.0	20.0	25.0	25.0	24.0	25.0	22.2	1.3
Reliability (Environmental)	0.06	25.0	25.0	0.0	0.0	5.0	25.0	25.0	25.0	20.0	25.0	25.0	25.0	25.0	19.2	1.2
Reliability (Court Admissibility)	0.40	30.0	30.0	25.0	30.0	30.0	20.0	30.0	24.0	28.0	30.0	30.0	20.0	30.0	27.5	11.0
Customer Support	0.06	25.0	25.0	0.0	24.0	21.0	24.5	22.0	21.0	24.0	25.0	25.0	24.0	25.0	22.0	1.3
Compatibility (Export to Crash Zone)	0.30	5.0	5.0	0.0	3.0	5.0	5.0	3.0	4.0	5.0	5.0	5.0	3.0	0.0	3.7	1.1
Total Weighted Score															17.6	
Comments																
Ease of Use	Only completed 1 scan and the hardware failed. The scanner encountered an unrecoverable error.															
Speed	Total scan time incomplete due to hardware failure															
Precision	Some areas of data are left blank because of hardware malfunctioned, incomplete scan. Very accurate measuring in reference to FHP's measurements and utilizing NIST Certified twin target pole.															
Reliability (Environmental)	Worked flawlessly in the rain with no picture distortion.															
Reliability (Court Admissibility)	Provided court admissible proof via court case documentation and references from other law enforcement agencies.															
Customer Support	Provides 24/7 technical support and will provide on scene support at off peak times (i.e. 2am) with a spare unit to replace the damaged unit until the client unit is repaired. Provides 4 day certified training, limited to 10-12 ppl, 1 yr warranty up to 5 yrs. Product has a 5year life cycle but Leica will continue to support beyond the life cycle. Warranty cover product workmanship but does not cover neglect. Local office located in Cassleberry. Support offered throughout the state.															
Compatibility (Export to Crash Zone)	Need point cloud module, reported to be compatible with Crash Zone															
General	Had issues with software due to hardware malfunction. Could not complete 2D diagram.															

Vendor Evaluation Score Card																
Vendor		FARO														
Hardware		FARO X-330 Laser Scanner														
		FHP	FHP	FHP	FHP	OPD	MPO	FHP	FHP	CFX	FHP	Atkins	FDOT	FDOT CO		
Rating Criteria	Weighted Factor	Tony Delneese	J. Starling	LT. Eddie Herrell	Catherin Oliver	Orlando PD	Anthony Washington	CPL. L. Lawrence	Brian Gensler	Corey Quinn	SGT. Francina L. Ogburn	Demetrius Lewis	Edward Grant/Jim Miller	Ronald Hanson	Points Avg	Weighted Score
Ease of Use	0.06	25.0	21.0	19.0	25.0	25.0	20.0	22.0	22.0	23.0	25.0	25.0	25.0	20.0	22.8	1.4
Speed	0.06	25.0	25.0	4.0	25.0	25.0	24.0	23.0	5.0	0.0	25.0	25.0	18.0	15.0	18.4	1.1
Precision	0.06	23.0	25.0	4.0	10.0	5.0	25.0	20.0	10.0	20.0	22.5	25.0	17.0	15.0	17.0	1.0
Reliability (Environmental)	0.06	25.0	15.0	25.0	5.0	12.0	18.0	15.0	4.0	20.0	25.0	10.0	16.0	25.0	16.5	1.0
Reliability (Court Admissibility)	0.40	12.0	27.0	17.5	24.0	10.0	29.0	20.0	24.0	27.0	30.0	30.0	20.0	0.0	20.8	8.3
Customer Support	0.06	15.0	19.0	11.0	19.0	17.0	20.9	17.0	19.0	21.0	22.0	25.0	15.0	20.0	18.5	1.1
Compatibility (Export to Crash Zone)	0.30	3.0	5.0	5.0	5.0	4.0	4.5	5.0	5.0	5.0	0.0	5.0	0.0	0.0	3.6	1.1
Total Weighted Score															15.0	
Comments																
Ease of Use	Seem fairly simple to operate															
Speed	Fastest total scan time of 21:17 with 4 scans completed															
Precision	Accurate measurements compared to FHP measurements however scanner did not pick up total skid mark length. 60 million points scanned															
Reliability (Environmental)	Needs to be covered during rain for clear image capture, rain distorts images when the mirror gets wet however the laser was not affected															
Reliability (Court Admissibility)	Proven admissible in the fl court system and will provide an expert witness if necessary. Used by WPD, FDLE, Osceola PD and Lee County PD.															
Customer Support	1-3 year warranty includes calibration but does not cover neglect, option for unit exchange, Headquarters in Lake Mary, Provides technical support M-F and will provide a spare unit when needed, Tech support on site with 1 hour. Provides a 4 day training plus online "How to" videos.															
Compatibility (Export to Crash Zone)	Exports data as PTS file capatible with Crash Zone															
General	Had issues with the presentation during the software portion and could not complete the 2D diagram.															

Vendor Evaluation Score Card																
Vendor		TopCon														
Hardware		Power Station PS-103 Robotic Station														
		FHP	FHP	FHP	FHP	OPD	MPO	FHP	FHP	CFX	FHP	Atkins	FDOT	FDOT CO		
Rating Criteria	Weighted Factor	Tony Delneese	J. Starling	LT. Eddie Herrell	Catherin Oliver	Orlando PD	Anthony Washington	CPL L. Lawrence	Brian Gensler	Corey Quinn	SGT. Francina L. Ogburn	Demetrius Lewis	Edward Grant/Jim Miller	Ronald Hanson	Points Avg	Weighted Score
Ease of Use	0.06	20.0	19.0	12.5	20.0	16.0	22.2	24.0	24.0	12.0	21.0	25.0	20.0	15.0	19.3	1.2
Speed	0.06	25.0	20.0	3.0	4.0	25.0	20.0	23.0	23.0	0.0	0.0	15.0	15.0	25.0	15.2	0.9
Precision	0.06	25.0	25.0	25.0	20.0	13.0	25.0	24.0	24.0	22.0	10.0	25.0	18.0	25.0	21.6	1.3
Reliability (Environmental)	0.06	24.0	25.0	25.0	25.0	25.0	22.0	25.0	25.0	20.0	25.0	25.0	8.0	25.0	23.0	1.4
Reliability (Court Admissibility)	0.40	2.0	2.0	2.0	6.0	6.0	26.0	2.0	2.0	14.0	5.0	0.0	13.0	0.0	6.2	2.5
Customer Support	0.06	11.0	5.0	8.0	10.0	13.0	18.0	12.0	12.0	3.0	13.0	15.0	5.0	14.0	10.7	0.6
Compatibility (Export to Crash Zone)	0.30	2.0	0.0	1.0	3.0	5.0	5.0	3.0	3.0	0.0	3.0	5.0	3.0	0.0	2.5	0.8
Total Weighted Score															8.6	
Comments																
Ease of Use	Didn't explain data input into hardware															
Speed	Second fastest scan time 36:47.															
Precision	Accurate measurements as well as skid mark distance															
Reliability (Environmental)	No issues with rain															
Reliability (Court Admissibility)	Did not provide documentation for court admissible reliability or law enforcement references															
Customer Support	No documentation on customer reviews or Training. Total station 2yr warranty does not cover neglect, spare unit or calibration. Tech support limited to 7:30a to 5p, no after hours support, calibration cost 250 per year and will provide a spare unit at a rental rate of \$2000 per unit, calibration requires unit to be with vendor and vendor will rent a spare to client during calibration															
Compatibility (Export to Crash Zone)	Export data to a Crash Zone compatible file. Can save data to cloud and download from anywhere however FHP policies prevent the use of cloud technology. Data can be loaded to a laptop or the cloud															
General	Unprepared for evaluation, not able to create 2D diagram, software view of data only, no scene reconstruction, did not bring proper equipment for software presentation.															

TAB 6





Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 S. Woodland Boulevard
DeLand, Florida 32720-6834

JIM BOXOLD
SECRETARY

April 13, 2016

Mr. Harold W. Barley
Executive Director
MetroPlan Orlando MPO
250 South Orange Ave, Suite 200
Orlando, FL 32801

Dear Mr. Barley:

SUBJECT: THIRD QUARTER VARIANCE REPORT
Fiscal Year 2015/16

This letter is to provide MetroPlan Orlando with a variance report that compares the July 1, 2015 adopted work program with changes made to the adopted work program in the third quarter of Fiscal Year 2015/16. This listing includes projects with cost increases that are equal to or greater than the minimum parameters set by MetroPlan Orlando.

ORANGE COUNTY

1) Project: FM# 423029-1 – State Road 535 at International Drive – Traffic Signals

7/1/15 Adopted Phase Cost: Construction Phase = \$318,006 (FY 2016/17)

Revised Phase Cost: Construction Phase = \$693,616 (FY 2016/17)

Phase Cost Increase: Construction Phase = (145.4%)

Reason for Cost Increase

Increased new cost estimates due to upgrade strain pole signal design to mast arms

Impact of phase cost increase

The cost increase has no impact on the work program.

2) Project: FM# 434424-1 – US 441 from South of Taft Vineland to South of Beach line Expressway – Safety Projects/Access Management

7/1/15 Adopted Phase Cost: Construction Phase = \$984,589 (FY 2016/17)

Revised Phase Cost: Construction Phase = \$1,457,945 (FY 2016/17)

Phase Cost Increase: Construction Phase = (48.1%)

Reason for Cost Increase

Cost increase was due to unit price increases in asphalt concrete, curb and gutter, concrete traffic separators, thermoplastics, maintenance of traffic and mobilization

Impact of phase cost increase

The cost increase has no impact on the work program.

3) Project: FM# 434425-1 – State Rd. 436 from North of State Rd. 50 to North of Old Cheney Highway – Safety Project/Access Management

7/1/15 Adopted Phase Cost: Construction Phase = \$786,112 (FY 2016/17)

Revised Phase Cost: Construction Phase = \$1,319,155 (FY 2016/17)

Phase Cost Increase: Construction Phase = (67.8%)

Reason for Cost Increase

The milling resurface cost increased as a result of the pavement design change. The amount of super asphaltic concrete has increased cost difference to upgrade the strain poles to mast arms, cross-slope corrections, revised curb/gutter, traffic separator, drainage structures and pipes were added due to the spread of south of Old Cheney as per the scope of work.

Impact of phase cost increase

The cost increase has no impact on the work program.

4) Project: FM# 434426-1 – State Rd. 482 (Sand Lake Rd.) from East of Goldensky Lane to East of Lake Gloria Blvd. – Sidewalk/Skid Hazard Overlay Project

7/1/15 Adopted Phase Cost: Construction Phase = \$1,848,270 (FY 2016/17)

Revised Phase Cost: Construction Phase = \$2,447,934 (FY 2016/17)

Phase Cost Increase: Construction Phase = (32.4%)

Reason for Cost Increase

Cost increase was due to quantity increases of additional sidewalk and curb ramps, concrete sidewalk driveways, paint markings, detectable warnings, signalization and paved shoulders increases.

Impact of phase cost increase

The cost increase has no impact on the work program.

SEMINOLE COUNTY

1) Project: FM# 240200-2 – State Rd. 429/46 Wekiva Parkway from East of Wekiva River Rd. to Orange Blvd. – New Road Construction Project/Includes Frontage Roads

7/1/15 Adopted Phase Cost: Right of Way Phase = \$1,910,908 (FY 2015/16)

Revised Phase Cost: Right of Way Phase = \$2,968,908 (FY 2015/16)

Phase Cost Increase: Right of Way Phase = (55.4%)

Reason for Cost Increase

Cost increase was due to support the early relocation of current residents.

Impact of phase cost increase

The cost increase has no impact on the work program.

2) Project: FM# 433040-1 – State Rd. 434 from Mitchell Hammock Rd. to Alexandria Blvd. – Traffic Signals/Turn Lane Modifications

7/1/15 Adopted Phase Cost: Construction Phase = \$724,786 (FY 2016/17)

Revised Phase Cost: Construction Phase = \$1,073,864 (FY 2016/17)

Phase Cost Increase: Construction Phase = (48.2%)

Reason for Cost Increase

Cost increase was due to installations of traffic signal and turn lane modifications and to bring the east bound right turns on Red Bug to signal control

Impact of phase cost increase

The cost increase has no impact on the work program.

Please do not hesitate to call me at 386-943-5791 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jamil Gutierrez". The signature is fluid and cursive, with a large initial "J" and "G".

Jamil Gutierrez
FDOT, MPO Liaison

CIM Active Contracts By District Report
Generated: 04-07-2016, District 5, Contract Type: Any
Orange County

Contract #	ESN05	Work Begin	07-01-2009
County	ORANGE	Present Amount	\$ 18,753,439.00
Contractor	DBI SERVICES, LLC	Days Used as of Last Approved Estimate	2,466
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	95.08%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	96.44%
SM Contract Type	MAM Maint Asset Management	Adj. Est. Completion	07-01-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
423836-1-72-01	Yes	-	-	6060 ROUTINE MAINTENANCE	ASSET MAINT CONTRACT OSCEOLA & SOUTH BREVARDPRIMARY ROADS	-

Contract #	T5469	Work Begin	01-21-2014
County	ORANGE	Present Amount	\$ 68,241,059.45
Contractor	PRINCE CONTRACTING, LLC.	Days Used as of Last Approved Estimate	790
Project Manager	CNS07TW Womick, Todd	Cost Perf. Measure	78.80%
Project Admin.	KNTBEGS Scales, Geoff	Time Perf. Measure	72.21%
SM Contract Type	CC Const Contract	Adj. Est. Completion	01-03-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
239203-4-52-01	Yes	SR50;SR500 TO BREV.	-	0218 ADD LANES & REHABILITATE PVMINT	SR 50 (COLONIAL DR)FROM E OF CR425 (DEAN RD) TO E OF OLD CHENEY HWY	-
239203-4-56-01	No	SR50;SR500 TO BREV.	-	0218 ADD LANES & REHABILITATE PVMINT	SR 50 (COLONIAL DR)FROM E OF CR425 (DEAN RD) TO E OF OLD CHENEY HWY	-

Contract #	ESQ75	Work Begin	11-18-2013
County	ORANGE	Present Amount	\$ 889,699.02
Contractor	SOUTHERN STATES PAVEMENT MARKINGS, INC.	Days Used as of Last Approved Estimate	3
Project Manager	MTS93LH Couey, Lori	Cost Perf. Measure	46.13%
Project Admin.	MTS93LH Couey, Lori	Time Perf. Measure	0.22%
SM Contract Type	MC Maint Contract	Adj. Est. Completion	11-07-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
429163-3-72-01	Yes	-	-	6060 ROUTINE MAINTENANCE	PERFORMANCE PAVEMENT MARKINGS	-

Contract #	ESQ65	Work Begin	01-20-2013
County	ORANGE	Present Amount	\$ 2,580,000.00
Contractor	OGLESBY CONSTRUCTION, INC.	Days Used as of Last Approved Estimate	826
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	48.28%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	45.24%
SM Contract Type	MLBP Maint Low Bid Performance	Adj. Est. Completion	01-01-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
429160-1-72-01	Yes	-	-	6060 ROUTINE MAINTENANCE	PAVEMENT MARKINGS -THERMOPLASTIC & RPM'S	-

Contract #	T5528	Work Begin	06-27-2015
County	ORANGE	Present Amount	\$ 2,181,000.00
Contractor	KEWIT INFRASTRUCTURE SOUTH CO.	Days Used as of Last Approved Estimate	179
Project Manager	CNS07CC Coleman, Christopher	Cost Perf. Measure	88.80%
Project Admin.	CNS07CC Coleman, Christopher	Time Perf. Measure	90.50%
SM Contract Type	CLS Const Lump Sum	Adj. Est. Completion	04-28-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
430669-1-52-01	Yes	SR15&600,526;500-SEM	-	0227 RIGID PAVEMENT REHABILITATION	SR 15 (US 17-92) FROM S OF SR 423 (LEE RD) TO S OF CR 438 (LAKE AVE)	-

Contract #	ESQ14	Work Begin	08-10-2012
County	ORANGE	Present Amount	\$ 2,271,000.00
Contractor	INFRASTRUCTURE CORPORATION OF AMERICA	Days Used as of Last Approved Estimate	1,270
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	59.68%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	69.55%
SM Contract Type	MLBP Maint Low Bid Performance	Adj. Est. Completion	08-10-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
425636-1-72-02	Yes	-	-	6060 ROUTINE MAINTENANCE	ROADWAY AESTHETICS VARIOUS LOCATIONS	-

Contract #	EST65	Work Begin	-
County	ORANGE	Present Amount	\$ 895,091.03
Contractor	MIDDLESEX PAVING, LLC	Days Used as of Last Approved Estimate	-
Project Manager	CNS07PE Plantier, Eric-Inactive	Cost Perf. Measure	-
Project Admin.	CNS07PE Plantier, Eric-Inactive	Time Perf. Measure	24.44%
SM Contract Type	MC Maint Contract	Adj. Est. Completion	08-01-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
422039-2-72-03	Yes	-	-	6060 ROUTINE MAINTENANCE	MILL AND RESURFACE VARIOUS LOCATIONS	-

Contract #	T5521	Work Begin	08-10-2015
County	ORANGE	Present Amount	\$ 37,089,690.00
Contractor	PRINCE CONTRACTING, LLC.	Days Used as of Last Approved Estimate	224
Project Manager	CNS09WT Williams, Trevor	Cost Perf. Measure	23.81%
Project Admin.	KNTEGLB Barbato, Daniel	Time Perf. Measure	16.62%
SM Contract Type	CC Const Contract	Adj. Est. Completion	03-22-2019

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
239266-3-52-01	Yes	SR 15 FROM SR 528 TO CR 527	-	0213 ADD LANES & RECONSTRUCT	SR 15 (HOFFNER RD) FROM N OF LEE VISTA BLVD TO W OF SR 436	-
239266-3-56-02	No	SR 15 FROM SR 528 TO CR 527	-	0213 ADD LANES & RECONSTRUCT	SR 15 (HOFFNER RD) FROM N OF LEE VISTA BLVD TO W OF SR 436	-
239266-3-56-03	No	SR 15 FROM SR 528 TO CR 527	-	0213 ADD LANES & RECONSTRUCT	SR 15 (HOFFNER RD) FROM N OF LEE VISTA BLVD TO W OF SR 436	-
239266-4-52-01	No	SR 15 FROM SR 528 TO CR 527	-	0213 ADD LANES & RECONSTRUCT	SR 15 HOFFNER AVE FROM W OF SR 436 TO CONWAYROAD	-
239266-4-56-01	No	SR 15 FROM SR 528 TO CR 527	-	0213 ADD LANES & RECONSTRUCT	SR 15 HOFFNER AVE FROM W OF SR 436 TO CONWAYROAD	-

Contract #	ESW31	Work Begin	10-31-2014
County	ORANGE	Present Amount	\$ 11,820,000.00
Contractor	HUBBARD CONSTRUCTION COMPANY	Days Used as of Last Approved Estimate	507
Project Manager	CNS07OJ Oakes, Jeff	Cost Perf. Measure	51.06%
Project Admin.	KNETMJW Wilson, Joe	Time Perf. Measure	73.29%
SM Contract Type	CDB Const Design Build	Adj. Est. Completion	09-21-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
433607-1-52-01	Yes	SR50;SR500 TO BREV.	-	0022 BRIDGE REPLACEMENT	SR 50 BRIDGES OVER ECONLOCKHATCHEE RIVER BRIDGES 750013&750169	-

Contract #	ARY55-R0	Work Begin	12-13-2015
County	ORANGE	Present Amount	\$ 348,000.00
Contractor	CITY OF APOPKA	Days Used as of Last Approved Estimate	-
Project Manager	MTS93LH Covey, Lori	Cost Perf. Measure	-
Project Admin.	MTS93LH Covey, Lori	Time Perf. Measure	0.00%
SM Contract Type	MMOA Maint Memorandum of Agreement	Adj. Est. Completion	12-12-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
244296-2-78-01	Yes	-	-	6060 ROUTINE MAINTENANCE	CITY OF APOPKA MOA	-

Contract #	TS313	Work Begin	05-11-2015
County	ORANGE	Present Amount	\$ 37,830,970.90
Contractor	LANE CONSTRUCTION CORPORATION (THE)	Days Used as of Last Approved Estimate	315
Project Manager	CNS09CD Daley, Carlton	Cost Perf. Measure	48.87%
Project Admin.	KNCDSMG Shelton, Greg	Time Perf. Measure	45.88%
SM Contract Type	CC Const Contract	Adj. Est. Completion	05-08-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
239535-3-52-01	Yes	W COLONIAL DR/MARTIN LUTHER KING B	3003056P	0213 ADD LANES & RECONSTRUCT	SR 50 SR 429 (WESTERN BELTWAY) TO E OF WEST OAKS MALL	ASSUMED/STATE ADMINISTERED
239535-3-56-01	No	W COLONIAL DR/MARTIN LUTHER KING B	-	0213 ADD LANES & RECONSTRUCT	SR 50 SR 429 (WESTERN BELTWAY) TO E OF WEST OAKS MALL	-
239535-3-56-02	No	W COLONIAL DR/MARTIN LUTHER KING B	3003056P	0213 ADD LANES & RECONSTRUCT	SR 50 SR 429 (WESTERN BELTWAY) TO E OF WEST OAKS MALL	ASSUMED/STATE ADMINISTERED

Contract #	ESW84	Work Begin	-
County	ORANGE	Present Amount	\$ 313,570.00
Contractor	LAFLEUR NURSERIES AND GARDEN CENTER LLC	Days Used as of Last Approved Estimate	212
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	78.42%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	26.17%
SM Contract Type	MC Maint Contract	Adj. Est. Completion	11-12-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
435435-1-52-01	Yes	SR500;SR50 TO LAKE	-	1070 LANDSCAPING	SR 423(JOHN YOUNG PKWY)OVERPASS/SR500(US441)FROM SHADER RD TO TROT RD	-

Contract #	ESW13	Work Begin	10-04-2014
County	ORANGE	Present Amount	\$ 1,737,506,699.00
Contractor	I-4 MOBILITY PARTNERS OPCO LLC	Days Used as of Last Approved Estimate	517
Project Manager	CNS06BL Bobo, Loreen	Cost Perf. Measure	0.09%
Project Admin.	KIHNTJII Moulton, Jim	Time Perf. Measure	21.54%
SM Contract Type	PPP Public-Private Partnership	Adj. Est. Completion	03-31-2021

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
432193-1-52-01	Yes	SR400;OSCE - SEMIN.	0041228I	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	POD/STATE ADMINISTERED
432193-1-52-02	No	SR400;OSCE - SEMIN.	0041228I	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	POD/STATE ADMINISTERED
432193-1-52-03	No	SR400;OSCE - SEMIN.	0041228I	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	POD/STATE ADMINISTERED
432193-1-52-04	No	SR400;OSCE - SEMIN.	0041228I	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	POD/STATE ADMINISTERED
432193-1-52-30	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-52-32	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-52-33	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-5A-01	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-72-01	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-72-02	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-72-03	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-
432193-1-82-02	No	SR400;OSCE - SEMIN.	-	0213 ADD LANES & RECONSTRUCT	I-4 MANAGED LANES FROM KIRKMAN TO SR 434	-

Contract #	TS510	Work Begin	03-12-2015
County	ORANGE	Present Amount	\$ 8,408,576.86
Contractor	LANE CONSTRUCTION CORPORATION (THE)	Days Used as of Last Approved Estimate	373
Project Manager	CNS09WT Williams, Trevor	Cost Perf. Measure	85.48%
Project Admin.	KIMEHWK Worrell, Kerry	Time Perf. Measure	102.41%
SM Contract Type	CLS Const Lump Sum	Adj. Est. Completion	03-31-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
430644-1-52-01	Yes	SR400;OSCE - SEMIN.	0042263I	0012 RESURFACING	I-4 (SR 400) FROM EAST OF SR 536 TO W OF SR528 (BEACHLINE)	ASSUMED/STATE ADMINISTERED

Osceola County

Contract #	AQD13-R0	Work Begin	10-01-2011
County	OSCEOLA	Present Amount	\$ 546,840.00
Contractor	REEDY CREEK IMPROVEMENT	Days Used as of Last Approved Estimate	1,096
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	100.00%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	100.00%
SM Contract Type	MMOA Maint Memorandum of Agreement	Adj. Est. Completion	10-01-2014

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
406660-1-78-01	Yes	-	-	6060 ROUTINE MAINTENANCE	MOA WITH REEDY CREEK IMPROVEMENT DISTRICT	-

Contract #	ESW35	Work Begin	01-21-2015
County	OSCEOLA	Present Amount	\$ 1,186,113.00
Contractor	DIAZ, MANUEL FARMS, INC.	Days Used as of Last Approved Estimate	565
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	88.82%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	332.35%
SM Contract Type	MSL Maint Streamline-Dist 5 Only	Adj. Est. Completion	01-06-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
433916-1-52-01	Yes	I-4/SR-400	-	1070 LANDSCAPING	SR 400 (I-4) FROM SR 417 TO SR 530/US 192	-

Contract #	ARY51-R0	Work Begin	12-01-2015
County	OSCEOLA	Present Amount	\$ 257,100.00
Contractor	OSCEOLA COUNTY	Days Used as of Last Approved Estimate	91
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	8.33%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	8.30%
SM Contract Type	MMOA Maint Memorandum of Agreement	Adj. Est. Completion	12-01-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
244847-1-78-02	Yes	-	-	6060 ROUTINE MAINTENANCE	OSCEOLA COUNTY MOA	-

Contract #	ESY01	Work Begin	02-08-2016
County	OSCEOLA	Present Amount	\$ 253,660.00
Contractor	SEG & SONS, INC.	Days Used as of Last Approved Estimate	76
Project Manager	CN509PE Planter, Eric	Cost Perf. Measure	17.50%
Project Admin.	CN509PE Planter, Eric	Time Perf. Measure	87.78%
SM Contract Type	CC Const Contract	Adj. Est. Completion	04-12-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
435403-1-52-01	Yes	S ORANGE BLOSSOM TRL/JOHN YOUNG PKWY	-	0024 BRIDGE-REPAIR/REHABILITATION	SR15 (US441) & SR600 (US 17/92) OVER BLUE CYPRESS/SHINGLE CREEK BRIDGE	-

Contract #	BE035	Work Begin	01-04-2016
County	OSCEOLA	Present Amount	\$ 8,797,000.00
Contractor	COLLAGE DESIGN AND CONSTRUCTION GROUP, INC.	Days Used as of Last Approved Estimate	78
Project Manager	CN507AT Andrews, Tammie	Cost Perf. Measure	9.00%
Project Admin.	KNHNTMM Miller, Mathew	Time Perf. Measure	20.58%
SM Contract Type	CLS Const Lump Sum	Adj. Est. Completion	12-15-2016

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
433874-1-52-01	Yes	-	-	0206 PARKING FACILITY	KISSIMMEE PARKING GARAGE AT SUNRAIL	-

Contract #	ARY62-R0	Work Begin	12-01-2015
County	OSCEOLA	Present Amount	\$ 33,000.00
Contractor	CITY OF ST. CLOUD	Days Used as of Last Approved Estimate	91
Project Manager	MTS94HR Hutchison, Renee	Cost Perf. Measure	8.33%
Project Admin.	MTS94HR Hutchison, Renee	Time Perf. Measure	8.30%
SM Contract Type	MMOA Maint Memorandum of Agreement	Adj. Est. Completion	12-01-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
406775-1-78-02	Yes	-	-	6060 ROUTINE MAINTENANCE	MOA - ST. CLOUD 92030, SR 500	-

Contract #	TS516	Work Begin	10-05-2015
County	OSCEOLA	Present Amount	\$ 15,846,463.22
Contractor	JR. DAVIS CONSTRUCTION CO., INC.	Days Used as of Last Approved Estimate	168
Project Manager	CN509OD Olund, David	Cost Perf. Measure	36.63%
Project Admin.	KNRKKAT Tehrani, Al	Time Perf. Measure	22.53%
SM Contract Type	CC Const Contract	Adj. Est. Completion	07-13-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
239683-1-52-01	Yes	E BRONSON HWY/113 ST/VINE ST	-	0218 ADD LANES & REHABILITATE PVMNT	SR 500 (US 192) FROM EASTERN AVE TO CR 532	-
239683-1-56-01	No	E BRONSON HWY/113 ST/VINE ST	-	0218 ADD LANES & REHABILITATE PVMNT	SR 500 (US 192) FROM EASTERN AVE TO CR 532	-

Contract #	TS530	Work Begin	03-31-2016
County	OSCEOLA	Present Amount	\$ 37,673,820.99
Contractor	JR. DAVIS CONSTRUCTION CO., INC.	Days Used as of Last Approved Estimate	0
Project Manager	CN507OJ Oakes, Jeff	Cost Perf. Measure	1.52%
Project Admin.	KNRKKAT Tehrani, Al	Time Perf. Measure	0.18%
SM Contract Type	CC Const Contract	Adj. Est. Completion	04-05-2019

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
239682-1-52-01	Yes	E BRONSON HWY/113 ST/VINE ST	-	0213 ADD LANES & RECONSTRUCT	SR 500 (US 192) FROM AERONAUTICAL DRIVE TO BUDINGER AVENUE	-
239682-1-56-01	No	E BRONSON HWY/113 ST/VINE ST	-	0213 ADD LANES & RECONSTRUCT	SR 500 (US 192) FROM AERONAUTICAL DRIVE TO BUDINGER AVENUE	-

Contract #	TS506	Work Begin	11-16-2015
County	OSCEOLA	Present Amount	\$ 12,391,667.93
Contractor	MASCI GENERAL CONTRACTORS, INC	Days Used as of Last Approved Estimate	127
Project Manager	CN509BM Bouazizi, Monsem	Cost Perf. Measure	21.42%
Project Admin.	CN509BM Bouazizi, Monsem	Time Perf. Measure	14.00%
SM Contract Type	CC Const Contract	Adj. Est. Completion	02-07-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
418403-2-52-01	Yes	SR 600 / CR 525 / JOHN YOUNG PKWY	-	0213 ADD LANES & RECONSTRUCT	SR 600(US17/92) JYFROM S. OF PORTAGE ST TON. OF VINE ST (US192)	-
418403-2-56-01	No	SR 600 / CR 525 / JOHN YOUNG PKWY	-	0213 ADD LANES & RECONSTRUCT	SR 600(US17/92) JYFROM S. OF PORTAGE ST TON. OF VINE ST (US192)	-

Seminole County

Contract #	ESP41	Work Begin	08-10-2010
County	SEMINOLE	Present Amount	\$ 1,864,389.97
Contractor	FDOT TEST VENDOR	Days Used as of Last Approved Estimate	849
Project Manager	MTS93LH Couey, Lori	Cost Perf. Measure	52.66%
Project Admin.	MTS93LH Couey, Lori	Time Perf. Measure	33.23%
SM Contract Type	MLBP Maint Low Bld Performance	Adj. Est. Completion	08-08-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
415952-2-72-04	Yes	-	-	6060 ROUTINE MAINTENANCE	THERMOPLASTIC/RPM/SAREAWIDE FOR MON	-

Contract #	BE042	Work Begin	-
County	SEMINOLE	Present Amount	\$ 4,199,109.50
Contractor	KIEWIT INFRASTRUCTURE SOUTH CO.	Days Used as of Last Approved Estimate	51
Project Manager	KNGPDB Buwalda, Don	Cost Perf. Measure	2.70%
Project Admin.	CN507AT Andrews, Tammie	Time Perf. Measure	9.68%
SM Contract Type	CLS Const Lump Sum	Adj. Est. Completion	07-10-2017

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
436436-1-52-01	Yes	-	-	8345 RAIL PRESERVATION PROJECT	CFCR RAILROAD BRIDGE OVER LAKE MONROE/ST JOHNS RIVER	-

Contract #	E5Q87	Work Begin	07-16-2014
County	SEMINOLE	Present Amount	\$ 4,123,350.00
Contractor	USA SERVICES OF FLORIDA, INC.	Days Used as of Last Approved Estimate	609
Project Manager	MTS93KS Kirts, Scott-Inactive	Cost Perf. Measure	30.30%
Project Admin.	MTS93KS Kirts, Scott-Inactive	Time Perf. Measure	30.31%
SM Contract Type	MBVP Maint Best Value Performance	Adj. Est. Completion	01-15-2020

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
422042-7-72-01	Yes	-	-	6060 ROUTINE MAINTENANCE	PERFORMANCE AESTHETICS	-

Contract #	E5W91	Work Begin	11-09-2015
County	SEMINOLE	Present Amount	\$ 648,777.10
Contractor	LAFLEUR NURSERIES AND GARDEN CENTER LLC	Days Used as of Last Approved Estimate	116
Project Manager	CN507NK Navarro, Kim	Cost Perf. Measure	45.94%
Project Admin.	CN507NK Navarro, Kim	Time Perf. Measure	10.00%
SM Contract Type	CLS Const Lump Sum	Adj. Est. Completion	08-03-2018

Finproj	Lead	St. Rd. #	FAP	Work Mix	Contract Location	Federal Project Oversight
404418-2-52-01	Yes	US-17/92/ORLANDO AVE/FRENCH AVE	-	1070 LANDSCAPING	SR15/600 (US17/92) INTERCHANGE AT SR 436	-

Board Meeting Highlights - March 9, 2016

- **Chairman's Announcements:** Cmsr. Boyd welcomed members and Cmsr. Hawkins led the Pledge of Allegiance. Cmsr. Clarke reported on the TDLCB meeting held on 2/11/16 noting that the bylaws and grievance procedures were approved and members conducted the annual evaluation of the Community Transportation Coordinator (Access Lynx). The results of that evaluation will be presented at the 5/12/16 TDLCB meeting. Mayor Dyer provided the CFCRC 3/2/16 meeting report which included an update on SunRail Phase 1, 2 and 3. He announced Phase 2 South Groundbreaking Ceremony on 4/11/16.
- **Executive Director's Announcements:** Mr. Barley acknowledged Special Guest Ms. Scaccetti (FTE). He reported on a USDOT \$500 million TIGER Grant that is available nationally. He reported that the last TIGER grant application for SunRail Phase 2 North was a regional effort but was unsuccessful. He noted that there are other options to explore for submitting applications and discussions are underway with FDOT, FHWA and FTA. Mr. Barley noted that he would need guidance from the Board and applications are due on 4/29/16. Mr. Barley provided an update on MetroPlan Orlando acquiring full responsibility of the region's Traffic Signal Timing work as requested by FDOT. Mr. Barley reported that the Legislative session in Tallahassee ends on Friday. A copy of the 2/22/16 Legislative Summary was provided in Board Members workbooks. Our Tallahassee representatives and Ms. Whittington will provide more information at the May Board meeting. Ms. Horne informed members that it is time for the Clean Air Awards and encouraged members to submit their entries by the 4/15/16 deadline, applications are available at www.metroplanorlando.com
- **Public Comments:** Ms. Joanne Counelis requested bus service to the Longwood SunRail Station and 24 hour bus and train service seven days a week.
- Unanimously **Approved** Consent Items: A-E
- FTE TIP Amendments - Resolution No. 16-03 **Approved: (13-4)** (Clarke out of room) Opposed: Boyd, Dallari, Hawkins and Smith (**Roll Call**)
- Unanimously **Approved** FTE TIP Amendments - Resolution No. 16-04 (**Roll Call**)
- Unanimously **Approved** FDOT TIP Amendments - Resolution No. 16-05 (**Roll Call**)
- Unanimously **Approved** FDOT Emergency TIP Amendments - Resolution No. 16-08 (**Roll Call**)
- Possible Request to Remove the SR 417 from the TIP (**No Action Taken**)
- DDR Funds/Policy - Resolution No. 16-07 (**Deferred**)
- **Special Recognition:** Board Members recognized Mr. Barley on his 20th Anniversary with MetroPlan Orlando. Chairman Boyd noted several of Mr. Barley's many accomplishments.
- **Presentations:** Overview of Transportation Systems Management & Operations (TSMO) Regional Consortium (Mr. Dilmore), ITS Master Plan (Mr. Hill), Evolution of the SunRail project (Sec. Downs) and Pedestrian and Bicyclist Crash Trends (Mr. Wilson)
- **Public Comments:** Ms. Joanne Counelis reiterated her previous comments. Mr. John Casselberry commented on MetroPlan Orlando managing the Traffic Signal Timing work and noted that he believes that MetroPlan Orlando may need to change its charter to take on this work. He also expressed concern with the bike and pedestrian crash statistics.
- **Next Board Meeting - May 11, 2016**

UPWP Changes

The information below is a summary of changes that will be made to the UPWP from the draft that was approved by the Board on March 9, 2016. All comments have not been received by FDOT and FHWA, therefore, additional changes may be made as necessary.

1. FTA 5305(d) final revenues for FY'17 were increased by \$371,886. An increase of this size was anticipated and allowed MetroPlan Orlando to fund additional projects on hold including the Osceola County Quiet Zone Concept Plans and a Health Impact Assessment.
2. Interest revenue and account fees were increased in both years due to an upcoming change in banking regulations.
3. Intro page xi was updated with additional information on soft match requirements.
4. Tables 1, 2, & 3 for both years were updated with additional information on soft match.
5. Seven tasks have updated expenditure amounts due to items one and two above. Two of the seven tasks have total dollar changes. The other five tasks reallocate funds due to timing issues but the total budget of those tasks remains unchanged. The tasks affected were 100, 120, 130, 150, 500, 600, and 820 with an increase to 150 for the local match requirement and an increase to task 500 for the additional FTA projects.
6. Five revenue line items and three expenditure line items were updated due to items one and two above. The increase in FTA funds affected Federal Revenue, State Revenue, Local Revenue, Cash Carryforward, Local Match Transfer, and Consultant Services. The banking regulations affected Interest Income and Other Miscellaneous Expense.
7. The grant application in Appendix C will reflect the new grant revenues.
8. Appendix D will include the resolution for the approval of the final UPWP.
9. Appendix H will include FHWA, FDOT, and FTA comments as well as MetroPlan responses received from the Draft UPWP.

