

TRAFFIC MANAGEMENT OPERATIONS COMMITTEE

1:00 p.m., Thursday, June 11, 2014
City of Cape Coral City Hall, Conference Room 220A
1015 Cultural Park Boulevard, Cape Coral, FL 33990
239-244-2220



AGENDA

Call to Order

Roll Call

Public Comments on Items on the Agenda

Approval of Minutes

1. *Minutes from the February, 2014 TMOC Meeting

New Business

2. Approval of Federal State Funded and Multi-Modal Enhancement Box Priorities (Ron Gogoi)
3. Approval of a Scope of Services for Roundabout Feasibility Study (Ron Gogoi)
4. Discussion of Signal Warrant Study at the intersection of SR 80 and River Walk Parkway (Don Cashdollar)
5. Report on MPO Road Safety Audits (Brian Raimondo)
6. Report on CTST Field Reviews (Steve Jansen)
7. Review of Congestion Reporting Survey Results (Ron Gogoi)

Old Business

8. Local Government Reports on Traffic Operations Related Projects
9. Status of MPO Traffic Operation Related Projects

Other Business

10. Public and Member Comments on Items not on the Agenda
11. Local Government Reports
12. FDOT Report
13. Announcements
14. Topics for next meeting
15. Information and Distribution Items

Adjournment

*Action Items +May Require Action

All meetings of the Lee County Metropolitan Planning Organization (MPO) are open to the public. In accordance with the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should contact Mr. Johnny Limbaugh at the Lee MPO 48 hours prior to the meeting by calling (239) 330-2242; if you are hearing or speech impaired call (800) 955-8770 Voice / (800) 955-8771 TDD. Or, e-mail jlimbaugh@leempo.com.

The MPO's planning process is conducted in accordance with Title VI of the Civil Rights Act of 1964 and related statutes. Any person or beneficiary who believes he has been discriminated against because of race, color, religion, sex, age, national origin, disability, or familial status may file a complaint with the Florida Department of Transportation District One Title VI Coordinator Robin Parrish at (863) 519-2675 or by writing her at P.O. Box 1249, Bartow, Florida 33831.

MINUTES OF THE TRAFFIC MANAGEMENT AND OPERATIONS COMMITTEE

Held on February 13, 2014

CALL TO ORDER AND ROLL CALL

The meeting of the Traffic Management and Operations Committee was held on October 9, 2013 at the Cape Coral City Hall, Room No 220A, Cape Coral, Florida.

MEMBERS PRESENT

City of Cape Coral	Gary Gasperini
City of Fort Myers	Marinko Gnjidic
City of Fort Myers Beach	Josh Overmyer
Lee County DOT	Steve Jansen
CTST	Jay Anderson
LCSO	Lt. Donnie Fewell
LeeTran	Wayne Gaither
BPCC	Dan Moser
Roger Lloyd	Lee County School District

Those also in attendance included: Ron Gogoi with Lee County MPO, Arleny Barrios with Allied Engineering, Sara Calhoun with Gannett Fleming, and Masood Mirza with the City of Cape Coral

APPROVAL OF MINUTES

Agenda Item #1 – Minutes from the October 9, 2013 TMOC Meeting

MR. OVERMYER MOVED AND MR. ANDERSON SECONDED TO RECOMMEND APPROVING THE MINUTES FROM THE FEBRUARY 13, 2014 TMOC MEETING. MOTION CARRIED UNANIMOUSLY.

Agenda Item #2 – Election of New Officers

Mr. Jansen called for nominations for Chair and Vice Chair.

MR. MOSER MOVED AND MR. GAITHER SECONDED THAT MR. JANSEN AND MR. ANDERSON CONTINUE TO SERVE THE COMMITTEE AS CHAIR AND VICE CHAIR RESPECTIVELY. MOTION CARRIED UNANIMOUSLY.

Agenda Item #3 – Input on the list of roundabout feasibility study locations to begin project scoping

Mr. Gogoi presented a list of intersections for conducting roundabout feasibility analysis and asked for committee input prior to developing a scope of services. He reported that the analysis would be conducted after July 1st. The committee recommended adding Broadway at Carrell, and Michigan Link at Marsh Avenue.

Agenda Item #4 – Recommendations of Preliminary CMS Priorities for FDOT’s New Work Program

Mr. Gogoi presented the list of congestion management projects that were submitted to FDOT for construction feasibility, and asked the committee to assign preliminary project priorities as that was a FDOT requirement. He stated that staff would bring the list of projects back to the committee along with the bicycle pedestrian projects for a recommendation of final project priorities.

MR. OVERMYER MOVED AND MR. MOSER SECONDED THAT FOWLER AVENUE AT COLONIAL BOULEVARD INTERSECTION IMPROVEMENTS BE ASSIGNED PRIORITY #1, BLUETOAD TRAFFIC MONITOR PURCHASE BE ASSIGNED PRIORITY #2, PAN ZOOM AND TILT CAMERA PURCHASE BE ASSIGNED PRIORITY #3, AND ACCESSIBLE PEDESTRIAN SIGNAL PURCHASE BE ASSIGNED PRIORITY #4. MOTION CARRIED UNANIMOUSLY.

OLD BUSINESS

Agenda Item #5 –Update on the Lee County ATMS and Caloosahatchee Bridge IMS Projects

Arleny Barrios of Allied Engineering and Sara Calhoun of Gannet Fleming provided updates on the ATMS Phase I and the IMS projects.

ATMS Phase I: It is a design build project. Design is complete. Work involving the Traffic Operation Center Upgrade and the actual field work involving installation of cameras and the fiber optics have been separated. The design and construction of the traffic center upgrades are complete. The design for the field work is complete except for the splicing diagram which was delayed due to a change order request. The contractor is close to completion of 100% design plans and they will be submitted to FDOT for review. Plans have been already released for construction and construction of the field work has started. Conduits for laying the fiber optic cables has been installed. Started the installation of the posts for cameras. They have received all the cabinets which are being tested and transferred to the field. Started the installation of the poles for cameras.

IMS – There were some issues with communication that caused the system to fail. There was no communication between the Signal Operation Center and the devices. Configuration causing the communication problem has been reconfigured and the work to start the new reconfiguration would happen next February 17th. After it is done, the system will be tested and then put back into operation. Internet protocol addresses that is tied to each device has to be reconfigured.

Update on Commuter Service

Ms. Diaz called in by telephone and provided an overview on commuter service outreach activities in Lee, Collier and Charlotte Counties.

OTHER BUSINESS

Agenda Item #9 – Public and Member Comments on Items not on the Agenda

None.

Agenda Item #10 – Local Government Reports

None

Agenda Item #11 – FDOT Report

None.

Agenda Item #12 – Announcements

There was a discussion on locations and starting times for future TMOC meetings. It was agreed that the meetings will start at 1 pm. Mr. Anderson suggested the Training Room at South Trail Fire District Station #62 as a possible venue for holding the meetings.

Agenda Item #13 – Topics for next meeting

None.

Agenda Item #14 – Information & Distribution Items

None.

ADJOURNMENT

The meeting was adjourned at 3:30 pm.

APPROVAL OF FEDERAL AND STATE FUNDED PRIORITIES AND MULTI-MODAL ENHANCEMENT BOX PRIORITIES

RECOMMENDED ACTION: Review and recommend MPO approval of the Federal and State Funded Priorities and Multi-modal Enhancement Box Priorities in **Attachments A** and **B**.

Attached are the priorities for federal funds that were previously set aside under the MPO's Multi-modal Enhancement Box fund. The Box typically includes \$4.7 million a year and is used towards congestion management, bicycle pedestrian and transit projects. **Attachment A** include the proposed priorities for Multimodal Enhancement Box funds.

Attachment B includes the list of priorities for highway capacity projects implemented with Lee County's share of District 1 Allocated STP (federal) and state funds. These priorities are being provided for review as the list includes a \$300,000 set aside in operational funds in FY 2019/20 for the Lee County Traffic Operation Center and a \$4.7 million box in FY 2019/20 for implementing Multimodal Enhancement projects.

At its June 11th meeting the TMOC will be asked to recommend MPO approval of the priorities in **Attachments A** and **B**.

LEE MPO MULTI-MODAL ENHANCEMENT BOX PRIORITIES FOR 2014

Applicant	Roadway/Project	Functional Classification	Limits	Improvements	Length	Funded Phase	Next Unfunded Phase	Requested Funds	Local Match	Total Cost	2013 Priority	Overall Bike Ped RANK ²	CM RANK ³	2014 Priority
LeeTran	Bus Purchase	NA	Purchase of Diesel-Electric Hybrid or Clean Burning Heavy Duty Transit Buses ¹		NA	NA	Bus Purchase	\$1,500,000	\$0	\$1,500,000	NA	NA	NA	1
MPO	Fowler Ave @ Colonial Blvd Intersection Improvements	Minor Arterial	The NB approach will be reconfigured to include two through lanes and two right turn lanes under signal control. A pedestrian crossing on the east leg will be re-established to allow pedestrians to move to a channel island while the NB right turn is red.		NA	NA	PE+CST	\$1,005,533	\$0	\$1,005,533	NA	NA	1	1
Lee County	Pine Island Rd	Minor Arterial	Stringfellow Rd to Veteran Pkwy	PD&E Study	5.44 Mile	NA	PD&E	\$520,000	\$0	\$520,000	NA	1	NA	1
Lee County	BlueTOAD Traffic Monitor Purchase	NA	Purchase and install 20 BlueTOAD Traffic Monitors to track travel speed on arterial roadways (4 per year)		NA	NA	Purchase + Installation	\$40,000	\$0	\$40,000	NA	NA	2	4
Lee County	PZT Camera Purchase	NA	Purchase and install 25 cameras to monitor traffic on arterial roadways over a period of 5 years (5 per year)		NA	NA	Purchase + Installation	\$50,000	\$0	\$50,000	NA	NA	3	5
Lee MPO	San Carlos Blvd	Minor Arterial	Kelly Rd to South of Gulf Point St	Add sidewalk (East Side)	0.34 Mile	NA	PE+CST	\$117,750	\$12,750	\$130,500	NA	2	NA	6
Lee MPO	US 41	Principal Arterial	.09 Miles N of SR 78 to Littleton Rd	Add 8' wide sidewalk (east side) + bus pads + connection to bus pads/stops	0.90 Mile	NA	PE+CST	\$292,500	\$0	\$292,500	NA	3	NA	7
Lee MPO	US 41	Principal Arterial	Littleton Rd to N Fork Rd	Add 8' wide sidewalk (east side) + bus pads + connection to bus pads/stops	1.09 Mile	NA	PE+CST	\$414,250	\$0	\$414,250	NA	4	NA	8
Fort Myers	<i>Fort Myers Elementary School Sidewalks</i>					NA	PE+CST	\$132,000	\$10,000	\$142,000	NA	7	NA	9
	<i>Hanson St</i>	<i>Major Collector</i>	<i>US 41 to Montclair Ave</i>	<i>Add sidewalk (North Side)</i>	<i>0.32 Mile</i>									
Cape Coral	<i>Mariner Middle School Sidewalks</i>					NA	PE+CST	\$225,900	\$45,180	\$271,080	NA	8	NA	10
	<i>Chiquita Blvd N</i>	<i>Minor Arterial</i>	<i>Tropicana Pkwy W to NW 11th Terrace</i>	<i>Add sidewalk (East Side)</i>	<i>0.46 Mile</i>	The improvements on NW 11th Street will have to be funded with non Box (SU) funds								
	<i>NW 11th St</i>	<i>Local Rd</i>	<i>Chiquita Blvd NW to 16th Place</i>	<i>Sidewalk (South Side)</i>	<i>0.06 Mile</i>									
Lee County	Purchase APS	NA	Purchase and install 10 Accessible Pedestrian Signals over a period of 5 years (2 per year)		NA	NA	Purchase + Installation	\$25,000	\$0	\$25,000	NA	NA	4	11

Notes:

Available funds: FY 2016/17 = \$244,076; FY 2018/19 = Unknown

¹Bus purchase comes off the top of Box funds

STP AND STATE FUNDED PRIORITIES FOR FY 2019/20

Staff Recommendations	2013 Priority	FM #	Project	From	To	Improvement Type	Length (miles)	Next Phase	PDC Estimate (in \$1,000)
1	1	4299601	Funding for County Traffic Operations Center ¹						\$300
2	2	1957641	Multi-Modal Enhancement Box ¹						\$4,700
3	9	4313341	SR 739 (Metro Pkwy)	Daniels Pkwy	South of Winkler Ave	4L to 6L	4.6	ROW	\$31,000
4	6		SR 739 (Fowler St)	Metro/Fowler	SR 82 (Dr. Martin Luther King Jr. Blvd)	TBD	1.4	TBD	TBD
5	NA		I-75/Corkscrew Interchange			Interchange		PE	\$750
6	NA		Burnt Store Rd	Van Buren	Charlotte Co/L	2L to 4L	7.0	PD&E	\$3,000
7	4	4126363	Countywide ATMS			Phase III Implementation		CST	\$16,581

Notes:

¹The top two priorities are set asides that the Lee County MPO request annually from off the top of SU funds allocated to the Lee County urbanized area.

REVIEW AND APPROVAL OF THE ROUNDABOUT FEASIBILITY STUDY SCOPE

RECOMMENDED ITEM: Recommend that the MPO approve the attached Roundabout Feasibility Study Scope of Services.

FDOT funded an MPO priority for a roundabout feasibility study by including it in its FY 2015-2019 Tentative Work Program. The project is programmed in fiscal year 2014/15 at \$400,000. The list of tentative intersections that were submitted to FDOT prior to project programming has been revised following input from the TMOC, BPCC, TAC, CAC and the MPO Board. Staff has now developed the attached scope of services that calls for screening the final list of 21 locations for fatal flaws and doing roundabout feasibility analysis on those that pass the screening test. The scope also calls for developing conceptual design layouts at these intersections. The TMOC will be asked to review the scope and recommend MPO approval at its June 11th meeting.

Lee County Metropolitan Planning Organization Roundabout Study

Scope of Services

INTRODUCTION

Research in the US and elsewhere in the world have indicated that roundabouts provide annual savings of \$5,000 in electrical and maintenance costs versus a traffic signal, and that they provide a service life of 100 years or more versus 10 to 20 years for a traffic signal. Unlike signalized intersections they are also not impacted by power outages caused by hurricanes and tropical storms, a phenomenon that happens with some regularity in Florida. They also reduce vehicle delays by around as much as 50% as traffic flows continuously through an intersection. With traffic moving inside a roundabout between 15-25 mph, and with significantly less number of conflict points than a conventional traffic signal, roundabouts have also been found to increase safety by reducing potential fatal crashes at an intersection by 90%, injuries by 76%, and all crashes by 39%.

For their demonstrated ability in making intersections safer and their substantial operational and capacity characteristics, as well as their other merits, local jurisdictions in Lee County have built 5 roundabouts while 2 more have been funded. Several others are identified in local government plans. The Lee MPO has now identified a comprehensive list of intersections to conduct roundabout feasibility analysis.

On its part FDOT is placing added emphasis on the development and construction of roundabouts statewide and have directed their district offices to include two (2) projects on state highways annually in their 5 year construction budget for implementing roundabouts. The Lee MPO is trying to position itself for FDOT support for financing the construction of a few of its own roundabout projects by identifying some potential roundabout locations on state highways.

PURPOSE OF SCOPE

The purpose of this scope is to prepare an intersection analysis to determine the design year operational efficiency of roundabouts at the intersections identified in Exhibit A. For those intersections where roundabouts are determined a viable option, conceptual geometric designs and cost estimates for each will be developed.

This scope of services includes the following tasks:

TASK 1. KICK OFF MEETING

The CONSULTANT will schedule and conduct a project kick-off meeting with the project team via conference call, or in person within two weeks of the issuance of a Notice to Proceed by the MPO. At the kick off meeting, the specific needs and plans of the roundabout feasibility analysis, ideas to screen the initial list of intersections for fatal flaws, and the traffic analysis software to be used will be discussed. The CONSULTANT will also present and discuss a list of the data/resources that may need to be provided by MPO staff, or at least direction given on the most reliable resources to tap for the information. MPO and Consultant staff will agree on how the data/resources will be collected and set an appropriate timeline for completing the effort. Other decisions regarding a public involvement component and deliverables will be also decided at the kick-off meeting.

TASK 2: METHODOLOGY FOR SCREENING INITIAL LIST OF INTERSECTIONS FOR ROUNDABOUT FEASIBILITY ANALYSIS

The CONSULTANT will develop a methodology to screen a list of 21 intersections from Exhibit A for fatal flaws, and conduct roundabout feasibility analysis on the ones that pass the screening test. Of the 21 intersections, eleven (11) are currently signalized, four (4) have 2 way stops, and the remainder have 1 way stops. Also, all have two lane roadways at the intersection approaches, except for two which have multi-lanes. Following are some criteria from *Chapter 7 of the Florida Intersection Design Guide* that could be considered in the methodology to screen the list of roundabout locations:

- ❖ Significant right of way impacts that could make a roundabout uneconomical
- ❖ Significant drainage or utility impacts that could make a roundabout uneconomical
- ❖ Immitigable environmental impacts
- ❖ Proximity to historical sites and socially significant trees that may rule out a roundabout
- ❖ Proximity of bottlenecks that would routinely back up traffic into the roundabout such as overcapacity signals and freeway entrance ramps
- ❖ Proximity of grades or unfavorable topography that may limit visibility or complicate construction
- ❖ Routes where large combination vehicles or over dimensional vehicles frequently use an intersection and insufficient space is available
- ❖ Locations where vehicles exiting the roundabout would be interrupted by downstream traffic control that could create queues backing up into the roundabout
- ❖ Proximity of other traffic control devices that would require signal preemption such as railroad tracks
- ❖ Isolated intersections located within a coordinated signal network where it is felt that LOS might be better with a signalized intersection incorporated into the system

Local knowledge about the locations from the project team would feed into and supplement the screening process.

Deliverables: A memo documenting the methodology developed to screen the list of intersections and results of the screening process.

TASK 3: TRAFFIC DATA COLLECTION

The CONSULTANT will collect approach counts and turning movement counts at the intersections which passed the screening test in Task 2. The approach counts will be collected for a full day (24 hours) and the turning movement counts will be collected for the AM, Midday, and PM Peak hours as determined by the approach counts. Vehicle classification will be included as part of the approach counts. The traffic data will be reviewed for accuracy with a deviation of approach counts versus peak hour traffic of no more than 10%. Bicycle and pedestrian traffic shall also be observed and measured. The CONSULTANT will also develop traffic volume growth factors and use them to forecast the existing turning movement counts for the design year (Year 2035).

Deliverables: Maps, tables, photos of existing conditions. Memo documenting existing conditions, data collection, approach counts, peak hour turning movement counts, pedestrian and bicycle traffic volumes, and traffic projections.

TASK 4: ROUNDABOUT OPERATIONAL ANALYSIS

Using the traffic data from Task 3, the CONSULTANT will evaluate the feasibility of installing roundabouts at each of the intersections that makes it through the screening test in Task 2. *NCHRP Report 672, Roundabouts: An Informational Guide, 2nd Edition, Chapter 21 of the Highway Capacity Manual, TRB 2010, and Chapter 7 of the Florida Intersection Design Guide* will be referred to by CONSULTANT for doing the operational analysis. The CONSULTANT will perform the following services under this task.

- A. Use the existing traffic volumes from Task 3 to conduct intersection analysis for the existing intersection geometry and the roundabout alternative. The analysis will consist of capacity and level of service analysis using the Highway Capacity Manual methodology for un-signalized and signalized intersections (existing conditions). The intersection analysis will allow the consultant to determine the critical movements and delay by approach at each intersection. The intersection analysis considering the roundabout alternative will be conducted using Sidra.
- B. Use the forecasted turning movement counts from Task 3 to conduct intersection analysis for the roundabout alternative for the 2035 design year. The analysis results will provide the design year operational efficiency of the roundabouts at each intersection. Based on the results, the consultant will make a recommendation on whether to pursue a roundabout at a particular intersection and develop conceptual design layout for that intersection in Task 5.
- C. MPO staff will analyze the crash patterns and severity at each intersection. The analysis will be summarized in tabular format and provided to consultant for documentation in technical memo to be developed at the end of this task.

- D. Analyze existing intersection geometry using Synchro 8 and analyze the roundabout alternative using the latest approved version of Sidra. The type of traffic analysis software to be used is flexible, and CONSULTANT may recommend a different analysis tool. All assumptions regarding operating parameters must be clearly identified.

Deliverables: A technical memo documenting the intersection analysis results for each intersection and recommendations on whether to proceed with conceptual design and evaluation of roundabout concepts at any particular intersection. The memo will also include safety analysis and descriptions of the intersection analysis software used in this task.

TASK 5: CONCEPTUAL DESIGN

This task will include preparation of conceptual roundabout layout designs at those intersections from Task 4 where roundabouts were determined to be viable options based on the results of the roundabout intersection analysis. The conceptual roundabout design layouts will be used in doing a concept level evaluation of existing drainage, utilities, and right of way at each intersection for potential impacts resulting from the proposed roundabout.

The CONSULTANT will perform the following services as part of this task:

- A. Conduct a field visit to the intersections to photograph critical features and to identify existing features, roadway conditions and traffic control devices in the field. Perform field measurements to supplement as-built plans.
- B. Approximately locate underground utilities or structures that may be within the footprint of the proposed roundabout. Such utilities include, but are not limited to wastewater, water, gas, electric, storm sewer, telephone, and television cable. CONSULTANT will contact Sunshine 811 directly (or through the City of Fort Myers and LCDOT who are Florida Sunshine members), or individual utility companies to mark existing underground utilities in the field and shall show such utilities on a base map based either upon field locations or available construction as-builts.
- C. Based on the information obtained above, prepare conceptual roundabout layouts at each intersection over existing aerial maps showing all the roadway features and the approximate right of way. The conceptual layouts will be to scale and will also show required signs and pavement markings in accordance with FHWA guidelines and the Florida MUTCD. While developing the conceptual layouts CONSULTANT will refer to *NCHRP Report 672, Roundabouts: An Informational Guide, 2nd Edition*, and *Chapter 7 of the Florida Intersection Design Guide*. Appropriate design treatment for pedestrian mobility and access will be considered.
- D. For those intersections which are within the project limits of planned roadway projects, the proposed roundabouts shall be designed in a way that they will be able

to accommodate the planned improvements. These intersections are identified in the list of intersections in Exhibit A under the “Ultimate Improvements” column.

- E. Determine the vehicle envelope and swept path for the design vehicle (which is usually a WB-50 truck) using AutoTURN 8. The truck turning dimension for the largest fire engine in Lee County will be also coded into a custom fire truck in AutoTURN to test each concept design.
- F. Perform a concept level drainage evaluation to identify possible drainage modifications and utility adjustments that may be necessary as a result of the intersection reconfiguration.
- G. Identify any right-of-way needs for the proposed roundabouts and estimate the area needed.

Deliverables: A set of conceptual roundabout design layouts at all the intersections over aerial maps showing how each roundabout will fit the surrounding developments. The conceptual design layouts will be completed at a 1" = 40' scale on 11" x 17" page size. Exhibits showing critical design vehicle turning paths within the proposed roundabouts developed with AutoTURN. A memo documenting design criteria used in the roundabout layout designs, description of the proposed roundabouts and their design features, accommodation of transit and non-motorized modes in the concept designs, design treatments for pedestrian mobility access, and access management issues, and AutoTURN generated design vehicle paths . The memo will also document the results of a concept level evaluation for drainage, right of way, and utility impacts resulting from the proposed roundabouts.

TASK 6: OPINION OF PROBABLE CONSTRUCTION COSTS

Using the conceptual design layout and concept level quantity estimates, a concept level Engineer’s Opinion of Probable Construction Cost will be prepared for each roundabout design concept. Besides the typical construction items, project cost will also include street lighting and landscaping.

Deliverables: The memo will include concept level Engineer’s Opinion of Probable Construction Costs for each roundabout improvement.

TASK 7: EVALUATION AND RANKING PROPOSED ROUNDABOUT PROJECTS

The CONSULTANT will develop criteria and methodology to evaluate and rank the proposed roundabout concepts. Based on the rankings priorities will be established that will assist in identifying projects for project development and funding.

TASK 8: TRAFFIC MODELLING AND SIMULATION (OPTIONAL)

The CONSULTANT will identify two roundabout concepts where the proposed roundabout geometry is complicated and challenging, and roundabout operations may be hard to visualize for the public without doing a computer simulation. The CONSULTANT will prepare VISSIM to model traffic flow on the approach streets and within the roundabouts at the two locations. Four scenarios of the model will be prepared which will include two critical peak hours and the years 2014 and 2035. The critical peak hours typically are the weekday AM and PM peak. If it is determined that the noon peak is more critical, then the less critical peak period will be dropped. The simulations will be used for presentations at public meetings.

Deliverables: Video clips of the traffic simulation in a power point.

TASK 9: CONDUCT SURVEY AND DEVELOP 30% DESIGN DRAWINGS (OPTIONAL)

The CONSULTANT shall conduct surveys of the top 2 priority projects from Task 7, and develop preliminary engineering drawings and cost estimates for roundabout implementation.

Deliverables: A set of preliminary design drawings of roundabouts at 2 intersections. The design layouts will be completed at a 1" = 40' scale on 11" x 17" page size.

TASK 10: LITERATURE REVIEW

The CONSULTANT will do a literature review of state of Florida and US DOT documents (e.g. *NCHRP Report 672, Roundabouts: An Informational Guide, 2nd Edition, Chapter 21 of the Highway Capacity Manual, TRB 2010, Chapter 7 of the Florida Intersection Design, etc.*) and evaluate whether (1) design standards/requirements would justify replacing at - capacity and failing multi-lane signalized intersections in Lee County with roundabouts, and (2) whether observed traffic patterns and conditions, and capacity LOS and V/C from available intersection analysis meet thresholds from the *Highway Capacity Manual* to even consider roundabouts at such intersections. Instead of looking at all such intersections in Lee County use 1 or 2 representative intersection(s) which have available intersection analysis data. MPO staff will provide the intersection analysis data. Examples of at-capacity or failing intersections in Lee County include the intersections of Colonial and Six Mile Parkway, US 41 and Six Mile Parkway, US 41 and Bonita Beach Road, and Colonial Boulevard and Summerlin Road.

Deliverables: Memo on results of a literature review evaluation and conclusion of at capacity or failing signalized intersections in Lee County.

TASK 11: PUBLIC INVOLVEMENT, PRESENTATION AND PREPARATION OF FINAL REPORT

The CONSULTANT will provide staff with presentation material for updates on the study to the various MPO committees throughout the study. In addition, the Consultant will assist staff

in making presentations to the BPCC, TAC, CAC and MPO Board following the production of a final draft of the study for input prior to producing a final report. This task includes the following specific subtasks:

- A. The Consultant will attend a BPCC, TAC, CAC and MPO meeting to present the results of the study as well as up to two additional public meetings at the discretion of the MPO staff if necessary.
- B. The Consultant will prepare maps, graphics, memo reports and handouts for staff to use at different times throughout the study to cover additional public involvement meetings. It is envisioned that much of this material will be what is produced as deliverables at the completion of each of the tasks.
- C. A draft and final report will be produced by the Consultant documenting the results of the study. A draft report will be submitted to the Lee MPO staff for review and comment prior to producing a final draft for distribution and presentation to the Committee's and the Board.

Deliverables: Draft and Final Reports, VISSIM model, A power point presentation documenting the feasibility analysis, results and traffic simulation.

SCHEDULE

It is anticipated that this study will be completed in eight (8) months from issuance of a Notice to Proceed date.

FEE ESTIMATE

The budget for this project is \$400,000.

EXHIBIT A

LIST OF INTERSECTIONS FOR PROPOSED ROUNDABOUTS IN LEE COUNTY

#	Intersection	Location	Ownership	Planned	Other Proposal	Comments	Traffic Control Type	Ultimate Improvements
1	Buckingham Ave @ Cemetary Rd	Buckingham	Lee County		X	Added at Jan 9, 2014 TAC Meeting	1 way stop (Cemetary)	
2	Buckingham Ave @ Gunnery Rd	Lehigh Acres	Lee County		X	Added at Jan 9, 2014 TAC Meeting	1 way stop (Gunnery)	
3	West Terry St @ Old 41	Bonita Springs	Bonita Springs		X	Added at Jan 9, 2014 TAC Meeting	Traffic Signal	
4	Larchmonte Ave @ Mcgregor	Fort Myers	Fort Myers	X		Project identified in Fort Myers Downtown Mobility Plan	1 way stop (Larchmonte)	
5	Altamonte Ave @ West First Street	Fort Myers	Fort Myers	X		Project identified in Fort Myers Downtown Mobility Plan	2 way stop (Altamonte)	
6	Edison Ave @Broadway	Fort Myers	Fort Myers	X		Project identified in Fort Myers Downtown Mobility Plan	Traffic Signal	Edison to be widened from 2 to 4 from 41 to Fowler
7	McGregor Blvd @ Barcelona Ave	Fort Myers	Fort Myers	X		Project identified in City of Fort Myers Traffic Calming Plan	1 way stop (Barcelona)	
8	Lee St @ MLK Jr. Blvd	Fort Myers	FDOT	X		Project identified in Fort Myers Downtown Mobility Plan	Traffic Signal	
9	Seaboard St @ 1st St (SR 80)	Fort Myers	FDOT	X		Project identified in Fort Myers Downtown Mobility Plan	Traffic Signal	First Street to be reconstructed as two way street with sidewalks and bike lanes
10	Joel Blvd @ SR 80	Lehigh Acres	FDOT		X		Traffic Signal	Joel Blvd to be widened from 2 to 4 lanes from N of E 17th St to SR 80
11	US 41 Ramps @ MLK/Main St/McGregor	Fort Myers	FDOT	X		Project identified in Fort Myers 2010 Downtown Plan	Traffic Signal	
12	Estero Blvd @ Times Square	Fort Myers Beach	Lee County		X		Traffic Signal	
13	Winkler Ave Ext @ Challenger Blvd	Fort Myers	Fort Myers	X			2 way stop (Challenger)	
14	Colonial Blvd @ McGregor Blvd	Fort Myers	FDOT		X		Traffic Signal	
15	New York/Tice St @ SR 80	Tice	FDOT		X	Added at Jan 9, 2014 TAC Meeting	Traffic Signal	
16	Ortiz Ave @ Tice St	Tice	Lee County		X	Added at Jan 9, 2014TAC Meeting	Traffic Signal	Ortiz to be either reconstructed as 2 lane facility with bike lanes and sidewalks, or widened to 4 lanes with bike ped facilities
17	Carrel Rd @ Broadway	Fort Myers	Fort Myers		X	Added at Feb 13, 2014 TMOC Meeting	Traffic Signal	
19	Michigan Ave Link @ Marsh Ave	Fort Myers	Fort Myers	X		Added at Feb 13, 2014 TMOC Meeting	1 way stop (Marsh)	
20	McGregor Blvd @ Virginia Ave	Fort Myers	Fort Myers	X		Added at City's Request on May 6, 2014	2 way stop (Challenger)	
21	Seaboard St @ 2nd St (SR 80)	Fort Myers	FDOT	X		Added at City's Request on May 6, 2014	2 way stop (Palm Ave/2nd St)	Second Street to be reconstructed as 2 or 4 lane with sidewalks and bike lanes

DISCUSSION OF A SIGNAL WARRANT STUDY AT THE INTERSECTION OF SR 80 AND RIVER HALL PARKWAY

RECOMMENDED ITEM: This is not an action item. FDOT will discuss the results of the **attached** signal warrant study.

FDOT recently completed a signal warrant analysis at the intersection of SR 80 and River Hall Parkway at the request of a resident of the River Hall community. The warrants met were volume thresholds for interruption of continuous traffic (Warrant 1B), and peak hour volume thresholds and approach delays (Warrant 3) for northbound left and right turns on River Hall Parkway. In addition, it was determined that the intersection had 4 angle crashes in the last three years that would be correctable with a traffic light.

FDOT also took into consideration that a school accesses River Hall Parkway and the posted speed limit on SR 80 which is 55 mph and recommended a signal at this intersection. **Attached** is the signal warrant analysis.



Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830

ANANTH PRASAD, P.E.
SECRETARY

MEMORANDUM


Date: April 22, 2014

To: Donald Cashdollar, P.E., Assistant District Traffic Operations Engineer

From: Tanya King, P.E., Traffic Studies Engineer

CC: Lorraine Edwards, Engineer Specialist III

Subject: Signal Warrant Analysis for SR 80 at River Hall Parkway
Roadway Section: 12020-000, M.P. 11.545



Mr. Ronald Boils contacted the department requesting a signal at the intersection of SR 80 at River Hall Parkway. Traffic count data and delay studies were conducted at this intersection on January 22nd, 2014 and January 30th, 2014, respectively. A signal warrant analysis was performed using the procedure outlined in the Manual of Uniform Traffic Control Devices (MUTCD). The intersection met Warrant 1B-Interruption of Continuous Traffic and Warrant 3-Peak Hour. When examining Warrant 1B, the volume threshold to meet for 8 hours is 53. The intersection met the volume threshold for 8 hours with volumes ranging from 168 vehicles between 8AM and 9AM to 60 vehicles between 2PM and 3PM. The department considers excessive delay to be greater than or equal to 60 seconds. The delay experienced at the SR 80 at River Hall Parkway intersection ranged from 55.94 seconds to 90.06 seconds. Crashes were also evaluated at this intersection for the past 3 years. The only crashes that are considered correctable by a signal are angle crashes. Crashes were reviewed for the past 3 years at the SR 80 at River Hall Parkway intersection and there were 4 angle crashes. Two angle crashes occurred in 2011, 1 in 2012 and another one in 2013. Warrant 3-Peak hour examined the peak hour between 8AM and 9AM. The volume threshold to for a 2 lane approach is 150. The approach volume for the SR 80 at River Hall Parkway is 239 vehicles. The approach delay in vehicle per hours is 5.14, above the 5.0 threshold required for a 2 lane approach.

The results of this study were also compared to the warrant study conducted 4 years ago. Overall the traffic volumes exiting River Hill Parkway increased by 10 percent from 2010 to 2014. Comparing the same time periods the delay also increased significantly for the northbound left turn movement. During the AM period the delay increased by 37 seconds from 53.52 seconds in 2010 to 90.06 seconds in 2014. During the PM period the delay increased by 15 seconds from 40.65 seconds in 2010 to 55.94 seconds in 2014. The community accessing River Hall Parkway is still developing with numerous vacant lots. Also a school accesses River Hall Parkway. The speed limit on SR 80 is posted 55 MPH. The 85th percentile speed is between 61 MPH and 65

MPH in this area of SR 80. Considering the additional factors namely the school access, the development of the community and the speed limit on SR 80, the department recommends a signal at this intersection due to Warrant 1B and Warrant 3 being met.

Figure 3-3. Peak Hour Warrant TRAFFIC SIGNAL WARRANT SUMMARY

City: <u>Fort Myers</u>	Engineer: <u>TNK</u>
County: <u>Lee</u>	Date: <u>April 22, 2014</u>
Major Street: <u>SR 80</u>	Lanes: <u>6</u> Critical Approach Speed: <u>55</u>
Minor Street: <u>River Hall Parkway</u>	Lanes: <u>2</u>

Volume Level Criteria

1. Is the critical speed of major street traffic > 40 mph? Yes No
 2. Is the intersection in a built-up area of isolated community of <10,000 population? Yes No
- If Question 1 or 2 above is answered "Yes", then use "70%" volume level 70% 100%

WARRANT 3 - PEAK HOUR

If all three criteria are fulfilled or the plotted point lies above the appropriate line, then the warrant is satisfied.

Applicable: Yes No
Satisfied: Yes No

Unusual condition justifying use of warrant:
None

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour
8 AM - 9 AM

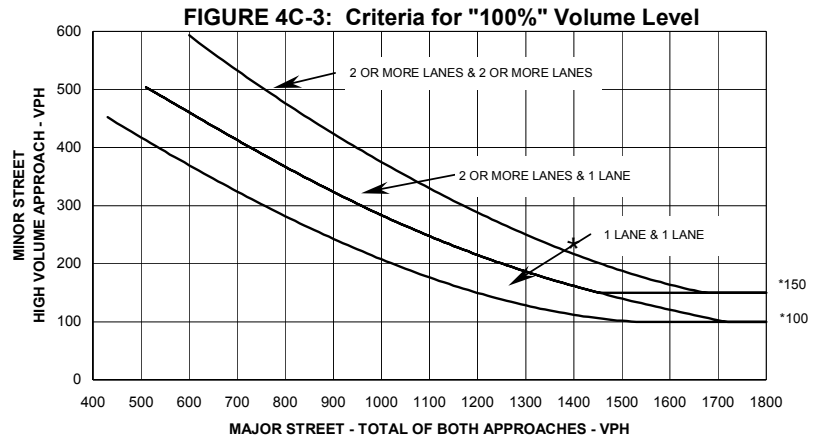
Criteria

1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		5.14
Fulfilled?:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

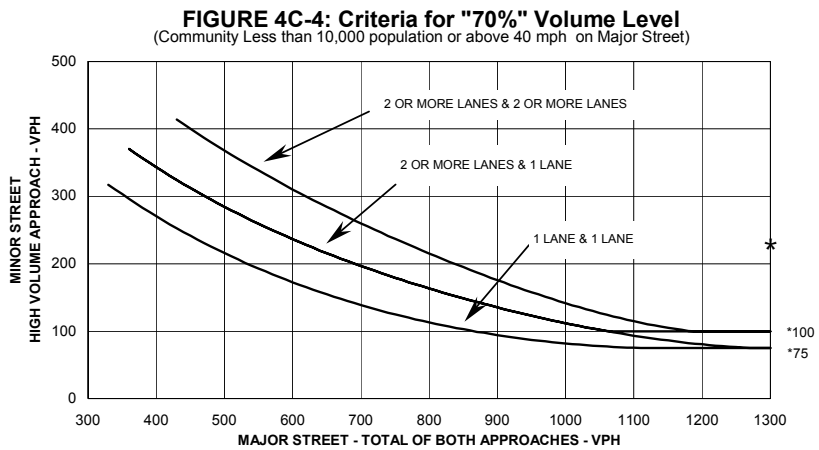
2. Volume on Minor Approach *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		239
Fulfilled?:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

3. Total Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*	1407	
Fulfilled?:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Plot volume combination on the applicable figure below.



* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.



* Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

Composite Study

12-Hour Turning Movement Count Intersection Delay Study

SR 80 at River Hall Parkway

LEE COUNTY
SECTION 12020000
MILEPOST 11.545

Traffic Operational Studies
Contract Number C-8Z57
Financial Project No. 420112-1-32-02
Task Work Order No. 135

Prepared For:

CERTIFICATION

AGENCY: Florida Department of Transportation
District 1
801 North Broadway Avenue
Bartow, Florida 33830

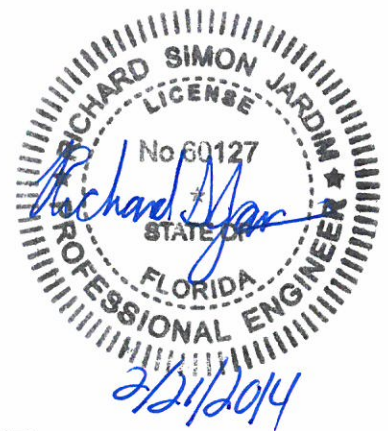
I hereby certify that I am a registered engineer in the State of Florida practicing with Faller, Davis & Associates, Inc. authorized to operate as an engineering business (Certificate of Authorization No. 5864), and that I have reviewed or approved the calculations, findings, opinions, conclusions, or technical advice hereby reported for:

PROJECT: SR 80 at River Hall Parkway
Alva, FL
Lee County

FPID NO: 420112-1-32-02

REPORT: Composite Study - 12-Hour Turning Movement Count and Intersection Delay Study

I acknowledge that the procedures and references used to develop the information contained in this report are standard to the professional practice of civil engineering as applied through professional judgment and experience.



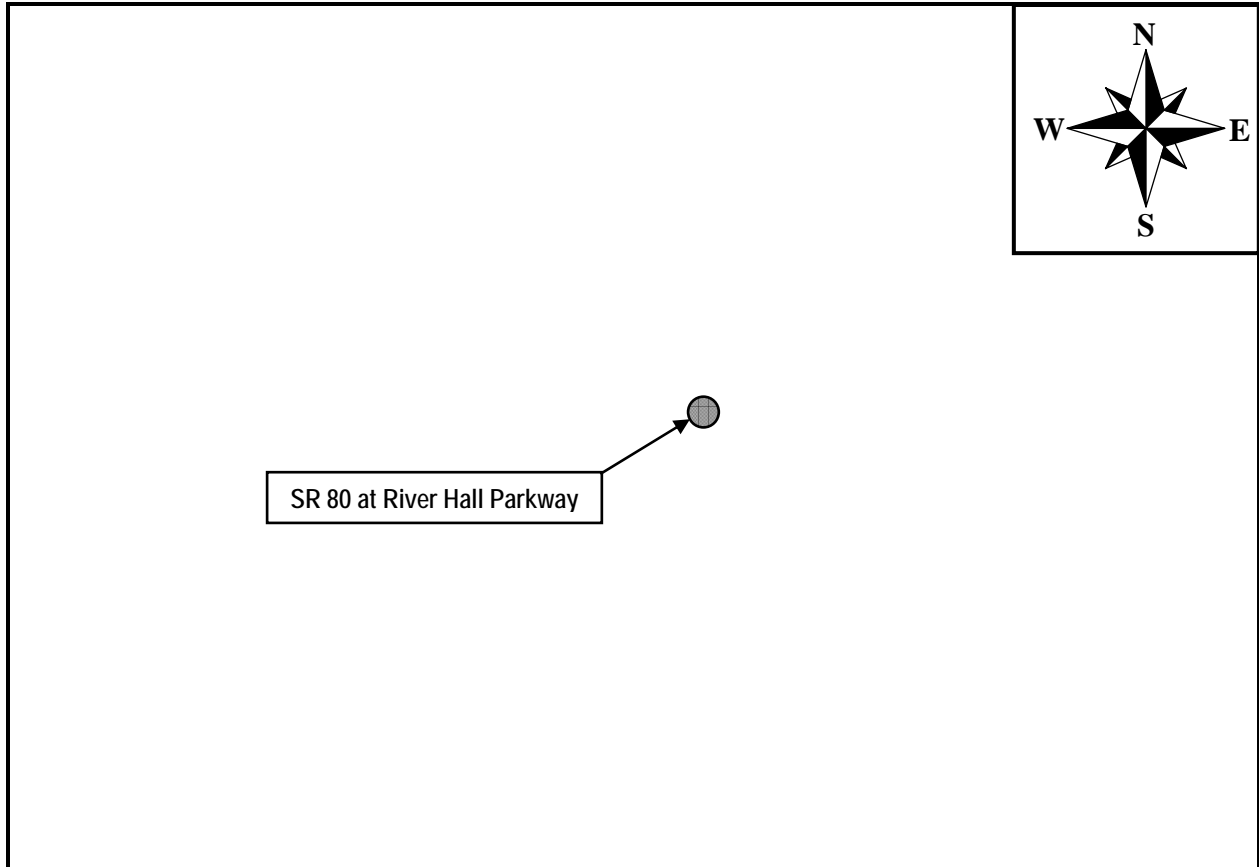
SIGNATURE:

Richard S. Jardim, P.E.
P.E. No. 60127
February 21, 2014
(407) 644-2116
258 Southhall Lane
Suite 410
Maitland, FL 32751

INTRODUCTION

The Florida Department of Transportation has retained Faller, Davis & Associates, Inc. to conduct a 12-hour turning movement count and an intersection delay study at the intersection of SR 80 and River Hall Parkway near Alva, Lee County, Florida. The analysis methods used in conducting this study are consistent with those set forth in the Manual on Uniform Traffic Studies (MUTS 2000) and District 1 guidelines and procedures.

Project Location Map



Traffic Volumes

A 12-hour turning movement count was conducted at the intersection from 6:30 AM to 6:30 PM.

Turning Movement Count Summary

TIME BEGIN - END	River Hall Parkway NORTHBOUND					N/A SOUTHBOUND					SR 80 EASTBOUND					SR 80 WESTBOUND				
	U	L	T	R	RTOR	U	L	T	R	RTOR	U	L	T	R	RTOR	U	L	T	R	RTOR
6:30 - 7	0	35	0	6	0	0	0	0	0	0	0	0	185	22	0	0	5	479	0	0
7 - 8	0	68	0	8	0	0	0	0	0	0	0	0	469	104	0	0	28	850	0	0
8 - 9	0	168	0	71	0	0	0	0	0	0	0	0	455	199	0	0	44	709	0	0
9 - 10	0	59	0	12	0	0	0	0	0	0	0	0	476	45	0	0	9	632	0	0
10 - 11	0	53	0	13	0	0	0	0	0	0	0	0	473	54	0	0	6	629	0	0
11 - 12	1	62	0	5	0	0	0	0	0	0	0	0	450	61	0	1	9	565	0	0
12 - 1	0	58	0	5	0	0	0	0	0	0	4	0	513	63	0	0	7	571	0	0
1 - 2	0	67	0	5	0	0	0	0	0	0	0	0	605	68	0	1	3	522	0	0
2 - 3	0	60	0	12	0	0	0	0	0	0	1	0	604	109	0	1	18	505	0	0
3 - 4	0	162	0	65	0	0	0	0	0	0	0	0	713	120	0	0	12	543	0	0
4 - 5	0	53	0	16	0	0	0	0	0	0	0	0	755	101	0	0	13	620	0	0
5 - 6	0	143	0	37	0	0	0	0	0	0	0	0	942	96	0	0	14	582	0	0
6 - 6:30	0	29	0	3	0	0	0	0	0	0	0	0	388	31	0	0	2	260	0	0
TOTAL	1	1,017	0	258	0	0	0	0	0	0	5	0	7,028	1,073	0	3	170	7,467	0	0
Percentage	0.1%	79.7%	0.0%	20.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	86.7%	13.2%	0.0%	0.0%	2.2%	97.7%	0.0%	0.0%
Maximum	1	168	0	71	0	0	0	0	0	0	4	0	942	199	0	1	44	850	0	0
Minimum	0	29	0	3	0	0	0	0	0	0	0	0	185	22	0	0	2	260	0	0
Total Heavy Veh	27		0	54	0	0		0	0	0	0		539	65	0	14		556	0	0
% Heavy Veh	2.7%		0.0%	20.9%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		7.7%	6.1%	0.0%	8.1%		7.4%	0.0%	0.0%

Turning movement, pedestrian, and bicycle data is presented in further detail in the appendix.

Intersection Delay

Intersection delay studies were performed for the northbound left turn and right turn movements during the morning and afternoon peak periods. The delay data is presented in complete detail in the appendix.

Summary of Delay Study

Movement	Period	Time	Maximum Queue (Veh)	Average Delay per Vehicle (Sec)	Volume (Veh/Hr)	Total Delay (Veh-Sec)	Total Delay (Veh-Hr)	Maximum Stopped Time (Min-Sec)
Northbound Right Turn Movement	Morning	8:15-9:15 AM	5	15.16	98	1,486	0.41	1' - 39"
	Afternoon	3:15-4:15 PM	5	18.17	60	1,090	0.30	0' - 45"
Northbound Left Turn Movement	Morning	8:15-9:15 AM	15	90.06	189	17,021	4.73	4' - 43"
	Afternoon	3:15-4:15 PM	16	55.94	158	8,839	2.46	2' - 54"

APPENDIX

STUDY TYPE II
TASK U – 12-HOUR TURNING MOVEMENT COUNT

SR 80 at River Hall Parkway
Section 12020000; Milepost 11.545
Lee County

Districtwide Traffic Studies
Financial Project No.: 420112-1-32-02
Contract No.: C-8Z57
Task Work Order No. 135

Prepared for:

Florida Department of Transportation
District One Traffic Operations
801 North Broadway Avenue
Bartow, Florida 33830

February 2014

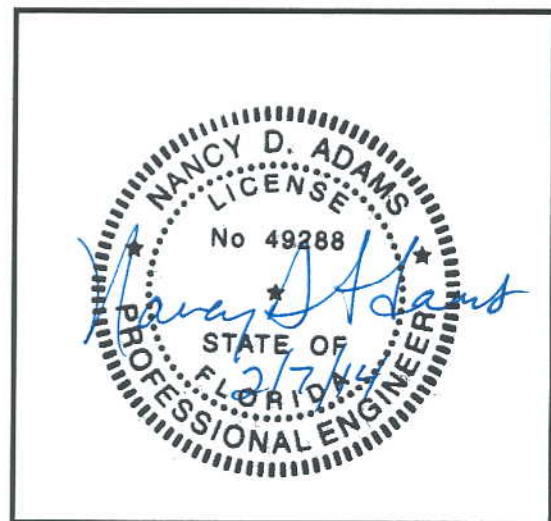
SIGNATURE PAGE
PROFESSIONAL ENGINEER'S SEAL

Adams Traffic, Inc.
P.O. Box 997
Plant City, FL 33564
813-763-7763

State of Florida Authorization No.: 8959

Engineer in Responsible Charge: Nancy D. Adams, P.E.

Professional Registration No.: 49288



SIGN / DATE / SEAL

REPORT ON MPO ROAD SAFETY AUDITS

RECOMMENDED ITEM: This is not an action item. Staff will report on Road Safety Audits conducted at 4 intersections.

Lee County in partnership with FDOT recently conducted Pedestrian/Bicycle Road Safety Audits (RSA's) at the following four intersections identified in Lee County's *Bicycle & Pedestrian Safety Action Plan*:

1. SR 78 (SW Pine Island Rd.) at Santa Barbara Blvd. [City of Cape Coral]
2. SR 80 Palm Beach Blvd.) at Marsh Avenue [City of Fort Myers]
3. US 41 at Gladiolus/Six Mile Cypress Parkway [Unincorporated]
4. Colonial Blvd. at Six Mile Cypress Parkway/Ortiz Avenue [City of Fort Myers]

A RSA is a formal safety performance investigation of a highway section or intersection by a multi-disciplinary team which considers the safety of all users. The emphasis at all four locations was on pedestrian and bicyclist safety, while taking into consideration transit users, traffic law enforcement issues, traffic control strategies and any emergency response aspects which affect safety at the intersections.

RSAs for the first two locations were conducted on May 29th and on June 4th for the remaining two. The RSAs were led by FDOT's consultant Cardno TBE with participation from FDOT, MPO, City of Fort Myers and LCDOT staff as well as law enforcement officers from, LCDOT, LCSO, and FMPD, staff. The RSA was also attended by representatives from BikeWalkLee and Lee Memorial Health System. At the June 11th meeting, MPO staff will report on the RSAs.

REVIEW OF THE CONGESTION REPORTING SURVEY RESULTS

RECOMMENDED ITEM: This is not an action item. Staff will present the congestion reporting survey results for review and discussion.

The MPO conducted its annual Congestion Survey in March by publishing a survey in the News-Press and sending out notices. Responses to the survey were also gathered through an online interactive form posted on the MPO website, through forms completed by First Responders, from distributing to LeeTran bus drivers and from distributing to the Lee County School District.

The survey responses in **Attachment A¹** were edited and summarized by MPO staff to facilitate easy review and discussion by the committee members at the June 11th TMOC meeting. The raw data from the original entries is posted on the MPO website at www.leempo.com, in case committee members want to look at the more detailed comprehensive data that also includes the locations that the public have identified for vehicle maneuverability problems, types of vehicles driven and the sources they rely on for traffic data. The same congested locations identified two or more times in the raw data is shown only once in **Attachment A¹**, for the most part, but also shows the number of times that it has been reported.

A lot of the reported congested locations are a repeat from previous years, and for some like Estero Boulevard, Daniels Parkway and Colonial Boulevard the problem will persist because they are either constrained facilities or there are no current improvements identified in the MPO's Long Range Transportation Plan.

¹PLEASE NOTE THAT THE RESULTS OF THE CONGESTED LOCATIONS ARE NOT READY AND WILL BE EMAILED TO THE COMMITTEE MEMBERS ON MONDAY (June 9th) MORNING