

Mayor David Browning, Seat 4
Vice Mayor Ronald D. Jarriel, Seat 1
Councilman Tom Goltzené, Seat 5
Councilman Jim Rockett, Seat 2
Councilman Ryan Liang, Seat 3



TENTATIVE -
SUBJECT TO
REVISION

Town of Loxahatchee Groves
Planning & Zoning Board/LPA Meeting
And Joint Meeting with the
Roadway, Equestrian Trails and Greenway Advisory Committee
Thursday, May 15, 2014, at 7:00 p.m.

Central Palm Beach County Chamber of Commerce – West Office
13901 Southern Boulevard, Loxahatchee Groves, FL 33470

P&Z Board

Chair Dennis Lipp
Vice Chair Robin Crawford
Board Member Lawrence Corning
Board Member Keith Harris
Board Member Grace Joyce
Alternate Member #1 Veronica Close
Alternate Member #2 Byrnes Guillaume

Town Manager Mark Kutney
Town Clerk Janet K. Whipple
Town Planner Jim Fleishmann

RETGAC BOARD

Chair Keith Harris
Vice-Chair Jo Siciliano
Board Member Nina Corning
Board Member Kathy Strehlow
Council Liaison Tom Goltzené

The Planning & Zoning Board meets on the 2nd Thursday of each month
subject to the filing of applications. It also acts as the Local Planning Agency (LPA).
Items for each body are noted on the agenda.

PUBLIC NOTICE/AGENDA

1. OPENING

- a. Call to Order & Roll Call
- b. Approval of Agenda
- c. Appointment of Chair
- d. Appointment of Co-Chair

2. MINUTES

- a. Planning and Zoning Board Minutes for Approval - April 10, 2014

3. OLD BUSINESS - *None*

4. NEW BUSINESS – *None*

5. LOCAL PLANNING AGENCY

Old Business

- a. **ORDINANCE NO. 2014-05 (Guns, Firearms, Gun Range Regulations)**

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF LOXAHATCHEE GROVES, FLORIDA, AMENDING THE TOWN'S UNIFIED LAND DEVELOPMENT CODE TO ELIMINATE REGULATIONS RELATING TO GUNS, FIREARMS AND GUN RANGES TO ADDRESS STATE PREEMPTIONS OF THE REGULATION OF THESE SUBJECTS; PROVIDING FOR INTENT OF THE TOWN TO COMPLY WITH THE STATE'S PREEMPTIONS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

New Business - *None*

6. COMMENTS FROM THE BOARD

7. ADJOURNMENT OF PLANNING AND ZONING MEETING

CONVENE JOINT MEETING:

1. **Joint Workshop to discuss road issues particularly Okeechobee Boulevard and the use of roundabouts.**

ADJOURNMENT OF JOUNT MEETING

The next Planning and Zoning Board meeting is tentatively scheduled for June 12, 2014

The next Roadway, Equestrian Trails, and Greenway Advisory Committee meeting is tentatively scheduled for June 25, 2014

Comments Cards: Anyone from the public wishing to address the P&Z Board must complete a Comment Card before speaking. This must be filled out completely with your full name and address and given to the Town Clerk. During the meeting, before public comments, you may only address the item on the agenda in which is being discussed at the time of your comment. During public comments, you may address any item you desire. Please remember that there is a three (3) minute time limit on all public comment. Any person who decides to appeal any decision of the P&Z Board with respect to any matter considered at this meeting will need a record of the proceedings and for such purpose, may need to ensure that a verbatim record of the proceedings is made which included testimony and evidence upon which the appeal is to be based. Persons with disabilities requiring accommodations in order to participate should contact the Town Clerk's Office (561-793-2418), at least 48 hours in advance to request such accommodation.



2.a. Minutes

April 10, 2014

Mayor David Browning, Seat 4
Vice Mayor Ronald D. Jarriel, Seat 1
Councilman Tom Goltzené, Seat 5
Councilman Jim Rockett, Seat 2
Councilman Ryan Liang, Seat 3



Town of Loxahatchee Groves
Planning & Zoning Board/LPA Meeting
Thursday, April 10, 2014 at 7:00 p.m.

Central Palm Beach County Chamber of Commerce – West Office
13901 Southern Boulevard, Loxahatchee Groves, FL 33470

Chair Dennis Lipp
Vice Chair Robin Crawford
Board Member Lawrence Corning
Board Member Keith Harris
Board Member Grace Joyce
Alternate Member #1 Veronica Close
Alternate Member #2 Byrnes Guillaume

Town Manager Mark Kutney
Town Clerk Janet K. Whipple
Town Planning Technician Braeden Garrett
Town Planning Consultant Jim Fleishmann

The Planning & Zoning Board meets on the 2nd Thursday of each month subject to the filing of applications. It also acts as the Local Planning Agency (LPA). Items for each body are noted on the agenda.

MINUTES

1. OPENING

- a. Call to Order & Roll Call

Chair Dennis Lipp called the meeting to order at 7:08 p.m. In attendance were Chair Lipp, Board Members Keith Harris, Grace Joyce, and Alternate Board Member Veronica Close. Vice-Chair Robin Crawford, Board Member Lawrence Corning, and Alternate Board Member Byrnes Guillaume were not in attendance at this time. Also present were Town Manager Mark Kutney, Town Planning Consultant Jim Fleischmann, and Town Clerk Janet K. Whipple.

b. Approval of Agenda

Motion: Board Member Close made a motion to approve the Agenda. Board Member Joyce seconded the motion. Upon vote the motion passed 4/0.

2. MINUTES

a. Planning and Zoning Board Minutes for Approval – **March 13, 2014**

Board Member Harris made a motion to approve the March 13, 2014, Minutes, as presented. Board Member Close seconded the motion. Upon vote, the motion passed 4/0.

3. OLD BUSINESS

a. Discussion of Home Occupations / Home Businesses / Residential Enterprises

Town Manager Kutney provided background and an update for discussion.

Jim Fleischmann, Town Planning Consultant, brought a consolidation of the topics to discuss. There were four (4) basic parts of the handout: (1) key definitions from the ULDC (Unified Land Development Code) pertaining to the issue; (2) two was an excerpt from the AR (Agriculture Residential) District which shows home offices and residential enterprise are permitted accessory uses in the AR District, subject to a list of conditions listed in Article 80 of the ULDC; (3) conditions listed in Article 80 of the ULDC referencing home offices and residential enterprise; (4) ordinances from Port St. Lucie and Highlands County that might provide provisions which could be brought over to the Loxahatchee Groves Code.

Alternate Board Member Guillaume arrived at 7:16 p.m.

Board Member Joyce questioned as to the whereabouts of the extensive draft report the Planning and Zoning Board prepared for Town Council. She felt this report should be resubmitted to Council rather than prepare something new, and eliminate additional waste of time and resources.

Motion: Board Member Joyce made a motion to resubmit the original draft report to the Town Council, and hopes it will not be sent back to the Planning Board. Board Member Harris seconded the motion, and asked for discussion.

The Board Members discussed with Mr. Fleischmann what additional information was being offered and if Council had specific directions.

Jim Fleischmann suggested three (3) items for the Board to consider if there were going to be any further discussions; and those are employees, sales of goods and services, and customers.

Board Member Joyce stated that decision has already been made and there was nothing new that would change her mind. The board tried to help the gun person, and at this point she feels Council has to step up to the plate and make a decision.

Board Member Close referencing the three (3) items Mr. Fleischmann brought up for discussion felt those items are not appropriate.

Chair Lipp told the Board to vote as they see fit, and he handed out a listing of home occupational language for reference.

Members of the Board discussed the constant lack of indecision on items coming from Council.

Board Member Harris felt that it was during the September 12, 2013, Planning and Zoning Meeting that the Board turned this item down.

Board Member Joyce restated her motion that the Board not re-review this item or that the Board’s position on the Home Occupations remains the same as it was during the Planning and Zoning Board Meeting of September 12, 2013. Board Member Harris agreed with his second.

Upon vote, the motion passed 5/0.

Chair Lipp requested the previous report be used for backup in the presentation to Town Council.

4. NEW BUSINESS – None

5. LOCAL PLANNING AGENCY

a. **OLD BUSINESS - None**

b. **NEW BUSINESS**

1) ORDINANCE NO. 2014-04 (Livestock Waste – Property Owners)

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF LOXAHATCHEE GROVES, FLORIDA, RELATING TO THE USE OF LIVESTOCK WASTE WITHIN THE TOWN; AMENDING THE TOWN’S UNIFIED LAND DEVELOPMENT CODE BY AMENDING PART III ENTITLED “SUPPLEMENTAL REGULATIONS,” ARTICLE 50 ENTITLED “PUBLIC NUISANCES” BY ADDING A NEW SECTION 50-035 TO BE ENTITLED “USE OF LIVESTOCK WASTE;” PROVIDING FOR DEFINITIONS; PROVIDING THAT THE USE OF LIVESTOCK WASTE IS A PUBLIC NUISANCE EXCEPT AS PROVIDED BY THIS SECTION; PROVIDING FOR REGISTRATION AND PERMITS, REQUIREMENTS AND LIMITATIONS ON THE DELIVERY AND USE OF LIVESTOCK WASTE; PROVIDING FOR REPORTING AND NOTICE

REQUIREMENTS; PROVIDING FOR REVOCATION OF PERMITS AND ENFORCEMENT; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; AND PROVIDING FOR AN EFFECTIVE DATE.

Board Member Close requested that Staff provide backup reports when items come before the Board.

Town Manager Kutney provided background on the livestock waste hauling Ordinances (2014-03 (haulers), and 2014-04 (property owners).

Adverse effects of the manure dumping were discussed.

Board Member Crawford arrived at 7:48 p.m.

The Board Members made the following corrections/notations within Ordinance No. 2014-04:

1. Page 3 of 12, A.4. Wording should state, **“within a period of ninety (90) days”** (instead of a period of 30 to 90 days).
2. Page 4 of 12, A.11. *Public Nuisance*; **that section needed to be more specific. (Town Manager Kutney stated this was the definition in Black’s Law)**
3. Page 5 of 12, F.1. the definition for bona fide agriculture was already covered under number two (2) definitions.
4. Page 5 of 12, referencing when owners advise the Town – **the suggestion was “at time of application”**.
5. Page 6 of 12, number 6, **change “City” to “Town”**.
6. Page 7 of 12, I, **add..... does not dump livestock waste.**
7. Page 9 of 12, O, **the reference to Delivery Records should be a little less specific.**
8. Page 9 of 12, Q, **change reference from ~~property owner~~ to property.** (use property control number)
9. Page 10 of 12, T.1. **Start fee schedule at: First Offense \$350; Second Offense \$400; Third Offense \$450; and All Additional Offenses will remain at \$500.**

10. Page 11 of 12, 4. U. add “Town” toState, County and Town regulations.
11. Page 5 of 12, F.1. (7th line down) **How does the Town determine a “good faith” effort and should there be a time frame. (Suggestion was to provide documentation to the town that a bona fide agriculture designation has been obtained/applied for.)**
12. Page 7 of 12, G. **If haulers do not comply, their permit is immediately revoked.**
13. Page 9 of 12, L. **What are the remedies if crops can’t be planted after spreading? Add if non-compliant designations that permit will be revoked and no new permit will be issued (maybe for ninety (90) days).**
14. Formatting preference beginning with page 4 of 12, **Put items in order of importance: Letter E should become C; Letter F becomes D; Letter C would become E; Letter D would become F.**

Motion: Board member Harris made a motion for approval of Ordinance No 2014-04, as amended. Board member Joyce seconded the motion. Upon vote motion passed 5/0.

2) ORDINANCE NO, 2014-05 (Guns, Firearms, Gun Range Regulations)

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF LOXAHATCHEE GROVES, FLORIDA, AMENDING THE TOWN’S UNIFIED LAND DEVELOPMENT CODE TO ELIMINATE REGULATIONS RELATING TO GUNS, FIREARMS AND GUN RANGES TO ADDRESS STATE PREEMPTIONS OF THE REGULATION OF THESE SUBJECTS; PROVIDING FOR INTENT OF THE TOWN TO COMPLY WITH THE STATE’S PREEMPTIONS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

Town Manager Kutney deferred the explanation of Ordinance No. 2014-05 to Town Planning Consultant Jim Fleischmann who handled the history.

Town Planning Consultant Jim Fleischmann stated the history of Ordinance No. 2014-05 was basically stated in the Whereas Clauses number two (2) and three (3). Council had directed staff to take out of the Code any reference of gun/shooting ranges. Page 3 of 6, under Section 25-015 – *Permitted Uses within the Commercial Low Zone*, ~~Shooting Range Indoor~~ was removed and replaced with Archery Range. Page 4 of 6, 35-015 *Permitted Uses within the Parks and Recreation Zone*– ~~Gun~~ or was removed and replaced with Archery Range. Page 5 of 6, Section 80-040, all of the reference to gun/gun ranges were stricken. Page 5 of 6, Under Section 95-010, the reference to guns was stricken. According to the Town’s Unified Land Development Code (ULDC), all proposed changes need to be sent to the Planning and Zoning Board.

The Board Members made the following corrections/notations within Ordinance No. 2014-05:

Board Member Joyce stated she understands State Statutes, and printed out the section relevant to discussion. She did want to know who asked for these changes and did the Town Attorney agree.

Mr. Fleischmann was not sure if the Town Attorney agreed, he followed directions.

Board Member Joyce when reading the Statutes; Section 790.33 actually refers to the sale of guns and ammunition and then it lists all things pertaining to the sales, and its exceptions. She would like to recommend the Town Attorney look at this, and section 790.333 and have him determine what would be the unintended consequences of removing this from the Town's Code. Board Member Joyce does not feel the Town is in violation of that particular State Statute as it was written, maybe just an misinterpretation. She would like the Town Attorney to review this, and made a determination if that is possible to request, as she feels there is not a need to change the code.

Town Manager Kutney stated if that was the Board's recommendation the Staff would pass it on.

Board Member Joyce is not sure this is a necessary amendment justification that the State Statute said is only referring to the preemption of a municipality as it relates to the sale of guns.

Board Member Joyce felt the Board should table the Ordinance No. 2014-05 and have the Town Attorney look at the Statute to see in fact if this is a change that needs to be done.

Chair Lipp stated the statute is going back and forth. He read from the Attorney General Opinion page four (4), which is his opinion the Town is not doing anything wrong.

Town Manager Kutney answering a question from Board Member Joyce as to the concerns ATF (Alcohol, Tobacco, and Firearms) had; he reported that ATF was okay with the residential enterprise unless the individual was receiving foot traffic, this was against the Town Code, then ATF had a problem with the issue.

Board Member Close felt that the Town Attorney should review the Ordinance and it should come back to the Planning and Zoning Board before going on to Council.

The Board discussed the various proposed changes to Ordinance No. 2014-05, and the possibility that the Town Attorney may need to review Ordinance No. 2014-05 and compare to State Statutes 790.33 and 79.333; and the consequences of removing these items from the Town's Code.

Motion: Board Member Close made a motion to table Ordinance No. 2014-05, have the Staff/Town Attorney make corrections, and then bring the Ordinance back for Board review. Board Member Joyce seconded the motion. Upon vote, the motion passed 5/0.

6. COMMENTS FROM THE BOARD

There were no additional comments from Staff.

There were no additional comments from Board Members.

7. ADJOURNMENT

There being no further business before the Planning and Zoning Board, Chair Lipp adjourned the meeting at 8:33 p.m.

Janet K. Whipple, Town Clerk

Dennis Lipp, Chair

These minutes were approved during the _____ Planning and Zoning Meeting.



5.a. Old Business

Ordinance No. 2014-05

(Guns, Firearms, Gun Range Regulations)

TOWN OF LOXAHATCHEE GROVES

ORDINANCE NO. 2014-05

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF LOXAHATCHEE GROVES, FLORIDA, AMENDING THE TOWN'S UNIFIED LAND DEVELOPMENT CODE TO ELIMINATE REGULATIONS RELATING TO GUNS, FIREARMS AND GUN RANGES TO ADDRESS STATE PREEMPTIONS OF THE REGULATION OF THESE SUBJECTS; PROVIDING FOR INTENT OF THE TOWN TO COMPLY WITH THE STATE'S PREEMPTIONS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Section 970.33, Florida Statutes, preempts to the state the field of regulation of firearms and ammunition, except for zoning ordinances “that encompass firearms businesses” so long as they are not intended to restrict or prohibit the sale of firearms and ammunition as a means of regulating such; and,

WHEREAS, Section 790.333, Florida Statutes, preempts to the state the field of regulation of firearms and ammunition use at sport shooting and training ranges; and,

WHEREAS, the Florida Attorney General has opined that the preemption in Section 790.333, Florida Statutes, includes zoning; and,

WHEREAS, Section 790.33, Florida Statutes, provides substantial penalties for any willful intrusion into the state's preemption on the regulation of firearms and ammunitions, including fines of up to \$5,000, termination of employment or removal from office, and damages of up to \$100,000.00; and,

WHEREAS, the Town's Unified Land Development Code contains zoning regulations relating to shooting and gun ranges, the goal of which was not to restrict gun and ammunition sales and use, but to provide use and development standards for such uses; and,

WHEREAS, the Town of Loxahatchee Groves, Florida, believes it is in the best interest of the Town to remove all references to guns, firearms, and gun and shooting ranges in the Unified Land Development Code in order to avoid the potential of conflict with state law, and to defer to the state for regulations of such pursuant to the state’s preemptions as evidenced by Sections 790.33 and 790.333, Florida Statutes.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF LOXAHATCHEE GROVES, FLORIDA, THAT:

Section 1. The foregoing “Whereas” clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Part II, entitled “Zoning Districts,” Article 25 entitled “Commercial Zoning Districts,” Section 25-015, entitled “Permitted Uses,” of the Town’s Unified Land Development Code, is amended as follows:

Section 25-015. - Permitted uses.

Plots located in the Commercial Low and Commercial Low Office zoning districts may be used for one or more of the following uses.

Principal Uses	Commercial Low (CL)	Commercial Low Office (CLO)
Adult Entertainment	Permitted subject to Article 20	Not Permitted
Arcade, Video	Permitted	Not Permitted
Automobile Repair Garage	Permitted	Not Permitted
Bank or Financial Institution	Permitted	Permitted
Bar, Lounge, Tavern or Pub	Permitted	Not Permitted
Barber Shop, Beauty or Nail Salon	Permitted	Not Permitted
Pool Hall	Permitted	Not Permitted
Car Wash, Self-Service or Automated	Permitted	Not Permitted

Catering or Food Service Delivery	Permitted	Not Permitted
Child Care Center	Permitted	Not Permitted
Commercial Animal Manure Mgmt.	Not Permitted	Not Permitted
Commercial Chipping and Mulching	Permitted subject to Article 80	Not Permitted
Convenience Store	Permitted	Not Permitted
Dance/Night Club	Permitted	Not Permitted
Day Labor Hiring Center	Permitted w/Special Exception	Not Permitted
Delicatessen	Permitted	Not Permitted
Theater or Auditorium	Permitted	Not Permitted
Dry Cleaning or Laundry Service	Permitted	Not Permitted
Employment Agency	Not Permitted	Not Permitted
Essential Services and Utilities	Permitted	Permitted
Exhibition of Wildlife Pets	Permitted subject to Article 80	Not Permitted
Gasoline Station	Permitted	Not Permitted
Shooting Range, Indoor <u>Archery Range</u>	Permitted subject to Article 80	Not Permitted
Hotel	Permitted	Not Permitted
Holiday Wayside Stand	Permitted subject to Article 80	Permitted subject to Article 80
Laboratory (e.g., medical, dental, research)	Permitted	Permitted
Offices (e.g., business, professional, medical)	Permitted	Permitted
Package Liquor, Beer or Wine Store	Permitted	Not Permitted
Outdoor Events	Permitted subject to Article 80 and to a Special Exception	Permitted subject to Article 80 and to a Special Exception
Retail Plant or Produce Sales	Permitted	Not Permitted
Restaurant, Fast Food	Permitted	Not Permitted
Restaurant, Full Service	Permitted	Permitted
Restaurant, Take Out Only	Permitted	Permitted
Retail Services	Permitted	Not Permitted
Retail Store	Permitted	Not Permitted

Commercial Recreation (e.g., batting cages, rink)	Permitted	Not Permitted
Veterinary Clinic or Hospital	Permitted	Not Permitted
Warehouse, Self Storage	Permitted	Not Permitted
Wireless Communication Facilities	Permitted	Permitted
Adult Day Care	Permitted	Permitted
Schools, Public or Private	Permitted	Not Permitted
Gym or Fitness Center	Permitted	Permitted

Section 3. Part II, entitled “Zoning Districts,” Article 35 entitled “Parks and Recreation Zoning Districts,” Section 35-015, entitled “Permitted Uses,” of the Town’s Unified Land Development Code, is amended as follows:

Section 35-015. - Permitted uses.

Plots located in the Parks and Recreation zoning district may be used for one or more of the following specified uses.

Principal Uses	Parks and Recreation
Gun or Archery Range	Permitted subject to Article 80
Boat Ramp, Fishing Pier and Dock	Permitted
Botanical Garden	Permitted
Walking and Biking Trail	Permitted
Essential Services	Permitted
Nature Trail	Permitted
Outdoor Events	Permitted subject to Article 80
Lake or Pond	Permitted
Public Park	Permitted

Section 4. Part III, entitled Supplemental Regulations,” Article 80, entitled “Conditional Use,” Section 80-040, entitled “Archery and gun ranges,” of the Town’s Unified Land Development Code, is amended as follows:

Section 80-040. - Archery and gun ranges.

Target areas for archery and gun ranges shall provide sufficient separation and barriers sufficient to preclude any intrusion of such activities (including noise above nuisance levels) upon adjacent properties. ~~All gun ranges shall be within a building located on a parcel that has a land use designation of Commercial Low Retail and shall also conform to the Best Management Practices for Environmental Stewardship of Florida Shooting Ranges as outlined by the Florida Department of Environmental Protection.~~

Section 5. Part IV, entitled “Parking and Loading, Access and Subdivision, Sight Distance,” Division I, entitled “Space Requirements, Size and Use, Section 95-010, entitled “Minimum parking space requirements,” of the Town’s Unified Land Development Code, is amended as follows:

Section 95-010. - Minimum parking space requirements.

The minimum parking requirements for each use is outlined below, however, for uses not specifically listed, the parking requirements for the most similar use shall be used as determined by the Town Manager. When the number of required parking spaces results in a fractional space, any such fraction shall require a full parking space. In the case of mixed uses (not including shopping centers), the total requirement for parking spaces shall be the sum of the various uses computed separately. In stadiums, sports arenas, religious facilities, bars and other places of assembly in which occupants utilize benches, pews, stools or other similar seating facilities, every 20 linear inches of such seating shall be counted as one seat for the purpose of computing parking requirements. Every building, use or structure which complies with the parking requirements of this article may provide additional parking spaces as needed.

(E) *Recreational uses:*

Uses	Minimum Parking Requirements
Gun or Archery Range	One parking space per target position
Other Recreational Uses	Determined by agency facilitating and maintaining the use

Section 6: It is the intent of the Town Council that the Town’s ordinances and Unified Land Development Code be interpreted and administered consistent with the state’s preemptions of the regulation of fields of guns and ammunition, and gun ranges.

Section 7. All Ordinances or parts of Ordinances, and all Resolutions or parts of

Resolutions, in conflict herewith are hereby repealed to the extent of such conflict.

Section 7: If any provision of this Ordinance or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this Ordinance that can be given affect without the invalid provision or application, and to this end the provisions of this Ordinance are declared to be severable.

Section 8: This Ordinance shall become effective as provided by law.

PASSED AND ADOPTED BY THE TOWN COUNCIL OF THE TOWN OF LOXAHATCHEE GROVES, FLORIDA, ON FIRST READING, THIS _____ DAY OF _____, 2014

PASSED AND ADOPTED BY THE TOWN COUNCIL OF THE TOWN LOXAHATCHEE GROVES, ON SECOND READING AND PUBLIC HEARING, THIS ____ DAY OF _____, 2014

**TOWN OF LOXAHATCHEE GROVES,
FLORIDA**

ATTEST:

Mayor David Browning

Janet K. Whipple, Town Clerk

Vice-Mayor Ron Jarriel

Council Member Tom Goltzené

APPROVED AS TO LEGAL FORM:

Council Member Ryan Liang

Office of the Town Attorney

Council Member Jim Rockett

Select Year: 2013

The 2013 Florida Statutes

[Title XLVI](#)
CRIMES

[Chapter 790](#)
WEAPONS AND FIREARMS

[View Entire Chapter](#)

790.33 Field of regulation of firearms and ammunition preempted.—

(1) PREEMPTION.—Except as expressly provided by the State Constitution or general law, the Legislature hereby declares that it is occupying the whole field of regulation of firearms and ammunition, including the purchase, sale, transfer, taxation, manufacture, ownership, possession, storage, and transportation thereof, to the exclusion of all existing and future county, city, town, or municipal ordinances or any administrative regulations or rules adopted by local or state government relating thereto. Any such existing ordinances, rules, or regulations are hereby declared null and void.

(2) POLICY AND INTENT.—

(a) It is the intent of this section to provide uniform firearms laws in the state; to declare all ordinances and regulations null and void which have been enacted by any jurisdictions other than state and federal, which regulate firearms, ammunition, or components thereof; to prohibit the enactment of any future ordinances or regulations relating to firearms, ammunition, or components thereof unless specifically authorized by this section or general law; and to require local jurisdictions to enforce state firearms laws.

(b) It is further the intent of this section to deter and prevent the violation of this section and the violation of rights protected under the constitution and laws of this state related to firearms, ammunition, or components thereof, by the abuse of official authority that occurs when enactments are passed in violation of state law or under color of local or state authority.

(3) PROHIBITIONS; PENALTIES.—

(a) Any person, county, agency, municipality, district, or other entity that violates the Legislature's occupation of the whole field of regulation of firearms and ammunition, as declared in subsection (1), by enacting or causing to be enforced any local ordinance or administrative rule or regulation impinging upon such exclusive occupation of the field shall be liable as set forth herein.

(b) If any county, city, town, or other local government violates this section, the court shall declare the improper ordinance, regulation, or rule invalid and issue a permanent injunction against the local government prohibiting it from enforcing such ordinance, regulation, or rule. It is no defense that in enacting the ordinance, regulation, or rule the local government was acting in good faith or upon advice of counsel.

(c) If the court determines that a violation was knowing and willful, the court shall assess a civil fine of up to \$5,000 against the elected or appointed local government official or officials or administrative agency head under whose jurisdiction the violation occurred.

(d) Except as required by applicable law, public funds may not be used to defend or reimburse the unlawful conduct of any person found to have knowingly and willfully violated this section.

(e) A knowing and willful violation of any provision of this section by a person acting in an official capacity for any entity enacting or causing to be enforced a local ordinance or administrative rule or regulation prohibited under paragraph (a) or otherwise under color of law shall be cause for termination of employment or contract or removal from office by the Governor.

(f) A person or an organization whose membership is adversely affected by any ordinance, regulation, measure, directive, rule, enactment, order, or policy promulgated or caused to be enforced in violation of this section may file suit against any county, agency, municipality, district, or other entity in any court of this state having jurisdiction over

any defendant to the suit for declaratory and injunctive relief and for actual damages, as limited herein, caused by the violation. A court shall award the prevailing plaintiff in any such suit:

1. Reasonable attorney's fees and costs in accordance with the laws of this state, including a contingency fee multiplier, as authorized by law; and
2. The actual damages incurred, but not more than \$100,000.

Interest on the sums awarded pursuant to this subsection shall accrue at the legal rate from the date on which suit was filed.

(4) EXCEPTIONS.—This section does not prohibit:

(a) Zoning ordinances that encompass firearms businesses along with other businesses, except that zoning ordinances that are designed for the purpose of restricting or prohibiting the sale, purchase, transfer, or manufacture of firearms or ammunition as a method of regulating firearms or ammunition are in conflict with this subsection and are prohibited;

(b) A duly organized law enforcement agency from enacting and enforcing regulations pertaining to firearms, ammunition, or firearm accessories issued to or used by peace officers in the course of their official duties;

(c) Except as provided in s. [790.251](#), any entity subject to the prohibitions of this section from regulating or prohibiting the carrying of firearms and ammunition by an employee of the entity during and in the course of the employee's official duties;

(d) A court or administrative law judge from hearing and resolving any case or controversy or issuing any opinion or order on a matter within the jurisdiction of that court or judge; or

(e) The Florida Fish and Wildlife Conservation Commission from regulating the use of firearms or ammunition as a method of taking wildlife and regulating the shooting ranges managed by the commission.

(5) SHORT TITLE.—As created by chapter 87-23, Laws of Florida, this section may be cited as the “Joe Carlucci Uniform Firearms Act.”

History.—ss. 1, 2, 3, 4, ch. 87-23; s. 5, ch. 88-183; s. 1, ch. 2011-109.

Select Year:

The 2013 Florida Statutes

[Title XLVI](#)
CRIMES

[Chapter 790](#)
WEAPONS AND FIREARMS

[View Entire Chapter](#)

790.333 Sport shooting and training range protection; liability; claims, expenses, and fees; penalties; preemption; construction.—

(1) LEGISLATIVE FINDINGS.—

(a) The Legislature finds that in excess of 400 sport shooting and training ranges exist on public and private lands throughout this state.

(b) These sport shooting and training ranges are widely used and enjoyed by the residents of this state and are a necessary component of the guarantees of the Second Amendment to the United States Constitution and of s. 8, Art. I of the State Constitution.

(c) Many of these ranges are used by state and local law enforcement agencies for training, practice, and regular mandatory qualification by law enforcement officers; by Fish and Wildlife Conservation Commission hunter safety instructors who teach adults and youngsters in the safe use and handling of firearms in preparation for obtaining hunting licenses; by school boards, colleges, and universities for reserve officer training corps training and activities; by school shooting teams; by Olympic competitors; and by certified instructors who teach the safe use and handling of firearms in preparation for applying for licenses to carry concealed firearms for lawful self-protection.

(d) The public policy of the State of Florida is to encourage the safe handling and operation of firearms and mandates appropriate training in the safe use and handling of firearms for persons licensed to carry concealed firearms and for persons licensed to hunt in the state. Sport shooting and training ranges throughout this state provide the location at which this important public purpose is served and at which the firearms training mandates are fulfilled.

(e) Projectiles are integral to sport shooting and training range activity and to the ownership and use of firearms.

(f) Over years of operation, projectiles have accumulated in the environment at many ranges. Whether this projectile accumulation has caused or will cause degradation of the environment or harm to human health depends on factors that are site-specific. Therefore, sport shooting and training ranges must be allowed flexibility to apply appropriate environmental management practices at ranges. The use of environmental management practices can be implemented to avoid or reduce any potential for adverse environmental impact.

(g) The Department of Environmental Protection, in collaboration with shooting range owners and operators, sport shooting organizations, law enforcement representatives, and university researchers, has developed shooting range best management practices in order to minimize any potential for any adverse environmental impact resulting from the operation of shooting ranges.

(h) Appropriate environmental management practices, when implemented where applicable, can minimize or eliminate environmental impacts associated with projectiles. Environmental management practices to maintain or to improve the condition of ranges is evolving and will continue to evolve.

(i) Unnecessary litigation and unnecessary regulation by governmental agencies of sport shooting and training ranges impairs the ability of residents of this state to ensure safe handling of firearms and to enjoy the recreational opportunities ranges provide. The cost of defending these actions is prohibitive and threatens to bankrupt and destroy the sport shooting and training range industry.

(j) The Department of Environmental Protection does not have nor has it ever had authority to force permitting requirements of part IV of chapter 403 on owners and operators of sport shooting and training ranges.

(k) The elimination of sport shooting ranges will unnecessarily impair the ability of residents of this state to exercise and practice their constitutional guarantees under the Second Amendment to the United States Constitution and under s. 8, Art. I of the State Constitution.

(2) LEGISLATIVE INTENT.—The Legislature intends to protect public and private sport shooting or training range owners, operators, users, employees, agents, contractors, customers, lenders, and insurers from lawsuits and other legal actions by the state, special purpose districts, or political subdivisions and to promote maximum flexibility for implementation of environmental management practices and of the principles of risk-based corrective action pursuant to s. [376.30701](#). It is also the intent of the Legislature that legal action against sport shooting and training ranges will only be a last-resort option and be available only to the department and only after all reasonable efforts to resolve disputes at shooting ranges, including compliance assistance, negotiations, and alternative dispute resolution, have been attempted.

(3) DEFINITIONS.—As used in this act:

(a) “Department” means the Department of Environmental Protection.

(b) “Operator” means any person who operates or has operated a sport shooting or training range.

(c) “Owner” means any person who owns or has owned a sport shooting or training range or any interest therein.

(d) “Projectile” means any object expelled, propelled, discharged, shot, or otherwise released from a firearm, BB gun, airgun, or similar device, including, but not limited to, gunpowder, ammunition, lead, shot, skeet, and trap targets and associated chemicals, derivatives, and constituents thereof.

(e) “Environmental management practices” includes but is not limited to Best Management Practices for Environmental Stewardship of Florida Shooting Ranges as developed by the Department of Environmental Protection. Such practices include, but are not limited to, control and containment of projectiles, prevention of the migration of projectiles and their constituents to ground and surface water, periodic removal and recycling of projectiles, and documentation of actions taken.

(f) “Environment” means the air, water, surface water, sediment, soil, and groundwater and other natural and manmade resources of this state.

(g) “User” means any person, partner, joint venture, business or social entity, or corporation, or any group of the foregoing, organized or united for a business, sport, or social purpose.

(h) “Sport shooting and training range” or “range” means any area that has been designed, or operated for the use of, firearms, rifles, shotguns, pistols, silhouettes, skeet, trap, black powder, BB guns, airguns, or similar devices, or any other type of sport or training shooting.

(4) DUTIES.—

(a) No later than January 1, 2005, the department shall make a good faith effort to provide copies of the Best Management Practices for Environmental Stewardship of Florida Shooting Ranges to all owners or operators of sport shooting or training ranges. The department shall also provide technical assistance with implementing environmental management practices, which may include workshops, demonstrations, or other guidance, if any owner or operator of sport shooting or training ranges requests such assistance.

(b) No later than January 1, 2006, sport shooting or training range owners, operators, tenants, or occupants shall implement situation appropriate environmental management practices.

(c) If contamination is suspected or identified by any owner, operator, tenant, or occupant of sport shooting or training ranges, any owner, operator, tenant, or occupant of sport shooting or training ranges may request that the department assist with or perform contamination assessment, including, but not limited to, assistance preparing and presenting a plan to confirm the presence and extent of contamination.

(d) If contamination is suspected or identified by a third-party complaint or adjacent property sampling events, the department shall give 60 days’ notice to the sport shooting or training range owner, operator, tenant, or occupant of the department’s intent to enter the site for the purpose of investigating potential sources of contamination. The department may assist with or perform contamination assessment, including, but not limited to, assistance preparing and presenting a plan to confirm the presence and extent of contamination.

(e) If the department confirms contamination under paragraph (c) or paragraph (d), principles of risk-based corrective action pursuant to s. [376.30701](#) shall be applied to sport shooting or training ranges. Application of the minimum risk-based corrective action principles shall be the primary responsibility of the sport shooting range or training range owner or operator for implementation, however, the department may assist in these efforts. Risk-based corrective action plans used for these cleanups shall be based upon the presumption that the sport shooting or training range is an industrial use and not a residential use and will continue to be operated as a sport shooting or training range.

(5) SPORT SHOOTING AND TRAINING RANGE PROTECTION.—

(a) Notwithstanding any other provision of law, any public or private owner, operator, employee, agent, contractor, customer, lender, insurer, or user of any sport shooting or training range located in this state shall have immunity from lawsuits and other legal actions from the state and any of its agencies, special purpose districts, or political subdivisions for any claims of any kind associated with the use, release, placement, deposition, or accumulation of any projectile in the environment, on or under that sport shooting or training range, or any other property over which the range has an easement, leasehold, or other legal right of use, if the sport shooting or training range owner or operator has made a good faith effort to comply with subsection (4).

(b) Nothing in this act is intended to impair or diminish the private property rights of owners of property adjoining a sport shooting or training range.

(c) The sport shooting and training range protections provided by this act are supplemental to any other protections provided by general law.

(6) WITHDRAWALS OF CLAIMS AND RECOVERY OF EXPENSES AND ATTORNEY'S FEES.—

(a) Within 90 days after the effective date of this act becoming law, all claims by the state and any of its agencies, special purpose districts, or political subdivisions against sport shooting or training ranges pending in any court of this state or before any administrative agency on January 1, 2004, shall be withdrawn. The termination of such cases shall have no effect on the defendant's cause of action for damages, reasonable attorney's fees, and costs.

(b) In any action filed in violation of this act after the effective date of this act, the defendant shall recover all expenses resulting from such action from the governmental body, person, or entity bringing such unlawful action.

(7) PENALTIES.—Any official, agent, or employee of a county, municipality, town, special purpose district, or other political subdivision or agent of the state, while he or she was acting in his or her official capacity and within the scope of his or her employment or office, who intentionally and maliciously violates the provisions of this section or is party to bringing an action in violation of this section commits a misdemeanor of the first degree, punishable as provided in ss. [775.082](#) and [775.083](#).

(8) PREEMPTION.—Except as expressly provided by general law, the Legislature hereby declares that it is occupying the whole field of regulation of firearms and ammunition use at sport shooting and training ranges, including the environmental effects of projectile deposition at sport shooting and training ranges.

(9) The provisions of this act shall supersede any conflicting provisions of chapter 376 or chapter 403.

(10) CONSTRUCTION.—This act shall be liberally construed to effectuate its remedial and deterrent purposes.

History.—s. 1, ch. 2004-56.

ATTORNEY GENERAL
PAM BONDI
FLORIDA OFFICE OF THE ATTORNEY GENERAL



Advisory Legal Opinion - AGO 2008-34

 [Print Version](#)

Number: AGO 2008-34

Date: June 25, 2008

Subject: Shooting Ranges -- Land Use Regulation

Mr. Michael S. Craig
County Attorney
Polk County
Post Office Box 9005
Bartow, Florida 33831-9005

RE: FIREARMS - SHOOTING RANGES - LAND USE REGULATION - ZONING - application of land use regulations and zoning to sports shooting ranges. ss. 790.33, 790.333, and 823.16, Fla. Stat.

Dear Mr. Craig:

You ask substantially the following question:

May a county enforce its land development code to prohibit a shooting range in a residential land use district in light of section 790.333(8), Florida Statutes?

You state that currently there are shooting ranges located within residential land use districts in Polk County. Due to concerns about public safety, the county wishes to restrict such shooting ranges to commercial areas. You state that under the Polk County Land Development Code, shooting ranges are classified as either a commercial business or high intensity recreation and would be prohibited in residential land use districts.

Section 790.333(8), Florida Statutes, provides:

"Preemption.—Except as expressly provided by general law, the Legislature hereby declares that it is occupying the whole field of regulation of firearms and ammunition use at sport shooting and training ranges, including the environmental effects of projectile deposition at

sport shooting and training ranges." (e.s.)

While the plain language of the statute pertains to the regulation of firearm and ammunition use at shooting ranges, there is apparent confusion in determining whether local land use regulations may be enforced to restrict the location of a shooting range. A review of the legislative history of section 790.333, Florida Statutes, reveals that the committee recognized the shift in population from urban to suburban and rural areas, and "the impact of certain zoning decisions." [1] The staff analysis, however, focuses primarily on giving immunity to shooting ranges that may be subject to suit for environmental contamination and incidentally provides for the preemption of the field of regulation of firearms and ammunition use at sport shooting and training ranges.

In 1999, the Legislature provided limited immunity to sport shooting ranges from criminal prosecution or civil suits based on an underlying claim of noise or noise pollution in section 823.16, Florida Statutes. [2] The statute was clear, however, that such immunity was to be extended as long as the shooting range was in compliance with the local noise-control ordinances in effect at the time of construction or initial operation of the range. [3]

The statute also provides:

"A sport shooting range that is not in violation of existing law at the time of the enactment of an ordinance applicable to the sport shooting range shall be permitted to continue in operation even if the operation of the sport shooting range does not conform to the new ordinance or an amendment to an existing ordinance, provided the range was not in violation of any law when the range was constructed and provided that the range continues to conform to current National Rifle Association gun safety and shooting range standards." [4]

Section 823.16(7), Florida Statutes, recognizes that "[e]xcept as otherwise provided in this act, this act shall not prohibit a local government from regulating the location and construction of a sport shooting range after the effective date of this act."

Section 790.33(1), Florida Statutes, preempts the regulation of firearms and ammunition to the state:

"Except as expressly provided by general law, the Legislature hereby declares that it is occupying the whole field of regulation of firearms and ammunition, including the purchase, sale, transfer, taxation, manufacturer, ownership, possession, and transportation thereof, to the exclusion of all existing and future county, city, town, or municipal ordinances or regulations relating thereto. Any such existing ordinances

are hereby declared null and void. *This subsection shall not affect zoning ordinances which encompass firearms businesses along with other businesses.* Zoning ordinances which are designed for the purpose of restricting or prohibiting the sale, purchase, transfer, or manufacture of firearms or ammunition as a method of regulating firearms or ammunition are in conflict with this subsection and are prohibited." (e.s.)

Clearly, a municipality's attempt to regulate firearms is null and void. [5] However, the general provisions in section 790.33, Florida Statutes, recognize that local zoning ordinances which affect other businesses in the same way are allowed. The statute is equally clear in prohibiting zoning ordinances designed to restrict or prohibit the sale, purchase, transfer, or manufacture of firearms or ammunition as a method of regulating firearms or ammunition. Thus, a zoning ordinance prohibiting any commercial business activities within an area zoned for residential use would not appear to be inconsistent with the intent of section 790.33, Florida Statutes. Such an ordinance, however, could not be applied retroactively to an existing sport shooting range.

The provisions of section 790.333, Florida Statutes, are specific to the regulation of the use of firearms and ammunition at sport shooting and training ranges, but do not address the actual siting of such facilities. The primary purpose of the legislation was to grant immunity from legal action by the state and local governments for the use, release, placement, deposition, or accumulation of any projectile in the environment. The recognition that no action can be taken against shooting range facilities existing at the time of the enactment of all of the above-cited statutes relating to firearms and shooting ranges should be read together in a manner to give effect to each. [6] To read the preemption provision in section 790.333, Florida Statutes, as a total ban on the application of any zoning or land use regulation upon an existing or proposed sports shooting range would render section 823.16 (7), Florida Statutes, noted above, of no use or consequence.

Accordingly, it is my opinion that a county clearly may impose existing zoning and land use regulations upon the siting of a proposed sports shooting range; however, no newly created or amended zoning or land use regulations may be enforced against existing ranges.

Sincerely,

Bill McCollum
Attorney General

BM/tls

[1] Senate Staff Analysis and Economic Impact Statement, CS/CS/CS/SB 1156, Appropriations Committee, Criminal Justice Committee, Judiciary Committee, March 18, 2003.

[2] Section 823.16(2), Fla. Stat.

[3] Section 823.16(3), Fla. Stat.

[4] Section 823.16(6), Fla. Stat.

[5] See *National Rifle Association of America, Inc. v. City of South Miami*, 812 So. 2d 504 (Fla. 3rd DCA, 2002) (municipal ordinance establishing certain safety standards for firearms null and void as regulation preempted to the state) and *Rinzler v. Carson*, 262 So. 2d 661 (Fla. 1972) (municipal ordinance must not conflict with controlling provisions of state statute; any doubt as to municipality's power is resolved against the ordinance).

[6] See, e.g., *Mann v. Goodyear Tire and Rubber Company*, 300 So. 2d 666 (Fla. 1974) (A law should be construed together and in harmony with any other statute relating to same subject matter and having same purpose even though not enacted at same time).

Florida Toll Free Numbers:

- Fraud Hotline 1-866-966-7226

- Lemon Law 1-800-321-5366



Joint Workshop

Roundabout Discussion

Okeechobee Boulevard Roundabout Justification Studies



Prepared for:
Town of Loxahatchee Groves

Prepared By:



Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS

560 Village Boulevard Suite 340
West Palm Beach, Florida 33409
Phone: (561) 684-6161 Fax: (561) 684-6360
CGA Project No. 09-2556

Revised November, 2009
July, 2009

1.0 INTRODUCTION

Calvin, Giordano & Associates, Inc. was commissioned by the Town of Loxahatchee Groves to prepare a Roundabout Justification Study for the intersections of Okeechobee Boulevard at B Road and F Road.

The Town of Loxahatchee Groves is a rural, residential, and agriculture community encompassing approximately 12.5 square miles in Palm Beach County. Adjacent communities include the Village of Wellington to the south, the Village of Royal Palm Beach to the east, and areas of unincorporated Palm Beach County known as the “The Acreage” to the north and west.

The Town is located within the Loxahatchee Groves Water Control District (LGWCD), a special district created in 1917 that shares maintenance responsibilities with the Town for roadways within the town limits.

In early 2009, the Town adopted a Master Roadway, Equestrian and Greenway (MREG) report to identify needed roadway improvements throughout the Town. The MREG report concluded that intersection control at Okeechobee Boulevard/B Road as well as Okeechobee Boulevard/F Road would greatly improve operations at intersections on Okeechobee Boulevard within the Town.

2.0 EXISTING CONDITIONS

Okeechobee Boulevard is an east-west, County thoroughfare classified as a County Collector. Within the Town of Loxahatchee Groves, Okeechobee Boulevard is a two-lane roadway with a 120-foot right-of-way and a posted speed limit of 45 mph. The intersections of Okeechobee Boulevard at B Road and F Road are both under north-south stop control known as two-way stop control (TWSC). Through the Town, Okeechobee Boulevard is intersected by six local roadways including A Road, B Road, C Road, D Road, E Road and F Road. These local roadways are also referred to as the “Letter Roads”.

B Road is a local north-south unpaved dirt roadway, while F Road is a local north-south roadway that has a surface treatment consisting of Open Graded Emulsion Mix (OGEM). The four other letter roads; A Road, C Road, D Road, and E Road, are all unpaved dirt roadways similar to B Road. The letter roads have an identified right-of-way of 60 feet and a speed limit of 30 mph. In general, the letter roads are adjacent to open drainage canals contained within the 60-foot prescribed right-of-way.

24-hour traffic volume counts and speed data were collected on all four approaches to the intersection of B Road and Okeechobee Boulevard as well as all four approaches to the intersection of F Road and Okeechobee Boulevard. The counts were conducted in May 2009 and complete printouts are included in Appendix A of this report.

3.0 ROUNDABOUT JUSTIFICATION ANALYSIS

The roundabout justification analysis contained in this report was conducted in accordance with Chapter 16 of the Manual on Uniform Traffic Studies (MUTS) published by the Florida Department of Transportation. As part of the roundabout justification analysis, an All Way Stop Control (AWSC) and Traffic Signal Warrant Study were completed for Okeechobee Boulevard at B Road and F Road. Both the AWSC warrant and traffic signal warrant were conducted in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

An intersection operational analysis to compute the Level of Service (LOS) was completed for the study intersections using Synchro 7 software under existing conditions for Two-Way Stop Control (TWSC) as well as under AWSC and traffic signal control. The roundabout analysis for each study intersection was performed using Rodel software.

Level of Service (LOS) is defined within the Highway Capacity Manual (HCM) as a qualitative measure describing operational conditions within a traffic flow, and the perception of these conditions by drivers or passengers. These conditions include factors such as travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety. LOS is given letter designations, from A to F, with LOS A representing the best operating conditions (free flow, little delay) and LOS F the worst (congestion, long delays).

The MUTS identifies a list of contraindications that must be taken into account when deciding if a roundabout is a feasible solution for a particular intersection. A contraindication factor for a roundabout can be any condition that reduces the effectiveness of a roundabout. The analysis of contraindications is documented in this report for both study intersections.

3.1 OKEECHOBEE BOULEVARD AT B ROAD

3.1.1 ROUNDABOUT JUSTIFICATION STUDY SUMMARY

ROUNDABOUT JUSTIFICATION STUDY SUMMARY							
Location Description: Intersection of Okeechobee Boulevard & B Road located within Loxahatchee Groves in Palm Beach County, Florida					Area Population: <u>3,261</u>		
					Growth Rate: <u>4.4%</u>		
Existing Control: <input checked="" type="radio"/> TWSC <input type="radio"/> AWSC <input type="radio"/> Signal		Total Approaches: <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8			Total Crashes: <u>23</u> in <u>2.5</u> years		
Other: _____		ADT (all approaches): <u>13,660</u>			Preventable: <u>3</u>		
APPROACH CHARACTERISTICS							
Direction	Street Name	State or Local	Number of Lanes	ADT	Posted Speed (mph)	Traffic Control	Length ^{ft} (feet)
1. NB	B Road	L	1	704	30	Stop	8,500
2. SB	B Road	L	1	391	30	Stop	N/A
3. EB	Okeechobee Boulevard	S	1	6227	45	Priority	6,250
4. WB	Okeechobee Boulevard	S	1	6338	45	Priority	16,250
5.							
6.							
7.							
8.							

^{ft} from upstream signal.

JUSTIFICATION CATEGORY	
<input type="checkbox"/> Community enhancement	<input type="checkbox"/> AWSC alternative
<input type="checkbox"/> Safety improvement	<input type="checkbox"/> Traffic calming
<input type="checkbox"/> Low volume signal alternative	<input checked="" type="checkbox"/> Special
<input type="checkbox"/> Medium volume signal alternative	
Warrants Met? <input type="checkbox"/> Signal volume warrants	
<input type="checkbox"/> AWSC	<input type="checkbox"/> Signal crash warrants
Level of Service <u>A</u> Roundabout	
<u>A</u> Signal	<u>F</u> AWSC <u>A</u> TWSC
Traffic Volume Projection Basis: <input checked="" type="checkbox"/> Actual Volumes	
<input type="checkbox"/> Projected To _____ by _____	

ATTACHMENTS	
<input checked="" type="checkbox"/>	24-hour approach counts
<input checked="" type="checkbox"/>	Peak hour turning movement counts
<input type="checkbox"/>	Pedestrian/ bicycle counts
<input type="checkbox"/>	Existing geometrics
<input checked="" type="checkbox"/>	Collision diagram/ crash summary
<input type="checkbox"/>	Preliminary roundabout design
<input checked="" type="checkbox"/>	Speed counts
<input checked="" type="checkbox"/>	Operational analysis
<input checked="" type="checkbox"/>	AWSC and Signal Warrant Analysis
<input type="checkbox"/>	_____

3.1.2 ANALYSIS OF CONTRAINDICATIONS – B ROAD

Describe all contraindication that apply at this location and indicate what mitigation measures will be used to eliminate the problems that could arise:

- Physical or geometric features that could make the construction or operation of a roundabout more difficult.

A canal runs along the west side of B Road on the both the north and south sides of Okeechobee Boulevard. An asphalt sidewalk runs along the south side of Okeechobee Boulevard. May require power pole relocation on the north side of Okeechobee Boulevard.

- Land use or traffic generators that could interfere with construction or cause operational problems.

None.

- Other traffic control devices along any intersecting roadway which would require preemption.

None.

- Bottlenecks on any of the intersecting roadways that could back up traffic into the roundabout.

None.

- Sight distance obstructions.

None.

- Platooned arterial traffic flow on one or more approaches.

None.

- Heavy use by persons with special needs that could suggest a requirement for more positive control.

None.

- Recent safety projects in the area that benefit older drivers.

None.

- Emergency vehicle operations coordination requirements.

None.

- Emergency evacuation route coordination requirements.

None.

- Other problems that have been identified.

None.

3.1.3 MISCELLANEOUS OBSERVATIONS – B ROAD

The following observations are relevant to the justification and/ or operation of a roundabout:

- Physical and right-of-way features.
Limited right-of-way available and therefore, right-of-way acquisition may be required.
- Current and planned site development features such as adjoining businesses, driveways, etc.
N/A.
- Community considerations such as a need for parking, landscaping character, etc.
N/A.
- Traffic management strategies that are being (or will be) used in the area.
N/A.
- Projected public transit usage (routes, stops, etc.).
Future transit route on Okeechobee Boulevard identified in the Palm Beach County MPO's 2030 Long Range Transportation Plan.
- Intersection treatments used at adjacent intersections.
All TWSC.
- History of public complaints that suggest a need for traffic calming.
Delays experienced for the northbound and southbound vehicles on B Road.
- Number of other roundabouts in the jurisdiction that would make drivers more familiar with this type of control.
N/A.

Other observations:

The Palm Beach County MPO's 2030 Long Range Transportation Plan calls for Okeechobee Boulevard to be expanded from 2 to 4 lanes from Seminole Pratt Whitney Road to Crestwood Boulevard. Additionally, Okeechobee Boulevard is to be extended from Seminole Pratt Whitney Road to Southern Boulevard by 2030. Accident data are contained in Appendix B.

3.1.4 OPERATIONAL ANALYSIS – B ROAD

If a roundabout is being considered as an alternative to a traffic signal, describe the signal operation plan(s) used in the comparison, including number of lanes and lane use, left turn protection, signal phasing and timing plan, etc.:

Existing lane configuration (One lane for each approach). Two phase signal operation with an 80 second cycle length. See Appendices C through G.

AM Peak Hour

Comparison of Performance				
Performance Measure	Roundabout (Rodel)	Signalization	TWSC (Existing Condition)	AWSC
Critical v/c ratio	0.55	0.49	0.14	0.83
Delay per Vehicle (sec)				
Overall	5.8	3.5	1.4	19.9
Critical Movement	6.8	19.8	19.6	24.9
Level of Service				
Overall	A	A	A	C
Critical Movement	A	B	C	C

PM Peak Hour

Comparison of Performance				
Performance Measure	Roundabout (Rodel)	Signalization	TWSC (Existing Condition)	AWSC
Critical v/c ratio	0.63	0.57	0.28	1.06
Delay per Vehicle (sec)				
Overall	7.2	3.9	2.3	52.3
Critical Movement	8.0	20.9	42.0	70.8
Level of Service				
Overall	A	A	A	F
Critical Movement	A	C	E	F

3.1.5 SIGNAL WARRANT ANALYSIS – B ROAD

An analysis of traffic signal warrants contained in the Manual on Uniform Traffic Control Devices was conducted for the intersection based upon traffic count data recently collected. The analysis indicates that none of the signal warrants are met for the intersection. The complete warrant analysis for the intersection is included in Appendix H of this report.

3.1.6 RECOMMENDATION – B ROAD

Existing condition operational traffic analyses indicate that the intersection of Okeechobee Boulevard at B Road will operate at an acceptable level of service. However, the minor street approaches on B Road experience significant delay during the PM peak hour. Similarly, high minor street delays are experienced during the PM peak hour at the intersections of Okeechobee Boulevard at A Road, C Road, D Road, E Road, and F Road. Traffic signal warrants are currently not met for the intersection of Okeechobee Boulevard at B Road. Therefore, a roundabout on Okeechobee Boulevard at B Road is recommended along with construction of a roundabout on Okeechobee Boulevard at F Road.

Providing intersection control at B Road and F Road will result in gaps in the overall traffic stream at all intersections between B Road and F Road. These gaps will allow minor street traffic at C Road, D road, and E Road to enter the traffic stream on Okeechobee Boulevard or cross Okeechobee Boulevard more effectively and will reduce the minor street delay currently experienced on the letter roads.

3.2 OKEECHOBEE BOULEVARD AT F ROAD

3.2.1 ROUNDABOUT JUSTIFICATION STUDY SUMMARY

ROUNDABOUT JUSTIFICATION STUDY SUMMARY							
Location Description: Intersection of Okeechobee Boulevard & F Road located within Loxahatchee Groves in Palm Beach County, Florida					Area Population: <u>3,261</u>		
					Growth Rate: <u>4.4%</u>		
Existing Control: <input checked="" type="radio"/> TWSC <input type="radio"/> AWSC <input type="radio"/> Signal		Total Approaches: <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8			Total Crashes: <u>16</u> in <u>2.5</u> years		
Other: _____		ADT (all approaches): <u>16,230</u>			Preventable: <u>1</u>		
APPROACH CHARACTERISTICS							
Direction	Street Name	State or Local	Number of Lanes	ADT	Posted Speed (mph)	Traffic Control	Length ^{ft} (feet)
1. NB	F Road	L	1	296	30	Stop	8,700
2. SB	F Road	L	1	308	30	Stop	N/A
3. EB	Okeechobee Boulevard	S	1	7570	45	Priority	16,800
4. WB	Okeechobee Boulevard	S	1	7524	45	Priority	5,700
5.							
6.							
7.							
8.							

from upstream signal.

JUSTIFICATION CATEGORY	
<input type="checkbox"/> Community enhancement	<input type="checkbox"/> AWSC alternative
<input type="checkbox"/> Safety improvement	<input type="checkbox"/> Traffic calming
<input type="checkbox"/> Low volume signal alternative	<input checked="" type="checkbox"/> Special
<input type="checkbox"/> Medium volume signal alternative	
Warrants Met? <input type="checkbox"/> Signal volume warrants	
<input type="checkbox"/> AWSC	<input type="checkbox"/> Signal crash warrants
Level of Service <u>A</u> Roundabout	
<u>A</u> Signal	<u>F</u> AWSC <u>A</u> TWSC
Traffic Volume Projection Basis: <input checked="" type="checkbox"/> Actual Volumes	
<input type="checkbox"/> Projected To _____ by _____	

ATTACHMENTS	
<input checked="" type="checkbox"/>	24-hour approach counts
<input checked="" type="checkbox"/>	Peak hour turning movement counts
<input type="checkbox"/>	Pedestrian/bicycle counts
<input type="checkbox"/>	Existing geometrics
<input checked="" type="checkbox"/>	Collision diagram/ crash summary
<input type="checkbox"/>	Preliminary roundabout design
<input checked="" type="checkbox"/>	Speed counts
<input checked="" type="checkbox"/>	Operational analysis
<input checked="" type="checkbox"/>	AWSC and Signal Warrant Analysis
<input type="checkbox"/>	_____

3.2.2 ANALYSIS OF CONTRAINDICATIONS – F ROAD

Describe all contraindication that apply at this location and indicate what mitigation measures will be used to eliminate the problems that could arise:

- Physical or geometric features that could make the construction or operation of a roundabout more difficult.
A canal runs along the west side of F Road on the both the north and south sides of Okeechobee Boulevard. An asphalt sidewalk runs along the south side of Okeechobee Boulevard. Power pole relocation may be required on the north side of Okeechobee Boulevard.
- Land use or traffic generators that could interfere with construction or cause operational problems.
None.
- Other traffic control devices along any intersecting roadway which would require preemption.
None.
- Bottlenecks on any of the intersecting roadways that could back up traffic into the roundabout.
None.
- Sight distance obstructions.
None.
- Platooned arterial traffic flow on one or more approaches.
None.
- Heavy use by persons with special needs that could suggest a requirement for more positive control.
None.
- Recent safety projects in the area that benefit older drivers.
None.
- Emergency vehicle operations coordination requirements.
None.
- Emergency evacuation route coordination requirements.
None.
- Other problems that have been identified.
None.

3.2.3 MISCELLANEOUS OBSERVATIONS – F ROAD

The following observations are relevant to the justification and/ or operation of a roundabout:

- Physical and right-of-way features.
Limited right-of-way available and therefore, right-of-way acquisition may be required.
- Current and planned site development features such as adjoining businesses, driveways, etc.
N/A.
- Community considerations such as a need for parking, landscaping character, etc.
N/A.
- Traffic management strategies that are being (or will be) used in the area.
N/A.
- Projected public transit usage (routes, stops, etc.).
Future transit route on Okeechobee Boulevard identified in the Palm Beach County MPO's 2030 Long Range Transportation Plan.
- Intersection treatments used at adjacent intersections.
All TWSC.
- History of public complaints that suggest a need for traffic calming.
Delays experienced for the northbound and southbound vehicles on F Road.
- Number of other roundabouts in the jurisdiction that would make drivers more familiar with this type of control.
N/A.

Other observations:

The Palm Beach County MPO's 2030 Long Range Transportation Plan calls for Okeechobee Boulevard to be expanded from 2 to 4 lanes from Seminole Pratt Whitney Road to Crestwood Boulevard. Additionally, Okeechobee Boulevard is to be extended from Seminole Pratt Whitney Road to Southern Boulevard by 2030. Accident data are contained in Appendix B.

3.2.4 OPERATIONAL ANALYSIS – F ROAD

If a roundabout is being considered as an alternative to a traffic signal, describe the signal operation plan(s) used in the comparison, including number of lanes and lane use, left turn protection, signal phasing and timing plan, etc.:

Existing lane configuration (One lane for each approach). Two phase signal operation with an 80 second cycle length. See Appendices C through G.

AM Peak Hour

Comparison of Performance				
Performance Measure	Roundabout (Rodel)	Signalization	TWSC (Existing Condition)	AWSC
Critical v/c ratio	0.74	0.63	0.16	1.13
Delay per Vehicle (sec)				
Overall	9.1	3.9	1.3	67.4
Critical Movement	11.3	23.6	29.7	92.4
Level of Service				
Overall	A	A	A	F
Critical Movement	B	C	D	F

PM Peak Hour

Comparison of Performance				
Performance Measure	Roundabout (Rodel)	Signalization	TWSC (Existing Condition)	AWSC
Critical v/c ratio	0.73	0.63	0.24	1.19
Delay per Vehicle (sec)				
Overall	8.8	3.8	1.8	78.2
Critical Movement	11.0	23.7	46.7	117.6
Level of Service				
Overall	A	A	A	F
Critical Movement	B	C	E	F

3.2.5 SIGNAL WARRANT ANALYSIS – F ROAD

An analysis of traffic signal warrants contained in the Manual on Uniform Traffic Control Devices was conducted for the intersection based upon traffic count data recently collected. The analysis indicates that none of the signal warrants are met for the intersection. The complete warrant analysis for the intersection is included in Appendix H of this report.

It was originally determined that MUTCD Warrant 2: Four-Hour Vehicular Volume was met for this intersection. However, additional traffic counts were conducted by the Palm Beach County Traffic Engineering Division in August, 2009. The results indicated that there were fewer vehicles on the northbound approach than the original collected counts. Therefore, the signal warrant analysis was revised to include the volumes collected by PBC for the northbound approach. The revised signal warrant analysis demonstrated that none of the warrants are currently met for this intersection. The supplemental traffic data collected by PBC is included in Appendix I of this report.

3.2.6 RECOMMENDATION – F ROAD

Existing condition operational traffic analyses indicated that the intersection of Okeechobee Boulevard at F Road will operate at an acceptable level of service. However, the minor street approaches on F Road experience significant delay during the PM peak hour. Similarly, high minor street delays are experienced during the PM peak hour at the intersections of Okeechobee Boulevard at A Road, B Road, C Road, D Road, and E Road. **Traffic signal warrants are currently not met for the intersection of Okeechobee Boulevard at F Road. Therefore, a roundabout on Okeechobee Boulevard at F Road is recommended** along with construction of a roundabout on Okeechobee Boulevard at B Road.

Providing intersection control at B Road and F Road will result in gaps in the overall traffic stream at all intersections between B Road and F Road. These gaps will allow minor street traffic at C Road, D road, and E Road to enter the traffic stream on Okeechobee Boulevard or cross Okeechobee Boulevard more effectively and will reduce the minor street delay currently experienced on the letter roads.

Appendix A

24 Hour Approach Counts

Speed Counts

Peak-Hour Turning Movement Counts

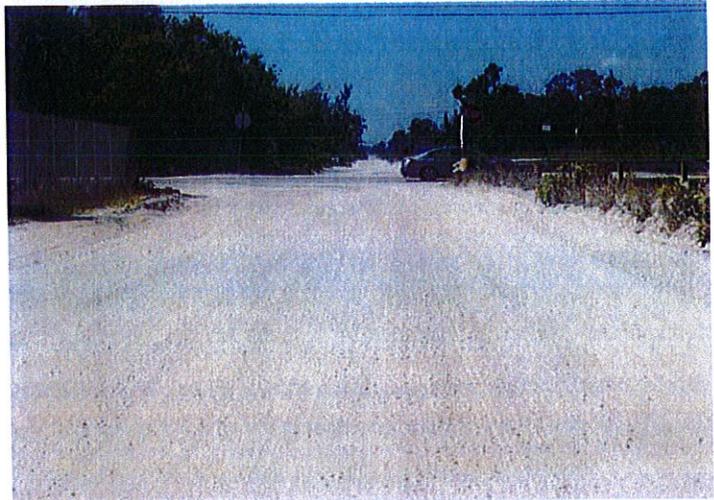
FIELD REPORT

AUTOMATIC TRAFFIC RECORDER (ATR) - May 12, 2009 (Tuesday)

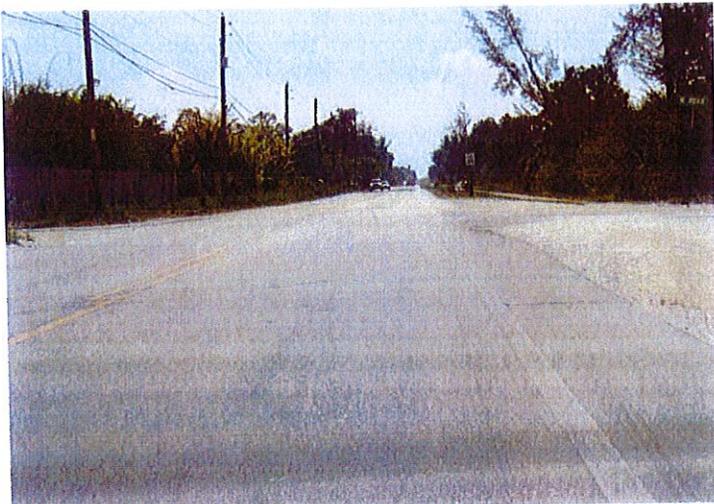
Intersection: Okeechobee Blvd. and B Rd.



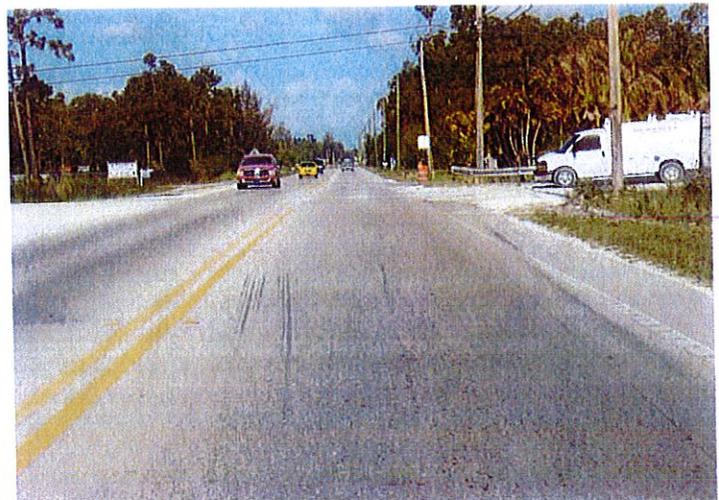
B RD (NB)
NB approach lane configuration
LTR (Unsignalized Stop control)
Posted Speed Limit: 30 MPH



B RD (SB)
SB approach lane configuration
LTR (Unsignalized Stop control)
Posted Speed Limit: 30 MPH



OKEECHOBEE BLVD. (EB)
EB approach lane configuration
LTR (Unsignalized Free Flow)
Posted Speed Limit: 45 MPH



OKEECHOBEE BLVD. (WB)
WB approach lane configuration
LTR (Unsignalized Free Flow)
Posted Speed Limit: 45 MPH

Comments: NO THRU TRUCK allow on B Rd.

Traffic volumes, speed studies, vehicle classification, gap studies, turning movement count, automatic traffic recorder, corridor travel time studies, parking lot occupancy, queuing studies, traffic signal inspection construction, etc

KMF Traffic Group, LLC

WWW.KMFTRAFFIC.COM

State Wide Services (Florida)
Voice and Fax - (772)221-7971

AUTOMATIC TRAFFIC RECORDER
OKEECHOBEE BLVD. EAST LEG APPROACH
TO B RD., LOXAHATCHEE GROVES, FL
LOCATION COUNTED TUESDAY MAY 12, 2009

Site Code: CGA-501

Date Start: 12-May-09

Start Time	12-May-09 Tue	EB	WB	Combined Total	
12:00 AM		18	35	53	■
01:00		8	24	32	■
02:00		17	17	34	■
03:00		20	15	35	■
04:00		52	26	78	■
05:00		127	93	220	■
06:00		422	229	651	■
07:00		630	338	968	■
08:00		497	237	734	■
09:00		367	195	562	■
10:00		287	205	492	■
11:00		307	272	579	■
12:00 PM		254	280	534	■
01:00		299	351	650	■
02:00		361	333	694	■
03:00		366	425	791	■
04:00		379	502	881	■
05:00		362	627	989	■
06:00		283	474	757	■
07:00		303	507	810	■
08:00		241	443	684	■
09:00		176	391	567	■
10:00		118	220	338	■
11:00		51	99	150	■
Total		5945	6338		
Percent		48.4%	51.6%		
Grand Total		5945	6338		
Percentage		48.4%	51.6%		
ADT		ADT 12,283		AADT 12,283	

KMF Traffic Group, LLC

AUTOMATIC TRAFFIC RECORDER
 B RD. NORTH LEG APPROACH TO
 OKEECHOBEE BLVD., LOXAHATCHEE GROVES. FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

WWW.KMFTRAFFIC.COM
 Stuart, FL, USA 34997
 Voice and Fax: 772-221-7971

Site Code: CGA-501

Start Time	12-May-09 Tue	NB	SB	Combined Total	
12:00 AM		7	1	8	█
01:00		2	0	2	█
02:00		0	0	0	
03:00		1	1	2	█
04:00		2	1	3	█
05:00		9	6	15	█
06:00		31	19	50	█
07:00		47	29	76	█
08:00		25	34	59	█
09:00		22	15	37	█
10:00		27	23	50	█
11:00		19	22	41	█
12:00 PM		30	22	52	█
01:00		25	16	41	█
02:00		32	29	61	█
03:00		37	16	53	█
04:00		37	35	72	█
05:00		35	43	78	█
06:00		31	24	55	█
07:00		26	17	43	█
08:00		18	16	34	█
09:00		9	14	23	█
10:00		10	5	15	█
11:00		4	3	7	█
Total		486	391		
Percent		55.4%	44.6%		
Grand Total		486	391		
Percentage		55.4%	44.6%		
ADT		ADT 877		AADT 877	

KMF Traffic Group, LLC

WWW.KMFTRAFFIC.COM

Stuart, FL, USA 34997

Voice and Fax: 772-221-7971

AUTOMATIC TRAFFIC RECORDER
 B RD. SOUTH LEG APPROACH TO
 OKEECHOBEE BLVD., LOXAHATCHEE GROVE, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

Site Code: CGA-501

Start Time	12-May-09 Tue	NB	SB	Combined Total	
12:00 AM		7	3	10	█
01:00		1	0	1	
02:00		0	1	1	
03:00		2	1	3	█
04:00		8	3	11	█
05:00		5	19	24	█
06:00		22	37	59	█
07:00		42	42	84	█
08:00		36	34	70	█
09:00		37	30	67	█
10:00		46	22	68	█
11:00		38	20	58	█
12:00 PM		37	20	57	█
01:00		45	26	71	█
02:00		56	27	83	█
03:00		50	24	74	█
04:00		84	41	125	█
05:00		73	53	126	█
06:00		43	32	75	█
07:00		25	22	47	█
08:00		17	25	42	█
09:00		10	7	17	█
10:00		13	8	21	█
11:00		7	4	11	█
Total		704	501		
Percent		58.4%	41.6%		
Grand Total		704	501		
Percentage		58.4%	41.6%		
ADT		ADT 1,205		AADT 1,205	

KMF Traffic Group, LLC

AUTOMATIC TRAFFIC RECORDER
 OKEECHOBEE BLVD. WEST LEG APPROACH
 TO B RD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

WWW.KMFTRAFFIC.COM
 State Wide Services (Florida)
 Voice and Fax - (772)221-7971

Site Code: CGA-501

Date Start: 12-May-09

Start Time	12-May-09 Tue	EB	WB	Combined Total	
12:00 AM		23	37	60	█
01:00		9	26	35	█
02:00		16	15	31	█
03:00		19	15	34	█
04:00		52	29	81	█
05:00		137	90	227	█
06:00		433	226	659	█
07:00		660	338	998	█
08:00		517	231	748	█
09:00		388	204	592	█
10:00		303	225	528	█
11:00		327	282	609	█
12:00 PM		275	282	557	█
01:00		307	381	688	█
02:00		377	343	720	█
03:00		389	440	829	█
04:00		394	533	927	█
05:00		392	678	1070	█
06:00		304	483	787	█
07:00		317	414	731	█
08:00		248	379	627	█
09:00		171	332	503	█
10:00		120	206	326	█
11:00		49	86	135	█
Total		6227	6275		
Percent		49.8%	50.2%		
Grand Total		6227	6275		
Percentage		49.8%	50.2%		
ADT		ADT 12,502		AADT 12,502	

KMF Traffic Group, LLC

WWW.KMFTRAFFIC.COM

State Wide Services (Florida)

Voice and Fax - (772)221-7971

SPEED REPORT (ATR)

OKEECHOBEE BLVD. WEST LEG APPROACH
TO B RD., LOXAHATCHEE GROVES, FL
LOCATION COUNTED TUESDAY MAY 12, 2009

Site Code: CGA-501

Date Start: 12-May-09

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/12/09	1	1	0	0	3	1	4	3	7	1	2	0	0	0	23
01:00	0	0	1	0	1	0	0	4	1	1	1	0	0	0	9
02:00	0	0	0	1	0	0	3	5	2	1	2	0	0	0	14
03:00	0	0	0	0	0	0	3	10	3	3	0	0	0	0	19
04:00	0	0	0	2	0	0	4	11	22	7	4	1	1	0	52
05:00	0	2	3	2	6	2	8	35	52	18	9	0	0	0	137
06:00	10	1	1	5	21	25	58	125	139	43	5	0	0	0	433
07:00	43	1	2	16	40	71	151	193	119	19	5	0	0	0	660
08:00	20	2	3	11	16	30	113	160	129	26	4	1	1	0	516
09:00	20	1	2	7	10	19	79	120	100	26	2	1	1	0	388
10:00	8	1	0	6	21	17	52	89	91	15	3	0	0	0	303
11:00	14	0	0	7	17	19	54	90	96	24	5	0	1	0	327
12 PM	12	0	2	6	14	16	40	58	88	33	6	0	0	0	275
13:00	22	2	0	7	20	20	61	75	83	14	3	0	0	0	307
14:00	23	2	9	13	26	24	77	97	81	21	3	0	1	0	377
15:00	22	3	3	12	12	31	85	115	86	17	1	1	0	0	388
16:00	38	2	1	21	36	43	96	90	56	9	2	0	0	0	394
17:00	35	0	3	12	37	43	64	105	71	18	3	1	0	0	392
18:00	18	1	4	6	15	10	34	80	98	32	5	1	0	0	304
19:00	21	1	2	5	17	27	57	79	79	21	8	0	0	0	317
20:00	18	1	0	8	12	15	66	70	47	10	1	0	0	0	248
21:00	8	0	1	1	6	7	25	45	59	17	2	0	0	0	171
22:00	8	0	3	4	5	4	16	33	28	16	3	0	0	0	120
23:00	9	7	8	14	10	0	0	0	0	0	0	0	0	0	48
Total	350	28	48	166	345	424	1150	1692	1537	392	79	6	5	0	6222
Grand Total	350	28	48	166	345	424	1150	1692	1537	392	79	6	5	0	6222

15th Percentile : 35 MPH
50th Percentile : 47 MPH
85th Percentile : 54 MPH
95th Percentile : 58 MPH

Stats
Mean Speed(Average) : 45 MPH
10 MPH Pace Speed : 46-55 MPH
Number in Pace : 3229
Percent in Pace : 51.9%
Number of Vehicles > 45 MPH : 3711
Percent of Vehicles > 45 MPH : 59.6%

SPEED REPORT (ATR)
 OKEECHOBEE BLVD. WEST LEG APPROACH
 TO B RD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

State Wide Services (Florida)
 Voice and Fax - (772)221-7971

Site Code: CGA-501

Date Start: 12-May-09

WB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
05/12/09	1	0	0	0	2	1	5	14	13	1	0	0	0	0	37
01:00	0	0	0	0	0	0	2	6	11	5	2	0	0	0	26
02:00	0	0	0	0	0	1	1	2	7	1	1	0	0	0	13
03:00	0	0	0	0	0	2	0	5	6	0	2	0	0	0	15
04:00	2	0	0	0	1	0	2	7	10	2	4	0	0	0	28
05:00	4	0	0	0	4	4	3	26	29	16	4	0	0	0	90
06:00	23	1	3	6	11	8	34	58	63	17	1	0	1	0	226
07:00	34	3	6	8	18	35	81	72	66	13	2	0	0	0	338
08:00	16	2	0	1	19	7	27	76	53	25	5	0	0	0	231
09:00	17	1	3	8	15	12	36	38	56	14	4	0	0	0	204
10:00	6	0	2	5	25	18	35	58	51	22	3	0	0	0	225
11:00	11	0	0	5	21	16	40	74	88	23	4	0	0	0	282
12 PM	9	0	0	3	18	20	36	57	105	26	7	1	0	0	282
13:00	22	2	4	6	37	40	53	100	102	12	3	0	0	0	381
14:00	18	1	2	12	31	34	57	86	78	21	2	1	0	0	343
15:00	23	6	9	14	32	33	77	105	111	26	3	0	1	0	440
16:00	45	11	11	21	29	47	66	126	151	22	4	0	0	0	533
17:00	40	0	15	35	67	57	126	152	168	14	2	1	0	0	677
18:00	21	0	3	11	33	44	88	102	124	45	8	2	1	1	483
19:00	25	3	6	13	14	19	57	101	125	38	9	4	0	0	414
20:00	30	7	14	24	24	34	81	91	62	9	3	0	0	0	379
21:00	8	0	3	8	12	23	68	94	96	20	0	0	0	0	332
22:00	11	0	2	3	6	10	20	64	69	14	5	1	1	0	206
23:00	10	5	5	10	10	10	30	6	0	0	0	0	0	0	86
Total	376	42	88	193	429	475	1025	1520	1644	386	78	10	4	1	6271
Grand Total	376	42	88	193	429	475	1025	1520	1644	386	78	10	4	1	6271

15th Percentile : 33 MPH
 50th Percentile : 47 MPH
 85th Percentile : 54 MPH
 95th Percentile : 58 MPH

Stats
 Mean Speed(Average) : 44 MPH
 10 MPH Pace Speed : 46-55 MPH
 Number in Pace : 3164
 Percent in Pace : 50.5%
 Number of Vehicles > 45 MPH : 3643
 Percent of Vehicles > 45 MPH : 58.1%

Calvin, Giordano & Associates, Inc.

560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & B Rd AM
Site Code : 00001234
Start Date : 10/16/2008
Page No : 1

Groups Printed- Unshifted - Heavy Vehicles

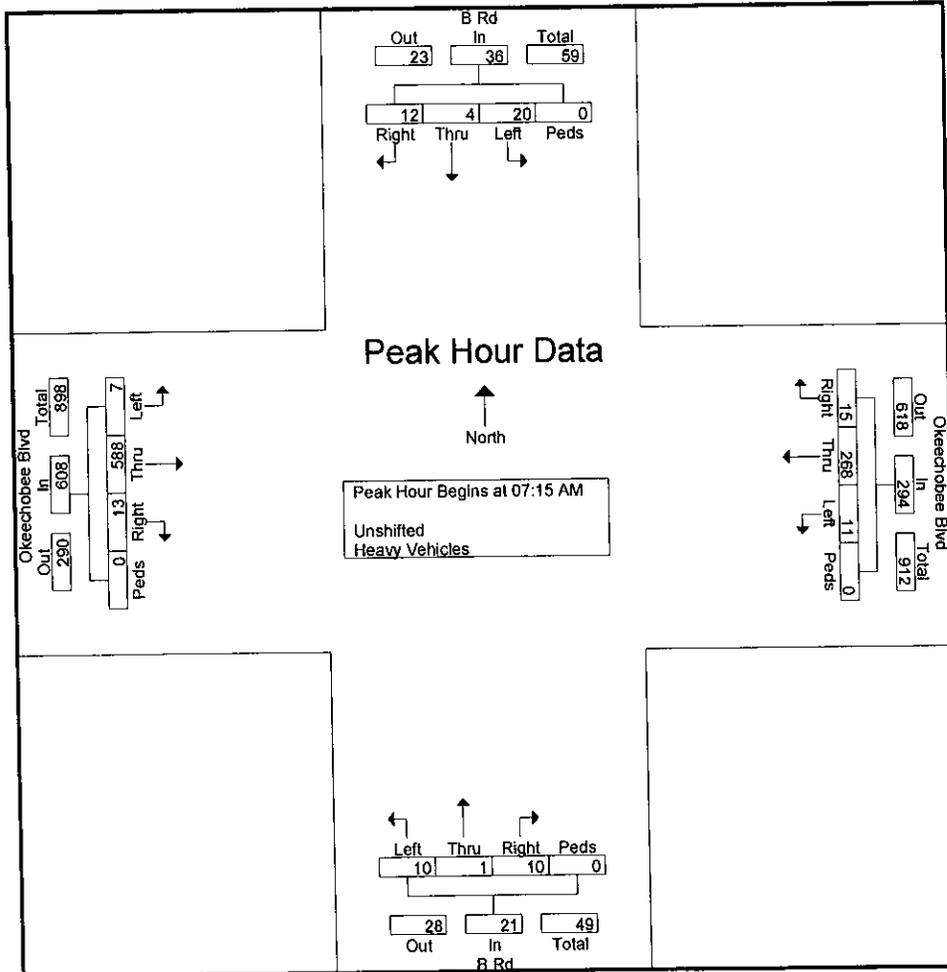
Start Time	B Rd From North					Okeechobee Blvd From East					B Rd From South					Okeechobee Blvd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:45 AM	1	0	4	0	5	5	65	0	0	70	3	0	1	0	4	3	102	0	0	105	184
Total	1	0	4	0	5	5	65	0	0	70	3	0	1	0	4	3	102	0	0	105	184
07:00 AM	0	1	9	0	10	2	68	1	0	71	4	0	1	0	5	0	104	1	0	105	191
07:15 AM	4	0	8	0	12	2	70	2	0	74	1	0	2	0	3	2	134	1	0	137	226
07:30 AM	6	2	9	0	17	3	82	4	0	89	0	1	3	0	4	1	145	2	0	148	258
07:45 AM	2	1	2	0	5	2	54	2	0	58	5	0	2	0	7	4	174	1	0	179	249
Total	12	4	28	0	44	9	274	9	0	292	10	1	8	0	19	7	557	5	0	569	924
08:00 AM	0	1	1	0	2	8	62	3	0	73	4	0	3	0	7	6	135	3	0	144	226
08:15 AM	4	1	5	0	10	7	39	2	0	48	7	0	2	0	9	5	104	2	0	111	178
08:30 AM	3	0	4	0	7	2	63	2	0	67	1	1	0	0	2	2	119	2	0	123	199
Grand Total	20	6	42	0	68	31	503	16	0	550	25	2	14	0	41	23	1017	12	0	1052	1711
Apprch %	29.4	8.8	61.8	0		5.6	91.5	2.9	0		61	4.9	34.1	0		2.2	96.7	1.1	0		
Total %	1.2	0.4	2.5	0	4	1.8	29.4	0.9	0	32.1	1.5	0.1	0.8	0	2.4	1.3	59.4	0.7	0	61.5	
Unshifted	20	6	42	0	68	31	503	16	0	550	25	2	14	0	41	23	1017	12	0	1052	1711
% Unshifted	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
** Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	B Rd From North					Okeechobee Blvd From East					B Rd From South					Okeechobee Blvd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	4	0	8	0	12	2	70	2	0	74	1	0	2	0	3	2	134	1	0	137	226
07:30 AM	6	2	9	0	17	3	82	4	0	89	0	1	3	0	4	1	145	2	0	148	258
07:45 AM	2	1	2	0	5	2	54	2	0	58	5	0	2	0	7	4	174	1	0	179	249
08:00 AM	0	1	1	0	2	8	62	3	0	73	4	0	3	0	7	6	135	3	0	144	226
Total Volume	12	4	20	0	36	15	268	11	0	294	10	1	10	0	21	13	588	7	0	608	959
% App. Total	33.3	11.1	55.6	0		5.1	91.2	3.7	0		47.6	4.8	47.6	0		2.1	96.7	1.2	0		
PHF	.500	.500	.556	.000	.529	.469	.817	.688	.000	.826	.500	.250	.833	.000	.750	.542	.845	.583	.000	.849	.929

Calvin, Giordano & Associates, Inc.

560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & B Rd AM
Site Code : 00001234
Start Date : 10/16/2008
Page No : 2



Calvin, Giordano & Associates, Inc.

560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & B Rd-PM
Site Code : 00001123
Start Date : 10/16/2008
Page No : 1

Groups Printed- Unshifted - Bank 1

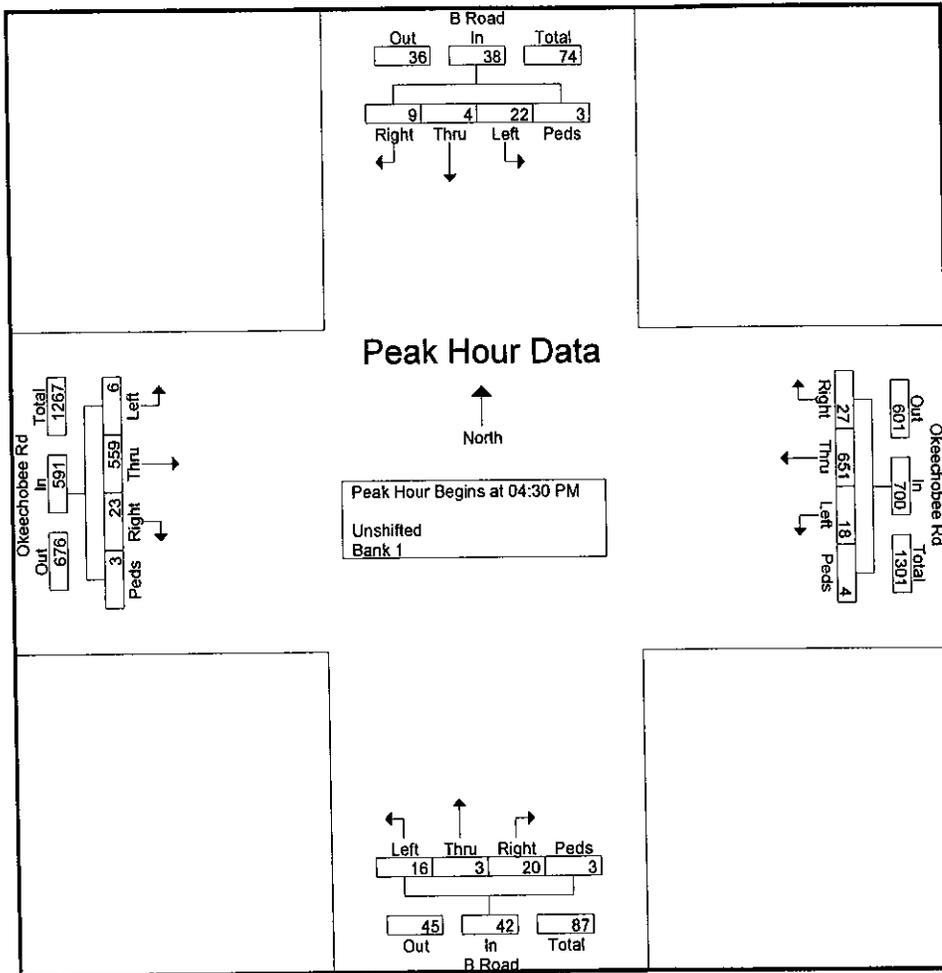
Start Time	B Road From North					Okeechobee Rd From East					B Road From South					Okeechobee Rd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
04:00 PM	1	2	4	0	7	6	132	1	0	139	6	3	1	0	10	3	110	2	0	115	271
04:15 PM	1	1	10	0	12	3	117	2	0	122	2	3	1	0	6	7	120	3	0	130	270
04:30 PM	1	3	3	0	7	6	152	3	3	164	9	0	3	2	14	10	146	1	0	157	342
04:45 PM	3	0	6	2	11	6	174	5	0	185	1	2	0	0	3	5	185	1	2	193	392
Total	6	6	23	2	37	21	575	11	3	610	18	8	5	2	33	25	561	7	2	595	1275
05:00 PM	3	1	8	0	12	5	140	4	1	150	6	1	6	1	14	3	112	2	0	117	293
05:15 PM	2	0	5	1	8	10	185	6	0	201	4	0	7	0	11	5	116	2	1	124	344
05:30 PM	0	1	5	0	6	3	186	1	0	190	2	1	3	2	8	5	96	2	0	103	307
05:45 PM	0	5	6	0	11	9	147	5	0	161	5	2	1	0	8	8	110	2	0	120	300
Total	5	7	24	1	37	27	658	16	1	702	17	4	17	3	41	21	434	8	1	464	1244
Grand Total	11	13	47	3	74	48	1233	27	4	1312	35	12	22	5	74	46	995	15	3	1059	2519
Apprch %	14.9	17.6	63.5	4.1		3.7	94	2.1	0.3		47.3	16.2	29.7	6.8		4.3	94	1.4	0.3		
Total %	0.4	0.5	1.9	0.1	2.9	1.9	48.9	1.1	0.2	52.1	1.4	0.5	0.9	0.2	2.9	1.8	39.5	0.6	0.1	42	
Unshifted	8	13	47	3	71	48	1227	27	4	1306	34	12	19	5	70	46	990	15	3	1054	2501
% Unshifted	72.7	100	100	100	95.9	100	99.5	100	100	99.5	97.1	100	86.4	100	94.6	100	99.5	100	100	99.5	99.3
Bank 1	3	0	0	0	3	0	6	0	0	6	1	0	3	0	4	0	5	0	0	5	18
% Bank 1	27.3	0	0	0	4.1	0	0.5	0	0	0.5	2.9	0	13.6	0	5.4	0	0.5	0	0	0.5	0.7

Start Time	B Road From North					Okeechobee Rd From East					B Road From South					Okeechobee Rd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	3	3	0	7	6	152	3	3	164	9	0	3	2	14	10	146	1	0	157	342
04:45 PM	3	0	6	2	11	6	174	5	0	185	1	2	0	0	3	5	185	1	2	193	392
05:00 PM	3	1	8	0	12	5	140	4	1	150	6	1	6	1	14	3	112	2	0	117	293
05:15 PM	2	0	5	1	8	10	185	6	0	201	4	0	7	0	11	5	116	2	1	124	344
Total Volume	9	4	22	3	38	27	651	18	4	700	20	3	16	3	42	23	559	6	3	591	1371
% App. Total	23.7	10.5	57.9	7.9		3.9	93	2.6	0.6		47.6	7.1	38.1	7.1		3.9	94.6	1	0.5		
PHF	.750	.333	.688	.375	.792	.675	.880	.750	.333	.871	.556	.375	.571	.375	.750	.575	.755	.750	.375	.766	.874

Calvin, Giordano & Associates, Inc.

560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & B Rd-PM
Site Code : 00001123
Start Date : 10/16/2008
Page No : 2



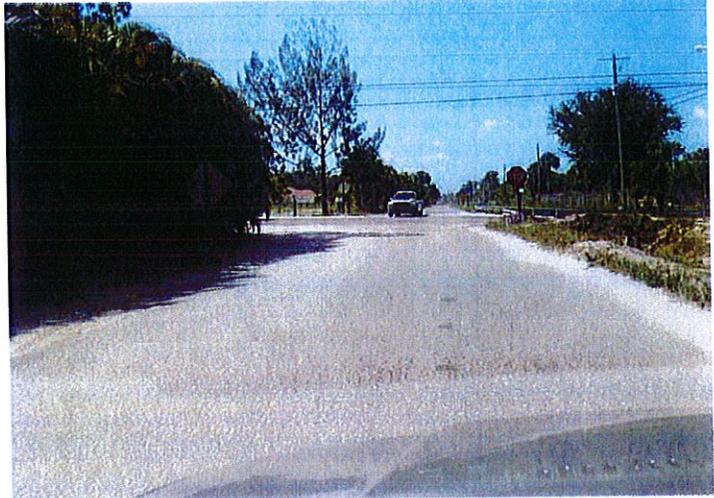
FIELD REPORT

AUTOMATIC TRAFFIC RECORDER (ATR) - May 12, 2009 (Tuesday)

Intersection: Okeechobee Blvd. and F Rd.



F RD (NB)
NB approach lane configuration
LTR (Unsignalized Stop control)
Posted Speed Limit: 30 MPH



F RD (SB)
SB approach lane configuration
LTR (Unsignalized Stop control)
Posted Speed Limit: 30 MPH



OKEECHOBEE BLVD. (EB)
EB approach lane configuration
LTR (Unsignalized Free Flow)
Posted Speed Limit: 45 MPH



OKEECHOBEE BLVD. (WB)
WB approach lane configuration
LTR (Unsignalized Free Flow)
Posted Speed Limit: 45 MPH

Comments: NO THRU TRUCK allow on F Rd.

Traffic volumes, speed studies, vehicle classification, gap studies, turning movement count, automatic traffic recorder, corridor travel time studies, parking lot occupancy, queing studies, traffic signal inspection construction, etc

KMF Traffic Group, LLC

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State Wide Services (Florida)

Voice and Fax - (772)221-7971

AUTOMATIC TRAFFIC RECORDER
 OKEECHOBEE BLVD. EAST LEG APPROACH
 AT F RD., LOXAHATCHEE GROVES, FL.
 LOCATION COUNTED TUESDAY MAY 12, 2009

Site Code: CGA-50

Date Start: 12-May-09

Start Time	12-May-09 Tue	EB	WB	Combined Total	
12:00 AM		15	46	61	■
01:00		15	31	46	■
02:00		15	16	31	■
03:00		22	17	39	■
04:00		60	28	88	■
05:00		167	127	294	■
06:00		497	332	829	■
07:00		787	364	1151	■
08:00		620	276	896	■
09:00		468	269	737	■
10:00		369	273	642	■
11:00		402	361	763	■
12:00 PM		349	367	716	■
01:00		355	454	809	■
02:00		405	421	826	■
03:00		459	520	979	■
04:00		524	645	1169	■
05:00		467	820	1287	■
06:00		376	568	944	■
07:00		379	465	844	■
08:00		292	440	732	■
09:00		208	351	559	■
10:00		124	208	332	■
11:00		58	125	183	■
Total		7433	7524		
Percent		49.7%	50.3%		
Grand Total		7433	7524		
Percentage		49.7%	50.3%		
ADT		ADT 14,414		AADT 14,414	

AUTOMATIC TRAFFIC RECORDER
 F RD. NORTH LEG APPROACH TO
 OKEECHOBEE BLVD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

Site Code: CGA-501

Start Time	12-May-09 Tue	NB	SB	Combined Total	
12:00 AM		1	1	2	■
01:00		0	2	2	■
02:00		1	1	2	■
03:00		1	1	2	■
04:00		0	0	0	
05:00		4	4	8	■
06:00		7	8	15	■
07:00		24	14	38	■
08:00		14	20	34	■
09:00		19	17	36	■
10:00		33	24	57	■
11:00		16	20	36	■
12:00 PM		27	29	56	■
01:00		26	20	46	■
02:00		24	18	42	■
03:00		32	23	55	■
04:00		29	25	54	■
05:00		27	28	55	■
06:00		18	16	34	■
07:00		14	13	27	■
08:00		12	11	23	■
09:00		8	7	15	■
10:00		10	6	16	■
11:00		1	0	1	■
Total		348	308		
Percent		53.0%	47.0%		
Grand Total			348	308	
Percentage			53.0%	47.0%	
ADT			ADT 656	AADT 656	

KMF Traffic Group, LLC

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AUTOMATIC TRAFFIC RECORDER
 F RD. SOUTH LEG APPROACH TO
 OKEECHOBEE BLVD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDY MAY 12, 2009

Site Code: CGA-501

Start Time	12-May-09 Tue	NB	SB	Combined Total	
12:00 AM		8	8	16	█
01:00		0	0	0	
02:00		1	1	2	█
03:00		3	3	6	█
04:00		4	4	8	█
05:00		10	9	19	█
06:00		30	30	60	█
07:00		72	74	146	█
08:00		50	52	102	█
09:00		58	59	117	█
10:00		54	56	110	█
11:00		26	27	53	█
12:00 PM		58	59	117	█
01:00		48	51	99	█
02:00		51	52	103	█
03:00		72	76	148	█
04:00		72	78	150	█
05:00		66	69	135	█
06:00		38	40	78	█
07:00		42	44	86	█
08:00		35	36	71	█
09:00		21	23	44	█
10:00		9	9	18	█
11:00		*	*	*	
Total		828	860		
Percent		49.1%	50.9%		
Grand Total		828	860		
Percentage		49.1%	50.9%		
ADT		ADT 1,688		AADT 1,688	

AUTOMATIC TRAFFIC RECORDER
 OKEECHOBEE BLVD. WEST LEG APPROACH
 TO F RD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

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Site Code: CGS-501

Start Time	12-May-09 Tue	EB	WB	Combined Total	
12:00 AM		15	47	62	■
01:00		16	30	46	■
02:00		13	17	30	■
03:00		23	18	41	■
04:00		61	29	90	■
05:00		167	119	286	■
06:00		491	319	810	■
07:00		812	360	1172	■
08:00		635	295	930	■
09:00		474	276	750	■
10:00		373	266	639	■
11:00		408	365	773	■
12:00 PM		373	373	746	■
01:00		376	457	833	■
02:00		412	423	835	■
03:00		482	559	1041	■
04:00		524	666	1190	■
05:00		460	814	1274	■
06:00		380	571	951	■
07:00		397	480	877	■
08:00		292	447	739	■
09:00		202	361	563	■
10:00		129	205	334	■
11:00		55	106	161	■
Total		7570	7603		
Percent		49.9%	50.1%		
Grand Total			7570	7603	
Percentage			49.9%	50.1%	
ADT			ADT 15,173	AADT 15,173	

KMF Traffic Group, LLC

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State Wide Services (Florida)

Voice and Fax - (772)221-7971

SPEED REPORT (ATR)
 OKEECHOBEE BLVD. EAST LEG APPROACH
 TO F RD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

Site Code: CGA-5

Date Start: 12-May-09

EB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
05/12/09	0	0	0	0	0	2	11	0	0	1	1	0	0	0	15
01:00	0	0	0	0	0	1	1	10	0	1	2	0	0	0	15
02:00	0	0	0	0	0	3	9	1	1	0	1	1	0	0	15
03:00	0	0	0	0	0	1	6	8	5	0	1	1	0	0	22
04:00	0	0	0	0	0	1	7	23	20	4	4	0	1	0	60
05:00	1	0	0	0	0	4	25	82	43	12	0	0	0	0	167
06:00	15	0	1	3	12	19	134	205	93	14	1	0	0	0	497
07:00	19	0	6	14	47	98	257	264	67	14	1	0	0	0	787
08:00	12	1	3	4	28	64	179	233	85	8	1	2	0	0	620
09:00	10	0	0	0	3	46	136	190	78	4	1	0	0	0	468
10:00	10	0	1	1	7	15	114	148	66	4	2	0	1	0	369
11:00	11	0	1	0	1	16	100	183	71	16	2	1	0	0	402
12 PM	7	0	0	0	6	14	88	143	82	8	1	0	0	0	349
13:00	14	0	4	3	1	16	74	157	76	9	1	0	0	0	355
14:00	12	0	0	0	0	20	91	180	96	6	0	0	0	0	405
15:00	32	5	5	11	17	32	123	156	71	6	1	0	0	0	459
16:00	27	0	0	2	12	66	183	187	44	3	0	0	0	0	524
17:00	37	0	0	0	8	47	118	184	63	10	0	0	0	0	467
18:00	17	0	1	4	7	19	95	144	76	11	1	1	0	0	376
19:00	12	0	0	0	3	39	87	153	67	17	1	0	0	0	379
20:00	12	0	0	0	1	24	97	113	38	7	0	0	0	0	292
21:00	8	0	0	0	1	12	34	90	51	11	0	0	0	1	208
22:00	2	0	0	0	1	8	20	48	32	11	1	0	1	0	124
23:00	0	0	0	0	0	0	13	17	25	2	0	0	1	0	58
Total	258	6	22	42	155	562	1987	2938	1250	179	22	7	4	1	7433
Grand Total	258	6	22	42	155	562	1987	2938	1250	179	22	7	4	1	7433

15th Percentile : 41 MPH
 50th Percentile : 47 MPH
 85th Percentile : 52 MPH
 95th Percentile : 55 MPH

Stats
 Mean Speed(Average) : 45 MPH
 10 MPH Pace Speed : 41-50 MPH
 Number in Pace : 4925
 Percent in Pace : 66.3%
 Number of Vehicles > 45 MPH : 4401
 Percent of Vehicles > 45 MPH : 59.2%

KMF Traffic Group, LLC

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SPEED REPORT (ATR)
 OKEECHOBEE BLVD. EAST LEG APPROACH
 TO F RD., LOXAHATCHEE GROVES, FL
 LOCATION COUNTED TUESDAY MAY 12, 2009

State Wide Services (Florida)
 Voice and Fax - (772)221-7971

Site Code: CGA-5

Date Start: 12-May-09

WB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
05/12/09															
9:00	0	0	0	0	1	1	18	20	4	2	0	0	0	0	46
01:00	0	0	0	0	0	1	10	14	5	1	0	0	0	0	31
02:00	0	0	0	0	1	1	4	6	2	2	0	0	0	0	16
03:00	0	0	0	0	1	2	5	4	3	2	0	0	0	0	17
04:00	0	0	0	0	0	2	9	11	4	1	0	0	1	0	28
05:00	4	0	0	0	0	11	34	45	25	5	3	0	0	0	127
06:00	21	5	5	12	26	59	104	86	9	4	1	0	0	0	332
07:00	25	1	0	7	19	66	148	74	19	4	1	0	0	0	364
08:00	20	0	0	3	19	39	103	71	17	4	0	0	0	0	276
09:00	7	0	0	1	4	48	118	68	19	4	0	0	0	0	269
10:00	14	0	1	4	16	40	102	72	21	3	0	0	0	0	273
11:00	17	0	0	3	4	43	131	127	31	5	0	0	0	0	361
12 PM	10	0	2	1	7	37	140	133	31	6	0	0	0	0	367
13:00	34	0	1	1	6	65	158	145	37	3	1	2	1	0	454
14:00	19	0	2	1	6	87	139	118	44	5	0	0	0	0	421
15:00	28	0	0	5	15	94	184	150	42	2	0	0	0	0	520
16:00	32	0	0	1	19	76	270	192	45	7	2	1	0	0	645
17:00	45	0	0	6	13	140	375	199	41	1	0	0	0	0	820
18:00	21	0	0	0	2	51	214	199	62	14	4	0	0	0	568
19:00	19	0	1	2	12	46	139	165	71	7	3	0	0	0	465
20:00	13	0	0	0	2	52	150	179	36	6	1	0	0	1	440
21:00	10	0	0	0	2	39	125	134	37	3	1	0	0	0	351
22:00	1	0	0	0	2	23	61	82	30	8	0	0	0	1	208
23:00	0	0	0	0	1	4	48	52	15	3	2	0	0	0	125
Total	340	6	12	47	178	1027	2789	2346	650	102	19	3	2	3	7524
Grand Total	340	6	12	47	178	1027	2789	2346	650	102	19	3	2	3	7524

15th Percentile : 38 MPH
 50th Percentile : 44 MPH
 85th Percentile : 50 MPH
 95th Percentile : 54 MPH

Stats
 Mean Speed(Average) : 43 MPH
 10 MPH Pace Speed : 41-50 MPH
 Number in Pace : 5135
 Percent in Pace : 68.2%
 Number of Vehicles > 45 MPH : 3125
 Percent of Vehicles > 45 MPH : 41.5%

Calvin, Giordano & Associates, Inc.

560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & F Rd AM
Site Code : 00000000
Start Date : 10/30/2008
Page No : 1

Groups Printed- Unshifted - Heavy Vehicles

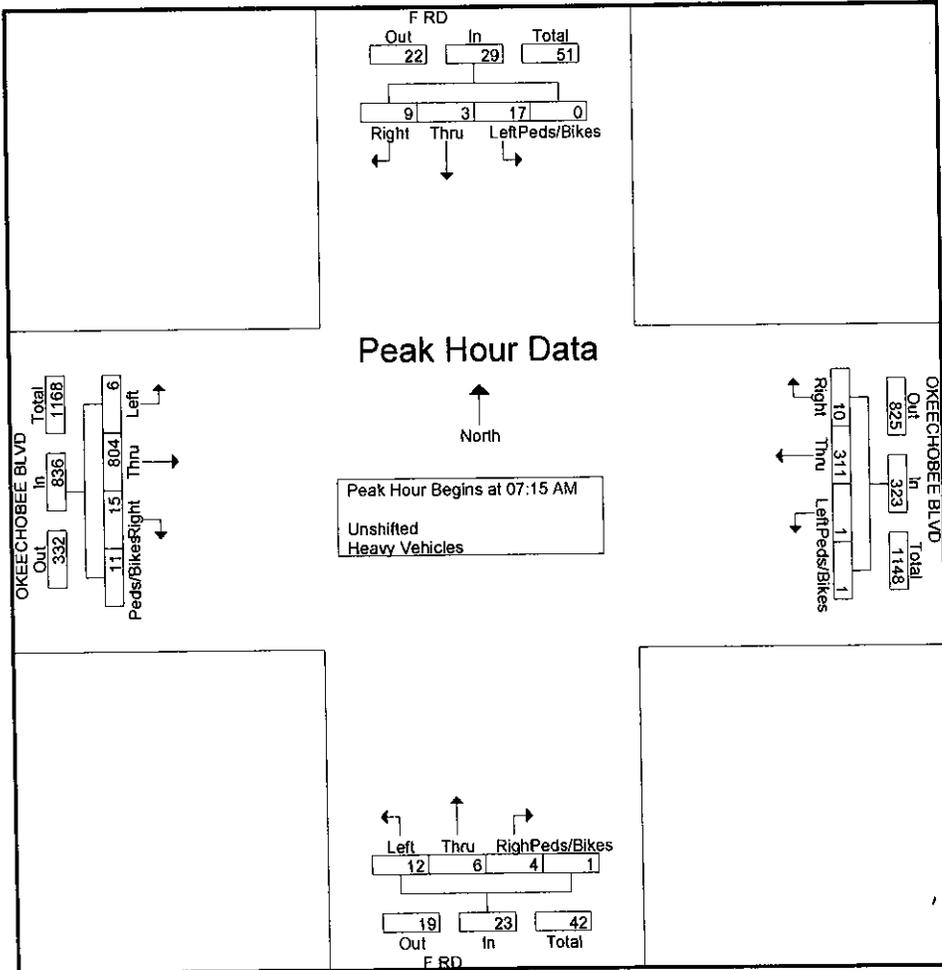
Start Time	F RD From North					OKEECHOBEE BLVD From East					F RD From South					OKEECHOBEE BLVD From West					Int. Total
	Right	Thru	Left	Peds/Bike	App Total	Right	Thru	Left	Peds/Bike	App Total	Right	Thru	Left	Peds/Bike	App Total	Right	Thru	Left	Peds/Bike	App Total	
07:00 AM	4	1	7	0	12	4	106	1	2	113	0	1	5	0	6	0	147	0	0	147	278
07:15 AM	5	0	4	0	9	2	90	1	1	94	1	1	1	0	3	1	170	2	1	174	280
07:30 AM	1	0	5	0	6	2	68	0	0	70	1	3	4	0	8	6	207	1	3	217	301
07:45 AM	3	0	6	0	9	1	81	0	0	82	0	2	6	0	8	7	216	0	4	227	326
Total	13	1	22	0	36	9	345	2	3	359	2	7	16	0	25	14	740	3	8	765	1185
08:00 AM	0	3	2	0	5	5	72	0	0	77	2	0	1	1	4	1	211	3	3	218	304
08:15 AM	1	1	7	0	9	1	68	2	0	71	0	0	4	0	4	3	150	0	1	154	238
08:30 AM	1	1	5	0	7	4	59	1	0	64	1	1	3	0	5	7	137	2	1	147	223
08:45 AM	1	1	5	0	7	3	77	2	2	84	1	1	2	0	4	1	134	1	0	136	231
Total	3	6	19	0	28	13	276	5	2	296	4	2	10	1	17	12	632	6	5	655	996
Grand Total	16	7	41	0	64	22	621	7	5	655	6	9	26	1	42	26	1372	9	13	1420	2181
Apprch %	25	10.9	64.1	0		3.4	94.8	1.1	0.8		14.3	21.4	61.9	2.4		1.8	96.6	0.6	0.9		
Total %	0.7	0.3	1.9	0	2.9	1	28.5	0.3	0.2	30	0.3	0.4	1.2	0	1.9	1.2	62.9	0.4	0.6	65.1	
Unshifted	13	6	39	0	58	21	576	6	5	608	6	9	25	1	41	24	1318	6	13	1361	2068
% Unshifted	81.2	85.7	95.1	0	90.6	95.5	92.8	85.7	100	92.8	100	100	96.2	100	97.6	92.3	96.1	66.7	100	95.8	94.8
Heavy Vehicles	3	1	2	0	6	1	45	1	0	47	0	0	1	0	1	2	54	3	0	59	113
** Heavy Vehicles	18.8	14.3	4.9	0	9.4	4.5	7.2	14.3	0	7.2	0	0	3.8	0	2.4	7.7	3.9	33.3	0	4.2	5.2

Start Time	F RD From North					OKEECHOBEE BLVD From East					F RD From South					OKEECHOBEE BLVD From West					Int. Total
	Right	Thru	Left	Peds/Bike	App Total	Right	Thru	Left	Peds/Bike	App Total	Right	Thru	Left	Peds/Bike	App Total	Right	Thru	Left	Peds/Bike	App Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	5	0	4	0	9	2	90	1	1	94	1	1	1	0	3	1	170	2	1	174	280
07:30 AM	1	0	5	0	6	2	68	0	0	70	1	3	4	0	8	6	207	1	3	217	301
07:45 AM	3	0	6	0	9	1	81	0	0	82	0	2	6	0	8	7	216	0	4	227	326
08:00 AM	0	3	2	0	5	5	72	0	0	77	2	0	1	1	4	1	211	3	3	218	304
Total Volume	9	3	17	0	29	10	311	1	1	323	4	6	12	1	23	15	804	6	11	836	1211
% App. Total	31	10.3	58.6	0		3.1	96.3	0.3	0.3		17.4	26.1	52.2	4.3		1.8	96.2	0.7	1.3		
PHF	.450	.250	.708	.000	.806	.500	.864	.250	.250	.859	.500	.500	.500	.250	.719	.536	.931	.500	.688	.921	.929

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560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & F Rd AM
Site Code : 00000000
Start Date : 10/30/2008
Page No : 2



Calvin, Giordano & Associates, Inc.

560 Village Blvd, Suite 340
West Palm Beach, FL, 33409

File Name : Okeechobee & F PM
Site Code : 00005577
Start Date : 10/30/2008
Page No : 1

Groups Printed- Unshifted - Bank 1

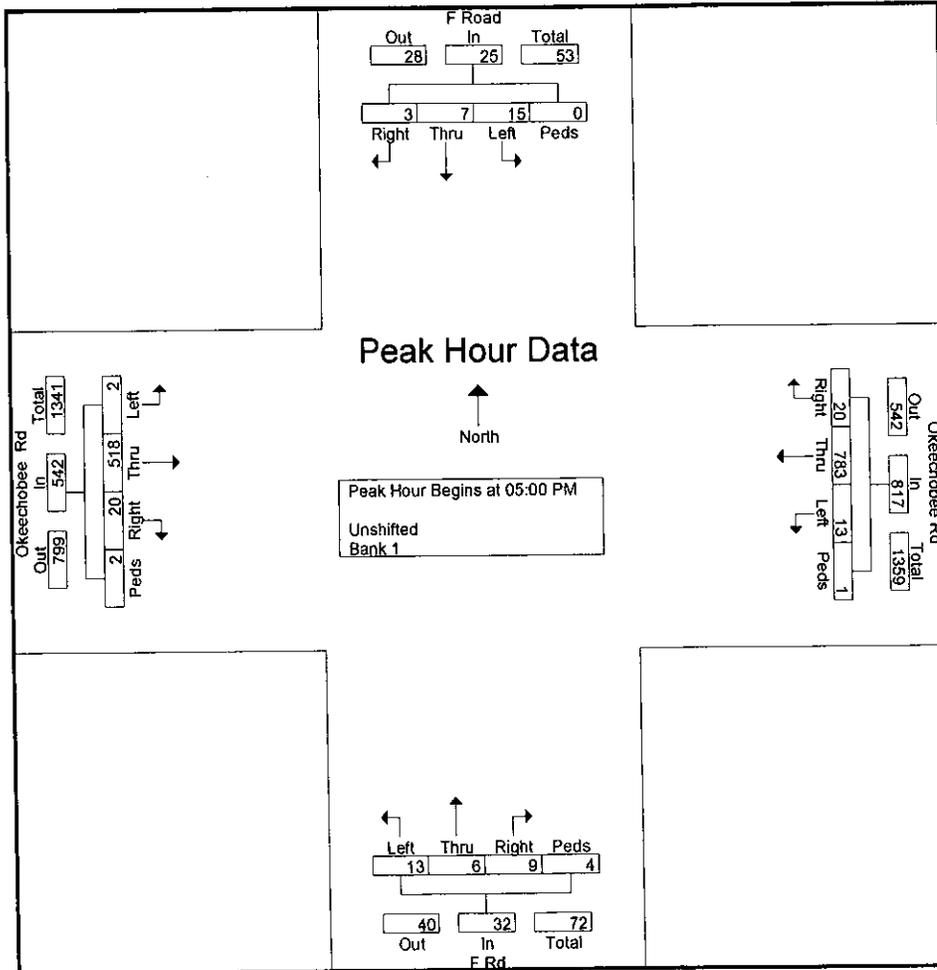
Start Time	F Road From North					Okeechobee Rd From East					F Rd From South					Okeechobee Rd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
04:00 PM	1	2	4	0	7	3	138	3	0	144	6	2	3	0	11	2	139	0	1	142	304
04:15 PM	2	3	8	1	14	2	181	3	0	186	3	0	3	0	6	2	130	2	1	135	341
04:30 PM	1	0	3	0	4	3	190	3	1	197	4	3	5	0	12	0	112	1	0	113	326
04:45 PM	1	1	2	3	7	4	182	10	0	196	2	0	4	0	6	3	137	1	0	141	350
Total	5	6	17	4	32	12	691	19	1	723	15	5	15	0	35	7	518	4	2	531	1321
05:00 PM	1	2	4	0	7	2	189	3	0	194	2	2	6	0	10	10	124	2	1	137	348
05:15 PM	0	1	6	0	7	5	197	5	0	207	2	1	1	0	4	2	128	0	0	130	348
05:30 PM	0	2	3	0	5	4	193	3	0	200	1	1	2	0	4	4	133	0	0	137	346
05:45 PM	2	2	2	0	6	9	204	2	1	216	4	2	4	4	14	4	133	0	1	138	374
Total	3	7	15	0	25	20	783	13	1	817	9	6	13	4	32	20	518	2	2	542	1416
Grand Total	8	13	32	4	57	32	1474	32	2	1540	24	11	28	4	67	27	1036	6	4	1073	2737
Apprch %	14	22.8	56.1	7		2.1	95.7	2.1	0.1		35.8	16.4	41.8	6		2.5	96.6	0.6	0.4		
Total %	0.3	0.5	1.2	0.1	2.1	1.2	53.9	1.2	0.1	56.3	0.9	0.4	1	0.1	2.4	1	37.9	0.2	0.1	39.2	
Unshifted	8	11	32	4	55	32	1469	32	2	1535	24	11	28	4	67	27	1026	6	4	1063	2720
% Unshifted	100	84.6	100	100	96.5	100	99.7	100	100	99.7	100	100	100	100	100	100	99	100	100	99.1	99.4
Bank 1	0	2	0	0	2	0	5	0	0	5	0	0	0	0	0	0	10	0	0	10	17
% Bank 1	0	15.4	0	0	3.5	0	0.3	0	0	0.3	0	0	0	0	0	0	1	0	0	0.9	0.6

Start Time	F Road From North					Okeechobee Rd From East					F Rd From South					Okeechobee Rd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	2	4	0	7	2	189	3	0	194	2	2	6	0	10	10	124	2	1	137	348
05:15 PM	0	1	6	0	7	5	197	5	0	207	2	1	1	0	4	2	128	0	0	130	348
05:30 PM	0	2	3	0	5	4	193	3	0	200	1	1	2	0	4	4	133	0	0	137	346
05:45 PM	2	2	2	0	6	9	204	2	1	216	4	2	4	4	14	4	133	0	1	138	374
Total Volume	3	7	15	0	25	20	783	13	1	817	9	6	13	4	32	20	518	2	2	542	1416
% App. Total	12	28	60	0		2.4	95.8	1.6	0.1		28.1	18.8	40.6	12.5		3.7	95.6	0.4	0.4		
PHF	.375	.875	.625	.000	.893	.556	.960	.650	.250	.946	.563	.750	.542	.250	.571	.500	.974	.250	.500	.982	.947

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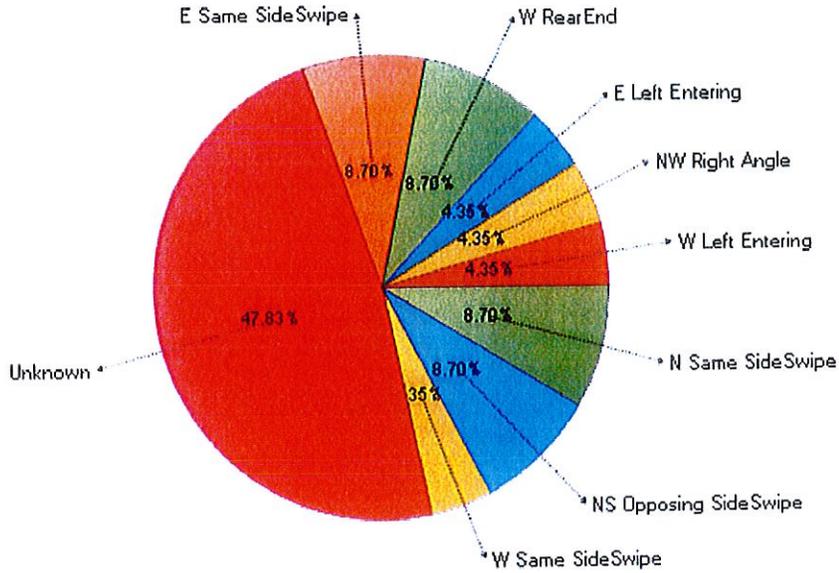
File Name : Okeechobee & F PM
Site Code : 00005577
Start Date : 10/30/2008
Page No : 2



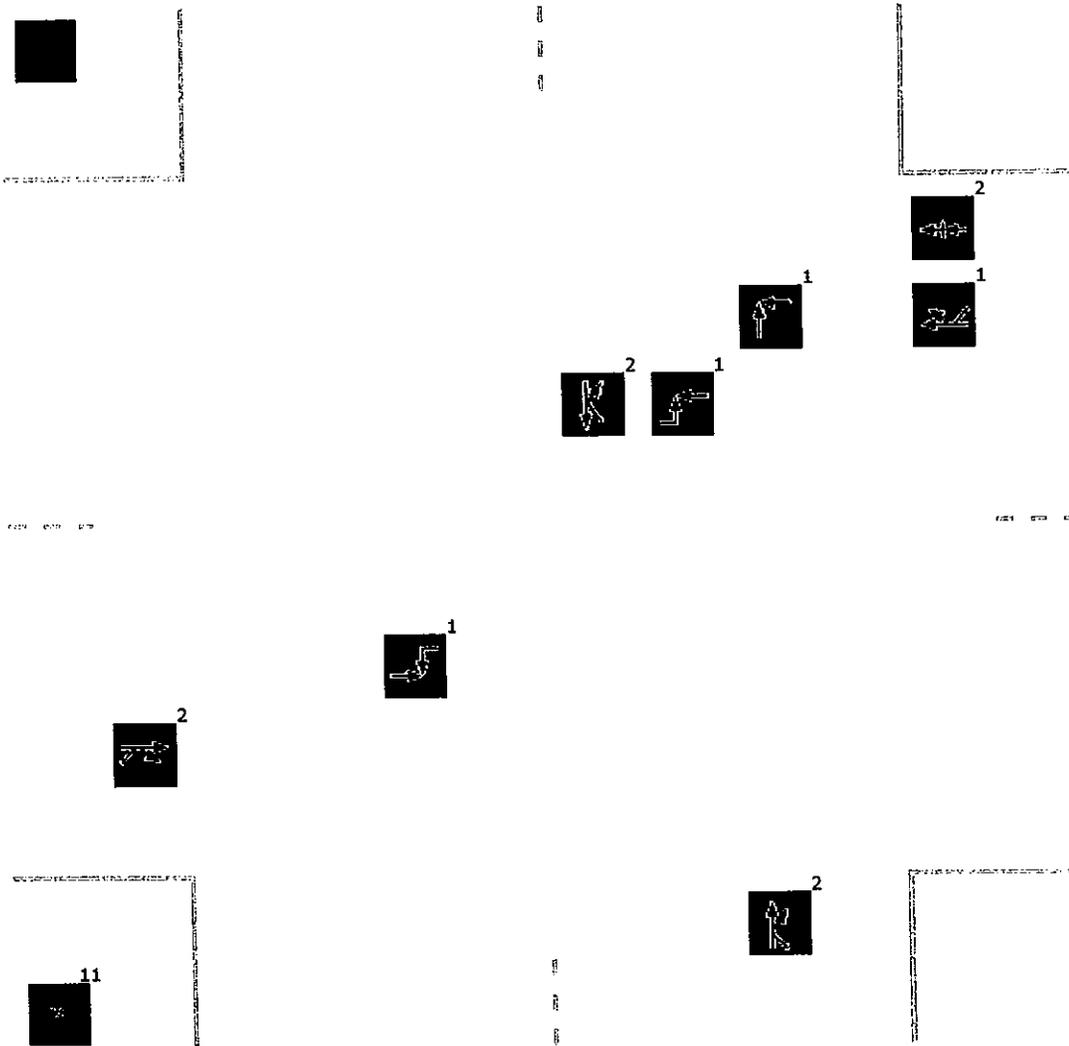
Appendix B

Collision Diagram/Crash Summary

Crash Date: *Between 01/01/2006 and 05/31/2008*
Offset Distance: *300*
Geographic Extent: *Intersection of Okeechobee Blvd and B Rd*



Crash Date: *Between 01/01/2006 and 05/31/2008*
 Offset Distance: 300
 Geographic Extent: *Intersection of Okeechobee Blvd and B Rd*



12 out of 23 crashes displayed.

Legend of Crash Type Symbols

					
Unknown	NS Opposing Side Swipe	N Same Direction Sideswipe	W Left Entering	W Same Direction Sideswipe	NW Right Angle
					
E Same Direction Sideswipe	W Rear End	E Left Entering			

Crash Date: *Between 01/01/2006 and 05/31/2008*
 Offset Distance: *300*
 Geographic Extent: *Intersection of Okeechobee Blvd and B Rd*

Crash Type	Crash Count	Crash Records						
 Unknown	11	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		76098094		08-02-2007	01:20 am	0		B Rd
		06835920		05-03-2007	05:45 pm	200	N	B Rd
		76486827		03-20-2008	01:53 pm	0		B Rd
		76113771		06-11-2007	04:00 pm	0		B Rd
		76590144		02-04-2007	11:00 pm	0		B Rd
		06835916		01-10-2006	06:10 pm	0		Okeechobee Blvd
		05683108		07-14-2007	04:40 am	0		Okeechobee Blvd
		76590144		02-04-2007	11:00 pm	0		B Rd
		09797127		10-09-2007	10:10 pm	0		Okeechobee Blvd
76114240		01-08-2007	05:00 am	0		Okeechobee Blvd		
 NS Opposing SideSwipe	2	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		08614837		02-11-2008	04:50 pm	0		B Rd
		76433973		02-01-2007	07:00 pm	0		B Rd
 N Same SideSwipe	2	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		06818662		09-06-2006	06:45 pm	0		B Rd
		09325383		11-21-2006	04:40 pm	0		B Rd
 W Left Entering	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		09903714		04-26-2008	05:00 pm	0		Okeechobee Blvd
 W Same SideSwipe	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		08620352		05-04-2008	12:45 am	0		B Rd
 NW Right Angle	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		09320869		07-13-2006	12:05 pm	0		Okeechobee Blvd
 E Same SideSwipe	2	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		76433911		11-17-2006	07:00 am	0		Okeechobee Blvd
		76020357		06-24-2007	03:17 pm	0		Okeechobee Blvd



W RearEnd

2

HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
06819430		03-28-2006	02:20 pm	0		Okeechobee Blvd
70486902		01-24-2006	08:20 am	0		Okeechobee Blvd



E Left Entering

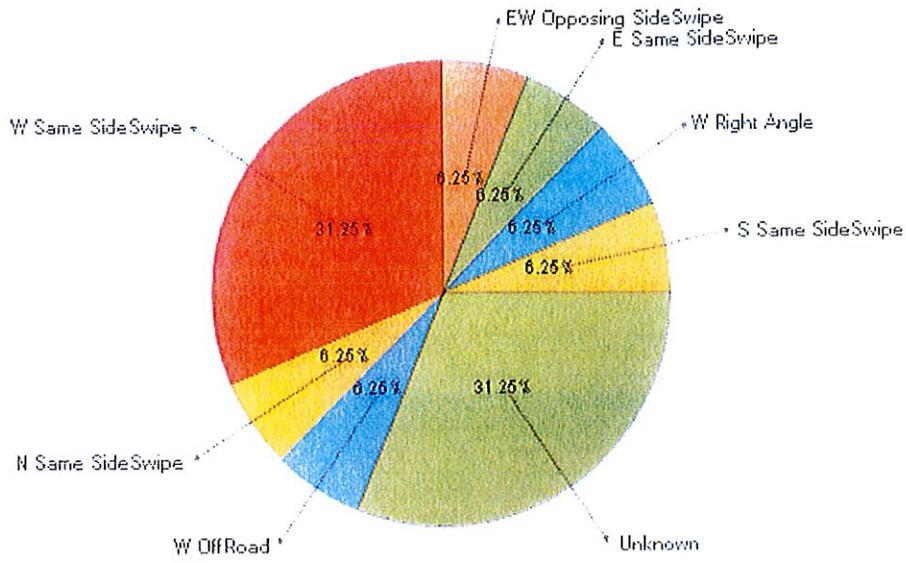
1

HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
06818656		07-03-2006	05:15 pm	0		Okeechobee Blvd

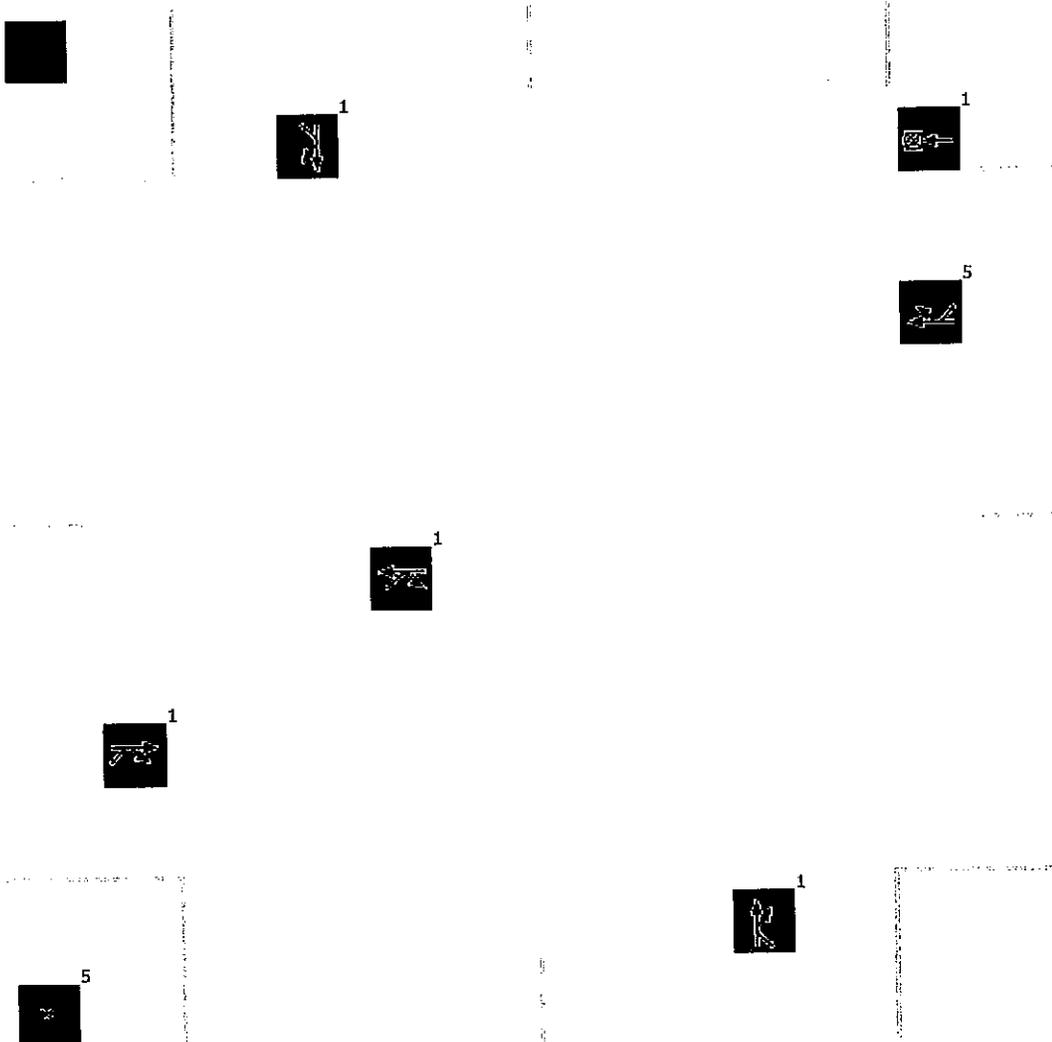
Crash Date: *Between 01/01/2006 and 05/31/2008*
 Offset Distance: 300
 Geographic Extent: *Intersection of Okeechobee Blvd and B Rd*

HSMV Number	PDF	Date	Time	Dist.(ft)	Dir.	On Street	Intersecting Street	Crash Type
06818662		09-06-2006	06:45 pm	0		B Rd	Okeechobee Blvd	
08614837		02-11-2008	04:50 pm	0		B Rd	Okeechobee Blvd	
08620352		05-04-2008	12:45 am	0		B Rd	Okeechobee Blvd	
09325383		11-21-2006	04:40 pm	0		B Rd	Okeechobee Blvd	
76098094		08-02-2007	01:20 am	0		B Rd	Okeechobee Blvd	
06835920		05-03-2007	05:45 pm	200	N	B Rd	Okeechobee Blvd	
76433911		11-17-2006	07:00 am	0		Okeechobee Blvd	B Rd	
06819430		03-28-2006	02:20 pm	0		Okeechobee Blvd	B Rd	
76486827		03-20-2008	01:53 pm	0		B Rd	Okeechobee Blvd	
76113771		06-11-2007	04:00 pm	0		B Rd	Okeechobee Blvd	
76433973		02-01-2007	07:00 pm	0		B Rd	Okeechobee Blvd	
76590144		02-04-2007	11:00 pm	0		B Rd	Okeechobee Blvd	
70486902		01-24-2006	08:20 am	0		Okeechobee Blvd	B Rd	
06818656		07-03-2006	05:15 pm	0		Okeechobee Blvd	B Rd	
06835916		01-10-2006	06:10 pm	0		Okeechobee Blvd	B Rd	
76020357		06-24-2007	03:17 pm	0		Okeechobee Blvd	B Rd	
05683108		07-14-2007	04:40 am	0		Okeechobee Blvd	B Rd	
76590144		02-04-2007	11:00 pm	0		B Rd	Okeechobee Blvd	
09320869		07-13-2006	12:05 pm	0		Okeechobee Blvd	B Rd	
09797127		10-09-2007	10:10 pm	0		Okeechobee Blvd	B Rd	
09903714		04-26-2008	05:00 pm	0		Okeechobee Blvd	B Rd	
76114240		01-08-2007	05:00 am	0		Okeechobee Blvd	B Rd	
76471142		05-11-2008	08:56 pm	0		Okeechobee Blvd	B Rd	

Crash Date: *Between 01/01/2006 and 05/31/2008*
Offset Distance: *300*
Geographic Extent: *Intersection of Okeechobee Blvd and F Rd*



Crash Date: *Between 01/01/2006 and 05/31/2008*
 Offset Distance: 300
 Geographic Extent: *Intersection of Okeechobee Blvd and F Rd*



11 out of 16 crashes displayed.

Legend of Crash Type Symbols

					
Unknown	EW Opposing Side Swipe	N Same Direction Sideswipe	W Same Direction Sideswipe	W Right Angle	E Same Direction Sideswipe
					
S Same Direction Sideswipe	W Off Road				

Crash Date: *Between 01/01/2006 and 05/31/2008*
 Offset Distance: 300
 Geographic Extent: *Intersection of Okeechobee Blvd and F Rd*

Crash Type	Crash Count	Crash Records						
 Unknown	5	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		06904928		01-30-2006	10:50 am	0		F Rd
		75965741		07-19-2007	07:15 pm	0		F Rd
		10283555		02-21-2008	06:28 pm	0		Okeechobee Blvd
		09493503		09-17-2007	04:15 pm	200	E	Okeechobee Blvd
70489610		03-12-2007	09:44 pm	0		F Rd		
 EW Opposing SideSwipe	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		08619936		03-25-2008	08:10 am	0		F Rd
 N Same SideSwipe	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		09320031		08-16-2006	11:55 am	0		F Rd
 W Same SideSwipe	5	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		09310330		02-02-2007	01:38 pm	0		Okeechobee Blvd
		09312399		10-10-2006	10:25 am	0		Okeechobee Blvd
		08614997		09-25-2007	04:30 pm	20	E	Okeechobee Blvd
		06914857		09-17-2007	04:45 pm	100	E	Okeechobee Blvd
09309782		10-12-2006	04:45 pm	0		Okeechobee Blvd		
 W Right Angle	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		76471205		11-05-2007	03:30 pm	0		Okeechobee Blvd
 E Same SideSwipe	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		09493780		04-24-2007	10:40 am	0		Okeechobee Blvd
 S Same SideSwipe	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street
		09797766		01-15-2008	04:18 pm	5	S	F Rd
 W OffRoad	1	HSMV Number	PDF	Date	Time	Dist. (ft)	Dir.	On Street

06914896		04-21-2006	02:30 pm	0	Okeechobee Blvd
----------	---	------------	----------	---	--------------------

Crash Date: *Between 01/01/2006 and 05/31/2008*
 Offset Distance: 300
 Geographic Extent: *Intersection of Okeechobee Blvd and F Rd*

HSMV Number	PDF	Date	Time	Dist.(ft)	Dir.	On Street	Intersecting Street	Crash Type
06904928		01-30-2006	10:50 am	0		F Rd	Okeechobee Blvd	
06914896		04-21-2006	02:30 pm	0		Okeechobee Blvd	F Rd	
09320031		08-16-2006	11:55 am	0		F Rd	Okeechobee Blvd	
75965741		07-19-2007	07:15 pm	0		F Rd	Okeechobee Blvd	
09310330		02-02-2007	01:38 pm	0		Okeechobee Blvd	F Rd	
09312399		10-10-2006	10:25 am	0		Okeechobee Blvd	F Rd	
08619936		03-25-2008	08:10 am	0		F Rd	Okeechobee Blvd	
10283555		02-21-2008	06:28 pm	0		Okeechobee Blvd	F Rd	
08614997		09-25-2007	04:30 pm	20	E	Okeechobee Blvd	F Rd	
09493780		04-24-2007	10:40 am	0		Okeechobee Blvd	F Rd	
09493503		09-17-2007	04:15 pm	200	E	Okeechobee Blvd	F Rd	
70489610		03-12-2007	09:44 pm	0		F Rd	Okeechobee Blvd	
76471205		11-05-2007	03:30 pm	0		Okeechobee Blvd	F Rd	
06914857		09-17-2007	04:45 pm	100	E	Okeechobee Blvd	F Rd	
09309782		10-12-2006	04:45 pm	0		Okeechobee Blvd	F Rd	
09797766		01-15-2008	04:18 pm	5	S	F Rd	Okeechobee Blvd	

Appendix C

All Way Stop Control Warrant Analysis

ALL WAY STOP CONTROL WARRANT SUMMARY

Major Street: Okeechobee Blvd (EB-WB) No. of Lanes: 1 Engineer: BK
Minor Street: B Rd (NB-SB) No. of Lanes: 1 Date: 5/13/2009
City: Town of Loxahatchee Groves, Florida Count Date: Tuesday, May 12, 2009
Major Street Speed Limit > 40 mph (Y or N): Y
Isolated Community < 10,000 Population (Y or N): Y **Comments:** 70% Threshold Used Due to Major Street Speed Limit > 40 mph

End Time	Major Street Volume (2-Way)	Minor Street Volumes			MUTCD Minimum Vehicular Volume 70% Threshold		
		NB	SB	Minor St. Volume (2-Way)	Major Street	Minor Street	Both Met ?
<i>Applicable Threshold Values:</i>					210	140	
0:00	58	7	1	8	N	N	N
1:00	33	1	0	1	N	N	N
2:00	33	0	0	0	N	N	N
3:00	34	2	1	3	N	N	N
4:00	78	8	1	9	N	N	N
5:00	230	5	6	11	Y	N	N
6:00	662	22	19	41	Y	N	N
7:00	998	42	29	71	Y	N	N
8:00	754	36	34	70	Y	N	N
9:00	583	37	15	52	Y	N	N
10:00	508	46	23	69	Y	N	N
11:00	599	38	22	60	Y	N	N
12:00	555	37	22	59	Y	N	N
13:00	658	45	16	61	Y	N	N
14:00	710	56	29	85	Y	N	N
15:00	814	50	16	66	Y	N	N
16:00	896	84	35	119	Y	N	N
17:00	1,019	73	43	116	Y	N	N
18:00	778	43	24	67	Y	N	N
19:00	824	25	17	42	Y	N	N
20:00	691	17	16	33	Y	N	N
21:00	562	10	14	24	Y	N	N
22:00	340	13	5	18	Y	N	N
23:00	148	7	3	10	N	N	N
					Hours Required:	8	
					Hours Satisfied:	0	
					NOT Satisfied		

P:\Projects\2009\092556 Okeechobee Roundabout Study\Engineering\Traffic Engineering\AWSC Analysis\AWSC B Rd

ALL WAY STOP CONTROL WARRANT SUMMARY

Major Street: Okeechobee Blvd (EB-WB) No. of Lanes: 1 Engineer: BK
Minor Street: F Rd (NB-SB) No. of Lanes: 1 Date: Revised 11/30/2009
 City: Town of Loxahatchee Groves, Florida Count Date: 5/12/2009 and 8/26/09
 Major Street Speed Limit > 40 mph (Y or N): Y
 Isolated Community < 10,000 Population (Y or N): Y **Comments:** 70% Threshold Used Due to Major Street Speed Limit > 40 mph

End Time	Major Street Volume (2-Way)	Minor Street Volumes			MUTCD Minimum Vehicular Volume 70% Threshold		
		NB	SB	Minor St. Volume (2-Way)	Major Street	Minor Street	Both Met ?
<i>Applicable Threshold Values:</i>					210	140	
0:00	61	0	1	1	N	N	N
1:00	47	1	2	3	N	N	N
2:00	29	2	1	3	N	N	N
3:00	40	1	1	2	N	N	N
4:00	89	0	0	0	N	N	N
5:00	294	4	4	8	Y	N	N
6:00	823	5	8	13	Y	N	N
7:00	1,176	29	14	43	Y	N	N
8:00	911	16	20	36	Y	N	N
9:00	743	19	17	36	Y	N	N
10:00	646	22	24	46	Y	N	N
11:00	769	22	20	42	Y	N	N
12:00	740	24	29	53	Y	N	N
13:00	830	18	20	38	Y	N	N
14:00	833	23	18	41	Y	N	N
15:00	1,002	18	23	41	Y	N	N
16:00	1,169	19	25	44	Y	N	N
17:00	1,280	26	28	54	Y	N	N
18:00	948	24	16	40	Y	N	N
19:00	862	8	13	21	Y	N	N
20:00	732	6	11	17	Y	N	N
21:00	553	7	7	14	Y	N	N
22:00	337	2	6	8	Y	N	N
23:00	180	0	0	0	N	N	N
Hours Required:							8
Hours Satisfied:							0
NOT Satisfied							

Appendix D

All Way Stop Control Operational Analysis

HCM Unsignalized Intersection Capacity Analysis

1: Okeechobee Blvd & B Road

5/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	588	13	11	268	15	10	1	10	20	4	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	639	14	12	291	16	11	1	11	22	4	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	661	320	23	39								
Volume Left (vph)	8	12	11	22								
Volume Right (vph)	14	16	11	13								
Hadj (s)	0.02	0.01	-0.16	-0.05								
Departure Headway (s)	4.5	4.8	6.0	6.1								
Degree Utilization, x	0.83	0.43	0.04	0.07								
Capacity (veh/h)	784	722	542	536								
Control Delay (s)	24.9	11.4	9.3	9.5								
Approach Delay (s)	24.9	11.4	9.3	9.5								
Approach LOS	C	B	A	A								

Intersection Summary

Delay			19.9									
HCM Level of Service			C									
Intersection Capacity Utilization			44.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

1: Okeechobee Blvd & B Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	559	23	18	651	27	16	3	20	22	4	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	608	25	20	708	29	17	3	22	24	4	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	639	757	42	38
Volume Left (vph)	7	20	17	24
Volume Right (vph)	25	29	22	10
Hadj (s)	0.01	0.02	-0.19	0.01
Departure Headway (s)	5.1	5.0	6.8	7.1
Degree Utilization, x	0.90	1.06	0.08	0.07
Capacity (veh/h)	701	718	504	483
Control Delay (s)	35.8	70.8	10.4	10.6
Approach Delay (s)	35.8	70.8	10.4	10.6
Approach LOS	E	F	B	B

Intersection Summary			
Delay		52.3	
HCM Level of Service		F	
Intersection Capacity Utilization		57.1%	ICU Level of Service
Analysis Period (min)		15	B

HCM Unsignalized Intersection Capacity Analysis
 18: Okeechobee Blvd & F Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	804	15	1	311	10	12	6	4	17	3	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	874	16	1	338	11	13	7	4	18	3	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	897	350	24	32
Volume Left (vph)	7	1	13	18
Volume Right (vph)	16	11	4	10
Hadj (s)	0.02	0.02	0.03	-0.03
Departure Headway (s)	4.5	4.9	6.5	6.4
Degree Utilization, x	1.13	0.48	0.04	0.06
Capacity (veh/h)	784	721	524	528
Control Delay (s)	92.4	12.4	9.8	9.8
Approach Delay (s)	92.4	12.4	9.8	9.8
Approach LOS	F	B	A	A

Intersection Summary			
Delay		67.4	
HCM Level of Service		F	
Intersection Capacity Utilization	57.6%		ICU Level of Service B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 18: Okeechobee Blvd & F Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	518	20	13	783	20	13	6	9	15	7	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	563	22	14	851	22	14	7	10	16	8	3

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	587	887	30	27
Volume Left (vph)	2	14	14	16
Volume Right (vph)	22	22	10	3
Hadj (s)	0.01	0.02	-0.07	0.08
Departure Headway (s)	5.0	4.8	6.8	7.0
Degree Utilization, x	0.81	1.19	0.06	0.05
Capacity (veh/h)	714	749	501	483
Control Delay (s)	25.2	117.6	10.2	10.3
Approach Delay (s)	25.2	117.6	10.2	10.3
Approach LOS	D	F	B	B

Intersection Summary			
Delay		78.2	
HCM Level of Service		F	
Intersection Capacity Utilization	61.8%		ICU Level of Service B
Analysis Period (min)		15	

Appendix E

Signalized Operational Analysis

Lanes, Volumes, Timings
1: Okeechobee Blvd & B Road

5/14/2009



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	7	588	13	11	268	15	10	1	10	20	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1855	0	0	1846	0	0	1702	0	0	1731	0
Flt Permitted		0.996			0.978							
Satd. Flow (perm)	0	1850	0	0	1809	0	0	1742	0	0	1779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			7			11			13	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1731			2634			6519			10544	
Travel Time (s)		26.2			39.9			148.2			239.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	661	0	0	319	0	0	23	0	0	39	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.5	20.5		20.5	20.5		20.5	20.5		20.5	20.5	
Total Split (s)	57.0	57.0	0.0	57.0	57.0	0.0	23.0	23.0	0.0	23.0	23.0	0.0
Total Split (%)	71.3%	71.3%	0.0%	71.3%	71.3%	0.0%	28.8%	28.8%	0.0%	28.8%	28.8%	0.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		33.1			33.1			6.6			6.7	
Actuated g/C Ratio		0.86			0.86			0.17			0.17	
v/c Ratio		0.41			0.20			0.07			0.12	
Control Delay		3.7			2.5			13.7			14.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.7			2.5			13.7			14.3	
LOS		A			A			B			B	
Approach Delay		3.7			2.5			13.7			14.3	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		0			0			2			4	
Queue Length 95th (ft)		144			55			18			26	
Internal Link Dist (ft)		1651			2554			6439			10464	
Turn Bay Length (ft)												
Base Capacity (vph)		1850			1809			901			920	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.36			0.18			0.03			0.04	

Lanes, Volumes, Timings
 1: Okeechobee Blvd & B Road

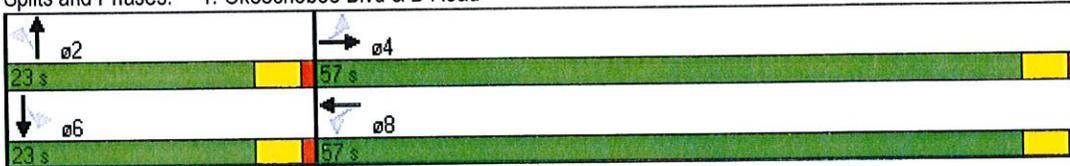
5/14/2009

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 38.3
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 3.9
 Intersection Capacity Utilization 45.2%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 1: Okeechobee Blvd & B Road



HCM Signalized Intersection Capacity Analysis

1: Okeechobee Blvd & B Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	7	588	13	11	268	15	10	1	10	20	4	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.94			0.96	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		1856			1847			1702			1730	
Flt Permitted		1.00			0.98			1.00			1.00	
Satd. Flow (perm)		1851			1809			1742			1779	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	639	14	12	291	16	11	1	11	22	4	13
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	12	0
Lane Group Flow (vph)	0	660	0	0	317	0	0	13	0	0	27	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.7			29.7			2.4			2.4	
Effective Green, g (s)		29.7			29.7			2.4			2.4	
Actuated g/C Ratio		0.72			0.72			0.06			0.06	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1338			1307			102			104	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.18			0.01			c0.02	
v/c Ratio		0.49			0.24			0.12			0.26	
Uniform Delay, d1		2.5			1.9			18.4			18.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.1			0.5			1.3	
Delay (s)		2.7			2.0			18.9			19.8	
Level of Service		A			A			B			B	
Approach Delay (s)		2.7			2.0			18.9			19.8	
Approach LOS		A			A			B			B	

Intersection Summary

HCM Average Control Delay	3.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	41.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
1: Okeechobee Blvd & B Road

5/14/2009

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	6	559	23	18	651	27	16	3	20	22	4	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1852	0	0	1852	0	0	1696	0	0	1740	0
Flt Permitted		0.994			0.982							
Satd. Flow (perm)	0	1842	0	0	1820	0	0	1730	0	0	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			5			22			10	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1731			2634			6519			10544	
Travel Time (s)		26.2			39.9			148.2			239.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	640	0	0	757	0	0	42	0	0	38	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.5	20.5		20.5	20.5		20.5	20.5		20.5	20.5	
Total Split (s)	58.0	58.0	0.0	58.0	58.0	0.0	22.0	22.0	0.0	22.0	22.0	0.0
Total Split (%)	72.5%	72.5%	0.0%	72.5%	72.5%	0.0%	27.5%	27.5%	0.0%	27.5%	27.5%	0.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		35.0			35.0			6.8			6.9	
Actuated g/C Ratio		0.87			0.87			0.17			0.17	
v/c Ratio		0.40			0.48			0.14			0.12	
Control Delay		3.5			4.2			13.4			16.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			4.2			13.4			16.0	
LOS		A			A			B			B	
Approach Delay		3.5			4.2			13.4			16.0	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		0			0			4			5	
Queue Length 95th (ft)		137			186			m27			28	
Internal Link Dist (ft)		1651			2554			6439			10464	
Turn Bay Length (ft)												
Base Capacity (vph)		1842			1820			813			837	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.35			0.42			0.05			0.05	

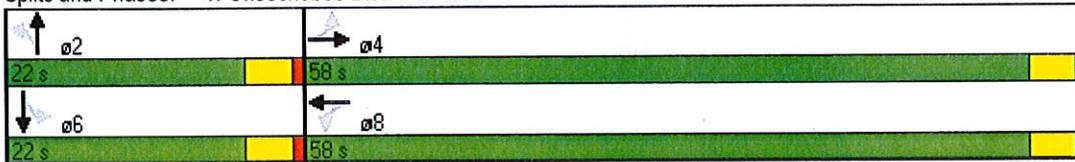
Lanes, Volumes, Timings
 1: Okeechobee Blvd & B Road

5/14/2009

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 40.3
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 4.4 Intersection LOS: A
 Intersection Capacity Utilization 58.0% ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Okeechobee Blvd & B Road



HCM Signalized Intersection Capacity Analysis

1: Okeechobee Blvd & B Road

5/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	559	23	18	651	27	16	3	20	22	4	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.93			0.96	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		1852			1851			1697			1742	
Flt Permitted		0.99			0.98			1.00			1.00	
Satd. Flow (perm)		1841			1819			1731			1797	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	608	25	20	708	29	17	3	22	24	4	10
RTOR Reduction (vph)	0	2	0	0	1	0	0	21	0	0	9	0
Lane Group Flow (vph)	0	638	0	0	756	0	0	21	0	0	29	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		31.6			31.6			2.5			2.5	
Effective Green, g (s)		31.6			31.6			2.5			2.5	
Actuated g/C Ratio		0.73			0.73			0.06			0.06	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1350			1334			100			104	
v/s Ratio Prot												
v/s Ratio Perm		0.35			0.42			0.01			0.02	
v/c Ratio		0.47			0.57			0.21			0.27	
Uniform Delay, d1		2.3			2.6			19.4			19.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.6			1.1			1.4	
Delay (s)		2.6			3.2			20.4			20.9	
Level of Service		A			A			C			C	
Approach Delay (s)		2.6			3.2			20.4			20.9	
Approach LOS		A			A			C			C	

Intersection Summary

HCM Average Control Delay	3.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
18: Okeechobee Blvd & F Road

5/14/2009



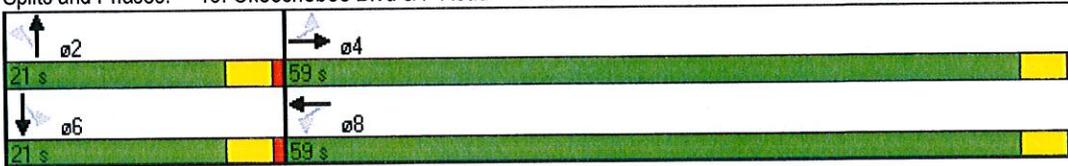
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	6	804	15	1	311	10	12	6	4	17	3	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Satd. Flow (prot)	0	1859	0	0	1855	0	0	1715	0	0	1673	0
Flt Permitted		0.998			0.999							
Satd. Flow (perm)	0	1855	0	0	1853	0	0	1761	0	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			5			4			10	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2630			724			6589			5192	
Travel Time (s)		39.8			11.0			149.8			118.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	897	0	0	350	0	0	24	0	0	31	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.5	20.5		20.5	20.5		20.5	20.5		20.5	20.5	
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0
Total Split (%)	73.8%	73.8%	0.0%	73.8%	73.8%	0.0%	26.3%	26.3%	0.0%	26.3%	26.3%	0.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		40.4			40.4			7.1			7.1	
Actuated g/C Ratio		0.89			0.89			0.16			0.16	
v/c Ratio		0.54			0.21			0.09			0.11	
Control Delay		4.2			2.0			21.9			19.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.2			2.0			21.9			19.7	
LOS		A			A			C			B	
Approach Delay		4.2			2.0			21.9			19.7	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)		0			0			3			3	
Queue Length 95th (ft)		241			59			27			29	
Internal Link Dist (ft)		2550			644			6509			5112	
Turn Bay Length (ft)												
Base Capacity (vph)		1743			1741			722			709	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.51			0.20			0.03			0.04	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 45.2
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 4.3
 Intersection Capacity Utilization 58.4%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 18: Okeechobee Blvd & F Road



HCM Signalized Intersection Capacity Analysis

18: Okeechobee Blvd & F Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	6	804	15	1	311	10	12	6	4	17	3	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.98			0.96	
Flt Protected		1.00			1.00			0.97			0.97	
Satd. Flow (prot)		1858			1855			1714			1674	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		1854			1853			1760			1722	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	874	16	1	338	11	13	7	4	18	3	10
RTOR Reduction (vph)	0	1	0	0	1	0	0	4	0	0	10	0
Lane Group Flow (vph)	0	896	0	0	349	0	0	20	0	0	21	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		36.6			36.6			2.3			2.3	
Effective Green, g (s)		36.6			36.6			2.3			2.3	
Actuated g/C Ratio		0.76			0.76			0.05			0.05	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1417			1416			85			83	
v/s Ratio Prot												
v/s Ratio Perm		c0.48			0.19			0.01			c0.01	
v/c Ratio		0.63			0.25			0.24			0.26	
Uniform Delay, d1		2.6			1.6			22.0			22.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.1			1.4			1.7	
Delay (s)		3.5			1.7			23.4			23.6	
Level of Service		A			A			C			C	
Approach Delay (s)		3.5			1.7			23.4			23.6	
Approach LOS		A			A			C			C	

Intersection Summary

HCM Average Control Delay	3.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
 18: Okeechobee Blvd & F Road

5/14/2009

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	518	20	13	783	20	13	6	9	15	7	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	11	11	11	11	11	11
Satd. Flow (prot)	0	1853	0	0	1855	0	0	1684	0	0	1722	0
Fit Permitted		0.998			0.991							
Satd. Flow (perm)	0	1850	0	0	1840	0	0	1721	0	0	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			4			10			3	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2630			724			6589			5192	
Travel Time (s)		39.8			11.0			149.8			118.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	587	0	0	887	0	0	31	0	0	27	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.5	20.5		20.5	20.5		20.5	20.5		20.5	20.5	
Total Split (s)	59.0	59.0	0.0	59.0	59.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0
Total Split (%)	73.8%	73.8%	0.0%	73.8%	73.8%	0.0%	26.3%	26.3%	0.0%	26.3%	26.3%	0.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		40.1			40.1			7.0			7.1	
Actuated g/C Ratio		0.89			0.89			0.16			0.16	
v/c Ratio		0.36			0.54			0.11			0.10	
Control Delay		2.6			4.2			19.6			22.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.6			4.2			19.6			22.1	
LOS		A			A			B			C	
Approach Delay		2.6			4.2			19.6			22.1	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)		0			0			3			4	
Queue Length 95th (ft)		113			237			29			29	
Internal Link Dist (ft)		2550			644			6509			5112	
Turn Bay Length (ft)												
Base Capacity (vph)		1745			1735			712			729	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.34			0.51			0.04			0.04	

Lanes, Volumes, Timings
18: Okeechobee Blvd & F Road

5/14/2009

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 44.9

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 4.2

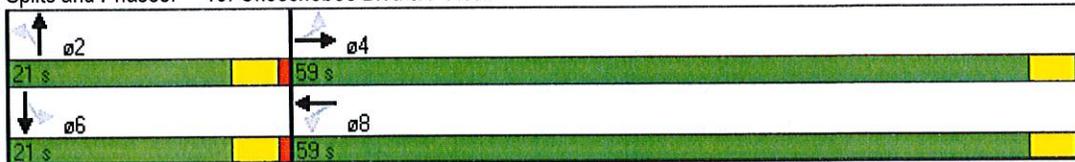
Intersection Capacity Utilization 62.7%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service B

Splits and Phases: 18: Okeechobee Blvd & F Road



HCM Signalized Intersection Capacity Analysis

18: Okeechobee Blvd & F Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	2	518	20	13	783	20	13	6	9	15	7	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Fr _t		0.99			1.00			0.96			0.98	
Fl _t Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		1853			1855			1684			1723	
Fl _t Permitted		1.00			0.99			1.00			1.00	
Satd. Flow (perm)		1850			1840			1722			1774	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	563	22	14	851	22	14	7	10	16	8	3
RTOR Reduction (vph)	0	1	0	0	1	0	0	10	0	0	3	0
Lane Group Flow (vph)	0	586	0	0	886	0	0	21	0	0	24	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		36.4			36.4			2.3			2.3	
Effective Green, g (s)		36.4			36.4			2.3			2.3	
Actuated g/C Ratio		0.76			0.76			0.05			0.05	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1412			1404			83			86	
v/s Ratio Prot												
v/s Ratio Perm		0.32			0.48			0.01			0.01	
v/c Ratio		0.41			0.63			0.26			0.28	
Uniform Delay, d ₁		2.0			2.6			21.9			21.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d ₂		0.2			0.9			1.7			1.8	
Delay (s)		2.2			3.5			23.5			23.7	
Level of Service		A			A			C			C	
Approach Delay (s)		2.2			3.5			23.5			23.7	
Approach LOS		A			A			C			C	

Intersection Summary

HCM Average Control Delay	3.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Appendix F

Roundabout Operational Analysis

14:5:09		Okeechobee & B Rd				23					
E (m)	4.00	4.00	4.00	4.00	TIME PERIOD	min	60				
L' (m)	20.00	20.00	20.00	20.00	TIME SLICE	min	5				
V (m)	3.65	3.65	3.65	3.65	RESULTS PERIOD	min	25 40				
RAD (m)	15.00	15.00	15.00	15.00	TIME COST	\$/hr	15.00				
PHI (d)	25.00	25.00	25.00	25.00	FLOW PERIOD	min	0 60				
DIA (m)	35.00	35.00	35.00	35.00	FLOW TYPE	pcu/veh	VEH				
GRAD SEP	0	0	0	0	FLOW PEAK	am/op/pm	AM				
LEG NAME	PCU	TURNS (1st exit, 2nd..U)			FLOF	CL	FLOW RATIO			FLOW TIME	
NB B d	1.02	10	1	10	0	1.00	50	1.00	1.100	1.00	15 30 45
WB Oke	1.02	15	268	11	0	1.00	50	1.00	1.100	1.00	15 30 45
SB B Rd	1.02	12	4	20	0	1.00	50	1.00	1.100	1.00	15 30 45
EB Okee	1.02	13	588	7	0	1.00	50	1.00	1.100	1.00	15 30 45
FLOW	veh	6	77	9	160	AVEDEL	s	5.8			
CAPACITY	veh	207	293	254	291	LOS SIG	A				
AVE DELAY	secs	4.4	4.1	3.7	6.8	LOS UNSIG	A				
MAX DELAY	secs	4.7	4.4	3.9	7.2						
AVE QUEUE	veh	0.0	0.4	0.0	1.2	VEHIC HRS	0.4				
MAX QUEUE	veh	0.0	0.4	0.0	1.2	COST	\$	6			

14:5:09		Okeechobee & B Rd				22			
E (m)	4.00	4.00	4.00	4.00		TIME PERIOD	min 60		
L' (m)	20.00	20.00	20.00	20.00		TIME SLICE	min 5		
V (m)	3.65	3.65	3.65	3.65		RESULTS PERIOD	min 25 40		
RAD (m)	15.00	15.00	15.00	15.00		TIME COST	\$/hr 15.00		
PHI (d)	25.00	25.00	25.00	25.00		FLOW PERIOD	min 0 60		
DIA (m)	35.00	35.00	35.00	35.00		FLOW TYPE	pcu/veh VEH		
GRAD SEP	0	0	0	0		FLOW PEAK	am/op/pm PM		
LEG NAME	PCU	TURNS (1st exit, 2nd..U)				FLOF	CL	FLOW RATIO	FLOW TIME
NB B Rd	1.02	20	3	16	0	1.00	50	1.00 1.100 1.00	15 30 45
WB Okee	1.02	27	651	18	0	1.00	50	1.00 1.100 1.00	15 30 45
SB B Rd	1.02	9	4	22	0	1.00	50	1.00 1.100 1.00	15 30 45
EB Okee	1.02	23	559	6	0	1.00	50	1.00 1.100 1.00	15 30 45
FLOW	veh	10	183	9	155			AVEDEL s	7.2
CAPACITY	veh	211	292	196	290			LOS SIG	A
AVE DELAY	secs	4.5	8.0	4.8	6.6			LOS UNSIG	A
MAX DELAY	secs	4.7	8.6	5.0	7.0				
AVE QUEUE	veh	0.1	1.7	0.0	1.1			VEHIC HRS	0.7
MAX QUEUE	veh	0.1	1.7	0.0	1.1			COST \$	11

14:5:09		Okeechobee & F Rd				26			
E (m)	4.00	4.00	4.00	4.00	TIME PERIOD	min	60		
L' (m)	20.00	20.00	20.00	20.00	TIME SLICE	min	5		
V (m)	3.65	3.65	3.65	3.65	RESULTS PERIOD	min	25 40		
RAD (m)	15.00	15.00	15.00	15.00	TIME COST	\$/hr	15.00		
PHI (d)	25.00	25.00	25.00	25.00	FLOW PERIOD	min	0 60		
DIA (m)	35.00	35.00	35.00	35.00	FLOW TYPE	pcu/veh	VEH		
GRAD SEP	0	0	0	0	FLOW PEAK	am/op/pm	AM		
LEG NAME	PCU	TURNS (1st exit, 2nd..U)				FLOF	CL	FLOW RATIO	FLOW TIME
NB F d	1.02	4	6	12	0	1.00	50	1.00 1.100 1.00	15 30 45
WB Oke	1.02	10	311	1	0	1.00	50	1.00 1.100 1.00	15 30 45
SB F Rd	1.02	9	3	17	0	1.00	50	1.00 1.100 1.00	15 30 45
EB Okee	1.02	15	804	6	0	1.00	50	1.00 1.100 1.00	15 30 45
FLOW	veh	6	85	8	217			AVEDEL s	9.1
CAPACITY	veh	176	293	249	293			LOS SIG	A
AVE DELAY	secs	5.3	4.3	3.7	11.3			LOS UNSIG	A
MAX DELAY	secs	5.5	4.5	3.9	12.2				
AVE QUEUE	veh	0.0	0.4	0.0	2.8			VEHIC HRS	0.8
MAX QUEUE	veh	0.0	0.4	0.0	2.8			COST \$	12

14:5:09					Okeechobee & F Rd					27	
E (m)	4.00	4.00	4.00	4.00	TIME PERIOD	min	60				
L' (m)	20.00	20.00	20.00	20.00	TIME SLICE	min	5				
V (m)	3.65	3.65	3.65	3.65	RESULTS PERIOD	min	25	40			
RAD (m)	15.00	15.00	15.00	15.00	TIME COST	\$/hr	15.00				
PHI (d)	25.00	25.00	25.00	25.00	FLOW PERIOD	min	0	60			
DIA (m)	35.00	35.00	35.00	35.00	FLOW TYPE	pcu/veh	VEH				
GRAD SEP	0	0	0	0	FLOW PEAK	am/op/pm	PM				
LEG NAME	PCU	TURNS (1st exit, 2nd..U)				FLOF	CL	FLOW RATIO			FLOW TIME
NB F Rd	1.02	9	6	13	0	1.00	50	1.00	1.100	1.00	15 30 45
WB Okee	1.02	20	783	13	0	1.00	50	1.00	1.100	1.00	15 30 45
SB F Rd	1.02	3	7	15	0	1.00	50	1.00	1.100	1.00	15 30 45
EB Okee	1.02	20	518	2	0	1.00	50	1.00	1.100	1.00	15 30 45
FLOW	veh	7	215	7	142			AVEDEL	s	8.8	
CAPACITY	veh	218	293	178	291			LOS SIG	A		
AVE DELAY	secs	4.2	11.0	5.2	6.0			LOS UNSIG	A		
MAX DELAY	secs	4.5	11.8	5.5	6.3						
AVE QUEUE	veh	0.0	2.7	0.0	0.9			VEHIC HRS	0.9		
MAX QUEUE	veh	0.0	2.7	0.0	1.0			COST	\$	14	

Appendix G

Two Way Stop Control Operational Analysis

HCM Unsignalized Intersection Capacity Analysis

1: Okeechobee Blvd & B Road

5/14/2009



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (veh/h)	7	588	13	11	268	15	10	1	10	20	4	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	639	14	12	291	16	11	1	11	22	4	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	308			653			1000	993	646	996	992	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	308			653			1000	993	646	996	992	299
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			95	100	98	90	98	98
cM capacity (veh/h)	1253			934			212	241	471	214	241	740

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	661	320	23	39
Volume Left	8	12	11	22
Volume Right	14	16	11	13
cSH	1253	934	289	285
Volume to Capacity	0.01	0.01	0.08	0.14
Queue Length 95th (ft)	0	1	6	12
Control Delay (s)	0.2	0.5	18.5	19.6
Lane LOS	A	A	C	C
Approach Delay (s)	0.2	0.5	18.5	19.6
Approach LOS			C	C

Intersection Summary

Average Delay	1.4
Intersection Capacity Utilization	44.4%
Analysis Period (min)	15
ICU Level of Service	A

HCM Unsignalized Intersection Capacity Analysis

1: Okeechobee Blvd & B Road

5/14/2009

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	559	23	18	651	27	16	3	20	22	4	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	608	25	20	708	29	17	3	22	24	4	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	737			633			1407	1409	620	1418	1407	722
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	737			633			1407	1409	620	1418	1407	722
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			84	98	96	77	97	98
cM capacity (veh/h)	869			950			109	135	488	105	135	427
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	639	757	42	38								
Volume Left	7	20	17	24								
Volume Right	25	29	22	10								
cSH	869	950	185	135								
Volume to Capacity	0.01	0.02	0.23	0.28								
Queue Length 95th (ft)	1	2	21	27								
Control Delay (s)	0.2	0.5	30.1	42.0								
Lane LOS	A	A	D	E								
Approach Delay (s)	0.2	0.5	30.1	42.0								
Approach LOS			D	E								
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			57.1%		ICU Level of Service					B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

18: Okeechobee Blvd & F Road

5/14/2009

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	6	804	15	1	311	10	12	6	4	17	3	9	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	7	874	16	1	338	11	13	7	4	18	3	10	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type		None			None								
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	349			890			1252	1246	882	1248	1249	343	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	349			890			1252	1246	882	1248	1249	343	
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99			100			91	96	99	87	98	99	
cM capacity (veh/h)	1210			761			144	172	345	143	172	699	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	897	350	24	32									
Volume Left	7	1	13	18									
Volume Right	16	11	4	10									
cSH	1210	761	170	194									
Volume to Capacity	0.01	0.00	0.14	0.16									
Queue Length 95th (ft)	0	0	12	14									
Control Delay (s)	0.1	0.0	29.7	27.1									
Lane LOS	A	A	D	D									
Approach Delay (s)	0.1	0.0	29.7	27.1									
Approach LOS			D	D									
Intersection Summary													
Average Delay			1.3										
Intersection Capacity Utilization			57.6%		ICU Level of Service					B			
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis

18: Okeechobee Blvd & F Road

5/14/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	2	518	20	13	783	20	13	6	9	15	7	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	563	22	14	851	22	14	7	10	16	8	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	873			585			1476	1479	574	1482	1479	862
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	873			585			1476	1479	574	1482	1479	862
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			85	95	98	83	94	99
cM capacity (veh/h)	773			990			97	123	518	96	123	355
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	587	887	30	27								
Volume Left	2	14	14	16								
Volume Right	22	22	10	3								
cSH	773	990	140	113								
Volume to Capacity	0.00	0.01	0.22	0.24								
Queue Length 95th (ft)	0	1	20	22								
Control Delay (s)	0.1	0.4	37.6	46.7								
Lane LOS	A	A	E	E								
Approach Delay (s)	0.1	0.4	37.6	46.7								
Approach LOS			E	E								

Intersection Summary

Average Delay		1.8		
Intersection Capacity Utilization		61.8%	ICU Level of Service	B
Analysis Period (min)		15		

Appendix H

Signal Warrant Analysis

TRAFFIC SIGNAL WARRANT SUMMARY
(Warrants 1A, 2, & 3)

Major Street: **Okeechobee Blvd (EB-WB)**
 Minor Street: **B Rd (NB-SB)**
 City: **Town of Loxahatchee Groves, Florida**
 Major Street Speed Limit > 40 mph (Y or N): **Y**
 Isolated Community < 10,000 Population (Y or N): **Y**

No. of Lanes: **1**
 No. of Lanes: **1**

Engineer: **BK**
 Date: **5/13/2009**
 Count Date: **Tuesday, May 12, 2009**

Comments: **70% Threshold Used Due to Major Street Speed Limit > 40 mph**

End Time	Major Street Volume (2-Way)	Minor Street Volumes			Warrant 1 - Condition A Minimum Vehicular Volume			Warrant 1 - Condition B Interruption of Continuous Traffic			Warrant 2 Four Hour Volume		Warrant 3B Peak Hour Volume	
		NB	SB	Highest Minor St. Approach	Major Street	Minor Street	Both Met ?	Major Street	Minor Street	Both Met ?	Approx. Minor Street Threshold	Met ?	Approx. Minor Street Threshold	Met ?
		Applicable Threshold Values:			350	105		525	53		Figure 4C-2		Figure 4C-4	
0:00	58	7	1	7	N	N	N	N	N	N	376	N	493	N
1:00	33	1	0	1	N	N	N	N	N	N	401	N	517	N
2:00	33	0	0	0	N	N	N	N	N	N	401	N	517	N
3:00	34	2	1	2	N	N	N	N	N	N	400	N	516	N
4:00	78	8	1	8	N	N	N	N	N	N	357	N	475	N
5:00	230	5	6	6	N	N	N	N	N	N	242	N	355	N
6:00	662	22	19	22	Y	N	N	Y	N	N	80	N	156	N
7:00	998	42	29	42	Y	N	N	Y	N	N	60	N	82	N
8:00	754	36	34	36	Y	N	N	Y	N	N	63	N	130	N
9:00	583	37	15	37	Y	N	N	Y	N	N	98	N	181	N
10:00	508	46	23	46	Y	N	N	N	N	N	119	N	209	N
11:00	599	38	22	38	Y	N	N	Y	N	N	94	N	175	N
12:00	555	37	22	37	Y	N	N	Y	N	N	105	N	191	N
13:00	658	45	16	45	Y	N	N	Y	N	N	81	N	157	N
14:00	710	56	29	56	Y	N	N	Y	Y	Y	71	N	142	N
15:00	814	50	16	50	Y	N	N	Y	N	N	60	N	116	N
16:00	896	84	35	84	Y	N	N	Y	Y	Y	60	Y	99	N
17:00	1,019	73	43	73	Y	N	N	Y	Y	Y	60	Y	79	N
18:00	778	43	24	43	Y	N	N	Y	N	N	60	N	125	N
19:00	824	25	17	25	Y	N	N	Y	N	N	60	N	114	N
20:00	691	17	16	17	Y	N	N	Y	N	N	74	N	147	N
21:00	562	10	14	14	Y	N	N	Y	N	N	104	N	188	N
22:00	340	13	5	13	N	N	N	N	N	N	183	N	288	N
23:00	148	7	3	7	N	N	N	N	N	N	299	N	415	N
				Hours Required:	8	Hours Required:				8	Hrs Reqd:	4	Hrs Reqd.:	1
				Hours Satisfied:	0	Hours Satisfied:				3	Hrs Satisfied:	2	Hrs Satisfied:	0
				NOT Satisfied			NOT Satisfied			NOT Satisfied		NOT Satisfied		

TRAFFIC SIGNAL WARRANT SUMMARY

City: Loxahatchee Groves
 County: Palm Beach County

Engineer: Bryan Kelley, E.I.
 Date: May 13, 2009

Major Street: Okeechobee Boulevard
 Minor Street: B Road

Lanes: 1 Critical Approach Speed: 54
 Lanes: 1

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (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 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.
 Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied.

Applicable: Yes No
 Satisfied: Yes No

Condition A - Minimum Vehicular Volume

100% Satisfied: Yes No
 80% Satisfied: Yes No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
					1		2 or more		7:00 AM	8:00 AM	2:00 PM	3:00 PM
	100%	70%	100%	70%								
Both Approaches on Major Street	500 (400)	350	600 (480)	420	998	754	710	814	896	1,019	778	824
Highest Approach on Minor Street	150 (120)	105	200 (160)	140	42	36	56	50	84	73	43	25

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours. Condition is 80% satisfied if parenthetical volumes are met for eight hours.

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where the traffic volume is so heavy that traffic on the minor street suffers excessive delay.

Applicable: Yes No
 Excessive Delay: Yes No
 100% Satisfied: Yes No
 80% Satisfied: Yes No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
					1		2 or more		7:00 AM	8:00 AM	2:00 PM	3:00 PM
	100%	70%	100%	70%								
Both Approaches on Major Street	750 (600)	525	900 (720)	630	998	754	710	814	896	1,019	778	824
Highest Approach on Minor Street	75 (60)	53	100 (80)	70	42	36	56	50	84	73	43	25

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours. Condition is 80% satisfied if parenthetical volumes are met for eight hours.

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Delay is not excessive.

Not Applicable:

WARRANT 3 - PEAK HOUR

This signal warrant shall be applied only in unusual cases. Such cases include manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

Not Applicable:

TRAFFIC SIGNAL WARRANT SUMMARY

City: Loxahatchee Groves
 County: Palm Beach County

Engineer: Bryan Kelley, E.I.
 Date: May 13, 2009

Major Street: Okeechobee Boulevard
 Minor Street: B Road

Lanes: 1 Critical Approach Speed: 54
 Lanes: 1

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (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%

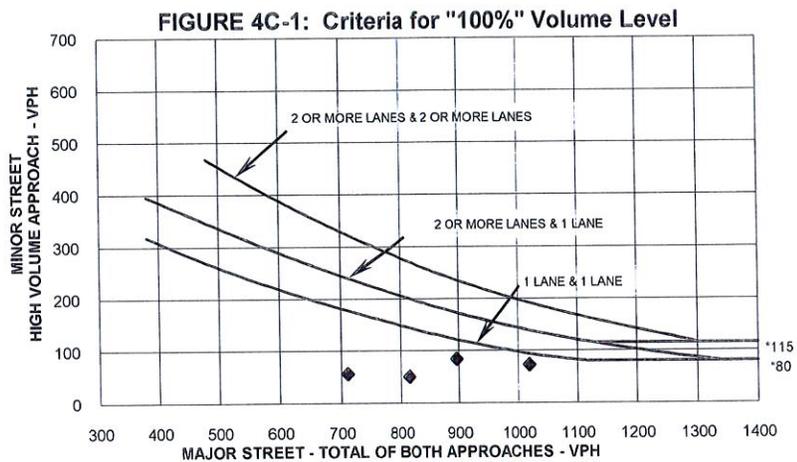
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

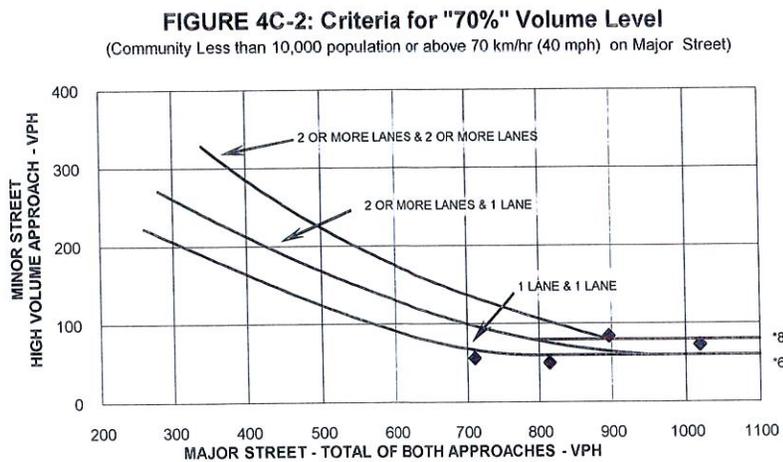
Applicable: Yes No
 Satisfied: Yes No

Plot four volume combinations on the applicable figure below.

Four Highest Hours	Volumes	
	Major Street	Minor Street
2:00 PM	710	56
3:00 PM	814	50
4:00 PM	896	84
5:00 PM	1,019	73



* Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.



* Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

Source: Revised from NCHRP Report 457

**TRAFFIC SIGNAL WARRANT SUMMARY
(Warrants 1A, 2, & 3)**

Major Street: **Okeechobee Blvd (EB-WB)**
 Minor Street: **F Rd (NB-SB)**
 City: **Town of Loxahatchee Groves, Florida**
 Major Street Speed Limit > 40 mph (Y or N): **Y**
 Isolated Community < 10,000 Population (Y or N): **Y**

No. of Lanes: **1**
 No. of Lanes: **1**

Engineer: **BK**
 Date: **Revised 11/30/2009**
 Count Date: **5/12/2009 and 8/26/2009**

Comments: **70% Threshold Used Due to Major Street Speed Limit > 40 mph**

End Time	Major Street Volume (2-Way)	Minor Street Volumes			Warrant 1 - Condition A Minimum Vehicular Volume			Warrant 1 - Condition B Interruption of Continuous Traffic			Warrant 2 Four Hour Volume		Warrant 3B Peak Hour Volume		
		NB	SB	Highest Minor St. Approach	Major Street	Minor Street	Both Met ?	Major Street	Minor Street	Both Met ?	Approx. Minor Street Threshold	Met ?	Approx. Minor Street Threshold	Met ?	
Applicable Threshold Values:					350	105		525	53		Figure 4C-2		Figure 4C-4		
0:00	61	0	1	1	N	N	N	N	N	N	373	N	490	N	
1:00	47	1	2	2	N	N	N	N	N	N	386	N	503	N	
2:00	29	2	1	2	N	N	N	N	N	N	405	N	521	N	
3:00	40	1	1	1	N	N	N	N	N	N	393	N	510	N	
4:00	89	0	0	0	N	N	N	N	N	N	347	N	465	N	
5:00	294	4	4	4	N	N	N	N	N	N	206	N	314	N	
6:00	823	5	8	8	Y	N	N	Y	N	N	60	N	114	N	
7:00	1,176	29	14	29	Y	N	N	Y	N	N	60	N	75	N	
8:00	911	16	20	20	Y	N	N	Y	N	N	60	N	97	N	
9:00	743	19	17	19	Y	N	N	Y	N	N	65	N	133	N	
10:00	646	22	24	24	Y	N	N	Y	N	N	84	N	160	N	
11:00	769	22	20	22	Y	N	N	Y	N	N	61	N	127	N	
12:00	740	24	29	29	Y	N	N	Y	N	N	66	N	134	N	
13:00	830	18	20	20	Y	N	N	Y	N	N	60	N	113	N	
14:00	833	23	18	23	Y	N	N	Y	N	N	60	N	112	N	
15:00	1,002	18	23	23	Y	N	N	Y	N	N	60	N	81	N	
16:00	1,169	19	25	25	Y	N	N	Y	N	N	60	N	75	N	
17:00	1,280	26	28	28	Y	N	N	Y	N	N	60	N	75	N	
18:00	948	24	16	24	Y	N	N	Y	N	N	60	N	90	N	
19:00	862	8	13	13	Y	N	N	Y	N	N	60	N	106	N	
20:00	732	6	11	11	Y	N	N	Y	N	N	67	N	136	N	
21:00	553	7	7	7	Y	N	N	Y	N	N	106	N	192	N	
22:00	337	2	6	6	N	N	N	N	N	N	184	N	289	N	
23:00	180	0	0	0	N	N	N	N	N	N	275	N	391	N	
Hours Required:					8	Hours Required:			8	Hrs Reqd.:		4	Hrs Reqd.:		1
Hours Satisfied:					0	Hours Satisfied:			0	Hrs Satisfied:		0	Hrs Satisfied:		0
NOT Satisfied					NOT Satisfied			NOT Satisfied		NOT Satisfied		NOT Satisfied			

TRAFFIC SIGNAL WARRANT SUMMARY

City: Loxahatchee Groves
 County: Palm Beach County

Engineer: Bryan Kelley, E.I.
 Date: Revised 11/30/2009

Major Street: Okeechobee Boulevard
 Minor Street: F Road

Lanes: 1 Critical Approach Speed: 52
 Lanes: 1

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (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 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.
 Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied.

Applicable: Yes No
 Satisfied: Yes No

Condition A - Minimum Vehicular Volume

100% Satisfied: Yes No
 80% Satisfied: Yes No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
					1		2 or more		7:00 AM	8:00 AM	12:00 PM	2:00 PM
	100%	70%	100%	70%								
Both Approaches on Major Street	500 (400)	350	600 (480)	420	1,176	911	740	833	1,002	1,169	1,280	948
Highest Approach on Minor Street	150 (120)	105	200 (160)	140	29	20	29	23	23	25	28	24

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours. Condition is 80% satisfied if parenthetical volumes are met for eight hours.

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where the traffic volume is so heavy that traffic on the minor street suffers excessive delay.

Applicable: Yes No
 Excessive Delay: Yes No
 100% Satisfied: Yes No
 80% Satisfied: Yes No

(volumes in veh/hr)	Minimum Requirements (80% Shown in Brackets)				Eight Highest Hours							
					1		2 or more		7:00 AM	9:00 AM	10:00 AM	12:00 PM
	100%	70%	100%	70%								
Both Approaches on Major Street	750 (600)	525	900 (720)	630	1,176	743	646	740	833	1,002	1,169	1,280
Highest Approach on Minor Street	75 (60)	53	100 (80)	70	29	19	24	29	23	23	25	24

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours. Condition is 80% satisfied if parenthetical volumes are met for eight hours.

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Delay is not excessive.

Not Applicable:

WARRANT 3 - PEAK HOUR

This signal warrant shall be applied only in unusual cases. Such cases include manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

Not Applicable:

TRAFFIC SIGNAL WARRANT SUMMARY

City: Loxahatchee Groves
 County: Palm Beach County

Engineer: Bryan Kelley, E.I.
 Date: Revised 11/30/2009

Major Street: Okeechobee Boulevard
 Minor Street: F Road

Lanes: 1 Critical Approach Speed: 52
 Lanes: 1

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (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%

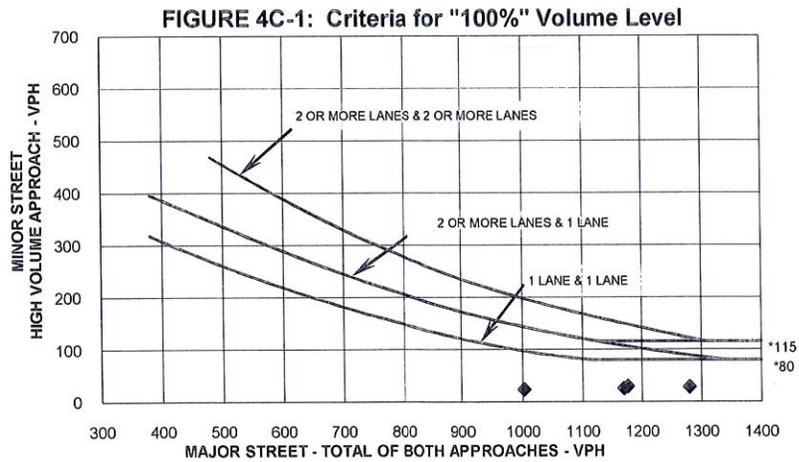
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

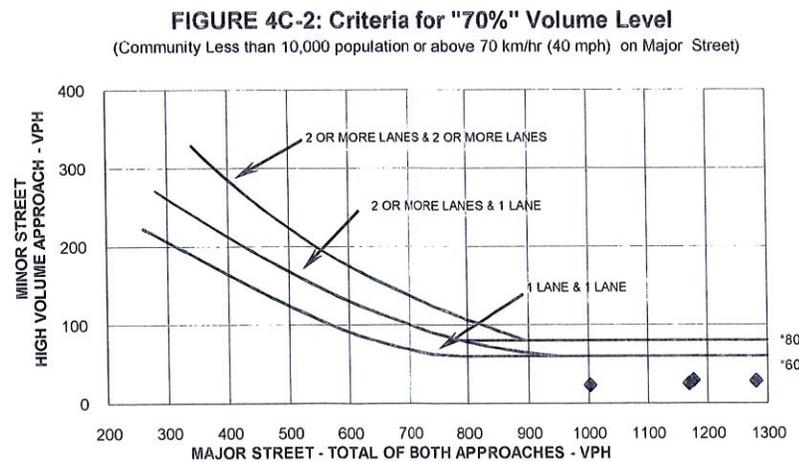
Applicable: Yes No
 Satisfied: Yes No

Plot four volume combinations on the applicable figure below.

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	1,176	29
3:00 PM	1,002	23
4:00 PM	1,169	25
5:00 PM	1,280	28



* Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.



* Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

Source: Revised from NCHRP Report 457

Appendix I

Supplemental Traffic Data from PBC

From: George Webb <GWebb@pbcgov.org>

To: dlipp@loxahatcheegroves.org <dlipp@loxahatcheegroves.org>

Cc: Jess Santamaria <JSantama@pbcgov.org>; Tanya McConnell N. <TMcConne@pbcgov.org>; Dan Weisberg <DWeisber@pbcgov.org>; Motasem Al-Turk <MAlturk@pbcgov.org>; Cathy Stewart <CStewart@pbcgov.org>; clerk@loxahatcheegroves.org <clerk@loxahatcheegroves.org>; fspence@loxahatcheegroves.org <fspence@loxahatcheegroves.org>; MarleneEveritt R. <MEveritt@pbcgov.org>

Subject: Traffic study for Okee/ F Road

Date: Tue, Sep 1, 2009 1:41 pm

Attachments: OKEECHOBEE_BL_AT_F_RD_8_2009.pdf (315K)

Vice Mayor Lipp:

Attached is the complete traffic study (tube counts, hand counts and accident information) that we finished last week (after school had started). As you can see from the summary page (5 of 11) showing the traffic counts for the eight highest hours, no single hour came close to meeting the warrant requirement. The data we collected were similar to the counts in your previous traffic study volumes for three of the four approaches. However, the south approach, showing northbound vehicles, had significantly lower hourly volumes than those in your study (50%+ fewer vehicles counted for many hours). In contrast, our hand counts for the two peak hours were in the same range as the hand counts in your study (for all approaches).

Those northbound vehicle volumes were the basis in your engineer's report for showing that the signal warrant was met.

With this new information, the signal warrant is not met. If you have any questions regarding the data, I would be more than happy to discuss that with you. If your engineers want additional information or want to discuss this with my staff please have them call them directly.

Under Florida law, e-mail addresses are public records. If you do not want your e-mail address released in response to a public records request, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

DATA SECTION - PROJECT SHEET

LOCATION ON OR E_W	OKEECHOBEE BL	STUDY #	
INTERSECTION N_S	F ROAD	ATLAS PG	65
INT #		START DATE	7/24/2009
SCHOOL NAME:		DUE DATE	
		CALMING	

REQUESTED BY	MO		
ADDRESS			
REQ PHONE #		PHONE #2	

TYPE STUDY SS TC

PROJECT SHEET	TRAFFIC TECH	TRAFFIC TECH -	
WRITTEN BY	ASSIGNEE	ASSIGN DATE	
RJP	HLP	7/27/2009	

LANEAGE AND SPEED LIMITS

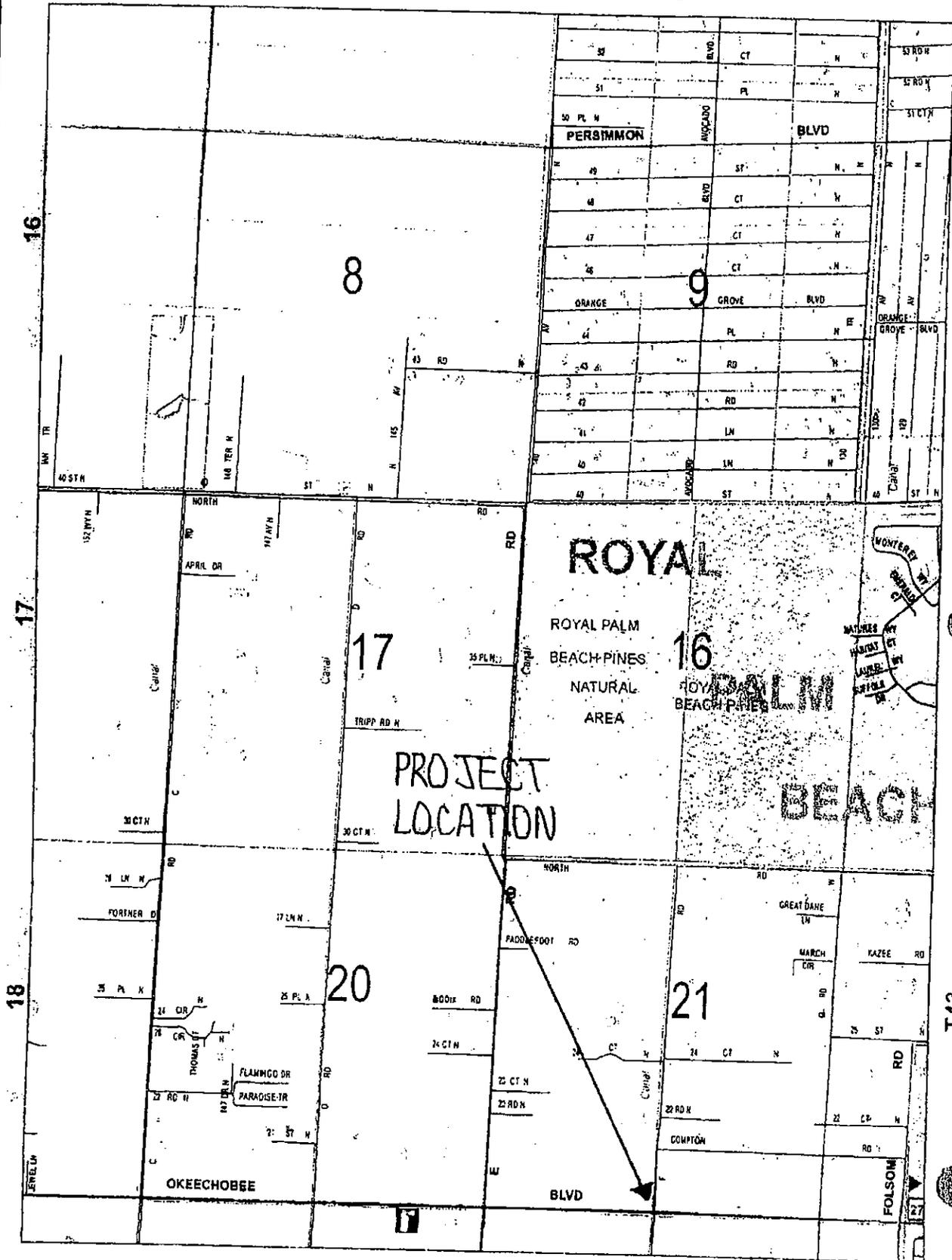
	L	LT	T	RT	R		
NORTH APPROACH	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	NA SPEED	30
SOUTH APPROACH	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	SA SPEED	30
EAST APPROACH	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	EA SPEED	45
WEST APPROACH	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	WA SPEED	45

COMMENTS OR ACTION TAKEN

WEEK OF SEPT 1 2009- SS COMPLETE

WORK ORDER #			
RESPONDED TO	MAA	RESPONSE BY	STUDY
COMPLETED BY	SPI/HLP	COMP DATE	8/27/2009

APPROVED
 ROBERT J. PATANE
 AUG 27 2009 *[Signature]*
 DATA SUPERVISOR
 TRAFFIC DIVISION



T43

T43

Robert Patane

ATLAS PG 65

From: Motasem Al-Turk
Sent: Friday, July 24, 2009 9:21 AM
To: Robert Patane
Subject: FW: Okee @ F Rd
Attachments: OKEE AT F RD 7 2009.pdf

Please schedule for a full signal warrant study during the second week of school.

From: George Webb
Sent: Friday, July 24, 2009 5:28 AM
To: Johnnie Easton; Chuck Suits
Cc: Dan Weisberg; Motasem Al-Turk; Tanya McConnell N.; Cathy Stewart
Subject: FW: Okee @ F Rd

Please pass on to the Commissioner and to Vice-Mayor Lipp that there appears to be a significant discrepancy in the numbers used to justify the signal. As I mentioned in the meeting, we did check the morning peak hour and found a major difference (see attached). As per below, we will be scheduling a complete signal study after school opens. At this point, there is no reason to look for funding for the signal - we should all wait until the new count info is available. As for the email below, TMC = Turing Movement Count

From: Motasem Al-Turk
Sent: Thursday, July 23, 2009 10:05 AM
To: George Webb
Subject: FW: Okee @ F Rd

George,

Attached is the 8:00 – 9:00 AM TMC. The NB total is 9 vph. I checked CG&A's report and found that their TMC showed 17 vph for the same hour, however, their hose counts showed 50. I also compared their hose counts for 3 of the 4 hours they used to warrant the signal and found that their hose counts were more than double their TMC in all cases. See the summary table below:

<u>PERIOD</u>	<u>TMC</u>	<u>HOSE</u>
7:00AM	25	72
4:00 PM	35	72
5:00 PM	32	66

I recommend that we do a full signal warrant study during the school season. Awaiting your directions.

Thanks,

Mo

From: Robert Patane
Sent: Thursday, July 23, 2009 8:59 AM
To: Motasem Al-Turk
Subject: RE: Okee @ F Rd

See the attached...

From: Motasem Al-Turk
Sent: Wednesday, July 22, 2009 5:40 PM
To: Robert Patane
Subject: Okee @ F Rd

PLS do TMC in the AM only. GTW wants to compare with the Town's numbers. If way off, we may also do the PM later. and if both are off, we'll do the hoses.

Thanks,



**PALM BEACH COUNTY TRAFFIC
ENGINEERING SIGNAL STUDY
SUMMARY SHEET**

DATE: 2009/08/25

SIGNAL STUDY
LOCATION -

OKEECHOBEE BLVD AT F RD

COMMISSION DISTRICT #6

As set forth on the Manual on Uniform Traffic Control Devices for Streets and Highways, the following warrant(s) is / are summarized below .

WARRANT # (-100% RT) YES / NO

(SENIOR) WARRANT) YES / NO

CONDITION A: NO

1: NO

CONDITION B: NO

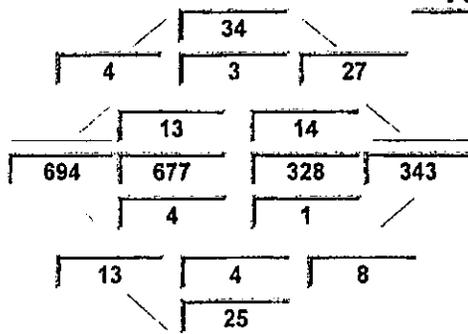
2: NO

TIME	AM / PM	MAJOR ST	MAJOR ST	MAJOR ST	MINOR ST	-100% RT	SENIOR 17 %RT
		DIRECTION	DIRECTION	TOTAL	VOLUME - DIR		
		EA	WA	525	NA-53		
1: 6-7	AM	302	441	743	23		
2: 7-8	AM	369	728	1097	41		
3: 9-10	AM	284	443	727	31		
4: 11-12	AM	359	391	750	24		
5: 3-4	PM	526	454	980	32		
6: 4-5	PM	686	475	1161	24		
7: 5-6	PM	842	464	1306	21		
8: 7-8	PM	389	272	661	21		

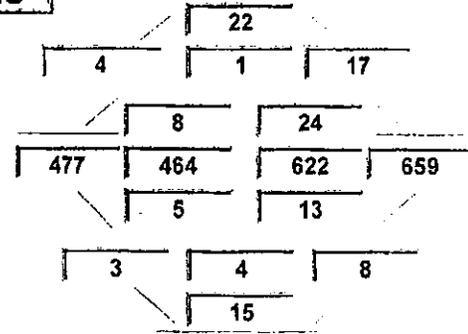
Vehicle accident records available to the Traffic Engineering Division reveal that : 1 reported signal correctable accidents occurred at this intersection beginning 6/1/2008 and ending: 5/31/2009

WARRANT 7: YES/NO NO

TURN COUNT VOLUMES



N



A.M. PEAK HOUR

P.M. PEAK HOUR

TOTAL: 1096

TOTAL: 1173

DATE: 8/26/2009

TIME: 7:00-8:00

DATE: 8/26/2009

TIME: 4:00-5:00

PALM BEACH COUNTY
TRAFFIC ENGINEERING

Site Code:
Station ID: SP
OKEECHOBEE RD @ F RD

Latitude: 0' 0.000 Undefined

17% Senior

Start Time	25-Aug-0 Tue	N/A	S/A	E/A	W/A	Total		
12:00 AM		3	0	58	25	86		
01:00		2	1	31	15	49		
02:00		0	2	19	8	29		
03:00	X.88	1	X.90	15	16	33		
04:00		2	0	15	48	65		
05:00		4	4	114	119	241		
06:00	20	✓23	21	5	302	441	743	
07:00	36	✓41	37	29	369	728	1097	1167
08:00		20	16	288	648	972		
09:00	27	✓31	28	19	284	443	727	777
10:00		12	22	256	394	684		
11:00	21	✓24	22	22	359	391	750	796
<hr/>								
12:00 PM	X.82	18	X.85	24	381	370	793	
01:00		17	18	413	363	811		
02:00		8	23	469	393	893		
03:00	26	✓32	27	18	526	454	980	1030
04:00	20	✓24	20	19	686	475	1161	1204
05:00	17	✓21	18	26	842	464	1306	1353
06:00		9	24	595	381	1009		
07:00	17	✓21	18	8	389	272	661	690
08:00		18	6	339	190	553		
09:00		5	7	261	123	396		
10:00		1	2	164	66	233		
11:00		0	0	78	39	117		
Total		337	296	7253	6866	14752		
Percent		2.3%	2.0%	49.2%	46.5%			
AM Peak		07:00	07:00	07:00	07:00	07:00		
Volume		41	29	369	728	1167		
PM Peak		15:00	17:00	17:00	16:00	17:00		
Volume		32	26	842	475	1353		

$$AM = .17 \times .12 + .88 = .90$$

$$PM = .17 \times .18 + .82 = .85$$

PALM BEACH COUNTY
TRAFFIC ENGINEERING

Site Code:
Station ID: SP
OKEECHOBEE RD @ F RD

Latitude: 0' 0.000 Undefined

Start Time	N/A		S/A		1 & 2 Combined		E/A		W/A		3 & 4 Combined		1,2,3,4 Combined	
	25-Aug-09		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	0	6	0	5	0	11	23	93	6	96	29	189	29	200
12:15	2	4	0	12	2	16	13	106	9	105	22	211	24	227
12:30	0	5	0	3	0	8	14	92	5	89	19	181	19	189
12:45	1	3	0	4	1	7	8	90	5	80	13	170	14	177
01:00	2	4	0	8	2	12	12	101	5	87	17	188	19	200
01:15	0	6	0	2	0	8	6	94	3	93	9	187	9	195
01:30	0	6	0	6	0	12	7	112	2	100	9	212	9	224
01:45	0	1	1	2	1	3	6	106	5	83	11	189	12	192
02:00	0	1	0	10	0	11	4	119	2	83	6	202	6	213
02:15	0	3	0	3	0	6	4	120	3	109	7	229	7	235
02:30	0	0	0	5	0	5	4	104	2	109	6	213	6	218
02:45	0	4	2	5	2	9	7	126	1	92	8	218	10	227
03:00	0	9	0	3	0	12	2	120	1	85	3	205	3	217
03:15	0	14	0	4	0	18	2	130	2	139	4	269	4	287
03:30	0	6	1	5	1	11	5	141	6	124	11	265	12	276
03:45	1	3	0	6	1	9	6	135	7	106	13	241	14	250
04:00	0	11	0	7	0	18	2	166	4	102	6	268	6	286
04:15	0	6	0	3	0	9	4	180	9	125	13	305	13	314
04:30	0	3	0	3	0	6	6	172	17	141	23	313	23	319
04:45	2	4	0	6	2	10	3	168	18	107	21	275	23	285
05:00	2	2	0	2	2	4	15	198	25	99	40	297	42	301
05:15	1	7	0	10	1	17	15	202	22	103	37	305	38	322
05:30	1	4	1	4	2	8	24	244	26	126	50	370	52	378
05:45	0	8	3	10	3	18	60	198	46	136	106	334	109	352
06:00	1	3	0	8	1	11	38	176	64	91	102	267	103	278
06:15	3	1	0	6	3	7	55	149	110	98	165	247	168	254
06:30	7	4	3	5	10	9	78	146	129	92	207	238	217	247
06:45	12	1	2	5	14	6	131	124	138	100	269	224	283	230
07:00	5	5	5	2	10	7	122	110	171	71	293	181	303	188
07:15	14	5	5	2	19	7	91	110	177	73	268	183	287	190
07:30	14	7	12	1	26	8	74	77	196	64	270	141	296	149
07:45	8	4	7	3	15	7	82	92	184	64	266	156	281	163
08:00	3	4	4	3	7	7	74	80	198	60	272	140	279	147
08:15	4	8	4	1	8	9	77	114	161	50	238	164	246	173
08:30	8	2	4	1	12	3	70	80	141	39	211	119	223	122
08:45	5	4	4	1	9	5	67	65	148	41	215	106	224	111
09:00	5	2	5	2	10	4	76	86	111	41	187	127	197	131
09:15	6	1	7	2	13	3	60	59	106	35	166	94	179	97
09:30	9	2	6	2	15	4	70	63	111	21	181	84	196	88
09:45	11	0	1	1	12	1	78	53	115	26	193	79	205	80
10:00	5	0	10	0	15	0	66	51	96	24	162	75	177	75
10:15	1	0	8	0	9	0	51	39	108	20	159	59	168	59
10:30	3	1	2	2	5	3	72	38	92	12	164	50	169	53
10:45	3	0	2	0	5	0	67	36	98	10	165	46	170	46
11:00	10	0	5	0	15	0	91	14	88	10	179	24	194	24
11:15	2	0	5	0	7	0	95	24	96	14	191	38	198	38
11:30	5	0	7	0	12	0	84	21	92	10	176	31	188	31
11:45	7	0	5	0	12	0	89	19	115	5	204	24	216	24
Total	163	174	121	175	284	349	2110	5143	3276	3590	5386	8733	5670	9082
Percent Comb. Total	48.4%	51.6%	40.9%	59.1%	44.9%	55.1%	29.1%	70.9%	47.7%	52.3%	38.1%	61.9%	38.4%	61.6%
Peak	06:45	03:15	07:00	05:15	07:00	03:15	08:30	05:00	07:15	04:00	06:45	05:00	06:45	05:00
Volume	45	34	29	32	70	56	422	842	755	475	1100	1306	1169	1353
P.H.F	0.804	0.607	0.604	0.667	0.673	0.778	0.805	0.863	0.953	0.842	0.939	0.882	0.965	0.895

PALM BEACH COUNTY
TRAFFIC ENGINEERING

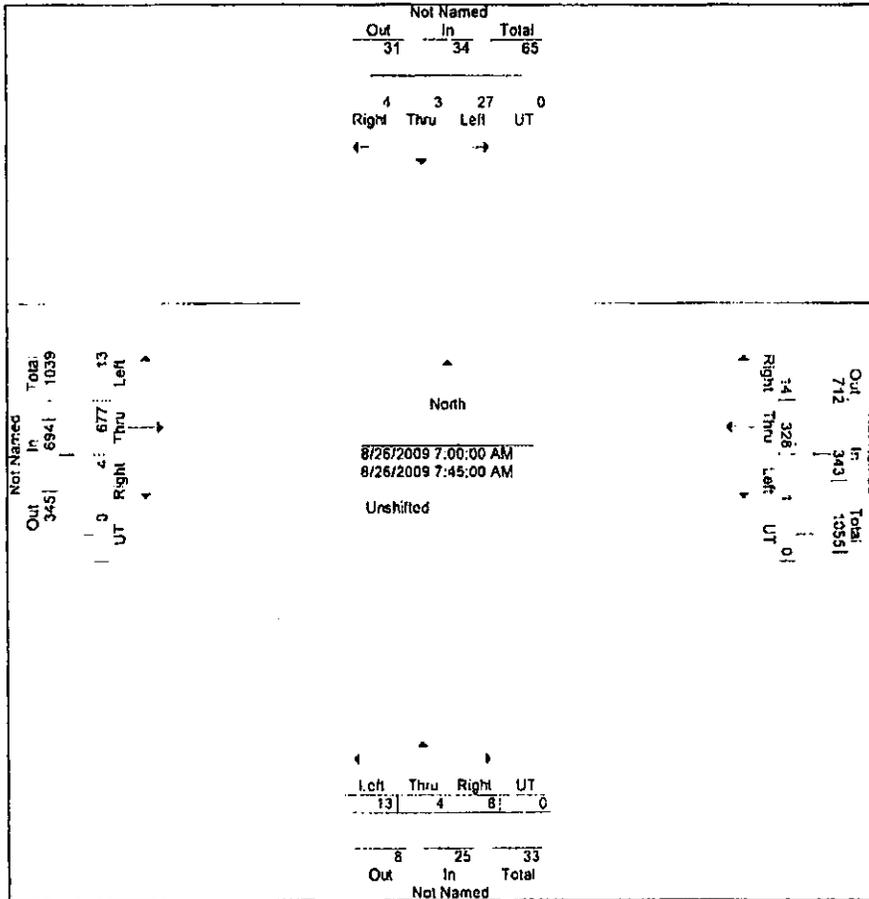
LOCATION: OKEECHOBEE BL @ F RD

File Name : OKFRDA89
Site Code : 00000000
Start Date : 08/26/2009
Page No : 1

COUNTED BY: SP

Groups Printed- Unshifted

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	UT	App. Total	Left	Thru	Right	UT	App. Total	Left	Thru	Right	UT	App. Total	Left	Thru	Right	UT	App. Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	4	0	1	0	5	0	109	6	0	115	3	2	0	0	5	0	164	0	0	164	289
07:15 AM	8	1	0	0	9	0	76	2	0	78	3	1	2	0	6	1	163	1	0	165	258
07:30 AM	9	1	2	0	12	1	73	2	0	76	3	0	5	0	8	0	189	2	0	191	287
07:45 AM	6	1	1	0	8	0	70	4	0	74	4	1	1	0	6	12	161	1	0	174	262
Total	27	3	4	0	34	1	328	14	0	343	13	4	8	0	25	13	677	4	0	694	1096
Grand Total	27	3	4	0	34	1	328	14	0	343	13	4	8	0	25	13	677	4	0	694	1096
Apprch %	79.4	8.8	11.8	0.0		0.3	95.6	4.1	0.0		52.0	16.0	32.0	0.0		1.9	97.6	0.6	0.0		
Total %	2.5	0.3	0.4	0.0	3.1	0.1	29.9	1.3	0.0	31.3	1.2	0.4	0.7	0.0	2.3	1.2	61.8	0.4	0.0	63.3	



PALM BEACH COUNTY
TRAFFIC ENGINEERING

LOCATION: OKEECHOBEE BL @ F RD

File Name : OKFRDP89

COUNTED BY: SP

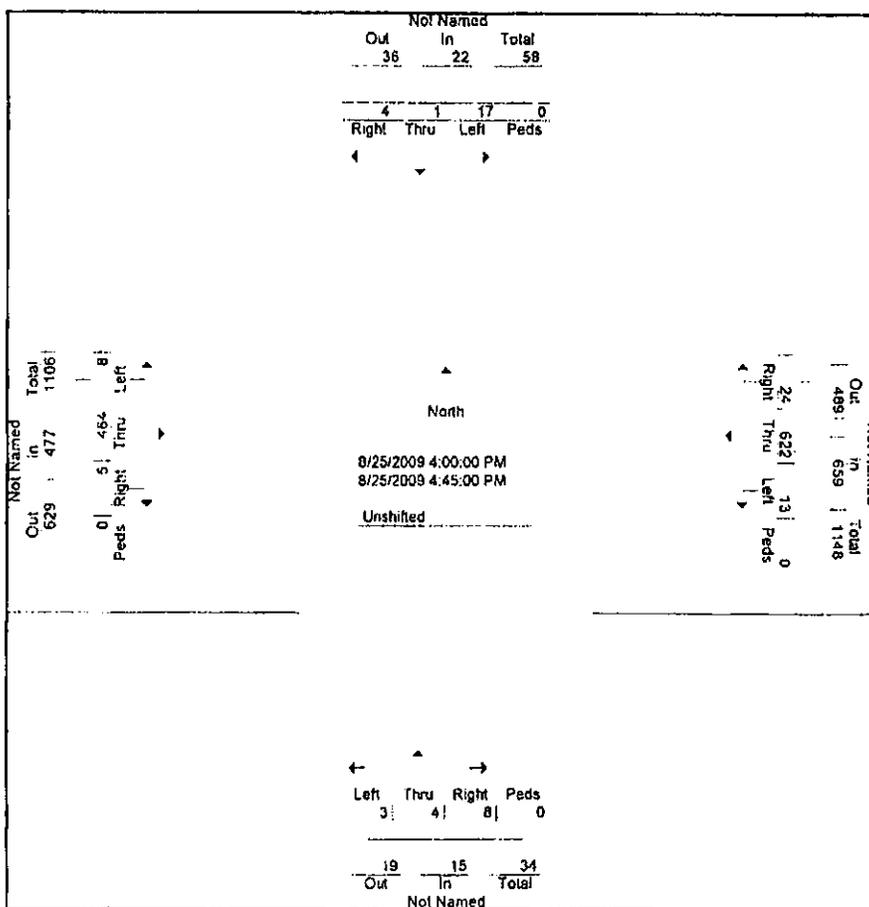
Site Code : 00000000

Start Date : 8/25/2009

Page No : 1

Groups Printed- Unshifted

Start Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	Left	Thru	Rght	Peds	App. Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	7	0	2	0	9	3	150	5	0	158	1	2	2	0	5	3	98	1	0	102	274
04:15 PM	5	1	0	0	6	3	154	6	0	163	1	1	1	0	3	3	124	0	0	127	299
04:30 PM	3	0	0	0	3	4	158	7	0	169	0	0	3	0	3	2	135	2	0	139	314
04:45 PM	2	0	2	0	4	3	160	6	0	169	1	1	2	0	4	0	107	2	0	109	286
Total	17	1	4	0	22	13	622	24	0	659	3	4	8	0	15	8	464	5	0	477	1173
Grand Total	17	1	4	0	22	13	622	24	0	659	3	4	8	0	15	8	464	5	0	477	1173
Apprch %	77.3	4.5	18.2	0.0		2.0	94.4	3.6	0.0		20.0	26.7	53.3	0.0		1.7	97.3	1.0	0.0		
Total %	1.4	0.1	0.3	0.0	1.9	1.1	53.0	2.0	0.0	56.2	0.3	0.3	0.7	0.0	1.3	0.7	39.6	0.4	0.0	40.7	



Crash Analysis Query: Okeechobee blvd at f Rd

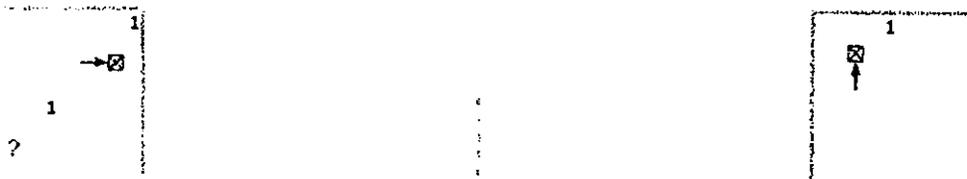
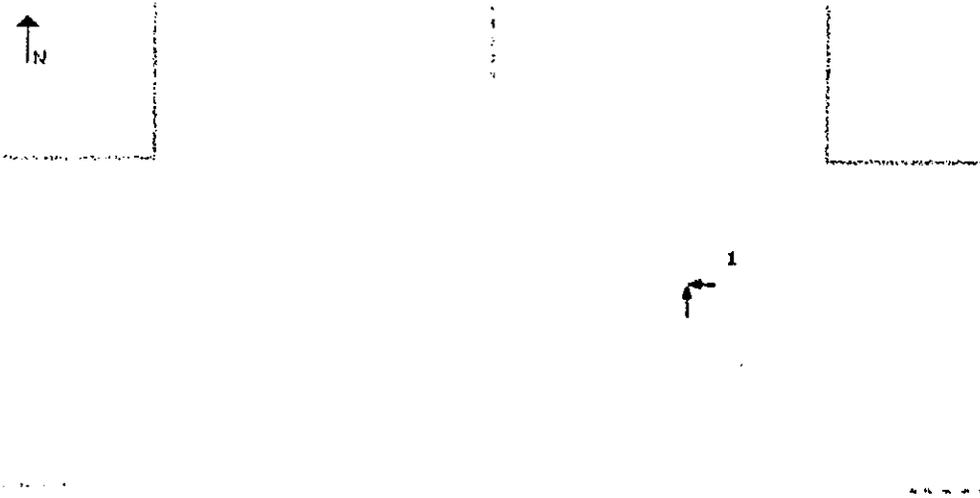


4 crash events matched the analysis criteria.
4 of 4 crash events successfully geo-located.

Crash Date: *between 06/01/2008 and 05/31/2009*

Offset Distance: 300

Geographic Extent: *Intersection of Okeechobee Blvd and F Rd*



Crash Type Legend

- Off Road
- Right Angle
- ? Unknown

Fatalities: 0, Injuries: 1, Damages: \$ 7,000, Vehicles: 5, Pedestrians: 0, Bicycles: 0, Crash Rate: *not available*, Crash Severity: 0.5830



Crash Analysis Query: Okeechobee blvd at f Rd

4 crash events matched the analysis criteria.
4 of 4 crash events successfully geo-located.

Crash Date: *between 06/01/2008 and 05/31/2009*

Offset Distance: 300

Geographic Extent: *Intersection of Okeechobee Blvd and F Rd*

Crash Type	HSMV Number	On Street	Intersecting Street	Dir	Dist	Weather	Alc/Drug Use	Date	Time
→	E Off Road (1 record)								
	76485965	Okeechobee Blvd	F Rd	E	100		No	06-16-2008	03:57 pm
↑	N Off Road (1 record)								
	60339799	F Rd	Okeechobee Blvd		0			11-05-2008	10:43 am
↖	NW Right Angle (1 record)								
	06319686	Okeechobee Blvd	F Rd	N	13			06-24-2008	10:57 am
?	Unknown (1 record)								
	10287441	Okeechobee Blvd	F Rd		0			09-13-2008	05:00 am