



SPECIAL CITY COUNCIL MEETING

October 16, 2019 at 6:30 PM

City Council Chambers, 16 Colomba Rd.

DeBary, Florida 32713

AGENDA

CALL TO ORDER

Invocation

Flag Salute

ROLL CALL

PUBLIC PARTICIPATION FOR ANY ITEMS ON THE AGENDA (Citizen comments are limited to five (5) minutes per speaker. Speakers will be called when the item is introduced for discussion.)

ADDITIONS, DELETIONS OR AMENDMENTS TO THE AGENDA

CONSENT AGENDA

1. City Manager is requesting the Mayor and City Council to authorize the City Attorney and City Manager to approve Task Order No. 2015-35 with Pegasus Engineering, LLC and their Subconsultant (Environmental Research & Design, Inc.) in order to perform the Lake Monitoring Program, in an amount not-to-exceed \$51,921.36.

2. City Manager is requesting City Council to award the Contract for Construction for Bid No. 13-19, Demolition Services, to the lowest responsive and responsible bidder, ADVANCED DEMOLITION, LLC.

PUBLIC HEARINGS

3. The Applicants, Judy and Eric Mumford, are requesting approval of Resolution No. 2019-21 to vacate a portion of the Hawkcrest Court cul-de-sac right-of-way in the DeBary Plantation Residential Planned Unit Development.

GROWTH MANAGEMENT AND DEVELOPMENT

4. Staff is requesting the City Council to consider approval of a proposed TOD Joint Marketing Agreement between the City of DeBary and multiple property owners within the TOD core area.

5. Reader & Partners, LLC, is requesting the City Council to approve a Proportionate Fair Share Agreement as part of the Rivington development project.

COUNCIL MEMBER REPORTS / COMMUNICATIONS

Member Reports/ Communications

- A. Mayor and Council Members
- B. City Manager
- C. City Attorney

DATE OF UPCOMING MEETING / WORKSHOP

- Regular City Council Meeting November 6, 2019 at 6:30 p.m.

ADJOURN

If any person decides to appeal any decision made by the City Council with respect to any matter considered at this meeting or hearing he/she will need a record of the proceedings, and for such purpose he/she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based (FS 286.0105).

Individuals with disabilities needing assistance to participate in any of these proceedings should contact the City Clerk at least three (3) working days in advance of the meeting date and time at (386) 668-2040.



City Council Meeting City of DeBary AGENDA ITEM

Subject: Lake Monitoring Program Task Order	Attachments: <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input type="checkbox"/> Supporting Documents/ Contracts <input checked="" type="checkbox"/> Other
From: Carmen Rosamonda, City Manager	
October 16, 2019 October 16, 2019	

REQUEST

City Manager is requesting the Mayor and City Council to authorize the City Attorney and City Manager to approve Task Order No. 2015-35 with Pegasus Engineering, LLC and their Subconsultant (Environmental Research & Design, Inc.) in order to perform the Lake Monitoring Program, in an amount not-to-exceed \$51,921.36.

PURPOSE

This agenda item is needed at this time to allow Environmental Research and Design, Inc. to continue to perform mandatory water quality monitoring as part of the St. Johns River Water Management District (SJRWMD) permits for the City of DeBary. It is worth noting that this will be the fifth year the Lake Monitoring Program has been undertaken by Environmental Research and Design, Inc. The water quality monitoring program consists of quarterly water testing, data compilation, and reporting on fifteen (15) lakes within the City of DeBary.

CONSIDERATIONS

The purpose of this Task Order is to allow Pegasus Engineering and their Subconsultant (Environmental Research & Design, Inc.) to provide the following tasks as directed by the City for Lake Anna Marie, Lake Maud, Tropic Lagoon, James Pond, Lake Olivia, No Name Lake – West Side, No Name Lake – East Side, Lake Marie, Gem Lake, Lake Charles, Lake Lago Linda, Lake of the Woods, Lake Louise, Angeles Lake, and Half Moon Lake. Refer to the attached proposal by Environmental Research & Design, Inc. which provides the specific scope of work.

COST/FUNDING

The cost of the FY 2019 / 2020 Quarterly Lake Monitoring Program in the amount of \$51,921.36 will be paid for by the Stormwater Fund.

RECOMMENDATION

It recommends that the City Council:

1. Authorize the City Attorney and City Manager to finalize the attached Task Order with Pegasus Engineering, LLC for the FY 2019 / 2020 Quarterly Lake Monitoring Program in an amount not-to-exceed \$51,921.36.
2. Authorize the cost of the Task Order to be paid from the Stormwater Fund.

IMPLEMENTATION

N/A

ATTACHMENTS

Task Order No. 2015-35.



TASK ORDER NO.: 2015-35

PROJECT NAME: **FY 2019 / 2020 Quarterly Lake Monitoring Program**

CLIENT: City of DeBary
16 Colomba Road
DeBary, Florida 32713

The vendor, Pegasus Engineering, LLC, located at 301 West State Road 434, Suite 309, Winter Springs, Florida 32708, is a Corporation authorized to do business in the state of Florida. As part of this Task Order, Pegasus Engineering, LLC, and their subconsultant (Environmental Research & Design, Inc.) will continue to perform a Lake Monitoring Program in order for the City to meet their permit requirements (refer to the services outlined in the attached document).

The total Lump Sum Fee of this Task Order is Fifty-One Thousand Nine Hundred Twenty-One Dollars and Thirty-Six Cents (\$51,921.36). The Client agrees to pay Pegasus Engineering, LLC for its services based on approved monthly invoices.

This Task Order shall be governed by the Continuing Consulting Contract for General Engineering Services agreement dated July 29, 2015.

Client Signature:

Vendor Signature:

CITY OF DEBARY

PEGASUS ENGINEERING, LLC

By: _____
Authorized Signature

By: _____
Authorized Signature

Carmen Rosamonda
Printed Name

Fursan Munjed, P.E.
Printed Name

City Manager
Title

Principal
Title

Date

October 4, 2019
Date



ENVIRONMENTAL RESEARCH & DESIGN, INC.

Engineering • Science • Chemistry • Research
 3419 Trentwood Blvd. • Suite 102 • Belle Isle (Orlando), FL 32812-4864
 Telephone: 407-855-9465 • Fax: 407-826-0419

CITY OF DEBARY ANNUAL LAKE MONITORING PROGRAM 4th Quarter 2019 - 3rd Quarter 2020 (October 2019-September 2020)

EXHIBIT A: SCOPE OF SERVICES

Prepared October 4, 2019

The Consultant (Environmental Research & Design, Inc., ERD) shall, at a minimum, perform the following specific tasks for the City of DeBary and the Engineer (Pegasus Engineering, LLC):

1. Quarterly Monitoring Program

- a. **Sample Collection:** Personnel from ERD will perform quarterly water quality monitoring within 15 lakes located within the City of DeBary. The specific lakes to be monitored are listed in Table 1.

TABLE 1

LAKES TO BE SAMPLED WITHIN THE CITY OF DEBARY

NO.	LAKE	NO.	LAKE
1	Lake Anna Marie	9	Gem Lake
2	Lake Maud	10	Lake Charles
3	Tropic Lagoon	11	Lake Lago Linda
4	James Pond	12	Lake of the Woods
5	Lake Olivia	13	Lake Louise
6	No Name Lake – West Side	14	Angeles Lake
7	No Name Lake – East Side	15	Half Moon Lake
8	Lake Marie		

Each of the 15 lakes will be monitored on a quarterly basis at a single location near the geographic center of each lake. Physical-chemical profiles of temperature, pH, specific conductivity, dissolved oxygen, and oxidation/reduction potential (ORP) will be performed at each site, beginning at depths of 0.25 m and 0.5 m, and continuing at 0.5 m intervals from the water surface to the bottom. A measurement of Secchi disk depth will also be conducted at each site. A surface water sample will be collected from each site at a water depth equal to 50% of the measured Secchi disk depth. Each collected sample will be analyzed for the parameters outlined below. It is the responsibility of the City of DeBary to ensure that ERD personnel have proper authorization and adequate access to all listed lakes for monitoring purposes. A total of 4 quarterly events will be conducted over the 12-month monitoring period.

Laboratory analyses will be performed on each collected lake sample for the parameters listed in Table 2

TABLE 2

ANALYTICAL METHODS / DETECTION LIMITS FOR SURFACE WATER ANALYSES

PARAMETER	METHOD OF ANALYSIS ¹	METHOD DETECTION LIMITS (MDL) ²	ANALYSIS FEE (\$/sample)
Alkalinity	SM-22, Sec. 2320 B	0.6 mg/l	10.00
Ammonia	SM-22, Sec. 4500-NH ₃ G	0.010 mg/l	10.00
NO _x	SM-22, Sec. 4500-NO ₃ F	0.002 mg/l	15.00
Total Nitrogen	SM-22, Sec. 4500-N C	0.02 mg/l	25.00
Dissolved Total Nitrogen	SM-22, Sec. 4500-N C	0.02 mg/l	25.00
Ortho-P (SRP)	SM-22, Sec. 4500-P F	0.001 mg/l	12.00
Total Phosphorus	SM-22, Sec. 4500-P F (analysis) and Sec. 4500-P B.5	0.002 mg/l	20.00
Dissolved Total Phosphorus	SM-22, Sec. 4500-P F (analysis) and Sec. 4500-P B.5	0.002 mg/l	20.00
Chlorophyll-a	SM-22, Sec. 10200 H.3	0.4 mg/m ³	30.00
E. Coli	SM-22, Sec. 9222 D	1 cfu/100 ml	30.00
Turbidity	SM-22, Sec. 2130 B	0.3 NTU	5.00
TSS	SM-22, Sec. 2540 D	1.2 mg/l	10.00
Color	SM-22, Sec. 2120 C	1.0 Pt-Co Units	8.00
TOTAL:			\$ 220.00

1. Standard Methods for the Examination of Water and Wastewater, 22nd Ed., 2012
2. MDLs are calculated based on the EPA method of determining detection limits

- b. **Data Compilation/Review:** All field and laboratory data generated during the quarterly monitoring events will be compiled into an Excel database on a continuing basis. The field and laboratory data will be reviewed and evaluated with respect to accuracy and precision of the data. The finalized data set will be used to generate the quarterly and annual monitoring reports.
- c. **Prepare Quarterly Reports:** A summary report will be prepared for each quarterly monitoring event which outlines the results of the water quality monitoring program. Each quarterly report will be forwarded to Pegasus approximately 30 days following completion of each quarterly monitoring event. The measured field and lab data will be compared with Class III (recreational) surface water quality criteria, Numeric Nutrient Criteria (NNC), and other applicable criteria.

2. Prepare Annual Water Quality Summary

ERD will prepare an annual water quality report which summarizes water quality during the previous calendar year and provides an analysis of long-term water quality characteristics and trends and evaluates NNC compliance. A digital PDF version of the Annual Report will be provided to Pegasus for review.



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CITY OF DEBARY ANNUAL LAKE MONITORING PROGRAM 4th Quarter 2019 – 3rd Quarter 2020 (October 2019-September 2020)

EXHIBIT B: MAN-HOURS / FEE SUMMARY

Prepared October 4, 2019

TASK	DESCRIPTION	MAN-HOURS*					TASK AMOUNT (\$)
		PD	LM	FT	CH	CL	
<u>A. LABOR</u>							
1.	Quarterly Monitoring (15 lakes)						
	a. Sample Collection	4	64	80	--	--	\$ 10,541.60
	b. Data Compilation/Review	16	48	--	24	--	7,574.08
	c. Prepare Quarterly Data Reports (4 total)	48	32	--	--	24	12,017.12
2.	Prepare Annual Summary Report	20	32	--	--	12	6,488.56
TOTAL – LABOR:		88	176	80	24	36	\$ 36,621.36
<u>B. REIMBURSABLE EXPENSES</u>							
1	Equipment Use Fee - Boats, Equipment, Expenses (\$100/event x 4 events)						\$ 400.00
1	Monitoring Supplies – bottles, preservatives, filters, reagents, gloves, etc. (\$25/site x 15 sites x 4 events)						1,500.00
1	Mileage (500 miles x \$0.40/mile)						200.00
TOTAL – REIMBURSABLE EXPENSES:							\$ 2,100.00
<u>C. LAB ANALYSES</u>							
1	Surface Water Samples (15 sites/event x 4 events x \$220/sample)						\$ 13,200.00
TOTAL – LAB ANALYSES:							\$ 13,200.00
PROJECT TOTAL:							\$ 51,921.36
FEE PER EVENT (for labor, reimbursables, and lab analyses under Task 1):							\$ 11,358.20

***Man-Hours:**

SYMBOL	PERSONNEL CLASSIFICATION	RATE (\$/hr)
PD	Project Director- Harvey H. Harper, Ph.D., P.E.	175.00
LM	Limnologist	73.75
FT	Field Technician	64.02
CH	Chemist	51.42
CL	Clerical	52.38



**City Council Meeting
City of DeBary
AGENDA ITEM**

Subject: Demolition Services – Bid No. 13-19 – Award to Advanced Demolition, LLC From: Carmen Rosamonda, City Manager Meeting Hearing Date October 16, 2019	Attachments: <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input type="checkbox"/> Supporting Documents/ Contracts <input checked="" type="checkbox"/> Other
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REQUEST

City Manager is requesting City Council to award the Contract for Construction for Bid No. 13-19, Demolition Services, to the lowest responsive and responsible bidder, ADVANCED DEMOLITION, LLC.

PURPOSE

City Manager is requesting City Council to award the Contract for Construction for Bid No. 13-19, Demolition Services, to the lowest responsive and responsible bidder, ADVANCED DEMOLITION, LLC.

CONSIDERATIONS

Demolition Services are required for the removal of five (5) former residences that were purchased by the City of DeBary utilizing stormwater funds to eliminate the chronic flooding of the homes. One (1) additional site is added to Bid No. 13-19 to eliminate an obsolete commercial facility.

The address of the five (5) homes to be demolished for stormwater purposes are as follows: 142 DeLeon Road, 220 Acacia Road, 238 Agua Vista Street, 405 West Highbanks Road and 409 West Highbanks Road.

The commercial property at 546 S Shell Road was the former site of Discount Propane that was acquired by the City under a land exchange agreement. The facility currently has no viable use but the site may be suitable for future use as a stormwater retention facility.

At the direction of City Council and pursuant to the aforementioned issues, on August 4, 2019 the City of DeBary advertised Bid No. 13-19 in the Daytona Beach News-Journal and posted the Bid Documents on the City’s web site and the Vendorlink web portal requesting proposals from Florida Contractors.

As advertised, on August 23, 2019 at 2:00 PM, the City of DeBary received seven (7) sealed bids for Bid No. 13-19 at City Hall. All bids were unsealed and read aloud at the public bid opening with representatives of the bidders and other witnesses present. The results of the bid are:

<u>Contractor</u>	<u>Bid Amount</u>
1. Advanced Demolition	\$35,700.00
2. SW Zinser	\$42,940.00
3. Samsula Waster, Inc.	\$43,931.00
4. Dietrich Quinn	\$52,000.00
5. Stokes Quality Service, LLC	\$56,613.00
6. Johnson's Excavation & Services	\$63,230.00
7. Cross Construction Services, Inc.	\$76,850.00

Advanced Demolition, LLC is the lowest bidder, and has provided demolition services in the Central Florida region since 1978.

All bids received have been tabulated and checked for mathematic accuracy and responsiveness with the Advertisement for Bids.

COST/FUNDING

- Funding for the project is budgeted from the Stormwater Fund.
- Advanced Demolition - \$35,700.00
- KHARE Construction Services, LLC. - \$3,712.50
- Total Cost - \$39,412.50

RECOMMENDATION

Recommendation to Award the Contract for Construction of Bid No. 13-19, Demolition Services, to the lowest responsive and responsible bidder, ADVANCED DEMOLITION, LLC for the low bid amount of \$35,700.00 and approve Task Order No. 1019-01 to KHARE Construction Services, LLC for the amount of \$3,712.50 for Construction Management Services.

ATTACHMENTS

Work Order No. 1019-01

**Exhibit B
WORK ORDER
FOR
MASTER AGREEMENT FOR PUBLIC WORK PROJECTS
CONSTRUCTION INSPECTION SERVICES
CONSTRUCTION COSTS LESS THAN \$2,000,000**

WORK ORDER NO.: TASK ORDER No. 1019-01

PROJECT: **Construction Management Services for
Bid No. 13-19 - Demolition Services
Six Home Demolition Project**

CITY: City of DeBary, Florida

COUNTY: Volusia County

CONSTRUCTION MANAGER: KHARE Construction Services, LLC.

CONSULTANT'S ADDRESS: 1457 Mt. Laurel Drive
Winter Springs, Florida 32708

Execution of the Work Order by CITY shall serve as authorization for the CONSTRUCTION MANAGER to provide for the above project, professional services as set out in the Scope of Services attached as Exhibit "A," to that certain Agreement of June 3, 2015 and its Addendum No. 1 dated May 16, 2018, between the CITY and the CONSTRUCTION MANAGER and further delineated in the specifications, conditions and requirements stated in the following listed documents which are attached hereto and made a part hereof.

ATTACHMENTS:

- MEMORANDUM – Scope of Services
- TASK ORDER BREAKDOWN
- SPECIAL CONDITIONS

The CONSULTANT shall provide said services pursuant to this Work Order, its attachments and the above-referenced Agreement which is incorporated herein by reference as if it had been set out in its entirety. Whenever the Work Order conflicts with said Agreement, the Agreement shall prevail.

TIME FOR COMPLETION: The work authorized by this Work Order shall be commenced and completed as directed by the City Manager.

METHOD OF COMPENSATION:

(a) This Work Order is issued on a:

- FIXED FEE BASIS
- TIME BASIS METHOD WITH A NOT-TO-EXCEED AMOUNT
- TIME BASIS METHOD WITH A LIMITATION OF FUNDS AMOUNT

(b) If the compensation is based on a "Fixed. Fee Basis, then the CONSTRUCTION MANAGER shall perform all work required by this Work Order for the sum of _____ DOLLARS (\$ _____). In no event shall the CONSTRUCTION MANAGER be paid more than the Fixed Fee Amount.

(c) If the compensation is based on a "Time- Basis Method" with a Not-to-Exceed Amount, then the CONSULTANT shall perform all work required by this Work Order for a sum not to exceed **THREE THOUSAND SEVEN HUNDRED TWELVE DOLLARS AND FIFTY CENTS (\$3,712.50)**. The CONSTRUCTION INSPECTION AND MANAGEMENT compensation shall be based on the actual work required by this Work Order as directed by the City Manager.

(d) If the compensation is based on a "Time Basis Method" with a Limitation of Funds Amount, then the CONSULTANT is not authorized to exceed the limitation of Funds amount of _____ DOLLARS (\$ _____) without prior written approval of the CITY. Such approval, if given by the CITY, shall indicate a new Limitation of Funds amount. The CONSTRUCTION MANAGER shall advise the CITY whenever the CONSTRUCTION MANAGER has incurred expenses on this Work Order that equals or exceeds eighty percent (80%) of the Limitation of Funds amount. The City shall compensate the CONSTRUCTION MANAGER for the actual work performed under this Work Order.

Payment to the CONSTRUCTION MANAGER shall be made by the CITY in strict accordance with the payment terms of the above-referenced Agreement.

It is expressly understood by the CONSTRUCTION MANAGER that this Work Order, until executed by the CITY, does not authorize the performance of any services by the CONSTRUCTION MANAGER and that the CITY, prior to its execution of the Work Order, reserves the right to authorize a party other than the CONSTRUCTION MANAGER to perform the services called for under this Work Order if it is determined that to do so is in the best interest of the CITY.

IN WITNESS WHEREOF, the parties hereto have made and executed this Work Order for the purposes stated herein.

KHARE Construction Services, LLC

By: _____

Kevin J Hare, President

Date: _____

CITY OF DEBARY, FLORIDA

By: _____

Date: _____



City Council Meeting City of DeBary AGENDA ITEM

Subject: Hawkcrest Ct. ROW Vacation	Attachments: <input type="checkbox"/> Ordinance <input checked="" type="checkbox"/> Resolution <input type="checkbox"/> Supporting Documents/ Contracts <input type="checkbox"/> Other
From: Matt Boerger, Growth Management	
Meeting Hearing Date: October 16, 2019	

REQUEST

The Applicants, Judy and Eric Mumford, are requesting approval of Resolution No. 2019-21 to vacate a portion of the Hawkcrest Court cul-de-sac right-of-way in the DeBary Plantation Residential Planned Unit Development

PURPOSE

The applicant requests a partial vacation of Hawkcrest Court right-of-way, adjacent and along the property frontages of addresses 181 and 185 Hawkcrest Court, for the purpose of landscaping and maintaining the area that is currently public right-of-way.

CONSIDERATIONS

In 2018 the Applicants proposed landscaping the area in front of their home, which was determined to be City right-of-way. Upon review of the original plat it was determined that an unusual land configuration resulted in excessive right-of-way dedicated to the City. This was likely due to an error depicted on the original plat. Today, the City is responsible for maintenance of this right-of-way, the majority of which has not been utilized for public purposes and is not anticipated to be used for public purposes in the future. However, an easement will be preserved for existing utility uses.

Subsequently, the Applicant has requested the vacate as it will accomplish the following: (1) correct the excessive right-of-way dedicated on the original plat, (2) provide for consistency with other cul-de-sac right-of-way dedications in the DeBary Plantation Residential Planned Unit Development, (3) reserve utility and City rights to underlying easements, and (4) divest the portion of right-of-way currently maintained by the City.

Please Note: Approving the ROW Vacation will result in savings to the City as it will not have to maintain the public right of way.

Finding of Fact

The following approvals have been authorized for the Hawkcrest Court Vacate:

- The Applicant has provided for all appropriate agreements and letters of no objection from associated stakeholders (utility companies).
- The Applicant’s Homeowners Association has submitted letters of no objection
- The City Attorney has reviewed this request and determined it is consistent with all state and local requirements

COST/FUNDING

\$0.00.

RECOMMENDATION

Approve Resolution No. 2019-21

IMPLEMENTATION

N/A

ATTACHMENTS

Resolution No. 2019-21 and associated Exhibits A & B.

RESOLUTION NO. 2019-21

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DEBARY, FLORIDA, VACATING A PORTION OF HAWKCREST COURT CUL-DE-SAC RIGHT-OF-WAY DEDICATED BY THE DEBARY PLANTATION UNIT 16A-3, ACCORDING TO THE PLAT THEREOF RECORDED AT MAP BOOK 50, PAGES 31-32, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; PROVIDING FOR THE LOT COMBINATION OF THE VACATED RIGHT-OF-WAY WITH ADJACENT LOTS; PROVIDING FOR SEVERABILITY, AN EFFECTIVE DATE AND RECORDING.

WHEREAS, Jerry L. Willis and Linda L Willis and (“Willis”) are the fee simple owners of a parcel of land with Volusia County Tax Parcel Identification # 8028-14-00-0130 located at 185 Hawkcrest Ct, DeBary, Florida, and legally described in that certain deed recorded at Official Records Book 6857, Page 3011, Public Records of Volusia County, Florida (“Willis Property”); and

WHEREAS, Eric Mumford and Judy Mumford and (“Mumford”) are the fee simple owners of a parcel of land with Volusia County Tax Parcel Identification # 8028-14-00-0120 located at 181 Hawkcrest Ct, DeBary, Florida, and legally described in that certain deed recorded at Official Records Book 7371, Page 3675, Public Records of Volusia County, Florida (“Mumford Property”); and

WHEREAS, Mumford and Willis are herein referred to as “applicants;” and

WHEREAS, the applicants filed a petition requesting that the City of DeBary City Council vacate and abandon a portion of Hawkcrest Court cul-de-sac right-of-way being adjacent to the and Willis Property and Mumford Property; such proposed vacated and abandoned right-of-way is more particularly described on the legal descriptions and sketches attached hereto as **Exhibit “A”** and **Exhibit “B”** (the “Vacated Right-of-Way”); and

WHEREAS, the petition to vacate the Vacated Right-of-Way was duly presented to the City Council at a regular meeting and a public hearing was conducted on such request; and

WHEREAS, the Vacated Right-of-Way is not needed for public use and its vacation and abandonment will not adversely impact the needs of the public for access and utilities; and

WHEREAS, it appears that all ad valorem taxes due and owing on said property have been paid, that due and proper notice of the applicant’s right-of-way vacation request has been given as required by law, and proof of publication of said notice has been received by the City; and

WHEREAS, the City of DeBary is vested with home rule authority pursuant to Article VII, Section 2 of the Constitution of the State of Florida and Chapter 166, Florida Statutes, as well as the provisions of the City Charter and other law and therefore the City has the authority to vacate easements dedicated to the City and public.

IT IS HEREBY RESOLVED BY THE CITY OF DEBARY AS FOLLOWS:

SECTION 1. Recitals. The above recitals are true and accurate and are incorporated herein.

SECTION 2. Right-of-Way Vacation and Abandonment and drainage and utilities easement reservation. A portion of the Hawkerest Court cul-de-sac right-of-way as more particularly described on the legal sketch and description attached hereto as **Exhibit “A”** and **Exhibit “B”** (the “Vacated Right-of-Way”) is hereby vacated, abandoned and annulled subject to the reservation of a perpetual drainage easement and utilities easement in favor of the City of DeBary and the public as set forth herein. The City of DeBary reserves over, under and through the Vacated Right-of-Way a perpetual public drainage and utilities easement for the operation, control, regulation, construction, installation, repair, replacement, maintenance, use and modification of utilities, including but not limited to electricity, cable, telecommunications, stormwater drainage lines, sewer lines, water lines, reclaimed water lines, and other utilities and facilities of every type and appurtenances thereto (the “Utility Easement”). Such aforesaid Utility Easement reservation includes the right to keep in place any existing utilities and right of ingress and egress upon the easement area to carry out the purposes of said easement and the right of the City of DeBary to assign the its easement rights to Volusia County and other utility owners and operators. The City of DeBary shall only be responsible for the maintenance, repair and replacement of improvements within said Utility Easement area that the City of DeBary has constructed or constructs in the future or formerly accepts for maintenance. The property owner(s) shall maintain the surface improvements including pavement, sod and landscaping within the Utility Easement area at the property owner’s(s’) sole cost and expense.

SECTION 3. Lot Combination. The portion of the Vacated Right-of-Way described in Exhibit “A” shall become a part of the Willis Property and such combined property shall therefore be retained in single ownership, and shall remain as a single, integral parcel, and shall not be subdivided, severed, sold, leased, encumbered, or otherwise disposed of in lesser constituent parcels.

The portion of the Vacated Right-of-Way described in Exhibit “B” shall become a part of the Mumford Property and such combined property shall therefor be retained in single ownership, and shall remain as a single, integral parcel, and shall not be subdivided, severed, sold, leased, encumbered, or otherwise disposed of in lesser constituent parcels.

Any sale, subdivision, lease or other disposal of the in violation of this provision shall be null, void and of no legal effect whatsoever and give the City the right of reversion of the Vacated Right-of-Way (or the portion thereof in violation of this provision) back to being public right-of-way.

SECTION 4. Severability. If any section, subsection, sentence, clause, phrase, or portion of this Resolution, or application hereof, is for any reason held invalid or unconstitutional by any

court of competent jurisdiction, such portion or application shall be deemed a separate, distinct, and independent provision of such holding shall not affect the validity of the remaining portions thereof to the extent practicable.

SECTION 5. Effective Date. This Resolution shall take effect immediately.

SECTION 6. Recording. A certified copy of this Resolution shall be recorded in the public records of Volusia County, Florida by the City Clerk.

ADOPTED this _____ Day of _____ 2019.

City Council

City of DeBary, Florida

ATTEST:

Karen Chasez, Mayor

Annette Hatch, City Clerk

EXHIBIT "A"

"REAL PROPERTY DESCRIPTION"

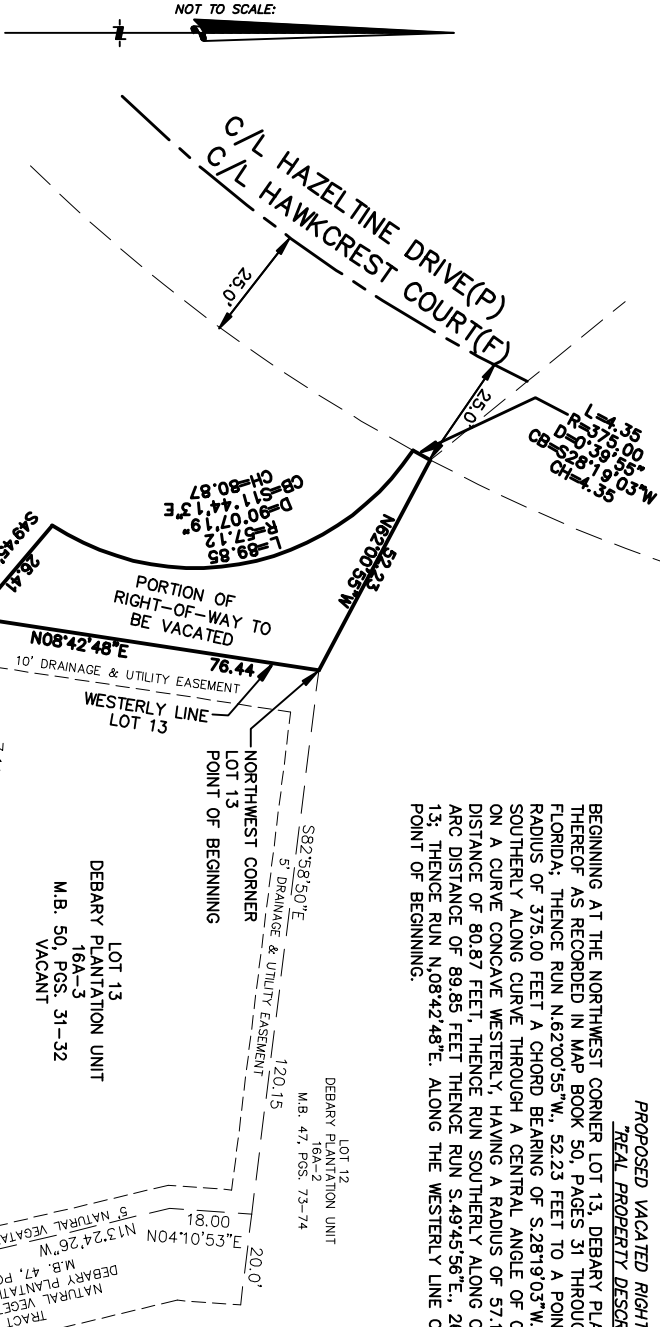
BEGINNING AT THE NORTHWEST CORNER LOT 13, DEBARY PLANTATION UNIT 16A-3, ACCORDING TO THE PLAT THEREOF AS RECORDED IN MAP BOOK 50, PAGES 31 THROUGH 32, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE RUN N.62°00'55"W., 52.23 FEET TO A POINT ON A CURVE CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 375.00 FEET A CHORD BEARING OF S.28°19'03"W., A CHORD DISTANCE OF 4.35 FEET, THENCE RUN SOUTHERLY ALONG CURVE THROUGH A CENTRAL ANGLE OF 0°39'55" AN ARC DISTANCE OF 4.35 FEET TO A POINT ON A CURVE CONCAVE WESTERLY, HAVING A RADIUS OF 57.12 FEET A CHORD BEARING OF S.11°44'13"E., A CHORD DISTANCE OF 80.87 FEET, THENCE RUN SOUTHERLY ALONG CURVE THROUGH A CENTRAL ANGLE OF 90°07'19" AN ARC DISTANCE OF 89.85 FEET THENCE RUN S.49°45'56"E., 26.41 FEET TO THE SOUTHWEST CORNER OF SAID LOT 13; THENCE RUN N,08°42'48"E. ALONG THE WESTERLY LINE OF SAID LOT 13 A DISTANCE OF 76.44 FEET TO THE POINT OF BEGINNING.

LOT 13

" SKETCH OF DESCRIPTION "

**PROPOSED VACATED RIGHT-OF-WAY
"REAL PROPERTY DESCRIPTION"**

BEGINNING AT THE NORTHWEST CORNER LOT 13, DEBARY PLANTATION UNIT 16A-3, ACCORDING TO THE PLAT THEREOF AS RECORDED IN MAP BOOK 50, PAGES 31 THROUGH 32, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE RUN N.82°00'55"W, 52.23 FEET TO A POINT ON A CURVE CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 375.00 FEET A CHORD BEARING OF S.28°19'03"W, A CHORD DISTANCE OF 4.35 FEET, THENCE RUN SOUTHERLY ALONG CURVE THROUGH A CENTRAL ANGLE OF 0°39'55" AN ARC DISTANCE OF 4.35 FEET TO A POINT ON A CURVE CONCAVE WESTERLY, HAVING A RADIUS OF 57.12 FEET A CHORD BEARING OF S.11°44'13"E, A CHORD DISTANCE OF 80.87 FEET, THENCE RUN SOUTHERLY ALONG CURVE THROUGH A CENTRAL ANGLE OF 90°07'19" AN ARC DISTANCE OF 89.85 FEET THENCE RUN S.49°45'56"E, 26.41 FEET TO THE SOUTHWEST CORNER OF SAID LOT 13; THENCE RUN N.08°42'48"E, ALONG THE WESTERLY LINE OF SAID LOT 13 A DISTANCE OF 76.44 FEET TO THE POINT OF BEGINNING.



SURVEYOR'S NOTES:

1. NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2. THE "REAL PROPERTY DESCRIPTION" SHOWN HEREON IS IN ACCORDANCE WITH THE DESCRIPTION PROVIDED BY THE CLIENT.
3. NO UNDERGROUND IMPROVEMENTS OR VISIBLE INSTALLATIONS HAVE BEEN LOCATED OTHER THAN SHOWN.
4. BEARINGS ARE BASED ON THE WESTERLY LINE OF LOT 13 ASSUMED AS BEING N. 08°42'48" E. PER PLAT.

COMMENTS	FIELD	DATE	OFFICE	DATE
SKETCH OF DESCRIPTION	NA	NA	S.R.B.	7/15/19

- R/W - RIGHT-OF-WAY
- E - CENTER LINE
- REC - RECOVERED
- NSI - NO SURVEYOR IDENTIFICATION
- - 1" OF REAR FOOT TO BE APPROVED UNLESS OTHERWISE NOTED
- R - RAJUS
- D - DELTA
- CH - CHORD DISTANCE

CLIENT: MUMFORD/WILLIS
JOB NUMBER: 19-03

THIS IS TO CERTIFY THAT THIS SURVEY MEETS THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER S1-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

SURVEYOR'S CERTIFICATE:



SCOTT'S SURVEYING SERVICES, INC.
LB # 7442
8 S. HWY 17-92, SUITE 8-A
DELTONA, FLORIDA
PH: (407) 330-5738 FAX 330-3797

CERTIFIED TO:

JERRY L. WILLIS
LINDA L. WILLIS

Scott Behrman
SCOTT BEHRMAN, P.S.M.
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION NUMBER 5807

EXHIBIT "B"

BEGINNING AT THE NORTHWEST CORNER LOT 12, DEBARY PLANTATION UNIT 16A-3, ACCORDING TO THE PLAT THEREOF AS RECORDED IN MAP BOOK 50, PAGES 31 THROUGH 32, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE RUN N.49°45'56"W., 26.41 FEET TO A POINT ON A CURVE CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 57.12 FEET A CHORD BEARING OF S.67°15'55"W., A CHORD DISTANCE OF 63.79 FEET, THENCE RUN SOUTHERLY ALONG CURVE THROUGH A CENTRAL ANGLE OF 67°52'56" AN ARC DISTANCE OF 67.67 FEET; THENCE RUN S.45°18'34"E., 50.81 FEET TO THE SOUTHWEST CORNER OF SAID LOT 12; THENCE RUN N,44°41'26.48"E. ALONG THE WESTERLY LINE OF SAID LOT 12, A DISTANCE OF 60.95 FEET TO THE POINT OF BEGINNING.

- R/W - RIGHT-OF-WAY
- C - CENTER LINE
- REC - RECOVERED
- NS - NO SURVEYOR
- NSI - NO SURVEYOR
- - 1/4" BEARING
- - TO BE SEEN AFTER APPROVED UNLESS OTHERWISE NOTED
- R - RADIOS
- D - DELTA
- C.B. - CHORD BEARING
- CH - CHORD DISTANCE

Scott Barba
 SCOTT BECHTOLD, P.S.M.
 FLORIDA SURVEYOR & MAPPER
 FLORIDA REGISTRATION NUMBER 5807

SURVEYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT THIS SURVEY MEETS THE STANDARDS OF PRACTICE AND SET FORTH IN THE FLORIDA SURVEYING AND MAPPING ACT AND MAPPER'S AND MAPPER'S IN CHAPTER 54-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

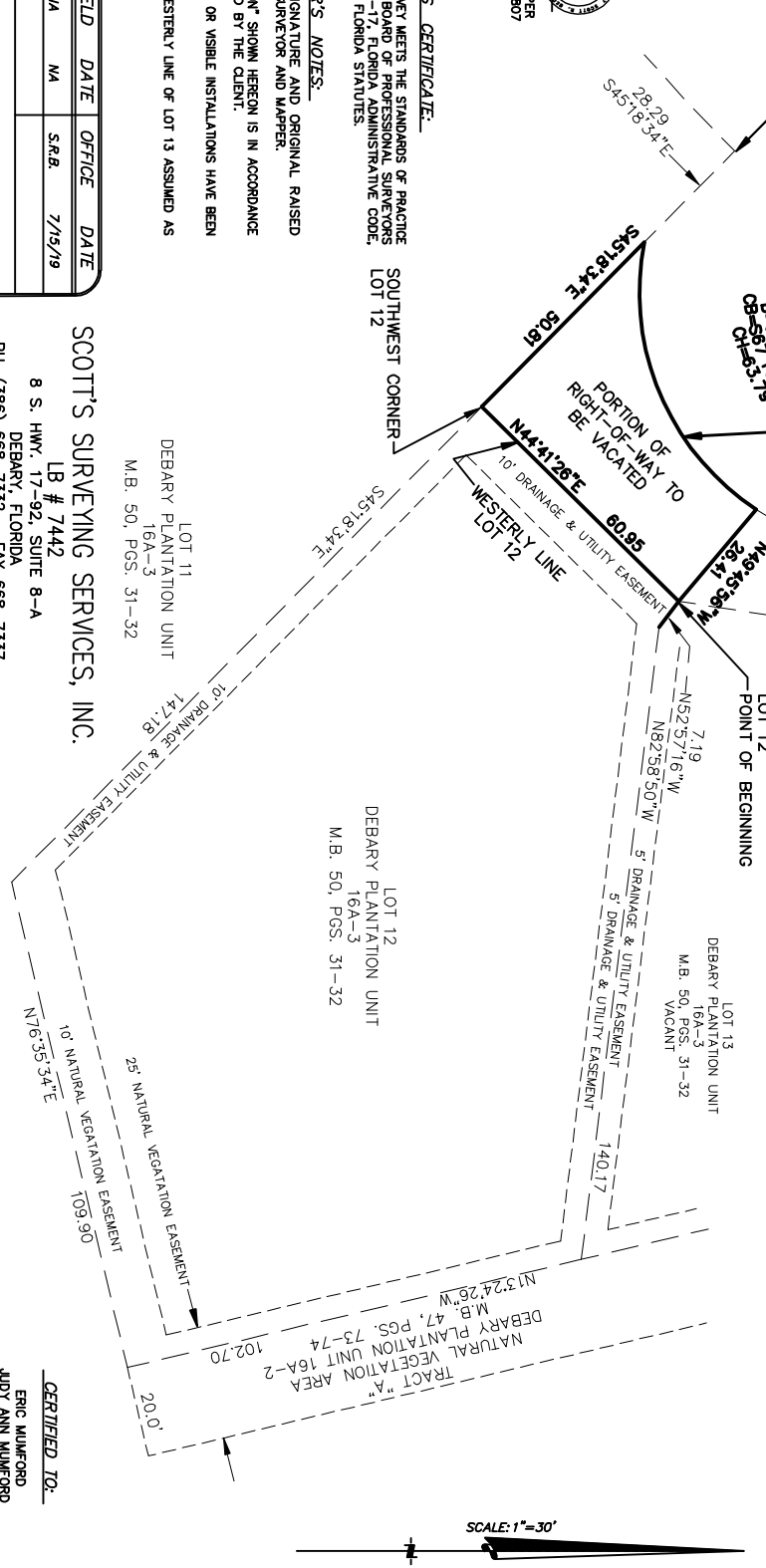
SURVEYOR'S NOTES:

1. NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2. THE "REAL PROPERTY DESCRIPTION" SHOWN HEREON IS IN ACCORDANCE WITH THE DESCRIPTION PROVIDED BY THE CLIENT.
3. NO UNDERGROUND IMPROVEMENTS OR VISIBLE INSTALLATIONS HAVE BEEN LOCATED OTHER THAN SHOWN.
4. BEARINGS ARE BASED ON THE WESTERLY LINE OF LOT 13 ASSUMED AS BEING N. 08°42'48" E. PER PLAT.

CLIENT: MUMFORD/MILLIS
 JOB NUMBER: 19-03

COMMENTS	FIELD	DATE	OFFICE	DATE
SKETCH OF DESCRIPTION	NA	NA	S.R.R.	7/19/19

C/L HAZELTINE DRIVE (P)
 C/L HAWKCREST DRIVE (E)



" SKETCH OF DESCRIPTION "

PROPOSED VACATED RIGHT-OF-WAY
 "REAL PROPERTY DESCRIPTION"

BEGINNING AT THE NORTHWEST CORNER LOT 12, DEBARRY PLANTATION UNIT 16A-3, ACCORDING TO THE PLAT THEREOF AS RECORDED IN MAP BOOK 50, PAGES 31 THROUGH 32, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE RUN N.49°45'56"W., 26.41 FEET TO A POINT ON A CURVE CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 57.12 FEET A CHORD BEARING OF S.67°15'55"W., A CHORD DISTANCE OF 63.79 FEET; THENCE RUN SOUTHERLY ALONG CURVE THROUGH A CENTRAL ANGLE OF 67°52'56" AN ARC DISTANCE OF 67.67 FEET; THENCE RUN S.45°18'34"E., 50.81 FEET TO THE SOUTHWEST CORNER OF SAID LOT 12; THENCE RUN N.44°41'26.48"E. ALONG THE WESTERLY LINE OF SAID LOT 12, A DISTANCE OF 60.95 FEET TO THE POINT OF BEGINNING.

SCOTT'S SURVEYING SERVICES, INC.
 LB # 7442
 8 S. HWY. 17-92, SUITE 8-A
 DEBARRY, FLORIDA
 PH. (386) 668-7332 FAX 668-7337

CERTIFIED TO:
 ERIC MUMFORD
 JUDY ANN MUMFORD



City Council Meeting City of DeBary AGENDA ITEM

Subject: TOD Joint Marketing Agreement	Attachments:
From: Matt Boerger, Growth Management	<input type="checkbox"/> Ordinance
Meeting Hearing Date: October 16, 2019	<input type="checkbox"/> Resolution
	<input type="checkbox"/> Supporting Documents/ Contracts
	<input checked="" type="checkbox"/> Other

REQUEST

Staff is requesting the City Council to consider approval of a proposed TOD Joint Marketing Agreement between the City of DeBary and multiple property owners within the TOD core area.

PURPOSE

The proposed Joint Marketing Agreement will allow the City to market a larger, single piece of property with approved preliminary plans in place, therefore making the area more valuable as well as to ensure consistent, compatible, and quality development is achieved.

CONSIDERATIONS

The City of DeBary has a vision in place to see that the area around SunRail is developed as Transit Oriented Development (Please see the attached TOD Master Plan). Community feedback during the adoption of this plan, as well as a previous visioning exercise have shown a strong desire for a town square and city center in this area. Therefore, a village center style main street with a central gathering space would best fit this vision.

The TOD Master Plan provides a general vision for how the area should be developed over time. This provides an excellent guide to developers and the city administration for how the City would like to develop in this area. However, it does not act as a specific development plan and may not necessarily result in the creation of a town center style environment. In order to do that, the City needs to be the driving force to lead the way, rather than try to regulate it into place in the hopes that a developer will come and create the environment that the community wishes to see. To do this, a significant amount of land needs to be assembled to accommodate the town center style development and a specific Overall Development Plan should be created.

The City has strategically purchased three contiguous parcels of land in the heart of the TOD equaling approximately 9 acres. The largest of the three, around six acres, is adjacent to Ft. Florida Road and US 17-92. This purchase has already been advantageous due to the fact that there are transportation improvement and expansion needs at Ft. Florida Road and US 17-92. For example, additional turn lanes and a traffic signal need to be added to Ft. Florida Road to accommodate existing SunRail ridership traffic

and future development traffic in the area. Since the city already owns the adjacent property, it is able to dedicate right of way to FDOT for the traffic signal mast arm as well as the land at the intersection for additional turn lanes. If the city did not own this land, it would have needed to purchase the property at an inflated cost or exercise eminent domain.

Staff has been coordinating with the adjacent property owners who have agreed that it is in the best interest of all the parties to establish a plan, and jointly market the area as a single developable project that is already entitled. By doing this, the following advantages will take place:

- Maximize return on investment by assembling enough land to accommodate a single large development project with much of the development plans in place.
- Maximize the usable area of land with just a few stormwater ponds, and a large, central pond doubling as a central gathering place and amenity. This may act as the “town square”.
- Leverage the adjacent SunRail investment.
- Provides a unique opportunity for the City to design a more specific plan for the area of land at the core of the TOD, with input from the City Council and its residents, to ensure that the desired outcome of the built environment is more likely achieved.

Location: The properties, together, are generally located within the TOD Core area identified in green shade on the attached TOD Location Map, and also described as north of Ft. Florida Road, west of US 17-92, east of the rail road tracks and south of the boundary between the TOD Core (green) and Outside Core (blue) areas.

Precedent: The Cities of Longwood, Oviedo and Maitland have all engaged in public private partnerships to ensure that they have quality developments that fit with their community’s vision. Longwood partnered with a developer and Seminole county to construct a parking garage that would serve both SunRail riders and residents of the apartment complex next to their rail station in order to maximize the use of a relatively small area of developable land in that area. Maitland constructed a master stormwater pond in the area it envisioned to become its town center area in order to maximize the use of land and to incentivize redevelopment of the area. Oviedo also constructed a master stormwater pond and amenitized it as a central park (Oviedo on the Park) which encouraged high quality multifamily and single family development as well as commercial amenities to create its new town center.

These are all precedents and examples that DeBary could follow, and it needs to start with developing a more specific Overall Development Plan, which includes the desired main street style design components, a central gathering space complimented with a mix of residential and commercial amenities.

The first step outlined in the agreement is for the City to do its due diligence of the site. The area will be surveyed, analyzed for environmental contaminations, wetlands, any deed restrictions, easements, or other encumbrances, threatened or endangered species, and to ensure appropriate soils are on site to accommodate land development. After the due diligence period, the staff will design a conceptual sketch plan consistent with the established vision for this area as discussed earlier in the report. The conceptual sketch plan will be vetted by the property owners and then brought to two (2) City Council workshops to

receive feedback. Once the conceptual sketch plan is established, it will be turned over to Pegasus engineering to formalize into an Overall Development Plan (preliminary engineering plan) consistent with the City's Land Development Code requirements. Then the ODP will go through the Development Review Committee Process with final approval by the City Manager.

Once the ODP is complete, the City and its partners will begin marketing the property and the associate plan to developers interested in acquiring a nearly development-ready site. The site and the associate ODP will be complimented by SunRail, Bicycle and pedestrian trails, River City Nature Park, Gemini Springs, and on-going near-by residential development necessary to support the desired commercial amenities within the new village center.

The cost and timeline associate with the proposed design of the project are as follows:

- Due Diligence; 90 days; \$60,000.00
- Design (Sketch Plan); 120 days; \$0.00
- Council Workshop 1; 30 days; \$0.00
- Council Workshop 2; 30 days; \$0.00
- Design (ODP); 30 days; \$10,000.00
- DRC approval; 30 days; \$0.00
- City Manager approval; 2 days; \$0.00

Note: When the land is sold, proceeds will cover the costs associated with the due diligence and design of the project and reimbursed to the City pursuant to the contract.

COST/FUNDING

- Total cost of planning \$70,000
- Funds are available in the FY 19-20 budget under Professional and Contract Services.

RECOMMENDATION

Approve the proposed Joint Marketing Agreement and allocate the expenditure of \$70,000 by staff to develop an Overall Development Plan for the subject site.

IMPLEMENTATION

Staff, along with input from City Council and applicable stakeholder, will develop an Overall Development Plan and market the all of the properties as a single plan to be developed.

ATTACHMENTS

Proposed Joint Marketing Agreement
TOD Master Plan
TOD Location Map
Shell Road Potential Realignment

JOINT MARKETING AGREEMENT

THIS JOINT MARKETING AGREEMENT (hereinafter "Agreement") is made and entered effective the 7 day of September, 2019 (hereinafter the "Effective Date") by _____ and _____ between _____ the CITY OF DEBARY, a Florida municipal corporation, (hereinafter the "City"), DEBARY CENTRAL LLC, a Florida limited liability company (hereinafter "DCL"), STEPHANIE M. MILLER, TRUSTEE OF THE MILLER LAND TRUST AGREEMENT dated December 17, 2009 (hereinafter "Miller") and RAY SANDS and FRANK SLABODNIK (hereinafter collectively "S &S");

WHEREAS, the City is the owner of the property described on the attached Exhibit "A" (hereinafter the "City Property").

WHEREAS, DCL is the owner of the property described on the attached Exhibit "B" (hereinafter the "DCL Property").

WHEREAS, Miller is the owner of the property described on the attached Exhibit "C" (hereinafter the "Miller Property").

WHEREAS, S & S are the owners of the property described on the attached Exhibit "D" (hereinafter the "S & S Property").

WHEREAS, the above referenced property owners are hereinafter collectively referred to as the "Owners" or "Parties" and individually as "Owner" or "Party".

WHEREAS, the property set forth on the attached Exhibits "A" through "D" inclusive is hereinafter collectively referred to as the "Properties" and separately as "Property".

WHEREAS, the Properties are all located within or adjacent to the City's Transit Oriented Development (hereinafter "TOD") Overlay District.

WHEREAS, the Owners desire to have the City modify the TOD Overlay District to add any portion of the Properties not currently within the TOD Overlay District.

WHEREAS, the Owners believe it is in their best interests to jointly create and obtain approval of a development plan for the Properties that creates a high density, mixed use project and then jointly market the Properties in the manner set forth hereinafter.

NOW, THEREFORE, in consideration of the mutual promises herein and ten dollars and other valuable consideration, the receipt of which is hereby acknowledged, the Owners do hereby agree as follows:

1. **Recitals.** The above recitals are true and correct and incorporated herein by reference.

2. **Delivery of Existing Materials.** Within ten days from the Effective Date, each Owner shall deliver copies to the City of any existing due diligence materials relating to such Owner's Property in such Owner's possession or control including but not limited to title policies, title searches, surveys, Phase I environmental assessment reports, and Phase II environmental assessment reports.

3. **Review of Existing Materials.** The City shall review the existing due diligence materials received from the Owners and shall determine what additional due diligence work is needed for each Owner's Property. The City shall then notify each Owner of the estimated cost of the additional due diligence work for each Owner's Property. Within ten days from receiving such notice, each Owner shall deliver such amount to the City, which shall be used by the City to pay for the additional due diligence work. If the amount is not sufficient to pay for the additional due diligence work for an Owner's Property, the City shall notify the Owner of the deficit and the Owner shall pay the deficit to the City within ten days.

4. **Additional Due Diligence Work.** Within ninety days from the Effective Date or such shorter period of time that the City may require (hereinafter the “Due Diligence Period”), the City shall complete such of the following additional due diligence work that the City determines, in its discretion, is necessary to insure that the Properties are suitable for sale and development:

a. **Title Work.** The City shall obtain a title commitment or updated commitment for the Property owned by each Owner that reflects the condition of the title of each Owner’s respective Property. The City shall provide copies of the title commitments to the Owners. If the title commitment for an Owner’s Property discloses any defects, encumbrances, requirements or other matters that the City determines, in its discretion, should be removed or otherwise resolved, the respective Owner shall use diligent effort to remove or otherwise resolve the matter within a reasonable time unless all the other Owners agree that such action is not necessary. Each Owner agrees not to cause or allow any change to the condition of its title to its Property as reflected in the respective title commitment during the term of this Agreement. Without limitation, each Owner covenants, represents and agrees that each Owner has not and will not execute, record or deliver, nor allow the execution, recording or delivery of any sales contract, option, lease, mortgage, assignment, easement, lien, covenant, declaration, agreement, deed, encumbrance, or any modification or amendment to any documents listed in the respective title commitment other than documents contemplated by this Agreement.

b. **Survey.** The City shall have the Properties surveyed and certified by a registered Florida surveyor either in one combined survey of the Properties or individual surveys of each Property. The City shall provide copies of the survey or surveys to the Owners. If the survey or surveys disclose encroachments on a Property, encroachments by an Owner’s

improvements on other lands, violations of deed restrictions or zoning violations or any other defects, encumbrances, requirements or other matters that the City determines, in its discretion, should be removed or otherwise resolved, the applicable Owner or Owners shall use diligent effort to remove or otherwise resolve the matter within a reasonable time unless all the other Owners agree that such action is not necessary. Each Owner agrees not to cause or allow any material change to the physical condition of its respective Property other than changes caused by normal wear and tear and Acts of God.

c. **Phase I.** The City shall have a Phase I environmental examination completed for the Properties and provide the Owners with a copy of the Phase I report. If the City determines, in the City's discretion, that a Phase II examination or other action should be undertaken for any portion of the Properties, the Owner or Owners of the portions of the Properties or Property affected, at such Owner's or Owners' sole cost, shall diligently take such action and thereafter remediate or otherwise resolve any contamination discovered by such examinations within 120 days.

5. **Analysis of Due Diligence Materials.** If the City determines, in its discretion, after receipt and review of the due diligence materials described above, that the development and marketing of the Properties is not in the best interest of the City, the City may, by providing notice to the other Owners, terminate this Agreement, at which time this Agreement shall terminate except that the Owners shall continue to be liable for costs as outlined above. Further, if one or more Property or portions of any Property are determined by the City not to be appropriate for the sale, development and marketing or the ODP, the City may exclude such from the ODP or this Agreement, or both, and this Agreement shall remain in full force and effect for all other portions of the Properties and for all other purposes under this Agreement.

6. **Modification of TOD Overlay District.** If the City does not terminate the Agreement pursuant to paragraph 5 above, the City shall prepare and process an application or request to the City to modify the TOD Overlay District to add any portion of the Properties not currently within the TOD Overlay District. By executing this Agreement, the Owners hereby consent to such modification and application, agree not to oppose the modification in any way and agree to execute documents to establish the same including but not limited to an application, joinder, consent, developer and development agreements, revised applications, rezoning and preliminary and final plat applications, and any and all other documents requested by the City consistent with, or to achieve the purposes of, this Agreement. In addition, each Owner hereby appoints the City as its attorney in fact and/or authorized agent to execute such documents.

7. **Development Plans.** If the City does not terminate the Agreement pursuant to paragraph 5 above, the City shall have the necessary development plans, agreements, and related documents (hereinafter the "Plans") prepared for use in conjunction with submitting an application to the City for the approval of an Overall Development Plan (hereinafter "ODP") for the Properties. Upon the City's preparation of the Plans and ODP application, the City shall provide the Plans and ODP application to the Owners for review and comment to be provided to the City within fifteen days of each Owner's receipt of the Plans and ODP application. After the City's receipt of any timely submitted comments from any Owners that elect to timely comment, the City Manager may make such modifications to the Plans and ODP application as the City Manager deems appropriate, in the City Manager's discretion. The Owners shall execute the ODP application (as it may be modified by the City Manager) and any other documents requested or required by the City Manager in conjunction with seeking approval of the ODP application, including but not limited to, any amendments to the ODP application proposed by

the City Manager. Each Owner hereby appoints the City as its attorney in fact and/or authorized agent for purposes of executing any applications, petitions, agreements, submittals, or other documents necessary or appropriate for approval of the ODP and for the marketing, sale and development of the Properties as contemplated herein. In the event the ODP application is not approved within twelve (12) months after the end of the Due Diligence Period (hereinafter the "Approval Period"), any Party may terminate this Agreement by providing written notice to the other Parties. However, the City may extend the Approval Period for an additional ninety (90) days by providing written notice to the Owners of such extension prior to the end of the Approval Period. If the ODP is approved within the Approval Period, this Agreement shall continue in full force and effect pursuant to this Agreement's provisions.

8. **Plan Costs.** The costs associated with preparing the Plans and related documents, submitting and processing the ODP application, and obtaining all services and materials related thereto, including but not limited to application fees, surveys, planning, engineering, architectural services, attorney's and experts' fees and other services (hereinafter the "Plan Costs") shall be advanced by the City and the City shall be reimbursed for the same from the sales proceeds in the manner set forth in Paragraph 10 herein. In the event there is no sale that results in the distribution of sale proceeds as contemplated by Paragraph 10 herein, the City shall be responsible for the Plan Costs.

9. **Marketing Development and Purchase Option.** The City shall have the right to advertise, market, and list for sale the Properties, and each Property, for sale and development, including without limitation, the right to enter into contracts and acquire services for such advertising, marketing, and sale (collectively "Overall Marketing/Sales Fees") and each Owner hereby consents and agrees to such. No other Owner shall have such right without the City's

written approval, provided, however, each Owner is encouraged to provide the City with contacts, leads and prospective buyers that may be interested in purchasing or developing the Properties or any portion thereof. If the ODP application is approved by the City, the parties agree that the Properties, and each Property, will only be developed in accordance therewith, which restriction shall run with the land for a period of 7 years from the date the ODP approval becomes final (hereinafter the "Development Restriction Period"). For a period of two years after the date that approval of the ODP application becomes final ("Option Term"), the City shall have the right and option ("Option") to purchase the DCL Property, the Miller Property and the S & S Property at a price and pursuant to terms and conditions acceptable to a majority of the Owners or to cause DCL, Miller, S & S and the City to sell the Properties to a buyer(s) selected by the City at a price and pursuant to terms and conditions acceptable to a majority of the Owners. The City's option may be exercised at any time during the Option Term, provided, however, that upon exercise of the Option, if the date of closing pursuant to a sales contract is to occur after the Option Term has expired, the Option Term shall be extended to such date of closing. The City may exercise the Option by having a majority of the Owners execute a sales contract that is also signed by the City, as buyer, or by a buyer selected by the City. Any Owner that is not part of the majority shall, upon the request of the City, execute said sales contract. In addition, each Owner that is not part of the majority hereby appoints the City Manager or other representative of the City as such Owner's attorney in fact for purposes of executing such contract and the deed and all other documents necessary to close the transaction.

10. **Distribution of Sales Proceeds.** The net proceeds from the sale(s) of the Properties shall be distributed in the following order:

- a. Pay the Overall Marketing/Sales Fees;

- b. Pay documentary stamp tax, title search, title insurance premiums, recording and other closing costs the seller is obligated to pay pursuant to the contract;
- c. Reimburse the City for the Plan Costs;
- d. Reimburse the City for its attorney's fees and costs related to preparation and administration of the Agreement;
- e. Pay the remainder to the Owners so that each Owner receives a proportionate share of the remaining sales proceeds based upon the gross acreage of each Owner's Property to the total acreage of the Properties. Each Owner's proportionate share shall be reduced by the amount paid at closing to satisfy or release any mortgage, liens and other encumbrances on said Owner's Property and any and all other costs, fees, taxes, and penalties applicable or related to said Owner's Property, including, without limitation, any of such respective Owner's brokerage or realtor fees and commissions, and to the extent such payment would exceed that Owner's proportionate share, that Owner shall pay the shortage at closing.

11. **Successors and Assigns.** Unless otherwise provided herein, this Agreement shall run with the land and shall be binding upon and inure to the benefit of the Parties hereto and their respective buyers, heirs, personal representatives, successors and assigns.

12. **Right of First Refusal.** During the Development Restriction Period, if an Owner of any Property receives an offer to purchase all or a portion of such Owner's Property that such Owner intends to accept, such Owner shall deliver a copy of such offer to the City along with a ninety day option to purchase such Property ("Second Option") at the same price and upon the same terms and conditions as the offer. If the City fails to exercise the Second Option during the ninety day period, such Owner shall deliver a copy of such offer to all the other Owners along with a sixty day option to purchase such Owner's Property, which option

may be exercised either individually or collectively by such other Owners that elect, in writing, to exercise such option. If the City and/or other Owners do not exercise the option rights herein, such option rights shall terminate provided the transaction closes in accordance with the offer. If the transaction does not close in accordance with the offer, the option rights of the City and/or other Owners continue with respect to a subsequent offer made during the Development Restriction Period.

13. **Modifications.** This Agreement cannot be changed, modified or amended without the written consent of a majority of the Parties.

14. **Entire Agreement.** This Agreement contains the entire agreement between the Parties hereto pertaining to the subject matter herein and supersedes all prior written or oral agreements and understandings between the Parties pertaining to such subject matter.

15. **Counterparts.** The Agreement may be executed in counterparts, all of which executed counterparts shall constitute the same agreement, and the signature of any Party to any counterpart shall be deemed a signature to, and may be appended to, any other counterpart.

16. **Facsimiles/Emails.** The Parties may deliver this Agreement and all documents executed in connection therewith, electronically via facsimile or email except for original documents for any closing contemplated by this Agreement which are required to be delivered for closing shall be executed and delivered. The Parties intend to be bound by such electronically delivered Agreement and all documents executed in connection therewith as though each were an original, and hereby waive any defense to the enforcement of the terms of the Agreement and all documents executed by the Parties in connection therewith, based upon the electronic delivery of the same.

17. **Miscellaneous Provisions.**

a. To the extent an Owner has any obligation or agreement for any services related to an Owner's Property, including without limitation any real estate broker or relator agreement to pay any fee or commission related to that Owner's Property, such fees and commission shall be paid by the Owner of the Property subject to such fees or commissions and such shall be paid no later than the closing of any sale or disposition of the Properties where distributions of sale proceeds is to occur. Other than those contracts which exist as of the Effective Date, each Owner represents and warrants that such Owner will not enter into any obligation or contract after the Effective Date with any real estate broker or realtor for any commission or fee related to the Owner's Property and each Owner hereby indemnifies and holds the other Owners harmless from any claims, suits, fees, attorneys' fees and costs, judgments, and damages related to the indemnifying Owner's violation of any of the foregoing matters in this subparagraph 17.a.

b. The City is in no way bound to approve the Plans or the ODP and the City's decisions related to such shall be in accordance with all City Code and Florida Laws. Nothing in this Agreement exempts any Owner or development of the Properties or any Property from compliance with all applicable Codes and Laws and payment of all applicable fees and costs.

c. DCL, Miller and S & S jointly and severally indemnify and hold harmless the City from and against all claims, disputes, attorneys' fees and costs at trial and appellate levels, interest, judgments, damages and other adverse matters in any way related to actions and inactions, and decisions of the City in any way relating to this Agreement and all matters contemplated in or by this Agreement.

d. A "majority of the Owners" or a "majority of the Parties" as used herein shall mean at least three of the four Owners.

e. The provisions of this Paragraph 17 survive the expiration and termination of this Agreement and the closing and closings contemplated herein.

18. **Recordation.** The Parties shall execute a Memorandum of this Agreement in the form attached hereto as Exhibit "E", which shall be recorded in the Public Records of Volusia County, Florida by the City.

19. **Attorney's Fees and Costs.** In the event suit or action is instituted to interpret or enforce the terms of this Agreement, or in connection with any arbitration or mediation of any dispute, the Parties shall each bear their own costs and fees associated therewith, including attorney's fees and court costs.

20. **Notices.** All notices provided for in this Agreement shall be sent by facsimile, overnight delivery, or delivered by registered or certified mail (provided a copy is also sent by U.S. First Class Mail) to the Parties at the addresses set forth below or at such other addresses as the parties shall designate to each other in writing:

City: City of DeBary
c/o Carmen Rosamonda
City Manager
16 Columba Road
DeBary, Florida 32713

With a copy to:

A. Kurt Andaman, Esquire
Fishback Dominick
1947 Lee Road
Winter Park, Florida 32789
Facsimile No.: 407-425-2863

DCL: Debary Central LLC
3302 Clubside Drive
Longwood, Florida 32779

Miller: Stephanie M. Miller, Trustee of the Miller
Land Trust dated December 17, 2009
588 Orange Drive
#132
Altamonte Springs, Florida 32701

S & S: Ray Sands and Frank Slabodnik
1161 S. Brickell Drive
Deltona, FL 32725

21. **Severability.** In any provision of this Agreement is determined by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this Agreement shall nonetheless remain in full force and effect; provided that the invalidity or unenforceability of such provision does not materially adversely affect the benefits accruing to any Party hereunder.

22. **Applicable Law.** The Agreement shall be governed by and construed in accordance with Florida law, and venue shall lie in Volusia County, Florida.

23. **Attorney Representation.** Fishback Dominick is counsel for the City and does not represent nor has it provided legal advice to any of the other Owners. Each Owner has had their own attorney review and advise them regarding this Agreement and have entered into this Agreement voluntarily, willingly and with full understanding of its effects. Since all the Owners have participated in negotiating and drafting this Agreement, any ambiguity or question of intent

or interpretation shall be construed as if the Parties had jointly drafted this Agreement.

IN WITNESS WHEREOF, the undersigned parties have signed and sealed these presents effective as of the day and year first above written.

{SIGNATURES ON FOLLOWING PAGES}

Signed, sealed and delivered
in the presence of:

CITY OF DEBARY, a
Florida municipal corporation

(Witness Signature)

By: _____
Karen Chasez
Mayor

(Witness Print Name)

(Witness Signature)

(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF ORANGE:

THE FOREGOING INSTRUMENT was acknowledged before me this _____ day of _____, 2019, by KAREN CHASEZ, Mayor of the CITY OF DEBARY, a Florida municipal corporation, on behalf of the corporation.

Notary Public

Printed or stamped name
My Commission Expires:

Personally known _____ OR Produced Identification _____
Type of Identification Produced _____

Signed, sealed and delivered
in the presence of:

DEBARY CENTRAL LLC, a
Florida limited liability company

[Signature]
(Witness Signature)

Broschant, John
(Witness Print Name)

By: EQUITITEC GROUP, LLC,
a Florida limited liability company
Its Manager

By: Index, LLC
a Florida limited liability
company
Its Manager

[Signature]
(Witness Signature)

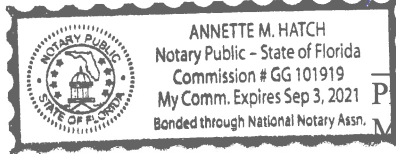
Robert [Signature]
(Witness Print Name)

By: [Signature]
Regan B. Bloss
Manager

STATE OF FLORIDA:
COUNTY OF ORANGE:

THE FOREGOING INSTRUMENT was acknowledged before me this 10th day of September, 2019, by REGAN B. BLOSS, as Manager of Index, LLC, as Manager of Equititec Group, LLC, as Manager of Debary Central, LLC, on behalf of the limited liability company.

[Signature]
Notary Public



Printed or stamped name

My Commission Expires:

Personally known _____ OR Produced Identification FL DL
Type of Identification Produced _____

Signed, sealed and delivered
in the presence of:

[Handwritten Signature]

(Witness Signature)

ULLAS PATEL

(Witness Print Name)

[Handwritten Signature]

(Witness Signature)

Bipinkumar G. PATEL

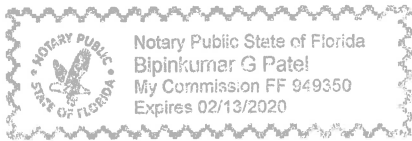
(Witness Print Name)

Stephanie M. Miller

STEPHANIE M. MILLER, as Trustee of the
Miller Land Trust Agreement dated
December 17, 2009

STATE OF FLORIDA:
COUNTY OF SEMIWOLE:

The foregoing instrument was acknowledged before me this 7th day of
SEPTEMBER, 2019, by STEPHANIE M. MILLER, as Trustee of the Miller Land Trust
Agreement dated December 17, 2009.



[Handwritten Signature]

(Notary Public Signature)

Bipinkumar G. Patel

(Notary Public Print Name)

My Commission Expires: 02/13/2020

Personally Known _____ OR Produced Identification X
Type of Identification: FLDL

Signed, sealed and delivered
in the presence of:

DEBARY CENTRAL LLC, a
Florida limited liability company

(Witness Signature)

By: EQUITITEC GROUP, LLC,
a Florida limited liability company
Its Manager

(Witness Print Name)

By: Index, LLC
a Florida limited liability
company
Its Manager

(Witness Signature)

By: _____
Ragan B. Bloss
Manager

(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF ORANGE:

THE FOREGOING INSTRUMENT was acknowledged before me this _____ day of _____, 2019, by RAGAN B. BLOSS, as Manager of Index, LLC, as Manager of Equititec Group, LLC, as Manager of Debary Central, LLC, on behalf of the limited liability company.

Notary Public

Printed or stamped name
My Commission Expires:

Personally known _____ OR Produced Identification _____
Type of Identification Produced _____

15

Signed, sealed and delivered
in the presence of:

[Signature]
(Witness Signature)

Braschard, John
(Witness Print Name)

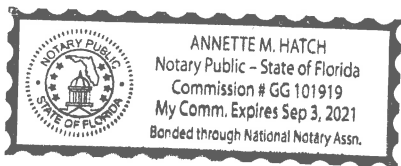
[Signature]
RAY SANDS

[Signature]
(Witness Signature)

Roger VanAnten
(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF Volusia :

The foregoing instrument was acknowledged before me this 13th day of
September, 2019, by RAY SANDS.



[Signature]
(Notary Public Signature)

Annette M Hatch
(Notary Public Print Name)

My Commission Expires:

Personally Known _____ OR Produced Identification ✓

Type of Identification: FL DL

Signed, sealed and delivered
in the presence of:

[Signature]
(Witness Signature)

Frank Slabodnik
FRANK SLABODNIK

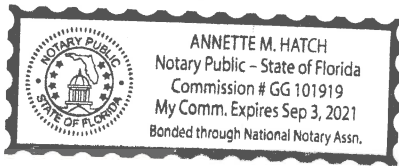
Roger Van Allen
(Witness Print Name)

[Signature]
(Witness Signature)

CARMEN ROSAMUNDA
(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF Volusia :

The foregoing instrument was acknowledged before me this 13th day of September, 2019, by FRANK SLABODNIK.



Annette M Hatch
(Notary Public Signature)

Annette M Hatch
(Notary Public Print Name)
My Commission Expires:

Personally Known _____ OR Produced Identification [initials]
Type of Identification: FL DL

EXHIBIT "A"
(City Property)

That certain piece, parcel and tract of land located in Volusia County, Florida described as follows:

Beginning at the Southwest corner of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, thence running East along the South line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ to the center line of State Road No. 3, thence in a Northeasterly direction along the center line of said state road a distance of 600.00 feet; thence running West parallel to the said South line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ to the West line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$; thence South along said West line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ to the point of beginning; less the easterly 33.00 feet for State Road No. 3; less part in railroad right-of-way and less and except that portion described by that certain Order of Taking recorded in Official Records Book 4372, Page 4061, of the Public Records of Volusia County, Florida.

AND

A portion of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, bounded and described as follows:

Beginning at a point 355.4 feet East and 300 feet South of the Northwest corner foot the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, run thence South 221.7 feet to a point, thence West 330.5 feet to a point on the Easterly right-of-way line of the Atlantic Coast Line Railroad, thence Northwesterly along said Easterly right-of-way line 114.3 feet to a point on the West line of said Northeast $\frac{1}{4}$, thence North 108.8 feet to a point, thence Easterly 355.4 feet to point of beginning. Less The East 15 feet for private road, together with an easement for ingress and egress over and across the East 15 feet of the North 742 feet of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida

AND

A portion of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, bounded and described as follows:

Beginning at a point 355.4 feet East and 521.7 feet South of Northwest corner of Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ of said Section 9, Township 19 South, Range 30 East; run thence West 330.5 feet to the Easterly right-of-way line of the Atlantic Coast Line Railroad, thence Southeasterly along said right-of-way line 223.95 feet to a point; thence East 300.75 feet to a point; thence North 221.3 feet to the place of beginning, except the East 15 feet thereof for private road; together with an easement for ingress and egress over and across the East 15 feet of the North 743 feet of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida.

EXHIBIT "B"
(DCL Property)

Commencing at the Northwest corner of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 east, Volusia County, Florida; run thence N 89 degrees 49 minutes 10 seconds E, a distance of 355.40 feet to a point, also being the centerline of an 18 foot graded road; run thence S 00 degrees 00 minutes 50 seconds W a distance of 371.50 feet to the Point of Beginning; thence continue S 00 degrees 00 minutes 50 seconds W a distance of 371.50 feet along the centerline of the aforesaid graded road to a point; run thence N 89 degrees 49 minutes 10 seconds E a distance of 281.02 feet to a point on the Westerly Right-of-Way of US Highway 17-92, also being a point on a curve having a radius of 5779.59 feet and a delta of 03 degrees 57 minutes 33 seconds; run thence Northeasterly along the arc of said curve a distance of 399.38 feet also being the Westerly Right-of-Way of US Highway 17-92 to a point; run thence S 89 degrees 49 minutes 10 seconds W a distance of 426.14 feet to the Point of Beginning.

LESS AND EXCEPT PORTION LYING WITHIN State Road Right-of-Way.

EXHIBIT "C"
(Miller Property)

Parcel 2:

Commencing at the Northwest corner of the Northeast ¼ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida; run thence North 89°49'10" East a distance of 355.40 feet a point, also being the centerline of an 18 foot graded road; run thence South 00°00'50" West a distance of 150.00 feet to the Point of Beginning; thence continue South 00°00'50" West a distance of 221.50 feet; run thence North 89°49'10" East a distance of 426.14 feet to a point on the Westerly right-of-way of U.S. Highway 17-92, also being a point on a curve having a radius of 5779.59 feet and a delta of 00°52'10"; run thence Northwesterly along the arc of said curve also being the said Westerly right-of-way of Highway 17-92, a distance of 87.69 feet to the Point of Tangency; thence run North 24°11'09" East along said right-of-way a distance of 155.13 feet; run thence South 89°49'10" West a distance of 524.89 feet to the Point of Beginning.

Less and Except that part of the foregoing conveyed to the State of Florida Department of Transportation by Deed recorded in Official Records Book 4275, Page 4328, Public Records of Volusia County, Florida.

Parcel 3:

Commencing at the Northwest corner of the Northeast ¼ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida; run thence North 89°49'10" East a distance of 355.40 feet to the Point of Beginning, a point also being the centerline of an 18 foot graded road; run thence South 00°00'50" West a distance of 150.00 feet along the centerline of the aforesaid graded road to a point; run thence North 89°49'10" East a distance of 524.89 feet to a point on the Westerly right-of-way of U.S. Highway 17-92; run thence North 24°11'09" East along said right-of-way a distance of 164.67 feet to a point being on the North line of said Section 9, Township 19 South, Range 30 East; run thence South 89°49'10" West a distance of 592.32 feet along said North line to the Point of Beginning.

Less and Except that part of the foregoing conveyed to the State of Florida Department of Transportation by Deed recorded in Official Records Book 4275, Page 4328, Public Records of Volusia County, Florida.

EXHIBIT "D"
(S & S Property)

Beginning at a point 355.4 feet East and 150 feet South of the Northwest corner of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida, run thence South 150 feet to a point, run thence West 355.4 feet to the Westerly line of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$, thence North 150 feet, thence East and parallel to the North line thereof 355.4 feet to the Point of Beginning, less the East 15 feet for private road.

EXHIBIT "E"
(Memorandum of Agreement)

THIS INSTRUMENT PREPARED BY
AND SHOULD BE RETURNED TO:

A. KURT ARDAMAN, ESQUIRE
FISHBACK DOMINICK
1947 LEE ROAD
WINTER PARK, FLORIDA 32789

MEMORANDUM OF AGREEMENT

THIS MEMORANDUM OF AGREEMENT ("Memorandum") is entered into this ___ day of _____, 2019, by and between the CITY OF DEBARY, a Florida municipal corporation, (hereinafter the "City"), DEBARY CENTRAL LLC, a Florida limited liability company (hereinafter "DCL"), STEPHANIE M. MILLER, TRUSTEE OF THE MILLER LAND TRUST AGREEMENT dated December 17, 2009 (hereinafter "Miller") and RAY SANDS and FRANK SLABODNIK (hereinafter collectively "S &S");

PLEASE TAKE NOTICE there is an existing Joint Marketing Agreement by and between the above referenced parties relating to the property described on the attached Exhibits "A" through "D" (hereinafter collectively the "Property"), which agreement provides for the sale, purchase and development of the Property and includes a purchase option and provides for certain restrictions on the Property for the time periods specified therein.

{SIGNATURES ON FOLLOWING PAGES}

Signed, sealed and delivered
in the presence of:

CITY OF DEBARY, a
Florida municipal corporation

(Witness Signature)

By: _____
Karen Chasez
Mayor

(Witness Print Name)

(Witness Signature)

(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF ORANGE:

THE FOREGOING INSTRUMENT was acknowledged before me this _____ day of _____, 2019, by KAREN CHASEZ, Mayor of the CITY OF DEBARY, a Florida municipal corporation, on behalf of the corporation.

Notary Public

Printed or stamped name
My Commission Expires:

Personally known _____ OR Produced Identification _____
Type of Identification Produced _____

Signed, sealed and delivered
in the presence of:

DEBARY CENTRAL LLC, a
Florida limited liability company

[Signature]
(Witness Signature)

By: EQUITITEC GROUP, LLC,
a Florida limited liability company
Its Manager

Broschaty John
(Witness Print Name)

By: Index, LLC
a Florida limited liability
company
Its Manager

[Signature]
(Witness Signature)

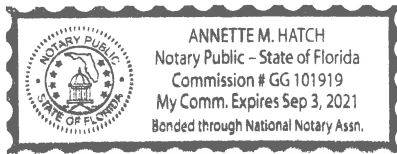
By: [Signature]
Regan B. Bloss
Manager

Roger Van Acker
(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF ORANGE:

THE FOREGOING INSTRUMENT was acknowledged before me this 10th day of September, 2019, by REGAN B. BLOSS, as Manager of Index, LLC, as Manager of Equititec Group, LLC, as Manager of Debary Central, LLC, on behalf of the limited liability company.

[Signature]
Notary Public



Printed or stamped name
My Commission Expires:

Personally known _____ OR Produced Identification FLDL
Type of Identification Produced _____

Signed, sealed and delivered
in the presence of:

[Signature]
(Witness Signature)

VLLAS PATEL
(Witness Print Name)

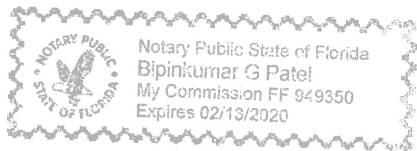
Stephanie M. Miller
STEPHANIE M. MILLER, as Trustee of the
Miller Land Trust Agreement dated
December 17, 2009

[Signature]
(Witness Signature)

Bipinkumar G. Patel
(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF SEMIWOLF:

The foregoing instrument was acknowledged before me this 7TH day of
SEPTEMBER, 2019, by STEPHANIE M. MILLER, as Trustee of the Miller Land Trust
Agreement dated December 17, 2009.



[Signature]
(Notary Public Signature)

Bipinkumar G. Patel
(Notary Public Print Name)
My Commission Expires: 02/13/2020

Personally Known _____ OR Produced Identification X
Type of Identification: FLDL

Signed, sealed and delivered
in the presence of:

DEBARY CENTRAL LLC, a
Florida limited liability company

(Witness Signature)

Ragan Bloss
By: ~~EQUITITEC GROUP, LLC,~~
a Florida limited liability company
Its Manager

(Witness Print Name)

Po Box 470 880 Lake Monroe 32747
By: Index, LLC
a Florida limited liability
company
Its Manager

(Witness Signature)

By: *[Signature]*
Ragan B. Bloss
Manager

(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF ORANGE:

THE FOREGOING INSTRUMENT was acknowledged before me this _____ day of _____, 2019, by RAGAN B. BLOSS, as Manager of Index, LLC, as Manager of Equititec Group, LLC, as Manager of Debary Central, LLC, on behalf of the limited liability company.

Notary Public

Printed or stamped name
My Commission Expires:

Personally known _____ OR Produced Identification _____
Type of Identification Produced _____

Signed, sealed and delivered
in the presence of:

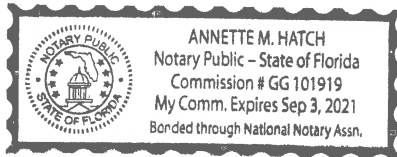
[Signature]
(Witness Signature)
Broschaw, John
(Witness Print Name)

[Signature]
RAY SANDS

[Signature]
(Witness Signature)
Roper Van Anten
(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF Volusia :

The foregoing instrument was acknowledged before me this 13th day of
September, 2019, by RAY SANDS.



[Signature]
(Notary Public Signature)
Annette M Hatch
(Notary Public Print Name)
My Commission Expires:

Personally Known _____ OR Produced Identification ✓
Type of Identification: FL DL

Signed, sealed and delivered
in the presence of:

[Signature]
(Witness Signature)

Frank Slabodnik
FRANK SLABODNIK

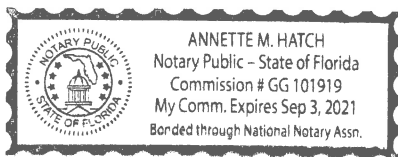
Rosler Van Arden
(Witness Print Name)

[Signature]
(Witness Signature)

Charmel Rosamonda
(Witness Print Name)

STATE OF FLORIDA:
COUNTY OF Volusia :

The foregoing instrument was acknowledged before me this 13th day of September, 2019, by FRANK SLABODNIK.



[Signature]
(Notary Public Signature)

Annette M Hatch
(Notary Public Print Name)
My Commission Expires:

Personally Known _____ OR Produced Identification [initials]
Type of Identification: FL DL

EXHIBIT "A"
(City Property)

That certain piece, parcel and tract of land located in Volusia County, Florida described as follows:

Beginning at the Southwest corner of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, thence running East along the South line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ to the center line of State Road No. 3, thence in a Northeasterly direction along the center line of said state road a distance of 600.00 feet; thence running West parallel to the said South line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ to the West line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$; thence South along said West line of said Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ to the point of beginning; less the easterly 33.00 feet for State Road No. 3; less part in railroad right-of-way and less and except that portion described by that certain Order of Taking recorded in Official Records Book 4372, Page 4061, of the Public Records of Volusia County, Florida.

AND

A portion of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, bounded and described as follows:

Beginning at a point 355.4 feet East and 300 feet South of the Northwest corner foot the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, run thence South 221.7 feet to a point, thence West 330.5 feet to a point on the Easterly right-of-way line of the Atlantic Coast Line Railroad, thence Northwesterly along said Easterly right-of-way line 114.3 feet to a point on the West line of said Northeast $\frac{1}{4}$, thence North 108.8 feet to a point, thence Easterly 355.4 feet to point of beginning. Less The East 15 feet for private road, together with an easement for ingress and egress over and across the East 15 feet of the North 742 feet of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida

AND

A portion of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, bounded and described as follows:

Beginning at a point 355.4 feet East and 521.7 feet South of Northwest corner of Northwest $\frac{1}{4}$ of Northeast $\frac{1}{4}$ of said Section 9, Township 19 South, Range 30 East; run thence West 330.5 feet to the Easterly right-of-way line of the Atlantic Coast Line Railroad, thence Southeasterly along said right-of-way line 223.95 feet to a point; thence East 300.75 feet to a point; thence North 221.3 feet to the place of beginning, except the East 15 feet thereof for private road; together with an easement for ingress and egress over and across the East 15 feet of the North 743 feet of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida.

EXHIBIT "B"
(DCL Property)

Commencing at the Northwest corner of the Northeast ¼ of Section 9, Township 19 South, Range 30 east, Volusia County, Florida; run thence N 89 degrees 49 minutes 10 seconds E, a distance of 355.40 feet to a point, also being the centerline of an 18 foot graded road; run thence S 00 degrees 00 minutes 50 seconds W a distance of 371.50 feet to the Point of Beginning; thence continue S 00 degrees 00 minutes 50 seconds W a distance of 371.50 feet along the centerline of the aforesaid graded road to a point; run thence N 89 degrees 49 minutes 10 seconds E a distance of 281.02 feet to a point on the Westerly Right-of-Way of US Highway 17-92, also being a point on a curve having a radius of 5779.59 feet and a delta of 03 degrees 57 minutes 33 seconds; run thence Northeasterly along the arc of said curve a distance of 399.38 feet also being the Westerly Right-of-Way of US Highway 17-92 to a point; run thence S 89 degrees 49 minutes 10 seconds W a distance of 426.14 feet to the Point of Beginning.

LESS AND EXCEPT PORTION LYING WITHIN State Road Right-of-Way.

EXHIBIT "C"
(Miller Property)

Parcel 2:

Commencing at the Northwest corner of the Northeast ¼ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida; run thence North 89°49'10" East a distance of 355.40 feet a point, also being the centerline of an 18 foot graded road; run thence South 00°00'50" West a distance of 150.00 feet to the Point of Beginning; thence continue South 00°00'50" West a distance of 221.50 feet; run thence North 89°49'10" East a distance of 426.14 feet to a point on the Westerly right-of-way of U.S. Highway 17-92, also being a point on a curve having a radius of 5779.59 feet and a delta of 00°52'10"; run thence Northwesterly along the arc of said curve also being the said Westerly right-of-way of Highway 17-92, a distance of 87.69 feet to the Point of Tangency; thence run North 24°11'09" East along said right-of-way a distance of 155.13 feet; run thence South 89°49'10" West a distance of 524.89 feet to the Point of Beginning.

Less and Except that part of the foregoing conveyed to the State of Florida Department of Transportation by Deed recorded in Official Records Book 4275, Page 4328, Public Records of Volusia County, Florida.

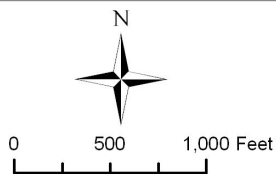
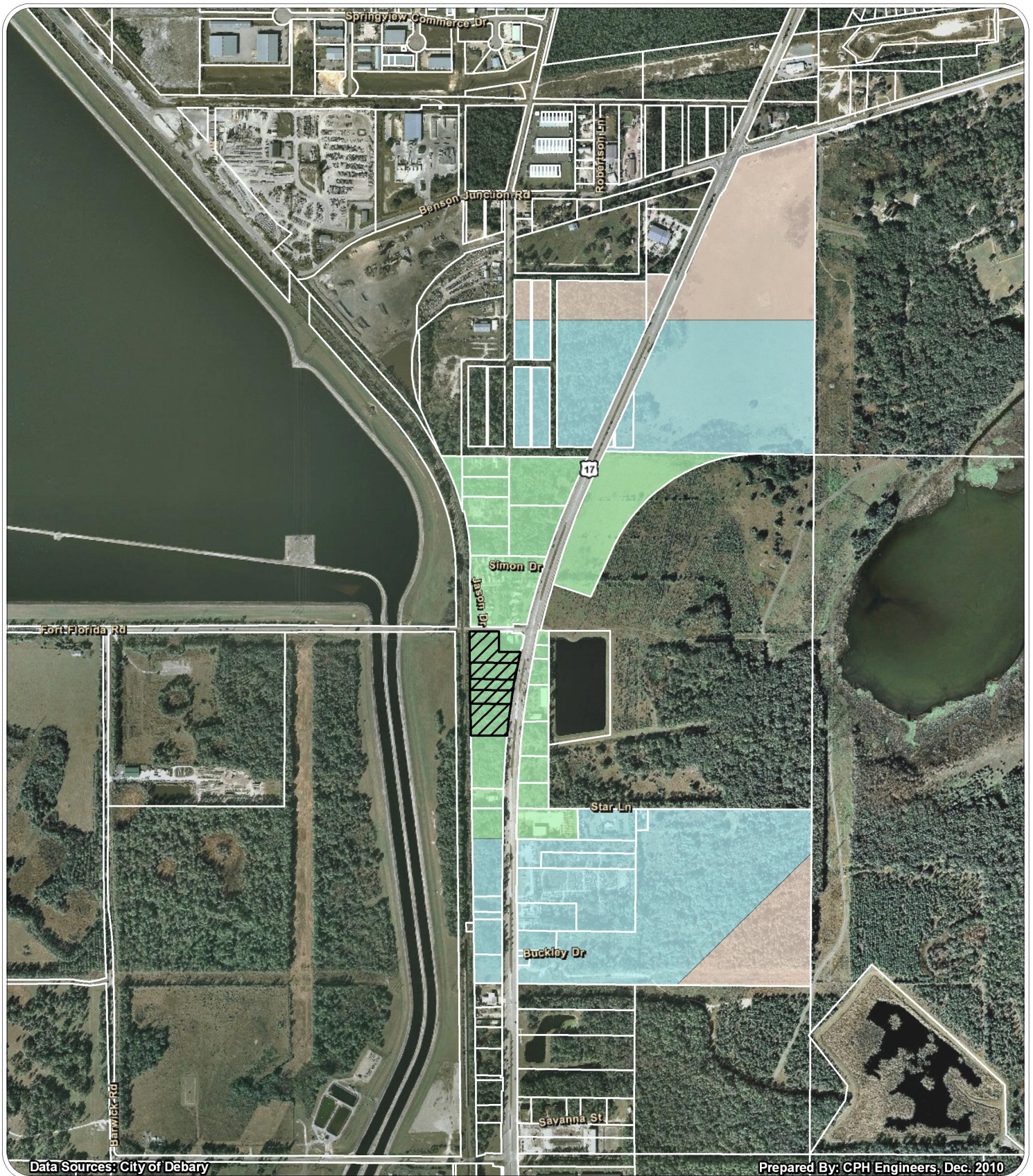
Parcel 3:





Commencing at the Northwest corner of the Northeast ¼ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida; run thence North 89°49'10" East a distance of 355.40 feet to the Point of Beginning, a point also being the centerline of an 18 foot graded road; run thence South 00°00'50" West a distance of 150.00 feet along the centerline of the aforesaid graded road to a point; run thence North 89°49'10" East a distance of 524.89 feet to a point on the Westerly right-of-way of U.S. Highway 17-92; run thence North 24°11'09" East along said right-of-way a distance of 164.67 feet to a point being on the North line of said Section 9, Township 19 South, Range 30 East; run thence South 89°49'10" West a distance of 592.32 feet along said North line to the Point of Beginning.

Less and Except that part of the foregoing conveyed to the State of Florida Department of Transportation by Deed recorded in Official Records Book 4275, Page 4328, Public Records of Volusia County, Florida.

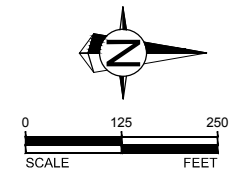
EXHIBIT "D"
(S & S Property)

Beginning at a point 355.4 feet East and 150 feet South of the Northwest corner of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 9, Township 19 South, Range 30 East, Volusia County, Florida, run thence South 150 feet to a point, run thence West 355.4 feet to the Westerly line of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$, thence North 150 feet, thence East and parallel to the North line thereof 355.4 feet to the Point of Beginning, less the East 15 feet for private road.



-  DeBary Station
-  TOD Core
-  Outside Core
-  Transitional Area

**City of DeBary
Transportation
Overlay District (TOD)
Exhibit A**



REVISIONS		
DATE	BY	DESCRIPTION

--	--

TEDS
 TRAFFIC ENGINEERING DATA SOLUTIONS, INC.
 Phone 386.753.0558 80 Spring Vista Drive
 Fax 386.753.0778 DeBary, FL 32713
 CERTIFICATE OF AUTHORIZATION NO. 27392

DEBARY TRANSPORTATION NEEDS

PROJECT 2G
 SHELL ROAD IMPROVEMENTS

SHEET NO.
 1



Legend

TOD CORE	--- -- -- --
Residential Use	Orange bar
Commercial Use	Purple bar
Mixed Use/Office	Blue bar
Hospitality	Pink bar
Civic Use	Yellow bar
Senior Living	Light Orange bar
Spring to Spring Trail	Yellow dotted line
Protected Public Green	Green dotted line
Pedestrian / Bicycle Space	Green dotted line



City of DeBary
TOD Preliminary Illustrative Plan
 Presented & Approved at the Commission Workshop 05/17/17





City Council Meeting City of DeBary AGENDA ITEM

Subject: Rivington Proportionate Fair Share Agreement	Attachments: <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input type="checkbox"/> Supporting Documents/ Contracts <input checked="" type="checkbox"/> Other
From: Matt Boerger, Growth Management	
Meeting Hearing Date October 16, 2019	

REQUEST

Reader & Partners, LLC, is requesting the City Council to approve a Proportionate Fair Share Agreement as part of the Rivington development project.

PURPOSE

The proposed proportionate fair share agreement allows for the developer to meet the land development code requirements and transportation improvement needs of the City.

CONSIDERATIONS

On October 3, 2018 the DeBary City Council adopted Ordinance No. 11-18, approving Reader & Partners, LLC's, Mixed-Use Planned Unit Development Amendment (MPUD), known as the Rivington project. With this approval, City Council authorized the entitlements specified within the development agreement which included the development of up to 700 single family attached and detached residential units and up to 30,000 square feet of neighborhood commercial.

On April 2, 2019, the Development Review Committee approved the Rivington Overall Development Plan. The Overall Development Plan has met all of the requirements of the Land Development Code with the exception of the City's transportation concurrency requirements. The City's Proportionate Fair Share Section 2-8 of the Land Development Code requires that the proportionate fair-share program shall apply to any development project in the city where the project's traffic impact study or the city's traffic engineer determines that there is insufficient capacity on one or more segments to satisfy the development project's transportation concurrency requirements including transportation facilities maintained by FDOT or Volusia County that are relied upon for transportation concurrency determinations.

There has been a determination made that the proposed project would have impacts to the surrounding transportation network. Therefore, City Staff and the developer have drafted a proportionate fair share agreement. This agreement addresses the developer's transportation network impacts by committing them to improve a segment of Ft. Florida Road from the railroad tracks to US 17-92. The improvement includes reconstructing the road to include the following upgrades:

- 1.) widen the eastbound approach of Fort Florida Road at US 17-92 to include two left-turn lanes and one right-turn lane.
- 2.) Provide transition from the existing two-lane roadway at the railroad to the turn lanes.
- 3.) Roadway section shall be curb and gutter and include necessary drainage infrastructure.
- 4.) Provide all necessary signing and pavement marking modifications.
- 5.) Provide all necessary modifications to the signal at the Fort Florida/US 17-92 intersection, including but not limited to adjustments to pedestrian signalization as well as vehicular detection.
- 6.) Add 8-foot-wide sidewalk on the south side of Fort Florida Road as depicted in the exhibit.

This upgrade will likely be done concurrently with the water and sewer installation by Volusia County at the time of construction commencement of the first phase of the Rivington development.

The road improvement project is estimated to cost approximately \$800,000.00. Often times, in a proportionate fair share agreement, the developer agrees to give the city the funds that would partially fund future improvements for transportation facilities and the city is then required to manage and complete the projects. In this case, the developer is agreeing to reconstruct a segment of Ft. Florida Road between US 17-92 and the railroad tracks themselves. Regardless of the cost to the developer, they will be obligated to complete this project. They must also complete construction of the road prior to receiving an approval from the City Building Department for the 50th home within the Rivington development.

Finding of Fact

- Transportation impacts resulting from the Project have been evaluated and studied by the Developer and the City and it has been concluded that certain transportation facilities are impacted by the Project and improvements to certain transportation facilities are needed to accommodate the transportation impacts to be generated by the Project.
- In order to accommodate the transportation impacts from the Project, the Developer improve a section of Ft. Florida Road as depicted in the attached agreement and Exhibit C
- The proposed agreement and associated development project meets the intent and requirements of the Land Development Code Sec 2-8 Proportionate Fair Share Program
- The proposed agreement and associated development project meets the intent and requirements of the Comprehensive Plan Transportation Element Policy 6.103 establishing a regulatory Level of Service.

COST/FUNDING

N/A

RECOMMENDATION

Approve the proposed Proportionate Fair Share Agreement between Reader & Partners, LLC and the City of DeBary.

IMPLEMENTATION

The developer will be required to make the necessary improvements to the segment of Ft. Florida Road identified in the attached agreement.

ATTACHMENTS

Proportionate Fair Share Agreement.

After Recording Return to:
City of DeBary
Attn: City Clerk
16 Colomba Road
DeBary, Florida 32713

RIVINGTON PROPORTIONATE FAIR SHARE AND MOBILITY MITIGATION AGREEMENT

This **PROPORTIONATE FAIR SHARE AND MOBILITY MITIGATION AGREEMENT** (this “Agreement”) is made by and between **Reader & Partners, LLC**, a Florida limited liability company, its successors and assigns (“Developer”), **Empire Cattle Company, a Florida corporation** (“Owner”) and the **City of DeBary**, a Florida municipal corporation (“City”).

WHEREAS, Developer is the contract purchaser of that certain real property being approximately 296.2+/- acres in size, being a portion of Volusia County Parcel Identification Numbers 08-19-30-00-00-0010, and legally described in **Exhibit “A”** attached hereto (the “Property”) and being that same property described in that certain Development Agreement recorded at Official Records Book 7729, Page 1566 of the Public Records of Volusia County, Florida (the “Rivington MPUD”) which property is owned by the Owner; and

WHEREAS, The MPUD, subject to the provisions therein and City Code and Land Development Code requirements, allows for the development of the Property with up to 700 residential dwelling units and approximately 30,000 square feet of commercial development and related support, accessory and recreational amenities as more particularly described in the Rivington MPUD (the “Project”); and

WHEREAS, the Property is located within the City of DeBary along the south side of Ft. Florida Road, west of its intersection with U.S. Highway 17/92; and

WHEREAS, a final Traffic Impact Analysis (Revised-July 2019) was submitted to the City by the Developer from which offsite traffic project impacts were identified for total buildout of the Project, as more particularly shown on **Exhibit “B”**, and certain offsite traffic improvements were mutually agreed upon by the Developer and City to mitigate the Project impacts; and

WHEREAS, due to the Developer’s timing of the Project and the needed offsite infrastructure to support impacts from the development of the Project, the Developer has agreed to provide certain improvements to the road and trail network in the vicinity of the SunRail commuter rail station as more particularly described herein particularly in order to accommodate the transportation impacts from development of the Project and improve mobility within the City; and

WHEREAS, the costs of the construction of and/or payment for the Mobility Improvements, as defined in this Agreement, by the Developer are less than the proportionate share of the transportation and trail improvements necessary to mitigate the impacts of the development of the Project and are eligible for applicable City impact fee and mobility fee credits, as provided herein and in accordance with the City's Code of Ordinances; and

WHEREAS, the Developer and Owner acknowledge that the City is processing the adoption of a transportation mobility fee assessment method applicable to development in an area of the City within which the Project is located and they agree that the Project will be subject to such assessment method for which mobility fee payments for the Project will be required to which the Developer and Owner have no objection; and

WHEREAS, pursuant to the Joint Project Agreement between the County of Volusia and the City of DeBary for Engineering Services dated February 6, 2018 ("JPA"), the City is responsible for oversight of the analysis, design, and permitting of the Utility and Roadway Improvements as defined in the JPA and Volusia County intends to construct the Utility Improvements as defined in the JPA, all between the Property and U.S. 17-92; and

WHEREAS, this Agreement is not a statutory development agreement pursuant to Chapter 163, Florida Statutes, and is being entered into by the City pursuant to the City's home rule authority and as a condition of the development order approvals.

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

1. **Recitals.** The above premises are true and correct and are incorporated herein as material provisions of this Agreement.

2. **Developer Funding and Ft. Florida Road Improvements.** In order to mitigate offsite traffic impacts for the Rivington MPUD, the Developer agrees to fund the full cost of constructing the roadway improvements between the railroad and U.S. 17/92 that are part of the Utility and Roadway Improvements designed and permitted by the City, as more particularly identified on attached **Exhibit "C"** (the "Ft. Florida Road Improvements"). In addition, the Developer will pay the cost to design, permit, and construct public trail improvements identified within the Rivington MPUD, and associated public improvements more particularly detailed on attached **Exhibit "D"**, that will be dedicated to the City, County of Volusia or Rivington Community Development District (the "Trail Improvements" and collectively with the Ft. Florida Road Improvements, the "Mobility Improvements"). The Developer shall request that the City coordinate relocating franchise utilities that must be relocated as part of the Ft. Florida Road Improvements and shall coordinate with the Developer to close Ft. Florida Road during construction of the Ft. Florida Road Improvements, subject to a maintenance of traffic plan acceptable to the City. Any cost associated with the relocation of the franchise utilities not borne by the franchise utility provider shall be the responsibility of the Developer. Construction of the Ft. Florida Road Improvements shall be completed by the Developer which includes coordination of construction of the Utility Improvements along Ft. Florida Road between US 17/92 and to Barwick Road. The Ft. Florida Road Improvements shall commence within 30 days of the 1.) the City's issuance of a development order to the initial

phase of the Project; 2.) the receipt of all permits necessary for construction of the Ft. Florida Road Improvements; 3.) the completion of the Utility Improvements between 17/19 and the railroad tracks; and 4.) the relocation of all franchise utilities in conflict with the Ft. Florida Road Improvements construction. The Ft. Florida Road Improvements shall be completed prior to the City's issuance of the 50th certificate of occupancy for a residential unit constructed in the Project, unless an extension of time is granted by the City Manager, which may be granted in the City Manager's sole discretion. Up to 25 model homes may be permitted by the City prior to the completion of the Ft. Florida Road Improvements. The Trail Improvements shall be constructed by the Developer in phases as approved by the City from time to time in connection with the approval of the preliminary plats for each phase of the Rivington MPUD provided, however that all of the Trail Improvements that connect Ft. Florida Road with River City Nature Park shall be completed no later than twenty-four (24) months after issuance of the initial certificate of occupancy for a residential unit in the initial phase of the Project. As a result of the Developer funding the Mobility Improvements, Developer shall be entitled to certain credits against the mobility fee the City intends to adopt following the execution of this Agreement. The mobility fee credits shall be for an amount equal to the actual cost of the Ft. Florida Road Improvements including the cost of any franchise utility locations if any (if such cost is reasonable and approved by the City) expended by the Developer. The credit against mobility fees provided herein is not intended to limit any additional mobility fee credits that may accrue under the terms of the Rivington MPUD for matters unrelated to the Ft. Florida Road Improvements. Any mobility fees paid prior to the completion of the Ft. Florida Road Improvements up to the amount the Developer has paid to fund the Ft. Florida Road Improvements will be refunded upon completion and the City's acceptance of the Ft. Florida Road Improvements. The amounts paid by the Developer for the Ft. Florida Road Improvements must be reasonable with proper documentation, and as approved by the City. Further, the credits against the mobility fee to which the Developer is entitled shall be in accordance with section 163.3180(5)(h)(2)(e). In addition to the credit provided against mobility fees for the Ft. Florida Road Improvements, the Developer shall be entitled to credits on a dollar-for-dollar basis against the City's park and recreation impact fees for the total cost of designing, permitting and constructing the Trail Improvements as provided by Section 2-230 of the City of DeBary Code of Ordinances and section 163.3180(5)(h)(2)(e), Florida Statutes. However, any impact fee and/or mobility fee credits in excess of the costs expended by the Developer for the Mobility Improvements shall only be transferable in accordance with the City's Code of Ordinances and shall not be available for, or subject to, any reimbursement by the City or other public agency.

3. Development Approvals & Compliance. Developer and City agree that the provisions in this Agreement satisfy the statutory and City Code requirements for establishing and assessing the proportionate share and proportionate fair-share portion of the transportation and trail impacts from the development of the Project. Developer's agreement to construct the Mobility Improvements as provided in paragraph 2, above, shall satisfy the City's concurrency review for the full buildout of the Rivington MPUD as required by Sections 2.5 and 2.8 of the City of DeBary Land Development Code. Nothing in this Agreement shall allow, or be construed to allow the Developer or its successors and/or assigns to avoid or delay compliance with any and all provisions of the City's Comprehensive Plan, the City Code of Ordinances, resolutions, conditions of development orders and other requirements pertaining to the use and development of the Property as provided in the Rivington MPUD. Nothing in this Agreement shall constitute or be deemed to constitute or require the City to issue any approval by the City of

any rezoning, comprehensive plan amendment, variance, special exception, final site plan, preliminary subdivision plan, final subdivision plan, final plat, construction plan approval, site plan approval, building permit, concurrency certificate, grading permit, stormwater drainage permit, access permit, or any other land use or development approval. This Agreement does not modify or amend any previously executed Rivington MPUD or any conditions of development orders or approval concerning the Property or the Project.

4. **No Third-Party Beneficiaries.** Nothing in this Agreement, express or implied, is intended to or will be construed to confer on any person, other than the parties of this Agreement, any right, remedy, or claim with respect to this Agreement.

5. **Validity.** If any portion of this Agreement is finally determined by a court of competent jurisdiction to be invalid, unconstitutional, unenforceable or void, the balance of the Agreement shall continue in full force and effect.

6. **Binding/Recording.** This Agreement shall run with the Property and the rights and the obligations under this Agreement shall benefit, burden, and bind the successors, heirs and assigns of all parties to this Agreement. This Agreement shall be recorded in the Public Records of Volusia County at the Developer's expense.

7. **Entire Agreement.** This Agreement embodies the entire understanding of the parties with respect to the matters specifically enumerated herein, and all negotiations, representations, warranties and agreements made between the parties are merged herein. The making, execution and delivery of this Agreement by all parties has been induced by no representations, statements, warranties or agreements that are not expressed herein. There are no further or other agreements or understandings, written or oral, in effect between or among the parties related to the subject matter hereof.

8. **Attorneys' Fees/Laws/Venue.** In any lawsuit between the parties to this Agreement arising from this Agreement, each party shall bear their own attorney's fees and litigation costs. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Florida. Exclusive venue in any action to construe or enforce the provisions of this Agreement shall be in the circuit court of and for Volusia County, Florida.

9. **Independent Parties.** City and Developer are not partners and this Agreement is not a joint venture, and nothing in this Agreement shall be construed to authorize the City or Developer to represent or bind the any other party to matters not expressly authorized or provided in this Agreement.

10. **Non-Waiver of Sovereign Immunity and Indemnification.** Nothing contained in this Agreement nor in any instruments executed pursuant to the terms of this Agreement shall be construed as a waiver or attempted waiver by the City of its home rule authority, police power, zoning authority and sovereign immunity under the Constitution and laws of the State of Florida or any other privilege, immunity or defense afforded to the City or the City's officers, employees and agents under the law. The Owner and the Developer shall jointly and severally indemnify and hold harmless the City and its respective officers, employees and agents from and against all claims, damages, injuries, lawsuits, liability, losses, expenses, including reasonable

attorneys' fees and costs, arising out of and/or related to the Developer's construction of improvements, Developer's performance under this Agreement, and disputes regarding the mobility fees, proportionate share provisions, and credits provided for in this Agreement.

11. **Time is of the Essence.** Time is of the essence as to the performance of all duties and obligations set forth in this Agreement.

12. **Effective Date.** The Effective Date of this Agreement shall be the date on which the last party has executed this Agreement.

13. **Owner.** The Owner joins in, consents to, and agrees to be bound to the provisions of this Agreement which are applicable to the Developer.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed under seal by their officers and agents, duly authorized, as to the City and Developer, on the day and year set forth hereinafter.

Developer:

Reader & Partners, LLC

Signature

By: _____

Print Name:

Dean Barberree, Manager

Signature

Print Name:

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by Dean Barberree as Manager of Reader & Partners, LLC, on behalf of said limited liability company, who is personally known to me or who has produced _____ as identification.

NOTARY PUBLIC, STATE OF FLORIDA

Type or Print Name

Commission No. _____

My Commission Expires: _____

City:

CITY OF DEBARY, FLORIDA

By: _____
Karen Chasez, Mayor

ATTEST:

Annette Hatch, City Clerk

Owner:

Signature

Print Name:

Signature

Print Name:

By: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by _____, on behalf of said limited liability company, who is personally known to me or who has produced _____ as identification.

NOTARY PUBLIC, STATE OF FLORIDA

Type or Print Name

Commission No. _____

My Commission Expires: _____

Exhibit "A"

Legal Description of the Rivington MPUD Property

LEGAL DESCRIPTION:

THE SOUTH 1/2 OF THE NORTHEAST 1/4; THE SOUTH 1/2 OF THE NORTHWEST 1/4; GOVERNMENT LOTS 1 AND 3; AND THE NORTH 1/2 OF GOVERNMENT LOT 6; ALL IN SECTION 8, TOWNSHIP 19 SOUTH, RANGE 30 EAST, LYING SOUTH OF FORT FLORIDA ROAD, VOLUSIA COUNTY, FLORIDA; EXCEPT THE SOUTH 30 FEET OF SAID GOVERNMENT LOT 1 AND EXCEPT THE SOUTH 30 FEET OF THE NORTH 1/2 OF SAID GOVERNMENT LOT 6.

CONTAINS 296.2 ACRES, MORE OR LESS PER THE VOLUSIA COUNTY PROPERTY APPRAISER.

Exhibit “B”

Traffic Impact Analysis

Exhibit “C”

Fort Florida Road Improvements

Exhibit “D”

Public Trail Improvements

S:\AKA\CLIENTS\DeBary, City of\Rivington MPUD (#18-01-MAJPUD) D334-24870\Rivington PFS and Mobility Mitigation Agreement Redline REV 10-3-19 +DAB + Acc Chgs - REVD
REDLINE AKA 10-3-19.doc

**Rivington MDP
DeBary, Florida**

Traffic Impact Analysis

**Prepared for: Reader Communities
By: LTG, Inc.
*REVISED - July 2019***



PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with LTG, Inc., a corporation authorized to operate as an engineering business, EB 0009227, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Rivington MDP – Traffic Impact Analysis
LOCATION: DeBary, Florida
CLIENT: Reader Communities
JOB #: 4628.12

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

Prepared by:
LTG, Inc.
1450 W. Granada Blvd, Suite 2
Ormond Beach, FL 32174
Certificate of Authorization 9227
386/257-2571

*THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY:*

ON THE DATE ADJACENT TO THE SEAL

*PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED AND
THE SIGNATURE MUST BE VERIFIED ON ANY
ELECTRONIC COPIES.*

*LTG, Inc.
1450 W. GRANADA BLVD, SUITE 2
ORMOND BEACH, FL 32174
CERTIFICATE OF AUTHORIZATION 9227
KADY L. DEARING, P.E. NO. 84234*

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Appendix C-	Turning Movement Count Data
Appendix D-	Intersection Analysis HCS Worksheets – Existing Conditions
Appendix E-	Signal Timings
Appendix F-	Traffic Trends Analysis Sheets
Appendix G-	Vested Traffic & Trip Assignment Spreadsheets
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Appendix I-	Intersection Analysis HCS Worksheets – 2022 Background Conditions Improved
Appendix J-	Intersection Analysis HCS Worksheets – 2022 Build-Out Conditions
Appendix K-	Intersection Analysis HCS Worksheets – 2022 Build-Out Conditions Improved

1

INTRODUCTION

LTG, Inc. (LTG) has been retained by Reader Communities to prepare a Traffic Impact Analysis (TIA) for the proposed Rivington MDP development. The proposed development is on Fort Florida Road, east of US 17/92 in DeBary, Florida. Figure 1 shows the location of the project relative to the surrounding road network and a preliminary site plan is attached as Appendix A. Access to the development will be via two full access driveway connections with one on Fort Florida Road and one on Barwick Road, and a right-in/right-out driveway on Fort Florida Road. Build-Out of the proposed development is expected by 2022 and will consist of the following land uses:

- Single-Family Residential: 602 Dwelling Units
- Townhouses: 98 Dwelling Units
- Shopping Center: 10 KSF

Study Procedures

Standard engineering and planning procedures were used to determine the impacts of the proposed project. Reference data was obtained from the Florida Department of Transportation (FDOT), the Volusia County Traffic Engineering Department, the City of DeBary, the Institute of Transportation Engineers (ITE), and the River to Sea Transportation Planning Organization (R2CTPO).

Planned Roadway Improvements

Information on programmed or planned roadway improvements in the area of interest were obtained from the FDOT Five-Year Work Program, Volusia County, the River to Sea TPO Long Range Transportation Plan, and previously approved projects. Based on the information obtained, signalization at US 17/92 and Fort Florida Road intersection is currently in the preliminary engineering and design phase, with construction funded for year 2020.

Study Area

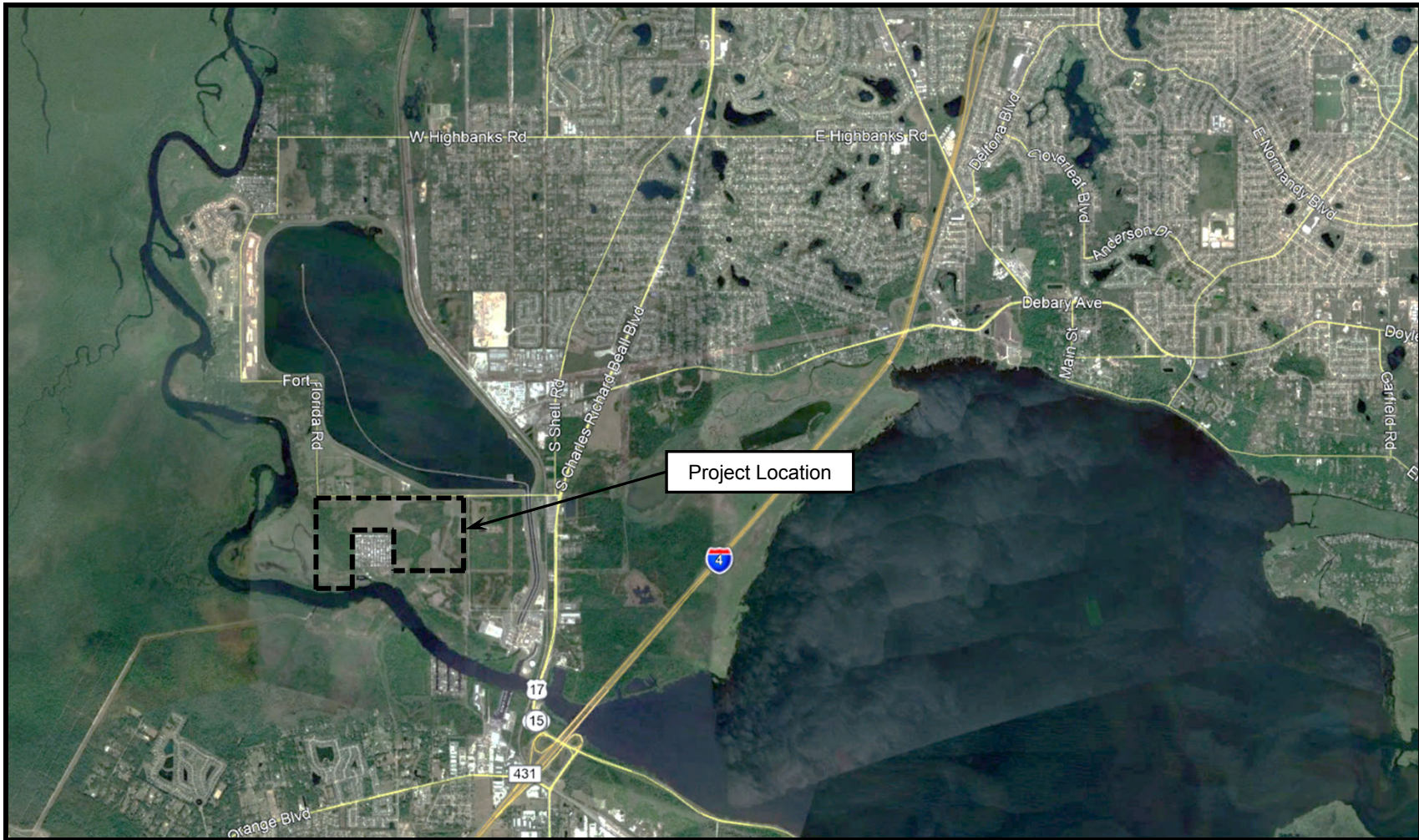
The following roadway segments and intersections are included in the analysis per the approved methodology (Appendix B):

Roadway Segments:

- Dirksen Drive (from US 17/92 to Sunrise Boulevard (Vested Near-Critical))
- Barwick Road (from Fort Florida Road to US 17/92)
- Fort Florida Road (from Highbanks Road to US 17/92)
- Highbanks Road (from Fort Florida Road to US 17/92)
- US 17/92 (from Dirksen Drive to Seminole/Volusia County Line (Vested Critical))

Intersections:

1. Fort Florida Road at Barwick Road
2. Fort Florida Road at US 17/92
3. US 17/92 at Dirksen Drive
4. US 17/92 at Barwick Road
5. US 17/92 at Highbanks Road
6. Highbanks Road at Fort Florida Road
7. Project Driveway at Fort Florida Road (Future Conditions)
8. Project Driveway at Barwick Road (Future Conditions)



Rivington MDP



Site Location Map



Project No.:4628.12

Figure: 1

1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

2

EXISTING ROADWAY ANALYSIS

Turning movement counts (TMCs) were conducted during the a.m. and p.m. peak-hours on November 27, 2018 at the study area intersections (see Appendix C). The FDOT's Peak Season Correctional Factor (PSCF) for the date the TMCs were collected (1.04) was applied to the existing counts. The spreadsheet used to develop the existing, background and build-out traffic volumes is also located in Appendix C. The adjusted existing a.m. and p.m. peak-hour traffic volumes are depicted in Figures 2a and 2b.

Unsignalized Intersection Analysis

The existing conditions at the unsignalized intersections were analyzed using the Highway Capacity Software 7, Version 7.6 (HCS). This software utilizes the procedures outlined in Chapter 20 of the *Highway Capacity Manual 6th Edition*, titled "Two-Way Stop-Controlled Intersections". Table 1 presents the existing a.m. and p.m. peak-hour LOS at the unsignalized intersections. The HCS summary sheets are located in Appendix D.

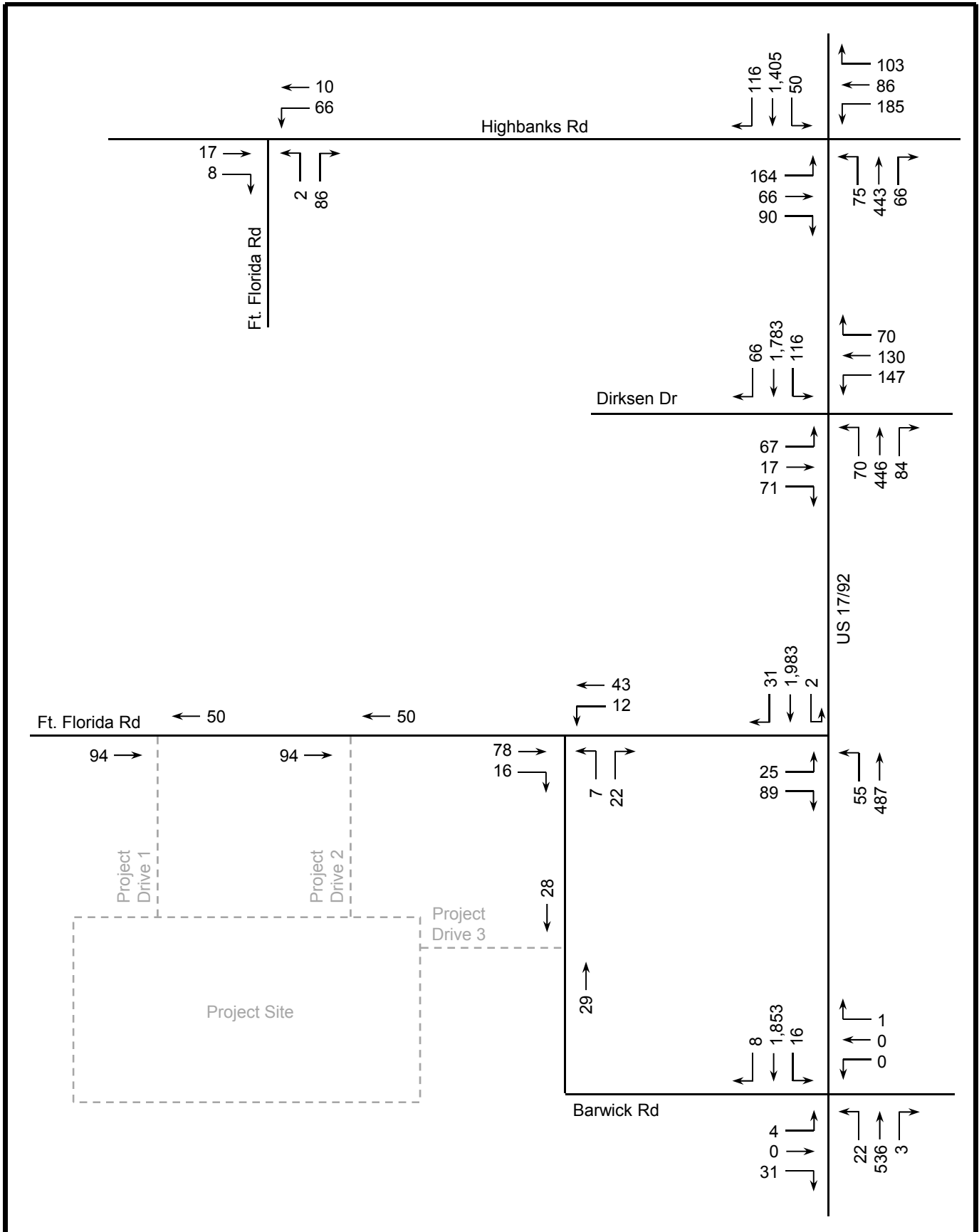
Table 1
Existing A.M. and P.M. Peak-Hour LOS - Unsignalized Intersections
Rivington MDP

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Critical Approach	Delay	LOS	Critical Approach	Delay	LOS
1. Fort Florida Rd. at Barwick Rd.	D	NB	9.3	A	NB	9.4	A
2. Fort Florida Rd. at US 17/92	D	EB	228.6	F	EB	49.6	E
4. US 17/92 at Barwick Rd.	D	EB	29.8	D	WB	116.0	F
6. Highbanks Rd. at Fort Florida Rd.	D	NB	8.9	A	NB	9.4	A

As indicated in Table 1, all unsignalized intersections currently operate within an acceptable LOS except for US 17/92 at Fort Florida Road and at Barwick Road. It is common that unsignalized intersections operate at higher levels of service with extended delays on minor street approaches during the peak-hours when conflicted with high major street volumes.

Signalization is planned and programmed for improvement by year 2020. The intersection was analyzed as a signalized intersection with optimized signal timings under 2022 background conditions to determine whether additional improvements are recommended. Please refer to the **2022 Background Analysis** section of the report for the results.

The peak-hour volume thresholds outlined in the Manual on Uniform Traffic Control Devices (MUTCD) were compared to the peak-hour volumes at the US 17/92 at Barwick Road intersection to consider whether a traffic signal would be warranted. Due to the low minor street volumes during the a.m. and p.m. peak-hours, the intersection does not meet warranting criteria. Therefore, mitigation at this location is not recommended at this time. It should be noted that the critical approach (westbound direction) is an existing business driveway, which provides room for on-site stacking, and delays during the peak-hours are expected.



Rivington MDP



NTS

Factored Existing AM Peak-Hour Volumes

Project No.: 4628.12

Figure: 2a



LTG Engineering & Planning

1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

Signalized Intersection Analysis

The LOS at a signalized intersection is based on the average stop delay per vehicle for the various movements within the intersection. The operating conditions at the signalized intersections were analyzed using HCS, which utilizes the procedures outlined in Chapter 19 of the *Highway Capacity Manual 6th Edition*, titled "Signalized Intersections." Table 2 shows the existing LOS and volume to capacity ratio (v/c) at the signalized intersections. The HCS summary sheets are provided in Appendix D and the signal timings are in Appendix E. As indicated, all signalized intersections are currently operating within an acceptable LOS and with a v/c ratio less than 1.0.

**Table 2
Existing A.M. and P.M. Peak-Hour LOS - Signalized Intersections
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
3. US 17/92 at Dirksen Dr.	D	43.7	D	No	31.3	C	No
5. US 17/92 at Highbanks Rd.	D	32.3	C	No	38.0	D	No

Roadway Segment Analysis

Roadway LOS describes the operating condition determined from the number of vehicles passing over a given section of roadway during a specified time period. It is a qualitative measure of several factors which include speed, travel time, traffic interruptions, freedom to maneuver, driver comfort, convenience, safety and vehicle operating costs. Six LOS categories have been established as standards by which to gauge roadway performance, designated by the letters A through F.

The existing LOS for the study area road segments during the p.m. peak-hour are shown in Table 3. As indicated, the roadway segment of Highbanks Road from Donald E Smith Boulevard to US 17/92 currently operates outside of an acceptable LOS. However, the planned future roadway improvement from Shell Road to US 17/92 is expected to increase the peak-hour two-way capacity from 960 vehicles per hour (vph) to 1,370 vph. Under the improved condition, the roadway segment operates with the adopted LOS. The improved roadway segment analysis is also provided in Table 3.

**Table 3
Existing P.M. Peak-Hour LOS - Roadway Segments*
Rivington MDP**

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity	2017 AADT	Existing Peak-Hour Two-Way Volume	Existing Volume Exceed Adopted LOS?
Dirksen Dr.	US 17/92	Sunrise Blvd.	2	E	1,440	8,050	858	No
Barwick Rd.	Fort Florida Rd.	US 17/92	2	D	960	1,210	109	No
Fort Florida Rd.	Highbanks Rd.	Ft. Florida Point Rd.	2	D	1,020	1,450	131	No
	Ft. Florida Point Rd.	Barwick Rd.	2	D	1,020	1,060	95	No
	Barwick Rd.	US 17/92	2	D	1,020	1,670	150	No
Highbanks Rd.	Fort Florida Rd.	Donald E Smith Blvd.	2	D	1,150	2,900	261	No
	Donald E Smith Blvd.	US 17/92	2	D	960	11,310	1,018	Yes
US 17/92	Dirksen Dr.	Fort Florida Rd.	4	D	3,760	28,000	2,651	No
	Fort Florida Rd.	Barwick Rd.	4	D	3,760	29,500	3,149	No
	Barwick Rd.	Seminole/Volusia Co. Line	4	D	3,760	29,500	3,149	No
Segments – Improved**								
Highbanks Rd.	Donald E Smith Blvd.	US 17/92	2	D	1,370	11,310	1,018	No

*Adopted LOS, capacity, existing AADT, and existing P.M. Peak-Hour Two-Way Volume obtained from the 2017 Volusia County Traffic Count Spreadsheet; When 2017 data unavailable, 2016 AADT data and K-Factor of 0.09 used; Capacity of US 17/92 based on capacity reported in the approved Hawthorn Landing TIA.

**Improved capacity based upon HIGHPLAN analysis.

3

2022 BACKGROUND ANALYSIS

Traffic in the area is expected to grow due to local government approvals. The following section documents the methods used to project future 2022 traffic conditions by using either historical growth rates or vested trip information and anticipated project traffic.

2022 Background Traffic

The 2022 background traffic was derived from growth rates or vested trips within the study area. The historical growth rates were determined by using the FDOT *Traffic Trends* software and Volusia County's 2017 Average Annual Daily Traffic (AADT) counts from the past five years. A comparison between historical growth rates and vested project trips was conducted along each segment. The higher of the two growth rates was applied. A minimum annual growth rate of two percent (2%) was used.

The resulting historical growth rates are summarized in Table 4 and the *Traffic Trends* worksheets are provided in Appendix F. Vested traffic information for intersections and segments used in the study are located in Appendix G. Note that only where TIAs or traffic statement data was available for each project, the vested trips were applied to the associated intersections and roadway segments. As requested by City Staff, the pending mixed-use development known as DeBary Town Center has also been included in the analysis. The developments considered vested in the analysis are listed below:

- Integra/Hawthorn
- Riviera Bella East
- Springview Unit 8 Residential
- Wal-Mart (remaining two outparcels)
- DeBary Town Center

**Table 4
2022 Historical Growth Rates
Rivington MDP**

Roadway	Segment		Historical Average Annual Growth Rate
Dirksen Dr.	US 17/92	Sunrise Blvd.	7.96%
Barwick Rd.	Fort Florida Rd.	US 17/92	5.00%
Fort Florida Rd.	Highbanks Rd.	Ft. Florida Point Rd.	4.76%
	Ft. Florida Point Rd.	Barwick Rd.	8.33%
	Barwick Rd.	US 17/92	5.21%
Highbanks Rd.	Fort Florida Rd.	Donald E Smith Blvd.	16.33%
	Donald E Smith Blvd.	US 17/92	1.02%
US 17/92	Dirksen Dr.	Fort Florida Rd.	5.18%
	Fort Florida Rd.	Barwick Rd.	6.76%
	Barwick Rd.	Seminole/Volusia Co. Line	6.76%

The study area intersections and roadway segments were analyzed based on the future roadway conditions to determine potential impacts and to investigate mitigation requirements. **Note that all improvements required to improve the existing intersection deficiencies and all planned roadway improvements are included in the future condition analyses.**

Background - Unsignalized Intersection Analysis

The unsignalized intersections were analyzed to determine the operating conditions under 2022 background conditions during the a.m. and p.m. peak-hours. The analysis results are presented in Table 5. The HCS summary sheets are included in Appendix H.

**Table 5
Background A.M. and P.M. Peak-Hour LOS - Unsignalized Intersections
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Critical Approach	Delay (sec.)	LOS	Critical Approach	Delay (sec.)	LOS
1. Fort. Florida Rd. at Barwick Rd.	D	NB	9.6	A	NB	9.7	A
4. US 17/92 at Barwick Rd.	D	EB	60.1	F	WB	539.5	F
6. Highbanks Rd. at Fort Florida Rd.	D	NB	9.0	A	NB	10.1	B

As shown in Table 5, the US 17/92 at Barwick Road intersection is not expected to operate within the adopted LOS under 2022 background conditions. The 2022 background volumes were compared against the MUTCD peak-hour volume thresholds to consider if a traffic signal would be warranted under background conditions. Due to the low minor street volumes during the a.m. and p.m. peak-hours, the intersection does not meet warranting criteria. Therefore, mitigation at this location is not recommended at this time.

Background - Signalized Intersection Analysis

The signalized intersections were analyzed to determine the operating conditions under 2022 background conditions and the results are presented in Table 6. The HCS summary sheets are included in Appendix H.

**Table 6
Background A.M. and P.M. Peak-Hour LOS - Signalized Intersections
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
2. Fort Florida Rd. at US 17/92	D	145.6	F	Yes	148.5	F	Yes
3. US 17/92 at Dirksen Dr.	D	103.4	F	Yes	82.2	F	Yes
5. US 17/92 at Highbanks Rd.	D	46.3	D	Yes	57.9	E	Yes

The following improvements are recommended in order to achieve acceptable levels of service and V/C ratios during the a.m. and p.m. peak-hours:

US 17/92 at Fort Florida Road:

- Add a southbound through lane,
- Add a northbound through lane,
- Optimize signal timings (a.m. and p.m. peak-hour).

US 17/92 at Dirksen Drive:

- Add a southbound through lane with a 1200-foot receiving lane,
- Optimize signal timings (a.m. and p.m. peak-hour).

US 17/92 at Highbanks Road:

- Optimize signal timings (a.m. and p.m. peak-hour).

It should be noted that the improvements recommended for US 17/92 at Dirksen Drive are based on the improvements recommended in the Hawthorn Landing approved TIA. The analyses of the intersections with the proposed improvements are provided in Table 7. The HCS summary sheets are located in Appendix I.

**Table 7
Background Signalized Intersections – Improved
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
2. Fort Florida Rd. at US 17/92	D	42.2	D	No	44.1	D	No
3. US 17/92 at Dirksen Dr.	D	30.2	C	No	48.0	D	No
5. US 17/92 at Highbanks Rd.	D	41.8	D	No	49.4	D	No

Background - Roadway Segment Analysis

The study area roadway segments were analyzed under 2022 background conditions to determine the expected LOS and the results are shown in Table 8. Note that a comparison between historical growth rates for each study area roadway segment and vested project trips was conducted and the higher of the two was applied. As indicated, two roadway segments are expected to not operate within an acceptable LOS. The following improvements are recommended in order to achieve acceptable levels of service at the failing roadway segments:

US 17/92 from Fort Florida Road to Barwick Road:

- Widen to 6 lanes

US 17/92 from Barwick Road to Seminole/Volusia County Line:

- Widen to 6 lanes

The improved roadway segment analysis is also provided in Table 8 for those segments listed above.

**Table 8
Background P.M. Peak-Hour LOS - Roadway Segments*
Rivington MDP**

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity	Existing PM Peak-Hour Two-Way Volume	Historical Annual Growth Rate	Historical Growth	Vested Trips	2022 Background Volume	Background Volume Exceed Adopted LOS?
Dirksen Dr.	US 17/92	Sunrise Blvd.	2	E	1,440	858	7.96%	341	283	1,199	No
Barwick Rd.	Fort Florida Rd.	US 17/92	2	D	960	109	5.00%	27	0	136	No
Fort Florida Rd.	Highbanks Rd.	Ft. Florida Point Rd.	2	D	1,020	131	4.76%	31	151	282	No
	Ft. Florida Point Rd.	Barwick Rd.	2	D	1,020	95	8.33%	40	151	246	No
	Barwick Rd.	US 17/92	2	D	1,020	150	5.21%	39	191	341	No
Highbanks Rd.	Fort Florida Rd.	Donald E Smith Blvd.	2	D	1,150	261	16.33%	213	123	474	No
	Donald E Smith Blvd.	US 17/92	2	D	1,370	1,018	2.00%	102	164	1,182	No
US 17/92	Dirksen Dr.	Fort Florida Rd.	4	D	3,760	2,651	5.18%	687	387	3,338	No
	Fort Florida Rd.	Barwick Rd.	4	D	3,760	3,149	6.76%	1,064	614	4,213	Yes
	Barwick Rd.	Seminole/Volusia Co. Line	4	D	3,760	3,149	6.76%	1,064	496	4,213	Yes
Segments - Improved**											
US 17/92	Fort Florida Rd.	Barwick Rd.	6	D	5,390	3,149	6.76%	1,064	229	4,213	No
	Barwick Rd.	Seminole/Volusia Co. Line	6	D	5,390	3,149	6.76%	1,064	123	4,213	No

*Includes improvements recommended in existing conditions (or planned for future improvement).

**Improved capacity based on FDOT Generalized Service Volume Tables & approved Hawthorn TIA.

Note: The greater value between historical growth projections and vested trips were added to the existing peak-hour two-way volume to determine 2022 background volume.

4

2022 BUILD-OUT - FUTURE TRAFFIC CONDITIONS

Project Trip Generation

The 2022 build-out traffic was developed by the sum of the background traffic (derived from growth rates or vested trips within the study area) plus the project trips. The trip generation for the development was determined using the Institute of Transportation Engineers (ITE) 10th Edition of the *Trip Generation Manual* and the *Trip Generation Handbook, 3rd Edition*. The gross trip generation is presented in Table 9.

**Table 9
Gross Project Trip Generation
Rivington MDP**

Time Period	Land Use	Land Use Code	Trip Rate Equation	Quantity (X)	Units	Total Trips (T)	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting
Daily	Single-Family Residential	210	$\text{Ln}(T) = 0.92\text{Ln}(X) + 2.71$	602	DU	5,422	50%	50%	2,711	2,711
	Townhouses	220	$T = 7.56(X) - 40.86$	98	DU	700	50%	50%	350	350
	Shopping Center	820	$T = 37.75(X)$	10	KSF	378	50%	50%	189	189
	Totals:					6,500			3,250	3,250
A.M. Peak-Hour	Single-Family Residential	210	$T = 0.71(X) + 4.80$	602	DU	432	25%	75%	108	324
	Townhouses	220	$\text{Ln}(T) = 0.95\text{Ln}(X) - 0.51$	98	DU	47	23%	77%	11	36
	Shopping Center	820	$T = 0.94(X)$	10	KSF	9	62%	38%	6	3
	Totals:					488			125	363
P.M. Peak-Hour	Single-Family Residential	210	$\text{Ln}(T) = 0.96\text{Ln}(X) + 0.20$	602	DU	569	63%	37%	358	211
	Townhouses	220	$\text{Ln}(T) = 0.89\text{Ln}(X) - 0.02$	98	DU	58	63%	37%	37	21
	Shopping Center	820	$\text{Ln}(T) = 0.74(X) + 2.89$	10	KSF	99	48%	52%	48	51
	Totals:					726			443	283

Due to the mixed-use nature of the proposed development, a certain portion of trips generated are expected to remain internal to the site. The National Cooperative Highway Research Program (NCHRP) Report 684 was used to calculate an internal capture of five percent (5%) for the p.m. peak-hour.

Additionally, it is expected that a certain number of transit-oriented trips will utilize the DeBary SunRail Station located in the southwest quadrant of the US 17/92 at Fort Florida Road intersection. For a conservative analysis, 75% of the SunRail trips were considered to be vehicles and 25% were considered to be pedestrians or bicyclists.

Lastly, as requested by City Staff, the interaction between DeBary Town Center and the Rivington MDP is to be included in the analysis. Due to the close proximity of the two projects, the NCHRP Report 684 was used to determine the a.m. and p.m. peak-hour interaction. Access to the DeBary Town Center development is provided by the US 17/92 at Fort Florida Road intersection. The internal capture, SunRail Station trips and DeBary Town Center trips were deducted from the total trip generation to determine the new external project trips. The resulting external project trips are presented in Table 10.

**Table 10
Net New External Project Trip Generation
Rivington MDP**

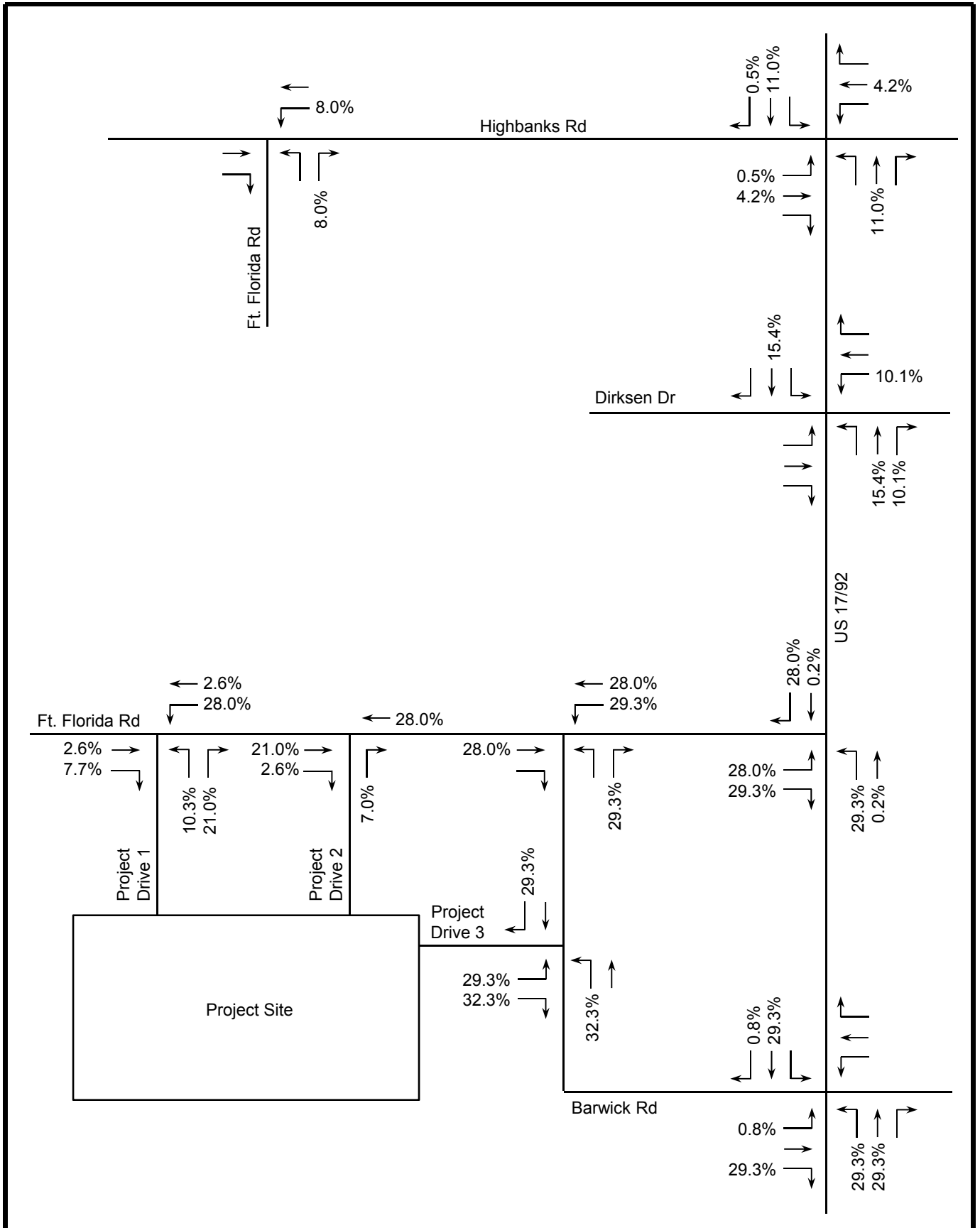
Time Period	Land Use	Total Trips			Internal Trips*			DeBary Town Center			SunRail Trips**			New External Trips		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
AM Peak-Hour	Single-Family Residential	108	324	432	0	0	0	6	46	52	10	29	39	92	249	341
	Townhouses	11	36	47	0	0	0	1	5	6	1	3	4	9	28	37
	Shopping Center	6	3	9	0	0	0	0	0	0	0	0	0	6	3	9
	Totals:	125	363	488	0	0	0	7	51	58	11	32	43	107	280	387
PM Peak-Hour	Single-Family Residential	358	211	569	11	4	15	60	34	94	31	19	50	256	154	410
	Townhouses	37	21	58	2	1	3	6	4	10	3	2	5	26	14	40
	Shopping Center	48	51	99	5	13	18	0	0	0	6	6	12	37	32	69
	Totals:	443	283	726	18	18	36	66	38	104	40	27	67	319	200	519

*Internal Capture of 5% for the P.M. peak-hour

**SunRail trips are estimated to include both pedestrian and vehicular traffic; 9% for residential and 15% for commercial

Project Trip Distribution & Assignment

The process of determining the directional flow of traffic associated with a new development is called trip distribution. The Central Florida Regional Planning Model (CFRPM), version 6.1 was used to determine the project trip distribution and is presented in Figure 3. Using the trip distribution, the a.m. and p.m. peak-hour project trips were assigned to the study area roadway network. It should be noted that the project trips assigned to the project driveways and along Fort Florida Road include 75% of the SunRail trips (vehicles only) and the DeBary Town Center trips. Figures 4a and 4b graphically depict the 2022 total background traffic, project traffic and resulting 2022 build-out traffic for the a.m. and p.m. peak-hours, respectively.



Rivington MDP



NTS

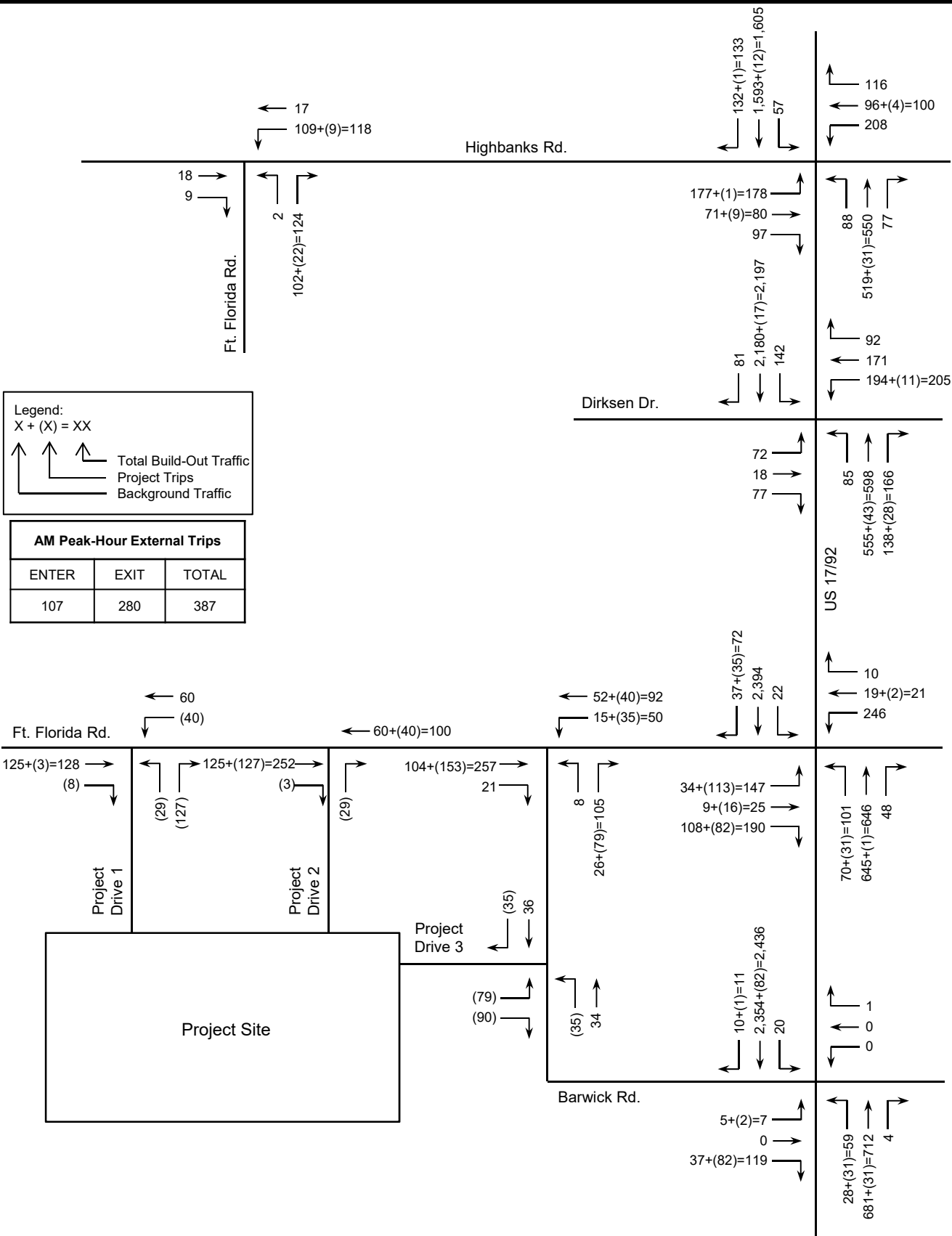
Trip Distribution

Project No.: 4628.12

Figure: 3



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 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227



Rivington MDP



NTS

Build-Out AM Peak-Hour Volumes

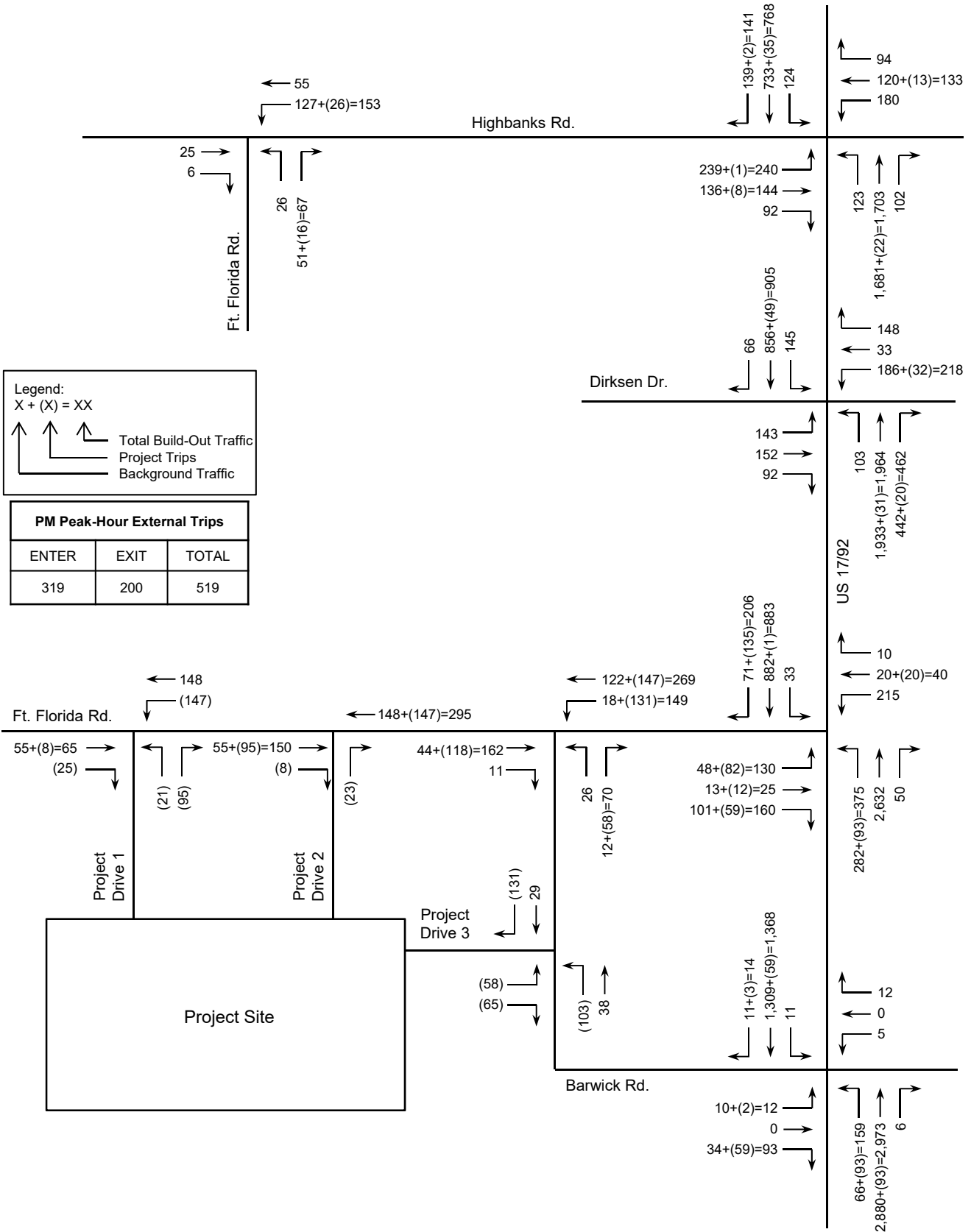
Project No.: 4628.12

Figure: 4a



LTG Engineering & Planning

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Rivington MDP



NTS

**Build-Out PM
Peak-Hour Volumes**

Project No.: 4628.12

Figure: 4b



LTG Engineering & Planning

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5

2022 BUILD-OUT ANALYSIS

The study area intersections were analyzed based on the roadway conditions at the time of project build-out to determine potential impacts of project-generated trips and investigate mitigation requirements. The improvements recommended for existing and 2022 background conditions have been included in the build-out analysis for those applicable intersections and roadway segments.

Build-Out – Unsignalized Intersection Analysis

The unsignalized intersections were analyzed to determine the operating conditions under build-out conditions and the results are presented in Table 11. The HCS summary sheets are included in Appendix J.

**Table 11
Build-Out A.M. and P.M. Peak-Hour LOS - Unsignalized Intersections
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Critical Approach	Delay (sec.)	LOS	Critical Approach	Delay (sec.)	LOS
1. Fort. Florida Rd. at Barwick Rd.	D	NB	11.5	B	NB	13.0	B
4. US 17/92 at Barwick Rd.	D	EB	99.9	F	WB	-	F
6. Highbanks Rd. at Fort Florida Rd.	D	NB	9.1	A	NB	10.2	B
7. Project Driveway #1 at Fort Florida Rd.	D	NB	10.4	B	NB	10.4	B
8. Project Driveway #2 at Fort Florida Rd.	D	NB	10.0	A	NB	9.2	A
9. Project Driveway #3 at Barwick Rd.	D	EB	10.1	B	EB	11	B

As indicated, under build-out conditions, the unsignalized intersection of US 17/92 at Barwick Road is expected to continue to operate outside of an acceptable LOS. Due to the excessive delay, the peak-hour volume thresholds outlined in the MUTCD were compared to the peak-hour counts to consider whether a traffic signal would be warranted. The volume comparison to MUTCD warranting criteria is provided in Table 12 below.

**Table 12
US 17/92 at Barwick Rd. – MUTCD Warranting Volumes
Rivington MDP**

Intersection	MUTCD Warranting Criteria*			2022 Peak-Hour Minor Street Volumes	
	1A	1B	2	AM - EBL	PM - EBL
	Minor Street Volume				
US 17/92 at Barwick Rd.	140	70	80	7	12

**70% criteria evaluated based on major street exceeding 40 mph.*

Build-Out – Signalized Intersection Analysis

The signalized intersections were analyzed to determine the operational LOS under build-out conditions, including the improvements identified during 2022 background conditions, and the results are presented in Table 13. The HCS summary sheets are also contained in Appendix J.

**Table 13
Build-Out A.M. and P.M. Peak-Hour LOS - Signalized Intersections
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
2. Fort Florida Rd. at US 17/92	D	80.1	F	Yes	73.1	E	Yes
3. US 17/92 at Dirksen Dr.	D	31.0	C	No	50.7	D	No
5. US 17/92 at Highbanks Rd.	D	43.3	D	No	53.8	D	No

As shown in Table 13, the Fort Florida Road at US 17/92 intersection is not expected to operate within the adopted LOS under 2022 build-out conditions. The following improvements are recommended to improve the delay and improve V/C ratios:

US 17/92 at Fort Florida Road:

- Add an exclusive eastbound left-turn lane,
- Optimize signal timings (a.m. and p.m. peak-hour).

The analysis of the intersection with the proposed improvements are provided in Table 14. The HCS summary sheets are located in Appendix K.

**Table 14
Build-Out Signalized Intersections - Improved
Rivington MDP**

Intersection	Adopted LOS	A.M. Peak-Hour			P.M. Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
2. Fort Florida Rd. at US 17/92	D	48.3	D	No	45.3	D	No

Build-Out – Roadway Segment Analysis

The study area roadway segments were analyzed under build-out conditions, including the improvements identified during existing conditions, to determine the anticipated LOS and the results are presented in Table 16. As indicated, all of the study area roadway segments are expected to operate within the adopted LOS at the time of build-out.

Site Access Analysis

Access to the development will be via two full access driveways, one on Fort Florida Road and one on Barwick Road. A right-in/right-out driveway on Fort Florida Road will also be provided. Based on recent revisions to the City’s Land Development Code (LDC), the following driveway criteria was used to analyze the need for turn lanes at the project driveways.

Section 4-89 of the code states that a 12-ft. wide right-turn lane shall be provided at each driveway when the speed limit equals or exceeds 35 miles per hour (mph) or if the development will generate 100 or more right-turn movements during the peak hour. Therefore, an eastbound right-turn lane at the main Fort Florida Driveway (#1) and a southbound right-turn lane at the full access driveway (#3) on Barwick Road are required. The recommended turn lane lengths at each location are provided in Table 15.

Additionally, Section 4-89 of the code also states that a 12-ft. wide left-turn lane shall be provided at each driveway when the average daily trip ends of the driveway is 1,000 vehicles or more and/or the average peak

hour inbound left-turn volume is 25 vehicles or more. Therefore, a westbound left-turn lane at the main Fort Florida driveway (#1) and a northbound left-turn lane at the full access driveway on Barwick Road (#3) are required. The recommended lane lengths at each location are provided in Table 15.

**Table 15
Site Access Improvements – Recommended Turn Lanes
Rivington MDP**

Intersection	Posted Speed (mph)	Required Deceleration Length (ft.)	Turn Lane	Peak Hour Project Trips	95th Percentile Queue Length (ft.)*	Total Recommended Turn Lane Length (ft.)**
Project Driveway #1 at Fort Florida Rd.	35	155	EBR	25	0	155
			WBL	147	0	155
Project Driveway #3 at Barwick Rd.	30	145	SBR	131	0	145
			NBL	103	0	145

*95th Percentile Queue obtained from build-out HCS results.

**Includes 50 ft. taper.

Alternate Mode Analysis

An evaluation of present and programmed bike, pedestrian, and transit mobility options has been conducted. There are currently no sidewalks or bike lanes along either side of Fort Florida Road adjacent to the proposed development. Votran currently operates three (3) transit lines along US 17/92, each with a stop at the Sunrail station at Fort Florida Road. The transit routes are as follows:

- Route 31 – Deland to Sunrail (DeBary)
- Route 32 – Deltona Plaza to Sunrail (DeBary)
- Route 33 – DuPont Lakes to Sunrail (DeBary)

Queue Length and Turn Lane Analysis

A queue length analysis was conducted to determine recommended storage lengths for existing turn lanes for those turn lanes that result in a 95th percentile Queue Storage Ratio greater than one. The HCS results were used to obtain the 95th percentile queue lengths for each exclusive turn lanes during the a.m. and p.m. peak-hours. Only the peak-hour is analyzed. Turn lane requirements were evaluated using the Volusia County LDC Section 72-619, Table VI and FDOT Design Standards Index No. 301. The resulting recommended turn lane lengths for the intersections, under peak-hour conditions, is provided in Table 17. It should be noted that if an intersection is recommended for improvements, the improved scenario was used in the analysis for that specific condition (existing, background, build-out). Based on the results summarized in Table 17, there are no turn lane deficiencies caused by project traffic.

Proportionate Share (PS)

Based on the current Florida Statue and procedures outlined in the R2CTPO TIA Guidelines, the proportionate share shall be calculated based upon the number of trips from the proposed development being approved. The project traffic is then divided by the change in roadway capacity resulting from the recommended improvements to result in a PS percentage. The total estimated construction cost for the improvement is multiplied by the PS percentage to determine the applicant’s PS contribution.

The PS formula is only applied to those facilities that are determined to be significantly impacted by the project under review. The recommended improvements eligible for PS determination, the estimated improvements costs and PS calculation are to be negotiated once the TIA has been approved.

**Table 16
Build-Out P.M. Peak-Hour LOS - Roadway Segments
Rivington MDP**

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity	Existing PM Peak-Hour Two-Way Volume	2022 Background Volume	Project Trip Distribution	Project Trips	2022 Build-Out Volume	Build-Out Volume Exceed Adopted LOS?
Dirksen Dr.	US 17/92	Sunrise Blvd.	2	E	1,440	858	1,199	10.1%	52	1,251	No
Barwick Rd.	Fort Florida Rd.	US 17/92	2	D	960	109	136	32.3%	189	325	No
Fort Florida Rd.	Highbanks Rd.	Ft. Florida Point Rd.	2	D	1,020	131	282	9.0%	47	329	No
	Ft. Florida Point Rd.	Barwick Rd.	2	D	1,020	95	246	10.3%	265	511	No
	Barwick Rd.	US 17/92	2	D	1,020	150	341	57.3%	454	795	No
Highbanks Rd.	Fort Florida Rd.	Donald E Smith Blvd.	2	D	1,150	261	474	8.0%	42	516	No
	Donald E Smith Blvd.	US 17/92	2	D	1,370	1,018	1,182	6.6%	34	1,216	No
US 17/92	Dirksen Dr.	Fort Florida Rd.	4	D	3,760	2,651	3,338	26.1%	136	3,474	No
	Fort Florida Rd.	Barwick Rd.	6	D	5,390	3,149	4,213	30.1%	156	4,369	No
	Barwick Rd.	Seminole/Volusia Co. Line	6	D	5,390	3,149	4,213	58.3%	303	4,516	No

Note: The greater value between historical growth projections and vested trips were added to the existing peak-hour two-way volume to determine 2022 background volume.

**Table 17
Queue Length & Turn Lane Analysis
Rivington MDP**

Intersection	Turn Lane	Posted Speed Limit (mph)	Existing Lane Length (ft.)*	Maintaining Agency	Required Deceleration (ft)*	Peak-Hour Period	95th Percentile Queue Length (ft)			Total Recommended Turn Lane Length (ft.)* at Build-Out	Lane Length Deficiency (ft.)	Deficient Condition
							Existing	Background	Build-Out			
2. Fort Florida Road at US 17/92	NBL	50	450	FDOT	240	PM	50	250	375	615	165	Background
	SBL	50	215	FDOT	240	PM	25	50	50	290	75	Existing
3. US 17/92 at Dirksen Drive	EBL	45	205	County	240	PM	225	375	375	615	410	Existing
	NBR	50	215	FDOT	240	PM	275	300	325	565	350	Existing
	SBL	50	350	FDOT	240	PM	100	375	375	615	265	Background
4. US 17/92 at Barwick Road	EBL	30	190	City	N/A	AM	25	25	50	50	None	None
	NBL	50	340	FDOT	240	AM	25	25	75	315	None	None
	SBL	50	310	FDOT	240	PM	25	25	25	265	None	None
5. US 17/92 at Highbanks Road	EBL	30	310	City	N/A	PM	325	200	425	425	115	Existing
	WBL	35	235	City	145	PM	250	275	250	395	160	Existing
	SBL	40	280	FDOT	155	PM	125	250	250	405	125	Background
	SBR	40	190	FDOT	155	PM	75	25	125	280	90	Existing

*Includes 50 ft. taper

6

CONCLUSION AND RECOMMENDATIONS

This study was conducted to evaluate the impact the proposed Rivington MDP development would have on the surrounding roadway network in DeBary, Florida. The development will generate a net total of 445 a.m. peak-hour and 623 p.m. peak-hour trips. The results of the roadway segment and intersection analyses are summarized in Tables 18 and 19, below.

**Table 18
Recommended Improvements - Roadway Segments
Rivington MDP**

Roadway	Segment		Improvement Required with		
	To	From	Existing Volume	Background Volume	Build-Out Volume
Highbanks Rd	Donald E Smith Blvd	US 17/92	4L		
US 17/92	Fort Florida Rd	Barwick Rd		6L	
	Barwick Rd	Seminole/Volusia Co. Line		6L	

**Table 19
Recommended Improvements - Intersections
Rivington MDP**

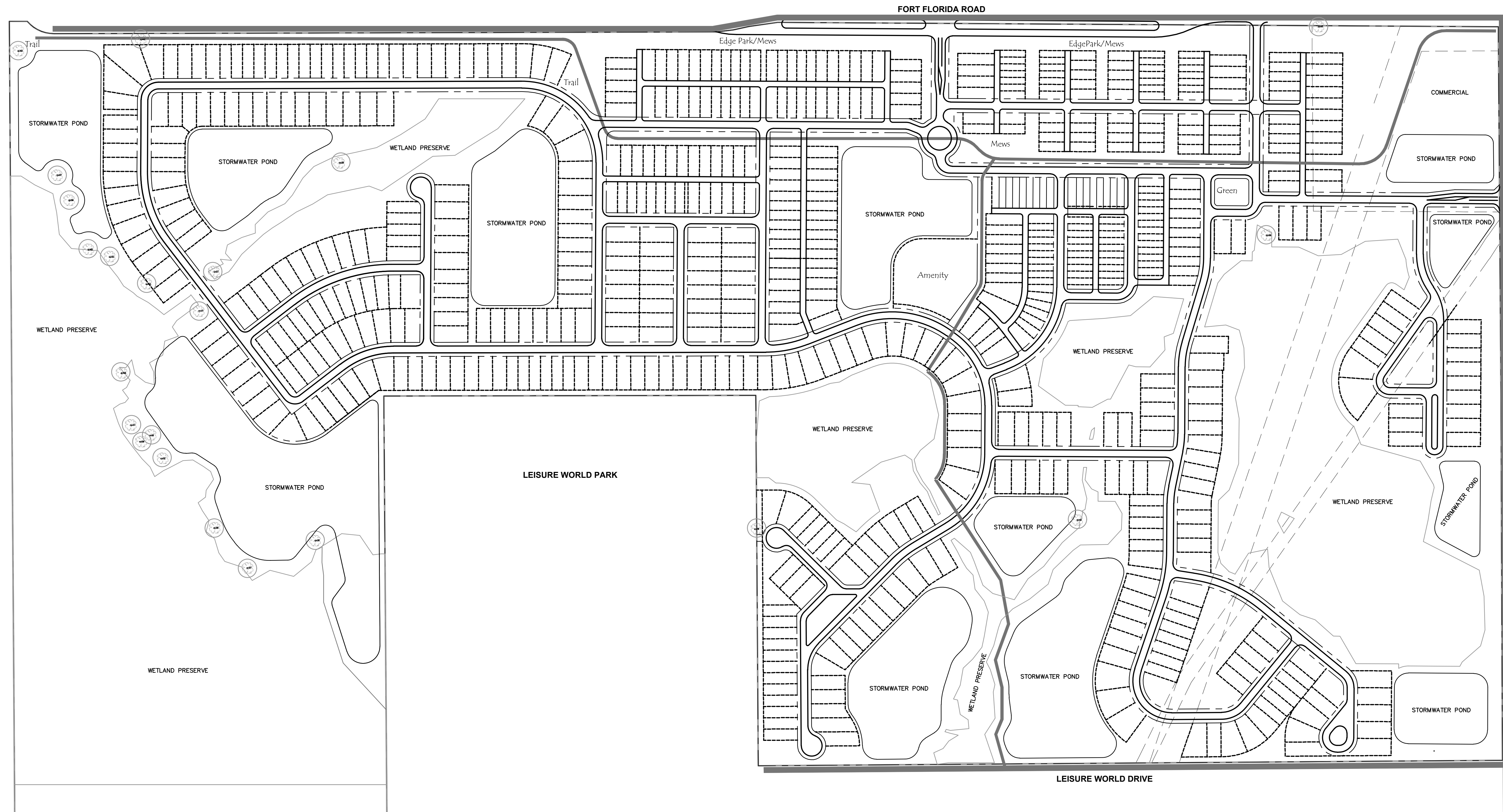
Intersection	Improvement Required with		
	Existing Volume	Background Volume	Build-Out Volume
2. Fort Florida Road at US 17/92	<ul style="list-style-type: none"> Add exclusive eastbound left-turn lane for dual lane approach. 	<ul style="list-style-type: none"> Add a southbound through lane, Add a northbound through lane, Optimize signal timings (a.m. and p.m. peak-hours). 	<ul style="list-style-type: none"> Add an exclusive eastbound left-turn lane, Optimize signal timings (a.m. and p.m. peak-hours).
3. US 17/92 at Dirksen Drive		<ul style="list-style-type: none"> Add a southbound through lane with a 1,200-ft. receiving lane, Optimize signal timings (a.m. and p.m. peak-hours) 	
5. US 17/92 at Highbanks Road		<ul style="list-style-type: none"> Optimize signal timings (a.m. and p.m. peak-hours) 	

Under 2022 build-out conditions, the Fort Florida Road at US 17/92 intersection recommended for an exclusive eastbound left-turn lane under 2022 build-out conditions. This improvement is eligible to be included in the proportionate share calculation. Based on the results of the impact analysis and the recommendations provided, the project is recommended for approval.

APPENDIX

APPENDIX A

PRELIMINARY SITE PLAN

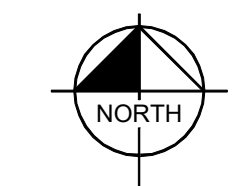


± 98 TOWNHOMES
 ± 602 SINGLE FAMILY HOMES
 700 TOTAL LOTS



*LOTS SHOWN ARE FOR A CONCEPTUAL LAYOUT PURPOSE ONLY. THEY DO NOT REPRESENT FINAL SIZE NOR ORIENTATION AS WILL BE ESTABLISHED DURING THE CONSTRUCTION PLAN PERMITTING PROCESS.

NOT TO SCALE



Kimley»Horn

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CONCEPTUAL SKETCH

10/16/18 - CONTACT BRENT A. LENZEN, P.E. (407) 427-1610

SP-11

APPENDIX B

METHODOLOGY

Via Email: (LDodd@DeBary.org)

Ref: 4628.11

November 13, 2018

Laura Dodd
Planning & Growth Management
City of DeBary
6 Colomba Road
DeBary, FL 32713

Re: Rivington MDP – Concurrency Traffic Impact Analysis Methodology Letter - Revised

Dear Ms. Dodd:

LTG, Inc. (LTG) has been retained by Reader Communities to prepare a Traffic Impact Analysis (TIA) for the proposed Rivington MDP. The proposed development is located on Fort Florida Road, east of US 17/92 in DeBary, Florida. The location is graphically presented in Figure 1. The proposed development will consist of the following land-uses:

- Single-Family Residential: 602 Dwelling Units
- Townhouses: 98 Dwelling Units
- Shopping Center: 10 KSF

The purpose of performing the TIA is to obtain transportation concurrency for the proposed development which is expected to be completed by 2022. Access to the development will be via two full access driveway connection with one on Fort Florida Road and one on Barwick Road, and a right-in/right-out driveway on Fort Florida Road. A preliminary site plan is attached.

The City of DeBary has adopted the River to Sea Transportation Planning Organization (R2CTPO) TIA guidelines. In accordance with these guidelines, this letter outlines the proposed methodology by which the analysis will be conducted.

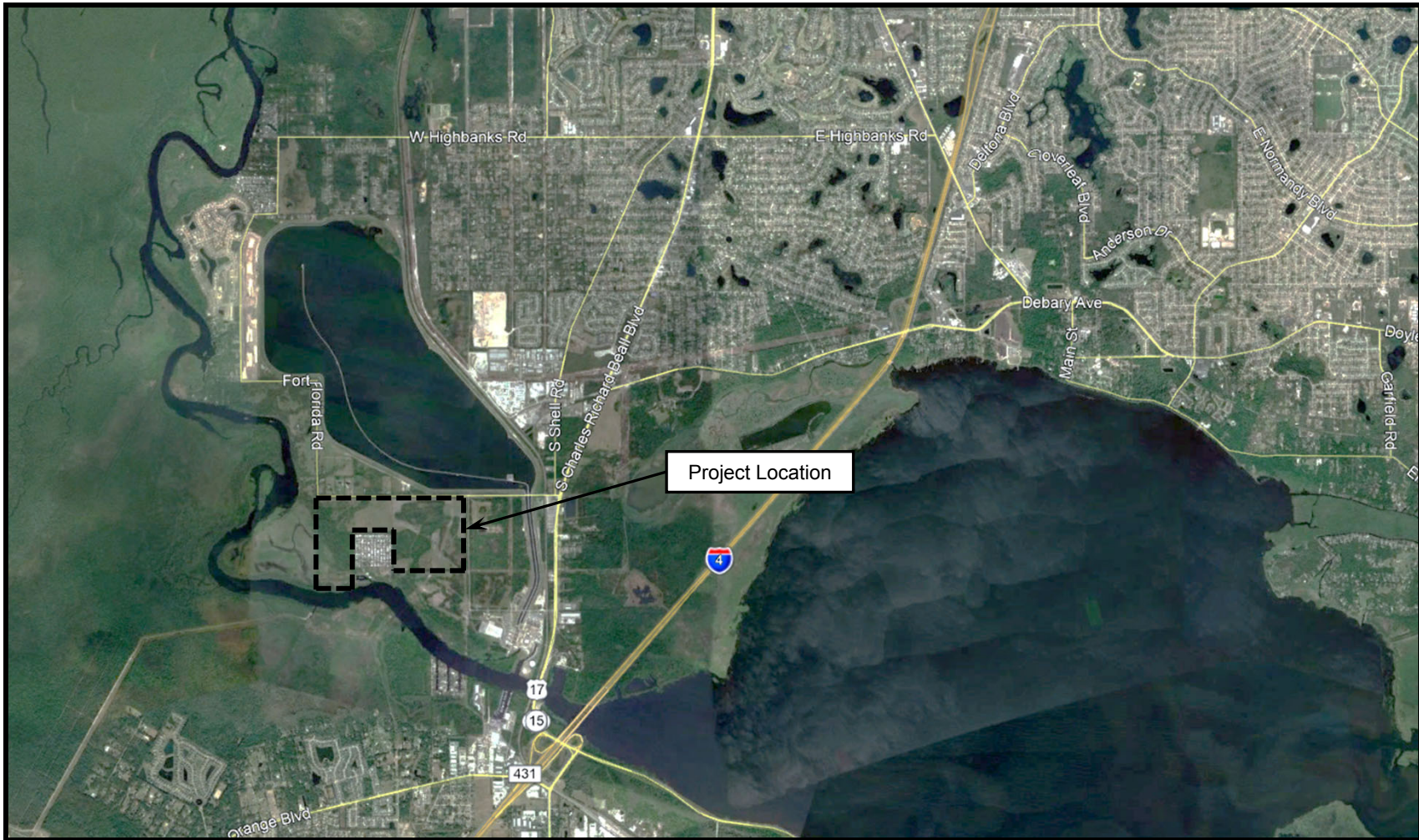
The analysis will be based on the latest concurrency information as obtained from the Florida Department of Transportation (FDOT), the Volusia County Traffic Engineering Department and the City of DeBary.

Analysis Period

Roadway segments will be analyzed based on p.m. peak-hour two-way traffic and intersections will be analyzed based on a.m. and p.m. peak-hour traffic volumes. The analysis will be conducted under 2018 existing conditions and 2022 build-out conditions.

Project Trip Generation

The Daily, a.m. and p.m. peak-hour trip generation for the development was determined using the Institute of Transportation Engineers (ITE) 10th Edition of the *Trip Generation Manual*. The trip generation shown in Table 1 shows the new gross external daily, a.m. and p.m. peak-hour trips that the proposed development will add to the roadway network at build-out.



Rivington MDP



Site Location Map



Project No.:4628.11

Figure: 1

1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

Table 1
Gross Project Trip Generation
Rivington MDP

Time Period	Land Use	Land Use Code	Trip Rate Equation	Quantity	Units	Total Trips (T)	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting
Daily	Single-Family Residential	210	$\text{Ln}(T) = 0.92\text{Ln}(X) + 2.71$	602	DU	5,422	50%	50%	2,711	2,711
	Townhouses	220	$T = 7.56(X) - 40.86$	98	DU	700	50%	50%	350	350
	Shopping Center	820	$T = 37.75(X)$	10	KSF	378	50%	50%	189	189
	Totals:						6,500			3,250
A.M. Peak-Hour	Single-Family Residential	210	$T = 0.71(X) + 4.80$	602	DU	432	25%	75%	108	324
	Townhouses	220	$\text{Ln}(T) = 0.95\text{Ln}(X) - 0.51$	98	DU	47	23%	77%	11	36
	Shopping Center	820	$T = 0.94(X)$	10	KSF	9	62%	38%	6	3
	Totals:						488			125
P.M. Peak-Hour	Single-Family Residential	210	$\text{Ln}(T) = 0.96\text{Ln}(X) + 0.20$	602	DU	569	63%	37%	358	211
	Townhouses	220	$\text{Ln}(T) = 0.89\text{Ln}(X) - 0.02$	98	DU	58	63%	37%	37	21
	Shopping Center	820	$\text{Ln}(T) = 0.74(X) + 2.89$	10	KSF	99	48%	52%	48	51
	Totals:						726			443

Due to the mixed-use nature of the land uses, a certain portion of the project trips generated are expected to be attracted from within the development, known as internal capture. The National Cooperative Highway Research Program (NCHRP) Report 684 was used to calculate an internal capture of five percent (5%) for the p.m. peak-hour. Additionally, due to the proximity of the proposed development to the DeBary SunRail Station, a certain number of transit-oriented trips are expected. These trips were deducted from the total trip generation to determine the new external project trips. The resulting net external internal project trips are presented in Table 2.

Table 2
Net New External Project Trip Generation
Rivington MDP

Time Period	Land Use	Total Trips			Internal Trips			SunRail Trips*			New External Trips		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Daily	Single-Family Residential	2,711	2,711	5,422	0	0	0	0	0	0	2,711	2,711	5,422
	Townhouses	350	350	700	0	0	0	0	0	0	350	350	700
	Shopping Center	189	189	378	0	0	0	0	0	0	189	189	378
	Totals:		3,250	3,250	6,500	0	0	0	0	0	0	3,250	3,250
A.M. Peak-Hour	Single-Family Residential	108	324	432	0	0	0	10	29	39	98	295	393
	Townhouses	11	36	47	0	0	0	1	3	4	10	33	43
	Shopping Center	6	3	9	0	0	0	0	0	0	6	3	9
	Totals:		125	363	488	0	0	0	11	32	43	114	331
P.M. Peak-Hour	Single-Family Residential	358	211	569	11	4	15	31	19	50	316	188	504
	Townhouses	37	21	58	2	1	3	3	2	5	32	18	50
	Shopping Center	48	51	99	5	13	18	6	6	12	37	32	69
	Totals:		443	283	726	18	18	36	40	27	67	385	238

*SunRail trips are estimated to include both pedestrian and vehicular traffic; 9% for residential and 15% for commercial

Please note that a portion of new trips, known as pass-by trips, will be attracted to the project from the existing traffic on the adjacent roadways. Based on the R2CPO TIA guidelines, pass-by capture shall not exceed fourteen percent (14%) of the total background traffic on the adjacent roadways. The pass-by rate provided in the *ITE Trip Generation Handbook, 3rd Edition* are expected to exceed the fourteen percent threshold. Therefore, the pass-by trip reduction will be addressed and applied to the total trip generation once traffic count data is collected in the immediate study area.

Project Trip Distribution

The process of determining the directional flow of traffic associated with a new development is called trip distribution. The Central Florida Regional Planning Model (CFRPM), version 6.1, was used to determine project trip distribution for the proposed development. The model roadway network and socioeconomic (S/E) data was modified to include Fort Florida Road, as well as River Bend and Riviera Bella residential developments. Additionally, due to planned developments and improvements within the study area, the Town Center mixed-use development was also included in the model network. The resultant project trip distribution is presented in Figure 2.

Study Area Determination

Per the R2CTPO guidelines, projects which generate more than 100 p.m. peak-hour two-way trips must include all roadway segments that are impacted by the proposed project to within three percent (3%) or greater of the peak-hour two-way adopted level of service (LOS) capacity, major intersections along the significant segments, and roadway segments that have been designated as “critical” or “near critical” within a three-mile travel distance of the site. Critical and near critical roadways are defined by Volusia County as roadways with a volume to capacity (v/c) ratio that is equal to or greater than 1.0 and 0.90, respectively. Figure 3, obtained from the Volusia County Traffic Engineering Division, depicts the critical and near-critical roadway segments within the area.

Using the project trip distribution from the CFRPM, the p.m. peak-hour project trips were assigned to the roadway network to determine the roadway segments that are impacted by the proposed development within three percent or greater of the peak-hour two-way adopted LOS capacity. Table 3 presents the significance test and the critical or near-critical roadway segments to be included in the analysis.

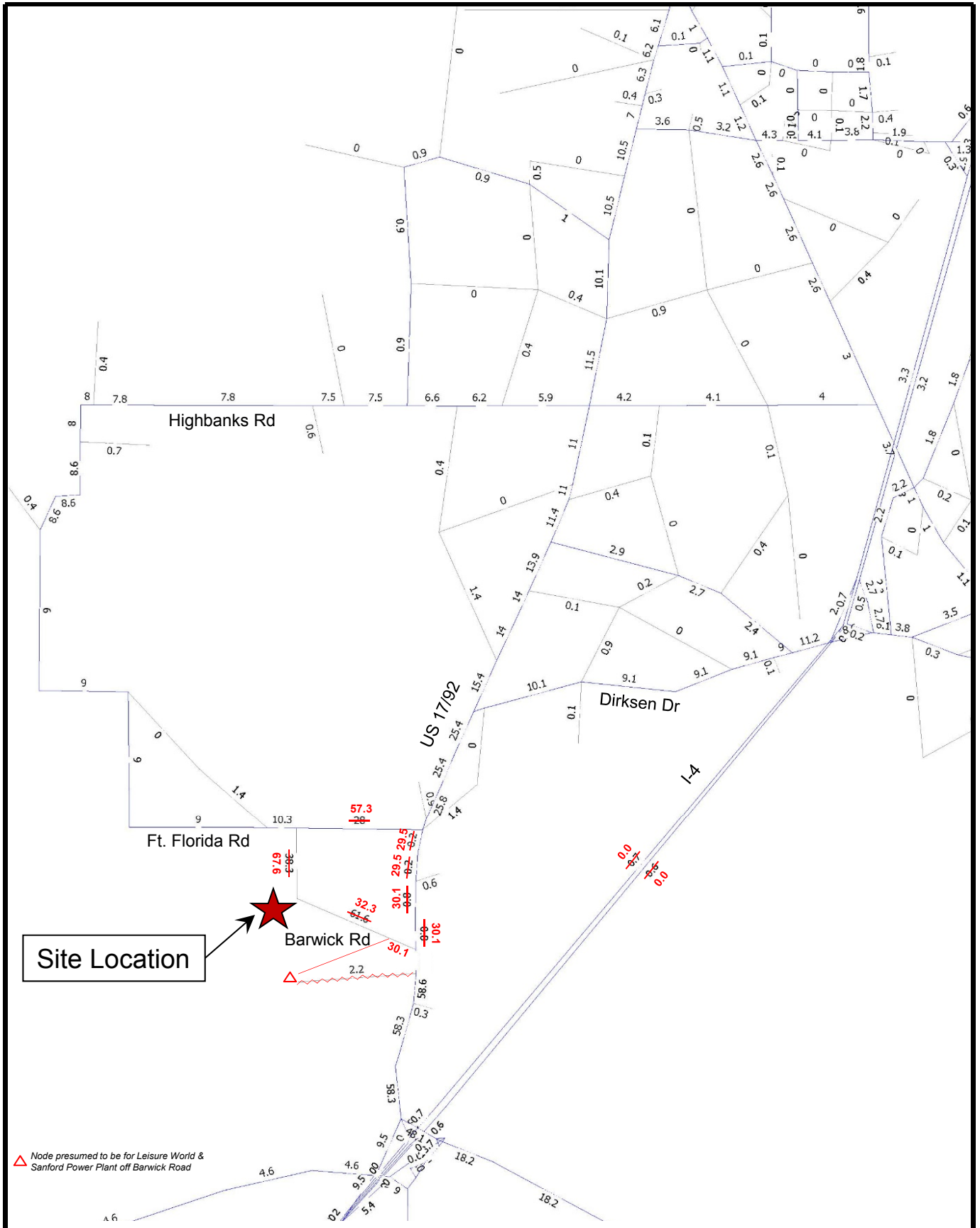
Table 3
Significance Testing
Rivington MDP

Roadway	Limits		No. of Lanes	Adopted LOS ¹	Peak-Hour Two-Way Capacity at Adopted LOS ²	Build Out Project Distribution	P.M. Peak-Hour Two-Way		
	From	To					Project Trips	Impact of LOS	3% Significant?
Dirksen Dr	US 17/92	Sunrise Blvd	2	E	1,230	10.1%	63	5.12%	Yes
	Sunrise Blvd	WB I-4 Ramps	4	E	2,740	9.1%	57	2.08%	No
I-4	Seminole/Volusia Co. Line	Dirksen Dr	6	D	10,060	0.0%	0	0.00%	No
Barwick Rd	Fort Florida Rd	US 17/92	2	D	960	32.3%	201	20.94%	Yes
Fort Florida Rd	Highbanks Rd	Ft. Florida Point Rd	2	D	1,020	9.0%	56	5.49%	Yes
	Ft. Florida Point Rd	Barwick Rd	2	D	1,020	10.3%	64	6.27%	Yes
	Barwick Rd	US 17/92	2	D	1,020	57.3%	357	35.00%	Yes
Highbanks Rd	Fort Florida Rd	Donald E. Smith Blvd	2	D	1,150	8.0%	50	4.35%	Yes
	Donald E. Smith Blvd	US 17/92	2	D	960	6.6%	41	4.27%	Yes
Shell Rd	US 17/92	Enterprise Rd	2	D	1,150	4.2%	26	2.26%	No
	Highbanks Rd	Fort Florida Rd	2	D	960	0.0%	0	0.00%	No
US 17/92	Highbanks Rd	Valencia Rd	4	D	3,760	11.4%	71	1.89%	No
	Valencia Rd	Dirksen Dr	4	D	3,760	15.4%	96	2.55%	No
	Dirksen Dr	Fort Florida Rd	4	D	3,760	26.4%	164	4.36%	Yes
	Fort Florida Rd	Barwick Rd	4	D	3,760	30.1%	188	5.00%	Yes
	Barwick Rd	Seminole/Volusia Co. Line	4	D	3,760	58.6%	365	9.71%	Yes

¹Per Comprehensive Plan of Jurisdiction

²Per 2017 VC AADT Spreadsheet

	Critical
	Near Critical
	Vested Critical
	Vested Near Critical
	Significant Segments



Rivington MDP



NTS

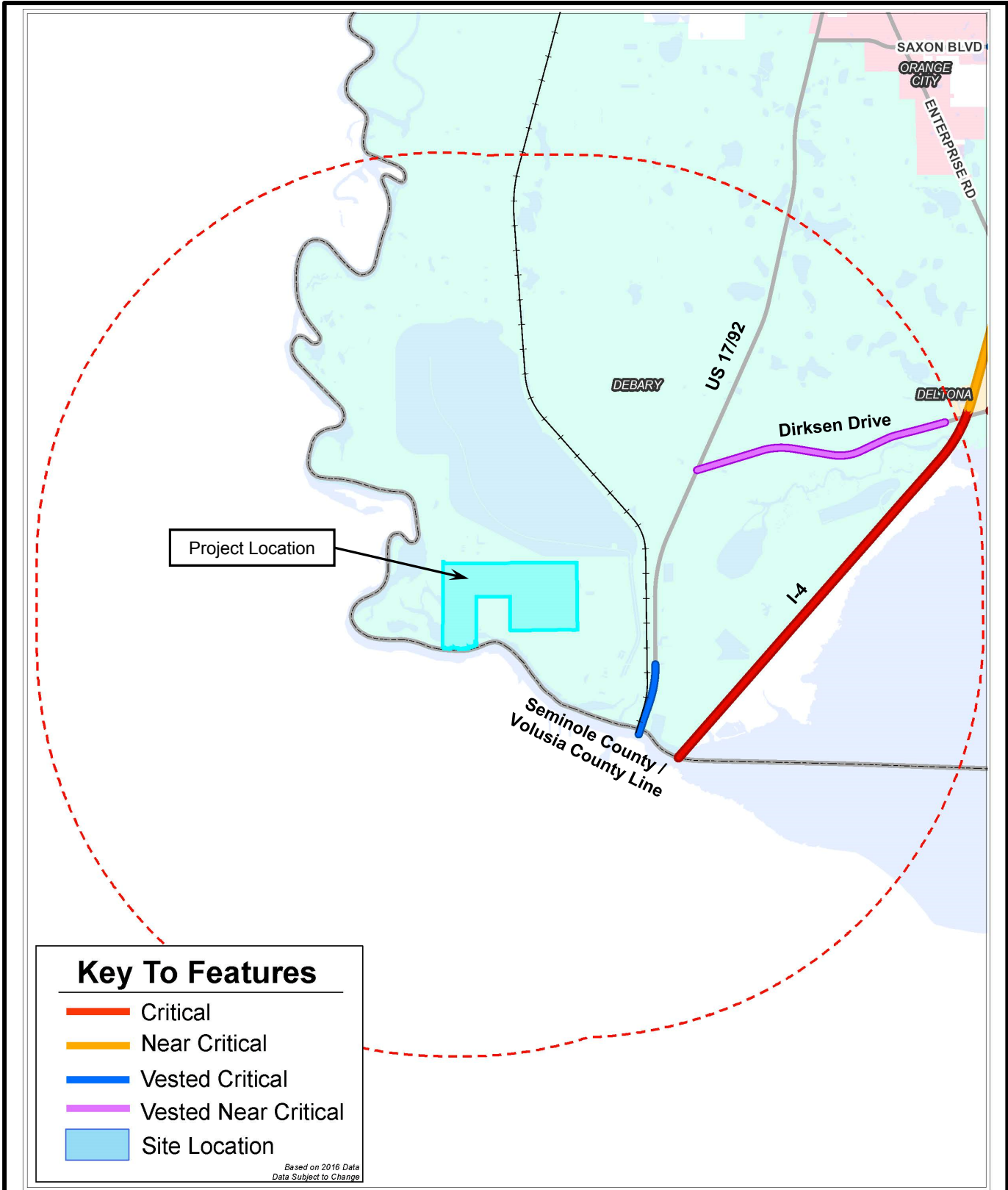
Trip Distribution

Project No.: 4628.11

Figure: 2



1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227



Mapping Tool Provided Courtesy of Volusia County Public Works and is a graphic representation only.

Date 10/22/2018

3 mile Critical/Near Critical Roadway Buffer

Rivington



1 inch = 5,297 feet

Rivington	 NTS	Critical/Near Critical Map		
		Project No.: 4628.11	Figure: 3	

Based on the critical/near critical designations and the significance test, the intersections and roadway segments proposed for inclusion in the TIA are as follows:

Intersections:

1. Fort Florida Road at Barwick Road
2. Fort Florida Road at US 17/92
3. US 17/92 at Dirksen Drive
4. US 17/92 at Barwick Road
5. US 17/92 at Highbanks Road
6. Highbanks Road at Fort Florida Road
7. Project Driveway at Fort Florida Road (build-out conditions)
8. Project Driveway at Barwick Road (build-out conditions)

Segments (including Critical/Near-Critical):

- Dirksen Drive from US 17/92 to Sunrise Boulevard (Vested Near-Critical)
- Barwick Road from Fort Florida Road to US 17/92
- Fort Florida Road from Highbanks Road to Fort Florida Pointe Road
- Fort Florida Road from Fort Florida Pointe Road to Barwick Road
- Fort Florida Road from Barwick Road to US 17/92
- Highbanks Road from Fort Florida Road to Donald E Smith Boulevard
- Highbanks Road from Donald E Smith Boulevard to US 17/92
- US 17/92 from Dirksen Drive to Fort Florida Road
- US 17/92 from Fort Florida Road to Barwick Road
- US 17/92 from Barwick Road to Seminole/Volusia County Line (Vested Critical)

Build-Out Traffic

The build-out traffic will be developed by the sum of the background traffic (derived from growth rates or vested trips within the study area) plus the project trips. A comparison between historical growth rates for each study area roadway segment, determined by historic growth trends calculated based upon five (5) years of historic count data, and vested project trips will be conducted and the higher of the two will be applied. A minimum annual growth rate of two percent (2%) shall be used, unless otherwise documented. In no case shall the growth be negative. All improvements funded for construction within the first three years of the FDOT five-year work program will be considered in the future analysis.

Traffic from the following approve vested projects shall be considered:

- Integra/Hawthorn
- Riviera Bella East
- Springview Unit 8 Residential
- Wal-Mart (remaining two outparcels)

Segment Analysis – P.M. Peak-Hour Existing and Build-Out Conditions

If the future projected volume is expected to exceed the maximum service volume of a roadway segment, a transportation analysis may be conducted to determine service volume specific to that segment, if authorized by the applicant and the local road maintaining agency. The procedures documented in the latest version of the FDOT *Quality/Level of Service Handbook* will be used to determine specific capacity, if necessary.

Intersection Analysis – A.M. and P.M. Peak-Hour Existing and Build-Out Conditions

The operating conditions for both the existing and future conditions at the unsignalized intersections will be analyzed using the Highway Capacity Software 7, Version 7.6 (HCS) or Synchro 10. HCS utilizes the procedures outlined in Chapter 20 of the HCM 6th Edition *Highway Capacity Manual*, titled “Two-Way Stop Control Intersections”.

Laura Dodd
November 13, 2018
Page 8

The operating conditions for both the existing and future conditions at the signalized intersections will be evaluated using the Highway Capacity Software 7, Version 7.6 (HCS) or Synchro 10. This software utilizes the methodology outlined in Chapter 19 of the HCM 6th Edition *Highway Capacity Manual*, titled "Signalized Intersections".

The a.m. and p.m. peak-hour turning movement counts will be collected on a typical weekday (Tuesday, Wednesday, or Thursday) between the hours of 7:00 a.m. – 9:00 a.m. and 4:00 p.m. – 6:00 p.m. The raw data will be seasonally adjusted using FDOT Peak Season Conversion Factors.

Multi-Modal Analysis

A multi-modal analysis will be conducted which will evaluate present and programmed bike, pedestrian and transit mobility options, inclusive of Votran.

Improvements

If warranted, appropriate roadway and intersection improvements will be identified.

Please review and advise if the City is in agreement with this proposed methodology or provide comments relating to preferred revisions. If you have any questions, please contact me at 386.257.2571.

Sincerely,

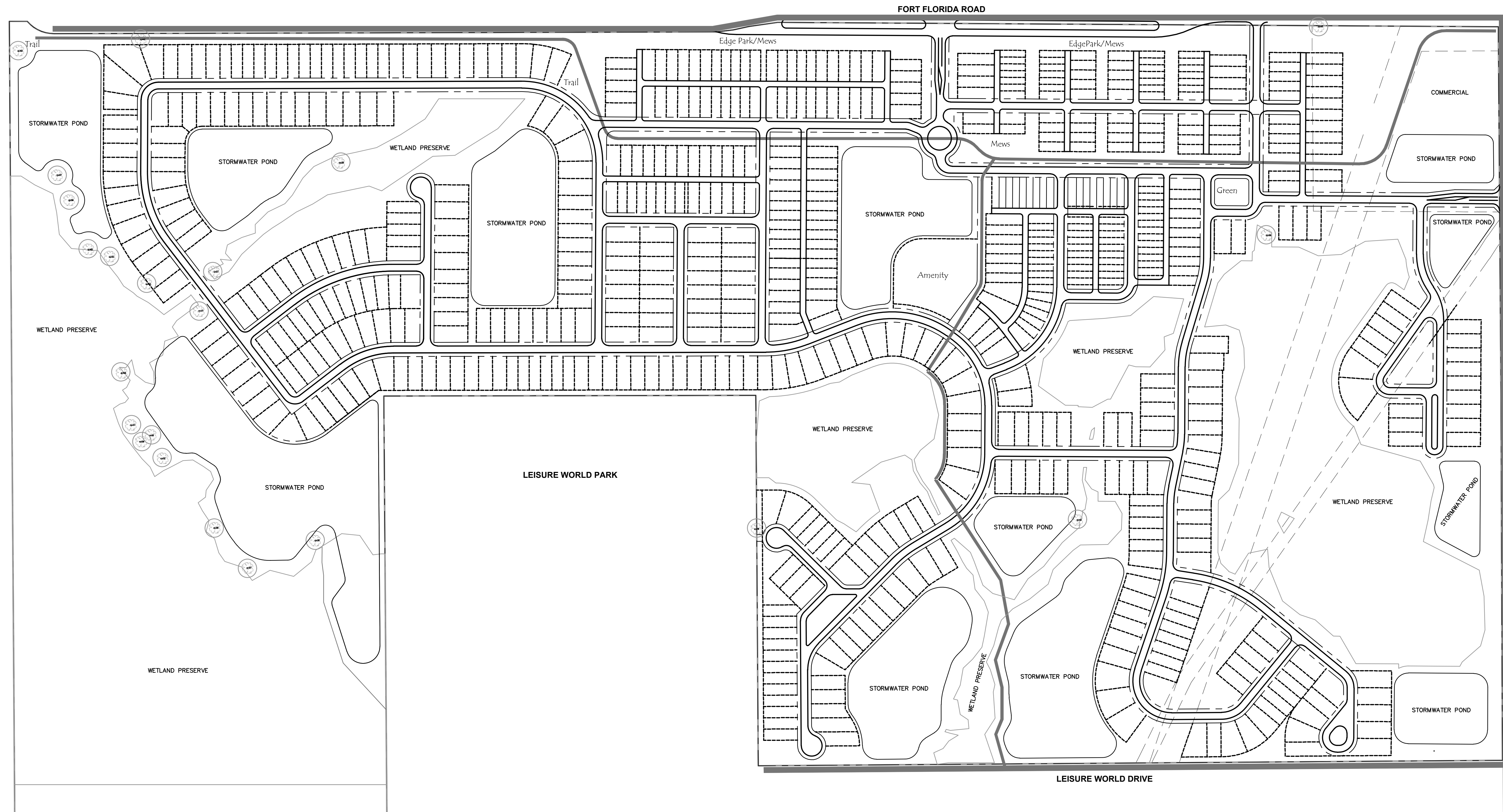
LTG, INC.



Kady Dearing, PE
Project Engineer

Attachments: Preliminary Site Plan

c: Dean Barberree – Reader Communities (Dean@readercommunities.com)
Mark Watts – Cobb Cole (Mark.Watts@cobbcole.com)
Matt Boerger, AICP, LEED AP – City of DeBary (MBoerger@DeBary.org)
Chris Walsh, P.E. – TEDS (CWalsh@teds-fl.com)

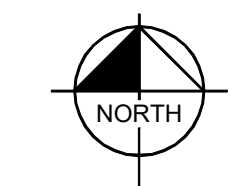


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 700 TOTAL LOTS



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NOT TO SCALE



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CONCEPTUAL SKETCH

10/16/18 - CONTACT BRENT A. LENZEN, P.E. (407) 427-1610

SP-11

APPENDIX C
TURNING MOVEMENT COUNT
DATA

AM Peak-Hour Factored Volumes

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic						Build-Out		Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
1. Fort Florida Road at Barwick Road	Eastbound	U-Turn			1.04	0	0%	8.33%	0	0	0	28.0%	out	0	0	0.89
		Left	0	0		0	0		0	0	0					
		Through	75	3		78	4%		26	0	104			93	197	
		Right	15	0		16	0%		5	0	21			0	21	
	Westbound	U-Turn				0	0%	5.21%	0	0	0	29.3%	in	0	0	
		Left	12	0		12	0%		3	0	15			33	48	
		Through	41	6		43	15%		9	0	52			32	83	
		Right	0	0		0	0%		0	0	0			0	0	
	Northbound	U-Turn				0	0%	5.00%	0	0	0	29.3%	out	0	0	
		Left	7	3		7	43%		1	0	9			0	9	
		Through	0	0		0	0%		0	0	0			0	0	
		Right	21	3		22	14%		4	0	26			97	123	
Southbound	U-Turn			0	0%	2.00%	0	0	0			0	0			
	Left	0	0	0	0%		0	0	0			0	0			
	Through	0	0	0	0%		0	0	0			0	0			
	Right	0	0	0	0%		0	0	0			0	0			

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic						Build-Out		Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
2. Fort Florida Road at US 17/92	Eastbound	U-Turn			1.04	0	0%	5.21%	0	0	0	28.0%	out	0	0	0.92
		Left	24	2		25	8%		5	0	30			93	123	
		Through	0	0		0	0%		0	0	0			0	0	
		Right	86	4		89	5%		19	0	108			97	205	
	Westbound	U-Turn				0	0%	2.00%	0	0	0			0	0	
		Left	0	0		0	0%		0	0	0			0	0	
		Through	0	0		0	0%		0	0	0			0	0	
		Right	0	0		0	0%		0	0	0			0	0	
	Northbound	U-Turn				0	0%	6.76%	0	0	0	29.3%	in	0	0	
		Left	53	4		55	8%		15	0	70			33	103	
		Through	468	29		487	6%		132	0	618			1	619	
		Right	0	0		0	0%		0	0	0			0	0	
Southbound	U-Turn			0	0%	5.18%	0	0	0	0.2%	in	0	0			
	Left	2	0	2	0%		0	0	3			0	3			
	Through	1907	61	1983	3%		411	0	2,394			0	2,394			
	Right	30	4	31	13%		6	0	38			32	70			

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic						Build-Out		Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
3. US 17/92 at Driscoll Drive	Eastbound	U-Turn			1.04	0	0%	2.00%	0	0	0	72	out	0	0	0.94
		Left	64	1		67	2%		5	0	72			0	72	
		Through	16	0		17	0%		1	0	18			0	18	
		Right	68	3		71	4%		6	0	76			0	76	
	Westbound	U-Turn				0	0%	7.96%	0	0	0	10.1%	in	0	0	
		Left	141	6		147	4%		47	0	193			12	205	
		Through	125	0		130	0%		41	0	171			0	171	
		Right	67	4		70	6%		22	0	92			0	92	
	Northbound	U-Turn				0	0%	5.18%	0	0	0	15.4%	out	0	0	
		Left	67	1		70	1%		14	0	84			0	84	
		Through	429	34		446	8%		92	0	539			51	590	
		Right	81	1		84	1%		17	0	102			33	135	
Southbound	U-Turn			0	0%	5.56%	0	0	0	15.4%	in	0	0			
	Left	112	2	116	2%		26	0	142			0	142			
	Through	1714	20	1783	1%		396	0	2,179			18	2,197			
	Right	63	2	66	3%		15	0	80			0	80			

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic						Build-Out		Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
4. US 17/92 at Barwick Road	Eastbound	U-Turn			1.04	0	0%	5.00%	0	0	0	0.8%	out	0	0	0.95
		Left	4	1		4	25%		1	0	5			3	8	
		Through	0	0		0	0%		0	0	0			0	0	
		Right	30	0		31	0%		6	0	37			97	134	
	Westbound	U-Turn				0	0%	2.00%	0	0	0			0	0	
		Left	0	0		0	0%		0	0	0			0	0	
		Through	0	0		0	0%		0	0	0			0	0	
		Right	1	0		1	0%		0	0	1			0	1	
	Northbound	U-Turn				0	0%	6.76%	0	0	0	29.3%	in	0	0	
		Left	21	7		22	33%		6	0	28			33	61	
		Through	515	45		536	9%		145	0	680			33	714	
		Right	3	0		3	0%		1	0	4			0	4	
Southbound	U-Turn			0	0%	6.76%	0	0	0	29.3%	out	0	0			
	Left	15	1	16	7%		4	0	20			0	20			
	Through	1782	64	1853	4%		501	0	2,354			97	2,451			
	Right	8	1	8	13%		2	0	11			1	12			

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out			Peak-Hour Factor		
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction		Project Trips	Total Build-Out Volume
5. US 17/92 at Highbanks Road	Eastbound	U-Turn			1.04	0	0%	2.00%	0	0	0			0	0	0.94
		Left	158	5		164	3%		13	0	177	0.5%	out	2	179	
		Through	63	2		66	3%		5	0	71	4.2%	out	14	85	
		Right	87	4		90	5%		7	0	98			0	98	
	Westbound	U-Turn				0	0%	0	0	0			0	0		
		Left	178	7		185	4%	23	0	208			0	208		
		Through	83	6		86	7%	11	0	97	4.2%	in	5	102		
		Right	99	6		103	6%	13	0	116			0	116		
	Northbound	U-Turn				0	0%	0	0	0			0	0		
		Left	72	2		75	3%	13	0	88			0	88		
		Through	426	20		443	5%	76	0	519	11.0%	out	36	556		
		Right	63	2		66	3%	11	0	77			0	77		
	Southbound	U-Turn				0	0%	0	0	0			0	0		
		Left	48	5		50	10%	7	0	57			0	57		
		Through	1351	35		1405	3%	188	0	1,593	11.0%	in	13	1,606		
		Right	112	5		116	4%	16	0	132	0.5%	in	1	133		

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out			Peak-Hour Factor		
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction		Project Trips	Total Build-Out Volume
6. Highbanks Road at Fort Florida Road	Eastbound	U-Turn	0	0	1.04	0	0%	2.00%	0	0	0			0	0	0.88
		Left	0	0		0	0%		0	0	0			0	0	
		Through	16	1		17	6%		1	0	18			0	18	
		Right	8	0		8	0%		1	0	9			0	9	
	Westbound	U-Turn				0	0%	0	0	0			0	0		
		Left	63	4		66	6%	43	0	108	8.0%	in	9	117		
		Through	10	3		10	30%	7	0	17			0	17		
		Right	0	0		0	0%	0	0	0			0	0		
	Northbound	U-Turn				0	0%	0	0	0			0	0		
		Left	2	1		2	50%	0	0	2			0	2		
		Through	0	0		0	0%	0	0	0			0	0		
		Right	83	5		86	6%	16	0	103	8.0%	out	26	129		
	Southbound	U-Turn				0	0%	0	0	0			0	0		
		Left	0	0		0	0%	0	0	0			0	0		
		Through	0	0		0	0%	0	0	0			0	0		
		Right	0	0		0	0%	0	0	0			0	0		

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out			Peak-Hour Factor		
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction		Project Trips	Total Build-Out Volume
7. Project Driveway #1 at Fort Florida Road	Eastbound	U-Turn			1.04	0	0%	8.33%	0	0	0			0	0	0.89
		Left				0	0%		0	0	0			0	0	
		Through	90	3		94	3%		31	0	125	2.6%	in	3	128	
		Right				0	0%		0	0	0	7.7%	in	9	9	
	Westbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0	28.0%	in	32	32		
		Through	48	9		50	19%	17	0	67		out	0	67		
		Right				0	0%	0	0	0			0	0		
	Northbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0	10.3%	out	34	34		
		Through				0	0%	0	0	0			0	0		
		Right				0	0%	0	0	0	21.0%	out	70	70		
	Southbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0			0	0		
		Through				0	0%	0	0	0			0	0		
		Right				0	0%	0	0	0			0	0		

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out			Peak-Hour Factor		
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction		Project Trips	Total Build-Out Volume
8. Project Driveway #2 at Fort Florida Road	Eastbound	U-Turn			1.04	0	0%	8.33%	0	0	0			0	0	0.89
		Left				0	0%		0	0	0			0	0	
		Through	90	3		94	3%		31	0	125	21.0%	Out	70	195	
		Right				0	0%		0	0	0	2.6%	in	3	3	
	Westbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0			0	0		
		Through	48	9		50	19%	10	0	60	28.0%	in	32	92		
		Right				0	0%	0	0	0			0	0		
	Northbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0			0	0		
		Through				0	0%	0	0	0			0	0		
		Right				0	0%	0	0	0	7.0%	Out	23	23		
	Southbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0			0	0		
		Through				0	0%	0	0	0			0	0		
		Right				0	0%	0	0	0			0	0		

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out			Peak-Hour Factor		
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction		Project Trips	Total Build-Out Volume
9. Project Driveway #3 at Banwick Road	Eastbound	U-Turn			1.04	0	0%	2.00%	0	0	0			0	0	0.89
		Left				0	0%		0	0	0	29.3%	out	97	97	
		Through				0	0%		0	0	0			0	0	
		Right				0	0%		0	0	0	32.3%	out	107	107	
	Westbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0			0	0		
		Through				0	0%	0	0	0			0	0		
		Right				0	0%	0	0	0			0	0		
	Northbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0	32.3%	in	37	37		
		Through	28	6		29	21%	2	0	31			0	31		
		Right				0	0%	0	0	0			0	0		
	Southbound	U-Turn				0	0%	0	0	0			0	0		
		Left				0	0%	0	0	0			0	0		
		Through	27	0		28	0%	2	0	30			0	30		
		Right				0	0%	0	0	0	29.3%	in	33	33		

PM Peak-Hour Factored Volumes

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Project Trip Direction	Project Trips		Total Build-Out Volume
1. Fort Florida Road at Barwick Road	Eastbound	U-Turn			1.04	0	0%	8.33%	0	0	0	0%	0	0	0	0.91
		Left	0	0		0	0%		0	0	0	0%	0	0		
		Through	32	4		33	13%		11	0	44	28%	out	67	111	
		Right	8	0		8	0%	3	0	11	0%	0	0	11		
	Westbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	14	1		15	7%	3	0	18	29%	in	113	130		
		Through	97	4		101	4%	21	0	122	28%	in	108	230		
		Right	0	0		0	0%	0	0	0	0%	0	0	0		
	Northbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	21	0		22	0%	4	0	26	0%	0	0	26		
		Through	0	0		0	0%	0	0	0	0%	0	0	0		
		Right	10	2		10	20%	2	0	12	29%	out	70	82		
Southbound	U-Turn			0	0%	0	0	0	0%	0	0	0	0			
	Left	0	0	0	0%	0	0	0	0%	0	0	0				
	Through	0	0	0	0%	0	0	0	0%	0	0	0				
	Right	0	0	0	0%	0	0	0	0%	0	0	0				

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Project Trip Direction	Project Trips		Total Build-Out Volume
2. Fort Florida Road at US 17/92	Eastbound	U-Turn			1.04	0	0%	5.21%	0	0	0	0%	0	0	0	0.95
		Left	26	1		27	4%		6	10	37	28%	out	67	104	
		Through	0	0		0	0%		0	0	0	0%	0	0	0	
		Right	53	3		55	6%	11	46	101	29%	out	70	171		
	Westbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	0	0		0	0%	0	0	0	0%	0	0	0		
		Through	0	0		0	0%	0	0	0	0%	0	0	0		
		Right	0	0		0	0%	0	0	0	0%	0	0	0		
	Northbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	196	4		204	2%	55	78	282	29%	in	113	395		
		Through	1992	38		2072	2%	560	0	2,632	0%	out	0	2,632		
		Right	0	0		0	0%	0	0	0	0%	0	0	0		
Southbound	U-Turn			0	0%	0	0	0	0%	0	0	0	0			
	Left	3	0	3	0%	1	0	4	0%	0	0	4				
	Through	703	15	731	2%	151	0	883	0%	in	1	884				
	Right	52	5	54	10%	11	17	71	28%	in	108	179				

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Project Trip Direction	Project Trips		Total Build-Out Volume
3. US 17/92 at Driscoll Drive	Eastbound	U-Turn			1.04	0	0%	2.00%	0	0	0	0%	0	0	0	0.95
		Left	127	4		132	3%		11	1	143	0%	0	0	143	
		Through	136	2		141	1%		11	0	153	0%	0	0	153	
		Right	82	3		85	4%	7	0	92	0%	0	0	92		
	Westbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	109	1		113	1%	36	18	149	10%	in	39	188		
		Through	24	4		25	17%	8	0	33	0%	0	0	33		
		Right	108	5		112	5%	36	17	148	0%	0	0	148		
	Northbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	53	6		55	11%	11	38	93	0%	0	0	93		
		Through	1539	30		1601	2%	332	59	1,932	15%	out	37	1,969		
		Right	352	4		366	1%	76	10	442	10%	out	24	466		
Southbound	U-Turn			0	0%	0	0	0	0%	0	0	0	0			
	Left	100	4	104	4%	23	7	127	0%	0	0	127				
	Through	673	20	700	3%	156	56	856	15%	in	59	915				
	Right	52	9	54	17%	12	1	66	0%	0	0	66				

Intersection	Approach	Mvmt.	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Project Trip Direction	Project Trips		Total Build-Out Volume
4. US 17/92 at Barwick Road	Eastbound	U-Turn			1.04	0	0%	5.00%	0	0	0	0%	0	0	0	0.94
		Left	8	0		8	0%		2	0	10	1%	out	2	12	
		Through	0	0		0	0%		0	0	0	0%	0	0	0	
		Right	27	0		28	0%	6	0	34	29%	out	70	103		
	Westbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	5	1		5	20%	0	0	6	0%	0	0	6		
		Through	0	0		0	0%	0	0	0	0%	0	0	0		
		Right	11	0		11	0%	1	0	12	0%	0	0	12		
	Northbound	U-Turn				0	0%	0	0	0	0%	0	0	0	0	
		Left	50	3		52	6%	14	0	66	29%	in	113	179		
		Through	2180	47		2267	2%	613	0	2,880	29%	in	113	2,993		
		Right	5	2		5	40%	1	0	7	0%	0	0	7		
Southbound	U-Turn			0	0%	0	0	0	0%	0	0	0	0			
	Left	9	1	9	11%	3	0	12	0%	0	0	12				
	Through	990	28	1030	3%	278	0	1,308	29%	out	70	1,378				
	Right	9	1	9	11%	3	0	12	1%	in	3	15				

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
5. US 17/92 at Highbanks Road	Eastbound	U-Turn			1.04	0	0%	2.00%	0	0	0	0%	0	0	0	0.95
		Left	204	2		212	1%		17	27	239	1%	out	1	240	
		Through	115	1		120	1%		10	16	136	4%	out	10	146	
	Westbound	Right	82	4		85	5%	7	5	92	0%	0	0	92		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left	154	3		160	2%	20	4	180	0%	0	0	180		
	Northbound	Through	89	3		93	3%	11	27	120	4%	in	16	136		
		Right	81	5		84	6%	10	5	95	0%	0	0	95		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
	Southbound	Left	101	5		105	5%	18	9	123	0%	0	0	123		
		Through	1379	20		1434	1%	247	24	1,681	11%	out	26	1,707		
		Right	84	5		87	6%	15	2	102	0%	0	0	102		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left	105	5		109	5%	15	5	124	0%	0	0	124		
		Through	614	20		639	3%	86	34	724	11%	in	42	766		
	Right	80	5	83	6%	11	56	139	1%	in	2	141				

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
6. Highbanks Road at Fort Florida Road	Eastbound	U-Turn	0	0	1.04	0	0%	2.00%	0	0	0	0%	0	0	0	0.86
		Left	0	0		0	0%		0	0	0	0%	0	0	0	
		Through	22	3		23	14%		2	0	25	0%	0	0	25	
	Westbound	Right	6	1		6	17%	0	0	7	0%	0	0	7		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left	74	0		77	0%	50	0	127	8%	in	31	158		
	Northbound	Through	32	0		33	13%	22	0	55	0%	0	0	55		
		Right	0	0		0	0%	0	0	0	0%	0	0	0		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
	Southbound	Left	21	0		22	0%	4	0	26	0%	0	0	26		
		Through	0	0		0	0%	0	0	0	0%	0	0	0		
		Right	41	0		43	0%	8	0	51	8%	out	19	70		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left	0	0		0	0%	0	0	0	0%	0	0	0		
		Through	0	0		0	0%	0	0	0	0%	0	0	0		
	Right	0	0	0	0%	0	0	0	0%	0	0	0				
	U-Turn			0	0%	0	0	0	0%	0	0	0				

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
7. Project Driveway #1 at Fort Florida Road	Eastbound	U-Turn			1.04	0	0%	8.33%	0	0	0	0%	0	0	0	0.91
		Left				0	0%		0	0	0	0%	0	0	0	
		Through	40	4		42	10%		14	0	55	3%	in	10	65	
	Westbound	Right				0	0%	0	0	0	8%	in	30	30		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left				0	0%	0	0	0	28%	in	108	108		
	Northbound	Through	118	4		123	3%	41	0	164	0%	out	0	164		
		Right				0	0%	0	0	0	0%	0	0	0		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
	Southbound	Left				0	0%	0	0	0	10%	out	25	25		
		Through				0	0%	0	0	0	0%	0	0	0		
		Right				0	0%	0	0	0	21%	out	50	50		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left				0	0%	0	0	0	0%	0	0	0		
		Through				0	0%	0	0	0	0%	0	0	0		
	Right			0	0%	0	0	0	0%	0	0	0				
	U-Turn			0	0%	0	0	0	0%	0	0	0				

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
8. Project Driveway #2 at Fort Florida Road	Eastbound	U-Turn			1.04	0	0%	8.33%	0	0	0	0%	0	0	0	0.91
		Left				0	0%		0	0	0	0%	0	0	0	
		Through	40	4		42	10%		14	0	55	21%	Out	50	105	
	Westbound	Right				0	0%	0	0	0	3%	in	10	10		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left				0	0%	0	0	0	0%	0	0	0		
	Northbound	Through	118	4		123	3%	26	0	148	28%	in	108	256		
		Right				0	0%	0	0	0	0%	0	0	0		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
	Southbound	Left				0	0%	0	0	0	7%	Out	17	17		
		Through				0	0%	0	0	0	0%	0	0	0		
		Right				0	0%	0	0	0	0%	0	0	0		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left				0	0%	0	0	0	0%	0	0	0		
		Through				0	0%	0	0	0	0%	0	0	0		
	Right			0	0%	0	0	0	0%	0	0	0				
	U-Turn			0	0%	0	0	0	0%	0	0	0				

Intersection	Approach	Mvmt	Existing Traffic				Background Traffic				Build-Out				Peak-Hour Factor	
			Raw Count	Raw Truck Count	Seasonal Factor	TMC Volume	% Heavy Vehicles	Approach Growth Rate	Growth (trips)	Vested Traffic	Total Background Volume	% Model Distribution	Trip Direction	Project Trips		Total Build-Out Volume
9. Project Driveway #3 at Banwick Road	Eastbound	U-Turn			1.04	0	0%	2.00%	0	0	0	0%	0	0	0	0.91
		Left				0	0%		0	0	0	29%	out	70	70	
		Through				0	0%		0	0	0	0%	0	0	0	
	Westbound	Right				0	0%	0	0	0	32%	out	77	77		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left				0	0%	0	0	0	0%	0	0	0		
	Northbound	Through				0	0%	0	0	0	0%	0	0	0		
		Right				0	0%	0	0	0	0%	0	0	0		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
	Southbound	Left				0	0%	0	0	0	0%	0	0	0		
		Through	31	2		32	6%	3	0	35	0%	0	0	35		
		Right				0	0%	0	0	0	0%	0	0	0		
		U-Turn				0	0%	0	0	0	0%	0	0	0		
		Left				0	0%	0	0	0	0%	0	0	0		
		Through	22	1		23	5%	2	0	25	0%	0	0	25		
	Right			0	0%	0	0	0	29%	in	113	113				
	U-Turn			0	0%	0	0	0	0%	0	0	0				

DE TRAFFIC

http:de-traffic.com
 Barwick Rd at Fort Florida Rd
 Volusia County, FL

File Name : barwick at fort
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	N/A Southbound				Fort Florida Rd Westbound				Barwick Rd Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	3	0	3	0	0	3	3	0	23	2	25	31
07:15 AM	0	0	0	0	1	7	0	8	1	0	7	8	0	14	5	19	35
07:30 AM	0	0	0	0	2	10	0	12	1	0	3	4	0	23	3	26	42
07:45 AM	0	0	0	0	4	13	0	17	2	0	5	7	0	19	3	22	46
Total	0	0	0	0	7	33	0	40	4	0	18	22	0	79	13	92	154
08:00 AM	0	0	0	0	5	11	0	16	3	0	6	9	0	19	4	23	48
08:15 AM	0	0	0	0	1	3	0	4	1	0	8	9	0	18	1	19	32
08:30 AM	0	0	0	0	2	3	0	5	0	0	4	4	0	18	1	19	28
08:45 AM	0	0	0	0	3	8	0	11	0	0	7	7	0	15	3	18	36
Total	0	0	0	0	11	25	0	36	4	0	25	29	0	70	9	79	144
04:00 PM	0	0	0	0	2	16	0	18	4	0	3	7	0	5	1	6	31
04:15 PM	0	0	0	0	3	21	0	24	5	0	3	8	0	5	1	6	38
04:30 PM	0	0	0	0	4	24	0	28	5	0	2	7	0	8	2	10	45
04:45 PM	0	0	0	0	2	27	0	29	6	0	3	9	0	9	2	11	49
Total	0	0	0	0	11	88	0	99	20	0	11	31	0	27	6	33	163
05:00 PM	0	0	0	0	5	25	0	30	5	0	2	7	0	10	3	13	50
05:15 PM	0	0	0	0	5	16	0	21	4	0	2	6	0	8	2	10	37
05:30 PM	0	0	0	0	2	20	0	22	5	0	3	8	0	9	1	10	40
05:45 PM	0	0	0	0	5	21	0	26	6	0	3	9	0	1	0	1	36
Total	0	0	0	0	17	82	0	99	20	0	10	30	0	28	6	34	163
Grand Total	0	0	0	0	46	228	0	274	48	0	64	112	0	204	34	238	624
Apprch %	0	0	0		16.8	83.2	0		42.9	0	57.1		0	85.7	14.3		
Total %	0	0	0	0	7.4	36.5	0	43.9	7.7	0	10.3	17.9	0	32.7	5.4	38.1	

DE TRAFFIC

http:de-traffic.com
 Barwick Rd at Fort Florida Rd
 Volusia County, FL

File Name : barwick at fort
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 2

Groups Printed- Automobiles - Commercial

	N/A Southbound				Fort Florida Rd Westbound				Barwick Rd Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Automobiles	0	0	0	0	44	213	0	257	44	0	56	100	0	190	33	223	580
% Automobiles	0	0	0	0	95.7	93.4	0	93.8	91.7	0	87.5	89.3	0	93.1	97.1	93.7	92.9
Commercial	0	0	0	0	2	15	0	17	4	0	8	12	0	14	1	15	44
% Commercial	0	0	0	0	4.3	6.6	0	6.2	8.3	0	12.5	10.7	0	6.9	2.9	6.3	7.1

DE TRAFFIC

http:de-traffic.com
 Barwick Rd at Fort Florida Rd
 Volusia County, FL

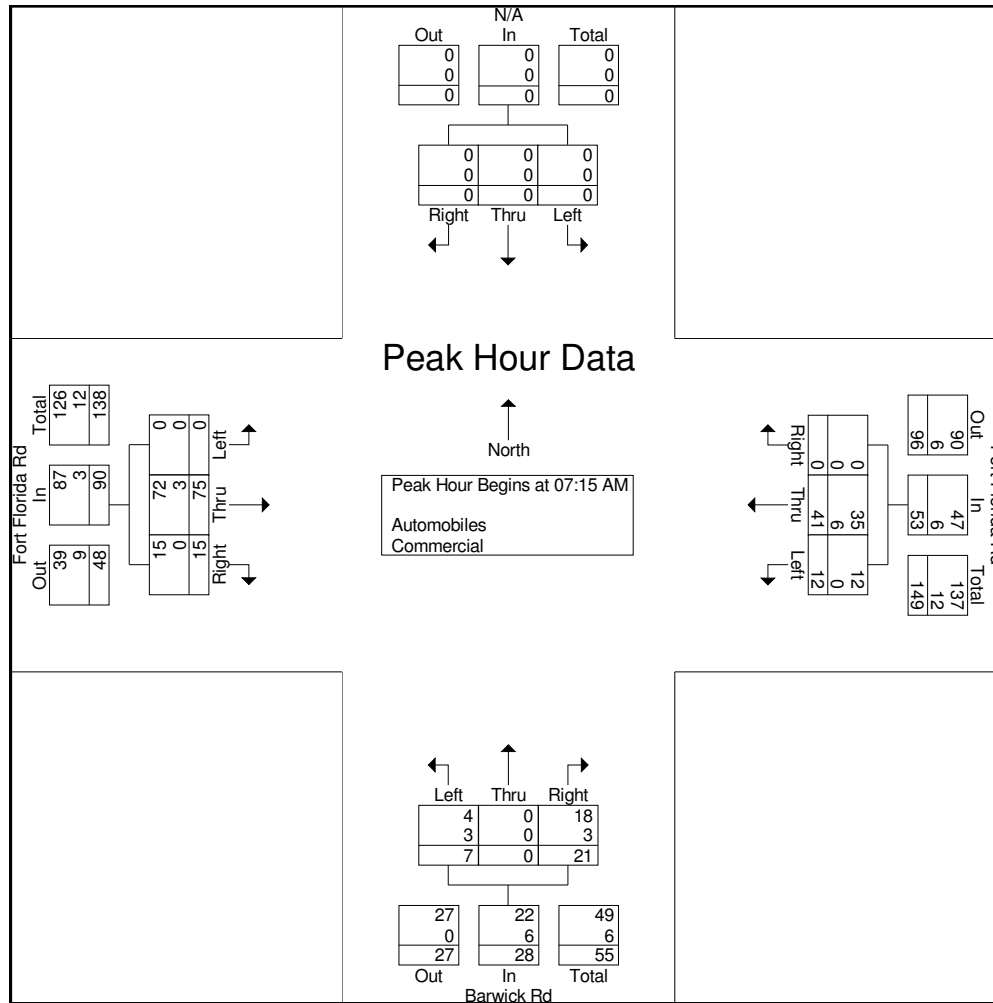
File Name : barwick at fort
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 3

Start Time	N/A Southbound				Fort Florida Rd Westbound				Barwick Rd Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	1	7	0	8	1	0	7	8	0	14	5	19	35
07:30 AM	0	0	0	0	2	10	0	12	1	0	3	4	0	23	3	26	42
07:45 AM	0	0	0	0	4	13	0	17	2	0	5	7	0	19	3	22	46
08:00 AM	0	0	0	0	5	11	0	16	3	0	6	9	0	19	4	23	48
Total Volume	0	0	0	0	12	41	0	53	7	0	21	28	0	75	15	90	171
% App. Total	0	0	0		22.6	77.4	0		25	0	75		0	83.3	16.7		
PHF	.000	.000	.000	.000	.600	.788	.000	.779	.583	.000	.750	.778	.000	.815	.750	.865	.891
Automobiles	0	0	0	0	12	35	0	47	4	0	18	22	0	72	15	87	156
% Automobiles	0	0	0	0	100	85.4	0	88.7	57.1	0	85.7	78.6	0	96.0	100	96.7	91.2
Commercial	0	0	0	0	0	6	0	6	3	0	3	6	0	3	0	3	15
% Commercial	0	0	0	0	0	14.6	0	11.3	42.9	0	14.3	21.4	0	4.0	0	3.3	8.8

DE TRAFFIC

http:de-traffic.com
 Barwick Rd at Fort Florida Rd
 Volusia County, FL

File Name : barwick at fort
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 4



DE TRAFFIC

http:de-traffic.com
 Barwick Rd at Fort Florida Rd
 Volusia County, FL

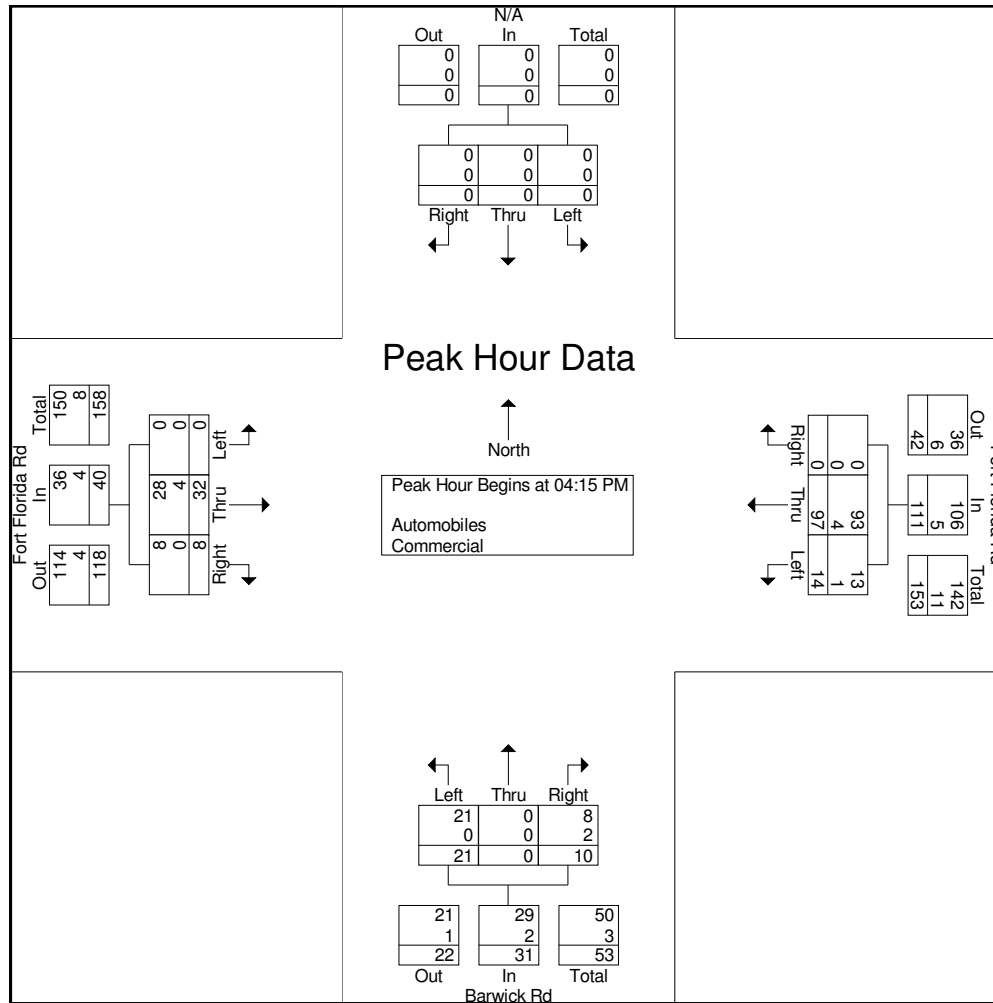
File Name : barwick at fort
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 5

Start Time	N/A Southbound				Fort Florida Rd Westbound				Barwick Rd Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	3	21	0	24	5	0	3	8	0	5	1	6	38
04:30 PM	0	0	0	0	4	24	0	28	5	0	2	7	0	8	2	10	45
04:45 PM	0	0	0	0	2	27	0	29	6	0	3	9	0	9	2	11	49
05:00 PM	0	0	0	0	5	25	0	30	5	0	2	7	0	10	3	13	50
Total Volume	0	0	0	0	14	97	0	111	21	0	10	31	0	32	8	40	182
% App. Total	0	0	0	0	12.6	87.4	0		67.7	0	32.3		0	80	20		
PHF	.000	.000	.000	.000	.700	.898	.000	.925	.875	.000	.833	.861	.000	.800	.667	.769	.910
Automobiles	0	0	0	0	13	93	0	106	21	0	8	29	0	28	8	36	171
% Automobiles	0	0	0	0	92.9	95.9	0	95.5	100	0	80.0	93.5	0	87.5	100	90.0	94.0
Commercial	0	0	0	0	1	4	0	5	0	0	2	2	0	4	0	4	11
% Commercial	0	0	0	0	7.1	4.1	0	4.5	0	0	20.0	6.5	0	12.5	0	10.0	6.0

DE TRAFFIC

http:de-traffic.com
 Barwick Rd at Fort Florida Rd
 Volusia County, FL

File Name : barwick at fort
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 6



DE TRAFFIC

http:de-traffic.com
 US 17/92 at Fort Florida Rd
 Volusia County, FL

File Name : 17_92 at Fort
 Site Code : 00000002
 Start Date : 11/29/2018
 Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	US 17/92 Southbound				N/A Westbound				US 17/92 Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	409	12	421	0	0	0	0	12	78	0	90	5	0	28	33	544
07:15 AM	1	478	10	489	0	0	0	0	8	124	0	132	8	0	20	28	649
07:30 AM	0	537	10	547	0	0	0	0	15	107	0	122	5	0	26	31	700
07:45 AM	1	485	6	492	0	0	0	0	14	130	0	144	6	0	18	24	660
Total	2	1909	38	1949	0	0	0	0	49	439	0	488	24	0	92	116	2553
08:00 AM	0	407	4	411	0	0	0	0	16	107	0	123	5	0	22	27	561
08:15 AM	0	357	5	362	0	0	0	0	9	105	0	114	6	0	24	30	506
08:30 AM	2	313	6	321	0	0	0	0	12	124	0	136	5	0	29	34	491
08:45 AM	0	279	4	283	0	0	0	0	13	144	0	157	5	0	11	16	456
Total	2	1356	19	1377	0	0	0	0	50	480	0	530	21	0	86	107	2014
04:00 PM	1	164	6	171	0	0	0	0	17	353	0	370	4	0	14	18	559
04:15 PM	2	176	6	184	0	0	0	0	33	419	0	452	9	0	7	16	652
04:30 PM	3	185	14	202	0	0	0	0	36	436	0	472	5	0	19	24	698
04:45 PM	0	162	7	169	0	0	0	0	22	494	0	516	9	0	15	24	709
Total	6	687	33	726	0	0	0	0	108	1702	0	1810	27	0	55	82	2618
05:00 PM	2	213	19	234	0	0	0	0	37	506	0	543	6	0	13	19	796
05:15 PM	1	181	13	195	0	0	0	0	60	511	0	571	9	0	13	22	788
05:30 PM	0	147	13	160	0	0	0	0	77	481	0	558	2	0	12	14	732
05:45 PM	2	142	9	153	0	0	0	0	40	457	0	497	9	0	11	20	670
Total	5	683	54	742	0	0	0	0	214	1955	0	2169	26	0	49	75	2986
Grand Total	15	4635	144	4794	0	0	0	0	421	4576	0	4997	98	0	282	380	10171
Apprch %	0.3	96.7	3		0	0	0		8.4	91.6	0		25.8	0	74.2		
Total %	0.1	45.6	1.4	47.1	0	0	0	0	4.1	45	0	49.1	1	0	2.8	3.7	

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Fort Florida Rd
 Volusia County, FL

File Name : 17_92 at Fort
 Site Code : 00000002
 Start Date : 11/29/2018
 Page No : 2

Groups Printed- Automobiles - Commercial

	US 17/92 Southbound				N/A Westbound				US 17/92 Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Automobiles	15	4479	127	4621	0	0	0	0	397	4415	0	4812	86	0	267	353	9786
% Automobiles	100	96.6	88.2	96.4	0	0	0	0	94.3	96.5	0	96.3	87.8	0	94.7	92.9	96.2
Commercial	0	156	17	173	0	0	0	0	24	161	0	185	12	0	15	27	385
% Commercial	0	3.4	11.8	3.6	0	0	0	0	5.7	3.5	0	3.7	12.2	0	5.3	7.1	3.8

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Fort Florida Rd
 Volusia County, FL

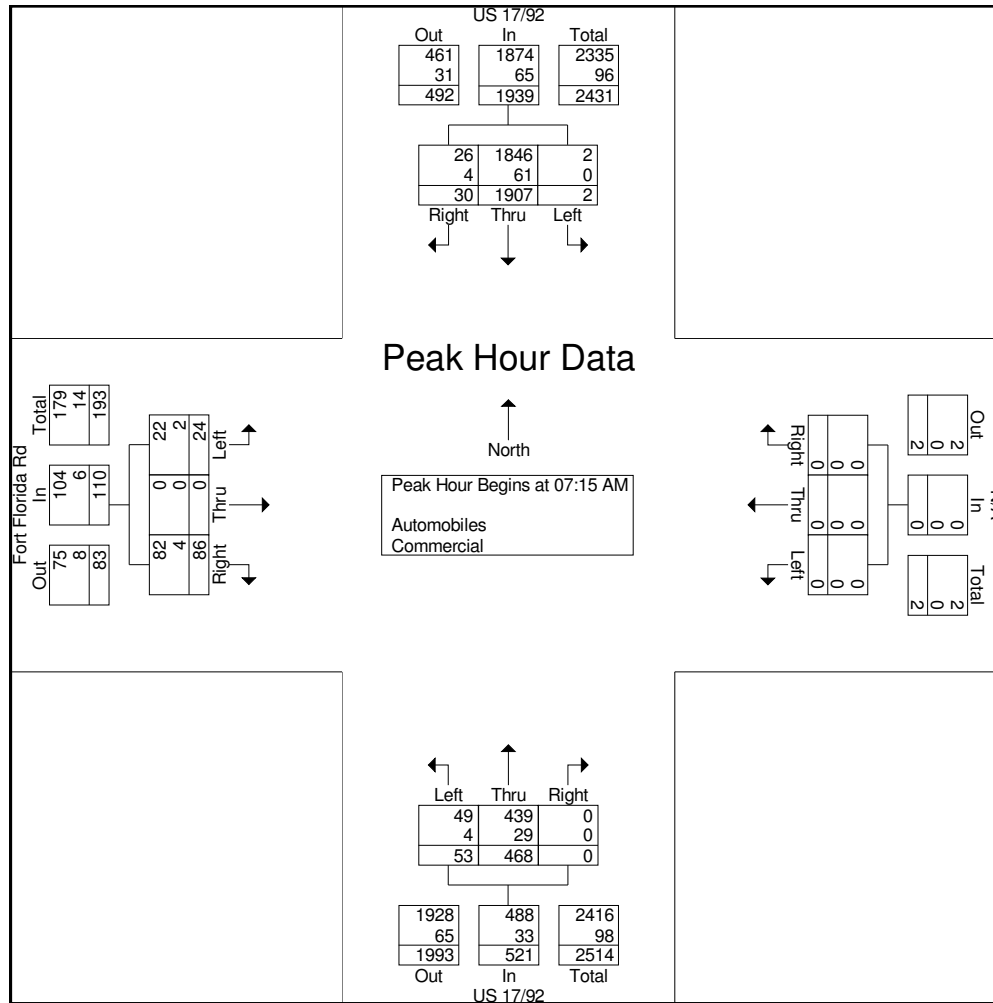
File Name : 17_92 at Fort
 Site Code : 00000002
 Start Date : 11/29/2018
 Page No : 3

Start Time	US 17/92 Southbound				N/A Westbound				US 17/92 Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	1	478	10	489	0	0	0	0	8	124	0	132	8	0	20	28	649
07:30 AM	0	537	10	547	0	0	0	0	15	107	0	122	5	0	26	31	700
07:45 AM	1	485	6	492	0	0	0	0	14	130	0	144	6	0	18	24	660
08:00 AM	0	407	4	411	0	0	0	0	16	107	0	123	5	0	22	27	561
Total Volume	2	1907	30	1939	0	0	0	0	53	468	0	521	24	0	86	110	2570
% App. Total	0.1	98.3	1.5		0	0	0		10.2	89.8	0		21.8	0	78.2		
PHF	.500	.888	.750	.886	.000	.000	.000	.000	.828	.900	.000	.905	.750	.000	.827	.887	.918
Automobiles	2	1846	26	1874	0	0	0	0	49	439	0	488	22	0	82	104	2466
% Automobiles	100	96.8	86.7	96.6	0	0	0	0	92.5	93.8	0	93.7	91.7	0	95.3	94.5	96.0
Commercial	0	61	4	65	0	0	0	0	4	29	0	33	2	0	4	6	104
% Commercial	0	3.2	13.3	3.4	0	0	0	0	7.5	6.2	0	6.3	8.3	0	4.7	5.5	4.0

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Fort Florida Rd
 Volusia County, FL

File Name : 17_92 at Fort
 Site Code : 00000002
 Start Date : 11/29/2018
 Page No : 4



DE TRAFFIC

http:de-traffic.com
 US 17/92 at Fort Florida Rd
 Volusia County, FL

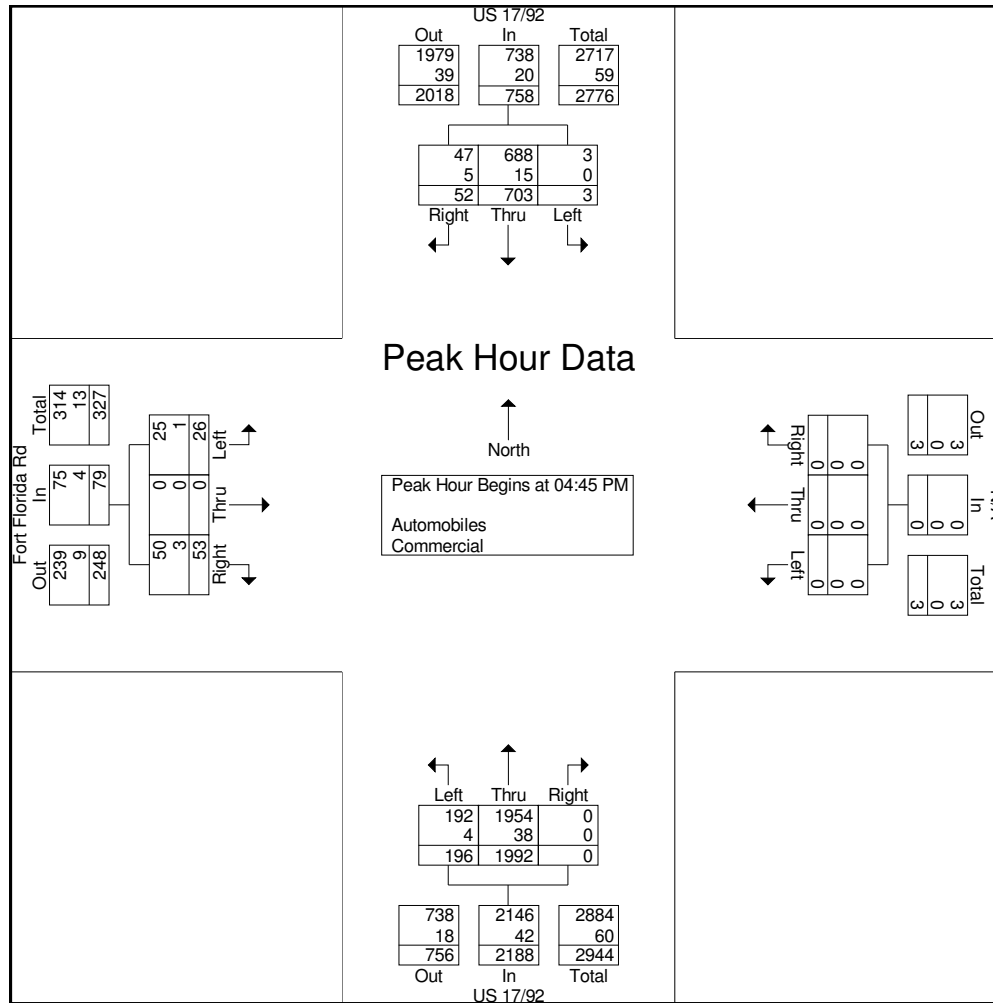
File Name : 17_92 at Fort
 Site Code : 00000002
 Start Date : 11/29/2018
 Page No : 5

Start Time	US 17/92 Southbound				N/A Westbound				US 17/92 Northbound				Fort Florida Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	162	7	169	0	0	0	0	22	494	0	516	9	0	15	24	709
05:00 PM	2	213	19	234	0	0	0	0	37	506	0	543	6	0	13	19	796
05:15 PM	1	181	13	195	0	0	0	0	60	511	0	571	9	0	13	22	788
05:30 PM	0	147	13	160	0	0	0	0	77	481	0	558	2	0	12	14	732
Total Volume	3	703	52	758	0	0	0	0	196	1992	0	2188	26	0	53	79	3025
% App. Total	0.4	92.7	6.9		0	0	0		9	91	0		32.9	0	67.1		
PHF	.375	.825	.684	.810	.000	.000	.000	.000	.636	.975	.000	.958	.722	.000	.883	.823	.950
Automobiles	3	688	47	738	0	0	0	0	192	1954	0	2146	25	0	50	75	2959
% Automobiles	100	97.9	90.4	97.4	0	0	0	0	98.0	98.1	0	98.1	96.2	0	94.3	94.9	97.8
Commercial	0	15	5	20	0	0	0	0	4	38	0	42	1	0	3	4	66
% Commercial	0	2.1	9.6	2.6	0	0	0	0	2.0	1.9	0	1.9	3.8	0	5.7	5.1	2.2

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Fort Florida Rd
 Volusia County, FL

File Name : 17_92 at Fort
 Site Code : 00000002
 Start Date : 11/29/2018
 Page No : 6



DE TRAFFIC

http:de-traffic.com
 US 17/92 at Dirksen Dr
 Volusia County, FL

File Name : US 17 at Dirksen
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	US 17/92 Southbound				Dirksen Dr Westbound				US 17/92 Northbound				Benson Junction Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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		
07:00 AM	24	356	9	389	34	19	11	64	9	70	16	95	11	4	11	26	574
07:15 AM	27	429	12	468	28	24	17	69	11	105	21	137	10	2	15	27	701
07:30 AM	24	469	15	508	34	26	20	80	15	96	19	130	16	5	17	38	756
07:45 AM	27	440	17	484	42	34	21	97	20	120	22	162	19	4	17	40	783
Total	102	1694	53	1849	138	103	69	310	55	391	78	524	56	15	60	131	2814
08:00 AM	34	376	19	429	37	41	9	87	21	108	19	148	19	5	19	43	707
08:15 AM	24	356	24	404	41	35	15	91	18	110	25	153	13	5	16	34	682
08:30 AM	19	301	22	342	45	26	13	84	22	111	20	153	10	6	11	27	606
08:45 AM	24	220	16	260	43	24	13	80	16	100	11	127	9	5	13	27	494
Total	101	1253	81	1435	166	126	50	342	77	429	75	581	51	21	59	131	2489
04:00 PM	27	119	9	155	24	4	22	50	10	328	82	420	10	20	11	41	666
04:15 PM	26	156	9	191	35	5	23	63	9	357	77	443	12	24	16	52	749
04:30 PM	36	175	7	218	26	2	25	53	12	346	83	441	16	27	20	63	775
04:45 PM	24	188	13	225	25	6	20	51	11	401	75	487	16	25	21	62	825
Total	113	638	38	789	110	17	90	217	42	1432	317	1791	54	96	68	218	3015
05:00 PM	30	189	13	232	26	8	25	59	17	393	98	508	14	35	19	68	867
05:15 PM	26	182	14	222	34	6	28	68	16	391	87	494	42	41	20	103	887
05:30 PM	20	114	12	146	24	4	35	63	9	354	92	455	55	35	22	112	776
05:45 PM	24	128	17	169	17	5	21	43	6	356	78	440	34	24	20	78	730
Total	100	613	56	769	101	23	109	233	48	1494	355	1897	145	135	81	361	3260
Grand Total	416	4198	228	4842	515	269	318	1102	222	3746	825	4793	306	267	268	841	11578
Apprch %	8.6	86.7	4.7		46.7	24.4	28.9		4.6	78.2	17.2		36.4	31.7	31.9		
Total %	3.6	36.3	2	41.8	4.4	2.3	2.7	9.5	1.9	32.4	7.1	41.4	2.6	2.3	2.3	7.3	

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Dirksen Dr
 Volusia County, FL

File Name : US 17 at Dirksen
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 2

Groups Printed- Automobiles - Commercial

	US 17/92 Southbound				Dirksen Dr Westbound				US 17/92 Northbound				Benson Junction Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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		
Automobiles	406	4118	208	4732	503	265	302	1070	211	3635	812	4658	298	263	259	820	11280
% Automobiles	97.6	98.1	91.2	97.7	97.7	98.5	95	97.1	95	97	98.4	97.2	97.4	98.5	96.6	97.5	97.4
Commercial	10	80	20	110	12	4	16	32	11	111	13	135	8	4	9	21	298
% Commercial	2.4	1.9	8.8	2.3	2.3	1.5	5	2.9	5	3	1.6	2.8	2.6	1.5	3.4	2.5	2.6

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Dirksen Dr
 Volusia County, FL

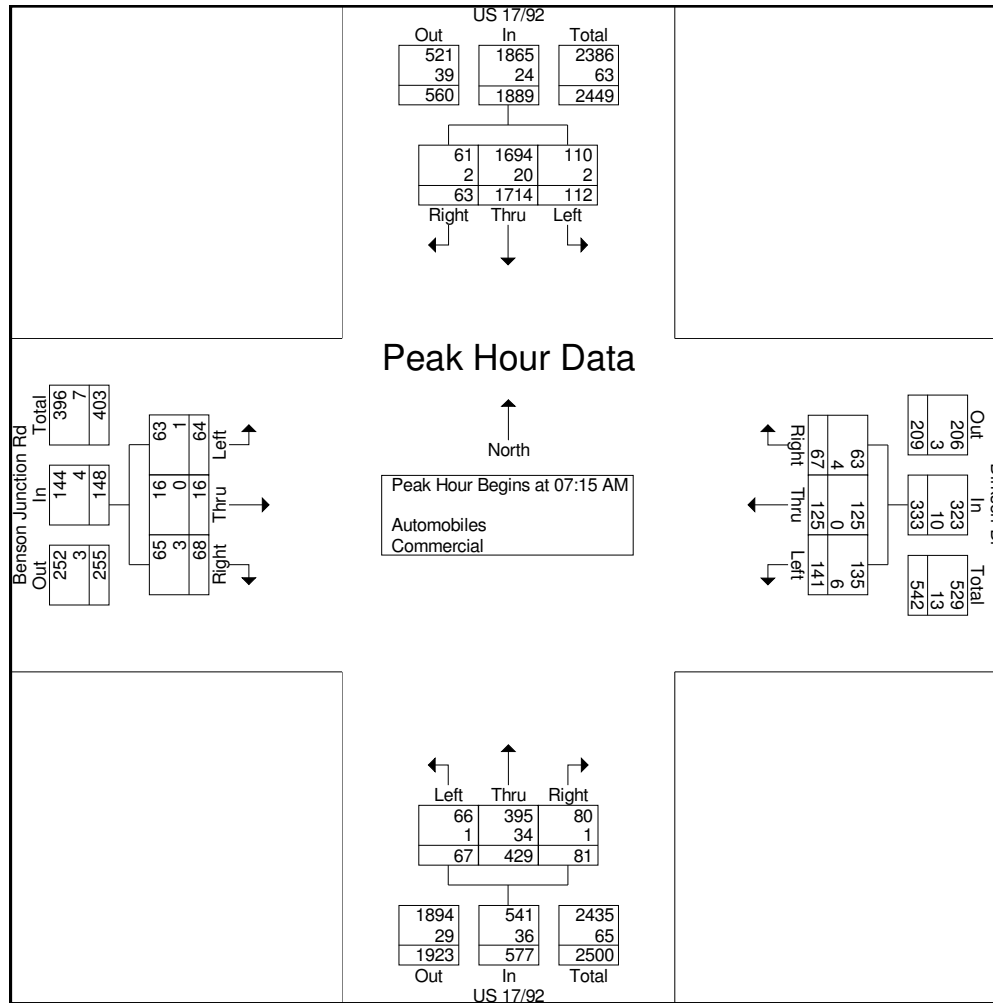
File Name : US 17 at Dirksen
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 3

Start Time	US 17/92 Southbound				Dirksen Dr Westbound				US 17/92 Northbound				Benson Junction Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	27	429	12	468	28	24	17	69	11	105	21	137	10	2	15	27	701
07:30 AM	24	469	15	508	34	26	20	80	15	96	19	130	16	5	17	38	756
07:45 AM	27	440	17	484	42	34	21	97	20	120	22	162	19	4	17	40	783
08:00 AM	34	376	19	429	37	41	9	87	21	108	19	148	19	5	19	43	707
Total Volume	112	1714	63	1889	141	125	67	333	67	429	81	577	64	16	68	148	2947
% App. Total	5.9	90.7	3.3		42.3	37.5	20.1		11.6	74.4	14		43.2	10.8	45.9		
PHF	.824	.914	.829	.930	.839	.762	.798	.858	.798	.894	.920	.890	.842	.800	.895	.860	.941
Automobiles	110	1694	61	1865	135	125	63	323	66	395	80	541	63	16	65	144	2873
% Automobiles	98.2	98.8	96.8	98.7	95.7	100	94.0	97.0	98.5	92.1	98.8	93.8	98.4	100	95.6	97.3	97.5
Commercial	2	20	2	24	6	0	4	10	1	34	1	36	1	0	3	4	74
% Commercial	1.8	1.2	3.2	1.3	4.3	0	6.0	3.0	1.5	7.9	1.2	6.2	1.6	0	4.4	2.7	2.5

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Dirksen Dr
 Volusia County, FL

File Name : US 17 at Dirksen
 Site Code : 00000001
 Start Date : 11/29/2018
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DE TRAFFIC

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 US 17/92 at Dirksen Dr
 Volusia County, FL

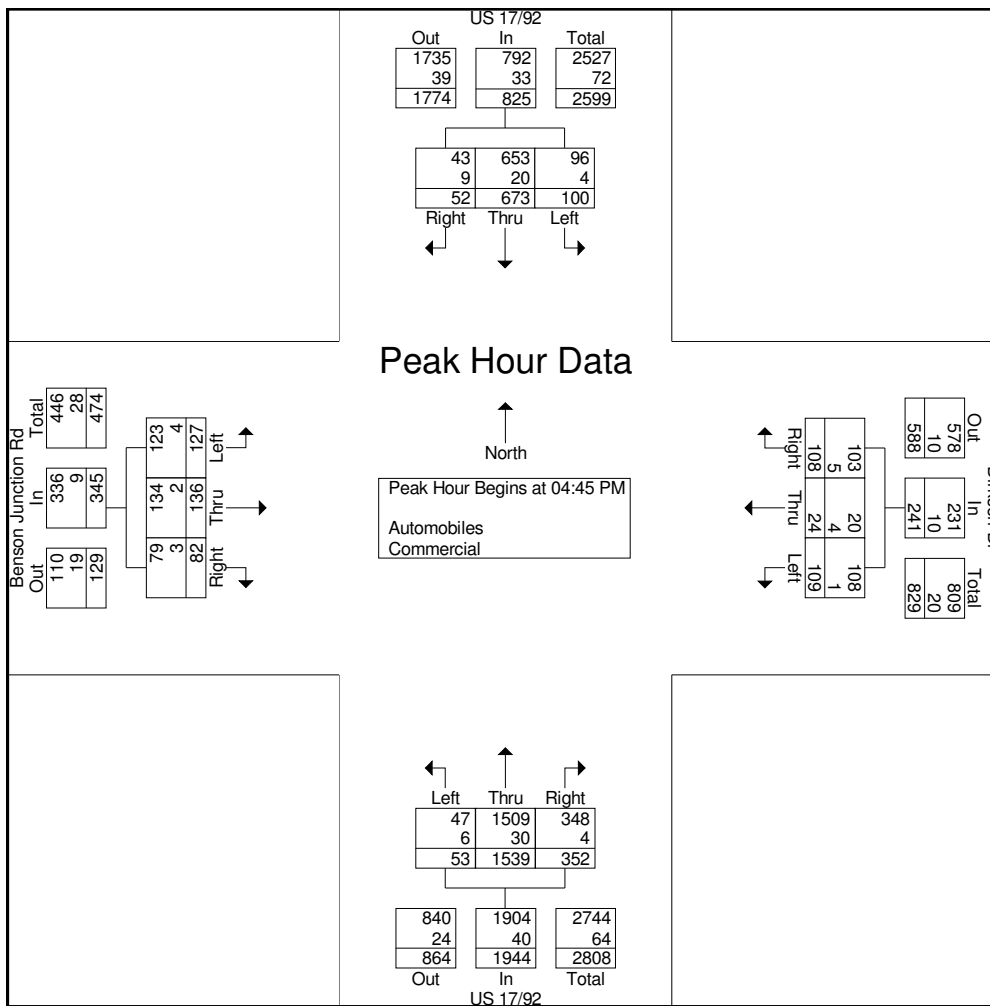
File Name : US 17 at Dirksen
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 5

Start Time	US 17/92 Southbound				Dirksen Dr Westbound				US 17/92 Northbound				Benson Junction Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	24	188	13	225	25	6	20	51	11	401	75	487	16	25	21	62	825
05:00 PM	30	189	13	232	26	8	25	59	17	393	98	508	14	35	19	68	867
05:15 PM	26	182	14	222	34	6	28	68	16	391	87	494	42	41	20	103	887
05:30 PM	20	114	12	146	24	4	35	63	9	354	92	455	55	35	22	112	776
Total Volume	100	673	52	825	109	24	108	241	53	1539	352	1944	127	136	82	345	3355
% App. Total	12.1	81.6	6.3		45.2	10	44.8		2.7	79.2	18.1		36.8	39.4	23.8		
PHF	.833	.890	.929	.889	.801	.750	.771	.886	.779	.959	.898	.957	.577	.829	.932	.770	.946
Automobiles	96	653	43	792	108	20	103	231	47	1509	348	1904	123	134	79	336	3263
% Automobiles	96.0	97.0	82.7	96.0	99.1	83.3	95.4	95.9	88.7	98.1	98.9	97.9	96.9	98.5	96.3	97.4	97.3
Commercial	4	20	9	33	1	4	5	10	6	30	4	40	4	2	3	9	92
% Commercial	4.0	3.0	17.3	4.0	0.9	16.7	4.6	4.1	11.3	1.9	1.1	2.1	3.1	1.5	3.7	2.6	2.7

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Dirksen Dr
 Volusia County, FL

File Name : US 17 at Dirksen
 Site Code : 00000001
 Start Date : 11/29/2018
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DE TRAFFIC

http:de-traffic.com
 US 17/92 at Barwick Rd
 Volusia County, FL

File Name : 17_92 at Barwick
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	US 17/92 Southbound				Barwick Rd Westbound				US 17/92 Northbound				Barwick Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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		
07:00 AM	1	397	2	400	0	0	0	0	8	113	1	122	1	0	12	13	535
07:15 AM	4	448	0	452	0	0	0	0	6	109	0	115	1	0	7	8	575
07:30 AM	4	463	1	468	0	0	0	0	4	126	1	131	3	0	12	15	614
07:45 AM	3	455	6	464	0	0	0	0	5	152	1	158	0	0	7	7	629
Total	12	1763	9	1784	0	0	0	0	23	500	3	526	5	0	38	43	2353
08:00 AM	4	416	1	421	0	0	1	1	6	128	1	135	0	0	4	4	561
08:15 AM	5	336	0	341	0	0	0	0	7	120	0	127	0	0	9	9	477
08:30 AM	2	365	1	368	0	0	5	5	1	132	1	134	0	0	8	8	515
08:45 AM	5	276	1	282	3	0	2	5	4	129	6	139	3	0	6	9	435
Total	16	1393	3	1412	3	0	8	11	18	509	8	535	3	0	27	30	1988
04:00 PM	0	203	2	205	1	0	0	1	17	467	1	485	0	0	2	2	693
04:15 PM	2	209	1	212	1	0	2	3	9	459	0	468	1	0	6	7	690
04:30 PM	6	235	6	247	1	0	3	4	16	508	2	526	2	0	4	6	783
04:45 PM	1	246	0	247	2	0	1	3	12	537	3	552	4	0	7	11	813
Total	9	893	9	911	5	0	6	11	54	1971	6	2031	7	0	19	26	2979
05:00 PM	2	259	2	263	1	0	4	5	8	538	0	546	0	0	11	11	825
05:15 PM	0	250	1	251	1	0	3	4	14	597	0	611	2	0	5	7	873
05:30 PM	1	236	1	238	1	0	0	1	16	466	33	515	2	0	6	8	762
05:45 PM	3	190	1	194	0	0	2	2	7	401	10	418	3	0	6	9	623
Total	6	935	5	946	3	0	9	12	45	2002	43	2090	7	0	28	35	3083
Grand Total	43	4984	26	5053	11	0	23	34	140	4982	60	5182	22	0	112	134	10403
Apprch %	0.9	98.6	0.5		32.4	0	67.6		2.7	96.1	1.2		16.4	0	83.6		
Total %	0.4	47.9	0.2	48.6	0.1	0	0.2	0.3	1.3	47.9	0.6	49.8	0.2	0	1.1	1.3	

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Barwick Rd
 Volusia County, FL

File Name : 17_92 at Barwick
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 2

Groups Printed- Automobiles - Commercial

	US 17/92 Southbound				Barwick Rd Westbound				US 17/92 Northbound				Barwick Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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		
Automobiles	38	4825	24	4887	10	0	22	32	118	4805	58	4981	21	0	107	128	10028
% Automobiles	88.4	96.8	92.3	96.7	90.9	0	95.7	94.1	84.3	96.4	96.7	96.1	95.5	0	95.5	95.5	96.4
Commercial	5	159	2	166	1	0	1	2	22	177	2	201	1	0	5	6	375
% Commercial	11.6	3.2	7.7	3.3	9.1	0	4.3	5.9	15.7	3.6	3.3	3.9	4.5	0	4.5	4.5	3.6

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Barwick Rd
 Volusia County, FL

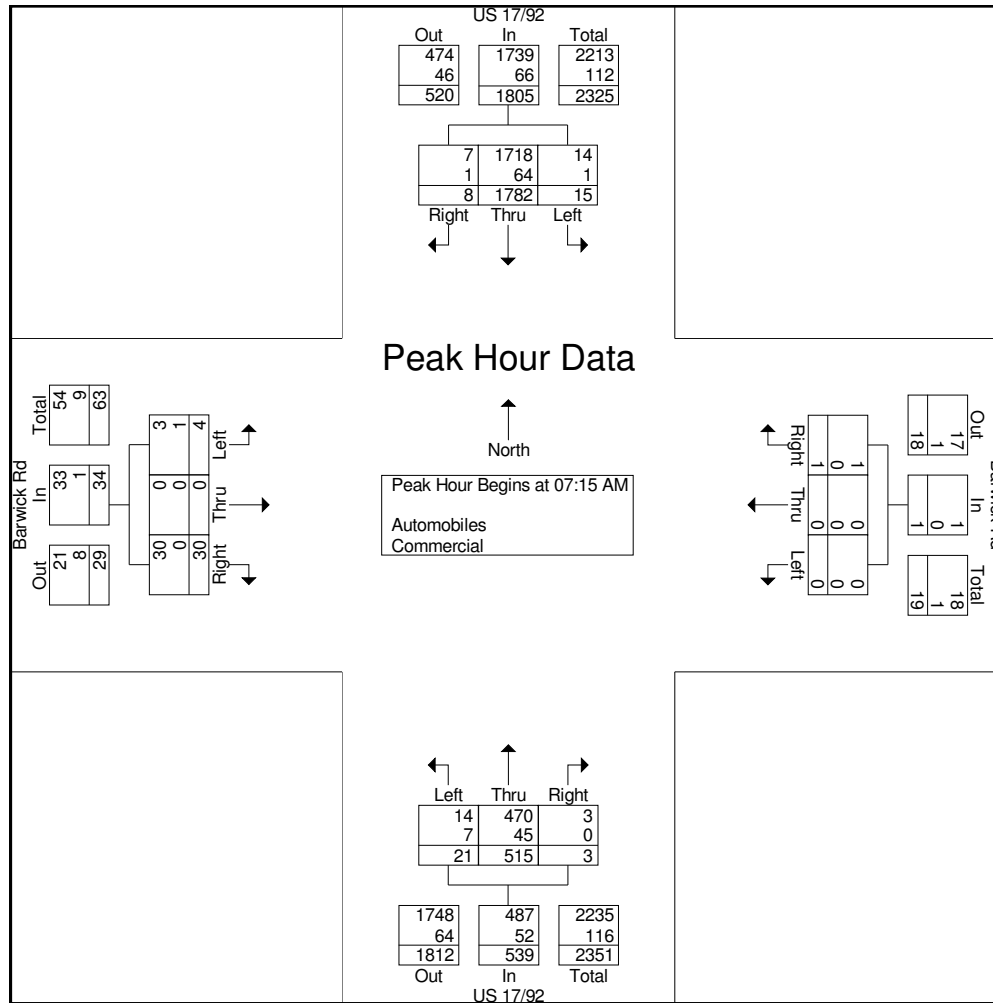
File Name : 17_92 at Barwick
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 3

Start Time	US 17/92 Southbound				Barwick Rd Westbound				US 17/92 Northbound				Barwick Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	4	448	0	452	0	0	0	0	6	109	0	115	1	0	7	8	575
07:30 AM	4	463	1	468	0	0	0	0	4	126	1	131	3	0	12	15	614
07:45 AM	3	455	6	464	0	0	0	0	5	152	1	158	0	0	7	7	629
08:00 AM	4	416	1	421	0	0	1	1	6	128	1	135	0	0	4	4	561
Total Volume	15	1782	8	1805	0	0	1	1	21	515	3	539	4	0	30	34	2379
% App. Total	0.8	98.7	0.4		0	0	100		3.9	95.5	0.6		11.8	0	88.2		
PHF	.938	.962	.333	.964	.000	.000	.250	.250	.875	.847	.750	.853	.333	.000	.625	.567	.946
Automobiles	14	1718	7	1739	0	0	1	1	14	470	3	487	3	0	30	33	2260
% Automobiles	93.3	96.4	87.5	96.3	0	0	100	100	66.7	91.3	100	90.4	75.0	0	100	97.1	95.0
Commercial	1	64	1	66	0	0	0	0	7	45	0	52	1	0	0	1	119
% Commercial	6.7	3.6	12.5	3.7	0	0	0	0	33.3	8.7	0	9.6	25.0	0	0	2.9	5.0

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Barwick Rd
 Volusia County, FL

File Name : 17_92 at Barwick
 Site Code : 00000001
 Start Date : 11/29/2018
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DE TRAFFIC

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 US 17/92 at Barwick Rd
 Volusia County, FL

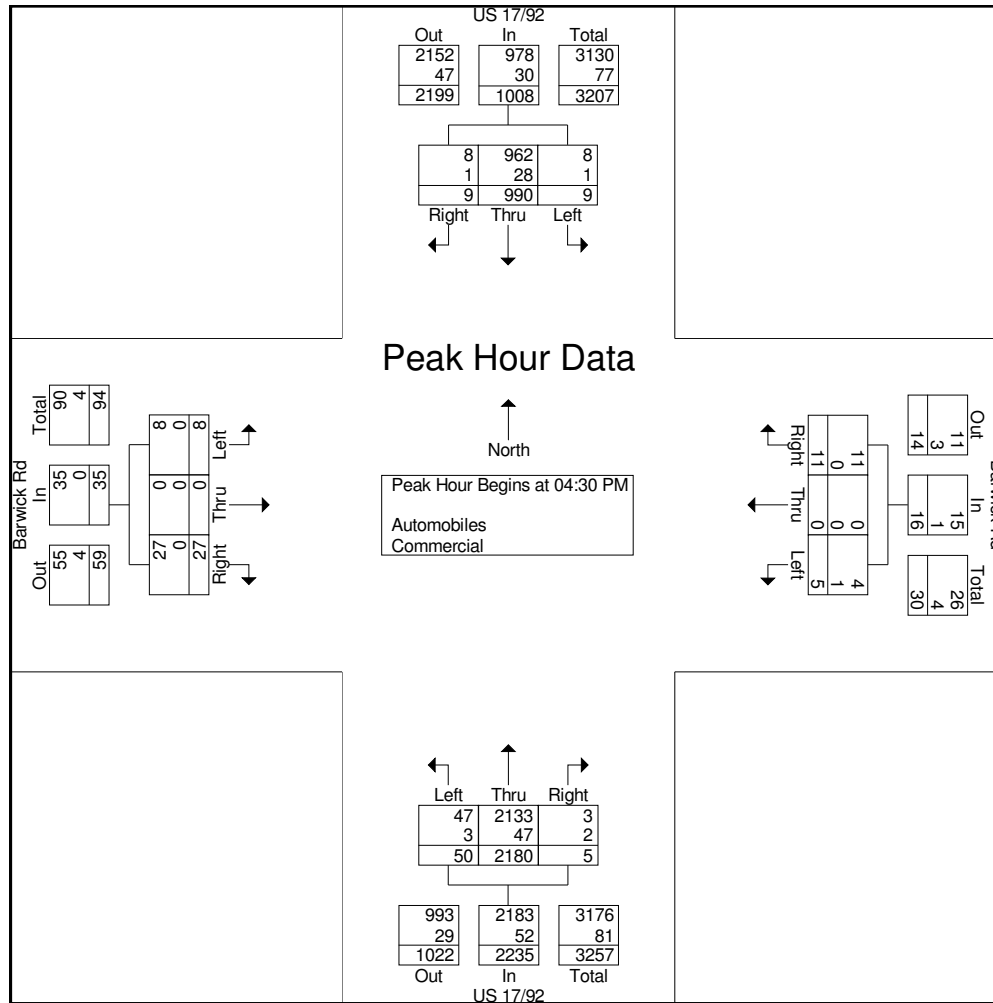
File Name : 17_92 at Barwick
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 5

Start Time	US 17/92 Southbound				Barwick Rd Westbound				US 17/92 Northbound				Barwick Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	6	235	6	247	1	0	3	4	16	508	2	526	2	0	4	6	783
04:45 PM	1	246	0	247	2	0	1	3	12	537	3	552	4	0	7	11	813
05:00 PM	2	259	2	263	1	0	4	5	8	538	0	546	0	0	11	11	825
05:15 PM	0	250	1	251	1	0	3	4	14	597	0	611	2	0	5	7	873
Total Volume	9	990	9	1008	5	0	11	16	50	2180	5	2235	8	0	27	35	3294
% App. Total	0.9	98.2	0.9		31.2	0	68.8		2.2	97.5	0.2		22.9	0	77.1		
PHF	.375	.956	.375	.958	.625	.000	.688	.800	.781	.913	.417	.914	.500	.000	.614	.795	.943
Automobiles	8	962	8	978	4	0	11	15	47	2133	3	2183	8	0	27	35	3211
% Automobiles	88.9	97.2	88.9	97.0	80.0	0	100	93.8	94.0	97.8	60.0	97.7	100	0	100	100	97.5
Commercial	1	28	1	30	1	0	0	1	3	47	2	52	0	0	0	0	83
% Commercial	11.1	2.8	11.1	3.0	20.0	0	0	6.3	6.0	2.2	40.0	2.3	0	0	0	0	2.5

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Barwick Rd
 Volusia County, FL

File Name : 17_92 at Barwick
 Site Code : 00000001
 Start Date : 11/29/2018
 Page No : 6



DE TRAFFIC

http:de-traffic.com
 US 17/92 at Highbanks Rd
 Volusia County, FL

File Name : 17_92 at Highbanks
 Site Code : 00000006
 Start Date : 11/29/2018
 Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	US 17/92 Southbound				Highbanks Rd Westbound				US 17/92 Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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		
07:00 AM	9	345	10	364	21	12	11	44	10	81	7	98	13	12	27	52	558
07:15 AM	13	374	13	400	25	11	11	47	13	95	10	118	16	17	36	69	634
07:30 AM	17	315	17	349	34	15	13	62	16	101	8	125	26	25	25	76	612
07:45 AM	16	387	21	424	43	21	19	83	19	108	15	142	42	12	24	78	727
Total	55	1421	61	1537	123	59	54	236	58	385	40	483	97	66	112	275	2531
08:00 AM	12	336	36	384	53	25	26	104	24	101	18	143	35	17	16	68	699
08:15 AM	11	325	30	366	45	19	28	92	16	115	19	150	37	18	26	81	689
08:30 AM	9	303	25	337	37	18	26	81	13	102	11	126	44	16	21	81	625
08:45 AM	7	259	19	285	27	18	17	62	11	79	9	99	30	11	12	53	499
Total	39	1223	110	1372	162	80	97	339	64	397	57	518	146	62	75	283	2512
04:00 PM	20	128	12	160	19	12	13	44	20	303	12	335	25	22	20	67	606
04:15 PM	25	147	17	189	24	17	20	61	26	317	16	359	31	21	25	77	686
04:30 PM	17	159	21	197	18	17	21	56	14	312	21	347	41	26	17	84	684
04:45 PM	25	180	25	230	19	19	18	56	34	347	21	402	34	18	25	77	765
Total	87	614	75	776	80	65	72	217	94	1279	70	1443	131	87	87	305	2741
05:00 PM	27	157	16	200	34	26	26	86	26	328	20	374	52	35	22	109	769
05:15 PM	26	148	20	194	53	24	20	97	17	357	21	395	52	33	18	103	789
05:30 PM	27	129	19	175	48	20	17	85	24	347	22	393	66	29	17	112	765
05:45 PM	24	139	23	186	25	32	11	68	19	340	19	378	53	26	11	90	722
Total	104	573	78	755	160	102	74	336	86	1372	82	1540	223	123	68	414	3045
Grand Total	285	3831	324	4440	525	306	297	1128	302	3433	249	3984	597	338	342	1277	10829
Apprch %	6.4	86.3	7.3		46.5	27.1	26.3		7.6	86.2	6.2		46.8	26.5	26.8		
Total %	2.6	35.4	3	41	4.8	2.8	2.7	10.4	2.8	31.7	2.3	36.8	5.5	3.1	3.2	11.8	

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Highbanks Rd
 Volusia County, FL

File Name : 17_92 at Highbanks
 Site Code : 00000006
 Start Date : 11/29/2018
 Page No : 2

Groups Printed- Automobiles - Commercial

	US 17/92 Southbound				Highbanks Rd Westbound				US 17/92 Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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		
Automobiles	268	3727	302	4297	508	288	276	1072	287	3352	233	3872	583	326	327	1236	10477
% Automobiles	94	97.3	93.2	96.8	96.8	94.1	92.9	95	95	97.6	93.6	97.2	97.7	96.4	95.6	96.8	96.7
Commercial	17	104	22	143	17	18	21	56	15	81	16	112	14	12	15	41	352
% Commercial	6	2.7	6.8	3.2	3.2	5.9	7.1	5	5	2.4	6.4	2.8	2.3	3.6	4.4	3.2	3.3

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Highbanks Rd
 Volusia County, FL

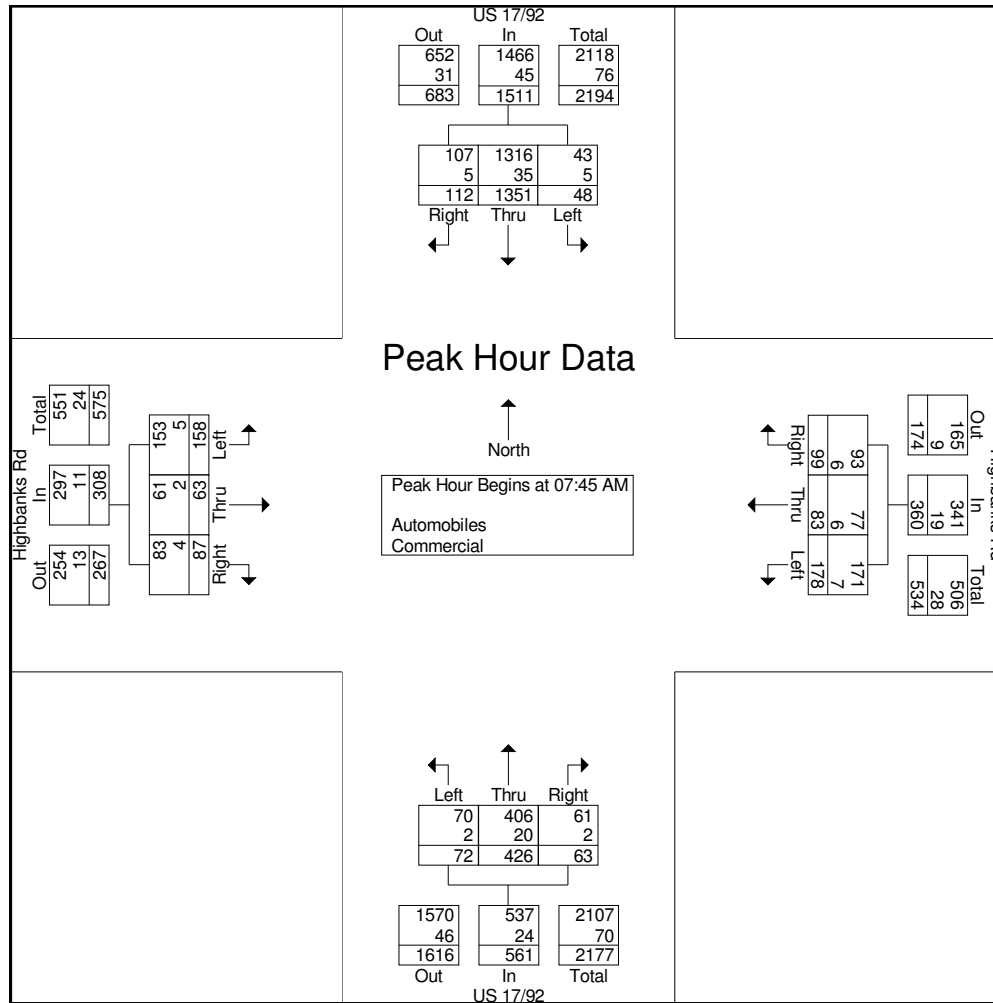
File Name : 17_92 at Highbanks
 Site Code : 00000006
 Start Date : 11/29/2018
 Page No : 3

Start Time	US 17/92 Southbound				Highbanks Rd Westbound				US 17/92 Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	16	387	21	424	43	21	19	83	19	108	15	142	42	12	24	78	727
08:00 AM	12	336	36	384	53	25	26	104	24	101	18	143	35	17	16	68	699
08:15 AM	11	325	30	366	45	19	28	92	16	115	19	150	37	18	26	81	689
08:30 AM	9	303	25	337	37	18	26	81	13	102	11	126	44	16	21	81	625
Total Volume	48	1351	112	1511	178	83	99	360	72	426	63	561	158	63	87	308	2740
% App. Total	3.2	89.4	7.4		49.4	23.1	27.5		12.8	75.9	11.2		51.3	20.5	28.2		
PHF	.750	.873	.778	.891	.840	.830	.884	.865	.750	.926	.829	.935	.898	.875	.837	.951	.942
Automobiles	43	1316	107	1466	171	77	93	341	70	406	61	537	153	61	83	297	2641
% Automobiles	89.6	97.4	95.5	97.0	96.1	92.8	93.9	94.7	97.2	95.3	96.8	95.7	96.8	96.8	95.4	96.4	96.4
Commercial	5	35	5	45	7	6	6	19	2	20	2	24	5	2	4	11	99
% Commercial	10.4	2.6	4.5	3.0	3.9	7.2	6.1	5.3	2.8	4.7	3.2	4.3	3.2	3.2	4.6	3.6	3.6

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Highbanks Rd
 Volusia County, FL

File Name : 17_92 at Highbanks
 Site Code : 00000006
 Start Date : 11/29/2018
 Page No : 4



DE TRAFFIC

http:de-traffic.com
 US 17/92 at Highbanks Rd
 Volusia County, FL

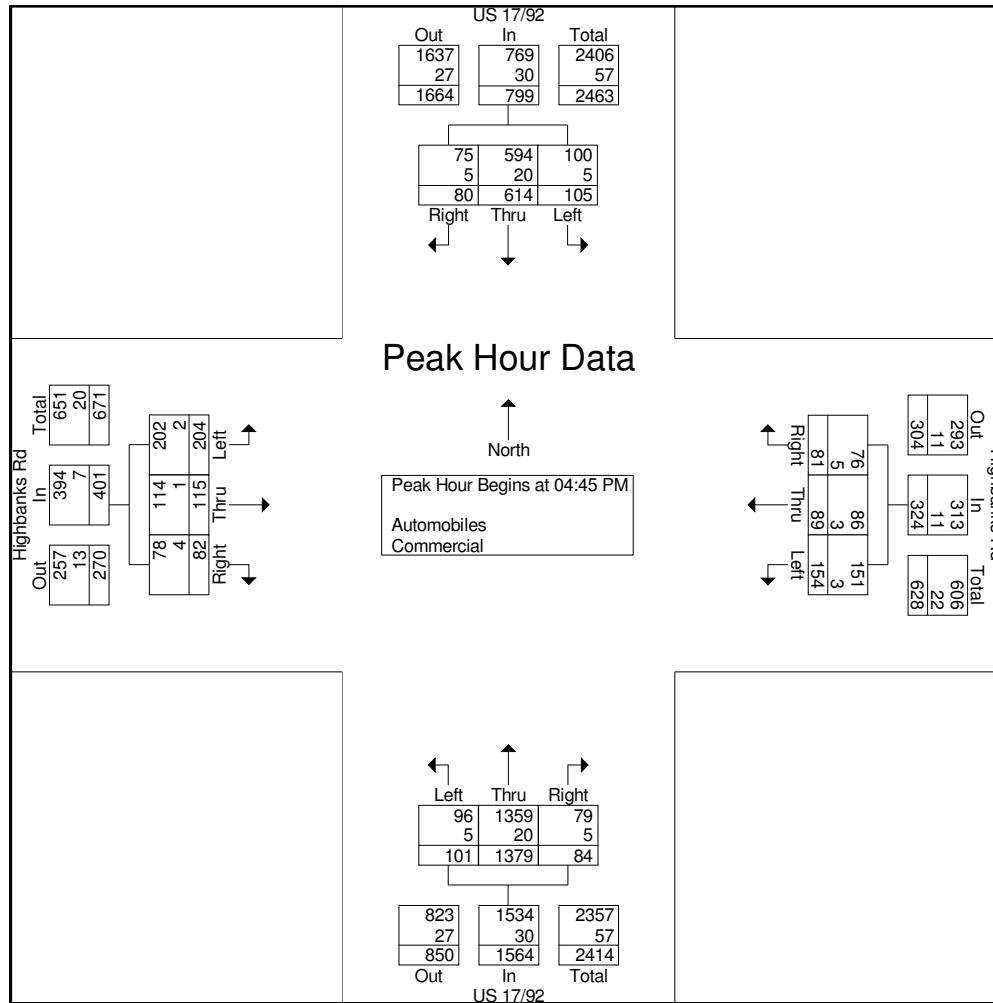
File Name : 17_92 at Highbanks
 Site Code : 00000006
 Start Date : 11/29/2018
 Page No : 5

Start Time	US 17/92 Southbound				Highbanks Rd Westbound				US 17/92 Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	25	180	25	230	19	19	18	56	34	347	21	402	34	18	25	77	765
05:00 PM	27	157	16	200	34	26	26	86	26	328	20	374	52	35	22	109	769
05:15 PM	26	148	20	194	53	24	20	97	17	357	21	395	52	33	18	103	789
05:30 PM	27	129	19	175	48	20	17	85	24	347	22	393	66	29	17	112	765
Total Volume	105	614	80	799	154	89	81	324	101	1379	84	1564	204	115	82	401	3088
% App. Total	13.1	76.8	10		47.5	27.5	25		6.5	88.2	5.4		50.9	28.7	20.4		
PHF	.972	.853	.800	.868	.726	.856	.779	.835	.743	.966	.955	.973	.773	.821	.820	.895	.978
Automobiles	100	594	75	769	151	86	76	313	96	1359	79	1534	202	114	78	394	3010
% Automobiles	95.2	96.7	93.8	96.2	98.1	96.6	93.8	96.6	95.0	98.5	94.0	98.1	99.0	99.1	95.1	98.3	97.5
Commercial	5	20	5	30	3	3	5	11	5	20	5	30	2	1	4	7	78
% Commercial	4.8	3.3	6.3	3.8	1.9	3.4	6.2	3.4	5.0	1.5	6.0	1.9	1.0	0.9	4.9	1.7	2.5

DE TRAFFIC

http:de-traffic.com
 US 17/92 at Highbanks Rd
 Volusia County, FL

File Name : 17_92 at Highbanks
 Site Code : 00000006
 Start Date : 11/29/2018
 Page No : 6



DE TRAFFIC

http:de-traffic.com
 Highbanks Rd at Fort Florida Rd
 Volusia County, FL

File Name : Fort at Highbanks
 Site Code : 00000001
 Start Date : 11/28/2018 Page
 No : 1

Groups Printed- Automobiles - Commercial

Start Time	N/A Southbound				Highbanks Rd Westbound				Fort Florida Rd Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	6	2	0	8	0	0	23	23	0	3	1	4	35
07:15 AM	0	0	0	0	12	0	0	12	1	0	19	20	0	3	2	5	37
07:30 AM	0	0	0	0	12	2	0	14	0	0	24	24	0	1	3	4	42
07:45 AM	0	0	0	0	20	6	0	26	1	0	17	18	0	6	2	8	52
Total	0	0	0	0	50	10	0	60	2	0	83	85	0	13	8	21	166
08:00 AM	0	0	0	0	19	2	0	21	0	0	23	23	0	6	1	7	51
08:15 AM	0	0	0	0	9	2	0	11	0	0	14	14	0	3	0	3	28
08:30 AM	0	0	0	0	14	1	0	15	1	0	15	16	0	1	0	1	32
08:45 AM	0	0	0	0	6	4	0	10	0	0	12	12	0	3	1	4	26
Total	0	0	0	0	48	9	0	57	1	0	64	65	0	13	2	15	137
04:00 PM	0	0	0	0	16	4	0	20	1	0	9	10	0	2	0	2	32
04:15 PM	0	0	0	0	18	4	0	22	2	0	11	13	0	4	1	5	40
04:30 PM	0	0	0	0	19	6	0	25	5	0	16	21	0	2	0	2	48
04:45 PM	0	0	0	0	21	7	0	28	4	0	10	14	0	5	2	7	49
Total	0	0	0	0	74	21	0	95	12	0	46	58	0	13	3	16	169
05:00 PM	0	0	0	0	19	5	0	24	2	0	9	11	0	5	0	5	40
05:15 PM	0	0	0	0	18	11	0	29	6	0	13	19	0	6	3	9	57
05:30 PM	0	0	0	0	16	9	0	25	9	0	9	18	0	6	1	7	50
05:45 PM	0	0	0	0	11	7	0	18	10	0	6	16	0	2	0	2	36
Total	0	0	0	0	64	32	0	96	27	0	37	64	0	19	4	23	183
Grand Total	0	0	0	0	236	72	0	308	42	0	230	272	0	58	17	75	655
Apprch %	0	0	0		76.6	23.4	0		15.4	0	84.6		0	77.3	22.7		
Total %	0	0	0	0	36	11	0	47	6.4	0	35.1	41.5	0	8.9	2.6	11.5	

DE TRAFFIC

http:de-traffic.com
 Highbanks Rd at Fort Florida Rd
 Volusia County, FL

File Name : Fort at Highbanks
 Site Code : 00000001
 Start Date : 11/28/2018 Page
 No : 2

Groups Printed- Automobiles - Commercial

	N/A Southbound				Highbanks Rd Westbound				Fort Florida Rd Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Automobiles	0	0	0	0	232	62	0	294	40	0	224	264	0	50	16	66	624
% Automobiles	0	0	0	0	98.3	86.1	0	95.5	95.2	0	97.4	97.1	0	86.2	94.1	88	95.3
Commercial	0	0	0	0	4	10	0	14	2	0	6	8	0	8	1	9	31
% Commercial	0	0	0	0	1.7	13.9	0	4.5	4.8	0	2.6	2.9	0	13.8	5.9	12	4.7

DE TRAFFIC

http:de-traffic.com
 Highbanks Rd at Fort Florida Rd
 Volusia County, FL

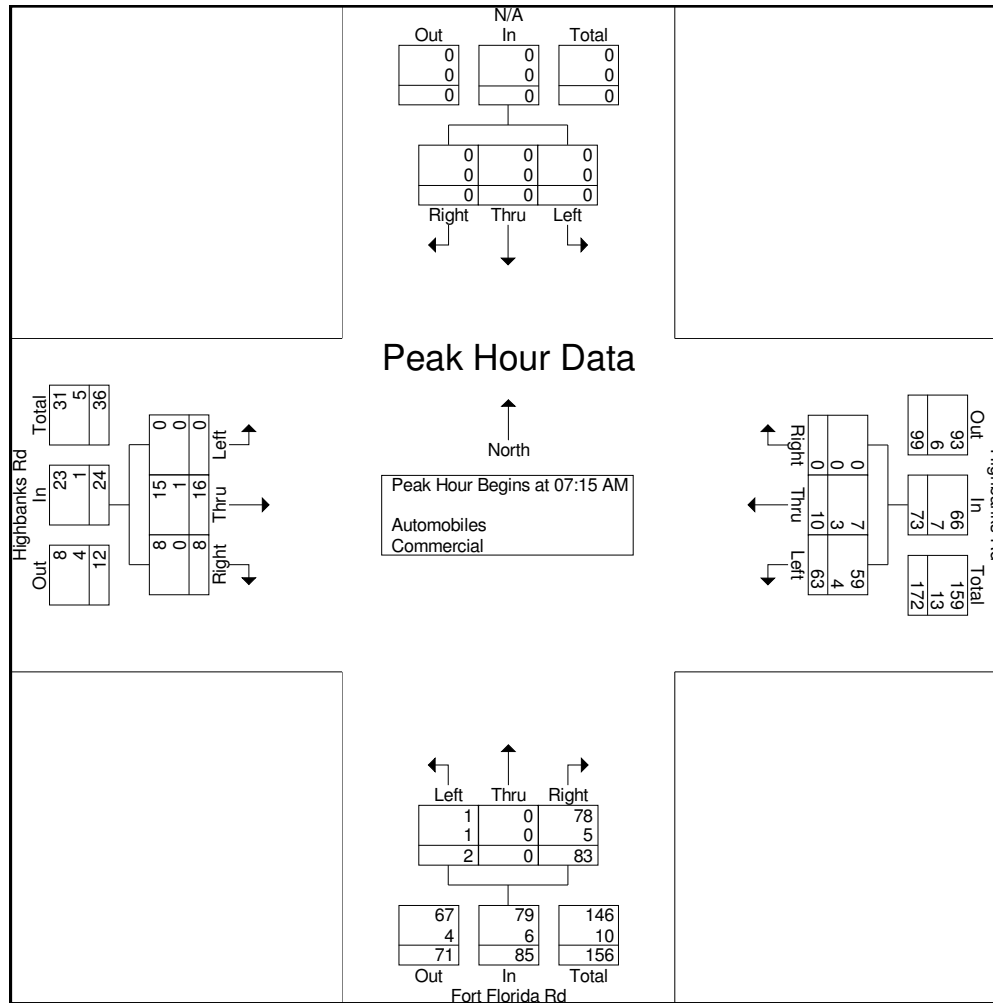
File Name : Fort at Highbanks
 Site Code : 00000001
 Start Date : 11/28/2018 Page
 No : 3

Start Time	N/A Southbound				Highbanks Rd Westbound				Fort Florida Rd Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	0	0	0	0	12	0	0	12	1	0	19	20	0	3	2	5	37
07:30 AM	0	0	0	0	12	2	0	14	0	0	24	24	0	1	3	4	42
07:45 AM	0	0	0	0	20	6	0	26	1	0	17	18	0	6	2	8	52
08:00 AM	0	0	0	0	19	2	0	21	0	0	23	23	0	6	1	7	51
Total Volume	0	0	0	0	63	10	0	73	2	0	83	85	0	16	8	24	182
% App. Total	0	0	0		86.3	13.7	0		2.4	0	97.6		0	66.7	33.3		
PHF	.000	.000	.000	.000	.788	.417	.000	.702	.500	.000	.865	.885	.000	.667	.667	.750	.875
Automobiles	0	0	0	0	59	7	0	66	1	0	78	79	0	15	8	23	168
% Automobiles	0	0	0	0	93.7	70.0	0	90.4	50.0	0	94.0	92.9	0	93.8	100	95.8	92.3
Commercial	0	0	0	0	4	3	0	7	1	0	5	6	0	1	0	1	14
% Commercial	0	0	0	0	6.3	30.0	0	9.6	50.0	0	6.0	7.1	0	6.3	0	4.2	7.7

DE TRAFFIC

http:de-traffic.com
 Highbanks Rd at Fort Florida Rd
 Volusia County, FL

File Name : Fort at Highbanks
 Site Code : 00000001
 Start Date : 11/28/2018 Page
 No : 4



DE TRAFFIC

http:de-traffic.com
 Highbanks Rd at Fort Florida Rd
 Volusia County, FL

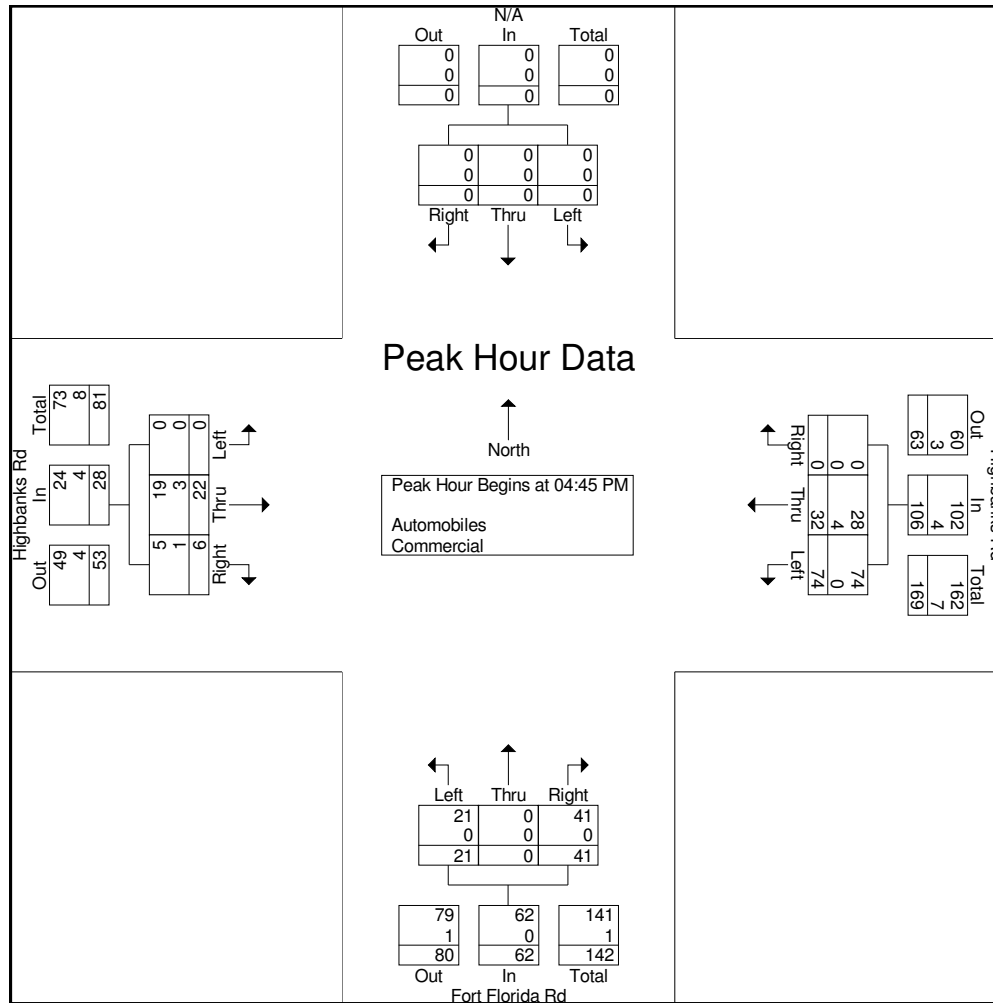
File Name : Fort at Highbanks
 Site Code : 00000001
 Start Date : 11/28/2018 Page
 No : 5

Start Time	N/A Southbound				Highbanks Rd Westbound				Fort Florida Rd Northbound				Highbanks Rd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	21	7	0	28	4	0	10	14	0	5	2	7	49
05:00 PM	0	0	0	0	19	5	0	24	2	0	9	11	0	5	0	5	40
05:15 PM	0	0	0	0	18	11	0	29	6	0	13	19	0	6	3	9	57
05:30 PM	0	0	0	0	16	9	0	25	9	0	9	18	0	6	1	7	50
Total Volume	0	0	0	0	74	32	0	106	21	0	41	62	0	22	6	28	196
% App. Total	0	0	0		69.8	30.2	0		33.9	0	66.1		0	78.6	21.4		
PHF	.000	.000	.000	.000	.881	.727	.000	.914	.583	.000	.788	.816	.000	.917	.500	.778	.860
Automobiles	0	0	0	0	74	28	0	102	21	0	41	62	0	19	5	24	188
% Automobiles	0	0	0	0	100	87.5	0	96.2	100	0	100	100	0	86.4	83.3	85.7	95.9
Commercial	0	0	0	0	0	4	0	4	0	0	0	0	0	3	1	4	8
% Commercial	0	0	0	0	0	12.5	0	3.8	0	0	0	0	0	13.6	16.7	14.3	4.1

DE TRAFFIC

http:de-traffic.com
 Highbanks Rd at Fort Florida Rd
 Volusia County, FL

File Name : Fort at Highbanks
 Site Code : 00000001
 Start Date : 11/28/2018 Page
 No : 6





NB Approach



EB Approach



WB Approach



Fort Florida Rd
at Barwick Rd

Volusia County

www.de-traffic.com

299 McGregor Rd. DeLand FL. 32720

Project
Number: L18-83

Sheet
Number: 4



NB Approach



SB Approach



EB Approach



US 17/92
at Fort Florida Rd

Volusia County

www.de-traffic.com

299 McGregor Rd. DeLand FL 32720

Project
Number: L18-83

Sheet
Number: 2



NB Approach



SB Approach



EB Approach



WB Approach



US 17/92 at
Dirksen Dr/Benson Junction Rd

Volusia County

www.de-traffic.com

299 McGregor Rd. DeLand FL. 32720

Project
Number: L18-83

Sheet
Number: 3



NB Approach



SB Approach



EB Approach



WB Approach



US 17/92
at Barwick Rd

Volusia County

www.de-traffic.com

299 McGregor Rd. DeLand FL. 32720

Project
Number: L18-83

Sheet
Number: 1



NB Approach



EB Approach



WB Approach



Fort Florida Rd
at Highbanks Rd

Volusia County

www.de-traffic.com

299 McGregor Rd. DeLand FL 32720

Project
Number: L18-83

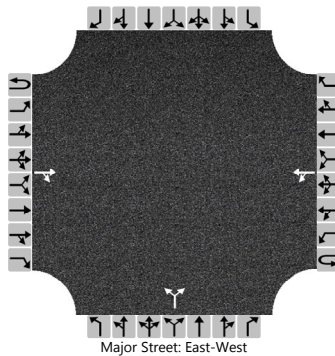
Sheet
Number: 5

APPENDIX D
INTERSECTIONS HCS
SUMMARY–
EXISTING CONDITIONS

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	Fort Florida at Barwick		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	Fort Florida Road		
Analysis Year	2018			North/South Street	Barwick Road		
Time Analyzed	AM Peak-Hour Existing			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			78	16		12	43			7		22				
Percent Heavy Vehicles (%)						2				43		14				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.12					6.83		6.34			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.89		3.43			

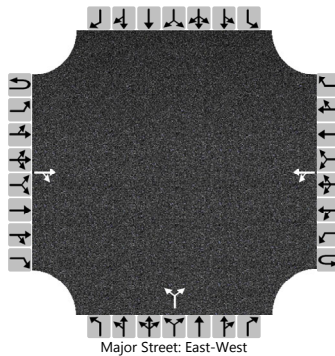
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						13						33				
Capacity, c (veh/h)						1486						869				
v/c Ratio						0.01						0.04				
95% Queue Length, Q ₉₅ (veh)						0.0						0.1				
Control Delay (s/veh)						7.4						9.3				
Level of Service (LOS)						A						A				
Approach Delay (s/veh)					1.7				9.3							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	Fort Florida at Barwick		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	Fort Florida Road		
Analysis Year	2018			North/South Street	Barwick Road		
Time Analyzed	PM Peak-Hour Existing			Peak Hour Factor	0.91		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			33	8		15	101			22		10				
Percent Heavy Vehicles (%)						7				2		20				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.17					6.42		6.40			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.26					3.52		3.48			

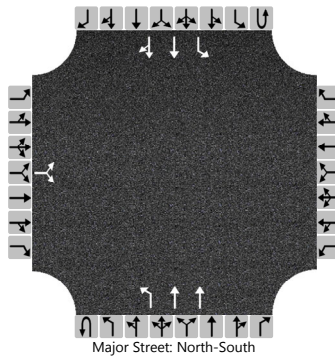
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						16						35				
Capacity, c (veh/h)						1531						845				
v/c Ratio						0.01						0.04				
95% Queue Length, Q ₉₅ (veh)						0.0						0.1				
Control Delay (s/veh)						7.4						9.4				
Level of Service (LOS)						A						A				
Approach Delay (s/veh)					1.0				9.4							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	Fort Florida at US 17/92		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	US 17/92		
Analysis Year	2018			North/South Street	Fort Florida Road		
Time Analyzed	AM Peak-Hour Existing			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	1	2	0
Configuration			LR							L	T			L	T	TR
Volume (veh/h)		25		89					0	55	487		2	0	1983	31
Percent Heavy Vehicles (%)		8		5					0	8			2	2		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1				6.4	4.1		
Critical Headway (sec)		7.66		7.00						4.26				6.44	4.14		
Base Follow-Up Headway (sec)		3.5		3.3						2.2				2.5	2.2		
Follow-Up Headway (sec)		3.58		3.35						2.28				2.52	2.22		

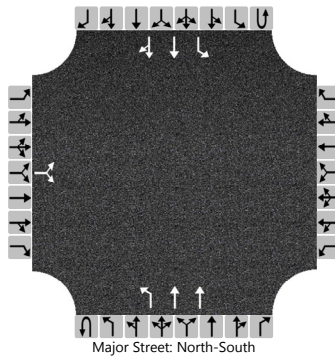
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			124							60					2		
Capacity, c (veh/h)			103							219					663		
v/c Ratio			1.20							0.27					0.00		
95% Queue Length, Q ₉₅ (veh)			8.2							1.1					0.0		
Control Delay (s/veh)			228.6							27.5					10.4		
Level of Service (LOS)			F							D					B		
Approach Delay (s/veh)	228.6								2.8				0.0				
Approach LOS	F																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	Fort Florida at US 17/92		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	US 17/92		
Analysis Year	2018			North/South Street	Fort Florida Road		
Time Analyzed	PM Peak-Hour Existing			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	1	2	0
Configuration			LR							L	T			L	T	TR
Volume (veh/h)		27		55					0	204	2072		3	0	731	54
Percent Heavy Vehicles (%)		4		6					0	2			2	2		
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1				6.4	4.1		
Critical Headway (sec)		7.58		7.02						4.14				6.44	4.14		
Base Follow-Up Headway (sec)		3.5		3.3						2.2				2.5	2.2		
Follow-Up Headway (sec)		3.54		3.36						2.22				2.52	2.22		

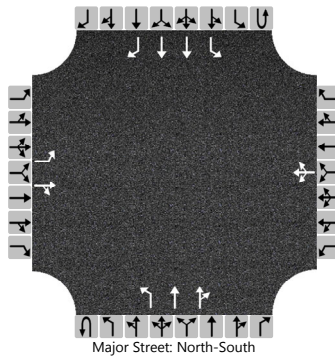
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			86							215					3		
Capacity, c (veh/h)			163							800					56		
v/c Ratio			0.53							0.27					0.06		
95% Queue Length, Q ₉₅ (veh)			2.6							1.1					0.2		
Control Delay (s/veh)			49.6							11.1					72.7		
Level of Service (LOS)			E							B					F		
Approach Delay (s/veh)	49.6								1.0				0.3				
Approach LOS	E																

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	US 17/92 at Barwick Road		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	US 17/92		
Analysis Year	2018			North/South Street	Barwick Road		
Time Analyzed	AM Peak-Hour Existing			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	1	2	0	0	1	2	1
Configuration		L		TR			LTR			L	T	TR		L	T	R
Volume (veh/h)		4	0	31		0	0	1	0	22	536	3	0	16	1853	8
Percent Heavy Vehicles (%)		25	2	2		2	2	2	0	33			0	7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized													No			
Median Type Storage	Left + Thru								2							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		8.00	6.54	6.94		7.54	6.54	6.94		4.76				4.24		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.75	4.02	3.32		3.52	4.02	3.32		2.53				2.27		

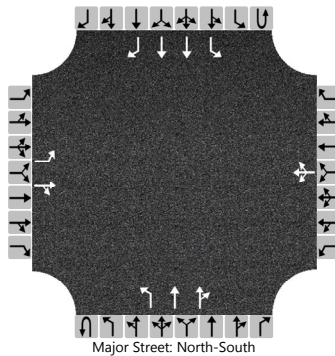
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4		33		1				23				17			
Capacity, c (veh/h)		45		251		713				197				967			
v/c Ratio		0.09		0.13		0.00				0.12				0.02			
95% Queue Length, Q ₉₅ (veh)		0.3		0.4		0.0				0.4				0.1			
Control Delay (s/veh)		94.0		21.5		10.1				25.7				8.8			
Level of Service (LOS)		F		C		B				D				A			
Approach Delay (s/veh)		29.8				10.1				1.0				0.1			
Approach LOS		D				B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	US 17/92 at Barwick Road		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/32018			East/West Street	US 17/92		
Analysis Year	2018			North/South Street	Barwick Road		
Time Analyzed	PM Peak-Hour Existing			Peak Hour Factor	0.94		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	1	2	0	0	1	2	1
Configuration		L		TR			LTR			L	T	TR		L	T	R
Volume (veh/h)		8	0	28		5	0	11	0	52	2267	5	0	9	1030	9
Percent Heavy Vehicles (%)		2	2	2		20	2	2	0	6			0	11		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized													No			
Median Type Storage	Left + Thru								2							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.54	6.54	6.94		7.90	6.54	6.94		4.22				4.32		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.70	4.02	3.32		2.26				2.31		

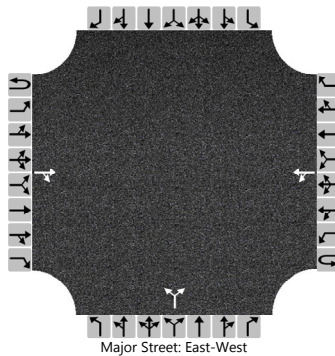
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9		30			17			55				10						
Capacity, c (veh/h)		104		480			48			605				169						
v/c Ratio		0.08		0.06			0.35			0.09				0.06						
95% Queue Length, Q ₉₅ (veh)		0.3		0.2			1.2			0.3				0.2						
Control Delay (s/veh)		42.6		13.0			116.0			11.6				27.6						
Level of Service (LOS)		E		B			F			B				D						
Approach Delay (s/veh)		19.6					116.0					0.3					0.2			
Approach LOS		C					F													

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	Highbanks at Ft Florida		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	Highbanks Rd		
Analysis Year	2018			North/South Street	Fort Florida Road		
Time Analyzed	AM Peak-Hour Existing			Peak Hour Factor	0.88		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			17	8		66	10			2		86				
Percent Heavy Vehicles (%)						6				50		6				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.16					6.90		6.26			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.25					3.95		3.35			

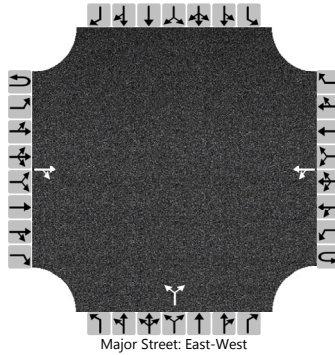
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						75						100				
Capacity, c (veh/h)						1559						1028				
v/c Ratio						0.05						0.10				
95% Queue Length, Q ₉₅ (veh)						0.2						0.3				
Control Delay (s/veh)						7.4						8.9				
Level of Service (LOS)						A						A				
Approach Delay (s/veh)					6.5				8.9							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	ACP			Intersection	Highbanks at Ft Florida		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	12/3/2018			East/West Street	Highbanks Rd		
Analysis Year	2018			North/South Street	Fort Florida Road		
Time Analyzed	PM Peak-Hour Existing			Peak Hour Factor	0.86		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	0	0	
Configuration				TR	LT						LR					
Volume (veh/h)			23	6	77	33			22		43					
Percent Heavy Vehicles (%)					2				2		2					
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

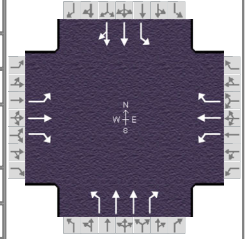
Base Critical Headway (sec)					4.1				7.1		6.2					
Critical Headway (sec)					4.12				6.42		6.22					
Base Follow-Up Headway (sec)					2.2				3.5		3.3					
Follow-Up Headway (sec)					2.22				3.52		3.32					

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					90				76							
Capacity, c (veh/h)					1578				894							
v/c Ratio					0.06				0.08							
95% Queue Length, Q ₉₅ (veh)					0.2				0.3							
Control Delay (s/veh)					7.4				9.4							
Level of Service (LOS)					A				A							
Approach Delay (s/veh)					5.3				9.4							
Approach LOS									A							

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	ACP	Analysis Date	Dec 4, 2018	Area Type	Other		
Jurisdiction	Volusia	Time Period	AM Peak-Hour Existing	PHF	0.94		
Urban Street	US 17/92	Analysis Year	2018	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - AM Existing.xus			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	67	17	71	147	130	70	70	446	84	116	1783	66

Signal Information													
Cycle, s	131.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	5.6	1.3	68.7	12.8	10.6	0.0			4
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			8

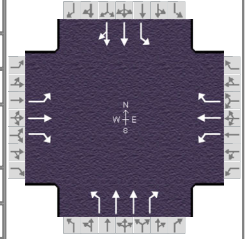
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		18.1	21.8	39.9	13.6	76.2	14.9	77.5
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		9.3	12.3	9.9	4.5	12.1	6.2	71.5
Green Extension Time (g _e), s		1.3	0.5	1.3	0.2	46.5	0.3	0.0
Phase Call Probability		1.00	1.00	1.00	0.93	1.00	0.99	1.00
Max Out Probability		0.00	0.00	0.00	0.00	0.76	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	71	18	76	156	138	74	74	474	89	123	984	984
Adjusted Saturation Flow Rate (s), veh/h/ln	1251	1870		1753	1870		1781	1696	1585	1781	1870	1847
Queue Service Time (g _s), s	7.3	1.2		10.3	7.9		2.5	10.1	3.0	4.2	67.6	69.5
Cycle Queue Clearance Time (g _c), s	7.3	1.2		10.3	7.9		2.5	10.1	3.0	4.2	67.6	69.5
Green Ratio (g/C)	0.08	0.08		0.19	0.25		0.57	0.52	0.62	0.57	0.53	0.53
Capacity (c), veh/h	156	151		325	462		131	1779	986	553	999	987
Volume-to-Capacity Ratio (X)	0.456	0.119		0.481	0.299		0.568	0.267	0.091	0.223	0.984	0.997
Back of Queue (Q), ft/ln (95 th percentile)	107.4	25.6		206.6	164.9		58.5	180.6	44.2	72.4	1110.2	1126.7
Back of Queue (Q), veh/ln (95 th percentile)	4.2	1.0		8.0	6.5		2.3	6.8	1.7	2.9	43.7	45.1
Queue Storage Ratio (RQ) (95 th percentile)	0.67	0.00		0.39	0.00		0.28	0.00	0.28	0.24	0.00	0.00
Uniform Delay (d ₁), s/veh	58.7	55.9		46.8	40.1		30.8	17.2	9.9	13.3	29.9	30.4
Incremental Delay (d ₂), s/veh	2.1	0.3		1.1	0.4		3.8	0.2	0.1	0.2	24.6	27.8
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.7	56.2	0.0	47.9	40.4	0.0	34.6	17.4	10.0	13.5	54.6	58.2
Level of Service (LOS)	E	E	A	D	D	A	C	B	A	B	D	E
Approach Delay, s/veh / LOS	32.4		C	35.4		D	18.4		B	53.8		D
Intersection Delay, s/veh / LOS	43.7						D					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.47		B	2.30		B	2.10		B	2.09		B
Bicycle LOS Score / LOS	0.76		A	1.10		A	1.01		A	2.21		B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	ACP	Analysis Date	Dec 4, 2018	Area Type	Other		
Jurisdiction	Volusia	Time Period	PM Peak-Hour Existing	PHF	0.95		
Urban Street	US 17/92	Analysis Year	2018	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - PM Existing.xus			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	132	141	85	113	25	112	55	1601	366	104	700	54

Signal Information												
Cycle, s	134.6	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	5.3	1.3	69.4	9.8	16.8	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0		
				Red	2.5	0.0	2.0	4.0	3.5	0.0		

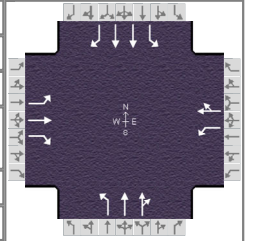
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		24.3	18.8	43.1	13.3	76.9	14.6	78.2
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		15.3	9.6	9.8	4.2	60.6	5.9	19.7
Green Extension Time (g _e), s		1.2	0.4	1.8	0.1	8.8	0.3	43.2
Phase Call Probability		1.00	0.99	1.00	0.89	1.00	0.98	1.00
Max Out Probability		0.00	0.00	0.00	0.00	0.98	0.00	0.82

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	139	148	89	119	26	118	58	1685	385	109	402	392
Adjusted Saturation Flow Rate (s), veh/h/ln	1373	1870		1781	1648		1654	1781	1585	1753	1856	1808
Queue Service Time (g _s), s	13.3	10.2		7.6	1.6		2.2	58.6	17.8	3.9	17.7	17.7
Cycle Queue Clearance Time (g _c), s	13.3	10.2		7.6	1.6		2.2	58.6	17.8	3.9	17.7	17.7
Green Ratio (g/C)	0.12	0.12		0.21	0.26		0.56	0.52	0.59	0.56	0.53	0.53
Capacity (c), veh/h	225	233		245	436		359	1835	933	156	974	949
Volume-to-Capacity Ratio (X)	0.618	0.636		0.485	0.060		0.161	0.918	0.413	0.703	0.412	0.413
Back of Queue (Q), ft/ln (95 th percentile)	210.7	216.3		155.2	33.1		38.7	843.7	256.6	90.2	301.2	288.4
Back of Queue (Q), veh/ln (95 th percentile)	8.2	8.5		6.1	1.2		1.4	33.2	10.1	3.5	11.8	11.5
Queue Storage Ratio (RQ) (95 th percentile)	1.32	0.00		0.29	0.00		0.18	0.00	1.60	0.30	0.00	0.00
Uniform Delay (d ₁), s/veh	57.4	56.0		45.3	37.0		15.2	30.0	15.1	30.7	19.4	19.4
Incremental Delay (d ₂), s/veh	2.8	2.9		1.5	0.1		0.2	8.1	0.6	5.7	0.6	0.6
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.1	58.9	0.0	46.8	37.1	0.0	15.4	38.2	15.7	36.3	20.0	20.0
Level of Service (LOS)	E	E	A	D	D	A	B	D	B	D	B	C
Approach Delay, s/veh / LOS	45.4		D	24.9		C	33.5		C	22.0		C
Intersection Delay, s/veh / LOS	31.3						C					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.47		B	2.30		B	2.10		B	2.10		B
Bicycle LOS Score / LOS	1.11		A	0.92		A	2.24		B	1.23		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	ACP	Analysis Date	Dec 4, 2018	Area Type	Other		
Jurisdiction	Volusia	Time Period	AM Peak-Hour Existing	PHF	0.94		
Urban Street	US 17/92	Analysis Year	2018	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Highbanks Rd	File Name	5. US 17-92 at Highbanks Rd - AM Existing.xus				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	164	66	90	185	86	103	75	443	66	50	1405	116

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	4.2	0.5	59.4	12.2	1.2	16.8			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	3.7	0.0	4.0			
				Red	2.0	0.0	2.0	2.6	0.0	2.6			

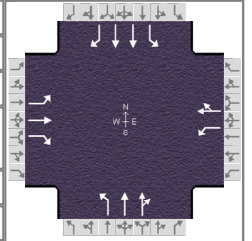
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	18.5	23.4	19.7	24.6	11.1	66.3	10.6	65.8
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	12.0	8.8	13.3	16.3	4.6		3.9	
Green Extension Time (g _e), s	0.3	2.0	0.3	1.7	0.2	0.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	0.93		0.83	
Max Out Probability	0.15	0.01	0.36	0.06	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	174	70	96	197	201		80	276	266	53	1495	123
Adjusted Saturation Flow Rate (s), veh/h/ln	1767	1856	1547	1753	1636		1767	1826	1743	1668	1766	1560
Queue Service Time (g _s), s	10.0	4.1	6.8	11.3	14.3		2.6	10.7	10.8	1.9	44.4	5.2
Cycle Queue Clearance Time (g _c), s	10.0	4.1	6.8	11.3	14.3		2.6	10.7	10.8	1.9	44.4	5.2
Green Ratio (g/C)	0.24	0.14	0.14	0.25	0.15		0.53	0.50	0.50	0.53	0.50	0.50
Capacity (c), veh/h	257	260	217	398	246		172	912	870	435	1749	772
Volume-to-Capacity Ratio (X)	0.679	0.270	0.441	0.494	0.819		0.464	0.303	0.305	0.122	0.854	0.160
Back of Queue (Q), ft/ln (95 th percentile)	205.9	89.3	128.7	220.6	278.7		51	209.4	196.1	33.5	664.3	88.1
Back of Queue (Q), veh/ln (95 th percentile)	8.0	3.5	5.0	8.6	10.6		2.0	8.1	7.8	1.2	25.9	3.4
Queue Storage Ratio (RQ) (95 th percentile)	0.79	0.00	0.58	1.19	0.00		0.00	0.00	0.00	0.15	0.00	0.71
Uniform Delay (d ₁), s/veh	39.3	46.1	47.3	37.7	49.4		24.3	17.7	17.7	14.4	26.5	16.6
Incremental Delay (d ₂), s/veh	3.1	0.8	2.0	1.0	9.2		1.9	0.9	0.9	0.1	5.6	0.4
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	42.5	46.9	49.3	38.7	58.6		26.3	18.6	18.7	14.5	32.1	17.0
Level of Service (LOS)	D	D	D	D	E		C	B	B	B	C	B
Approach Delay, s/veh / LOS	45.3		D	48.7		D	19.6		B	30.4		C
Intersection Delay, s/veh / LOS	32.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.46	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.05	A	1.14	A	1.00	A	1.87	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	ACP	Analysis Date	Dec 4, 2018	Area Type	Other		
Jurisdiction	Volusia	Time Period	PM Peak-Hour Existing	PHF	0.95		
Urban Street	US 17/92	Analysis Year	2018	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Highbanks Rd	File Name	5. US 17-92 at Highbanks Rd - PM Existing.xus				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	212	120	85	160	93	84	105	1434	87	109	639	83

Signal Information														
Cycle, s	150.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On	Green	6.5	0.2	80.3	13.9	4.5	19.1				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	4.0	0.0	4.0				
				Red	2.0	0.0	2.0	2.1	0.0	2.6				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	24.5	30.2	20.0	25.7	12.9	86.7	13.1	86.9
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	18.1	11.2	14.2	18.0	6.3		6.5	
Green Extension Time (g _e), s	0.0	2.1	0.0	1.1	0.3	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	0.99		0.99	
Max Out Probability	1.00	0.02	1.00	0.80	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	223	126	89	168	186		111	805	796	115	673	87
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1547	1781	1710		1739	1870	1832	1739	1766	1535
Queue Service Time (g _s), s	16.1	9.2	7.8	12.2	16.0		4.3	52.7	53.5	4.5	16.3	4.2
Cycle Queue Clearance Time (g _c), s	16.1	9.2	7.8	12.2	16.0		4.3	52.7	53.5	4.5	16.3	4.2
Green Ratio (g/C)	0.25	0.16	0.16	0.22	0.13		0.58	0.54	0.54	0.58	0.54	0.54
Capacity (c), veh/h	289	294	243	318	218		433	1002	981	181	1896	824
Volume-to-Capacity Ratio (X)	0.773	0.429	0.367	0.530	0.854		0.255	0.804	0.811	0.635	0.355	0.106
Back of Queue (Q), ft/ln (95 th percentile)	326.6	202	147.3	241	330.2		80	829.8	815.4	106.7	282.6	72.4
Back of Queue (Q), veh/ln (95 th percentile)	12.9	8.0	5.7	9.5	12.9		3.1	32.7	32.6	4.1	11.0	2.8
Queue Storage Ratio (RQ) (95 th percentile)	1.26	0.00	0.67	1.30	0.00		0.00	0.00	0.00	0.46	0.00	0.58
Uniform Delay (d ₁), s/veh	49.3	57.1	56.5	50.5	64.1		15.5	28.4	28.6	29.2	19.9	17.1
Incremental Delay (d ₂), s/veh	11.8	1.4	1.3	1.7	20.6		0.3	6.8	7.2	3.7	0.5	0.3
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.1	58.5	57.8	52.2	84.7		15.8	35.3	35.9	32.8	20.4	17.3
Level of Service (LOS)	E	E	E	D	F		B	D	D	C	C	B
Approach Delay, s/veh / LOS	59.7		E	69.3		E	34.3		C	21.7		C
Intersection Delay, s/veh / LOS	38.0						D					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.32		B	2.47		B	1.91		B	2.10		B
Bicycle LOS Score / LOS	1.21		A	1.07		A	1.90		B	1.21		A

APPENDIX E

SIGNAL TIMINGS

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

 LOCATION: US 17/92 & Dirksen Dr./ Benson Junctio
Debary

 ISOLATED:

 DATE: 5/18/2017

 SIGNAL #: 243

 CO-ORD:

 Design By: M. Tobin

 System #: 4

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8
DIRECTION	SBL	NB	WBL	EB	NBL	SB	-	WB
TURN TYPE	PERM/PROT	-	PERM/PROT	-	PERM/PROT	-	-	-
MIN GREEN	6	17	6	7	6	17		7
EXTENSION	3	5	3	3	3	5		3
CLEARANCE	5.5	5.5	5.0	4.0	5.5	5.5		5.0
ALL RED	3.0	2.0	4.0	3.5	2.5	2.0		2.0
WALK	-	7	-	7	-	7		7
FDW	-	22	-	30	-	22		30
MAX 1	25	70	40	35	25	70		35
MAX 2	-	-	-	-	-	-		-
MAX 3	-	120	60	-	-	120		-
ADJUST	-	10	10	-	-	10		-
RECALL	-	MIN	-	-	-	MIN		-
DETECTOR	NON-LOCK	LOCK	NON-LOCK	NON-LOCK	NON-LOCK	LOCK		NON-LOCK
FLASH	-	YELLOW	-	RED	-	YELLOW		RED
SET	-	2	2	-	-	2		-
CLEAR	-	2	2	-	-	2		-
BASE DAY	1	2	3	4	5	6	7	
								Crosswalk Length
MON #1	TIME 00:01-00:00 PLAN FREE							P2
TUES #1	TIME 00:01-00:00 PLAN FREE							56 Feet
WED #1	TIME 00:01-00:00 PLAN FREE							P4
THU #1	TIME 00:01-00:00 PLAN FREE							103 Feet
FRI #1	TIME 00:01-00:00 PLAN FREE							P6
SAT #1	TIME 00:01-00:00 PLAN FREE							77 Feet
SUN #1	TIME 00:01-00:00 PLAN FREE							P8
CONTROLLER TYPE		CONDITION OF OVERHEAD		OK		PROM NUMBER		
ASC/3-2100		OVERHEAD STREET NAMES		NO				104 Feet
PHASES:	8Φ	ILLUMINATED STREET NAMES		YES		02.59.00		SIGNAL OWNER ⁴
CABINET TYPE	V	PRE-EMPTION		NO		IP ADDRESS		FDOT
CABINET DATE	12/15/1999	PRE-EMPTION TYPE		N/A		XXXXXXXXXX		LED YES

REMARKS:

1	2	3 & 2R	4
5	6		8

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
 Continuing Services Contract for Traffic Operations
 Volusia County 2017
 FM: 237988-1-32-11



US 17/92 at Highbanks Road (112) Prepared By: FDA Date: 11/1/2017
 North-South Roadway US 17/92 East-West Roadway Highbanks Road

PHASE TIMES								
PHASE	1	2	3	4	5	6	7	8
DIRECTION	NBL	SB	EBL	WB	SBL	NB	WBL	EB
LEFT TURN	Prot/Perm	Perm	Prot/Perm	Perm	Prot/Perm	Perm	Prot/Perm	Perm
MIN GRN	5	12	5	7	5	12	5	7
GAP EXT	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
YEL CLR	4.4	4.4	3.7	4.0	4.4	4.4	4.0	4.0
RED CLR	2.0	2.0	2.6	2.6	2.0	2.0	2.1	2.6
MAX 1	25	60	30	40	25	60	25	40
MAX 2								
DYM MAX		120	40			120		
DYM STEP		10	10			10		
WALK		7		7		7		7
PED CLR		22		30		22		30
RECALL		MIN				MIN		
DETECTOR	NON-LOCK	LOCK	NON-LOCK	NON-LOCK	NON-LOCK	LOCK	NON-LOCK	NON-LOCK
FLASH		YELLOW		RED		YELLOW		RED
SET								
CLEAR								

Weekday (Monday-Friday) Day 1	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Coord Phase	Sequence
	Existing	0:00	6:00	11	Free			
	AM	6:00	9:00	1	120	115	2, 6	1
	Midday	9:00	13:30	2	120	0	2, 6	1
	PM	13:30	18:30	3	150	131	2, 6	1
	Evening	18:30	20:00	2	120	0	2, 6	1
Existing	20:00	0:00	11	Free				

Weekend (Saturday) Day 2	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Coord Phase	Sequence
	Existing	0:00	8:30	11	Free			
	Midday	8:30	19:30	2	120	0	2, 6	1
Existing	19:30	0:00	11	Free				

Weekend (Sunday) Day 3	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	Pattern	Cycle Length	Offset	Coord Phase	Sequence
	Existing	0:00	8:30	11	Free			
	Midday	8:30	19:30	2	120	0	2, 6	1
Existing	19:30	0:00	11	Free				

COORDINATION SPLIT TABLES

Pattern 1								
Phase	1	2	3	4	5	6	7	8
Time (sec)	18	47	25	30	20	45	25	30
Recall								

Pattern 2								
Phase	1	2	3	4	5	6	7	8
Time (sec)	20	55	20	25	20	55	20	25
Recall								

Pattern 3								
Phase	1	2	3	4	5	6	7	8
Time (sec)	25	70	25	30	25	70	20	35
Recall								

CONTROLLER TYPE	CONDITION OF OVERHEAD	PROM NUMBER	SIGNAL OWNER
	OVERHEAD STREET NAMES		
PHASES:	ILLUMINATED STREET NAMES		
CABINET TYPE	PRE-EMPTION	IP ADDRESS	LED
CABINET DATE	PRE-EMPTION TYPE		

NOTES

- | | |
|--|------------------------------|
| 1. Offset Reference: Yellow | 7. Detector Switching 1 -> 6 |
| 2. Force-off: Fixed | 8. Detector Switching 5 -> 2 |
| 3. Maximum Select: Inhibit Max | |
| 4. Use Ped Time: No | |
| 5. Omit phase 1 when phase 2 is active | |
| 6. Omit phase 5 when phase 6 is active | |

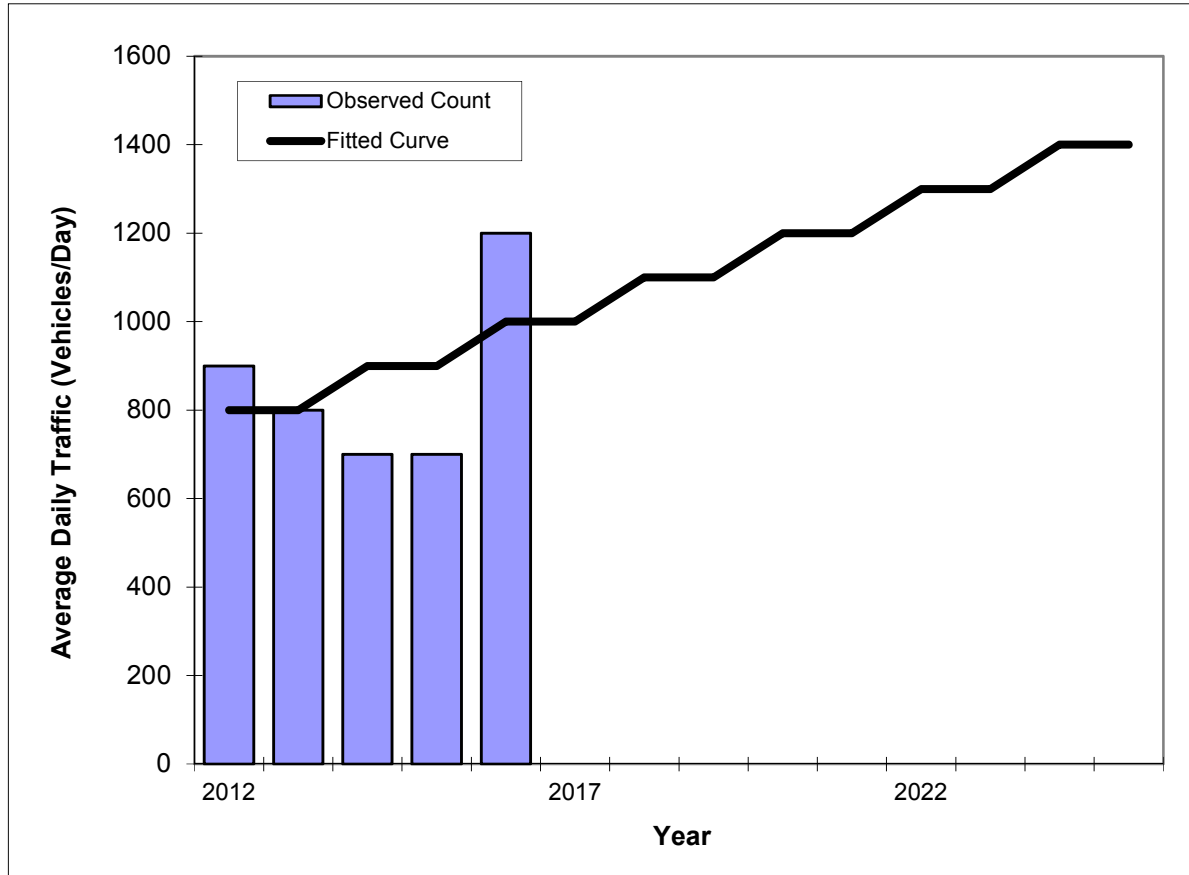


APPENDIX F
TRAFFIC TRENDS ANALYSIS
SHEETS

TRAFFIC TRENDS

Barwick -- Fort Florida Rd to US 17-92

County:	Volusia
Station #:	127
Highway:	Barwick



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	900	800
2013	800	800
2014	700	900
2015	700	900
2016	1200	1000
2018 Opening Year Trend		
2018	N/A	1100
2020 Mid-Year Trend		
2020	N/A	1200
2022 Design Year Trend		
2022	N/A	1300
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** 50
Trend R-squared: 14.5%
Trend Annual Historic Growth Rate: 6.25%
Trend Growth Rate (2016 to Design Year): 5.00%
Printed: 21-Nov-18

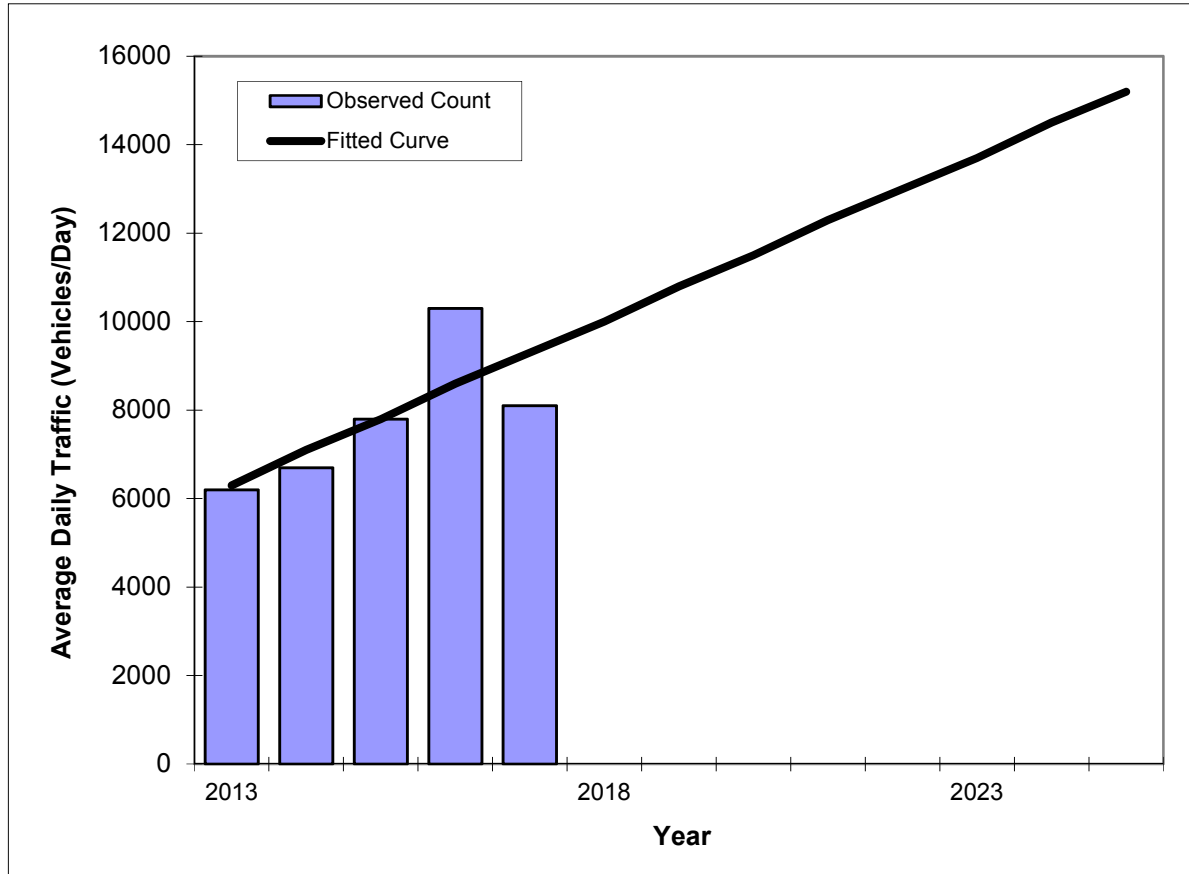
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

Dirksen Drive -- US 17/92 to Sunrise Blvd.

County:	Volusia
Station #:	520
Highway:	Dirksen Drive



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	6200	6300
2014	6700	7100
2015	7800	7800
2016	10300	8600
2017	8100	9300
2018 Opening Year Trend		
2018	N/A	10000
2020 Mid-Year Trend		
2020	N/A	11500
2022 Design Year Trend		
2022	N/A	13000
TRANPLAN Forecasts/Trends		

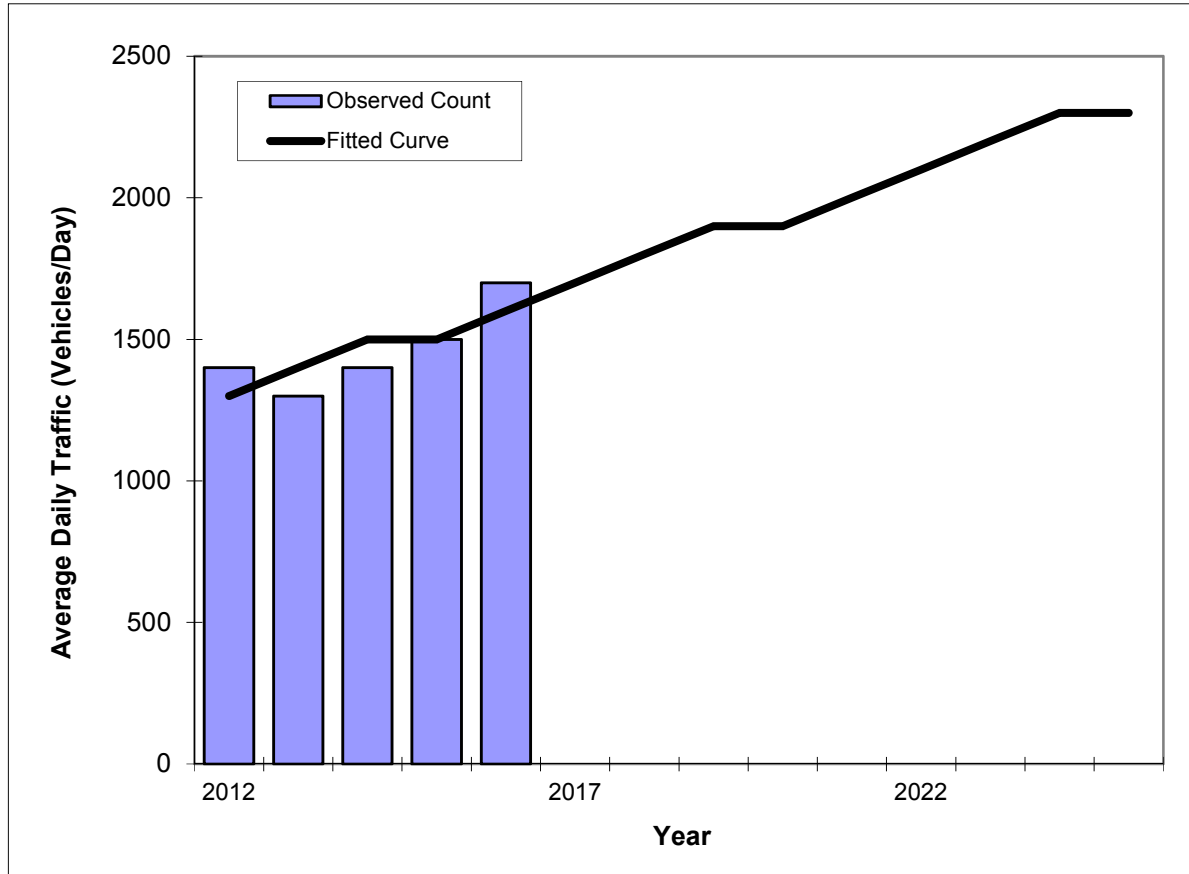
**** Annual Trend Increase:** 740
Trend R-squared: 54.2%
Trend Annual Historic Growth Rate: 11.90%
Trend Growth Rate (2017 to Design Year): 7.96%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

Fort Florida Road -- Barwick Rd to US 17-92

County:	Volusia
Station #:	660
Highway:	Fort Florida Road



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	1400	1300
2013	1300	1400
2014	1400	1500
2015	1500	1500
2016	1700	1600
2018 Opening Year Trend		
2018	N/A	1800
2020 Mid-Year Trend		
2020	N/A	1900
2022 Design Year Trend		
2022	N/A	2100
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** 80
Trend R-squared: 69.6%
Trend Annual Historic Growth Rate: 5.77%
Trend Growth Rate (2016 to Design Year): 5.21%
Printed: 21-Nov-18

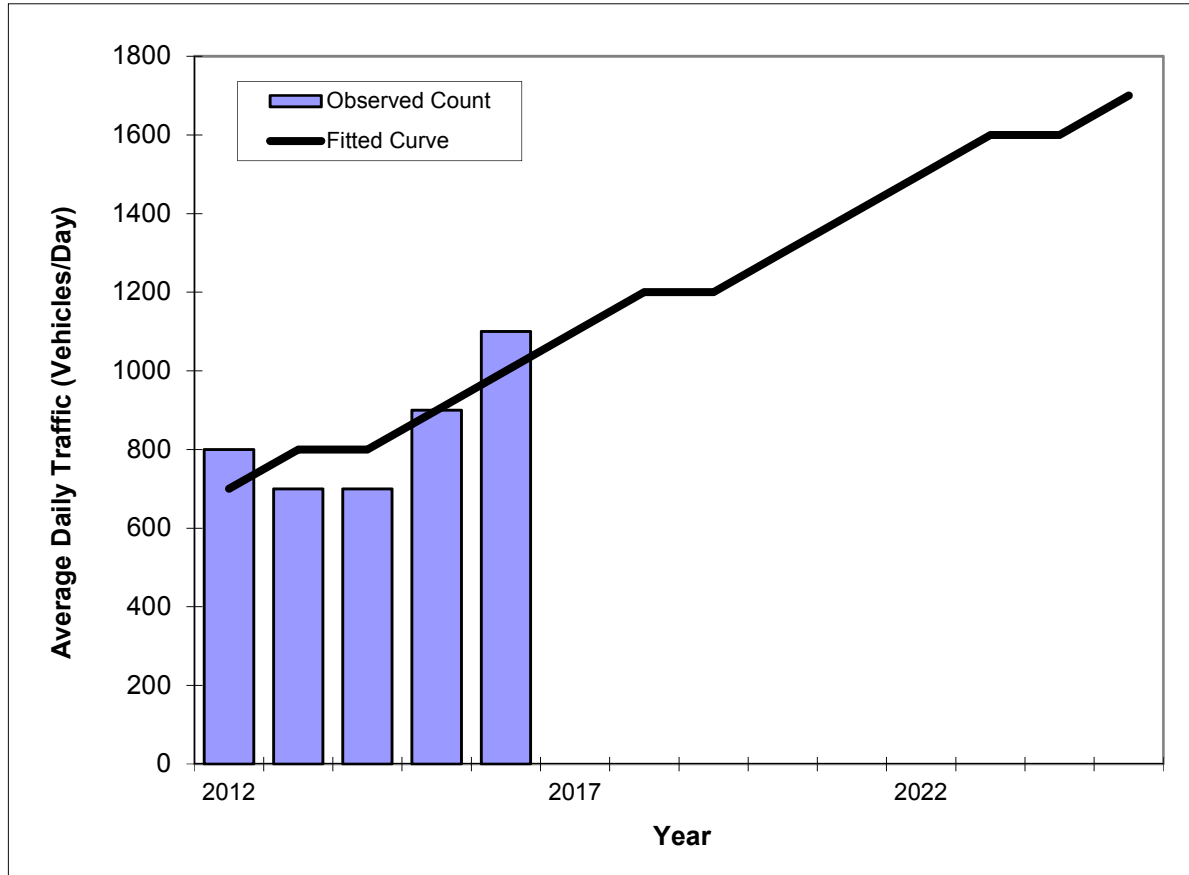
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

Fort Florida Road -- Ft. Florida Point Rd to Barwick Rd

County:	Volusia
Station #:	662
Highway:	Fort Florida Road



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	800	700
2013	700	800
2014	700	800
2015	900	900
2016	1100	1000
2018 Opening Year Trend		
2018	N/A	1200
2020 Mid-Year Trend		
2020	N/A	1300
2022 Design Year Trend		
2022	N/A	1500
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** 80
Trend R-squared: 57.1%
Trend Annual Historic Growth Rate: 10.71%
Trend Growth Rate (2016 to Design Year): 8.33%
Printed: 21-Nov-18

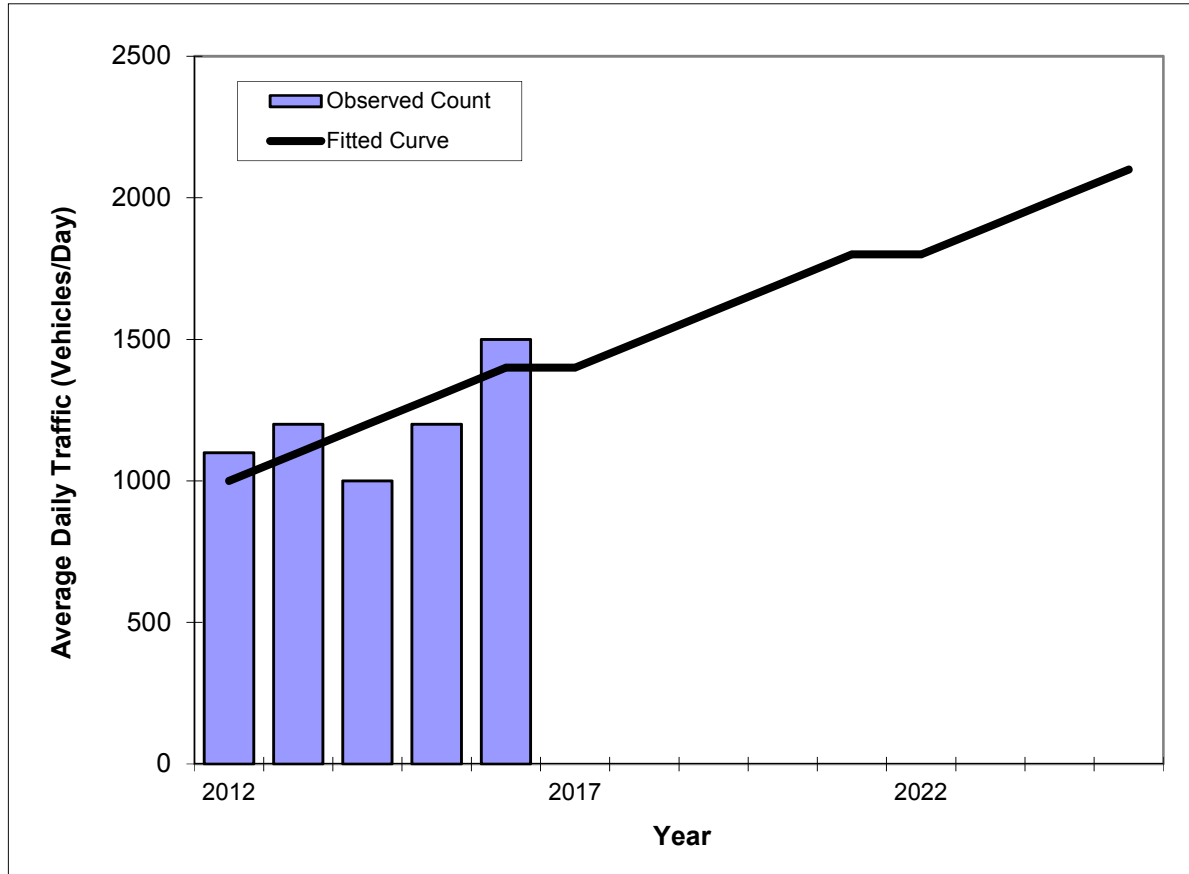
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

Fort Florida Road -- Highbanks Dr. to Ft. Florida Point Rd

County:	Volusia
Station #:	661
Highway:	Fort Florida Road



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	1100	1000
2013	1200	1100
2014	1000	1200
2015	1200	1300
2016	1500	1400
2018 Opening Year Trend		
2018	N/A	1500
2020 Mid-Year Trend		
2020	N/A	1700
2022 Design Year Trend		
2022	N/A	1800
TRANPLAN Forecasts/Trends		

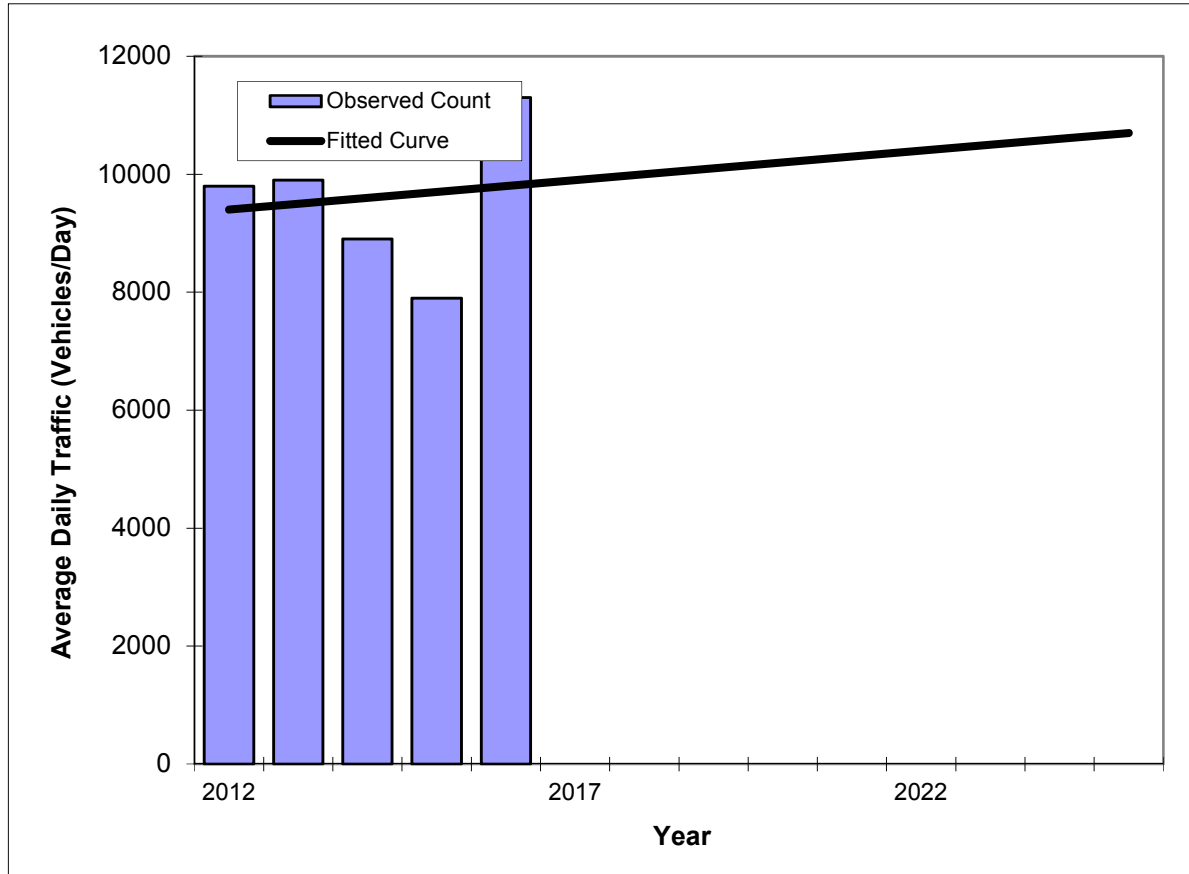
** Annual Trend Increase:	80
Trend R-squared:	45.7%
Trend Annual Historic Growth Rate:	10.00%
Trend Growth Rate (2016 to Design Year):	4.76%
Printed:	21-Nov-18
Straight Line Growth Option	

*Axle-Adjusted

TRAFFIC TRENDS

Highbanks Rd -- Donald E Smith Blvd to US 17-92

County:	Volusia
Station #:	861
Highway:	Highbanks Rd



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	9800	9400
2013	9900	9500
2014	8900	9600
2015	7900	9700
2016	11300	9800
2018 Opening Year Trend		
2018	N/A	10000
2020 Mid-Year Trend		
2020	N/A	10200
2022 Design Year Trend		
2022	N/A	10400
TRANPLAN Forecasts/Trends		

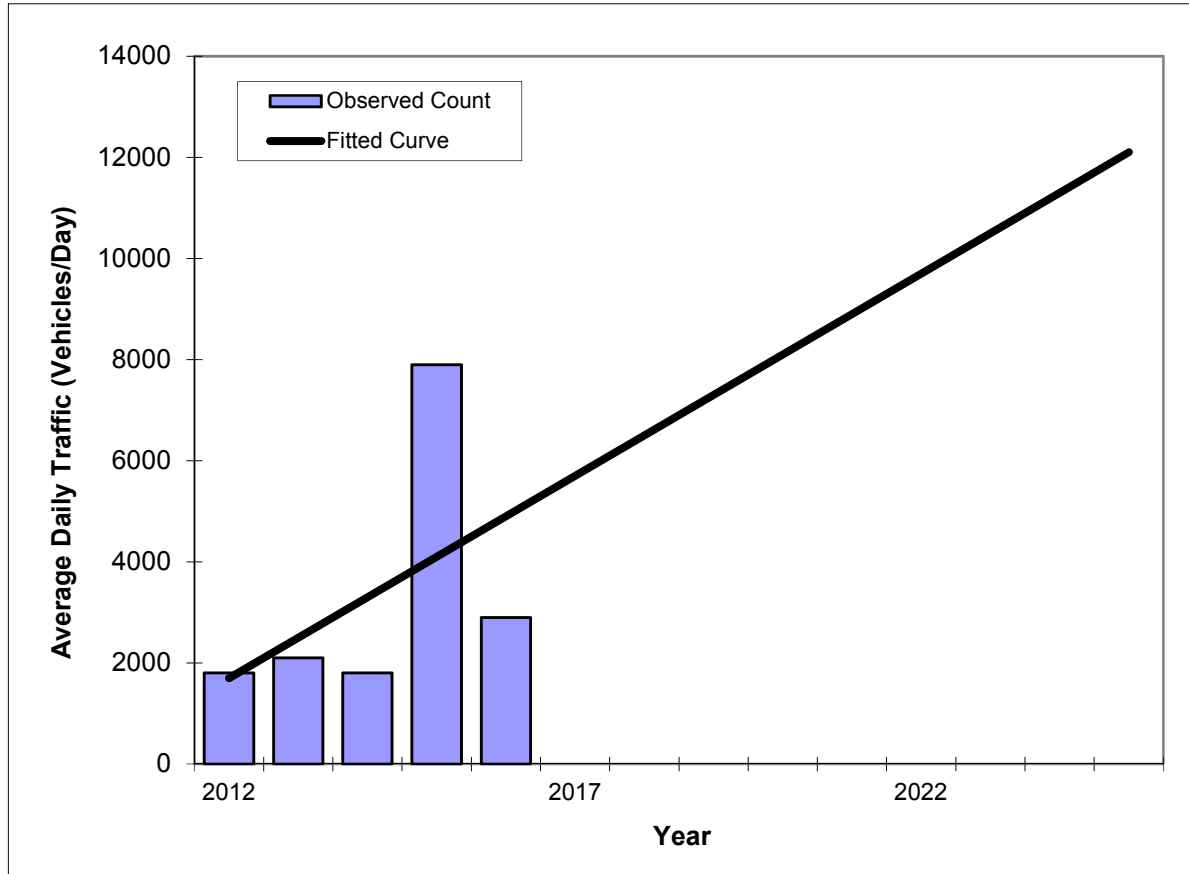
**** Annual Trend Increase:** 100
Trend R-squared: 1.6%
Trend Annual Historic Growth Rate: 1.06%
Trend Growth Rate (2016 to Design Year): 1.02%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

Highbanks Rd -- Fort Florida Rd to Donald E Smith Blvd

County:	Volusia
Station #:	860
Highway:	Highbanks Rd



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	1800	1700
2013	2100	2500
2014	1800	3300
2015	7900	4100
2016	2900	4900
2018 Opening Year Trend		
2018	N/A	6500
2020 Mid-Year Trend		
2020	N/A	8100
2022 Design Year Trend		
2022	N/A	9700
TRANPLAN Forecasts/Trends		

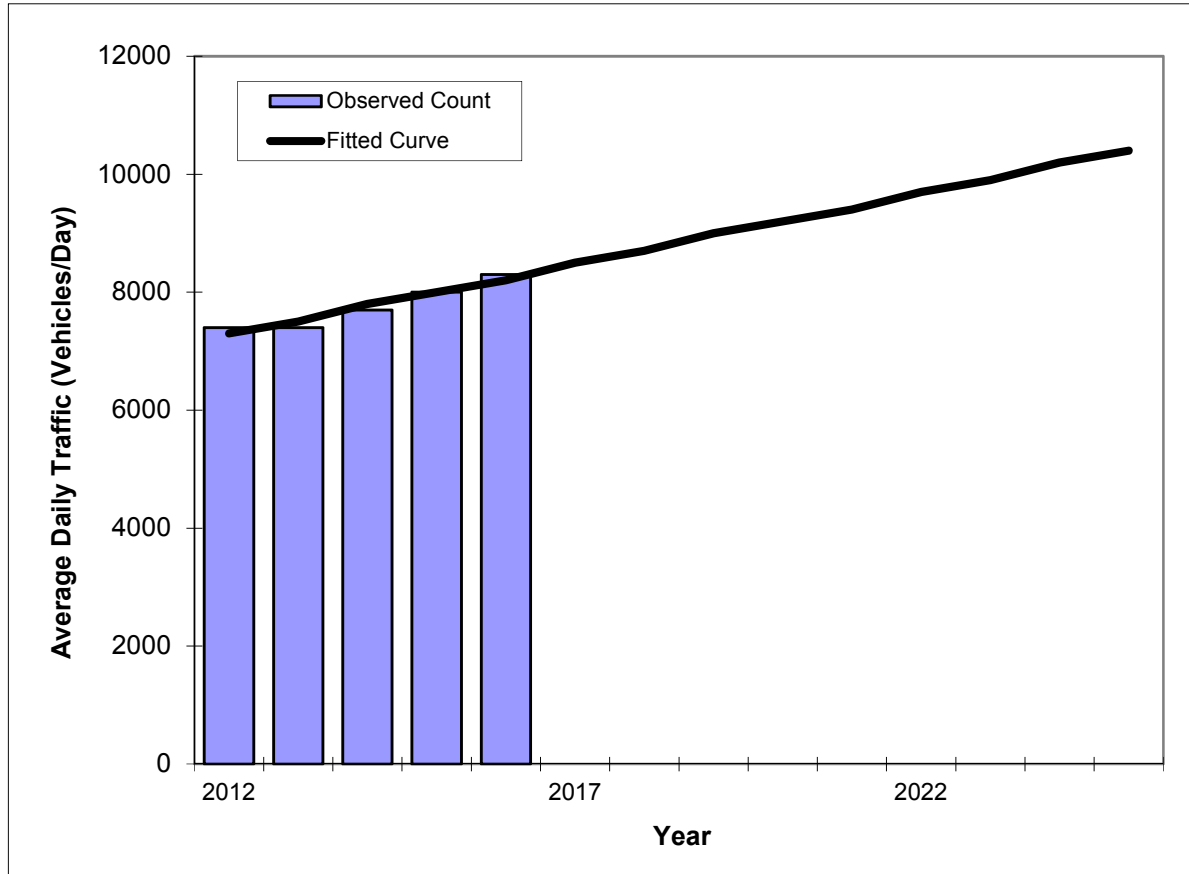
**** Annual Trend Increase:** 800
Trend R-squared: 23.5%
Trend Annual Historic Growth Rate: 47.06%
Trend Growth Rate (2016 to Design Year): 16.33%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

Highbanks Rd -- US 17-92 to Enterprise Rd

County:	Volusia
Station #:	863
Highway:	Highbanks Rd



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	7400	7300
2013	7400	7500
2014	7700	7800
2015	8000	8000
2016	8300	8200
2018 Opening Year Trend		
2018	N/A	8700
2020 Mid-Year Trend		
2020	N/A	9200
2022 Design Year Trend		
2022	N/A	9700
TRANPLAN Forecasts/Trends		

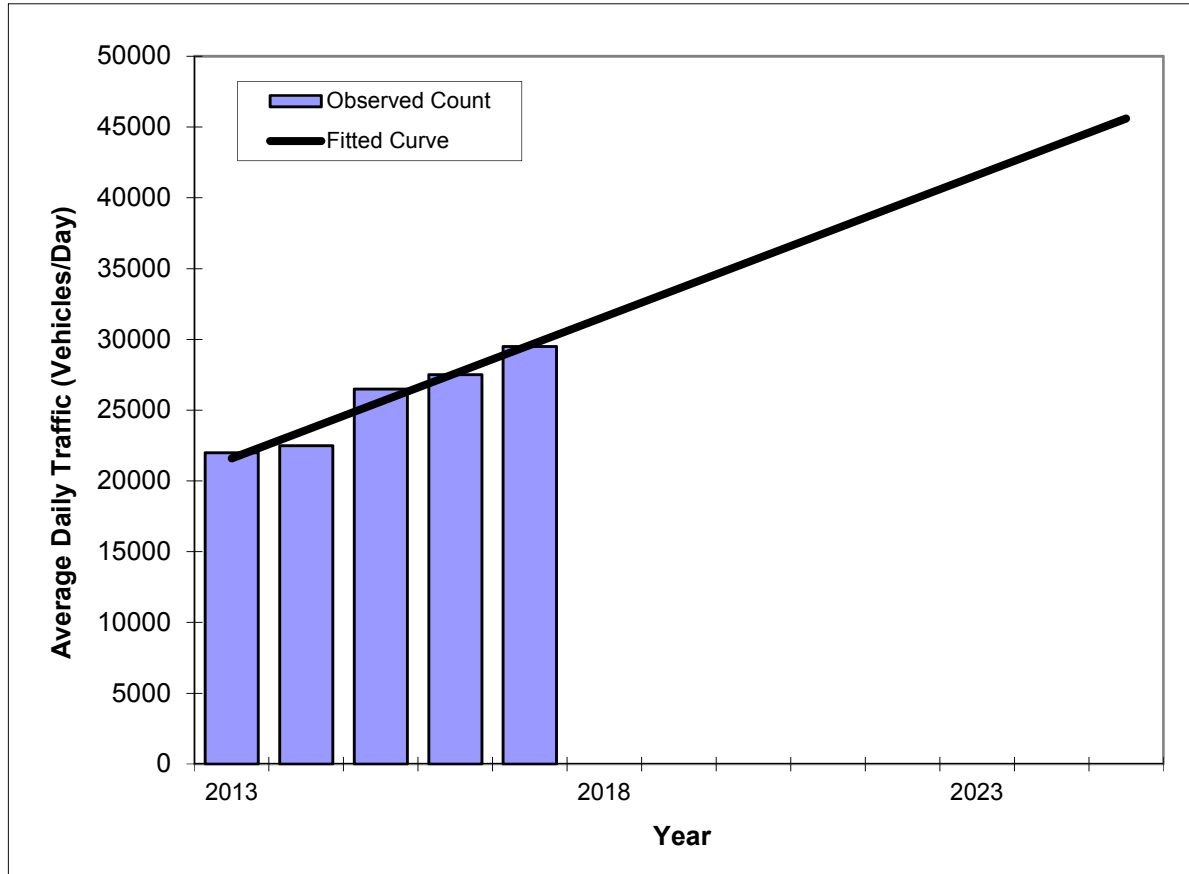
**** Annual Trend Increase:** 240
Trend R-squared: 94.1%
Trend Annual Historic Growth Rate: 3.08%
Trend Growth Rate (2016 to Design Year): 3.05%
 Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

US 17-92 -- Barwick Rd. to Seminole/Volusia County Line

County:	Volusia
Station #:	0040-S
Highway:	US 17-92



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	22000	21600
2014	22500	23600
2015	26500	25600
2016	27500	27600
2017	29500	29600
2018 Opening Year Trend		
2018	N/A	31600
2020 Mid-Year Trend		
2020	N/A	35600
2022 Design Year Trend		
2022	N/A	39600
TRANPLAN Forecasts/Trends		

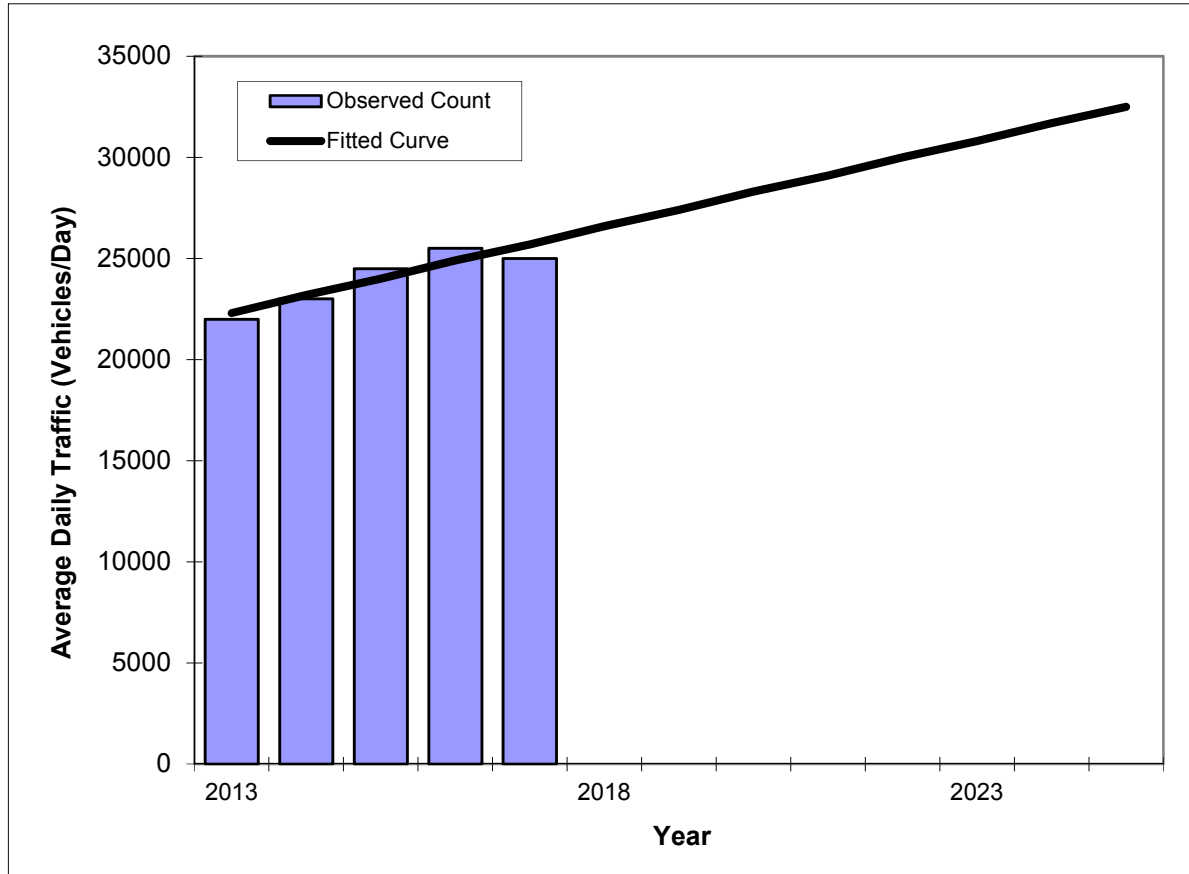
**** Annual Trend Increase:** 2,000
Trend R-squared: 94.8%
Trend Annual Historic Growth Rate: 9.26%
Trend Growth Rate (2017 to Design Year): 6.76%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

US 17-92 -- DeBary Plantation Blvd. to Highbanks Rd.

County:	Volusia
Station #:	8
Highway:	US 17-92



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	22000	22300
2014	23000	23200
2015	24500	24000
2016	25500	24900
2017	25000	25700
2018 Opening Year Trend		
2018	N/A	26600
2020 Mid-Year Trend		
2020	N/A	28300
2022 Design Year Trend		
2022	N/A	30000
TRANPLAN Forecasts/Trends		

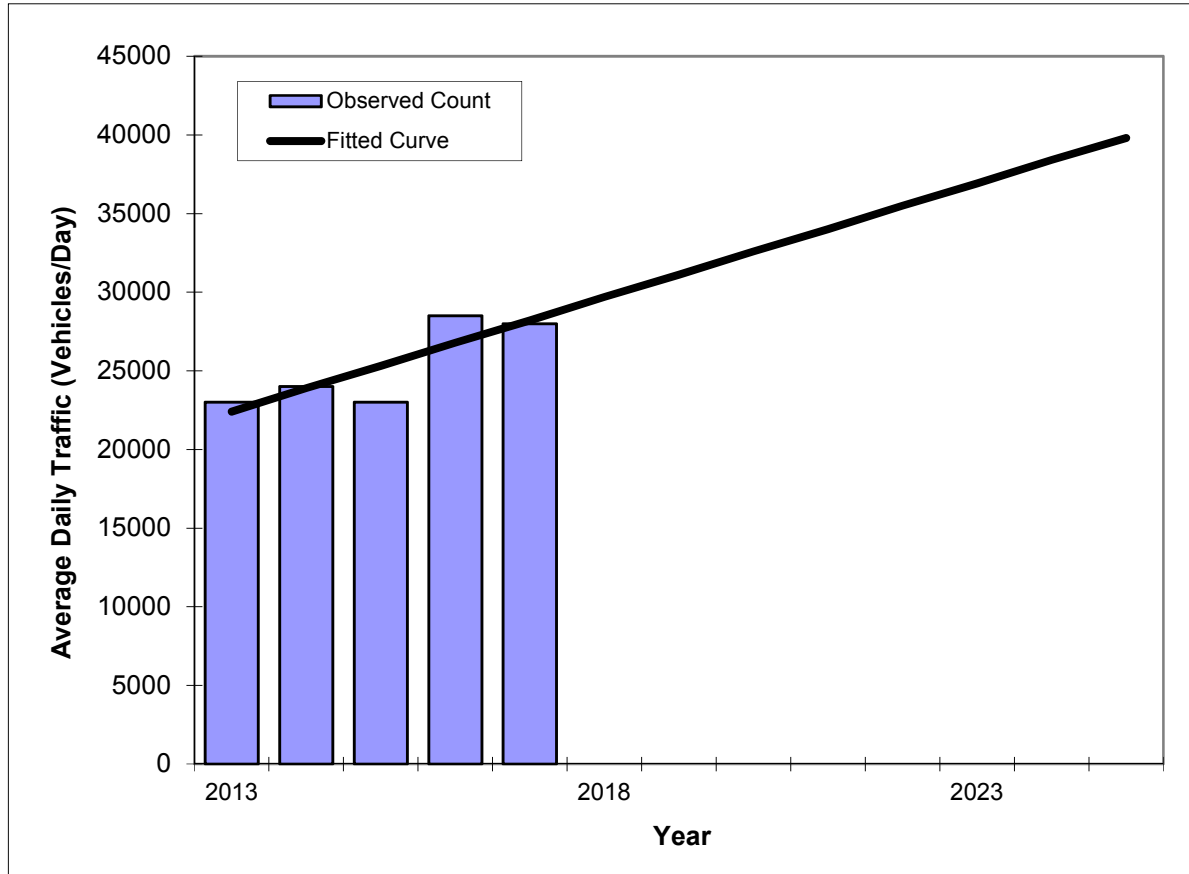
**** Annual Trend Increase:** 850
Trend R-squared: 85.0%
Trend Annual Historic Growth Rate: 3.81%
Trend Growth Rate (2017 to Design Year): 3.35%
 Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

US 17-92 -- Dirksen Dr. to Fort Florida Rd.

County:	Volusia
Station #:	101
Highway:	US 17-92



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	23000	22400
2014	24000	23900
2015	23000	25300
2016	28500	26800
2017	28000	28200
2018 Opening Year Trend		
2018	N/A	29700
2020 Mid-Year Trend		
2020	N/A	32600
2022 Design Year Trend		
2022	N/A	35500
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** 1,450
Trend R-squared: 70.6%
Trend Annual Historic Growth Rate: 6.47%
Trend Growth Rate (2017 to Design Year): 5.18%
Printed: 21-Nov-18

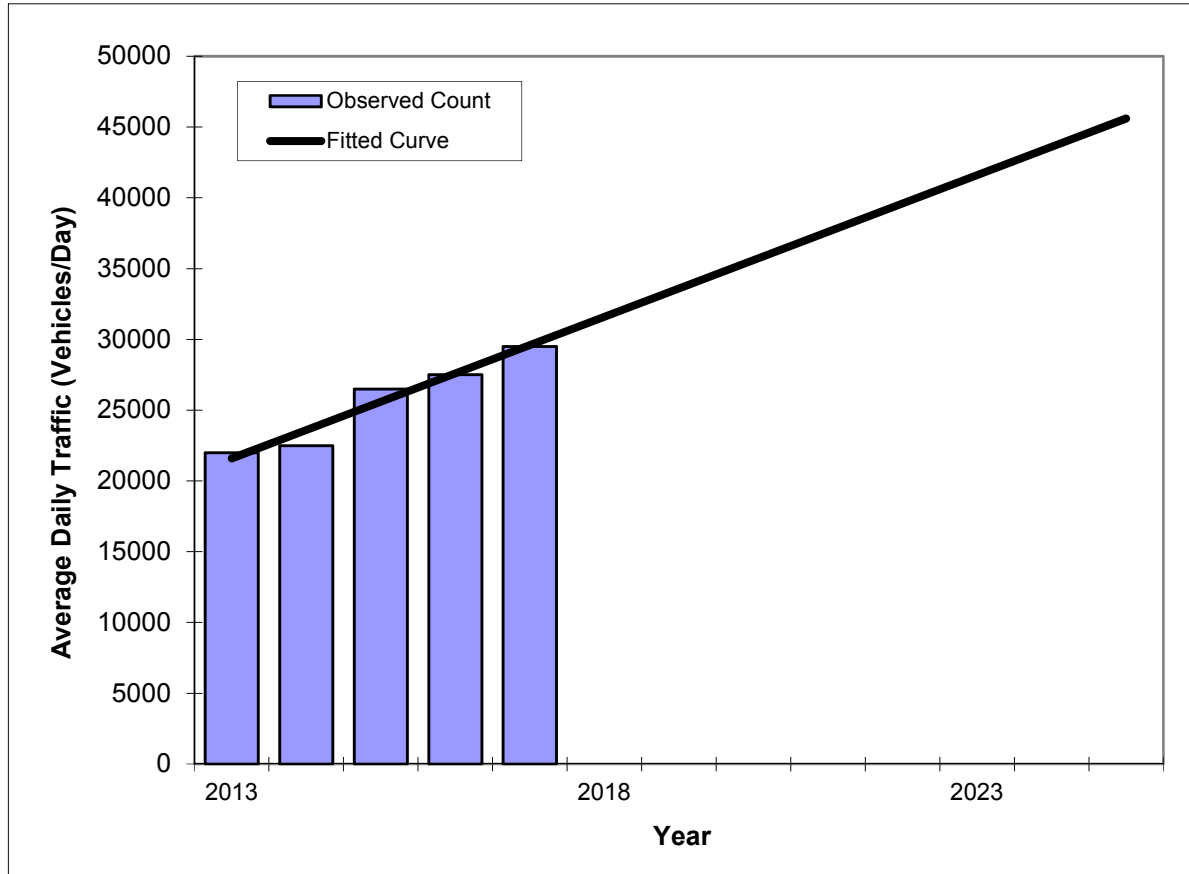
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

US 17-92 -- Fort Florida Rd. to Barwick Rd.

County:	Volusia
Station #:	0040-S
Highway:	US 17-92



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	22000	21600
2014	22500	23600
2015	26500	25600
2016	27500	27600
2017	29500	29600
2018 Opening Year Trend		
2018	N/A	31600
2020 Mid-Year Trend		
2020	N/A	35600
2022 Design Year Trend		
2022	N/A	39600
TRANPLAN Forecasts/Trends		

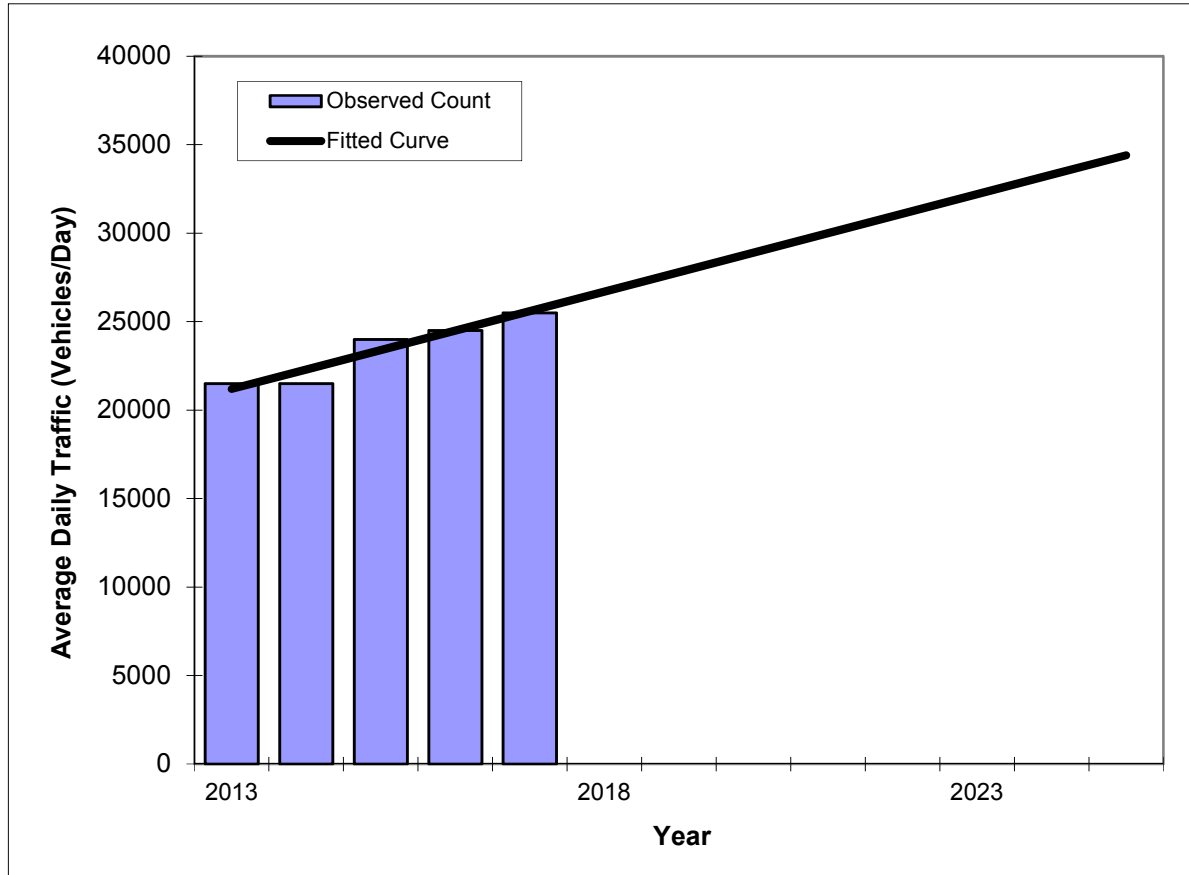
**** Annual Trend Increase:** 2,000
Trend R-squared: 94.8%
Trend Annual Historic Growth Rate: 9.26%
Trend Growth Rate (2017 to Design Year): 6.76%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

US 17-92 -- Highbanks Rd. to Valencia Rd.

County:	Volusia
Station #:	7
Highway:	US 17-92



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	21500	21200
2014	21500	22300
2015	24000	23400
2016	24500	24500
2017	25500	25600
2018 Opening Year Trend		
2018	N/A	26700
2020 Mid-Year Trend		
2020	N/A	28900
2022 Design Year Trend		
2022	N/A	31100
TRANPLAN Forecasts/Trends		

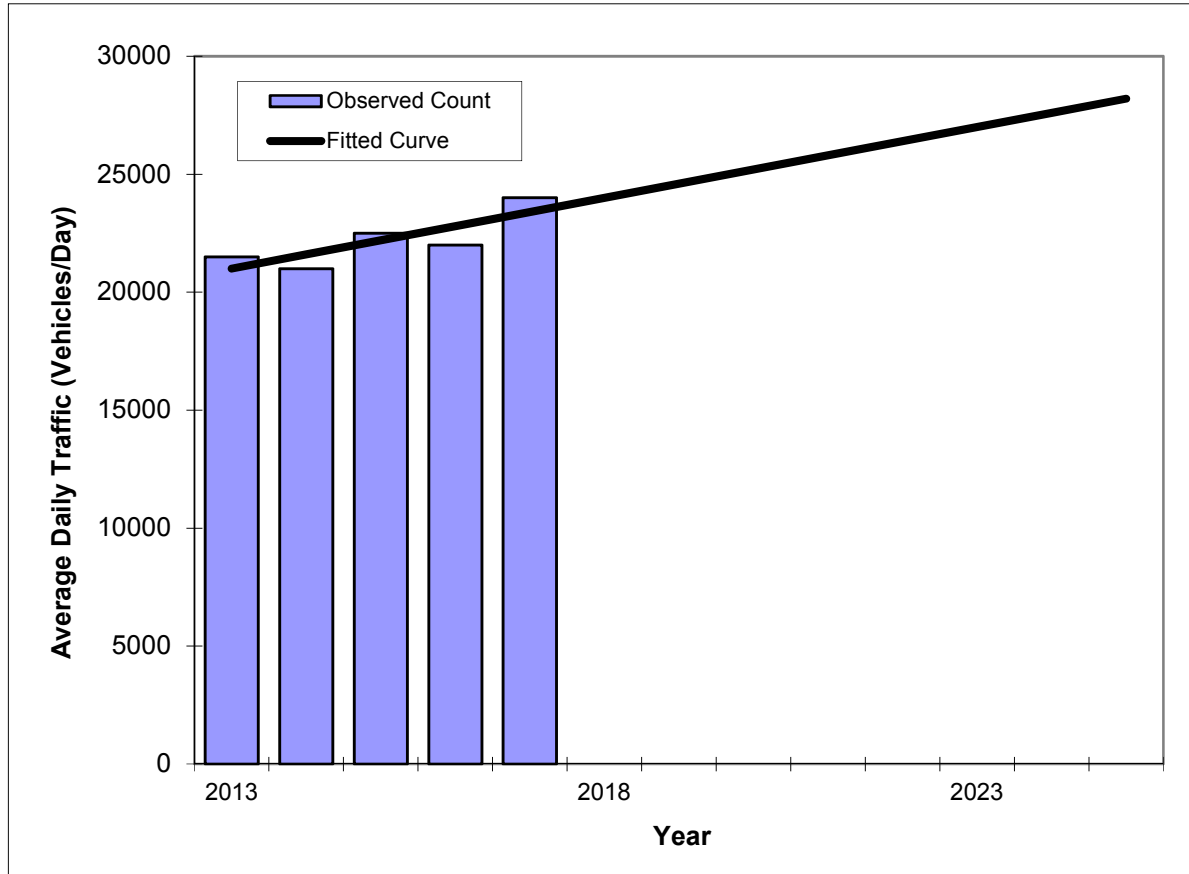
**** Annual Trend Increase:** 1,100
Trend R-squared: 91.7%
Trend Annual Historic Growth Rate: 5.19%
Trend Growth Rate (2017 to Design Year): 4.30%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

US 17-92 -- Valencia Rd. to Dirksen Dr.

County:	Volusia
Station #:	479
Highway:	US 17-92



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	21500	21000
2014	21000	21600
2015	22500	22200
2016	22000	22800
2017	24000	23400
2018 Opening Year Trend		
2018	N/A	24000
2020 Mid-Year Trend		
2020	N/A	25200
2022 Design Year Trend		
2022	N/A	26400
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** 600
Trend R-squared: 67.9%
Trend Annual Historic Growth Rate: 2.86%
Trend Growth Rate (2017 to Design Year): 2.56%
Printed: 21-Nov-18
Straight Line Growth Option

*Axle-Adjusted

APPENDIX G
VESTED TRAFFIC AND TRIP
ASSIGNMENT SPREADSHEETS

City of DeBary Vested Trip Database

Roadway	Segment		Developments Approved - Total P.M. Peak-Hour Trips					Total Vested Trips
	From	To	Integra / Hawthorn	Riviera Bella East	Springview Unit 8 Residential	Wal-Mart (Revised 10/2015)	Wal-Mart Remaining Outparcels	
			177	151	192	317	76	
I-4	Seminole County	Dirksen Dr.	6			11	3	9
	Dirksen Dr.	Saxon Blvd.	13			2	0	13
US 17/92	Saxon Blvd.	DeBary Plantation Blvd.				159	38	38
	DeBary Plantation Blvd.	Highbanks Rd.				166	40	40
	Highbanks Rd.	Valencia Rd.						0
	Valencia Rd.	Dirksen Dr.	41		100			141
	Dirksen Dr.	Ft Florida Rd.	108					108
	Ft Florida Rd.	Barwick Rd.	106	123				229
Barwick Rd.	Seminole Co. Line		123				123	
Barwick Rd.	Ft Florida Rd.	US 17/92						0
Dirksen Dr.	US 17/92	Sunrise Blvd.	28					28
	Sunrise Blvd.	WB I-4 Ramps	30					30
	WB I-4 Ramps	EB I-4 Ramps	23					23
	EB I-4 Ramps	Deltona Blvd.	15					15
	Deltona Blvd.	Enterprise St.						0
Ft. Florida Rd.	Highbanks Rd.	Ft Florida Point Rd.		151				151
	Ft Florida Point Rd.	Barwick Rd.		151				151
	Barwick Rd.	US 17/92		151				151
Highbanks Rd.	Ft Florida Rd.	Westside Connector		123				123
	Westside Connector	US 17/92	2	96	35			133
	US 17/92	Enterprise Rd.		27				27
Saxon Blvd.	US 17/92	Enterprise Rd.				95	23	23
	Enterprise Rd.	Veterans Memorial Pkwy				88	21	21
	Veterans Memorial Pkwy	FDOT Park & Ride				72	17	17
	FDOT Park & Ride	I-4				70	17	17
	I-4	Finland Dr.				41	10	10
Shell Rd.	Highbanks Rd.	Sanford Ave.			38			38
	Sanford Ave.	Benson Junction Rd.			38			38
Spring Vista Dr.	(dead end)	Shell Rd.			192			192
	Shell Rd.	US 17/92			144			144

Intersection	Approach	Mvmn't.	Hawthorn Landing / Integra		Riviera Bella East	Springview Unit 8 Residential		Wal-Mart				AM Total	PM Total
			AM	PM	PM	AM	PM	AM	Outparcel AM	PM	Outparcel PM		
2. Fort Florida Road at US 17/92	Eastbound	U-Turn										0	0
		Left			10							0	10
		Through										0	0
		Right			46							0	46
	Westbound	U-Turn										0	0
		Left										0	0
		Through										0	0
		Right										0	0
	Northbound	U-Turn										0	0
		Left			78							0	78
		Through										0	0
		Right										0	0
	Southbound	U-Turn										0	0
		Left										0	0
		Through										0	0
		Right			17							0	17

Intersection	Approach	Mvmn't.	Hawthorn Landing / Integra		Riviera Bella East	Springview Unit 8 Residential		Wal-Mart				AM Total	PM Total
			AM	PM	PM	AM	PM	AM	Outparcel AM	PM	Outparcel PM		
3. US 17/92 at Dirksen Drive	Eastbound	U-Turn										0	0
		Left				1	1					1	1
		Through										0	0
		Right										0	0
	Westbound	U-Turn										0	0
		Left	5	18								5	18
		Through										0	0
		Right				4	17					4	17
	Northbound	U-Turn										0	0
		Left	17	38								17	38
		Through	27	14		15	45					42	59
		Right	18	10								18	10
	Southbound	U-Turn										0	0
		Left				11	7					11	7
		Through	7	27		45	29					52	56
		Right				1	1					1	1

Intersection	Approach	Mvmn't.	Hawthorn Landing / Integra		Riviera Bella East	Springview Unit 8 Residential		Wal-Mart				AM Total	PM Total
			AM	PM	PM	AM	PM	AM	Outparcel 54.76%: AM	PM	Outparcel 23.97%: PM		
5. US 17/92 at Highbanks Road	Eastbound	U-Turn										0	0
		Left			25	11	1	4	2	4	1	13	27
		Through			10	9	6					9	16
		Right			5							0	5
	Westbound	U-Turn										0	0
		Left				1	4					1	4
		Through			17	3	10					3	27
		Right						24	13	20	5	13	5
	Northbound	U-Turn										0	0
		Left			9							0	9
		Through				21	14	51	28	43	10	49	24
		Right				4	2					4	2
	Southbound	U-Turn										0	0
		Left						19	10	20	5	10	5
		Through				8	24	40	22	42	10	30	34
		Right			43	4	12	4	2	4	1	6	56

Table 6A
Hawthorn Landing
Future (YR 2019) 2-Way PM Peak Hour Roadway Analysis

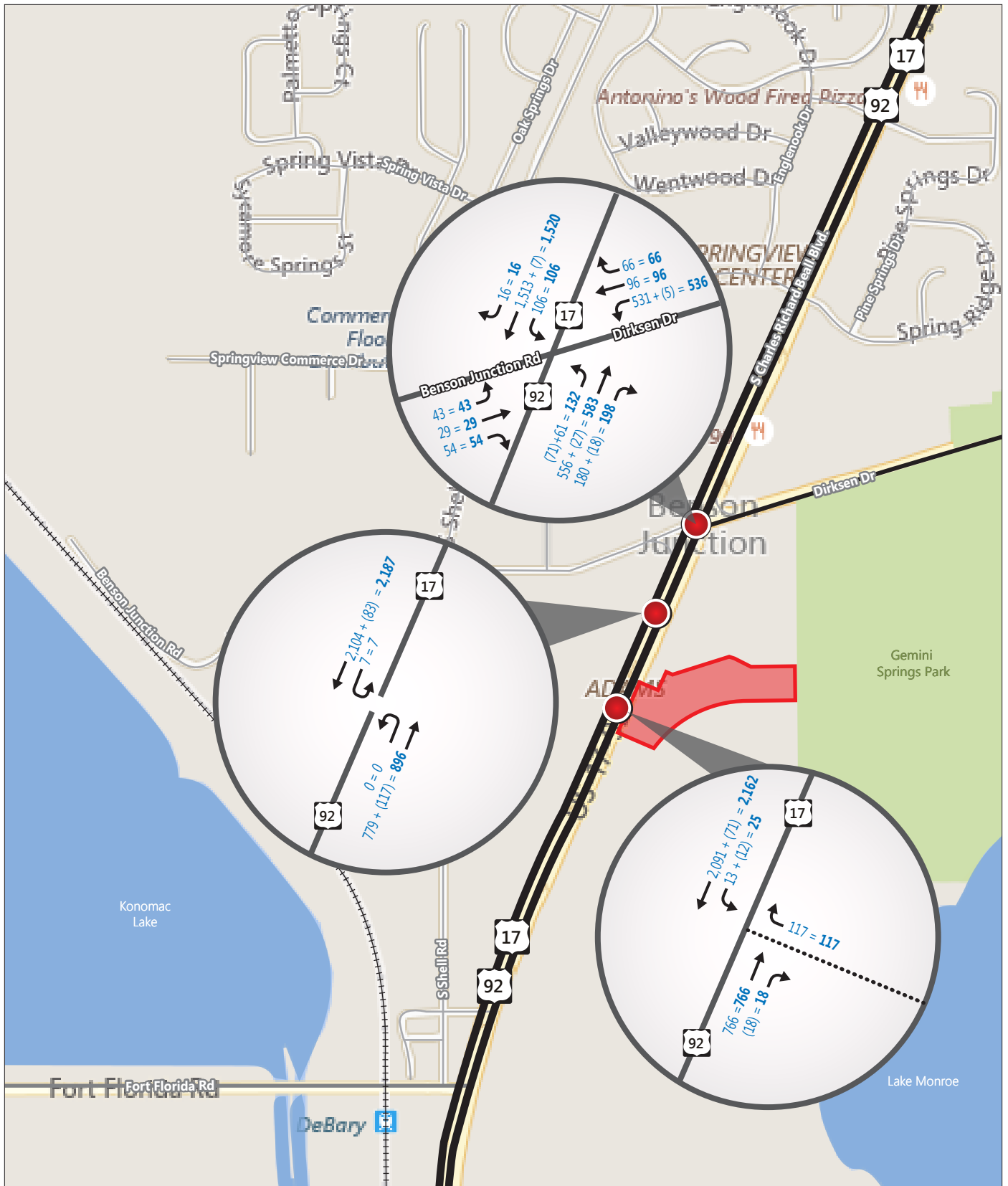
Roadway	No. of Lanes	Critical / Near-Critical	Level of Service		2016 2-Way PM Peak Hour *	Count Year	Growth Rate **	Vested Trips****	Background Traffic		YR 2019 Project Traffic		Total Traffic	Deficient Yes/No	Project Deficiency Yes/No	Remaining Capacity
			Adopted LOS	MSV					Background Total***	Deficient Yes/No	Trips	Dis%				
I-4																
Seminole County to Dirksen Dr.	6	Critical	D	10,060	9,900	2016	2.0%		10,494	YES	6	3.02%	10,500	YES	No	-440
Dirksen Dr. to Saxon Blvd.	6	Critical	D	10,060	9,720	2016	3.5%		10,754	YES	13	7.24%	10,767	YES	No	-707
US 17/92																
Valencia Rd. to Dirksen Dr.	4		D	3,580	1,863	2016	2.0%	336	2,311	NO	41	23.05%	2,352	NO	No	1,228
Dirksen Dr. to Project Entrance	4		D	3,580	2,819	2016	4.2%	463	3,638	YES	70	39.44%	3,708	YES	No	-128
Project Entrance to Ft. Florida Rd.	4		D	3,580	2,819	2016	4.2%	463	3,638	YES	108	60.56%	3,746	YES	No	-166
Ft. Florida Rd. to Barwick Rd.	4		D	3,580	2,753	2016	7.6%	463	3,844	YES	106	59.34%	3,950	YES	No	-370
Dirksen Drive																
US 17/92 to Sunrise Blvd.	2		D	1,230	1,327	2016	9.4%	203	1,905	YES	28	15.77%	1,933	YES	No	-703
Sunrise Blvd. to WB I-4 Ramps	2	Critical	D	1,230	1,451	2016	5.7%		1,699	YES	30	16.72%	1,729	YES	No	-499
I-4 to Deltona Blvd.	4	Near Critical	D	2,740	2,378	2016	3.1%		2,600	NO	15	8.22%	2,615	NO	No	125
Highbanks Road																
Westside Connector to US 17/92	2	Near Critical	D	960	1,027	2016	2.0%		1,089	YES	2	0.75%	1,091	YES	No	-131

Source:
VHB, Inc.

February-18

Notes:

- *Data from 2016 Volusia County 2016 AADT and Historical Counts, I-4 Peak Hour uses K factor of 9.0 from permanent count station 799906.
- ** Trend derived from latest 5 years of Daily Traffic Counts
- ***highest of growth versus vested trips
- **** Vested trips include the following projects: Springview TIA, 2017 Transportation Needs Assessment



Site Location

Future Road

$X+(X) = XX$ — Total Traffic

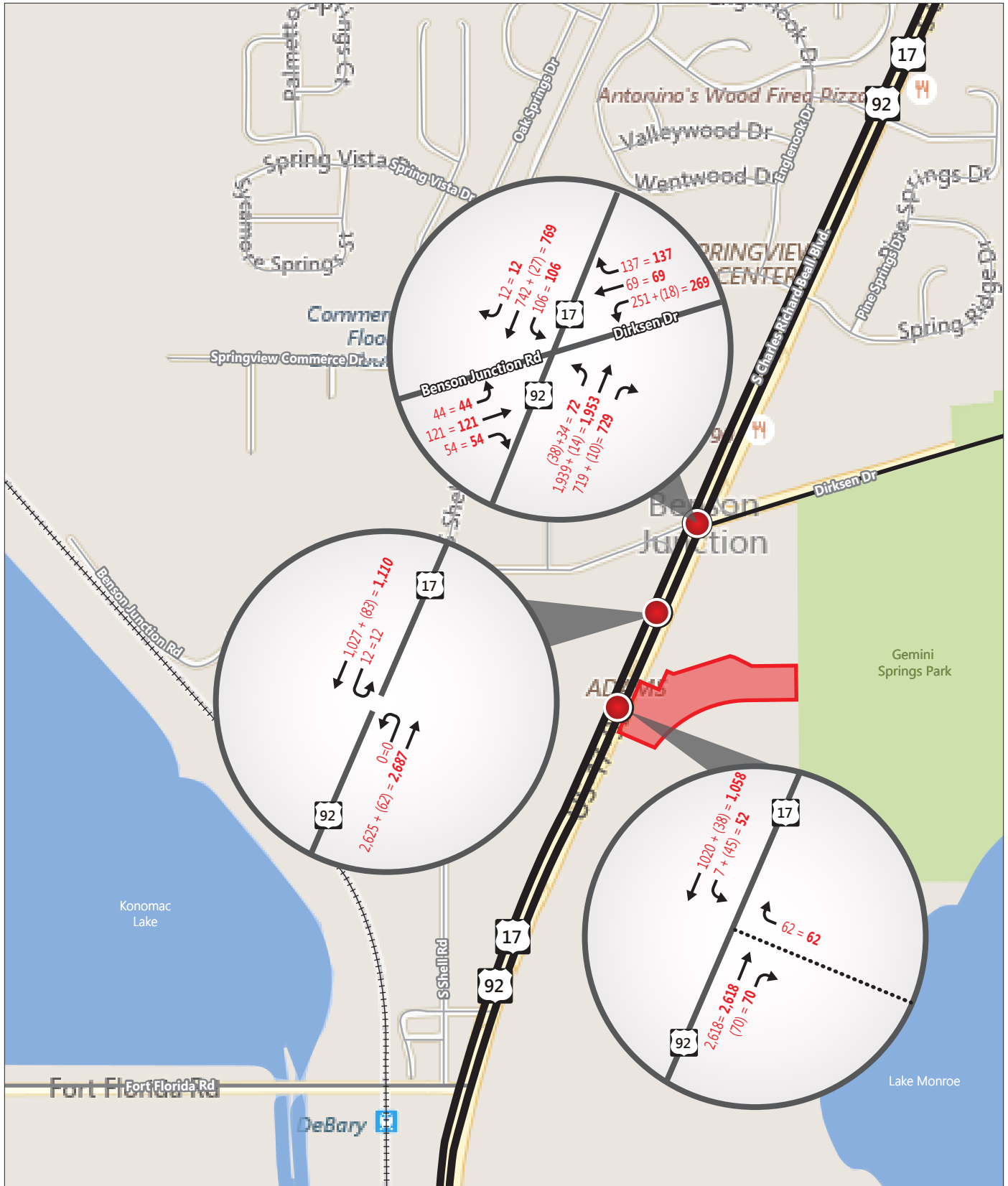
Project Traffic

Background Traffic



Figure 4

Future AM Traffic Volumes



- Site Location
- Future Road

- $X + (X) = XX$ — Total Traffic
- Project Traffic
- Background Traffic



Figure 5

Future PM Traffic Volumes

4.2 Roadway Segment Analysis

Roadway segment capacity was analyzed by comparing the traffic volumes on the study roadway segments to the service volumes at the adopted Level of Service (LOS) standard. Service Volumes were obtained from Volusia County's 2014 Annual Daily Traffic & Historical Counts, included in **Appendix E**. The roadway segment analysis is summarized in **Table 4**.

Table 4
Segment Capacity Analysis

Roadway	Segment	Sta Num	# of Lns	SV @ LOS Std	Existing	Projected Backg'd	Project Trips		Total Projected			
					Vol	Deficient (Yes/No)?	Vol	Deficient (Yes/No)?	Distrib (%)	Vol	Vol	Deficient (Yes/No)?
US 17/92	Ft. Florida Rd to Barwick Rd	0040-S	4	3,580	2,435	No	2,746	No	45%	123	2,869	No
	Barwick Rd to Seminole Co Line	0040-S	4	3,580	2,509	No	2,828	No	45%	123	2,951	No
Fort Florida Rd	Highbanks Rd to Ft. Florida Point Rd	661	2	1,020	615	No	760	No	55%	151	911	No
	Ft. Florida Point Rd to Barwick Rd	662	2	1,020	395	No	518	No	55%	151	669	No
	Barwick Rd. to US 17/92	660	2	1,020	175	No	276	No	55%	151	427	No
Highbanks Rd	Fort Florida Rd. to Westside Connector	860	2	1,150	615	No	744	No	45%	123	867	No
	Westside Connector to US 17/92	861	2	960	615	No	729	No	35%	96	825	No
	US 17/92 to Enterprise Rd	863	2	1,150	615	No	692	No	10%	27	719	No

Service Volume obtained from Volusia County 2014 Annual Daily Traffic & Historical Counts Tables

Existing Volumes were obtained from Intersection Volume Counts (2015)

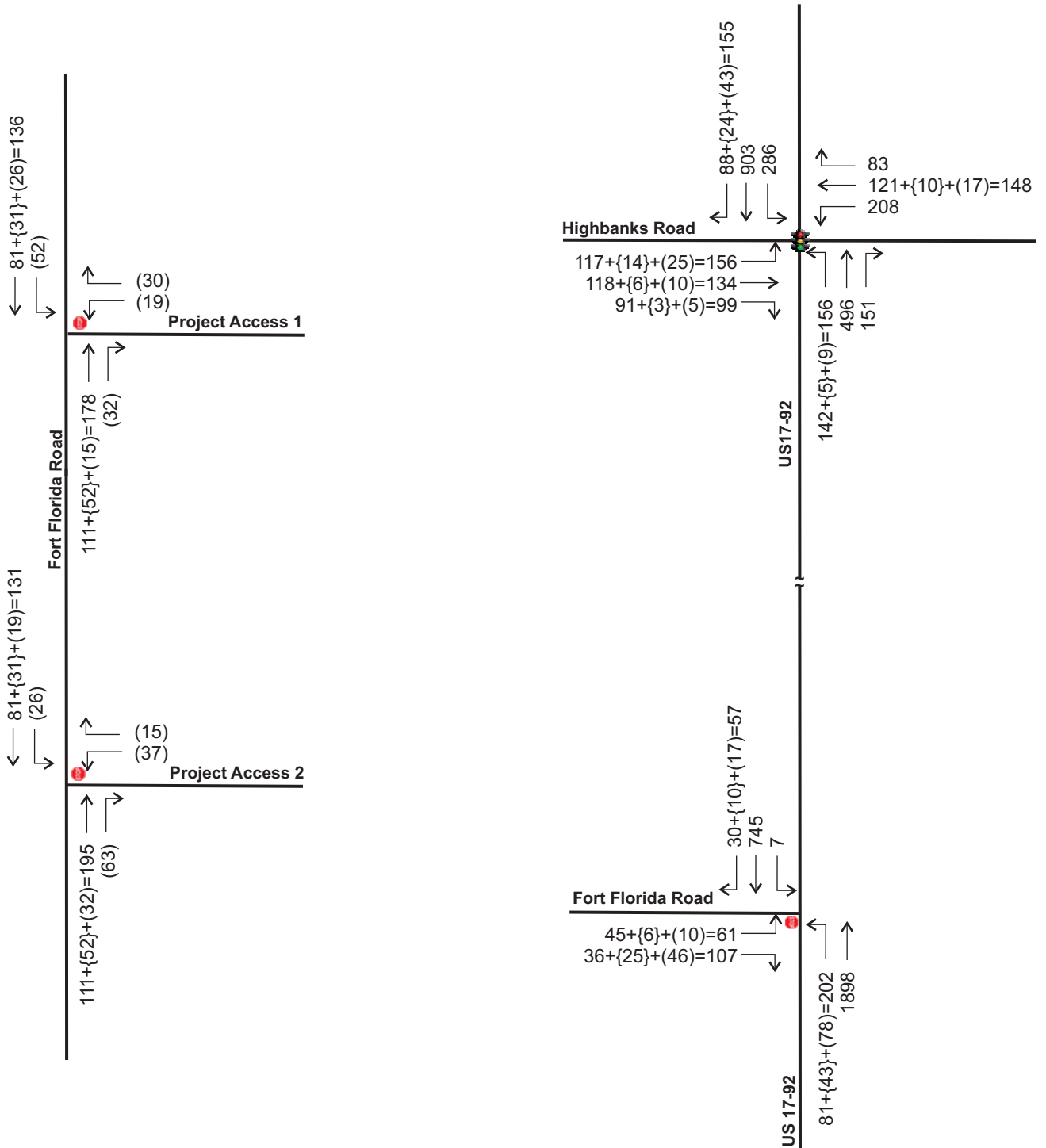
Projected Background Volumes include traffic from Riviera Bella West

The results of the analysis indicate that all the study roadway segments currently operate within their adopted capacity and are projected to continue to do so at project buildout in 2020.

Legend:

Background+{RBW*}+(Project)=Total

*RBW is traffic from the undeveloped portion of Riviera Bella West



PROJECTED TRAFFIC CONDITIONS

Projected traffic conditions for the project buildout in 2019 were analyzed using peak hour traffic volumes for the study roadway segments and intersections. The analysis was conducted for the projected background traffic volumes plus project trips. Background traffic was determined by applying a growth factor to existing traffic. A trends analysis of historical AADT data obtained from Volusia County on US 17-92 and Shell Road revealed a growth rate ranging from (-)0.10% to (+)0.74%. The trends analysis charts are included in **Appendix F**. Therefore, a minimum of 2% annual growth was used in the background traffic estimation. Background traffic volumes were then combined with project trips to obtain total traffic volumes.

Roadway Segment Analysis

A roadway segment analysis was performed for the study segments by comparing the projected P.M. peak hour volumes of the segments with the corresponding capacities at the adopted LOS standard. The analysis is summarized in **Table 4**. The results of the analysis show that the study roadway segments will continue to operate at a satisfactory Levels of Service in the projected conditions.

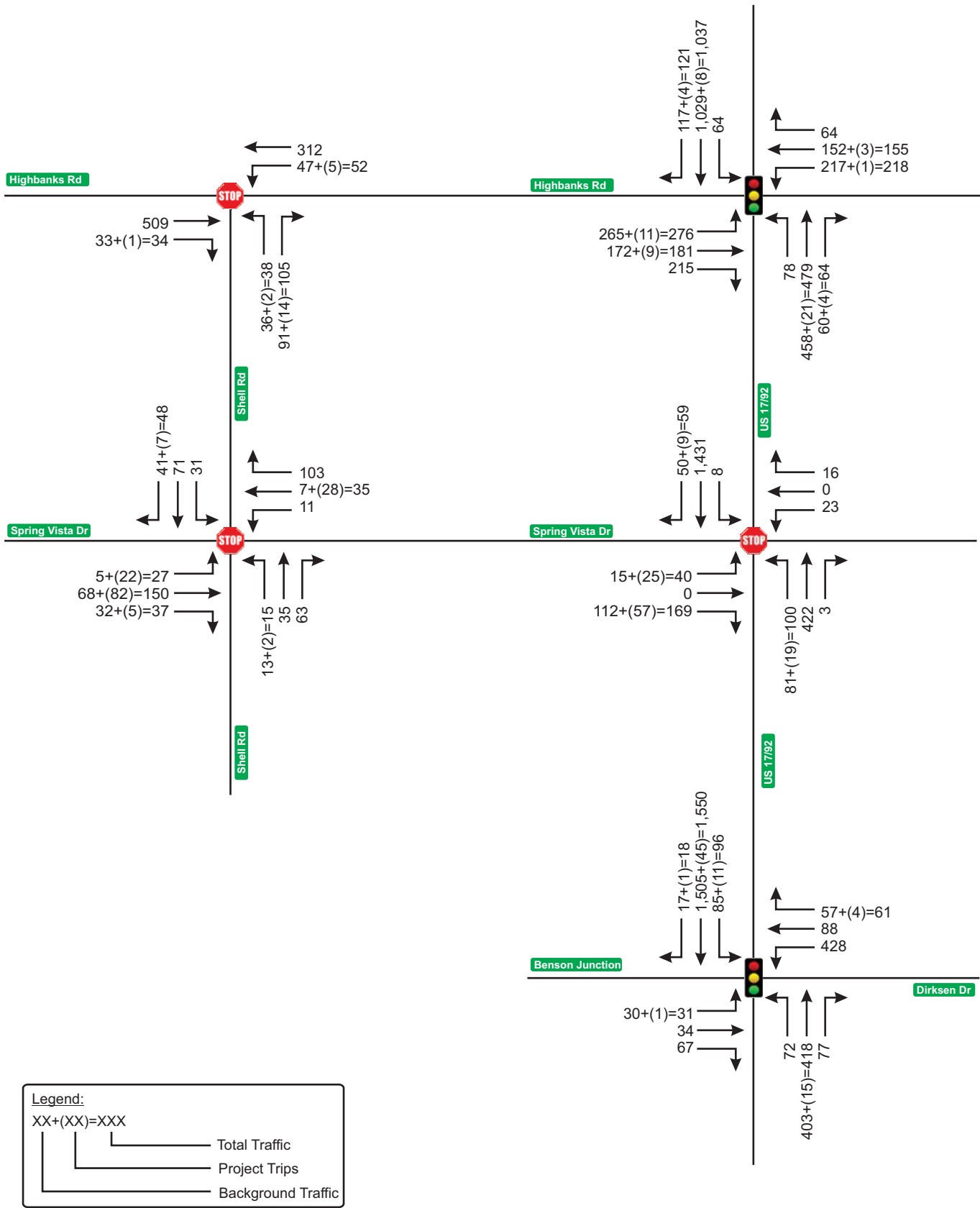
Table 4
Projected Roadway Capacity Analysis
(2-Way P.M. Peak Hour)

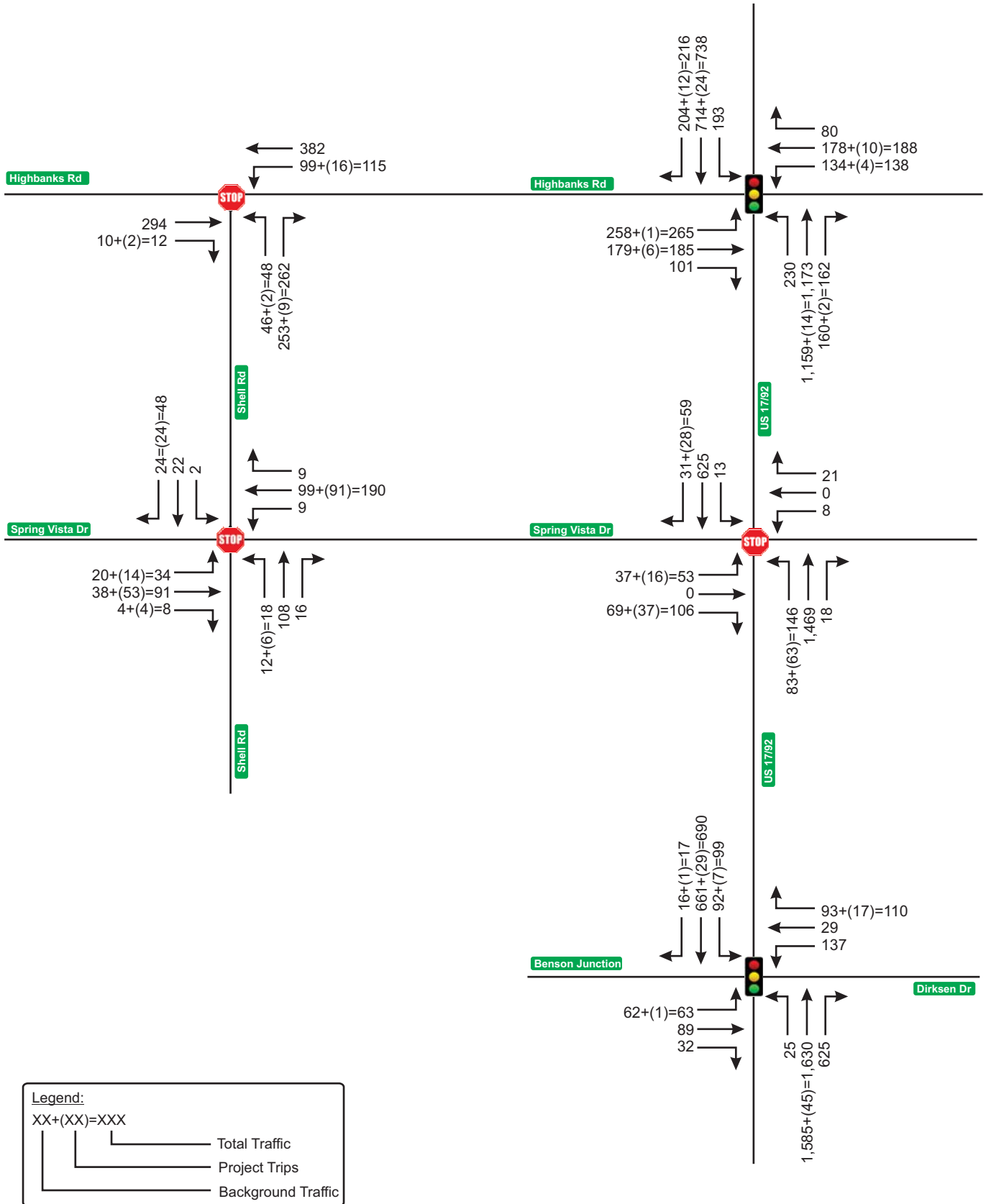
Seg ID	Roadway	Segment	Backg'd Vol*	Project Trips**		Capacity	Total Vol	Existing LOS
				Dist	Vol			
--	Spring Vista Dr	Project Site to Shell Rd	199	100%	192	960	391	C
--	Spring Vista Dr	Shell Rd to US 17-92	219	75%	144	960	363	C
479	US 17-92	Dirksen Dr to Valencia Rd	2,272	52%	100	3,580	2,372	C
1700	Shell Rd	Benson Junction Rd to Sanford Ave	188	20%	38	960	226	C
1701	Shell Rd	Sanford Ave to Highbanks Rd	188	20%	38	960	226	C
861	Highbanks Rd	Westside Connector to US 17-92	905	18%	35	960	940	D

*Existing X 1.06

**Highest percentage on the segment





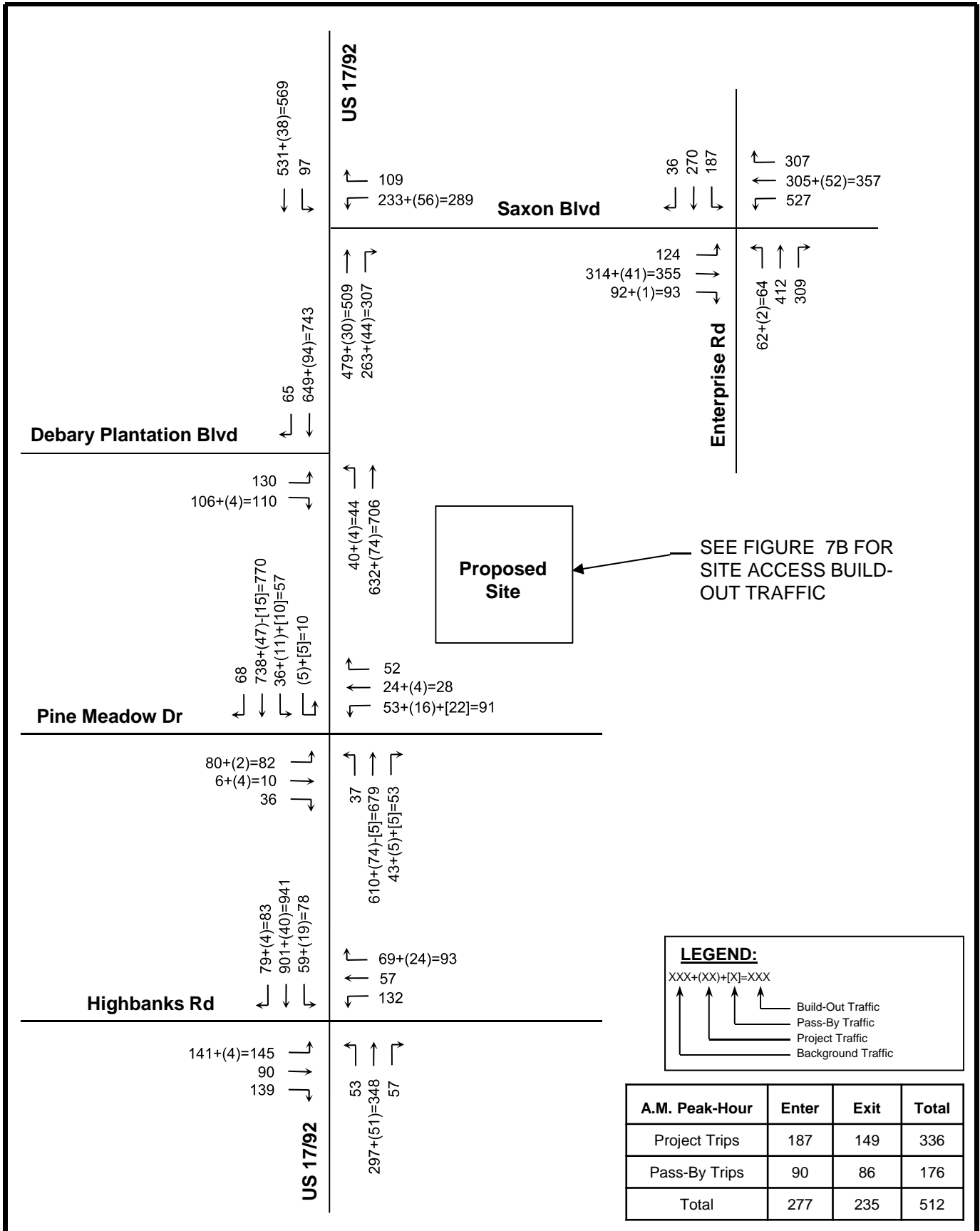


**Table 8
2016 Build-Out P.M. Peak-Hour Two Way LOS– Roadway Segments
Shoppes at Pine Meadow BPUD**

Roadway	Segment	Lanes	Adopted LOS ¹	Peak-Hour Two-Way Capacity at Adopted LOS ²	Peak-Hour Two-Way Volume	Growth Factor	Background Volume	Background LOS	Project Distribution	Project Trips	Build-Out P.M. Peak-Hour Two-Way Volume	Build-Out LOS
Significant Segments												
US 17-92	Saxon Blvd to DeBary Plantation Blvd	4	D	3,420	2,340	1.03	2,410	C	50.2%	159	2,569	C
	DeBary Plantation Blvd to Highbanks Rd	4	D	3,420	1,980	1.03	2,039	C	52.5%	166	2,206	C
Saxon Blvd	US 17-92 to Enterprise Rd	4	E	2,736	1,256	1.03	1,294	D	30.1%	95	1,390	D
Critical and Near Critical Segments												
Saxon Blvd	Enterprise Rd to Veterans Memorial Pkwy	6	E	5,390	2,508	1.03	2,584	C	27.7%	88	2,671	C
	Veterans Memorial Pkwy to FDOT Park & Ride	6	E	5,390	3,270	1.03	3,368	C	22.6%	72	3,439	C
	FDOT Park & Ride to I-4	6	E	5,390	3,280	1.03	3,378	C	22.2%	70	3,448	C
	I-4 to Finland Dr	4	E	3,383	3,098	1.03	3,191	C	12.9%	41	3,232	C
I-4	Seminole County to Dirksen Dr	6	C	8,370	9,720	1.03	10,012	D	3.5%	11	10,023	D
	Dirksen Dr to Saxon Blvd	6	C	8,370	8,676	1.03	8,936	D	0.7%	2	8,938	D
	Saxon Blvd to SR 472	6	C	8,370	7,965	1.05	8,364	C	4.2%	14	8,377	D
Graves Ave	Veterans Memorial Pkwy to Kentucky Ave	2	E	1,440	1,508	1.03	1,553	F	2.7%	9	1,561	F
Veterans Memorial Pkwy	Rhode Island Ave to Harley Strickland Blvd	2	E	1,440	1,620	1.03	1,669	F	4.2%	13	1,682	F

¹Per Volusia County Traffic Concurrency Spreadsheet and City of DeBary, Orange City, and Deltona Comprehensive Plans

²Per 2013 Quality Level of Service Handbook



Shoppes at Pine Meadow BPUD



NTS

**2016 Build-Out Traffic
A.M. Peak-Hour**

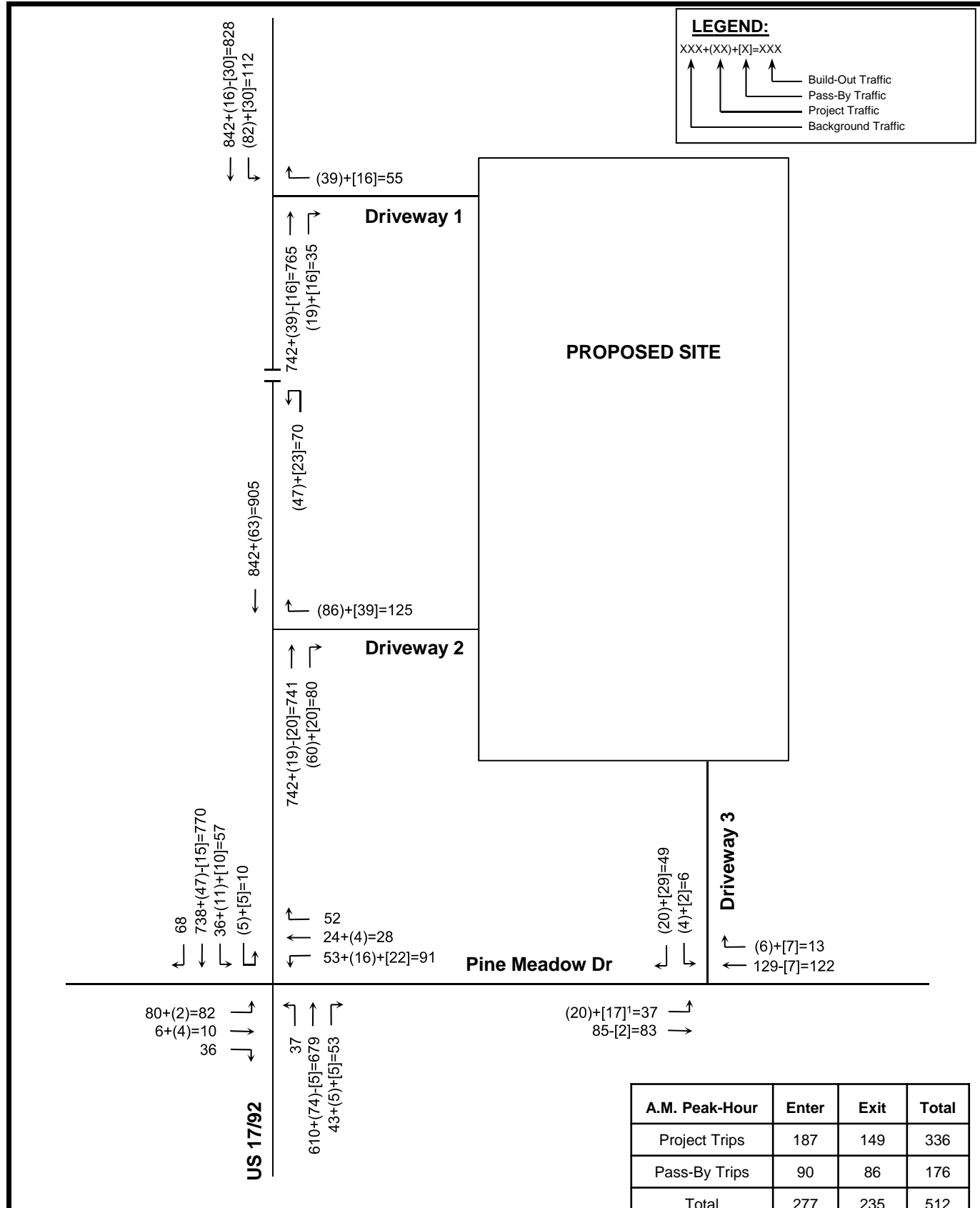
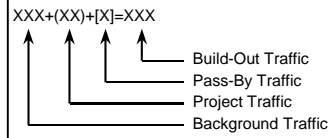
Project No.: 3940.02

Figure: 7A



123 Live Oak Avenue – Daytona Beach, Florida 32114
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

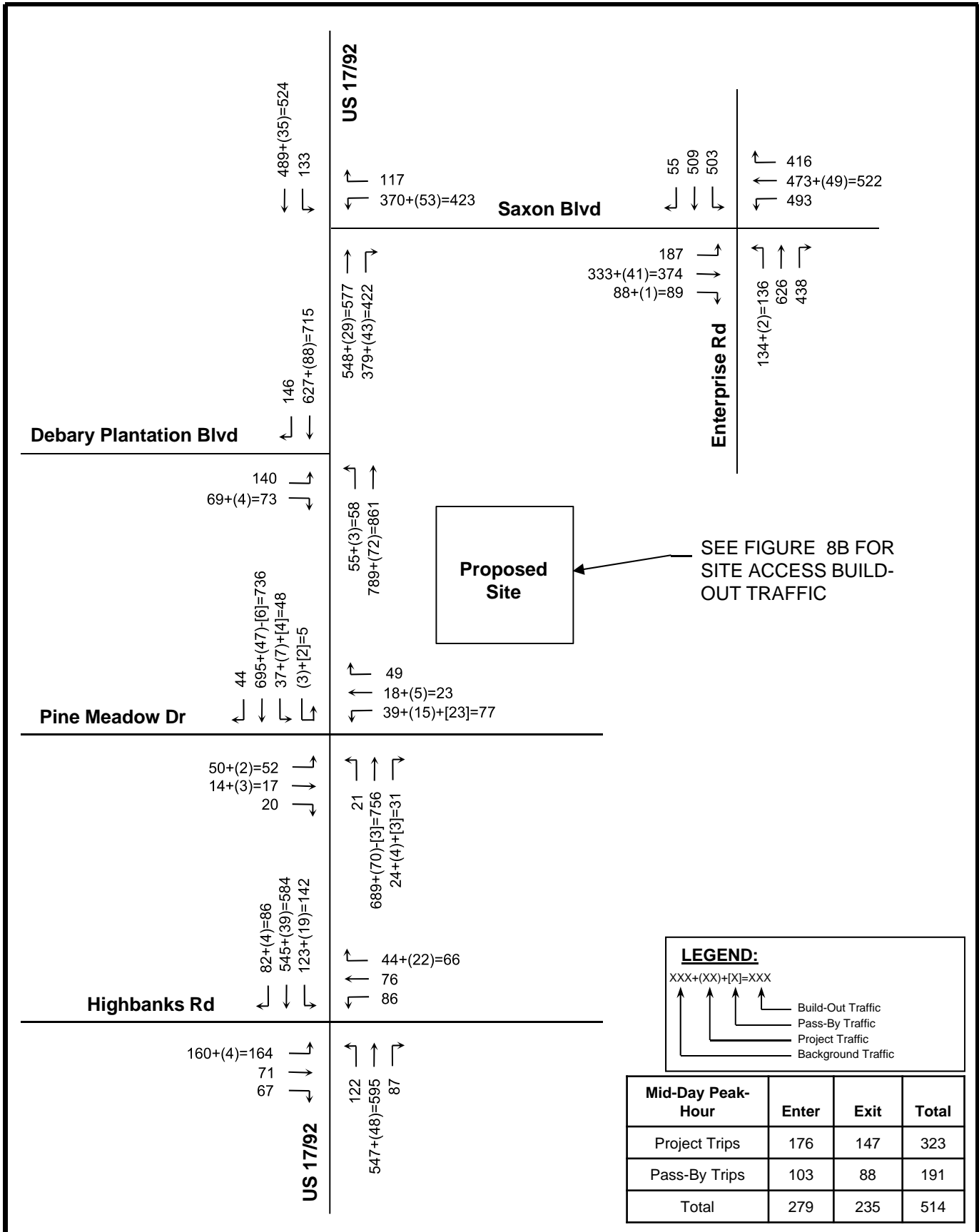
LEGEND:



A.M. Peak-Hour	Enter	Exit	Total
Project Trips	187	149	336
Pass-By Trips	90	86	176
Total	277	235	512

¹Remaining 15 pass-by trips removed from traffic at US 17/92

<p>Shoppes at Pine Meadow BPUD</p> <p>NTS</p>	<p>Site Access 2016 Build-Out Traffic A.M. Peak-Hour</p>		<p>Lassiter Transportation Group, Inc. Engineering and Planning</p>
	<p>Project No.: 3940.02</p>	<p>Figure: 7B</p>	



Mid-Day Peak-Hour	Enter	Exit	Total
Project Trips	176	147	323
Pass-By Trips	103	88	191
Total	279	235	514

Shoppes at Pine Meadow BPUD

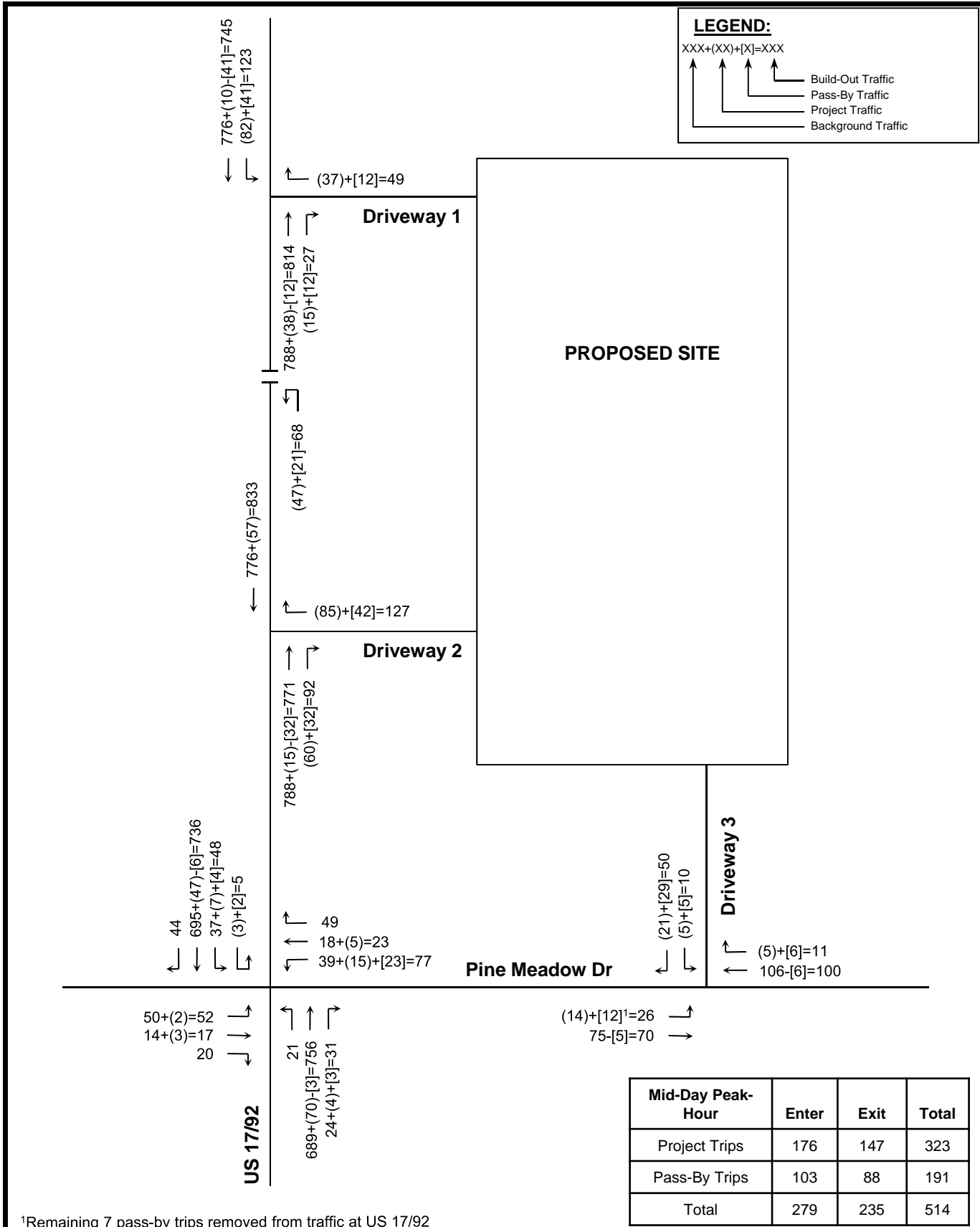
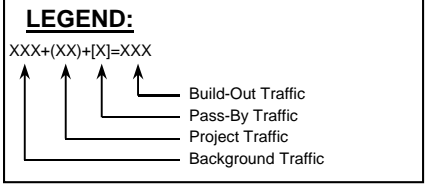


2016 Build-Out Traffic Mid-Day Peak-Hour

Project No.: 3940.02 Figure: 8A

Lassiter Transportation Group, Inc.
 Engineering and Planning

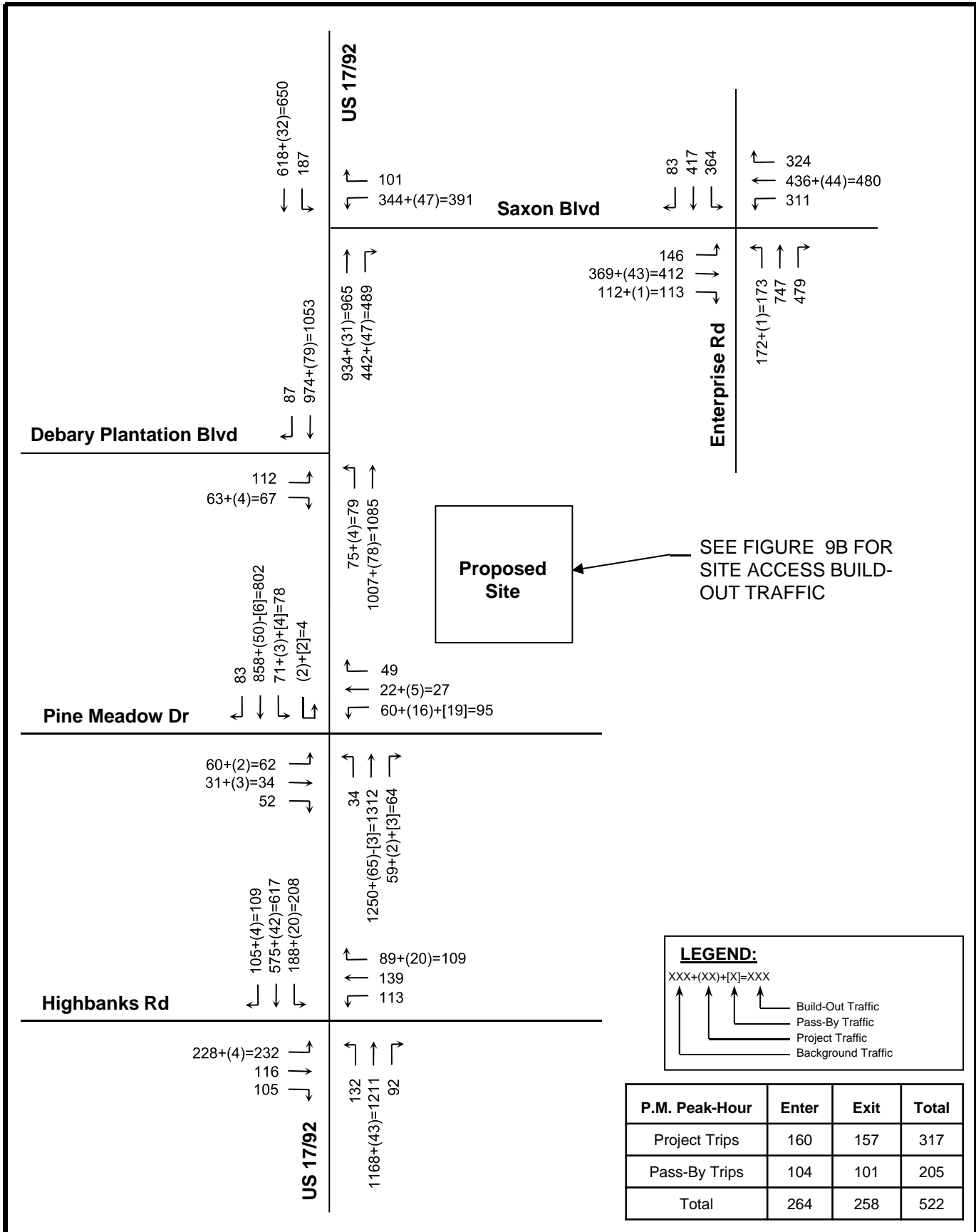
123 Live Oak Avenue – Daytona Beach, Florida 32114
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227



Mid-Day Peak-Hour	Enter	Exit	Total
Project Trips	176	147	323
Pass-By Trips	103	88	191
Total	279	235	514

¹Remaining 7 pass-by trips removed from traffic at US 17/92

Shoppes at Pine Meadow BPUD	 NTS	Site Access 2016 Build-Out Traffic Mid-Day Peak-Hour		 Lassiter Transportation Group, Inc. <i>Engineering and Planning</i>
		Project No.: 3940.02	Figure: 8B	



Shoppes at Pine Meadow BPUD



2016 Build-Out Traffic P.M. Peak-Hour

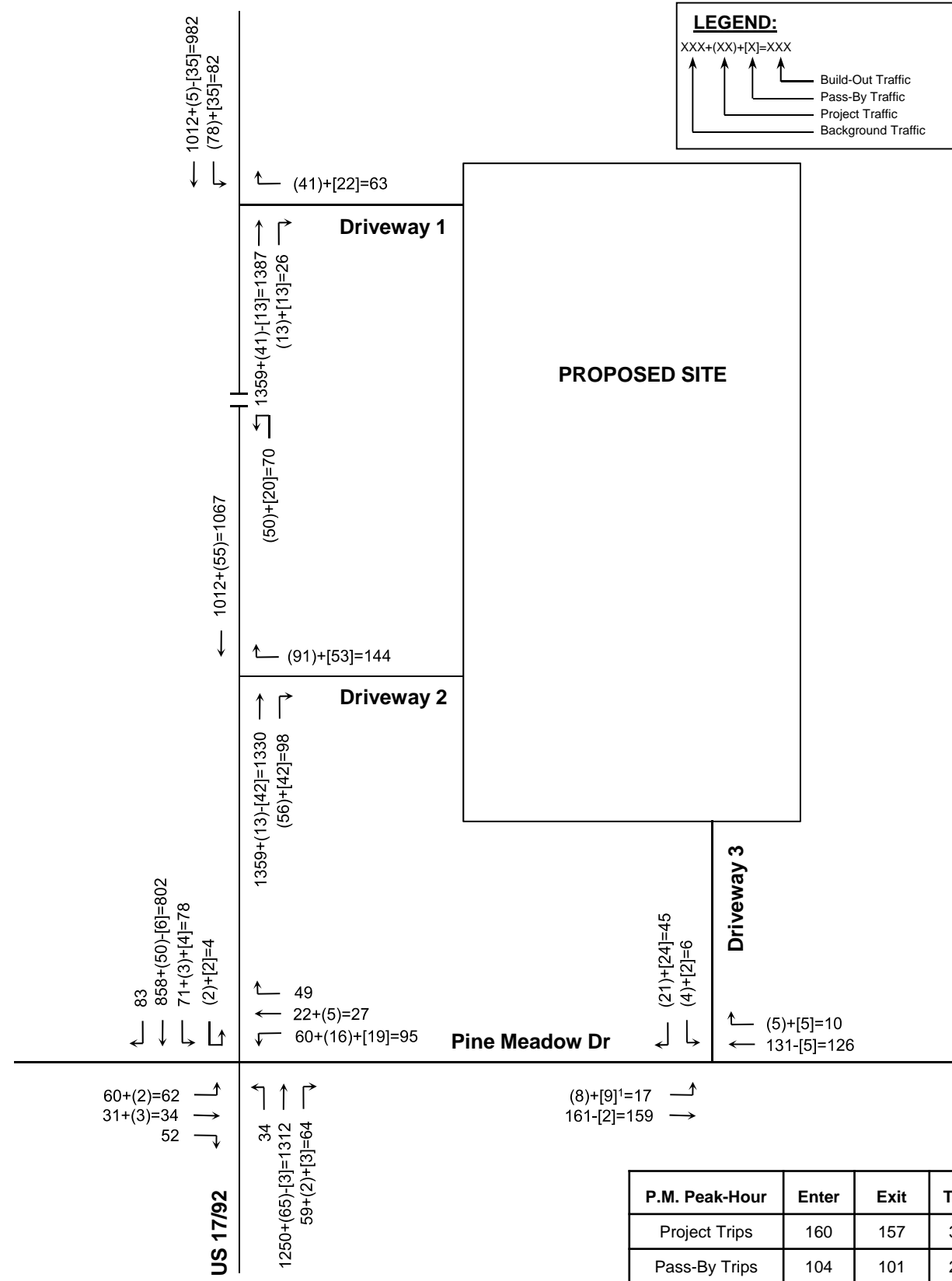
Project No.: 3940.02 Figure: 9A

Lassiter Transportation Group, Inc.
Engineering and Planning

123 Live Oak Avenue – Daytona Beach, Florida 32114
 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

LEGEND:
 XXX+(XX)+[X]=XXX

Build-Out Traffic
 Pass-By Traffic
 Project Traffic
 Background Traffic



P.M. Peak-Hour	Enter	Exit	Total
Project Trips	160	157	317
Pass-By Trips	104	101	205
Total	264	258	522

¹Remaining 7 pass-by trips removed from traffic at US 17/92

Shoppes at Pine Meadow BPUD	 NTS	Site Access 2016 Build-Out Traffic P.M. Peak-Hour		 Lassiter Transportation Group, Inc. Engineering and Planning
		Project No.: 3940.02	Figure: 9B	

Net External Trips (less Internal & Pass-By)

Walmart Trip Gen:

Time Period	Land Use	Land Use Code	Trip Rate Equation	Quantity	Units	Total Trips (T)	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Enter	Exit	Total
Daily	Supermarket	850	$T=102.24(X)$	41.12	KSF	4,204	50%	50%	2,102	2,102	1098	1098	2195
	Specialty Retail	826	$T=44.32(X)$	11.2	KSF	496	50%	50%	248	248	73	73	146
	Coffee Shop w/ Drive-Thru	937	$T=818.58(X)$	2	KSF	1,637	50%	50%	819	819	316	316	632
	Fast-Food Restaurant w/ Drive-Thru	934	$T=496.12(X)$	3.5	KSF	1,736	50%	50%	868	868	334	334	668
	Totals:						8,074			4,037	4,037	1821	1821
AM Peak-Hour	Supermarket	850	$T=3.4(X)$	41.12	KSF	140	62%	38%	87	53	87	53	140
	Specialty Retail	826	$T=1.06(X)$	11.2	KSF	12	62%	38%	7	5	7	5	12
	Coffee Shop w/ Drive-Thru	937	$T=100.58(X)$	2	KSF	201	51%	49%	103	99	52	51	103
	Fast-Food Restaurant w/ Drive-Thru	934	$T=45.42(X)$	3.5	KSF	159	51%	49%	81	78	41	40	81
	Totals:						512			278	235	187	149
PM Peak-Hour	Supermarket	850	$T=9.48(X)$	41.12	KSF	390	51%	49%	199	191	111	107	218
	Specialty Retail	826	$T=2.4(X)+21.48$	11.2	KSF	48	44%	56%	21	27	10	13	23
	Coffee Shop w/ Drive-Thru	937	$T=42.8(X)$	2	KSF	86	50%	50%	43	43	17	16	33
	Fast-Food Restaurant w/ Drive-Thru	934	$T=32.65(X)$	3.5	KSF	114	52%	48%	59	55	22	21	43
	Totals:						638			322	316	160	157

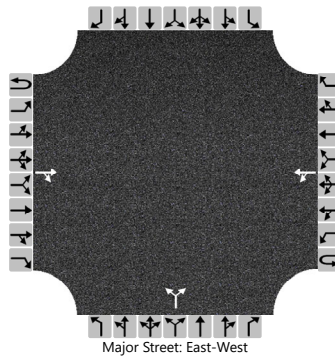
Wal-Mart	Enter	Exit	Total	% of Total
Outparcels Only				
Daily	650	650	1300	35.70%
AM	93	91	184	54.76%
PM	39	37	76	23.97%

APPENDIX H
INTERSECTIONS HCS
SUMMARY–
BACKGROUND CONDITIONS

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Fort Florida at Barwick		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/19/19			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	AM Peak-Hour Background			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			104	21		15	52			8		26				
Percent Heavy Vehicles (%)						2				43		14				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.12					6.83		6.34			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.89		3.43			

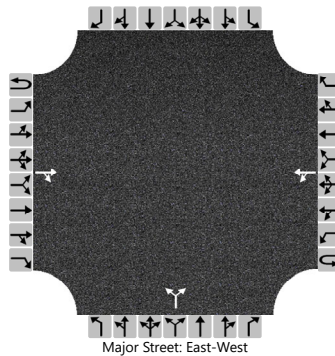
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17						38				
Capacity, c (veh/h)						1443						829				
v/c Ratio						0.01						0.05				
95% Queue Length, Q ₉₅ (veh)						0.0						0.1				
Control Delay (s/veh)						7.5						9.6				
Level of Service (LOS)						A						A				
Approach Delay (s/veh)					1.8				9.6							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Fort Florida at Barwick		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/19/19			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	PM Peak-Hour Background			Peak Hour Factor	0.91		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			44	11		18	122			26		12				
Percent Heavy Vehicles (%)						7				2		20				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.17					6.42		6.40			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.26					3.52		3.48			

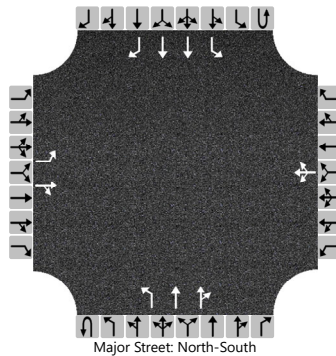
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					20						42					
Capacity, c (veh/h)					1512						806					
v/c Ratio					0.01						0.05					
95% Queue Length, Q ₉₅ (veh)					0.0						0.2					
Control Delay (s/veh)					7.4						9.7					
Level of Service (LOS)					A						A					
Approach Delay (s/veh)					1.0				9.7							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	US 17/92 at Barwick Road		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/19/19			East/West Street	US 17/92		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	AM Peak-Hour Background			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	10	11	12		7	8	9		1U	1	2	3	4U	4	5	6
Number of Lanes	1	1	0		0	1	0		0	1	2	0	0	1	2	1
Configuration	L			TR				LTR		L	T	TR		L	T	R
Volume (veh/h)	5	0	37		0	0	1		0	28	681	4	0	20	2354	10
Percent Heavy Vehicles (%)	25	2	2		2	2	2		0	33			0	7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized													No			
Median Type Storage	Left + Thru								2							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		8.00	6.54	6.94		7.54	6.54	6.94		4.76				4.24		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.75	4.02	3.32		3.52	4.02	3.32		2.53				2.27		

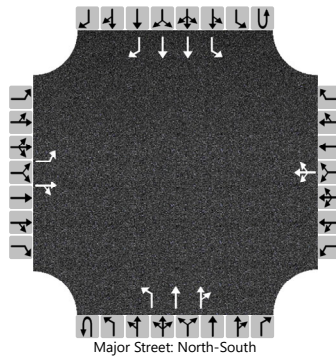
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5		39			1			29				21						
Capacity, c (veh/h)		19		167			636			112				844						
v/c Ratio		0.28		0.23			0.00			0.26				0.02						
95% Queue Length, Q ₉₅ (veh)		0.8		0.9			0.0			1.0				0.1						
Control Delay (s/veh)		260.7		33.0			10.7			48.1				9.4						
Level of Service (LOS)		F		D			B			E				A						
Approach Delay (s/veh)		60.1					10.7					1.9					0.1			
Approach LOS		F					B													

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	US 17/92 at Barwick Road		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	17/19/19			East/West Street	US 17/92		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	PM Peak-Hour Background			Peak Hour Factor	0.94		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	10	11	12		7	8	9		1U	1	2	3	4U	4	5	6
Number of Lanes	1	1	0		0	1	0		0	1	2	0	0	1	2	1
Configuration	L		TR			LTR			L	T	TR		L	T	R	
Volume (veh/h)	10	0	34		5	0	12		0	66	2880	6	0	11	1308	11
Percent Heavy Vehicles (%)	2	2	2		20	2	2		0	6			0	11		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized													No			
Median Type Storage	Left + Thru								2							

Critical and Follow-up Headways

Base Critical Headway (sec)	7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1			
Critical Headway (sec)	7.54	6.54	6.94		7.90	6.54	6.94		4.22				4.32			
Base Follow-Up Headway (sec)	3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2			
Follow-Up Headway (sec)	3.52	4.02	3.32		3.70	4.02	3.32		2.26				2.31			

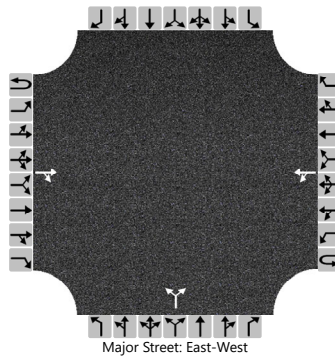
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	11		36		18				70				12			
Capacity, c (veh/h)	52		384		17				463				90			
v/c Ratio	0.21		0.09		1.05				0.15				0.13			
95% Queue Length, Q ₉₅ (veh)	0.7		0.3		2.7				0.5				0.4			
Control Delay (s/veh)	91.8		15.3		539.5				14.2				51.1			
Level of Service (LOS)	F		C		F				B				F			
Approach Delay (s/veh)	32.7				539.5				0.3				0.4			
Approach LOS	D				F											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Highbanks at Ft Florida		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/19/19			East/West Street	Highbanks Rd		
Analysis Year	2022			North/South Street	Fort Florida Road		
Time Analyzed	AM Peak-Hour Background			Peak Hour Factor	0.88		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			18	9		109	17			2		102				
Percent Heavy Vehicles (%)						6				50		6				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.16					6.90		6.26			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.25					3.95		3.35			

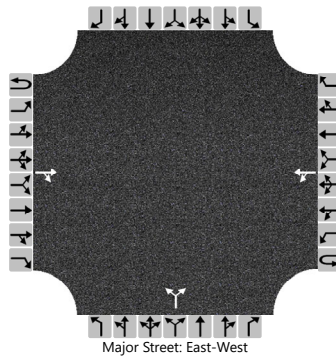
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						124						118				
Capacity, c (veh/h)						1556						1022				
v/c Ratio						0.08						0.12				
95% Queue Length, Q ₉₅ (veh)						0.3						0.4				
Control Delay (s/veh)						7.5						9.0				
Level of Service (LOS)						A						A				
Approach Delay (s/veh)					6.6				9.0							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Highbanks at Ft Florida		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/19/19			East/West Street	Highbanks Rd		
Analysis Year	2022			North/South Street	Fort Florida Road		
Time Analyzed	PM Peak-Hour Background			Peak Hour Factor	0.86		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			25	6		127	55			26		51				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

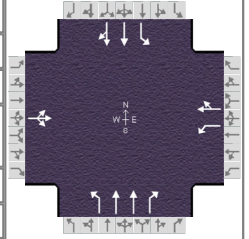
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.12					6.42		6.22			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148						90				
Capacity, c (veh/h)						1575						802				
v/c Ratio						0.09						0.11				
95% Queue Length, Q ₉₅ (veh)						0.3						0.4				
Control Delay (s/veh)						7.5						10.1				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					5.5				10.1							
Approach LOS									B							

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019	Area Type	Other		
Jurisdiction	Volusia	Time Period	AM Peak-Hour Background	PHF	0.92		
Urban Street	US 17/92	Analysis Year	2022	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Fort Florida...	File Name	2. Fort Florida Rd at US 17-92 - AM Background - ...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	34	9	108	246	19	10	70	645	48	22	2394	37

Signal Information														
Cycle, s	159.8	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	3.9	1.9	85.0	18.0	25.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	0.0	4.0	4.0	4.0	0.0				
				Red	2.5	0.0	2.5	2.5	2.5	0.0				

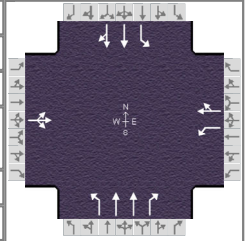
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		10.0	1.1	3.0	1.1	4.0
Phase Duration, s		24.5		31.5	12.3	93.4	10.4	91.5
Change Period, (Y+R _c), s		6.5		6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s		4.3		3.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s		17.7		27.5	5.2	20.5	3.0	87.5
Green Extension Time (g _e), s		0.3		0.0	0.1	42.2	0.0	0.0
Phase Call Probability		1.00		1.00	0.97	1.00	0.65	1.00
Max Out Probability		0.11		1.00	0.04	0.59	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	164			267	32		76	701	52	24	1321	1321
Adjusted Saturation Flow Rate (s), veh/h/ln	1641			1810	1789		1697	1724	1610	1781	1856	1845
Queue Service Time (g _s), s	15.7			23.3	2.4		3.2	18.5	2.4	1.0	85.5	85.5
Cycle Queue Clearance Time (g _c), s	15.7			23.3	2.4		3.2	18.5	2.4	1.0	85.5	85.5
Green Ratio (g/C)	0.12			0.16	0.16		0.57	0.55	0.55	0.56	0.54	0.54
Capacity (c), veh/h	190			289	285		112	1885	880	404	993	987
Volume-to-Capacity Ratio (X)	0.864			0.926	0.110		0.680	0.372	0.059	0.059	1.331	1.338
Back of Queue (Q), ft/ln (95 th percentile)	309			479.2	48.6		83.2	304.9	40	17.4	2931.8	2886.5
Back of Queue (Q), veh/ln (95 th percentile)	12.2			19.2	1.9		3.1	11.6	1.6	0.7	114.5	115.5
Queue Storage Ratio (RQ) (95 th percentile)	0.00			0.00	0.00		0.22	0.00	0.25	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	69.4			66.2	57.4		38.0	20.7	17.0	16.7	37.1	37.1
Incremental Delay (d ₂), s/veh	19.8			33.6	0.1		7.0	0.1	0.0	0.0	155.8	159.0
Initial Queue Delay (d ₃), s/veh	0.0			0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	89.2			99.8	57.5		45.1	20.8	17.0	16.7	192.9	196.1
Level of Service (LOS)	F			F	E		D	C	B	B	F	F
Approach Delay, s/veh / LOS	89.2	F		95.3	F		22.8	C		192.9	F	
Intersection Delay, s/veh / LOS	145.6						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.47	B	2.34	B	1.91	B	1.69	B
Bicycle LOS Score / LOS	0.76	A	0.98	A	1.17	A	2.69	C

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	12/5/2018	Area Type	Other		
Jurisdiction	Volusia	Time Period	PM Peak-Hour Background	PHF	0.95		
Urban Street	US 17/92	Analysis Year	2022	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Fort Florida...	File Name	2. Fort Florida Rd at US 17-92 - PM Background - ...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	48	13	101	215	20	10	282	2632	50	33	882	71

Signal Information														
Cycle, s	161.4	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	4.7	0.8	82.7	18.6	22.1	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	4.0	4.0	0.0				
				Red	2.5	2.5	2.5	2.5	2.5	0.0				

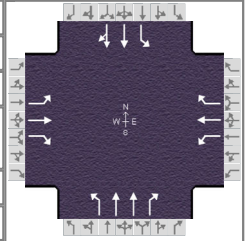
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		10.0	1.1	3.0	1.1	4.0
Phase Duration, s		25.1		28.6	18.5	96.5	11.2	89.2
Change Period, (Y+R _c), s		6.5		6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s		4.3		3.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s		18.4		21.9	14.0	92.0	3.5	31.4
Green Extension Time (g _e), s		0.3		0.1	0.0	0.0	0.0	44.5
Phase Call Probability		1.00		1.00	1.00	1.00	0.79	1.00
Max Out Probability		0.18		0.91	1.00	1.00	0.00	0.66

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	171			226	32		297	2771	53	35	508	495
Adjusted Saturation Flow Rate (s), veh/h/ln	1660			1810	1792		1781	1781	1610	1781	1870	1821
Queue Service Time (g _s), s	16.4			19.9	2.5		12.0	90.0	2.4	1.5	29.4	29.4
Cycle Queue Clearance Time (g _c), s	16.4			19.9	2.5		12.0	90.0	2.4	1.5	29.4	29.4
Green Ratio (g/C)	0.12			0.14	0.14		0.60	0.56	0.56	0.54	0.51	0.51
Capacity (c), veh/h	192			247	245		363	1985	898	97	959	933
Volume-to-Capacity Ratio (X)	0.890			0.915	0.129		0.819	1.396	0.059	0.359	0.530	0.530
Back of Queue (Q), ft/ln (95 th percentile)	328.7			411.3	50.8		268.6	3235.4	39.6	31.5	472.4	454.7
Back of Queue (Q), veh/ln (95 th percentile)	12.9			16.5	2.0		10.6	127.4	1.6	1.2	18.6	18.2
Queue Storage Ratio (RQ) (95 th percentile)	0.00			0.00	0.00		0.71	0.00	0.25	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	70.4			68.8	61.2		24.0	35.7	16.3	38.5	26.3	26.3
Incremental Delay (d ₂), s/veh	24.1			28.9	0.1		13.7	181.1	0.0	0.8	0.5	0.5
Initial Queue Delay (d ₃), s/veh	0.0			0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	94.5			97.6	61.3		37.7	216.9	16.4	39.3	26.8	26.8
Level of Service (LOS)	F			F	E		D	F	B	D	C	C
Approach Delay, s/veh / LOS	94.5	F		93.2	F		196.4	F			27.2	C
Intersection Delay, s/veh / LOS	148.5						F					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.47	B		2.34	B		1.91	B			1.69	B
Bicycle LOS Score / LOS	0.77	A		0.91	A		3.06	C			1.34	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019		Area Type	Other	
Jurisdiction	Volusia		Time Period	AM Peak-Hour Background		PHF	0.94
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - AM Background - Rev...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	72	18	77	194	171	92	85	555	138	142	2180	81

Signal Information													
Cycle, s	135.7	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	5.8	2.7	67.3	16.8	11.1	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			

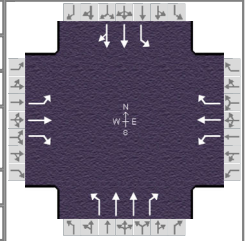
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		18.6	25.8	44.4	13.8	74.8	16.5	77.5
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		10.5	16.1	12.6	5.3	16.4	7.6	72.0
Green Extension Time (g _e), s		0.6	0.6	1.6	0.2	50.8	0.4	0.0
Phase Call Probability		1.00	1.00	1.00	0.97	1.00	1.00	1.00
Max Out Probability		0.00	0.00	0.00	0.00	0.94	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	77	19	82	206	182	98	90	590	147	151	1203	1203
Adjusted Saturation Flow Rate (s), veh/h/ln	1202	1870		1753	1870		1781	1696	1585	1781	1870	1847
Queue Service Time (g _s), s	8.5	1.3		14.1	10.6		3.3	14.4	5.3	5.6	70.0	70.0
Cycle Queue Clearance Time (g _c), s	8.5	1.3		14.1	10.6		3.3	14.4	5.3	5.6	70.0	70.0
Green Ratio (g/C)	0.08	0.08		0.22	0.27		0.54	0.50	0.62	0.55	0.52	0.52
Capacity (c), veh/h	152	153		370	508		129	1683	982	479	965	953
Volume-to-Capacity Ratio (X)	0.505	0.125		0.558	0.358		0.700	0.351	0.149	0.315	1.247	1.263
Back of Queue (Q), ft/ln (95 th percentile)	121	28.1		264.2	215.7		72.6	248.3	79.8	100.1	2200.2	2216.9
Back of Queue (Q), veh/ln (95 th percentile)	4.8	1.1		10.2	8.5		2.9	9.3	3.1	3.9	86.6	88.7
Queue Storage Ratio (RQ) (95 th percentile)	0.76	0.00		0.50	0.00		0.35	0.00	0.50	0.33	0.00	0.00
Uniform Delay (d ₁), s/veh	61.1	57.8		46.8	39.8		31.9	20.9	10.8	15.6	32.9	32.9
Incremental Delay (d ₂), s/veh	2.6	0.4		1.3	0.4		6.7	0.3	0.1	0.4	119.7	126.6
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.7	58.1	0.0	48.1	40.3	0.0	38.6	21.1	11.0	16.0	152.5	159.5
Level of Service (LOS)	E	E	A	D	D	A	D	C	B	B	F	F
Approach Delay, s/veh / LOS	33.7		C	35.5		D	21.2		C	147.7		F
Intersection Delay, s/veh / LOS	103.4						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.47	B	2.30	B	2.10	B	2.10	B
Bicycle LOS Score / LOS	0.78	A	1.29	A	1.17	A	2.60	C

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019		Area Type	Other	
Jurisdiction	Volusia		Time Period	PM Peak-Hour Background		PHF	0.95
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - PM Background - Rev...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	143	152	92	186	33	148	103	1933	442	145	856	66

Signal Information													
Cycle, s	149.5	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	7.3	4.3	70.0	16.4	19.5	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			

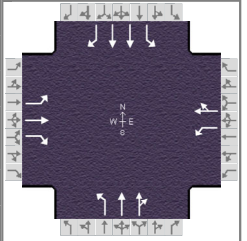
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		27.0	25.4	52.4	15.3	77.5	19.6	81.8
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		18.1	15.8	13.2	7.1	72.0	10.7	29.1
Green Extension Time (g _e), s		1.3	0.6	2.1	0.3	0.0	0.4	39.1
Phase Call Probability		1.00	1.00	1.00	0.99	1.00	1.00	1.00
Max Out Probability		0.01	0.00	0.00	0.00	1.00	0.00	0.95

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	151	160	97	196	35	156	108	2035	465	153	492	479
Adjusted Saturation Flow Rate (s), veh/h/ln	1363	1870		1781	1648		1654	1781	1585	1753	1856	1808
Queue Service Time (g _s), s	16.1	12.2		13.8	2.3		5.1	70.0	26.2	8.7	27.1	27.1
Cycle Queue Clearance Time (g _c), s	16.1	12.2		13.8	2.3		5.1	70.0	26.2	8.7	27.1	27.1
Green Ratio (g/C)	0.13	0.13		0.25	0.30		0.52	0.47	0.58	0.54	0.50	0.50
Capacity (c), veh/h	226	245		305	495		291	1667	916	178	922	899
Volume-to-Capacity Ratio (X)	0.665	0.654		0.642	0.070		0.373	1.220	0.508	0.858	0.533	0.533
Back of Queue (Q), ft/ln (95 th percentile)	246.6	250.7		261.8	46.6		95.4	1901.7	363	143.7	443.9	424.5
Back of Queue (Q), veh/ln (95 th percentile)	9.6	9.9		10.3	1.6		3.5	74.9	14.3	5.6	17.3	17.0
Queue Storage Ratio (RQ) (95 th percentile)	1.54	0.00		0.49	0.00		0.45	0.00	2.27	0.48	0.00	0.00
Uniform Delay (d ₁), s/veh	63.5	61.8		47.6	37.4		21.3	39.8	18.9	45.2	25.7	25.7
Incremental Delay (d ₂), s/veh	3.3	3.0		2.3	0.1		0.8	104.8	1.0	11.2	1.1	1.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.8	64.7	0.0	49.8	37.4	0.0	22.1	144.6	19.8	56.4	26.8	26.9
Level of Service (LOS)	E	E	A	D	D	A	C	F	B	E	C	C
Approach Delay, s/veh / LOS	50.1		D	28.6		C	117.3		F	30.9		C
Intersection Delay, s/veh / LOS	82.2						F					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.47		B	2.30		B	2.11		B	2.11		B
Bicycle LOS Score / LOS	1.16		A	1.13		A	2.64		C	1.41		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019	Area Type	Other		
Jurisdiction	Volusia	Time Period	AM Peak-Hour Background	PHF	0.94		
Urban Street	US 17/92	Analysis Year	2022	Analysis Period	1 > 7:00		
Intersection	US 17/92 at Highbanks Rd	File Name	5. US 17-92 at Highbanks Rd - AM Background -...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	177	71	97	208	96	116	88	519	77	57	1593	132

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	0.9	56.4	12.9	1.8	18.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	3.7	0.0	4.0			
				Red	2.0	0.0	2.0	2.6	0.0	2.6			

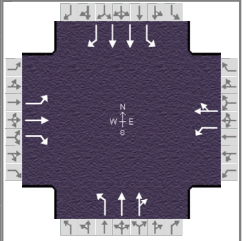
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	19.2	24.6	21.0	26.4	11.6	63.7	10.7	62.8
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	12.6	9.3	14.6	18.0	5.3		4.2	
Green Extension Time (g _e), s	0.3	2.2	0.3	1.7	0.2	0.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	0.96		0.87	
Max Out Probability	0.26	0.02	0.88	0.16	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	188	76	103	221	226		94	323	311	61	1695	140
Adjusted Saturation Flow Rate (s), veh/h/ln	1767	1856	1547	1753	1635		1767	1826	1743	1668	1766	1560
Queue Service Time (g _s), s	10.6	4.3	7.3	12.6	16.0		3.3	13.5	13.6	2.2	56.4	6.3
Cycle Queue Clearance Time (g _c), s	10.6	4.3	7.3	12.6	16.0		3.3	13.5	13.6	2.2	56.4	6.3
Green Ratio (g/C)	0.26	0.15	0.15	0.27	0.16		0.51	0.48	0.48	0.51	0.47	0.47
Capacity (c), veh/h	267	279	232	426	270		137	872	832	378	1660	733
Volume-to-Capacity Ratio (X)	0.706	0.271	0.444	0.520	0.837		0.683	0.371	0.373	0.160	1.021	0.192
Back of Queue (Q), ft/ln (95 th percentile)	218.6	94.9	137.3	239.2	311.6		68.8	254.8	237.9	41	978.1	108.2
Back of Queue (Q), veh/ln (95 th percentile)	8.5	3.7	5.3	9.3	11.8		2.7	9.8	9.5	1.5	38.2	4.2
Queue Storage Ratio (RQ) (95 th percentile)	0.84	0.00	0.62	1.29	0.00		0.00	0.00	0.00	0.18	0.00	0.87
Uniform Delay (d ₁), s/veh	38.3	45.2	46.4	36.3	48.5		28.2	19.9	19.9	16.2	31.8	18.5
Incremental Delay (d ₂), s/veh	4.3	0.7	1.9	1.0	11.8		5.9	1.2	1.3	0.2	27.5	0.6
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	42.5	45.9	48.3	37.3	60.4		34.1	21.1	21.2	16.4	59.3	19.1
Level of Service (LOS)	D	D	D	D	E		C	C	C	B	F	B
Approach Delay, s/veh / LOS	44.9		D	48.9		D	22.8		C	54.9		D
Intersection Delay, s/veh / LOS	46.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.46	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.09	A	1.22	A	1.09	A	2.05	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019		Area Type	Other	
Jurisdiction	Volusia		Time Period	PM Peak-Hour Background		PHF	0.95
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Highbanks Rd		File Name	5. US 17-92 at Highbanks Rd - PM Background -...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	239	136	92	180	120	94	123	1681	102	124	733	139

Signal Information														
Cycle, s	150.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On	Green	7.7	1.5	74.5	13.9	5.0	21.9				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	4.0	0.0	4.0				
				Red	2.0	0.0	2.0	2.1	0.0	2.6				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	25.0	33.5	20.0	28.5	14.1	80.9	15.6	82.4
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	19.9	12.2	15.6	21.3	7.5		9.0	
Green Extension Time (g _e), s	0.0	2.4	0.0	0.6	0.3	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.05	1.00	1.00	0.00		0.00	

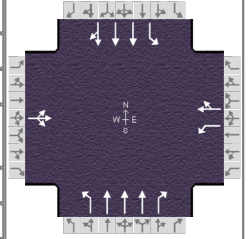
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	252	143	97	189	225		129	940	937	131	772	146
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1547	1781	1720		1739	1870	1833	1739	1766	1535
Queue Service Time (g _s), s	17.9	10.2	8.2	13.6	19.3		5.5	74.5	74.5	7.0	20.7	7.8
Cycle Queue Clearance Time (g _c), s	17.9	10.2	8.2	13.6	19.3		5.5	74.5	74.5	7.0	20.7	7.8
Green Ratio (g/C)	0.28	0.18	0.18	0.24	0.15		0.55	0.50	0.50	0.56	0.51	0.51
Capacity (c), veh/h	290	335	277	335	251		380	930	911	154	1791	778
Volume-to-Capacity Ratio (X)	0.868	0.427	0.349	0.566	0.898		0.341	1.011	1.029	0.846	0.431	0.188
Back of Queue (Q), ft/ln (95 th percentile)	381.3	219.1	155.2	263.3	404.8		103.8	1317.7	1330	239.1	345.8	136.7
Back of Queue (Q), veh/ln (95 th percentile)	15.0	8.6	6.0	10.4	15.8		4.0	51.9	53.2	9.2	13.5	5.2
Queue Storage Ratio (RQ) (95 th percentile)	1.47	0.00	0.71	1.42	0.00		0.00	0.00	0.00	1.04	0.00	1.09
Uniform Delay (d ₁), s/veh	47.5	54.7	53.9	48.9	63.0		18.4	37.7	37.7	43.7	23.3	20.2
Incremental Delay (d ₂), s/veh	23.3	1.2	1.1	2.2	29.8		0.5	32.2	37.4	11.8	0.8	0.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.7	55.9	55.0	51.1	92.8		18.9	70.0	75.2	55.5	24.1	20.7
Level of Service (LOS)	E	E	D	D	F		B	F	F	E	C	C
Approach Delay, s/veh / LOS	63.3		E	73.7		E	69.1		E	27.5		C
Intersection Delay, s/veh / LOS	57.9						E					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.31		B	2.47		B	1.92		B	2.10		B
Bicycle LOS Score / LOS	1.30		A	1.17		A	2.14		B	1.35		A

APPENDIX I
INTERSECTIONS HCS
SUMMARY-
BACKGROUND CONDITIONS
IMPROVED

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019		Area Type	Other	
Jurisdiction	FDOT		Time Period	AM Background - Improved		PHF	0.92
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Fort Florida...		File Name	2. Fort Florida Rd at US 17-92 - AM Background - ...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	34	9	108	246	19	10	70	645	48	22	2394	37

Signal Information														
Cycle, s	156.6	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	Yes	Simult. Gap E/W	On	Green	3.9	1.9	82.3	17.7	24.8	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	0.0	4.0	4.0	4.0	0.0				
				Red	2.5	0.0	2.5	2.5	2.5	0.0				

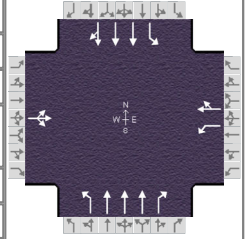
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		10.0	1.1	3.0	1.1	4.0
Phase Duration, s		24.2		31.3	12.3	90.7	10.4	88.8
Change Period, (Y+R _c), s		6.5		6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s		4.3		3.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s		17.4		24.8	5.2	13.9	2.9	69.4
Green Extension Time (g _e), s		0.3		0.0	0.1	36.0	0.0	12.9
Phase Call Probability		1.00		1.00	0.96	1.00	0.65	1.00
Max Out Probability		0.09		1.00	0.04	0.32	0.00	0.82

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	164			267	32		76	701	52	24	1763	879
Adjusted Saturation Flow Rate (s), veh/h/ln	1641			1810	1789		1697	1644	1610	1781	1856	1840
Queue Service Time (g _s), s	15.4			22.8	2.4		3.2	11.9	2.4	0.9	66.8	67.4
Cycle Queue Clearance Time (g _c), s	15.4			22.8	2.4		3.2	11.9	2.4	0.9	66.8	67.4
Green Ratio (g/C)	0.12			0.16	0.16		0.57	0.54	0.54	0.56	0.53	0.53
Capacity (c), veh/h	191			292	289		125	2669	871	431	1963	974
Volume-to-Capacity Ratio (X)	0.861			0.915	0.109		0.610	0.263	0.060	0.056	0.898	0.903
Back of Queue (Q), ft/ln (95 th percentile)	302.4			464.6	47.4		77.9	205.9	39.5	17.2	986.2	1006
Back of Queue (Q), veh/ln (95 th percentile)	11.9			18.6	1.9		2.9	7.9	1.6	0.7	38.5	40.2
Queue Storage Ratio (RQ) (95 th percentile)	0.00			0.00	0.00		0.21	0.00	0.25	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	68.0			64.6	56.0		36.0	19.3	17.0	16.1	33.3	33.3
Incremental Delay (d ₂), s/veh	18.7			30.6	0.1		4.8	0.1	0.0	0.0	5.7	11.0
Initial Queue Delay (d ₃), s/veh	0.0			0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	86.7			95.1	56.1		40.8	19.4	17.1	16.1	39.0	44.3
Level of Service (LOS)	F			F	E		D	B	B	B	D	D
Approach Delay, s/veh / LOS	86.7	F		91.0	F		21.2	C		40.6	D	
Intersection Delay, s/veh / LOS	42.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.74	C	2.63	C	1.91	B	1.69	B
Bicycle LOS Score / LOS	0.76	A	0.98	A	0.94	A	1.95	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 29, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	PM Background - Improved		PHF	0.95	
Urban Street	US 17/92	Analysis Year	2022		Analysis Period	1 > 7:00	
Intersection	US 17/92 at Fort Florida...	File Name	2. Fort Florida Rd at US 17-92 - PM Background - ...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	48	13	101	215	20	10	282	2632	50	33	882	71

Signal Information																
Cycle, s	161.3	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On	Green	4.7	0.8	82.6	18.6	22.1	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	4.0	4.0	0.0						
				Red	2.5	2.5	2.5	2.5	2.5	0.0						

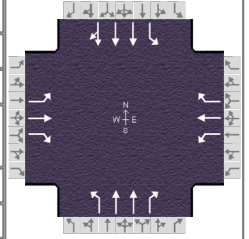
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		10.0	1.1	3.0	1.1	4.0
Phase Duration, s		25.1		28.6	18.5	96.4	11.2	89.1
Change Period, (Y+R _c), s		6.5		6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s		4.3		3.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s		18.3		21.9	14.0	87.1	3.5	19.5
Green Extension Time (g _e), s		0.3		0.1	0.0	2.8	0.0	47.0
Phase Call Probability		1.00		1.00	1.00	1.00	0.79	1.00
Max Out Probability		0.18		0.90	1.00	1.00	0.00	0.50

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	171			226	32		297	2771	53	35	677	326
Adjusted Saturation Flow Rate (s), veh/h/ln	1660			1810	1792		1781	1698	1610	1781	1870	1796
Queue Service Time (g _s), s	16.3			19.9	2.5		12.0	85.1	2.4	1.5	17.4	17.5
Cycle Queue Clearance Time (g _c), s	16.3			19.9	2.5		12.0	85.1	2.4	1.5	17.4	17.5
Green Ratio (g/C)	0.12			0.14	0.14		0.60	0.56	0.56	0.54	0.51	0.51
Capacity (c), veh/h	192			247	245		404	2839	897	99	1916	920
Volume-to-Capacity Ratio (X)	0.890			0.915	0.129		0.735	0.976	0.059	0.352	0.353	0.355
Back of Queue (Q), ft/ln (95 th percentile)	328.3			411	50.7		247.7	1153.5	39.6	31.4	304.1	291.8
Back of Queue (Q), veh/ln (95 th percentile)	12.9			16.4	2.0		9.8	45.4	1.6	1.2	12.0	11.7
Queue Storage Ratio (RQ) (95 th percentile)	0.00			0.00	0.00		0.65	0.00	0.25	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	70.3			68.7	61.2		19.3	34.6	16.3	38.4	23.4	23.4
Incremental Delay (d ₂), s/veh	24.1			28.8	0.1		6.8	11.8	0.0	0.8	0.1	0.2
Initial Queue Delay (d ₃), s/veh	0.0			0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	94.4			97.5	61.3		26.1	46.4	16.4	39.2	23.5	23.7
Level of Service (LOS)	F			F	E		C	D	B	D	C	C
Approach Delay, s/veh / LOS	94.4	F		93.1	F		44.0	D		24.1	C	
Intersection Delay, s/veh / LOS	44.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.63	C	1.91	B	1.69	B
Bicycle LOS Score / LOS	0.77	A	0.91	A	2.20	B	1.06	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 29, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	AM Background - Improved		PHF	0.94	
Urban Street	US 17/92	Analysis Year	2022		Analysis Period	1 > 7:00	
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - AM Background - Imp...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	72	18	77	194	171	92	85	555	138	142	2180	81

Signal Information													
Cycle, s	134.9	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	5.8	2.7	66.7	16.7	11.1	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			

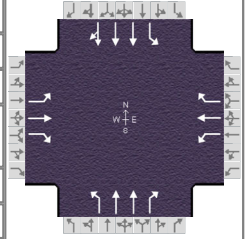
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		18.6	25.7	44.2	13.8	74.2	16.5	76.8
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		10.4	16.0	12.6	5.3	16.4	7.6	52.2
Green Extension Time (g _e), s		0.6	0.6	1.6	0.2	48.4	0.4	17.1
Phase Call Probability		1.00	1.00	1.00	0.97	1.00	1.00	1.00
Max Out Probability		0.00	0.00	0.00	0.00	0.87	0.00	0.97

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	77	19	82	206	182	98	90	590	147	151	1610	796
Adjusted Saturation Flow Rate (s), veh/h/ln	1202	1870		1753	1870		1781	1696	1585	1781	1870	1835
Queue Service Time (g _s), s	8.4	1.3		14.0	10.6		3.3	14.4	5.3	5.6	49.5	50.2
Cycle Queue Clearance Time (g _c), s	8.4	1.3		14.0	10.6		3.3	14.4	5.3	5.6	49.5	50.2
Green Ratio (g/C)	0.08	0.08		0.22	0.27		0.54	0.49	0.62	0.55	0.51	0.51
Capacity (c), veh/h	152	154		370	510		148	1676	979	478	1923	943
Volume-to-Capacity Ratio (X)	0.504	0.125		0.557	0.357		0.611	0.352	0.150	0.316	0.837	0.844
Back of Queue (Q), ft/ln (95 th percentile)	120.2	28		263	214.4		68.4	248	79.6	99.9	735.2	750.4
Back of Queue (Q), veh/ln (95 th percentile)	4.7	1.1		10.2	8.4		2.7	9.3	3.1	3.9	28.9	30.0
Queue Storage Ratio (RQ) (95 th percentile)	0.75	0.00		0.50	0.00		0.33	0.00	0.50	0.33	0.00	0.00
Uniform Delay (d ₁), s/veh	60.7	57.4		46.5	39.5		30.0	20.9	10.9	15.7	28.0	28.1
Incremental Delay (d ₂), s/veh	2.6	0.4		1.3	0.4		4.0	0.3	0.1	0.4	3.7	7.7
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	57.8	0.0	47.8	40.0	0.0	34.0	21.2	11.0	16.0	31.7	35.8
Level of Service (LOS)	E	E	A	D	D	A	C	C	B	B	C	D
Approach Delay, s/veh / LOS	33.5		C	35.2		D	20.8		C	32.1		C
Intersection Delay, s/veh / LOS	30.2						C					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.61		C	2.45		B	2.10		B	2.10		B
Bicycle LOS Score / LOS	0.78		A	1.29		A	1.17		A	1.89		B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	PM Background - Improved		PHF	0.95	
Urban Street	US 17/92	Analysis Year	2022		Analysis Period	1 > 7:00	
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - PM Background - Imp...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	143	152	92	186	33	148	103	1933	442	145	856	66

Signal Information													
Cycle, s	189.9	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	7.1	5.4	109.4	20.0	16.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			

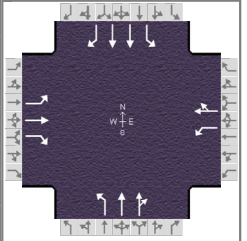
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		23.5	29.0	52.5	15.1	116.9	20.5	122.3
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		19.2	20.5	17.4	7.0	107.7	13.7	17.9
Green Extension Time (g _e), s		0.0	0.0	0.0	0.1	1.7	0.0	83.3
Phase Call Probability		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability		1.00	1.00	1.00	0.36	1.00	1.00	0.86

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	151	160	97	196	35	156	108	2035	423	153	654	316
Adjusted Saturation Flow Rate (s), veh/h/ln	1363	1870		1781	1648		1654	1781	1585	1753	1856	1785
Queue Service Time (g _s), s	17.2	16.2		18.5	3.1		5.0	105.7	21.2	11.7	15.8	15.9
Cycle Queue Clearance Time (g _c), s	17.2	16.2		18.5	3.1		5.0	105.7	21.2	11.7	15.8	15.9
Green Ratio (g/C)	0.09	0.09		0.21	0.24		0.63	0.58	0.69	0.65	0.61	0.61
Capacity (c), veh/h	161	169		243	401		384	2074	1100	165	2268	1091
Volume-to-Capacity Ratio (X)	0.933	0.944		0.804	0.087		0.282	0.981	0.385	0.925	0.289	0.290
Back of Queue (Q), ft/ln (95 th percentile)	379.4	394		370.6	66.5		92.6	1501.1	297.3	378.2	280.2	267.7
Back of Queue (Q), veh/ln (95 th percentile)	14.8	15.5		14.6	2.3		3.4	59.1	11.7	14.7	10.9	10.7
Queue Storage Ratio (RQ) (95 th percentile)	2.37	0.00		0.70	0.00		0.44	0.00	1.86	1.26	0.00	0.00
Uniform Delay (d ₁), s/veh	87.9	85.9		67.1	56.0		14.8	39.2	12.1	67.3	17.7	17.5
Incremental Delay (d ₂), s/veh	51.5	52.9		17.5	0.1		0.4	15.5	0.5	48.6	0.1	0.3
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	139.4	138.8	0.0	84.6	56.1	0.0	15.2	54.7	12.6	115.8	17.8	17.8
Level of Service (LOS)	F	F	A	F	E	A	B	D	B	F	B	B
Approach Delay, s/veh / LOS	106.0		F	47.9		D	46.1		D	31.1		C
Intersection Delay, s/veh / LOS	48.0						D					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.68		C	2.47		B	2.10		B	2.10		B
Bicycle LOS Score / LOS	1.16		A	1.13		A	2.60		C	1.11		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 19, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	AM Background - Improved		PHF	0.94	
Urban Street	US 17/92		Analysis Year	2022	Analysis Period	1 > 7:00	
Intersection	US 17/92 at Highbanks Rd		File Name	5. US 17-92 at Highbanks Rd - AM Background - I...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	177	71	97	208	96	116	88	519	77	57	1593	132

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	0.6	58.2	12.7	2.0	16.5			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	3.7	0.0	4.0			
				Red	2.0	0.0	2.0	2.6	0.0	2.6			

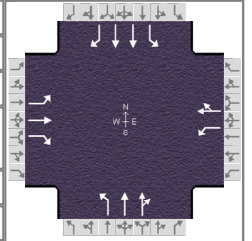
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	19.0	23.1	21.0	25.1	11.3	65.2	10.7	64.6
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	12.7	9.4	14.7	18.2	5.1		4.1	
Green Extension Time (g _e), s	0.1	1.4	0.3	0.3	0.0	0.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	0.96		0.87	
Max Out Probability	1.00	0.42	0.92	1.00	1.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	188	76	103	221	226		94	323	311	61	1695	140
Adjusted Saturation Flow Rate (s), veh/h/ln	1767	1856	1547	1753	1635		1767	1826	1743	1668	1766	1560
Queue Service Time (g _s), s	10.7	4.4	7.4	12.7	16.2		3.1	13.2	13.3	2.1	56.5	6.1
Cycle Queue Clearance Time (g _c), s	10.7	4.4	7.4	12.7	16.2		3.1	13.2	13.3	2.1	56.5	6.1
Green Ratio (g/C)	0.25	0.14	0.14	0.27	0.16		0.53	0.49	0.49	0.53	0.49	0.49
Capacity (c), veh/h	258	262	219	422	258		145	894	861	397	1727	763
Volume-to-Capacity Ratio (X)	0.730	0.288	0.471	0.524	0.873		0.646	0.362	0.361	0.153	0.981	0.184
Back of Queue (Q), ft/ln (95 th percentile)	232.1	96.3	139.5	240.6	345.8		68.2	248.8	231.2	38.6	896.3	103.2
Back of Queue (Q), veh/ln (95 th percentile)	9.1	3.8	5.4	9.3	13.1		2.7	9.6	9.2	1.4	35.0	4.0
Queue Storage Ratio (RQ) (95 th percentile)	0.89	0.00	0.63	1.30	0.00		0.00	0.00	0.00	0.17	0.00	0.83
Uniform Delay (d ₁), s/veh	38.8	46.3	47.4	36.7	49.3		28.0	19.0	19.0	14.8	30.4	17.2
Incremental Delay (d ₂), s/veh	9.1	0.9	2.2	1.0	25.5		6.6	1.1	1.2	0.2	17.6	0.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	47.9	47.2	49.6	37.7	74.9		34.6	20.1	20.1	15.0	48.0	17.8
Level of Service (LOS)	D	D	D	D	E		C	C	C	B	D	B
Approach Delay, s/veh / LOS	48.2		D	56.5		E	22.0		C	44.7		D
Intersection Delay, s/veh / LOS	41.8						D					

Multimodal Results	EB		WB		NB		SB	
	Pedestrian LOS Score / LOS	2.31	B	2.46	B	1.91	B	2.10
Bicycle LOS Score / LOS	1.09	A	1.22	A	1.09	A	2.05	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 29, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	PM Background - Improved		PHF	0.95	
Urban Street	US 17/92		Analysis Year	2022	Analysis Period	1 > 7:00	
Intersection	US 17/92 at Highbanks Rd		File Name	5. US 17-92 at Highbanks Rd - PM Background - ...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	239	136	92	180	120	94	123	1681	102	124	733	139

Signal Information													
Cycle, s	150.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	7.2	1.1	78.4	15.5	0.4	21.8			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	4.0	0.0	4.0			
				Red	2.0	0.0	2.0	2.1	0.0	2.6			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	22.0	28.8	21.6	28.4	13.6	84.8	14.8	86.0
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	18.5	12.5	15.2	21.2	7.0		8.2	
Green Extension Time (g _e), s	0.0	2.0	0.3	0.6	0.2	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.18	0.33	1.00	0.03		0.08	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	252	143	97	189	225		129	940	937	131	772	146
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1547	1781	1720		1739	1870	1833	1739	1766	1535
Queue Service Time (g _s), s	16.5	10.5	8.5	13.2	19.2		5.0	71.5	74.0	6.2	19.5	7.3
Cycle Queue Clearance Time (g _c), s	16.5	10.5	8.5	13.2	19.2		5.0	71.5	74.0	6.2	19.5	7.3
Green Ratio (g/C)	0.26	0.15	0.15	0.26	0.15		0.58	0.53	0.53	0.59	0.54	0.54
Capacity (c), veh/h	270	287	237	322	259		405	988	968	162	1893	822
Volume-to-Capacity Ratio (X)	0.932	0.499	0.408	0.589	0.870		0.320	0.951	0.968	0.804	0.408	0.178
Back of Queue (Q), ft/ln (95 th percentile)	197.6	226.2	161.4	255.5	392.5		94.3	1165.7	1182.1	238.3	325.8	5.1
Back of Queue (Q), veh/ln (95 th percentile)	7.8	8.9	6.2	10.1	15.3		3.6	45.9	47.3	9.2	12.7	0.2
Queue Storage Ratio (RQ) (95 th percentile)	0.76	0.00	0.73	1.38	0.00		0.00	0.00	0.00	1.04	0.00	0.04
Uniform Delay (d ₁), s/veh	50.8	58.6	57.4	46.7	62.3		16.0	33.9	34.2	41.0	20.9	17.9
Incremental Delay (d ₂), s/veh	36.9	1.9	1.6	1.7	24.2		0.5	19.0	22.2	11.3	0.7	0.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	87.7	60.5	59.0	48.4	86.5		16.5	52.9	56.3	52.3	21.5	18.3
Level of Service (LOS)	F	E	E	D	F		B	D	E	D	C	B
Approach Delay, s/veh / LOS	74.1		E	69.1		E	52.2		D	24.9		C
Intersection Delay, s/veh / LOS	49.4						D					

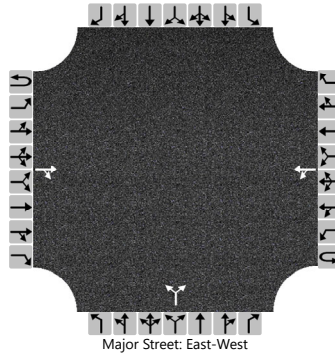
Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.32		B	2.47		B	1.91		B	2.10		B
Bicycle LOS Score / LOS	1.30		A	1.17		A	2.14		B	1.35		A

APPENDIX J
INTERSECTIONS HCS
SUMMARY–
BUILD-OUT CONDITIONS

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Fort Florida at Barwick		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/30/19			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	AM Peak-Hour Build-Out			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			257	21		50	92			8		105				
Percent Heavy Vehicles (%)						2				43		14				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.12					6.83		6.34			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.89		3.43			

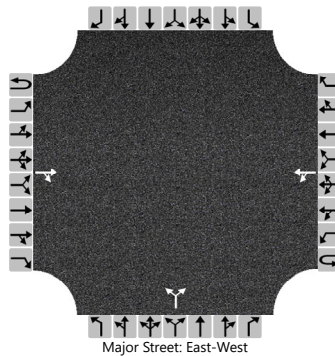
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						56						127				
Capacity, c (veh/h)						1248						680				
v/c Ratio						0.05						0.19				
95% Queue Length, Q ₉₅ (veh)						0.1						0.7				
Control Delay (s/veh)						8.0						11.5				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					3.1				11.5							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Fort Florida at Barwick		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/30/19			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	PM Peak-Hour Build-Out			Peak Hour Factor	0.91		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			162	11		149	269			26		70				
Percent Heavy Vehicles (%)						7				2		20				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

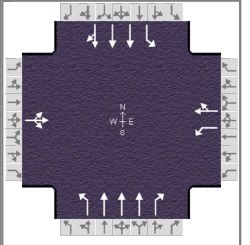
Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.17					6.42		6.40			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.26					3.52		3.48			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						164						105				
Capacity, c (veh/h)						1354						556				
v/c Ratio						0.12						0.19				
95% Queue Length, Q ₉₅ (veh)						0.4						0.7				
Control Delay (s/veh)						8.0						13.0				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					3.6				13.0							
Approach LOS									B							

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	AM Build-Out		PHF	0.92	
Urban Street	US 17/92	Analysis Year	2022		Analysis Period	1 > 7:00	
Intersection	US 17/92 at Fort Florida...	File Name	2. Fort Florida Rd at US 17-92 - AM Build-Out - R...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	147	25	190	246	21	10	101	646	48	22	2394	72

Signal Information				Signal Phases									
Cycle, s	168.4	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	4.0	4.2	84.2	25.0	25.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	0.0	4.0	4.0	4.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.5	0.0	2.5	2.5	2.5	0.0			

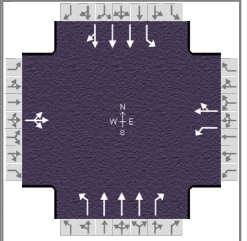
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		10.0	1.1	3.0	1.1	4.0
Phase Duration, s		31.5		31.5	14.7	94.9	10.5	90.7
Change Period, (Y+R _c), s		6.5		6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s		4.2		3.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s		27.5		26.8	8.2	15.2	3.1	81.7
Green Extension Time (g _e), s		0.0		0.0	0.1	36.7	0.0	2.5
Phase Call Probability		1.00		1.00	0.99	1.00	0.67	1.00
Max Out Probability		1.00		1.00	1.00	0.35	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		393		267	34		110	702	52	24	1790	891
Adjusted Saturation Flow Rate (s), veh/h/ln		1678		1810	1796		1697	1644	1610	1781	1856	1827
Queue Service Time (g _s), s		25.5		24.8	2.7		6.2	13.2	2.7	1.1	78.0	79.7
Cycle Queue Clearance Time (g _c), s		25.5		24.8	2.7		6.2	13.2	2.7	1.1	78.0	79.7
Green Ratio (g/C)		0.15		0.15	0.15		0.56	0.53	0.53	0.53	0.50	0.50
Capacity (c), veh/h		254		274	272		134	2603	850	414	1866	919
Volume-to-Capacity Ratio (X)		1.549		0.976	0.124		0.822	0.270	0.061	0.058	0.959	0.970
Back of Queue (Q), ft/ln (95 th percentile)		1163.2		529.9	55.7		245.1	227.5	44.8	20.2	1199.7	1247.4
Back of Queue (Q), veh/ln (95 th percentile)		45.8		21.2	2.2		9.2	8.7	1.8	0.8	46.9	49.9
Queue Storage Ratio (RQ) (95 th percentile)		0.00		0.00	0.00		0.65	0.00	0.28	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh		71.4		71.1	61.8		46.0	22.0	19.4	19.3	40.4	40.6
Incremental Delay (d ₂), s/veh		265.5		47.3	0.1		21.3	0.1	0.0	0.0	12.4	22.3
Initial Queue Delay (d ₃), s/veh		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh		337.0		118.5	61.9		67.3	22.1	19.4	19.3	52.8	62.9
Level of Service (LOS)		F		F	E		E	C	B	B	D	E
Approach Delay, s/veh / LOS	337.0	F		112.1	F		27.7	C		55.9	E	
Intersection Delay, s/veh / LOS				80.1						F		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.63	C	1.92	B	1.69	B
Bicycle LOS Score / LOS	1.14	A	0.98	A	0.96	A	1.97	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	PM Build-Out		PHF	0.95	
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Fort Florida...		File Name	2. Fort Florida Rd at US 17-92 - PM Build-Out - R...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	130	25	160	215	40	10	375	2632	50	33	883	206

Signal Information				Signal Phases									
Cycle, s	168.8	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	4.8	0.7	82.8	25.0	23.0	0.0			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	4.0	4.0	4.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.5	2.5	2.5	2.5	2.5	0.0			

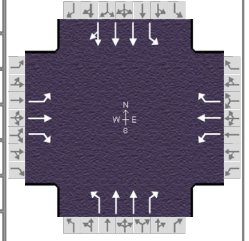
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		10.0	1.1	3.0	1.1	4.0
Phase Duration, s		31.5		29.5	18.5	96.5	11.3	89.3
Change Period, (Y+R _c), s		6.5		6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s		4.2		3.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s		27.0		22.8	14.0	92.0	3.6	25.1
Green Extension Time (g _e), s		0.0		0.1	0.0	0.0	0.0	46.6
Phase Call Probability		1.00		1.00	1.00	1.00	0.80	1.00
Max Out Probability		1.00		1.00	1.00	1.00	0.00	0.58

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		332		226	53		395	2771	53	35	789	357
Adjusted Saturation Flow Rate (s), veh/h/ln		1682		1810	1834		1781	1698	1610	1781	1870	1686
Queue Service Time (g _s), s		25.0		20.8	4.3		12.0	90.0	2.7	1.6	23.0	23.1
Cycle Queue Clearance Time (g _c), s		25.0		20.8	4.3		12.0	90.0	2.7	1.6	23.0	23.1
Green Ratio (g/C)		0.15		0.14	0.14		0.57	0.53	0.53	0.52	0.49	0.49
Capacity (c), veh/h		249		246	250		343	2717	859	94	1836	827
Volume-to-Capacity Ratio (X)		1.331		0.919	0.211		1.151	1.020	0.061	0.371	0.430	0.432
Back of Queue (Q), ft/ln (95 th percentile)		878.8		432	90.1		668.4	1323.4	44.6	31.6	388.6	354.1
Back of Queue (Q), veh/ln (95 th percentile)		34.6		17.3	3.6		26.3	52.1	1.8	1.2	15.3	14.2
Queue Storage Ratio (RQ) (95 th percentile)		0.00		0.00	0.00		1.76	0.00	0.28	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh		71.9		72.0	64.9		35.7	39.4	19.0	40.2	27.7	27.8
Incremental Delay (d ₂), s/veh		173.9		31.7	0.2		96.3	22.5	0.0	0.9	0.2	0.4
Initial Queue Delay (d ₃), s/veh		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh		245.7		103.7	65.0		132.1	61.8	19.0	41.1	27.9	28.1
Level of Service (LOS)		F		F	E		F	F	B	D	C	C
Approach Delay, s/veh / LOS	245.7	F		96.4	F		69.8	E		28.4	C	
Intersection Delay, s/veh / LOS				73.1						E		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.63	C	1.91	B	1.70	B
Bicycle LOS Score / LOS	1.03	A	0.95	A	2.26	B	1.14	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	AM Build-Out		PHF	0.94	
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - AM Build-Out - Revis...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	72	18	77	205	171	92	85	598	166	142	2197	81

Signal Information													
Cycle, s	136.1	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	5.8	2.7	66.8	17.6	11.1	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			

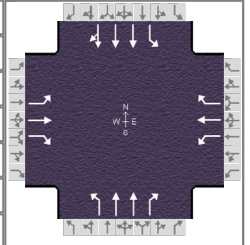
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		18.6	26.6	45.3	13.8	74.3	16.5	77.0
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		10.5	17.0	12.6	5.4	18.0	7.7	53.7
Green Extension Time (g _e), s		0.6	0.7	1.6	0.2	47.6	0.4	15.8
Phase Call Probability		1.00	1.00	1.00	0.97	1.00	1.00	1.00
Max Out Probability		0.00	0.00	0.00	0.00	0.89	0.00	0.97

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	77	19	82	218	182	98	90	636	177	151	1621	802
Adjusted Saturation Flow Rate (s), veh/h/ln	1202	1870		1753	1870		1781	1696	1585	1781	1870	1835
Queue Service Time (g _s), s	8.5	1.3		15.0	10.6		3.4	16.0	6.5	5.7	51.0	51.7
Cycle Queue Clearance Time (g _c), s	8.5	1.3		15.0	10.6		3.4	16.0	6.5	5.7	51.0	51.7
Green Ratio (g/C)	0.08	0.08		0.23	0.28		0.53	0.49	0.62	0.55	0.51	0.51
Capacity (c), veh/h	151	153		380	519		145	1663	983	453	1910	937
Volume-to-Capacity Ratio (X)	0.506	0.125		0.573	0.350		0.623	0.382	0.180	0.333	0.849	0.856
Back of Queue (Q), ft/ln (95 th percentile)	121.4	28.2		276.8	214.7		68.9	270.9	98.1	102.2	759.5	777.2
Back of Queue (Q), veh/ln (95 th percentile)	4.8	1.1		10.7	8.5		2.7	10.2	3.9	4.0	29.9	31.1
Queue Storage Ratio (RQ) (95 th percentile)	0.76	0.00		0.52	0.00		0.33	0.00	0.61	0.34	0.00	0.00
Uniform Delay (d ₁), s/veh	61.3	58.0		46.6	39.3		30.6	21.8	11.1	16.3	28.8	29.0
Incremental Delay (d ₂), s/veh	2.6	0.4		1.4	0.4		4.3	0.3	0.2	0.4	4.1	8.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.9	58.3	0.0	47.9	39.7	0.0	34.9	22.1	11.2	16.7	32.9	37.4
Level of Service (LOS)	E	E	A	D	D	A	C	C	B	B	C	D
Approach Delay, s/veh / LOS	33.8		C	35.5		D	21.2		C	33.4		C
Intersection Delay, s/veh / LOS	31.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.61	C	2.45	B	2.10	B	2.10	B
Bicycle LOS Score / LOS	0.78	A	1.31	A	1.23	A	1.90	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	PM Build-Out		PHF	0.95	
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Dirksen Dr		File Name	3. US 17-92 at Dirksen Dr - PM Build-Out - Revis...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	143	152	92	218	33	148	103	1964	462	145	905	66

Signal Information													
Cycle, s	190.5	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	7.1	5.4	110.0	20.0	16.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	5.5	0.0	5.5	5.0	4.0	0.0			
				Red	2.5	0.0	2.0	4.0	3.5	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		5.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		23.5	29.0	52.5	15.1	117.5	20.5	122.9
Change Period, (Y+R _c), s		7.5	9.0	7.5	8.0	7.5	8.5	7.5
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.0	5.9	4.0	5.9
Queue Clearance Time (g _s), s		19.3	23.3	17.4	7.0	111.6	14.2	18.9
Green Extension Time (g _e), s		0.0	0.0	0.0	0.1	0.0	0.0	83.8
Phase Call Probability		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability		1.00	1.00	1.00	0.36	1.00	1.00	0.89

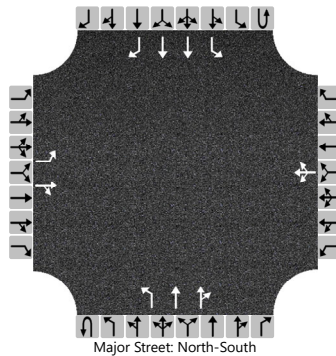
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	151	160	97	229	35	156	108	2067	444	153	689	333
Adjusted Saturation Flow Rate (s), veh/h/ln	1363	1870		1781	1648		1654	1781	1585	1753	1856	1788
Queue Service Time (g _s), s	17.3	16.2		21.3	3.1		5.0	109.6	22.5	12.2	16.8	16.9
Cycle Queue Clearance Time (g _c), s	17.3	16.2		21.3	3.1		5.0	109.6	22.5	12.2	16.8	16.9
Green Ratio (g/C)	0.09	0.09		0.21	0.24		0.63	0.58	0.70	0.66	0.61	0.61
Capacity (c), veh/h	161	170		244	401		370	2081	1103	162	2274	1096
Volume-to-Capacity Ratio (X)	0.932	0.942		0.941	0.087		0.293	0.994	0.403	0.942	0.303	0.304
Back of Queue (Q), ft/ln (95 th percentile)	379.6	393.9		475.4	66.8		92.4	1571.1	312.6	385.9	294.4	281.5
Back of Queue (Q), veh/ln (95 th percentile)	14.8	15.5		18.7	2.4		3.4	61.9	12.3	15.0	11.5	11.3
Queue Storage Ratio (RQ) (95 th percentile)	2.37	0.00		0.90	0.00		0.44	0.00	1.95	1.29	0.00	0.00
Uniform Delay (d ₁), s/veh	88.1	86.1		69.2	56.2		14.8	39.6	12.2	69.5	17.8	17.5
Incremental Delay (d ₂), s/veh	51.2	52.2		41.5	0.1		0.4	18.2	0.5	53.8	0.2	0.3
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	139.3	138.3	0.0	110.7	56.3	0.0	15.3	57.8	12.7	123.3	18.0	17.9
Level of Service (LOS)	F	F	A	F	E	A	B	E	B	F	B	B
Approach Delay, s/veh / LOS	105.8	F		65.2	E		48.4	D		31.6	C	
Intersection Delay, s/veh / LOS	50.7						D					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.68		C	2.47		B	2.10		B	2.10		B
Bicycle LOS Score / LOS	1.16		A	1.18		A	2.65		C	1.13		A

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	US 17/92 at Barwick Road		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/30/19			East/West Street	US 17/92		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	AM Peak-Hour Build-Out			Peak Hour Factor	0.95		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	1	2	0	0	1	2	1
Configuration		L		TR			LTR			L	T	TR		L	T	R
Volume (veh/h)		7	0	119		0	0	1	0	59	712	4	0	20	2436	11
Percent Heavy Vehicles (%)		25	2	2		2	2	2	0	33			0	7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized													No			
Median Type Storage	Left + Thru								2							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		8.00	6.54	6.94		7.54	6.54	6.94		4.76				4.24		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.75	4.02	3.32		3.52	4.02	3.32		2.53				2.27		

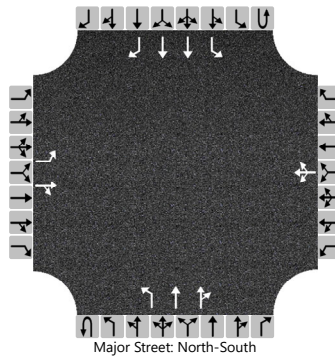
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7		125				1			62				21		
Capacity, c (veh/h)		16		156							102				820		
v/c Ratio		0.46		0.80							0.61				0.03		
95% Queue Length, Q ₉₅ (veh)		1.2		5.2							2.9				0.1		
Control Delay (s/veh)		352.7		85.1							84.0				9.5		
Level of Service (LOS)		F		F							F				A		
Approach Delay (s/veh)		99.9								6.4				0.1			
Approach LOS		F															

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	US 17/92 at Barwick Road		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	17/30/19			East/West Street	US 17/92		
Analysis Year	2022			North/South Street	Barwick Road		
Time Analyzed	PM Peak-Hour Build-Out			Peak Hour Factor	0.94		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	1	2	0	0	1	2	1
Configuration		L		TR			LTR			L	T	TR		L	T	R
Volume (veh/h)		12	0	93		5	0	12	0	159	2973	6	0	11	1368	14
Percent Heavy Vehicles (%)		2	2	2		20	2	2	0	6			0	11		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized													No			
Median Type Storage	Left + Thru								2							

Critical and Follow-up Headways

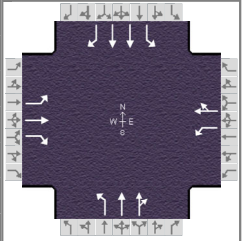
Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.54	6.54	6.94		7.90	6.54	6.94		4.22				4.32		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.70	4.02	3.32		2.26				2.31		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		13		99		18				169				12			
Capacity, c (veh/h)		23				8				435				81			
v/c Ratio		0.55				2.24				0.39				0.14			
95% Queue Length, Q ₉₅ (veh)		1.6				3.3				1.8				0.5			
Control Delay (s/veh)		282.4				1456.6				18.4				56.6			
Level of Service (LOS)		F				F				C				F			
Approach Delay (s/veh)						1456.6				0.9				0.4			
Approach LOS						F											

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	AM Build-Out		PHF	0.94	
Urban Street	US 17/92	Analysis Year	2022		Analysis Period	1 > 7:00	
Intersection	US 17/92 at Highbanks Rd	File Name	5. US 17-92 at Highbanks Rd - AM Build-Out - Re...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	178	80	97	208	100	116	88	550	77	57	1605	133

Signal Information													
Cycle, s	120.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	0.6	57.9	12.8	1.9	16.8			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	3.7	0.0	4.0			
				Red	2.0	0.0	2.0	2.6	0.0	2.6			

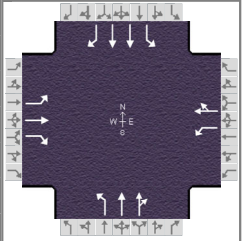
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	19.1	23.4	21.0	25.3	11.3	64.9	10.7	64.3
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	12.7	9.3	14.6	18.5	5.1		4.1	
Green Extension Time (g _e), s	0.1	1.5	0.3	0.2	0.0	0.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	0.96		0.87	
Max Out Probability	1.00	0.42	0.90	1.00	1.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	189	85	103	221	230		94	340	327	61	1707	141
Adjusted Saturation Flow Rate (s), veh/h/ln	1767	1856	1547	1753	1638		1767	1826	1747	1668	1766	1560
Queue Service Time (g _s), s	10.7	4.9	7.3	12.6	16.5		3.1	14.1	14.1	2.1	57.6	6.1
Cycle Queue Clearance Time (g _c), s	10.7	4.9	7.3	12.6	16.5		3.1	14.1	14.1	2.1	57.6	6.1
Green Ratio (g/C)	0.25	0.14	0.14	0.27	0.16		0.53	0.49	0.49	0.53	0.49	0.49
Capacity (c), veh/h	258	267	223	417	262		142	890	859	382	1720	759
Volume-to-Capacity Ratio (X)	0.735	0.319	0.464	0.530	0.878		0.659	0.382	0.380	0.159	0.993	0.186
Back of Queue (Q), ft/ln (95 th percentile)	233.3	108.8	138.8	240	353.3		70.2	261.9	243.9	38.8	924.5	104.6
Back of Queue (Q), veh/ln (95 th percentile)	9.1	4.2	5.3	9.3	13.4		2.7	10.1	9.8	1.4	36.1	4.1
Queue Storage Ratio (RQ) (95 th percentile)	0.90	0.00	0.63	1.30	0.00		0.00	0.00	0.00	0.17	0.00	0.84
Uniform Delay (d ₁), s/veh	38.6	46.3	47.1	36.5	49.3		28.1	19.4	19.3	15.1	30.8	17.4
Incremental Delay (d ₂), s/veh	9.5	1.0	2.1	1.0	26.4		8.0	1.2	1.3	0.2	20.1	0.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.1	47.3	49.3	37.6	75.7		36.1	20.6	20.6	15.3	50.9	17.9
Level of Service (LOS)	D	D	D	D	E		D	C	C	B	D	B
Approach Delay, s/veh / LOS	48.2		D	57.0		E	22.5		C	47.3		D
Intersection Delay, s/veh / LOS				43.3						D		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.46	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.11	A	1.23	A	1.12	A	2.06	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT	Time Period	PM Build-Out		PHF	0.95	
Urban Street	US 17/92	Analysis Year	2022		Analysis Period	1 > 7:00	
Intersection	US 17/92 at Highbanks Rd	File Name	5. US 17-92 at Highbanks Rd - PM Build-Out - Re...				
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	240	144	92	180	133	94	123	1703	102	124	768	141

Signal Information													
Cycle, s	150.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	7.3	1.7	77.0	15.4	0.5	22.6			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.4	0.0	4.4	4.0	0.0	4.0			
				Red	2.0	0.0	2.0	2.1	0.0	2.6			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	3.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	22.0	29.7	21.5	29.2	13.7	83.4	15.4	85.0
Change Period, (Y+R _c), s	6.3	6.6	6.1	6.6	6.4	6.4	6.4	6.4
Max Allow Headway (MAH), s	4.2	5.2	4.1	5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g _s), s	18.5	13.1	15.1	22.3	7.2		8.9	
Green Extension Time (g _e), s	0.0	2.1	0.3	0.3	0.2	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.22	0.31	1.00	0.06		0.29	

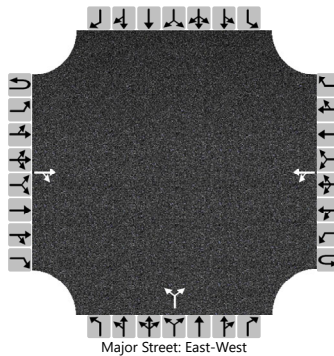
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	253	152	97	189	239		129	951	949	131	808	148
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1547	1781	1727		1739	1870	1833	1739	1766	1535
Queue Service Time (g _s), s	16.5	11.1	8.4	13.1	20.3		5.2	74.7	77.6	6.9	20.9	7.6
Cycle Queue Clearance Time (g _c), s	16.5	11.1	8.4	13.1	20.3		5.2	74.7	77.6	6.9	20.9	7.6
Green Ratio (g/C)	0.27	0.16	0.16	0.26	0.16		0.57	0.52	0.52	0.58	0.53	0.53
Capacity (c), veh/h	268	298	247	323	270		387	970	950	162	1871	813
Volume-to-Capacity Ratio (X)	0.944	0.508	0.392	0.587	0.885		0.335	0.981	0.999	0.807	0.432	0.183
Back of Queue (Q), ft/ln (95 th percentile)	421	236	159.9	253.7	418.2		97	1251	1275.7	242.5	346.6	131.2
Back of Queue (Q), veh/ln (95 th percentile)	16.6	9.3	6.2	10.0	16.3		3.7	49.3	51.0	9.3	13.5	5.0
Queue Storage Ratio (RQ) (95 th percentile)	1.62	0.00	0.73	1.37	0.00		0.00	0.00	0.00	1.05	0.00	1.05
Uniform Delay (d ₁), s/veh	50.3	58.0	56.5	46.1	62.0		16.8	35.8	36.1	44.4	21.7	18.4
Incremental Delay (d ₂), s/veh	39.9	1.9	1.4	1.7	27.1		0.5	24.6	28.9	13.9	0.7	0.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	90.2	59.9	58.0	47.8	89.0		17.3	60.4	65.0	58.2	22.5	18.9
Level of Service (LOS)	F	E	E	D	F		B	E	E	E	C	B
Approach Delay, s/veh / LOS	74.8		E	70.8		E	59.8		E	26.3		C
Intersection Delay, s/veh / LOS	53.8						D					

Multimodal Results	EB		WB		NB		SB	
	Pedestrian LOS Score / LOS	2.32	B	2.47	B	1.91	B	2.10
Bicycle LOS Score / LOS	1.31	A	1.19	A	2.16	B	1.38	A

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Highbanks at Ft Florida		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/30/19			East/West Street	Highbanks Rd		
Analysis Year	2022			North/South Street	Fort Florida Road		
Time Analyzed	AM Peak-Hour Build-Out			Peak Hour Factor	0.88		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			18	9		118	17			2		124				
Percent Heavy Vehicles (%)						6				50		6				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.16					6.90		6.26			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.25					3.95		3.35			

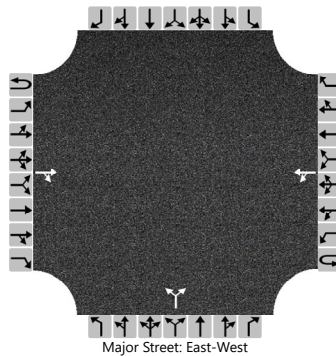
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						134						143				
Capacity, c (veh/h)						1556						1024				
v/c Ratio						0.09						0.14				
95% Queue Length, Q ₉₅ (veh)						0.3						0.5				
Control Delay (s/veh)						7.5						9.1				
Level of Service (LOS)						A						A				
Approach Delay (s/veh)					6.7				9.1							
Approach LOS									A							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Highbanks at Ft Florida		
Agency/Co.	LTG			Jurisdiction	Volusia		
Date Performed	7/30/19			East/West Street	Highbanks Rd		
Analysis Year	2022			North/South Street	Fort Florida Road		
Time Analyzed	PM Peak-Hour Build-Out			Peak Hour Factor	0.86		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.13						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			25	6		153	55			26		67				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

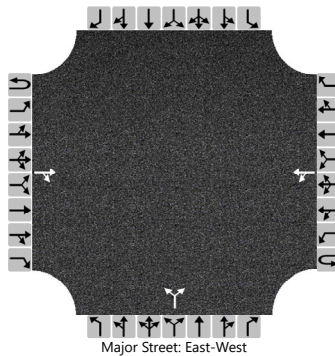
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						178				108						
Capacity, c (veh/h)						1575				799						
v/c Ratio						0.11				0.14						
95% Queue Length, Q ₉₅ (veh)						0.4				0.5						
Control Delay (s/veh)						7.6				10.2						
Level of Service (LOS)						A				B						
Approach Delay (s/veh)					5.8				10.2							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Ft Florida at Driveway 1		
Agency/Co.	LTG			Jurisdiction	DeBary		
Date Performed	7/30/2019			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Project Driveway 1		
Time Analyzed	AM Peak-Hour Build-Out			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12 Rivington						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			128	8		40	60			29		127				
Percent Heavy Vehicles (%)						1				1		1				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.11					6.41		6.21			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.21					3.51		3.31			

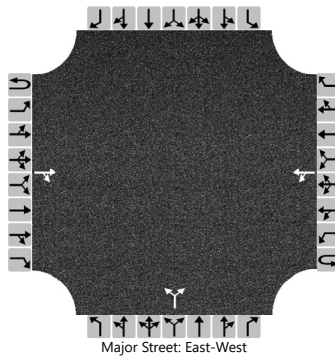
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					45						175					
Capacity, c (veh/h)					1434						846					
v/c Ratio					0.03						0.21					
95% Queue Length, Q ₉₅ (veh)					0.1						0.8					
Control Delay (s/veh)					7.6						10.4					
Level of Service (LOS)					A						B					
Approach Delay (s/veh)					3.2				10.4							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Ft Florida at Driveway 1		
Agency/Co.	LTG			Jurisdiction	DeBary		
Date Performed	7/30/2019			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Project Driveway 1		
Time Analyzed	PM Peak-Hour Build-Out			Peak Hour Factor	0.91		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12 Rivington						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			65	25		147	148			21		95				
Percent Heavy Vehicles (%)						1				1		1				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.11					6.41		6.21			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.21					3.51		3.31			

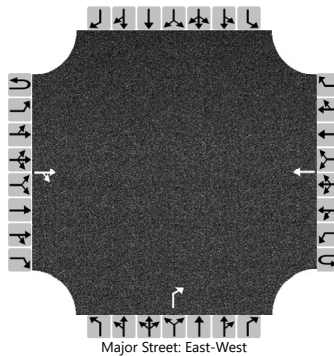
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						162					127					
Capacity, c (veh/h)						1500					792					
v/c Ratio						0.11					0.16					
95% Queue Length, Q ₉₅ (veh)						0.4					0.6					
Control Delay (s/veh)						7.7					10.4					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					4.3				10.4							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Ft Florida at Driveway 2		
Agency/Co.	LTG			Jurisdiction	DeBary		
Date Performed	7/30/2019			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Project Driveway 2		
Time Analyzed	AM Peak-Hour Build-Out			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12 Rivington						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration				TR			T					R				
Volume (veh/h)			252	3			100					29				
Percent Heavy Vehicles (%)												1				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																	6.2
Critical Headway (sec)																	6.21
Base Follow-Up Headway (sec)																	3.3
Follow-Up Headway (sec)																	3.31

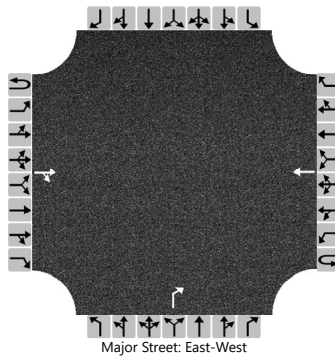
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																	33
Capacity, c (veh/h)																	757
v/c Ratio																	0.04
95% Queue Length, Q ₉₅ (veh)																	0.1
Control Delay (s/veh)																	10.0
Level of Service (LOS)																	A
Approach Delay (s/veh)									10.0								
Approach LOS									A								

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Ft Florida at Driveway 2		
Agency/Co.	LTG			Jurisdiction	DeBary		
Date Performed	7/30/2019			East/West Street	Fort Florida Road		
Analysis Year	2022			North/South Street	Project Driveway 2		
Time Analyzed	PM Peak-Hour Build-Out			Peak Hour Factor	0.91		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	4628.12 Rivington						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration				TR			T					R				
Volume (veh/h)			150	8			295					23				
Percent Heavy Vehicles (%)												1				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																	6.2
Critical Headway (sec)																	6.21
Base Follow-Up Headway (sec)																	3.3
Follow-Up Headway (sec)																	3.31

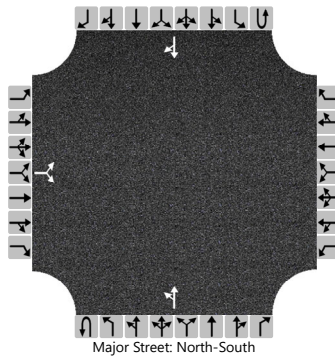
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																	25
Capacity, c (veh/h)																	877
v/c Ratio																	0.03
95% Queue Length, Q ₉₅ (veh)																	0.1
Control Delay (s/veh)																	9.2
Level of Service (LOS)																	A
Approach Delay (s/veh)									9.2								
Approach LOS									A								

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Barwick Rd at Driveway 3		
Agency/Co.	LTG			Jurisdiction	DeBary		
Date Performed	7/20/2019			East/West Street	Barwick Road		
Analysis Year	2022			North/South Street	Project Driveway 3		
Time Analyzed	AM Peak-Hour Build-Out			Peak Hour Factor	0.89		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.12 Rivington						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		79		90						35	34				36	35
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

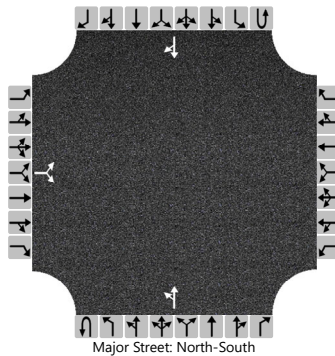
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			190							39						
Capacity, c (veh/h)			895							1525						
v/c Ratio			0.21							0.03						
95% Queue Length, Q ₉₅ (veh)			0.8							0.1						
Control Delay (s/veh)			10.1							7.4						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		10.1								3.9						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	KLD			Intersection	Barwick Rd at Driveway 3		
Agency/Co.	LTG			Jurisdiction	DeBary		
Date Performed	7/30/2019			East/West Street	Barwick Road		
Analysis Year	2022			North/South Street	Project Driveway 3		
Time Analyzed	PM Peak-Hour Build-Out			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	4628.12 Rivington						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		58		65						103	38				29	131
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

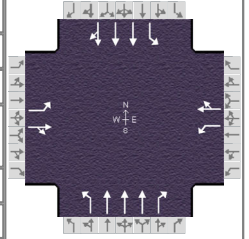
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			135							113							
Capacity, c (veh/h)			730							1407							
v/c Ratio			0.19							0.08							
95% Queue Length, Q ₉₅ (veh)			0.7							0.3							
Control Delay (s/veh)			11.0							7.8							
Level of Service (LOS)			B							A							
Approach Delay (s/veh)		11.0								5.9							
Approach LOS		B															

APPENDIX K
INTERSECTIONS HCS
SUMMARY–
BUILD-OUT CONDITIONS
IMPROVED

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT		Time Period	AM Build-Out - Improved		PHF	0.92
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Fort Florida...		File Name	2. Fort Florida Rd at US 17-92 - AM Build-Out - I...			
Project Description	4628.12 Rivington						



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	147	25	190	246	21	10	101	646	48	22	2394	72

Signal Information													
Cycle, s	162.1	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	4.0	3.6	83.5	12.0	1.5	25.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	0.0	4.0	4.0	4.0	4.0			
				Red	2.5	0.0	2.5	2.5	2.5	2.5			

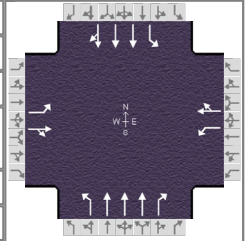
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	18.5	31.5	26.5	39.5	14.0	93.6	10.5	90.0
Change Period, (Y+R _c), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s	3.1	4.2	3.0	4.2	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s	14.5	25.1	21.8	4.5	7.5	14.4	3.0	76.2
Green Extension Time (g _e), s	0.0	0.0	0.0	0.9	0.1	36.9	0.0	7.3
Phase Call Probability	1.00	1.00	1.00	1.00	0.99	1.00	0.66	1.00
Max Out Probability	1.00	1.00	1.00	0.00	0.59	0.35	0.00	0.93

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	160	234		267	34		110	702	52	24	1790	891
Adjusted Saturation Flow Rate (s), veh/h/ln	1697	1614		1810	1796		1697	1644	1610	1781	1856	1827
Queue Service Time (g _s), s	12.5	23.1		19.8	2.5		5.5	12.4	2.5	1.0	72.7	74.2
Cycle Queue Clearance Time (g _c), s	12.5	23.1		19.8	2.5		5.5	12.4	2.5	1.0	72.7	74.2
Green Ratio (g/C)	0.23	0.16		0.30	0.21		0.57	0.54	0.54	0.55	0.52	0.52
Capacity (c), veh/h	377	254		290	371		135	2667	870	428	1924	947
Volume-to-Capacity Ratio (X)	0.423	0.920		0.921	0.091		0.815	0.263	0.060	0.056	0.930	0.940
Back of Queue (Q), ft/ln (95 th percentile)	250.6	450.5		422.1	49.5		135.6	213.5	41.2	18.5	1091.5	1129.2
Back of Queue (Q), veh/ln (95 th percentile)	9.4	17.7		16.9	2.0		5.1	8.1	1.6	0.7	42.6	45.2
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00		0.00	0.00		0.36	0.00	0.26	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	52.4	67.3		49.4	52.0		41.9	20.1	17.7	17.3	36.5	36.7
Incremental Delay (d ₂), s/veh	0.3	35.8		32.3	0.0		18.3	0.1	0.0	0.0	8.5	16.4
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	52.7	103.1		81.7	52.0		60.2	20.1	17.7	17.4	45.0	53.0
Level of Service (LOS)	D	F		F	D		E	C	B	B	D	D
Approach Delay, s/veh / LOS	82.7	F		78.3	E		25.1	C		47.4	D	
Intersection Delay, s/veh / LOS	48.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.61	C	1.91	B	1.92	B
Bicycle LOS Score / LOS	1.14	A	0.98	A	0.96	A	1.97	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	LTG			Duration, h	0.25		
Analyst	KLD	Analysis Date	Jul 30, 2019		Area Type	Other	
Jurisdiction	FDOT		Time Period	PM Build-Out - Improved		PHF	0.95
Urban Street	US 17/92		Analysis Year	2022		Analysis Period	1 > 7:00
Intersection	US 17/92 at Fort Florida...		File Name	2. Fort Florida Rd at US 17-92 - PM Build-Out - I...			
Project Description	4628.12 Rivington						



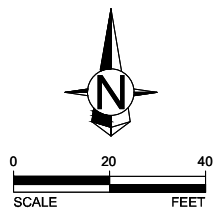
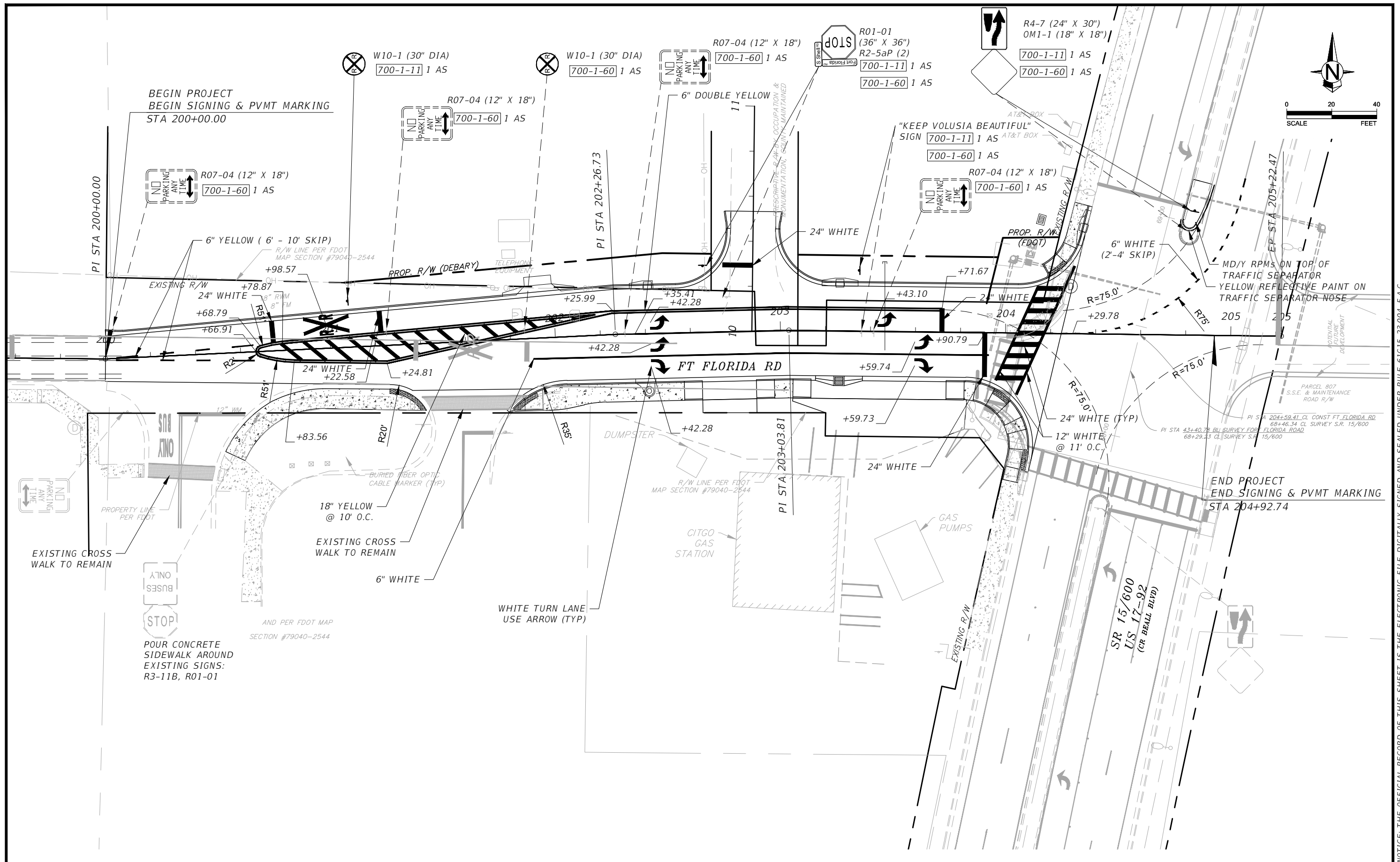
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	130	25	160	215	40	10	375	2632	50	33	883	206

Signal Information													
Cycle, s	161.2	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	4.7	9.8	73.7	12.0	0.7	21.4			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	4.0	4.0	4.0			
				Red	2.5	2.5	2.5	2.5	2.5	2.5			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	18.5	27.9	25.7	35.0	27.5	96.4	11.2	80.2
Change Period, (Y+R _c), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Allow Headway (MAH), s	3.1	4.0	3.0	4.0	4.0	3.9	3.0	3.9
Queue Clearance Time (g _s), s	12.8	21.1	19.0	5.9	20.4	86.9	3.6	25.5
Green Extension Time (g _e), s	0.0	0.2	0.2	0.4	0.6	3.0	0.0	46.4
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	0.79	1.00
Max Out Probability	1.00	1.00	0.05	0.27	0.73	1.00	0.00	0.58

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	137	195		226	53		395	2771	53	35	789	357
Adjusted Saturation Flow Rate (s), veh/h/ln	1753	1618		1810	1834		1781	1698	1610	1781	1870	1686
Queue Service Time (g _s), s	10.8	19.1		17.0	3.9		18.4	84.9	2.4	1.6	23.4	23.5
Cycle Queue Clearance Time (g _c), s	10.8	19.1		17.0	3.9		18.4	84.9	2.4	1.6	23.4	23.5
Green Ratio (g/C)	0.21	0.13		0.26	0.18		0.60	0.56	0.56	0.49	0.46	0.46
Capacity (c), veh/h	351	214		277	325		429	2842	898	99	1709	771
Volume-to-Capacity Ratio (X)	0.389	0.908		0.818	0.162		0.920	0.975	0.059	0.352	0.462	0.464
Back of Queue (Q), ft/ln (95 th percentile)	217.5	377.7		325.7	80.9		378.6	1148.5	39.4	32	395.4	360.5
Back of Queue (Q), veh/ln (95 th percentile)	8.4	14.9		13.0	3.2		14.9	45.2	1.6	1.3	15.6	14.4
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00		0.00	0.00		1.00	0.00	0.25	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	55.0	68.9		51.5	56.2		24.7	34.5	16.3	38.4	30.1	30.2
Incremental Delay (d ₂), s/veh	0.3	30.8		9.9	0.1		22.0	11.6	0.0	0.8	0.2	0.4
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.2	99.7		61.4	56.3		46.7	46.1	16.3	39.2	30.3	30.6
Level of Service (LOS)	E	F		E	E		D	D	B	D	C	C
Approach Delay, s/veh / LOS	81.4	F		60.4	E		45.7	D		30.7	C	
Intersection Delay, s/veh / LOS	45.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.61	C	1.91	B	1.92	B
Bicycle LOS Score / LOS	1.03	A	0.95	A	2.26	B	1.14	A



REVISIONS	
DATE	DESCRIPTION

CITY OF DeBARY
16 COLOMBIA RD
DeBary, FL 32713

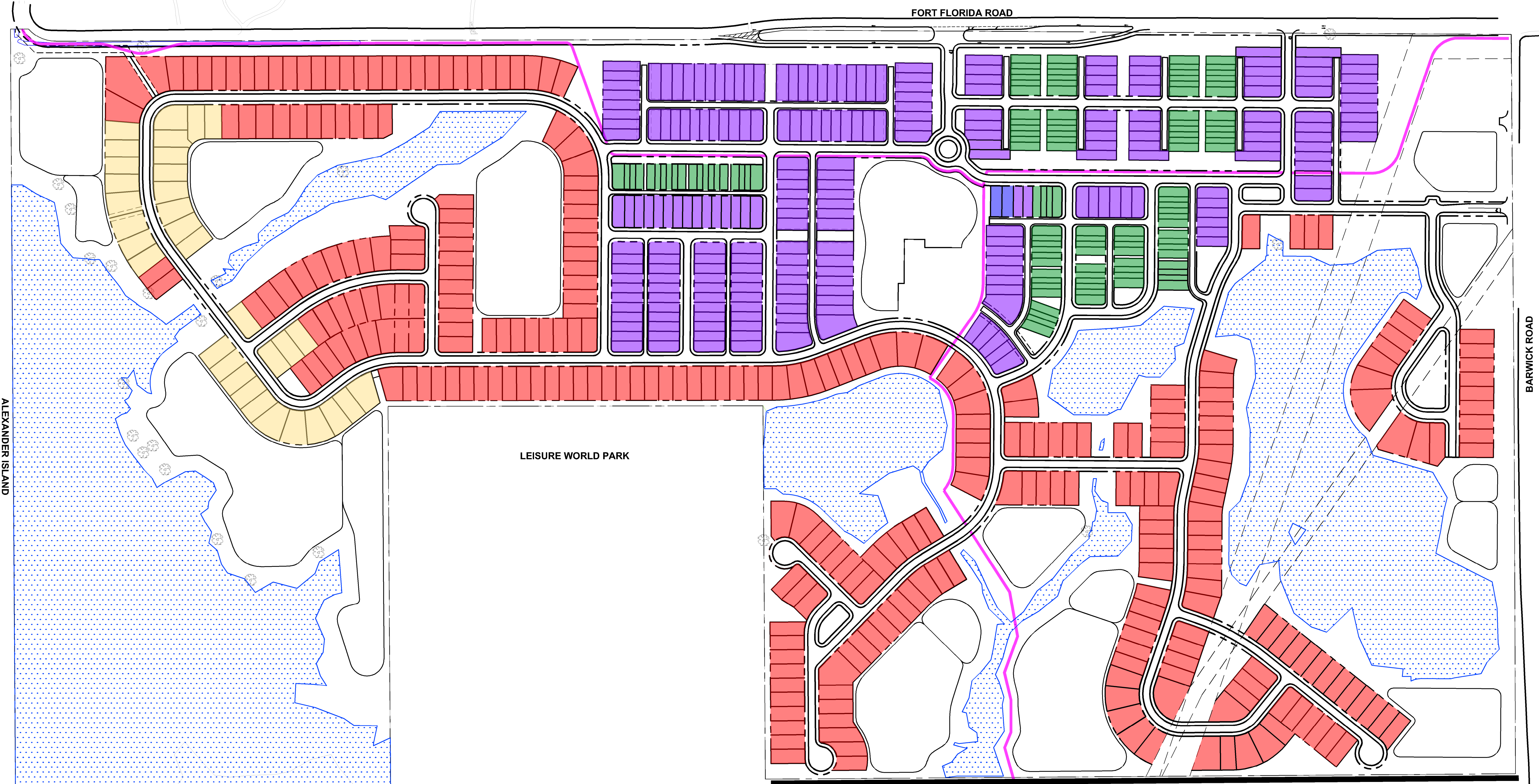
SUSANNE S. WILLIAMS, P.E. #49486
TRAFFIC ENGINEERING DATA SOLUTIONS, INC.
Phone 386.753.0558 80 Spring Vista Drive
Fax 386.753.0778 DeBary, FL 32713
CERTIFICATE OF AUTHORIZATION NO. 27392

FORT FLORIDA ROADWAY IMPROVEMENTS AT SR 15/600 (US 17-92) (CR BEALL BLVD)

SIGNING & PAVEMENT MARKING PLAN

SHEET NO.
16

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



ALEXANDER ISLAND

FORT FLORIDA ROAD

BARWICK ROAD

LEISURE WORLD PARK

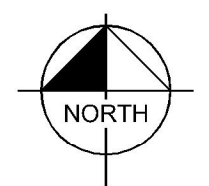
LEISURE WORLD DRIVE
CITY/COUNTY PARK

- SINGLE FAMILY- ~60' FRONTAGE ~10%
 - SINGLE FAMILY- ~50' FRONTAGE ~40%
 - SINGLE FAMILY- ~40' FRONTAGE ~1%
 - SINGLE FAMILY- ~34' FRONTAGE ~20%
 - TOWNHOMES - ~20' FRONTAGE ~15%
- 693 TOTAL LOTS



*LOTS SHOWN ARE FOR A CONCEPTUAL LAYOUT PURPOSE ONLY. THEY DO NOT REPRESENT FINAL SIZE NOR ORIENTATION AS WILL BE ESTABLISHED DURING THE CONSTRUCTION PLAN PERMITTING PROCESS.

NOT TO SCALE



Kimley»Horn



CONCEPTUAL SKETCH

5/20/2019 - CONTACT BRENT A. LENZEN, P.E. (407) 427-1610

SP-16

K:\ORL_GWA\149867000-Rivington\CADD\CONCEPT\SP-16.dwg