



City of Deltona

PLANNING & ZONING BOARD MEETING WEDNESDAY, NOVEMBER 19, 2014

7:00 P.M.

2nd FLOOR CONFERENCE ROOM
2345 PROVIDENCE BOULEVARD
DELTONA, FLORIDA 32725

Chairman
Tom Burbank

Vice-Chairman
Noble Olasimbo

Members:

Wendy Hickey

Victor Ramos

Adam Walosik

Herb Zischkau

Stony Sixma

Staff Liaison
Chris Bowley, AICP

AGENDA

1. CALL TO ORDER:
2. ROLL CALL:
3. APPROVAL OF MINUTES: August 20, 2014, September 17, 2014
4. PUBLIC COMMENTS:
5. OLD BUSINESS:
6. NEW BUSINESS:
 - A. CP14-001, Comprehensive Plan Amendment, amending the Future Land Use Map by changing the designation of approximately 22.8 acres from County Agricultural Resource to City Low Density Residential on parcel number, 30-18-32-00-0050 (Ordinance No. 29-2014).
7. MEMBER COMMENTS:
8. ADJOURNMENT:

NOTE: If any person decides to appeal any decision made by the Planning & Zoning Board 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 (F.S. 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) 878-8100.

**CITY OF DELTONA, FLORIDA
PLANNING & ZONING BOARD MEETING
WEDNESDAY, AUGUST 20, 2014**

A Regular Meeting of the Deltona Planning and Zoning Board was held on Wednesday, August 20, 2014, in the City’s Commission Chambers located at 2345 Providence Boulevard, Deltona, Florida.

Chairman Burbank thanked everyone for coming and he stated that he was informed that Item 6-A, which is on the agenda, will be postponed until the September, Planning and Zoning Board meeting to take place on Wednesday, September 17, 2014 so that both the Variance and Conditional Use application can be advertised and heard properly. He stated the only business to address is the roll call and approval of minutes.

1. CALL TO ORDER:

The meeting discussion started at 7:04 p.m.

2. ROLL CALL:

Chairman	Tom Burbank	Present
Vice-Chairman	Noble Olasimbo	Absent-Excused
Member-Secretary	Wendy Hickey	Present
Member	Victor Ramos	Absent
Member	Adam Walosik	Absent-Excused
Member	Stony Sixma	Present
Member	Herb Zischkau	Present

Also present: Planning & Development Director, Chris Bowley, AICP; Planning & Development Assistant Director, Ron Paradise; Planner, Scott McGrath; Administrative Assistant, Kathrine Kyp.

3. APPROVAL OF MINUTES:

A. Minutes:

1. Meeting – July 16, 2014.

Motion by Member Burbank, seconded by Member Sixma to adopt the minutes of the Planning & Zoning Board Meeting of July 16, 2014, as presented.

Motion carried with members present voting unanimously.

4. PUBLIC COMMENTS: None

5. OLD BUSINESS: None

1 **6. NEW BUSINESS:**
2

3 **A. CU14-004, Conditional Use Application CU14-004 Harmony Clinic (Resolution No.**
4 **2014-22).**
5

6 This item will be heard at the September 17, 2014, meeting.
7

8 **7. MEMBER COMMENT:**
9

10
11 **8. ADJOURNMENT:**
12

13 There being no further business, the meeting adjourned at 7:06 p.m.
14
15
16
17
18
19

20 **ATTEST:**
21
22

Tom Burbank, CHAIRMAN

Kathrine Kyp, RECORDING SECRETARY
23

CITY OF DELTONA, FLORIDA
PLANNING & ZONING BOARD MEETING
WEDNESDAY, SEPTEMBER 17, 2014

A Regular Meeting of the Deltona Planning and Zoning Board was held on September 17, 2014, in the City’s Commission Chambers located at 2345 Providence Boulevard, Deltona, Florida.

1. CALL TO ORDER:

The meeting was called to order at 7:00 p.m. by Chairman Burbank.

2. ROLL CALL:

Chairman	Tom Burbank	Present
Vice Chairman	Noble Olasimbo	Present
Member-Secretary	Wendy Hickey	Present
Member	Victor Ramos	Present
Member	Adam Walosik	Present
Member	Herb Zischkau	Absent-Unexcused

Also present: Planning & Development Director, Chris Bowley, AICP; Planning & Development Assistant Director, Ron Paradise; Planning & Development Planner, Scott McGrath; Administrative Assistant, Kathrine Kyp.

3. APPROVAL OF MINUTES:

A. Minutes:

1. Minutes for August 20, 2014, were discussed, but not voted on. A vote will occur at the next scheduled Planning and Zoning Board meeting.

4. PUBLIC COMMENTS: None

5. OLD BUSINESS: None

6. NEW BUSINESS:

A. CU14-004, Conditional Use Application, Harmony Clinic (Resolution No. 2014-22).

Mr. McGrath presented a summary of the Conditional Use application for property located at 1948 Saxon Boulevard. He stated that the applicant wishes to covert the current single family dwelling into a medical office/clinic (Sec. 110-313(c)) for his chiropractic practice. The OR district permits “medical and dental offices and clinics” as a Conditional Use.

Chairman Burbank made statement that both applications are linked and the recommendations are dependent on each other. He discussed the City’s Land Development Code section regarding

1 Conditional Use and specifically stated that in order to grant the Conditional Use, the use and
2 property must meet applicable requirements.

3
4 **Motion for Item A. was combined with Item B.**

5
6 **B. VR14-001 Variance Application, Harmony Clinic (Resolution No. 2014-24).**

7
8 Mr. McGrath presented a summary of the application for two Zoning Variances for the Office
9 Residential (OR) zoned property located at 1948 Saxon Boulevard. Dr. Carrero, the owner, intends
10 to covert the current single family dwelling into a medical office/clinic (Sec. 110-313(c)) for his
11 chiropractic practice. The property will need two variances. The first is to reduce the minimum
12 parking spaces from 11 to 7, the other is to allow a portion of the rear setback and bufferyard to be
13 used for a driveway, parking, and turn-around area.

14
15 Discussion ensued regarding the quantity of people working on site.

16
17 Chairman Burbank stated the parcel number and the legal description are noted incorrectly on the
18 staff reports for both applications with both coming from the Property Appraiser. He also stated
19 that by recommending approval of these applications, the Board would be asking the City
20 Commission to grant a nonconforming use.

21
22 Ms. Vose stated that by approving the variances, the use would then comply. The Conditional Use
23 relates to the actual use of the property with a condition of demolishing the building and then
24 rebuilding it to appropriate conditions. She stated that once the variances are granted, then those
25 standards now become the minimum requirements for the property so, the uses would be
26 conforming.

27
28 Discussion among Board members ensued regarding the order of addressing the applications.

29
30 Member Burbank stated that there is no hardship to grant the variance.

31
32 Member Olasimbo stated that this is special spot zoning.

33
34 Member Burbank stated that every lot on the street had six or more feet taken from them and never
35 should have been zoned to OR. The Code will not work for any of the properties. Member
36 Burbank suggested creating a zoning Overlay District.

37
38 Member Walosik stated that the Conditional Use and variances should not go together.

39
40 Discussion between Board and staff ensued regarding the existing zoning and future applications.

41
42 Lester Carrero 1948 Saxon Blvd., Deltona, spoke regarding converting his home into a medical
43 clinic. He stated that he would like to see his street converted into a medical gateway for the City
44 and his clinic can incorporate his dream. He asked the Board to give him the opportunity to work
45 within Deltona and stated that if the City feels he is growing, then he will look into expanding his
46 clinic with the purchase of an adjacent home.

1 Chairman Burbank explained the exhibits provided and that it shows that all of the lots within the
2 OR zoning district would be unable to meet current zoning requirements without variances, due to
3 the rezoning act for the area.

4
5 Chairman Burbank opened the hearing to the Public.

6
7 Mitch Honaker, 2551 Sweet Springs St., Deltona, spoke regarding a “common sense” approach for
8 economic development and uniformity with application approvals; i.e. a solution.

9
10 Chairman Burbank read aloud a letter from Dean and Genevieve Greenstreet, Deltona residents,
11 regarding the application and spot zoning.

12
13 Member Sixma and Mr. Bowley spoke regarding the additional lots throughout the City that are
14 unbuildable and the Overlay District option presented earlier.

15
16 Virginia Zagnoli, 1936 Saxon Blvd., Deltona, spoke regarding the traffic difficulties of
17 maneuvering out onto Saxon Blvd. She asked if the Board or City staff could do a study regarding
18 the properties on her block to make it more appealing to sell. She stated that others on the block
19 are interested in selling and that she can’t sell her home with the current OR zoning designation.

20
21 Member Ramos spoke regarding the City being “Open For Business”, but with the Code, the
22 Board has their hands tied. He explained that this is a perfect opportunity for the City to reevaluate
23 the zoning of properties in this area and to work towards fixing the problem to benefit the
24 residents and the City.

25
26 Member Walosik agreed with Member Ramos and stated that the City has the opportunity and
27 responsibility to look at the block as a whole to create a plan for the entire block; instead of on a
28 case by case basis.

29
30 **Motion by Member Walosik, seconded by Member Olasimbo, to recommend that the City**
31 **Commission deny applications CU14-004 and VR14-001 Harmony Clinic.**

32
33 **Motion carries unanimously.**

34
35 **C. CU14-005 Conditional Use Application, East Coast Dragon Tattoo (Resolution No.**
36 **2014-29).**

37
38 Mr. McGrath discussed the application for a Conditional Use to allow a tattoo and body piercing
39 shop to open in the existing Deltona Square Plaza, located at 577 Deltona Boulevard. Tattoo
40 shops require Conditional Use approval to operate within the C-2 existing zoning district. He
41 explained that the Land Development Code doesn’t address piercings, but staff found the two uses
42 to be similar and acceptable.

43
44 The applicant, Julio Robles, 567 Gainsboro St., Deltona, spoke regarding his tattoo shop and his
45 desire to relocate his business from Daytona Beach to Deltona.

46
47 **Motion by Member Olasimbo, seconded by Member Sixma, to recommend that the City**

1 **Commission approve East Coast Dragon Tattoo Shop, Resolution No. 2014-29, subject to the**
2 **conditions cited in the staff report.**

3
4 **Motion carries unanimously.**

5
6 **D. Ordinance No. 27-2014: An Amendment to Section 110-827, Accessory Uses and**
7 **Structures, pertaining to Shed Design Standards.**

8
9 Mr. Bowley explained that Ordinance No. 27-2014 proposes amendments to Section 110-827, of
10 the Code, to update standards in Subsection (c), Accessory Uses and Structures.

11
12 Member Burbank stated the provision in the Code that references sheds shall match the design
13 and/or architecture of the principal structure for sheds over 2,400 SF was to avoid residents from
14 creating little houses.

15
16 Mr. Bowley explained that the façade of the house and the roof materials as it presented
17 difficulties for businesses and residents to match the design types when constructing their sheds.
18 Further, most sheds sold at “home centers” are prototypes and the Code does not conform to many
19 of those prototypes; particularly for shed heights.

20
21 **Motion by Member Sixma, seconded by Member Hickey, to recommend that the City**
22 **Commission approve Ordinance No. 27-2014.**

23
24 **Motion carries unanimously.**

25
26 **E. Ordinance No. 26-2014: An Amendment to add Chapter 99 to the City’s Code of**
27 **Ordinances, pertaining to Residential Prison Diversion Programs.**

28
29 Ms. Vose provided the Board with information regarding Ordinance No. 26-2014. She stated that
30 the City Commission requested that an ordinance be drafted to address residential prison diversion
31 programs that provide regulations for their location and operation within the City of Deltona.

32
33 Ms. Vose explained that the proposed Ordinance No. 26-2014, would regulate residential prison
34 diversion programs that were promulgated by recent occurrences within the regionally local City
35 of Bunnell. Specifically, a “non-profit” group purchased a home in Bunnell to establish a
36 residential prison diversion program. The facility was designed to house convicted criminals that
37 typically would have been assigned to a traditional prison facility. Due to overcrowding at prisons,
38 courts are now allowing convicted criminals to be housed within a residential prison diversion
39 facility (i.e. a single family house), if the convicted criminal pays the fees to live at that location.

40
41 The purpose and intent of Ordinance No. 26-2014 is to provide a proactive approach in the event
42 that a similar type of group is interested in establishing a residential prison diversion facility
43 within a Deltona residential neighborhood.

44
45 Member Olasimbo asked Ms. Vose if this was occurring now and if the court system has protocols
46 in place to inform the City of potential programs before they come into our City. Ms. Vose said

1 she doesn't know of any current programs, or know of any houses in the City being used for this
2 purpose, but would look into this.

3
4 Member Burbank and Ms. Vose discussed the zoning locations and separation requirements.

5
6 **Motion by Member Hickey, seconded by Member Olasimbo, to recommend that the City
7 Commission approve, Ordinance No. 26-2014.**

8
9 **Motion carries unanimously.**

10
11 **F. Ordinance No. 10-2014: An Amendment to add Article XIV to the City's Code of
12 Ordinances, pertaining to Medical Marijuana Dispensaries.**

13
14 Ms. Vose provided background information on Ordinance No. 10-2014. She stated that the City
15 Commission requested that an ordinance be drafted to address the location of and regulations
16 relating to medical marijuana dispensaries that would become effective, if medical marijuana is
17 approved by the Florida voters in November of 2014.

18
19 At the July 28, 2014, City Commission Workshop, numerous changes to a proposed draft
20 ordinance on the subject were suggested. Thus, draft Ordinance No. 10-2014 proposes the
21 allowance of medical marijuana dispensaries within the zoning districts of C-1 (Retail
22 Commercial), C-2 (General Commercial), and C-3 (Heavy Commercial), with Conditional Use
23 approval. The proposed regulations do not apply if medical marijuana is sold at a licensed
24 pharmacy that has approval to sell such a product.

25
26 Member Burbank and Ms. Vose discussed the type of marijuana that would be dispensed.

27
28 Chairman Burbank opened the hearing to the Public.

29
30 Mitch Honaker, 2551 Sweet Springs St. Deltona, spoke regarding the grow facilities allowed in
31 Florida and the crime associated with it. He stated that there were 53 attempted burglaries and
32 crimes associated with one grow facility in Colorado. He also stated that the State of Florida has to
33 approve and license doctors to be able to write the prescriptions.

34
35 Member Sixma asked if this would be allowed in all commercial districts. Ms. Vose explained that
36 this would be a Conditional Use within all three commercial zoned districts only.

37
38 **Motion by Member Hickey, seconded by Member Olasimbo, to recommend that the City
39 Commission approve, Ordinance No. 10-2014.**

40
41 **Motion carries 5-1 with members voting as follows:**

42
43 **Chairman Burbank For**
44 **Noble Olasimbo For**
45 **Wendy Hickey For**
46 **Adam Walosik For**
47 **Victor Ramos For**

1 **Stony Sixma** **Against**

2
3

4 **7. DISCUSSION:**

5
6 **A. By the Board:**

7

8 Member Burbank and Member Sixma discussed with staff the future of the Saxon Blvd. homes,
9 nonconforming lots, and conforming uses located along Saxon Blvd. He recommended they
10 combine their efforts to make it more marketable. Mr. Paradise stated, as an example, that the
11 combination of lots on the other side of Saxon Blvd. was initiated by RaceTrac and lack of
12 commercial sewer is also a detriment to an assemblage.

13

14 **B. By the City Attorney: None.**

15

16 **C. By Planning & Development Staff: None.**

17

18 **8. ADJOURNMENT:**

19

20 There being no further business, the meeting adjourned at 8:16 p.m.

21

22

23 **ATTEST:**

24

25

26 **Kathrine Kyp, RECORDING SECRETARY**

27

28

Tom Burbank, CHAIRMAN



AGENDA MEMO

TO: Planning and Zoning Board **AGENDA DATE:** 11/19/2014

FROM: Chris Bowley, AICP, Director **AGENDA ITEM:** 6A
Planning and Development Services

SUBJECT: **Project No. CP14-001**, amending the Future Land Use Map by changing the designation of approximately 22.8 acres from County Agricultural Resource to City Low Density Residential all generally located northeast of Pine Ridge High School; amending the Future Land Use Element of the City of Deltona's Comprehensive Plan by adding Policy FLU4-1.2 to limit the density on parcel 30-18-32-00-00-0050. **Ordinance No. 29-2014.**

LOCATION:

Located northeast of the Pine Ridge High School.

BACKGROUND:

This property was annexed into the City of Deltona on November 1, 2004 by the adoption of Ordinance No. 25-2004. The Volusia County Future Land Use of Agricultural Resource (1 dwelling unit per 10 acres); and Volusia County zoning classification of Agricultural Resource (A-1) were retained.

On May 21, 2014, the owner/applicant submitted a Future Land Use Map amendment application requesting to change the designation of approximately 22.8 acres from County Agricultural Resource to City Low Density Residential (0-6 units/acre). The applicant is proposing to cap the density to a maximum of two (2) dwelling units per acre (up to 45 units).

ORIGINATING DEPARTMENT:

Planning & Development Services

REVIEWED AND PRESENTED BY:

Chris Bowley, AICP, Director of Planning & Development Services

STAFF REC:

The Agricultural Resource designation on the property is out of character. The fact that the amendment area is located between two sizable educational facilities and flanked on the east by property eligible for urban uses illustrates that a Future Land Use Map amendment to the City Low Density Residential category is appropriate. In addition, there is public infrastructure capacity ranging from transportation facilities to school workstation space to support the requested amendment.

Therefore, staff suggests that the Planning and Zoning Board make a recommendation to the City Commission to transmit to the Florida Department of Economic Opportunity (DEO) and the Volusia County Growth Management Commission an amendment to change the Future Land Use Designation on the 22.8 acres from County Agricultural Resource to City Low Density Residential. Furthermore, staff is recommending as part of this amendment package a new policy statement be added to the text of the City Comprehensive Plan to limit gross density on the +/-22.8 acre area to two (2) dwelling units per acre. The following language would memorialize the density limitation:

Policy FLU4-1.2

The property covered by ordinance number 29-2014 is designated as Low Density Residential. The gross density on the subject parcel will be limited to 45 dwelling units.

**POTENTIAL
MOTION:**

I hereby make a motion to recommend that the City Commission transmit Ordinance No. 29-2014 changing the Future Land Use designation on the +/- 22.8 acre site from Volusia County Agriculture Resource to City Low Density Residential, and proposed Future Land Use Element Policy FLU4-1.2 to the Volusia Growth Management Commission and the Florida Department of Economic Opportunity.

ATTACHMENTS:

Ordinance No. 29-2014
Staff Report
Maps
Application
Letter from applicant's agent dated 10/27/14

ORDINANCE NO. 29-2014

AN ORDINANCE OF THE CITY OF DELTONA, FLORIDA, AMENDING THE FUTURE LAND USE MAP OF DELTONA'S COMPREHENSIVE PLAN BY CHANGING THE FUTURE LAND USE DESIGNATION OF APPROXIMATELY 22.8 ACRES OF LAND LOCATED SOUTHWEST OF 890 OSTEEN CEMETERY, FROM COUNTY AGRICULTURE RESOURCE TO CITY LOW DENSITY RESIDENTIAL; AMENDING THE FUTURE LAND USE ELEMENT OF THE CITY OF DELTONA'S COMPREHENSIVE PLAN BY ADDING A POLICY TO ADDRESS THE DEVELOPMENT ON THE SUBJECT PROPERTY; FINDING CONFORMITY WITH STATE STATUTES AND THE COMPREHENSIVE PLAN OF THE CITY OF DELTONA; PROVIDING FOR CONFLICTS, SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the City of Deltona has adopted a Comprehensive Plan through its Ordinance No. 32-98 and subsequent amendments thereto; and

WHEREAS, the Deltona Planning and Zoning Board acting as the local planning agency, held a public hearing on _____, to consider said Comprehensive Plan amendment; and

WHEREAS, the transmittal and adoption public hearings on the proposed Large Scale Comprehensive Plan amendment hereinafter described were duly advertised and held by the City Commission of the City of Deltona, and at such hearings interested parties and citizens for and against the proposed plan amendments were heard; and

WHEREAS, the City of Deltona, Florida, and its Land Planning Agency have complied with the requirements of the local Government Planning and Land Development Act in preparing the proposed amendment to the Comprehensive Plan; and

WHEREAS, the proposed amendment to be adopted by this ordinance complies with the statutory and regulatory requirements of the aforesaid Act; and

NOW, THEREFORE, BE IT ENACTED BY THE CITY COMMISSION OF THE CITY OF DELTONA, FLORIDA, AS FOLLOWS:

SECTION ONE: This Ordinance is adopted in conformity with and pursuant to the Local Government Comprehensive Planning and Land Development Regulation Act, Sections 163.3161 et. seq., and the Municipal Home Rule Powers Act, Sections 166.011 et. seq.

SECTION TWO: The Future Land Use Map of the City of Deltona is hereby amended to show the Future Land Use Designation on the amendment area as Low Density Residential Future Land Use, as depicted in **Exhibit A**.

SECTION THREE: The Comprehensive Plan Future Land Use Element is hereby amended to add a new Policy FLU4-1.2 as described in **Exhibit B**.

SECTION FOUR: Any and all Ordinances or parts of Ordinances in conflict herewith be and the same are hereby repealed.

SECTION FIVE: If any provisions of this Ordinance or the application thereof to any person or circumstance are held invalid, the invalidity shall not affect other, provisions or applications of the Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are declared severable.

SECTION SIX: Effective Date. This Ordinance shall become effective immediately upon issuance of a certificate of consistency by the Volusia Growth

Management Commission and by the issuance of a Notice of Intent by the Florida Department of Economic Opportunity as provided in Sections 163.3184 and 163.3189, Florida Statutes.

**PASSED AND ADOPTED BY THE CITY COMMISSION OF THE CITY
OF DELTONA, FLORIDA, THIS _____ DAY OF _____ 2014.**

FIRST READING: _____

ADVERTISED: _____

SECOND READING: _____

BY: _____
JOHN C. MASIARCZYK, SR., Major

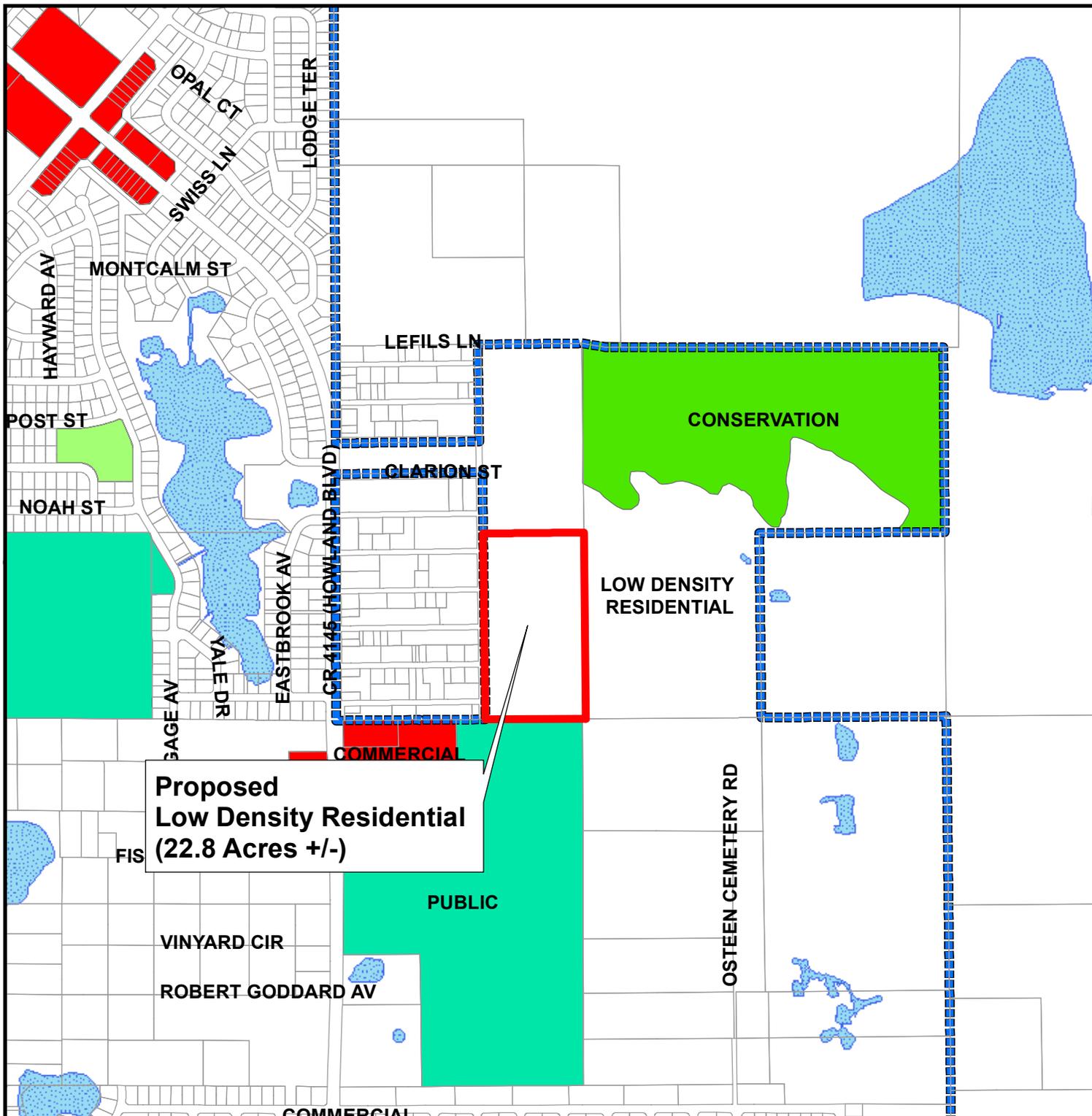
ATTEST:

JOYCE RAFTERY, City Clerk

Approved as to form and legality for use and
reliance by the City of Deltona, Florida

GRETCHEN R.H. VOSE, City Attorney

EXHIBIT "A"



**Proposed
Low Density Residential
(22.8 Acres +/-)**



LOCATION MAP
(3018320000050)

**PREPARED BY CITY OF DELTONA
PLANNING AND DEVELOPMENT SERVICES**

**DELTONA MUNICIPAL COMPLEX
2345 PROVIDENCE BOULEVARD
DELTONA, FL 32725
PHONE: (386) 878-8600 FAX: (386) 878-8601**

DRAWN BY: SHERRI CAMPBELL

LEGEND

-  City Boundary
-  Lakes
-  Subject Property

GIS MAP DISCLAIMER:
THIS MAP IS NOT TO BE USED FOR TRANSFER OF PROPERTY AND DOES NOT REPRESENT A SURVEY.
This map was created by the City of Deltona staff using data gathered by the City and Volusia County. No decision involving a risk of economic loss or physical injury should be made in reliance of this map, nor should it be used as a substitute for a survey. The information provided on this document should be used as a guide only. The City of Deltona shall not be held liable for any claim for any loss or damage as a result of reliance on the information contained in this document.
Please report any inaccuracies to the City of Deltona GIS department at 386-878-8609
Datum: State Plane, NAD83 HARN



NOT TO SCALE

EXHIBIT B
Ordinance 29-2014
COMPREHENSIVE PLAN TEXT AMENDMENT
FUTURE LAND USE ELEMENT
(Creating new Policy FLU4-1.2)

Policy FLU4-1.2

The property covered by ordinance number 29-2014 is designated as Low Density Residential.
The gross density on the subject parcel will be limited to 45 dwelling units.

Memorandum

To: Planning and Zoning Board

From: Ron Paradise, Planning Manager

Date: November 19, 2014

Re: Project No. CP14-001. Large Scale Comprehensive Plan Future Land Use Map Amendment for Property Located North of Pine Ridge High School

I. SUMMARY OF APPLICATION:

APPLICANT: Sadique Jaffer, Fernanda Investment
27 N Summerlin Avenue
Orlando, FL 32801

Request: The City of Deltona has received an application to amend the City's Future Land Use Map by changing the Future Land Use designation on a +/-22.8 acre parcel from Volusia County Agriculture Resource (1 dwelling unit per 10 acres) to City Low Density Residential (LDR) (0-6 dwelling units per acre).

A. SITE INFORMATION:

- 1. Tax Parcel No.:** 30-18-32-00-00-0050
- 2. Property Address:** n/a
- 3. Property Acreage:** +/-22.8 acres
- 4. Property Location:** Generally located southwest of 890 Osteen Cemetery and north of Pine Ridge High School.
- 5. Property Legal Description:** 30 18 32 E 11.4 CHS of S ½ of Gov. Lot 4 Per OR 4887 PG 3102 Per OR 5510 PG 4869-4870 Per OR 6693 PG 4410 Per OR 6860 PG 0869 Per OR 6860 PG 0871 Per OR 6865 PG 0443

Figure 1: Location Map

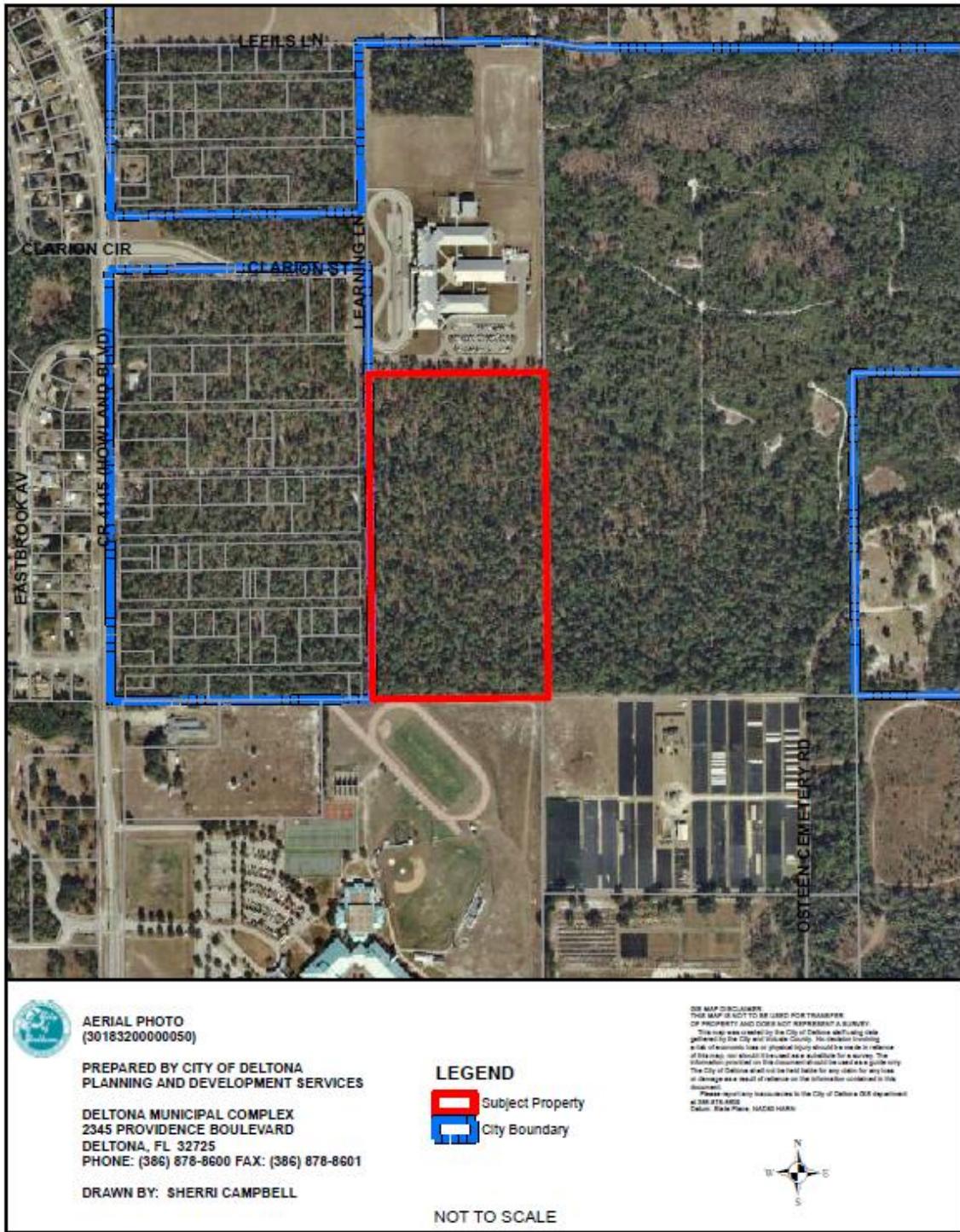
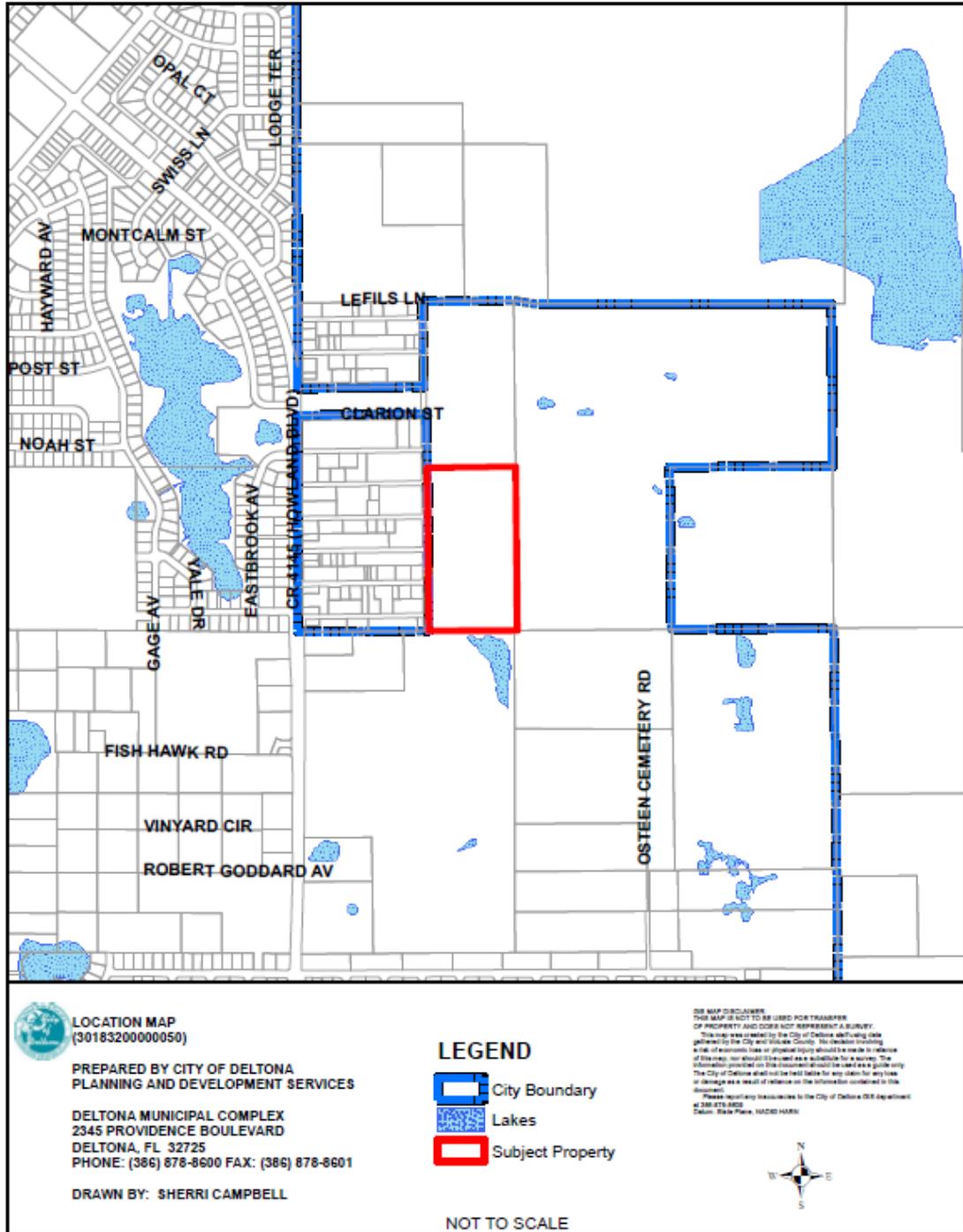


Figure 2: Aerial Photo



B. Existing Land Uses

1. **Subject Property:** Vacant, natural acreage

2. **Adjacent to Subject Property**

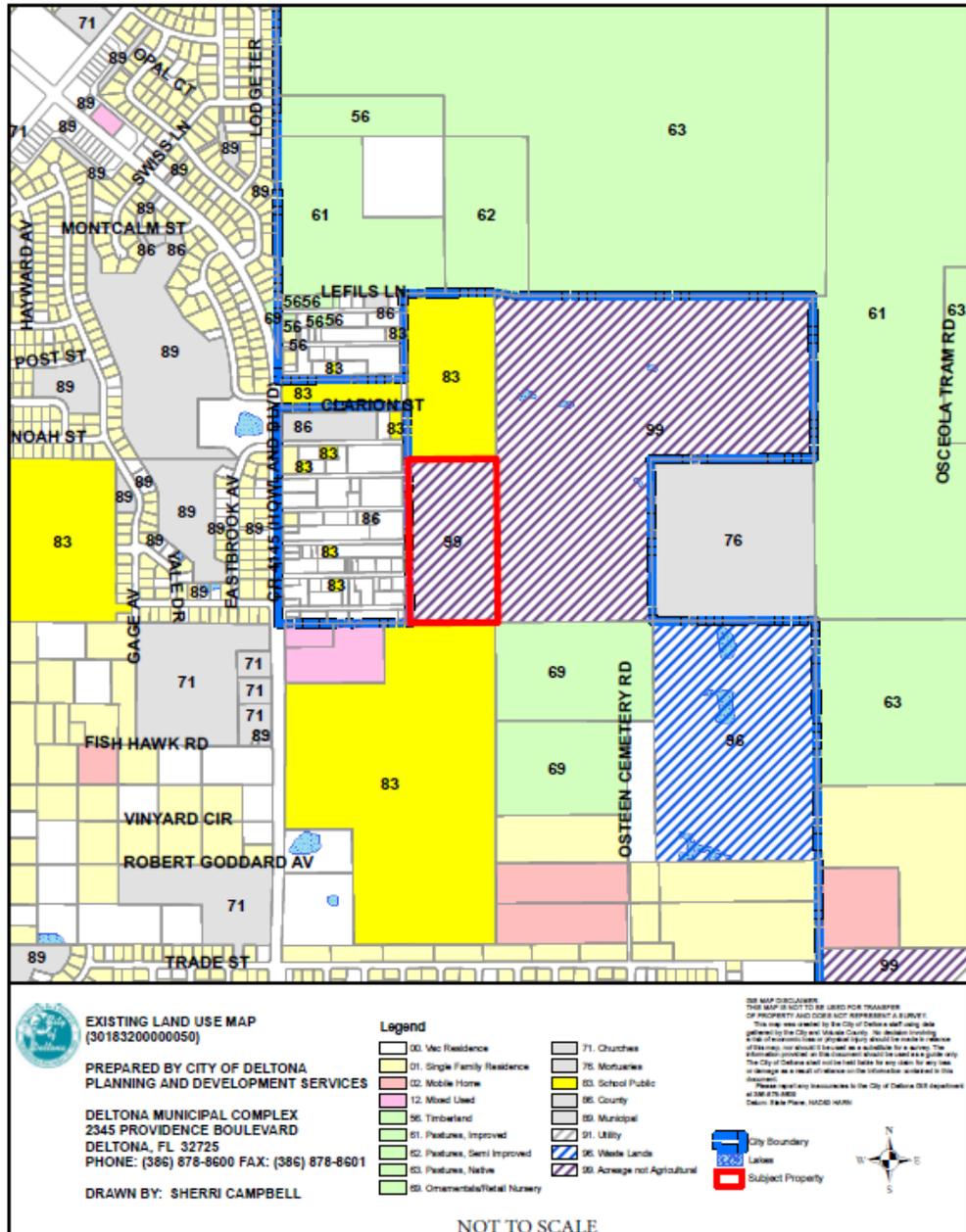
North: Pride Elementary School

South: Pine Ridge High School, agricultural uses (nurseries)

East: 890 Osteen Cemetery, undeveloped land

West: Unincorporated Volusia County, vacant, forested property.

Figure 3: Existing Land Use Map



C. Future Land Use Designation

1. Subject Property:

Existing: County Agricultural Resource (AR)

The County AR Land Use designation is a non-urban category and has a very low residential density allotment – one unit per 10 acres. This County designation allows a wide range of agricultural uses.

Requested: City Low Density Residential (LDR)

+/-22.8 acres is proposed to be designated with the LDR category. The LDR designation is an urban land use category that allows residential uses, typically at a suburban scale, such as dwellings on individual lots. The LDR has a density range of 0 to 6 units per acre. The applicant is also willing to enter into a Development Agreement involving a text addition to the Comprehensive Plan to limit the density on the +/-22.8 acres to two (2) dwelling units per acre; yielding a total of 45 units.

2. Adjacent to Subject Property:

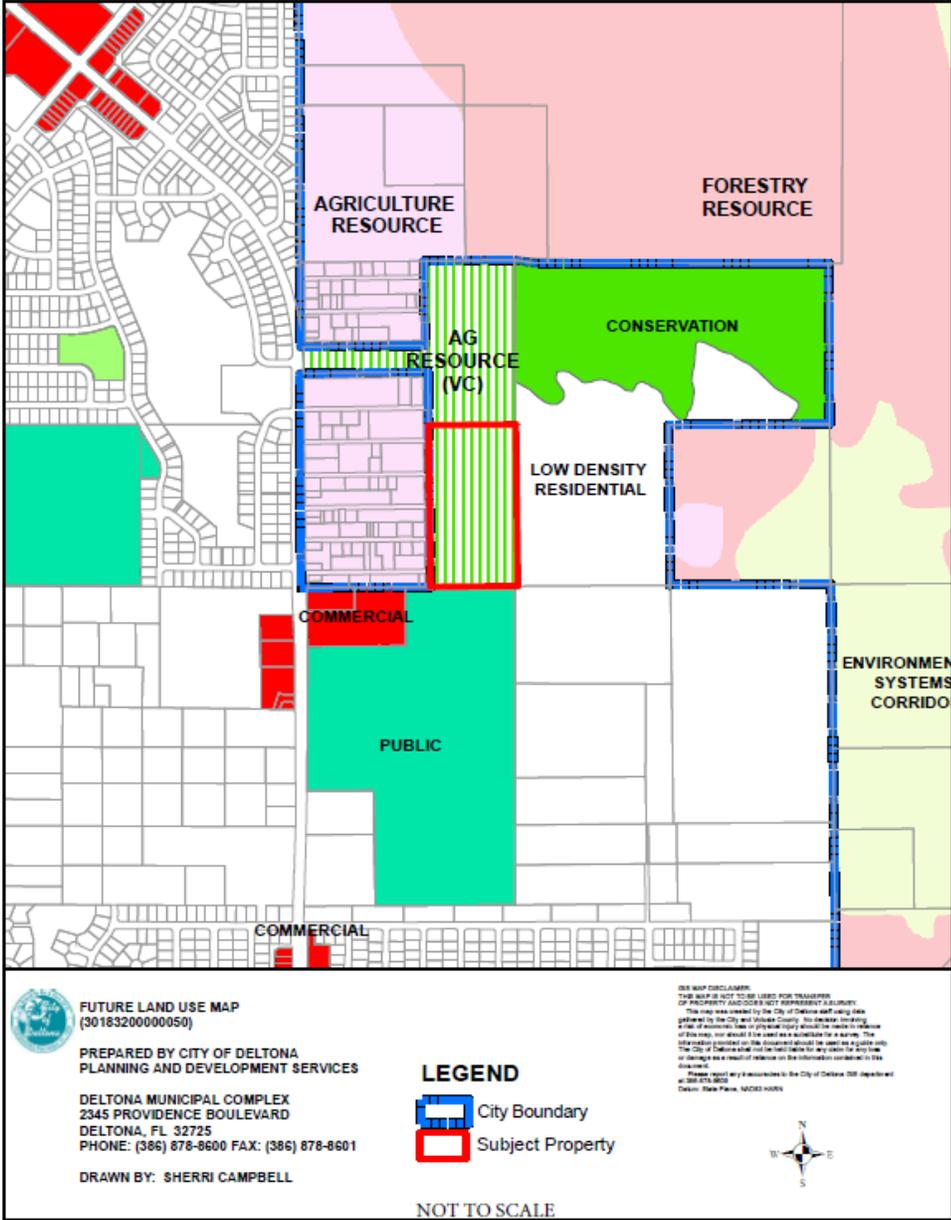
North: County Agriculture Resource

South: City Public/Semi Public

East: City Low Density Residential (LDR) and Conservation

West: County Agricultural Resource

Figure 4: Future Land Use Map



D. Zoning:

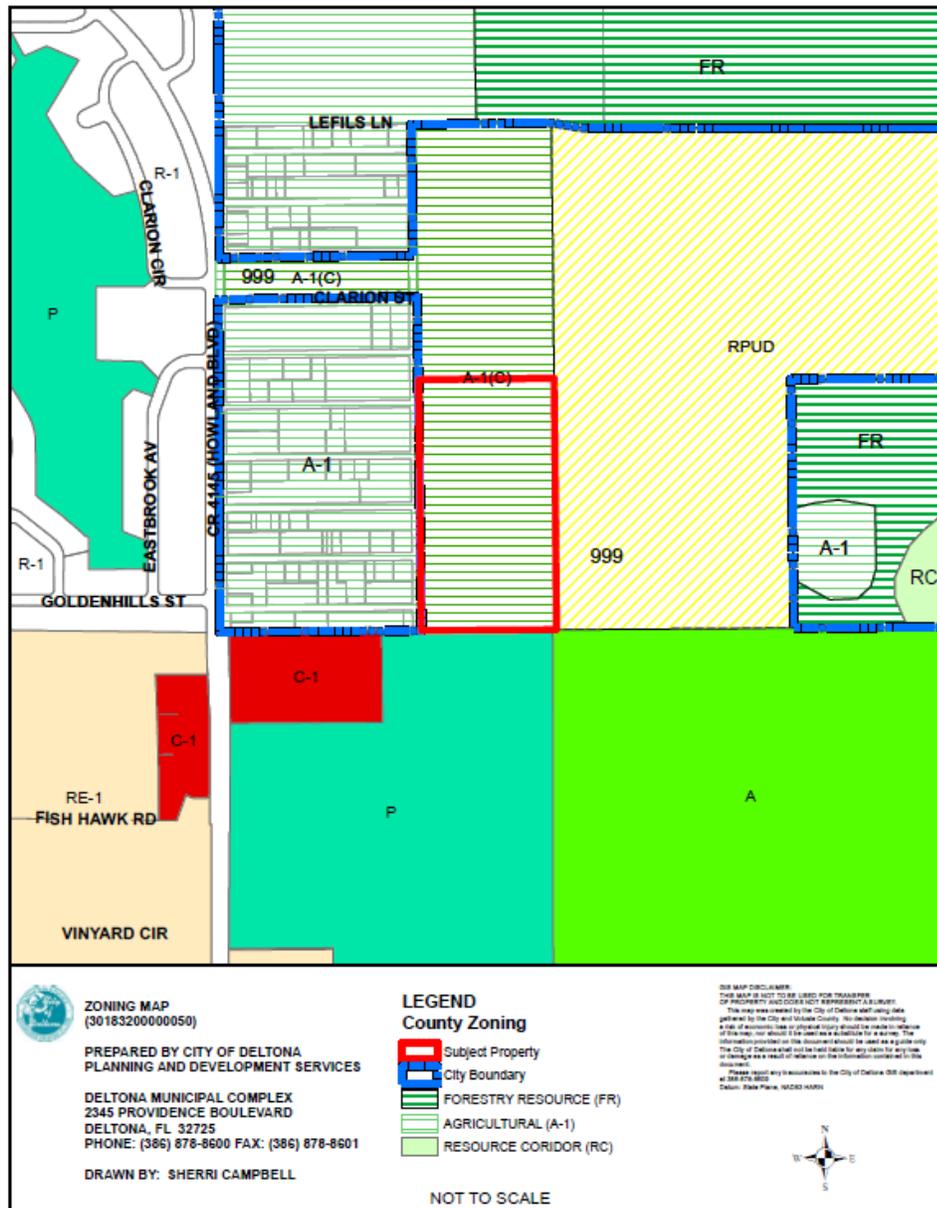
1. Subject Property:

Existing: County Prime Agriculture (A-1)
Requested: The applicant has not filed for a rezoning.

2. Adjacent Properties

North: Prime Agriculture (Volusia County)
South: Public (P) (City of Deltona)
East: Residential Planned Unit Development (RPUD) (City of Deltona)
West: Prime Agriculture (A-1) (Volusia County)

Figure 5: Zoning Map



E. Services Available:

Water: The amendment area will be served by the Deltona Utilities central water system.

Sewer: The property will be served by the City sanitary sewer system.

II. Authority and Procedure

The authority for City staff making recommendations to the City Commission regarding applications and proposals for Comprehensive Plan amendments is set forth in Section 110-1202 of the Code of Ordinances, City of Deltona. The relevant procedure involves submittal

of a complete application by the property owner or his authorized agent, review of the application by staff, preparation of a written staff report with recommendations, one public hearing held by the Planning and Zoning Board with resulting recommendations to the City Commission, and a minimum of two public hearings held by the City Commission.

Comprehensive Plan Amendments are enacted by adoption of an ordinance by the City Commission.

III. Review Criteria

The Planning & Zoning Board must consider the criteria specified in Future Land Use Policy FLU1-1.17 of the Comprehensive Plan, other provisions of the Comprehensive Plan and Florida Statutes Section 163.3177 when making a determination on the application and may accept, reject, modify, return, or seek additional information. No recommendation of approval may be made unless, upon motion, four (4) members of the Planning & Zoning Board concur, in accordance with Section 110-1201.

IV. Comprehensive Plan Amendment Analysis

Land Use Data:

The property is vacant and in a natural condition. Historically, the property was used for turpentine production, timber, and free range cattle grazing – once very common land uses in Central Florida. However, the property has not been managed for agricultural production for many years. Most of the land located to the north and south of the amendment area is used for institutional purposes – public schools (Pine Ridge High to the south and Pride Elementary to the north). Land to the east is comprised of a 120 acre tract that is earmarked for single family detached development at a current maximum density of 240 units. The aforementioned 120 acres is also owned by the applicant.

The +/-22.8 acre amendment area to the west abuts a 40 acre antiquated subdivision known as Jarvis Addition to Osteen. This subdivision features numerous small lots with 40' wide rights of way. The Jarvis subdivision has frontage on Howland Blvd. and is located within an unincorporated County enclave. Based on tax role data, the applicant appears to have no control over the Jarvis subdivision land.

Natural Resources:

The amendment area is located on a physiographic area of the County known as the Deland Ridge. The Deland Ridge is generally associated with sandy, well drained soils, xeric vegetation, and high rolling topography.

Vegetation on the Deland Ridge portion of the amendment area can be mostly described as a mixture of long leaf pines and smaller trees such as turkey oak and sand live oak. Ground cover vegetation is comprised of a mixture of saw palmetto, wire grass, and various shrubs.

There are no severe topographic features associated with the amendment area. Topography is flat to gently rolling.

The amendment area is undeveloped and is associated with undeveloped land that extends beyond the limits of the amendment area. Therefore, the amendment area does provide habitat

for game animals such as wild hog, deer, and turkey. The amendment area also provides habitat for larger mammals such as bobcats and foxes.

The property does provide habitat for gopher tortoises. A field reconnaissance of the property by City staff confirmed the presence of tortoises on the site. Gopher tortoises are listed as a threatened species and are regulated by the Florida Fish and Wildlife Conservation Commission. Impacts to tortoises and/or burrows need to be permitted. One permit option includes the removal of tortoises to another suitable area, an activity known as relocation. In addition, there is an option to avoid some burrows by protecting the burrow and natural land associated with the burrow. Typically a combination of the two aforementioned approaches is employed to facilitate the development of tortoise habitat. As a footnote, the practice of burying tortoises, known in permitting parlance as an incidental take, is no longer allowed. Also, the City has made it a practice to not approve development projects that involve an incidental take of tortoises that may be an option under still active permits granted before the incidental takes were made no longer an option.

There are no other known listed species associated with the amendment area.

Discouraging the Proliferation of Urban Sprawl:

The amendment area is +/-22.8 acres and is not developed. The proposed amendment limits land use options to Low Density Residential (0-6 units/acre) with a density cap of 45 units. The City of Deltona's Comprehensive Plan and Land Development regulations create planning techniques that encourage clustering and protection of conservation or open space areas when developing lands that discourage the proliferation of urban sprawl.

A. Policy FLU-7.17 of the City of Deltona Comprehensive Plan, Future Land Use Element
“Applicants requesting amendments to the Future Land Use Map shall be evaluated with respect to consistency with the Goals, Objectives and Policies of all elements, other timely issues and in particular the extent to which the proposal, if approved, would...”

1. Satisfy a deficiency in the plan map to accommodate projected population or economic growth of the City. *City Comprehensive Plan, Future Land Use, Goal FLU1, Objective FLU1-7, PolicyFLU1-7.17(a)*

The +/-22.8 acre amendment area has been included within the jurisdictional limits of the City of Deltona since 2004. In the past there have been attempts to change the Future Land Use on the property to an urban category but none of those efforts were successful. The juxtaposition of the property to urban institutional uses and the fact land located east of the amendment area is partially designated with urban entitlements cast doubt on the County Agricultural designation being appropriate for the property. In addition, the City of Deltona is an urban institution. Rural landscapes, agrarian operations, and land entitled for agricultural uses are a definite exception to the developed, urban Deltona land use pattern. In rare situations where agricultural uses/entitlements do exist in the City, those uses/entitlements represent an interim land use pattern before such properties are developed at an urban capacity.

As has been mentioned, the amendment area is located in an area that is used for schools and is earmarked for residential uses at an urban density. The area of land that is partially

designated for urban uses located east of the amendment area is a 120 acre tract that is also owned by the applicant. The 120 acre area has a density allotment of 240 units.

The 240 unit entitlement for the adjacent 120 acres was granted by the City in 2009. To justify the urban entitlement for the 120 acres, a sound argument was made that if the City did not allocate some urban entitlement to the 120 acre property, the City may have to use annexation as a tool to accommodate expected growth. The same argument is applicable to the subject proposal to change the Future Land Use Map on the amendment area to LDR. The annexation scenario implies that the City jurisdiction would expand into areas of the County that may be ecologically sensitive, require investments in new/expanded infrastructure (roads, water, sewer, etc.), and have the potential to create land use conflicts with adjacent communities or all of the above. While the City has the ability to annex new lands, such annexation activity needs to be strategic and judiciously utilized to further core City economic goals like diversifying the City tax base that is heavily dependent on residential land uses and promoting sustainable employment, not just temporary construction jobs.

Since the 2004 annexation of the +/-22.8 acre amendment area, there have been significant changes in planning law promulgated in 2011 and population projections have been updated to account for the 2010 Census, recent economic conditions and other factors.

A notable change to State planning law involves the methodology behind land use allocation. Before the 2011 change to State Growth Management laws, a local government Future Land Use Map allocation was predicated on and controlled by population projections. Basically, a local government could not over allocate its Future Land Use program beyond what was supported by population projections. Under the 2011 changes to State planning law, a local government still has to use population projections to base its Future Land Use allocation. However, State law now requires that a local government allocate enough land to support the median population level articulated by certain appropriate population projection methodologies. Furthermore, a local government is encouraged to allocate more land than is what is needed to support the expected population to "...allow for the function of real estate markets..." This extra allocation is sometimes referred to as a market cushion.

However addressed in the context of State planning law, population projections and appropriate land use allocation represents a sound planning method to help a community protect natural resources, guide capital investments, ensure long term neighborhood vitality and achieve a well-balanced land use allocation. Therefore, the following provision from the City Comprehensive Plan is applicable:

OBJECTIVE FLUI-7

The City of Deltona shall appropriately allocate land uses to adequately meet the current and future population needs while maximizing land use compatibility. The City shall promote a variety of land uses including residential, commercial, industrial, pedestrian oriented mixed-use, recreational, conservation, and public facilities.

Utilizing and attempting to maximize the carrying capacity of existing City land resources to support expected population while ensuring land use compatibility and adhering to City infrastructure level of service expectations, would be consistent with the above Objective.

2. Enhance or impede provision of services at adopted levels of service standards.
Comprehensive Plan, Future Land Use, Goal FLU1, Objective FLU1-7, Policy FLU1-7.17(d)

Transportation:

The project with 43 new units (45 units minus the 2 units allowed under the County AR designation) will generate about 409 new trip ends per day. As represented to City staff through the applicant's Traffic Impact Analysis, traffic is planned to be directed to Howland Blvd which is now, between Tabb Drive and Courtland Blvd., a two lane facility. Howland Blvd. is a County thoroughfare and the County will be improving the aforementioned segment of Howland Blvd. to four lanes in the very near future. The County has just advertised for bids to perform the improvement. The expanded Howland Blvd. segment will facilitate more capacity in the immediate vicinity of the amendment area and will be able to support the density proposed. However, notwithstanding the four lane improvement of Howland Blvd. between Courtland Blvd. and Tabb Dr., the two lane segment of Howland Blvd. from Courtland Blvd. to Ft. Smith Blvd. is operating at an acceptable level of service and has ample capacity (5,280 trips) to support the increase of density for the +/-22.8 acre tract. For more details about traffic impacts see the attached traffic impact analysis prepared by GMB Engineers and Planners, Inc. (**Exhibit 1**). (Note: the Traffic Impact Analysis is for a density of 57 units which over represents traffic generation volumes associated with the amendment request.)

Access to the amendment area is contemplated to be directly to the west to Howland Blvd. However, ownership of the land located to the west of the amendment area between Howland Blvd. and the +/-22.8 acres appears not to be under the applicant's control and is associated with an antiquated plat located within unincorporated Volusia County known as Jarvis subdivision. While the Jarvis subdivision is associated with public rights-of-ways, the current dimension (40' wide) of the rights-of-ways is not suitable to service urban development on the amendment area. The details of how the property will be accessed from Howland Blvd. are unknown. While this access matter could be of concern during the planning process, the lack of access to Howland Blvd. will be especially acute during the City rezoning and site plan review process.

Water:

The amendment area will be served by the Deltona Utilities central water system. The project will consume approximately 0.01 million gallons of water per day (City LOS rate of 300 gallons per day per ERU). The City utility system is permitted through the St. Johns River Water Management District Consumptive Use process for 15.63 million gallons per day but the City uses on average only 9.32 million gallons per day.

POTABLE WATER CONSUMPTIVE USE ANALYSIS	
	MGD
Current year CUP allocation	15.63
Consumption in the previous calendar year	9.32
Reserve capacity	0.00
Projected consumption by proposed comprehensive plan amendment area	0.01
Amount available for all other future uses	6.30

Waste Water:

The property will be served by the City sanitary sewer system. The requested density increase will result in 12,780 gallons of waste water per day, using the City LOS standard for wastewater treatment (284 gallons per day, per ERU). The City wastewater permitted treatment capacity is 1.4 million gallons per day and currently the City treats 744,000 gallons per day. The City has over 650,000 gallons of wastewater treatment capacity and will be able to provide wastewater treatment for the requested density increase. The City has begun construction of a new wastewater treatment plant located on the east side of town which will serve any urban development that occurs on the amendment property. The new wastewater treatment plant, the initial phase slated to come on line in 2015 with the ability to treat one million gallons per day, will greatly expand water treatment capacity within the City. Eventually the new wastewater treatment plant will be able to manage 4.5 million gallons of wastewater per day.

Stormwater:

The project is required to design retention by following the design standards of the City of Deltona Land Development Code, Section 98-79. The City requires developments to meet the stormwater standards based on the 25 year storm event performance standards.

Schools:

According to the Volusia County School Board there is adequate school workspace capacity to serve the amendment area at the 45 unit density requested. For more information see the determination from the Volusia County School District attached as **Exhibit 2**.

3. Be compatible with abutting and nearby land uses. *Comprehensive Plan, Future Land Use, Goal FLU1, Objective FLU1-7, PolicyFLU1-7.17(e)*

As has been elucidated elsewhere in this report, the property is flanked on three sides by urban institutions or urban entitled land. The only current uses for the property under the present AR designation are agriculture and/or two dwelling units on 10 plus acre lots. There is recognition that the +/-22.8 acres is separated from the Howland Blvd. thoroughfare by an unincorporated enclave that is also designated as AR. As has been mentioned, the County enclave is an antiquated subdivision known as Jarvis Addition to

Osteen. The subject enclave will eventually be annexed into the City and converted to urban uses. The designation of the +/-22.8 acre amendment area to City LDR will just hasten that process as any development of the +/-22.8 acre area will need to access Howland Blvd. through the County enclave. Therefore, the proposed amendment will not be incompatible with surrounding land uses – existing or planned.

4. Enhance or degrade environmental resources. *Comprehensive Plan, Future Land Use, Goal FLU1, Objective FLU1-7, PolicyFLU1-7.17(f)*

The amendment area is not associated with wetlands, or floodplain acreage. Therefore, the amendment will not degrade environmental resources.

Soils:

The soil associated with the amendment area is well drained and is classed as Astatula Fine Sand. Astatula Fine Sand is suitable to support community development. Soils are mapped on a graphic as part of the attached map series.

V. Conclusion/Recommendation:

The Agricultural Resource designation on the property is an anomaly. The fact that the amendment area is located between two sizable educational facilities and flanked on the east by property eligible for urban uses illustrates the anomalous land use situation and suggests that a Future Land Use Map amendment to the City Low Density Residential category is appropriate. In addition, there is public infrastructure capacity ranging from transportation facilities to school workstations to support the requested amendment.

Therefore, staff suggests that the Planning and Zoning Board make a recommendation to the City Commission to transmit to the Florida Department of Economic Opportunity (DEO) and the Volusia County Growth Management Commission an amendment to change the Future Land Use Designation on the +/-22.8 acres from County Agricultural Resource to City Low Density Residential. Furthermore, staff is recommending as part of this amendment package a new policy statement be added to the text of the City Comprehensive Plan to limit gross density on the +/-22.8 acre area to two (2) dwelling units per acre. The following language would memorialize the density limitation:

Policy FLU4-1.2

The property covered by ordinance number 29-2014 is designated as Low Density Residential. The gross density on the subject parcel will be limited to 45 dwelling units.

Attachments:

Exhibit 1: Traffic Impact Analysis prepared by traffic consultant GMB, Engineers and Planners

Exhibit 2: Finding of Adequate School Capacity, Volusia County School Board



Transportation Demand Analysis For The Comprehensive Plan Amendment

**Fernanda Place (57 DU)
Parcel ID: 30-18-32-00-00-0050
CITY OF DELTONA, FLOIRDA**

PREPARED BY:

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**MAY 2014
(REVISED SEPTEMBER 2014)**

GMB PROJECT # 14-062.01



GMB ENGINEERS & PLANNERS, INC.

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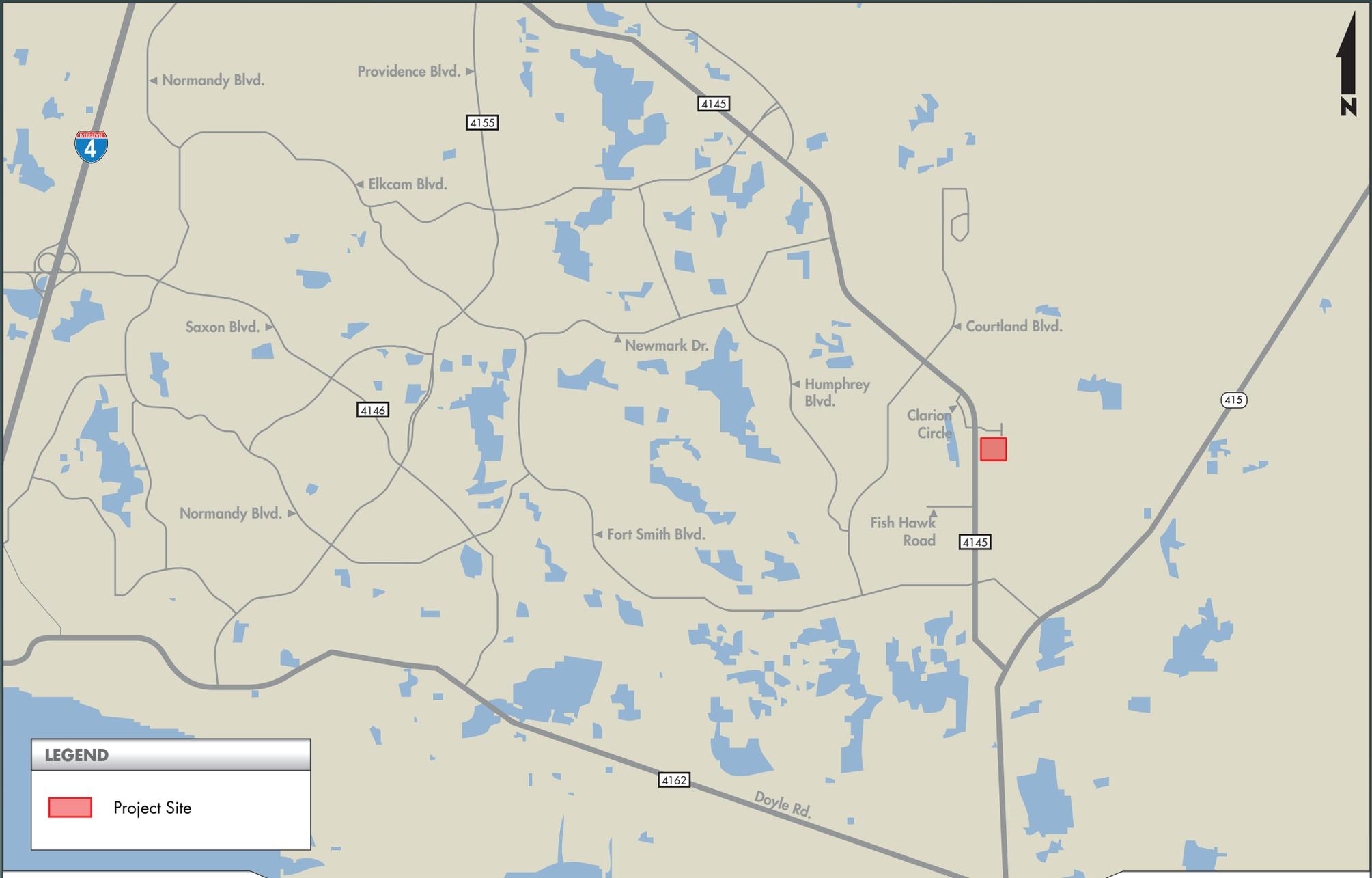
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- A Methodology and Volusia County TIA Guidelines
- B Traffic Counts, Volusia County Information, SF, & Synopsis Reports
- C Signal Timings
- D SYNCHRO Intersection Summary Sheets
- E Intersection Analysis Summary (AM and PM Peak)
- F Volusia County Road Program
- G Historical Growth Rate Trends
- H CFRPM Distribution Plot and 2025 Volume Plot

INTRODUCTION

The purpose of this report is to document the potential transportation impacts created by the requested Future Land Use Map (FLUM) Amendment to the City of Deltona Comprehensive Policy Plan. The Comprehensive Policy Plan (CPP) Amendment is being requested for the parcel of land located along the east side of Howland Boulevard between Clarion Street and Goldenhills Street, in the City of Deltona, Florida (Figure 1). The 22.8 acre site currently has a Future Land Use of Agricultural (A), and is proposed to be converted to 57 DU of Low Density Residential (LDR). This analysis will focus on the conversion of the Agricultural (A) land use which would consist of 4 single family dwelling units to a Low Density Residential (LDR) land use which would consist of 57 DU. The procedures taken in this report were developed based on the methodology submitted and the guidelines established in the Volusia County Traffic Impact Analysis (TIA) Guidelines (Adopted November 24, 2009). (See Appendix "A" for the submitted methodology and Volusia County TIA Guidelines



Fernanda Place (57 DU)

FIGURE 1
Project Location Map

TRANSPORTATION ASSESSMENT

As a result of the requested amendment to the City of Deltona Comprehensive Plan, the Applicant has been requested to quantify the levels of capacity for the surrounding area roadways. The purpose of the roadway capacity analysis is to outline the potential improvements that may be required in the Concurrency Management System in the future with the addition of the anticipated future roadway improvements. The following section documents in greater detail the technical analysis and major conclusions for the preparation of the traffic study to support the Plan Amendment.

The methodology used in the preparation of the traffic study was developed in accordance with standard planning and engineering practices. GMB Engineers & Planners prepared the necessary traffic analysis to support the change in Future Land Use based on the maximum allowable development programs under current and proposed Future Land Use. The following summarizes the development thresholds for the existing and proposed Future Land Use:

Existing Future Land Use	(A)	4 DU's (1 DU/ 5 AC)	Agricultural
Proposed Future Land Use	(LDR)	57 DU's (2.5 DU/ 1 AC)	Low Density Residential

The traffic study will assess the net impacts with the modification from an Agricultural (A) Future Land Use to a Low Density Residential Future Land Use.

EXISTING CONDITIONS

The following section documents the existing traffic conditions in the vicinity of the project. Furthermore, the relationship between the proposed project site and the study area roadways and intersections are also discussed below.

STUDY AREA

Consistent with the Volusia County Traffic Impact Analysis (TIA) Guidelines (Adopted November 24, 2009), the impact area was identified as follows:

- For projects that generate more than 300 two-way peak hour external trips, an analysis shall be conducted for roadways where the project's traffic consumes more than (5%) of the facility's two-way peak hour maximum service volume (MSV). In addition, all Volusia County's Critical and Near-Critical Roadway segments within a five (5) mile radius of the project shall be considered in the primary impact area. Table 1 shows the Test for Significance on the area roadways.

Based on the criteria for study impact area, the following intersections were analyzed:

- Howland Boulevard & Courtland Boulevard
- Howland Boulevard & Learning Lane/Clarion Street
- Howland Boulevard & Fish Hawk Road
- Howland Boulevard & Fort Smith Boulevard

Based on the Test for Significance, Table 2 depicts the study area roadways based on the criteria for study impact area:

Table 1
Fernanda Place

Test for Significance Project Impact (5%) - With Critical & Near Critical Roads

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	AM Peak Project Traffic			PM Peak Project Traffic			Significant?
					Dist%	Trips	Sig (%)	Dist%	Trips	Sig (%)	
Howland Boulevard											
Providence Blvd. to Elckam Blvd.	2	Critical	E	1,230	16.22%	8	0.65%	16.22%	10	0.81%	NO
Newmark Dr. to Courtland Blvd.	4		E	3,410	35.77%	18	0.53%	35.77%	23	0.67%	NO
Courtland Blvd. to Project Entrance	4*		E	3,410	37.95%	19	0.56%	37.95%	24	0.70%	NO
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	62.05%	31	0.91%	62.05%	40	1.17%	NO
Ft Smith Blvd. to SR 415	4*		E	3,410	32.32%	16	0.47%	32.32%	21	0.62%	NO
SR 415											
Acorn Lake Rd to Howland Blvd.	2		D	2,170	11.34%	6	0.28%	11.34%	7	0.32%	NO
Howland Blvd. to Enterprise-Osteen Rd.	2		D	2,170	31.87%	16	0.74%	31.87%	20	0.92%	NO
Enterprise-Osteen Rd. to Seminole Co.	2		D	2,190	28.16%	14	0.64%	28.16%	18	0.82%	NO
Fort Smith Boulevard											
Courtland Blvd. to Howland Blvd.	3*		E	1,330	12.11%	6	0.45%	12.11%	8	0.60%	NO
Howland Blvd. to SR 415	3*		E	1,020	11.83%	6	0.59%	11.83%	8	0.78%	NO
Doyle Road											
Providence Blvd. to Garfield Rd.	2	Near Critical	E	1,230	8.88%	4	0.33%	8.88%	6	0.49%	NO
Courtland Boulevard											
Howland Blvd. to India Blvd.	2		E	1,020	1.28%	1	0.10%	1.28%	1	0.10%	NO
Providence Blvd.											
Elckam Blvd. to Ft Smith Blvd.	2	Near Critical	E	1,020	0.00%	0	0.00%	0.00%	0	0.00%	NO
Normandy Blvd. to Anderson Dr.	2	Near Critical	E	1,020	0.12%	1	0.10%	0.12%	1	0.10%	NO

Sources: GMB Engineers & Planners, Inc.
 2012 FDOT Quality/LOS Handbook
 2013 Volusia County Traffic Counts

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

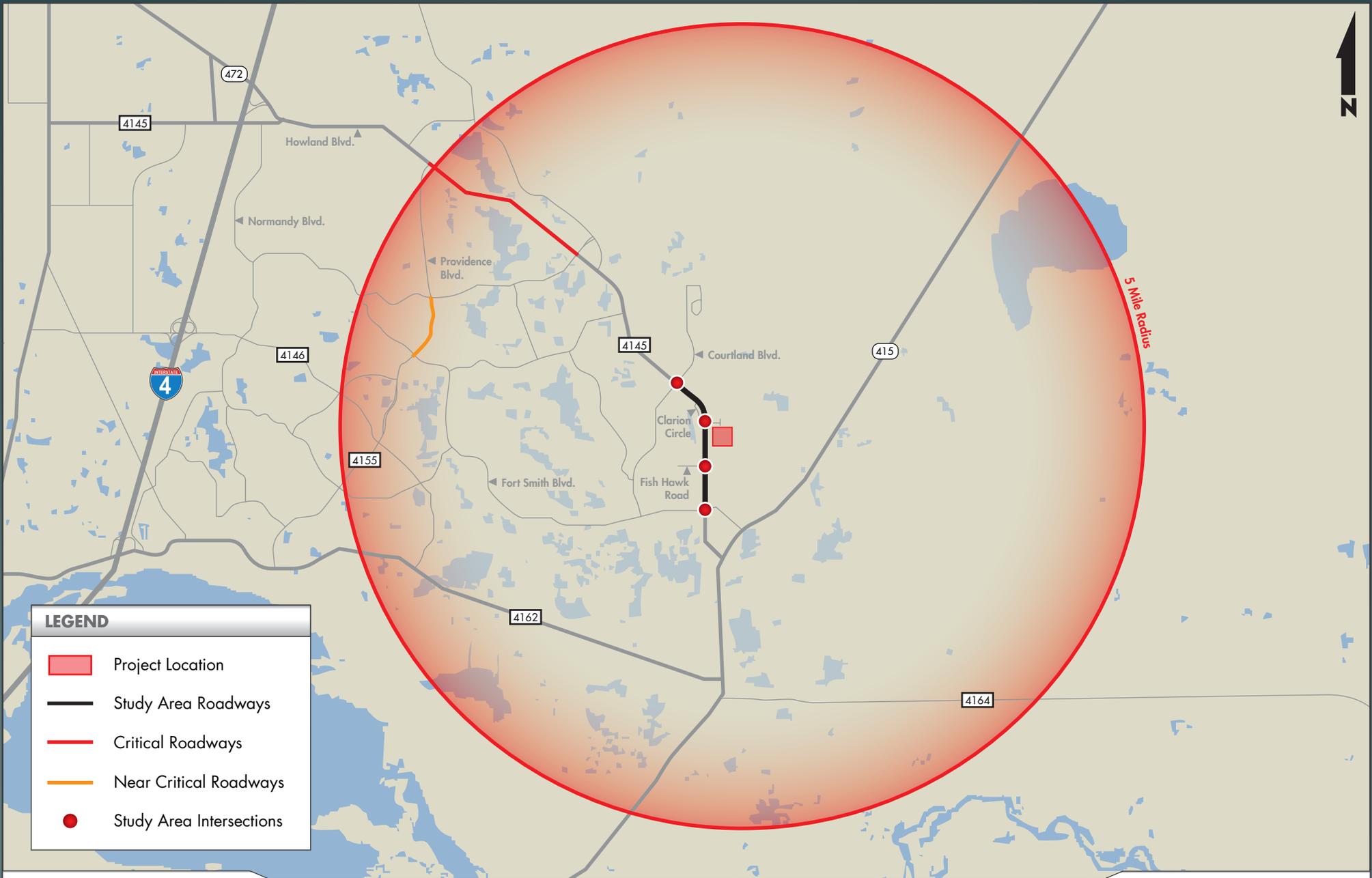
Table 2 - Study Area Roadways

Roadway	From / To	Critical / Near Critical
Howland Blvd	Providence Blvd. to Elkcam Blvd.	Critical
	Courtland Blvd. to Project Entrance	
	Project Entrance to Ft. Smith Blvd.	
Providence Blvd.	Elkcam Blvd. to Ft Smith Blvd.	Near Critical

The study area roadways and intersections are illustrated in Figure 2.

EXISTING TRAFFIC COUNTS

GMB Engineers & Planners assembled the necessary traffic counts for the intersections identified in the study area. The existing AM peak hour (7:00-9:00) & PM peak hour (4:00-6:00) traffic volumes were conducted during the month of April 2014. The existing AM & PM peak hour volumes were then adjusted by the Volusia Countywide seasonal factor. Roadway counts, intersection turning movement counts, Seasonal Factor and Synopsis Reports can be found in Appendix "B".



Fernanda Place TIA

FIGURE 2
Study Area Roadways & Intersections

EXISTING ROADWAY CONDITIONS

GMB Engineers & Planners conducted an assessment to determine the existing level of service of the study roadways. The level of service (LOS) of a given roadway is related to prevailing traffic volumes and to capacity, which is defined as the maximum number of vehicles that can pass through a roadway section during a specified period of time. The capacity of a roadway is determined by a number of factors including: composition of traffic (cars, buses, and trucks), roadway alignment, width and number of lanes, posted travel speeds and other variables.

The level of service for each of the study area roadways were determined based on the Volusia County 2013 Average Annual Daily Traffic & Historical Counts. A comparison of the roadway traffic volumes were made against the roadway capacities to determine the existing level of service. The existing roadway capacity analysis was performed for all roadways within the study area as shown in Table 3. The existing PM peak hour traffic was generated by applying the K_{100} factor to the AADT. The AM peak hour traffic was obtained from seasonally adjusted intersection field turning movement counts. For the roadway segments with no field counts (TMC), AM peak traffic was obtained from the 2013 FDOT Florida Traffic Information DVD.

Table 3
Fernanda Place
Existing AM & PM Peak Hour Roadway Analysis

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	Two-way AM		Two-way PM PK HR			
					Volume	LOS	AADT	K ₁₀₀	Volume	LOS
Howland Boulevard										
Providence Blvd. to Elckam Blvd.	2	Critical	E	1,230	1,024	C	15,150	0.091	1,379	F
Courtland Blvd. to Project Entrance	4*		E	3,410	1,357	C	11,770	0.091	1,071	C
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	1,129	C	11,770	0.091	1,071	C
Providence Blvd.										
Elckam Blvd. to Ft Smith Blvd.	2	Near Critical	E	1,020	865	D	13,070	0.091	1,189	F

September-14

Sources: GMB Engineers & Planners, Inc.

2012 FDOT Quality/LOS Handbook

2013 Volusia County Traffic Counts

FDOT Florida Traffic Online (2013)

Level of Service 2013 Critical / Near Critical State and County Roadways

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

The analysis shown in Table 3 above concludes that all study area roadways exhibit traffic volumes lower than their respective roadway LOS service volume for existing conditions, with the exception of the following roadway segments:

PM peak hour:

- Howland Blvd. from Providence Blvd. to Elkcam Blvd.
- Providence Blvd. from Elkcam Blvd. to Ft. Smith Blvd.

EXISTING INTERSECTION CONDITIONS

The study area intersections were evaluated using the methodology outlined in the Highway Capacity Manual and using SYNCHRO (v8). The existing intersection analysis is based on turning movement data collected in the month of April 2014, during the AM (7:00-9:00) and PM (4:00-6:00) peak hour periods. Furthermore, the existing intersection signal timings were obtained from Volusia County (see Appendix "C"). Table 4 provides a summary of the existing intersection analysis, including intersection delay and LOS:

Table 4 - Existing Intersection Analysis

YR 2014 Intersection Analysis					
Intersection	Control	AM peak hour		PM peak hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Howland Blvd. at Ft. Smith Blvd.	Signal	C	25.1	E	67.8
Howland Blvd. at Fish Hawk Rd.	Signal	C	22.4	C	22.2
Howland Blvd. at Courtland Blvd	Signal	D	51.9	D	47.6
Howland Blvd. at Learning Ln / Clarion St.	Stop	F	174.7	C	22.8

As shown in Table 4, all study area intersections operate at the allowable LOS "E" for the existing conditions with the exception of the intersection of Howland Blvd at Learning Ln / Clarion St. which is operating below acceptable LOS "E" in the AM peak hour condition.

SYNCHRO summary sheets can be found in Appendix “D”, and the intersections analysis summary can be found in Appendix “E”.

FUTURE CONDITIONS

This section of the report identifies the anticipated conditions for the study area roadways as a result of the project created traffic. As documented previously in this report, the analysis year for the proposed development is YR 2016. The horizon YR 2025 analysis was included in this report to determine the long-range potential impacts by the proposed future land use. The site traffic for the proposed development was added to the future background traffic volumes in order to assess the total operating conditions of the study area roadways.

PROGRAMMED ROADWAY IMPROVEMENTS

GMB Engineers and Planners have conducted a review of the relevant Work Programs and Capital Improvement Programs in order to define the programmed improvements within the study area. Based on Volusia County Road Program and the Impact Fee Zone 3 – Southwest Volusia, the following roadway segments are funded for widening FY 13/14:

- Howland Blvd. from Courtland Blvd to Ft. Smith Blvd. (2L to 4L)
- Howland Blvd. from Ft. Smith Blvd. to SR 415 (2L to 4L)

The Volusia County Road Program can be found in Appendix “F”.

BACKGROUND TRAFFIC

The background traffic was developed based on the existing traffic volumes and annual traffic counts obtained from the Volusia County

2013 AADT Traffic & Historical Counts. Using a historical trends analysis, the roadway and intersection volumes were grown at their respective rate per year to reflect future conditions. Based on the build-out year, a minimum of 1.0% annual growth rate was assumed to be reasonable for roadways exhibiting a growth rate lower than 1.0% or when accurate historical traffic volumes were not available. The historical growth rate trends can be found in Appendix "G".

TRIP GENERATION

The project traffic volumes for the existing and proposed land use were generated using the trip generation rates/equations outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition). The approved development is expected to generate 2,351 daily trips, 178 AM peak hour trips (45 inbound and 133 outbound) and 232 PM peak hour trips (147 inbound and 85 outbound). The proposed land use is expected to generate 2,886 daily trips, 220 AM peak hour trips (55 inbound and 165 outbound) and 283 PM peak hour trips (179 inbound and 104 outbound). The trip generation summary for both scenarios can be found in Table 5.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of project traffic was based on the Central Florida Regional Planning Model (CFRPM) (v5.1) modeling results. The project distribution was verified for reasonability against existing roadway volumes and surrounding land use characteristics. The project distribution model plot can be found in Appendix "H".

Table 5
Fernanda Place
Trip Generation Summary

Scenario 1: Existing Land Use

ITE Code	Land Use	Max Density (DU/Acres)	Size / Units	Total Trips						
				Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	Enter	Exit	Total	Enter	Exit
210	Single Family		4 / DU	55	13	4	9	6	4	2
Totals:				55	13	4	9	6	4	2

Scenario 2: Proposed Future Land Use

ITE Code	Land Use	Max Density (DU/Acres)	Size / Units	Total Trips						
				Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	Enter	Exit	Total	Enter	Exit
210	Single Family		57 / DU	627	50	13	37	64	41	23
Totals:				627	50	13	37	64	41	23

GMB Engineers and Planners, Inc.

September 2014

Notes:

*Trip generation rates and equations are based on the
 Institute of Transportation (ITE) Trip Generation Manual 9th Edition*

YR 2016 ROADWAY CAPACITY ANALYSIS

The future capacity analysis for the study area roadways can be found in Tables 6 and 7 for the AM and PM peak hours, respectively. Project trips from the adjacent parcel of the development were added as background trips. The analysis concludes that all study area roadways exhibit traffic volumes lower than their respective maximum service volumes with the exception of the following roadway segments:

PM peak hour:

- Howland Blvd. from Providence Blvd. to Elkcam Blvd.
- Providence Blvd. from Elkcam Blvd. to Ft. Smith Blvd.

It should be noted that the deficient roadway segments listed above are operating below their respective maximum service volumes for the YR 2016 and are deficient either in the existing conditions or due to background traffic growth, without adding the Fernanda Place development project trips.

Table 6
Fernanda Place
 2016 AM Peak Hour Roadway Analysis

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	Existing AM Peak	Growth Rate	Background Traffic		Background Deficiency?	YR 2016 Project Traffic		Total Traffic	LOS	Project Deficiency?
							AM PK	LOS		Dist%	Trips			
Howland Boulevard														
Providence Blvd. to Elkcaml Blvd.	2	Critical	E	1,230	1,024	1.70%	1,059	C	No	16.22%	8	1,067	C	No
Courtland Blvd. to Project Entrance	4*		E	3,410	1,357	1.00%	1,384	C	No	37.95%	19	1,403	C	No
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	1,129	1.00%	1,152	C	No	62.05%	31	1,183	C	No
Providence Blvd.														
Elkcaml Blvd. to Ft Smith Blvd.	2	Near Critical	E	1,020	865	1.00%	882	D	No	0.00%	0	882	D	No

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Sources: GMB Engineers & Planners, Inc.

2012 FDOT Quality/LOS Handbook

2013 Volusia County Traffic Counts

FDOT Florida Traffic Online (2013)

Level of Service 2013 Critical / Near Critical State and County Roadways

CFRPM Model Volumes v5.1

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

Table 7
Fernanda Place
 2016 PM Peak Hour Roadway Analysis

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	Existing PM Peak	Growth Rate	Background Traffic		Background Deficiency?	YR 2016 Project Traffic		Total Traffic	LOS	Project Deficiency?
							PM PK	LOS		Dist%	Trips			
Howland Boulevard														
Providence Blvd. to Elkcaml Blvd.	2	Critical	E	1,230	1,379	1.70%	1,426	F	Yes	16.22%	10	1,436	F	No
Courtland Blvd. to Project Entrance	4*		E	3,410	1,071	1.00%	1,092	C	No	37.95%	24	1,116	C	No
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	1,071	1.00%	1,092	C	No	62.05%	40	1,132	C	No
Providence Blvd.														
Elkcaml Blvd. to Ft Smith Blvd.	2	Near Critical	E	1,020	1,189	1.00%	1,213	F	Yes	0.00%	0	1,213	F	No

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Sources: GMB Engineers & Planners, Inc.

2012 FDOT Quality/LOS Handbook

2013 Volusia County Traffic Counts

FDOT Florida Traffic Online (2013)

Level of Service 2013 Critical / Near Critical State and County Roadways

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

YR 2016 INTERSECTION CONDITIONS

The study area intersections were evaluated with the addition of project traffic in order to quantify the impacts created by the proposed land use. The intersections were grown at their respective rate per year and project traffic was added to reflect YR 2016 future conditions for both the AM and PM peak hours. The intersection analysis summary can be found in Appendix “E” of this report. Table 8 summarizes the results of the intersection capacity analysis:

Table 8 - YR 2016 Intersection Analysis

YR 2016 Intersection Analysis					
Intersection	Control	AM peak hour		PM peak hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Howland Blvd. at Ft. Smith Blvd.*	Signal	B	11.8	B	10.3
Howland Blvd. at Fish Hawk Rd.*	Signal	B	15.1	B	10.3
Howland Blvd. at Courtland Blvd*	Signal	D	37.1	B	19.5
Howland Blvd. at Learning Ln / Clarion St.*	Stop	C	20.6	B	12.7
Howland Blvd. at Northern Project Entrance (1)	Stop	A	10.0	B	10.7
Howland Blvd. at Southern Project Entrance (2)	Stop	D	19.3	C	19.9

*Howland Blvd. is four (4) lanes in the future conditions

As shown in Table 8 above, all study area intersections – including the project entrances – operate at the allowable LOS “E” for the existing conditions.

YR 2025 ROADWAY CAPACITY ANALYSIS

YR 2025 Roadway Capacity Analysis was completed in order to determine the long-range impact of the proposed development. To determine this, AADT volumes from the 2025 CFRPM v5.1 model were compared against existing (YR 2013) AADT volumes to determine the appropriate growth rate for the respective study area roadways. The calculated growth rate for each study area roadway can be found in Table 9 Background traffic was then developed by growing the existing AM and PM peak hour volumes to the future YR 2025 volumes. The project trips were then added based on the project distribution, which can be found in Appendix "H". The roadway analysis for the AM and PM peak hour conditions can be found in Tables 10 and 11, respectively.

Table 9
Fernanda Place
YR 2025 Growth Rate Calculation

Roadway / Segment	No. of Lanes	Critical / Near Critical	2013 AADT	2025 AADT	Calculated Growth
Howland Boulevard					
Providence Blvd. to Elkcaml Blvd.	2	Critical	15,150	19,038	1.92%
Courtland Blvd. to Project Entrance	4*		11,770	25,220	6.56%
Project Entrance to Ft. Smith Blvd.	4*		12,530	23,997	6.12%
Providence Blvd.					
Elkcaml Blvd. to Ft Smith Blvd.	2	Near Critical	13,070	14,408	0.82%

Sources: GMB Engineers & Planners, Inc.

2012 FDOT Quality/LOS Handbook

2013 Volusia County Traffic Counts

FDOT Florida Traffic Online (2013)

Level of Service 2013 Critical / Near Critical State and County Roadways

CFRPM Model v5.1

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

Table 10
Fernanda Place
 2025 AM Peak Hour Roadway Analysis

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	Existing AM Peak	Growth Rate	Background Traffic		Background Deficiency?	YR 2016 Project Traffic		Total Traffic	LOS	Project Deficiency?
							AM PK	LOS		Dist%	Trips			
Howland Boulevard														
Providence Blvd. to Elkcaml Blvd.	2	Critical	E	1,230	1,024	1.92%	1,063	C	No	16.22%	8	1,071	C	No
Courtland Blvd. to Project Entrance	4*		E	3,410	1,357	6.56%	1,535	C	No	37.95%	19	1,554	C	No
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	1,129	6.12%	1,267	C	No	62.05%	31	1,298	C	No
Providence Blvd.														
Elkcaml Blvd. to Ft Smith Blvd.	2	Near Critical	E	1,020	865	0.82%	879	D	No	0.00%	0	879	D	No

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Sources: GMB Engineers & Planners, Inc.

2012 FDOT Quality/LOS Handbook

2013 Volusia County Traffic Counts

FDOT Florida Traffic Online (2013)

Level of Service 2013 Critical / Near Critical State and County Roadways

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

Table 11
Fernanda Place
 2025 PM Peak Hour Roadway Analysis

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	Existing PM Peak	Growth Rate	Background Traffic		Background Deficiency?	YR 2016 Project Traffic		Total Traffic	LOS	Project Deficiency?
							PM PK	LOS		Dist%	Trips			
Howland Boulevard														
Providence Blvd. to Elkcarn Blvd.	2	Critical	E	1,230	1,379	1.92%	1,432	F	Yes	16.22%	10	1,442	F	No
Courtland Blvd. to Project Entrance	4*		E	3,410	1,071	6.56%	1,212	C	No	37.95%	24	1,236	C	No
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	1,071	6.12%	1,202	C	No	62.05%	40	1,242	C	No
Providence Blvd.														
Elkcarn Blvd. to Ft Smith Blvd.	2	Near Critical	E	1,020	1,189	0.82%	1,209	F	Yes	0.00%	0	1,209	F	No

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Sources: GMB Engineers & Planners, Inc.
 2012 FDOT Quality/LOS Handbook
 2013 Volusia County Traffic Counts
 FDOT Florida Traffic Online (2013)
 Level of Service 2013 Critical / Near Critical State and County Roadways
 CFRPM Model Volumes v5.1

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

As shown above, all roadways will operate at an acceptable level of service during both the AM and PM peak hour with the exception of the flowing segments under the PM peak hour condition:

- Howland Blvd. from Providence Blvd. to Elkcam Blvd.
- Providence Blvd. from Elkcam Blvd. to Ft. Smith Blvd.

The deficient roadway segments listed above are operating below their respective maximum service volumes for the future YR 2025 and are deficient either in the existing conditions or due to background traffic growth, without adding the Fernanda Place development project trips.

Based on the Florida legislation found in Chapter No. 2011-139 (H.B. 7207), effective June 2, 2011, the identified deficient roadways and intersections are considered a pre-existing transportation deficiency. Therefore, consistent with this legislation, the proposed land use should not be required to contribute towards the cost of eliminating the pre-existing deficiency.

CONCLUSION AND RECOMMENDATIONS

The final section of the report identifies the major conclusions and recommendations regarding the traffic impacts associated with the proposed Fernanda Place development.

CONCLUSION

EXISTING CONDITIONS

- The analysis concludes that all study area roadways exhibit traffic volumes lower than their respective roadway LOS service volume for the AM & PM peak hours for YR 2014 existing conditions with the exception the following roadway segments:

PM peak hour:

- Howland Blvd. from Providence Blvd. to Elkcam Blvd.
 - Providence Blvd. from Elkcam Blvd. to Ft. Smith Blvd.
-
- All study area intersections operate at the allowable LOS “E” for the existing conditions with the exception of the intersection of Howland Blvd at Learning Ln / Clarion St., which is operating below acceptable LOS “E” in the AM peak hour condition.

FUTURE YR 2016 CONDITIONS

- The analysis concludes that all study area roadways exhibit traffic volumes lower than their respective maximum roadway capacities for the AM & PM peak hours for YR 2016 with the exception of following roadway segments:

PM peak hour:

- Howland Blvd. from Providence Blvd. to Elkcam Blvd.
- Providence Blvd. from Elkcam Blvd. to Ft. Smith Blvd.

The deficient roadway segments listed above are operating below their respective maximum service volumes for YR 2016 and are deficient either in the existing conditions or due to background traffic growth, without adding the Fernanda Place development project trips.

- All study area intersections operate at the allowable LOS “E” for the existing conditions – including the project entrances.
- Based on the Florida legislation found in Chapter No. 2011-139 (H.B. 7207), effective June 2, 2011, the identified deficient roadways and intersections are considered a pre-existing transportation deficiency. Therefore, consistent with this legislation, the proposed development should not be required to contribute towards the cost of eliminating the pre-existing deficiency.

FUTURE YR 2025 CONDITIONS

- The analysis concludes that all study area roadways exhibit traffic volumes lower than their respective maximum roadway capacities for the AM & PM peak hours for YR 2025 with the exception of following roadway segments:

PM peak hour:

- Howland Blvd. from Providence Blvd. to Elkcam Blvd.
- Providence Blvd. from Elkcam Blvd. to Ft. Smith Blvd.

The deficient roadway segments listed above are operating below their respective maximum service volumes for YR 2025 and are

deficient either in the existing conditions or due to background traffic growth, without adding the Fernanda Place development project trips.

RECOMMENDATION:

Based on the above conclusions, GMB respectfully requests traffic concurrency approval for the proposed Fernanda Place.

Appendix “A”
Methodology and Volusia County TIA
Guidelines

TRANSPORTATION IMPACT ANALYSIS (TIA) Guidelines

Methodology For Development Applications



Requiring a TIA
in Volusia County, Florida

TIA Guidelines

As adopted on November 24, 2009

(The Volusia Transportation Organization (VTPO) was formally known as the Volusia County Metropolitan Planning Organization (VCMPO). The name change was effective July 1, 2010.)

Preface

The Volusia Transportation Planning Organization (VTPO) is responsible for the planning and programming of federal and state transportation funds within the metropolitan planning area. As part of an ongoing effort to provide a forum that facilitates cooperation and coordination, the TPO has worked with public and private sector transportation professionals to develop a uniform methodology for assessing the transportation impacts of proposed development. The Transportation Impact Analysis (TIA) Guidelines Methodology was adopted by the Volusia TPO Board in May 2007.

The Volusia Transportation Planning Organization applauds its members and business partners for working together to develop a reasonable and consistent methodology for use by local governments and the development community. Efforts such as this incorporate smart growth principles and demonstrate the benefits of partnering.

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PURPOSE AND APPLICABILITY

A Transportation Impact Analysis (TIA) will be required for developments generating 1,000 or more two-way daily external trips on a weekday or 100 or more peak hour two-way external trips. Developments generating less than 1,000 two-way daily external trips or 100 peak hour two-way external trips may also be required to submit a **TIA** if determined necessary by the City/County Development Review Committee (DRC). The **TIA** must be provided at the first submission of the right of way Use Permit, rezoning, special exception, variance, Overall Development Plan, or the Final Site Plan stage of the development. Comprehensive plan land use amendments need to follow State of Florida Department of Community Affairs requirements.

A **TIA** is conducted in order to evaluate the transportation systems' ability to accommodate the additional traffic generated by the proposed development. If the TIA determines that the Level of Service (LOS) of the impacted roadway(s) is deficient, potential mitigation strategies and improvements to the transportation system will be required.

Concurrency is evaluated during the **TIA** process to determine the entire project's impact on the thoroughfare system and to discuss potential mitigation measures at the beginning of the development process. Successful evaluation of *preliminary concurrency* as part of the **TIA** does not guarantee that *final concurrency* will be met at the time of the Development Order (DO) application, since *final concurrency* is granted at the time of the **DO** application. Larger projects that consist of several phases sometimes take years to complete the acquisition of a **DO** for all phases. During that time frame, new road conditions or problems could surface that would require additional analysis and possible mitigation.

The developer and the professional engineer should note that the City/County Traffic Engineer (CTE) reserves the right to request additional information, data or study after review of the Methodology Memorandum (MM) or the **TIA**. An itemized written response to the **MM** or **TIA** comments will be required from a professional engineer prior to any approvals.

Any reference to the "City/County" in these guidelines shall mean an incorporated city or Volusia County, its consultants, contractors, or employees, as applicable.

Review Schedule

The review schedule for a **TIA** methodology or **TIA** shall be in accordance with the applicable section of the City/County Zoning Ordinance or Land Development Code (LDC).

Failure on the part of the applicant to adhere to the applicable schedule may result in the City/County requiring updates or revisions to the analysis because of changing background conditions. If, after following the review process, the information submitted is not adequate for City/County staff to develop conditions of development approval, staff shall prepare a recommendation for denial of the development for insufficiency of supporting information.

1. METHODOLOGY STATEMENT

Prior to conducting any study, a written methodology statement shall be prepared by the applicant and submitted for review and approval by the **CTE**. The purpose of the methodology statement is to establish agreed upon methodologies and assumptions prior to the start of the study, corresponding to the issues outlined in the following sections. The methodology statement shall be prepared using the guidelines provided in the following paragraphs. The methodology statement will be first reviewed by the **CTE** or duly designated representative, if necessary, through a methodology meeting (or correspondence) with the applicant's consultant. The **CTE** may require the inclusion of proposed or anticipated traffic signals in the future year condition that may not exist in the "existing condition". The applicant's consultant will then revise the statement based upon agreed upon methodologies. The applicant shall ensure the consultant does not prepare a traffic study without an approved methodology statement signed by the **CTE** or their designee. The methodology agreements shall be valid to govern submittal of the **TIA** for a period of 6 months. In some sections, these **TIA** Guidelines identify optional ways to undertake elements of the analysis, and the methods to actually be applied should be agreed upon in the methodology process.

2. REPORT FORMAT

The **TIA** report will follow the presentation order, graphics, and appendices as outlined below:

TIA Report Format

Four printed copies of the **TIA** and one electronic version of the **TIA** (including all plans graphs, figures, diagrams, etc. in a .pdf format) must be submitted to the City/County Land Development Manager (LDM) for review. Include on the electronic version in separate file folders all computer files, which could include (but not limited to) the Central Florida Regional Planning Model (CFRPM) and all capacity analyses files. The **TIA** must have a title page which will include the development name and project number assigned by the **LDM**, the developer's name, company, address and phone number, the professional engineer's name, company, address and phone number and the **TIA** preparation date. A table of contents shall be provided which lists the figures, tables, chapters and appendices. Each page of the report body and appendices must be numbered. Submit a completed **TIA** Submission Checklist with the **TIA** report.

Certification by the Professional Engineer

A certification page shall be provided in the **TIA** which must include the professional engineer's signature, seal, current registration number in the State of Florida and a statement that the professional engineer is trained in traffic engineering and was responsible for and in charge of the **TIA** preparation.

3. IMPACTED ROADWAYS/INTERSECTIONS

For purposes of this section, the term “**Major Roadways**” may include all existing collector and above-classified roadways per the latest, adopted **Volusia Transportation Planning Organization (TPO)** Federal Functional Classification Map, and those scheduled for construction within the first **3** years in the latest adopted Volusia County 5-Year Capital Improvement Program, adopted Volusia County MPO’s Transportation Improvement Plan (TIP) and/or adopted local jurisdiction’s Capital Improvement Element (CIE) and major roads under construction by a non-governmental party (e.g., built by developers).

Impacted roadways and intersections that must be studied in the **TIA** shall include:

- a) The major roadway segment(s) to which the site has direct connections, or to which the site has most direct access via local/non-major streets (if the site has no direct connection to major roadways),
- b) Major roadways on which the two-way peak-hour project traffic which meet the following thresholds:
 - 1) If the project generates **less than 100 two-way peak hour external trips** – the **TIA** shall include an analysis of all roadways where the project’s peak hour trips consume **one percent (1%)** or more of a roadway’s 2-way peak hour generalized service volume based on the adopted LOS and the committed number of lanes;
 - 2) If the project generates **between 100 to no more than 300 two-way peak hour external trips** – the **TIA** shall include an analysis of all roadways where the project’s peak hour trips consume **three percent (3%)** or more of a roadway’s 2-way peak hour generalized service volume based on the adopted LOS and the committed number of lanes;
 - 3) If the project generates **300 or more two-way peak hour external trips** – the **TIA** shall include an analysis of all roadways where the project’s peak hour trips consume **five percent (5%)** or more of a roadway’s 2-way peak hour generalized service volume based on the adopted LOS and the committed number of lanes.
- c) To determine whether the development will impact critical and near-critical roads in a *de-minimus* nature and are not being analyzed by the threshold values above, major roadways that are designated on the most recent **Volusia County Critical and Near-Critical Roadway List** and within the following travel distance (via the major roads) shall be checked:
 - Residential, office, commercial, industrial, institutional – 5.0 miles
 - Recreation, local parks – 1.5 miles
 - Convenience stores – 1.0 miles
 - Other uses – 5.0 miles
- d) Major intersections (all signalized intersections and unsignalized intersections of major roadways that cross another major roadway) that are part of the impacted threshold roadways.
- e) The intersection(s) of the major roadways with the non-major roads that provide access for 50 or more peak-hour development trips to or from the site (two-way total) to the major road network,

For purposes of determining if peak hour development traffic consumes the threshold values of the existing service volume of a road, the allowable capacity in the annual **Volusia County Traffic Counts and LOS for Volusia County Roadways**, which is based upon the generalized roadway service volumes from the Generalized Service Volumes tables of the Florida DOT's current Q/LOS Handbook shall be used. If a question arises regarding the 2-way peak hour service volume of a roadway, coordination with the appropriate local jurisdiction that is responsible for designating the **LOS** standard and document any difference between jurisdictional agencies.

The **TIA** will also include an evaluation of the traffic circulation at the development entrances in relation to the adjacent intersections and internally within the site. This assessment must include the vehicular stacking and storage provided for site plans at the entrance driveways in advance of any parking stalls or driveway aisles. An evaluation of alternate modes of transportation such as mass transit, bicycles, sidewalks for pedestrians, etc, must also be included. VOTRAN's **Transit Development Guidelines** shall be included in review of alternative modes.

Further, an assessment of the potential for traffic generated by the proposed development to increase traffic through established neighborhoods, and potential mitigative measures if appropriate, shall be included.

4. ANALYSIS SCENARIOS

- a) **Existing scenario** is defined as the analysis of existing traffic on the existing network. The existing network includes all existing roads, major roads under construction by a non-governmental party, plus all improvements for which construction contracts have been executed by government agencies at the time the proposed transportation methodology statement is initially submitted.
- b) **Future scenario** is defined as the analysis of existing traffic, plus background traffic (derived from growth rates, vested trips, or combination of both), plus the project's traffic placed on the existing network, plus all improvements funded for construction within the first **three** years of the local jurisdiction's adopted **CIE** and/or adopted Volusia TPO's **TIP**. If there is a conflict between the local jurisdictions's **CIE** and the Volusia TPO's **TIP**, the local jurisdiction's **CIE** will be the controlling document for roadways not using state or federal funds.

[It should be noted that improvements funded for construction in the **CIE** or **TIP** may be relied upon for purposes of identifying solutions to future road operating conditions; however, the local jurisdiction may include years two (2) and three (3) in any proportionate-share computation that might be required for the proposed development. Refer to the local jurisdictions proportionate fair share ordinance to determine how many years are eligible.]

If signalization is proposed as a mitigation measure, Florida DOT signal warrant summary worksheets shall be provided for the location(s) proposed for signalization. If a multi-way stop is proposed as a mitigation measure, then a Volusia County multi-way stop sign warrant summary worksheet shall be provided for the location(s) proposed.

- c) **Future scenario with mitigation** is defined as analysis of the **Future Scenario** with the inclusion of any other improvements that are required for mitigation. This analysis scenario will be required only if mitigation is required as the result of the future scenario analysis.

d) **Alternative Mode Analysis.** If the development is located in a present or future urbanized area, as determined by the **CTE**, an evaluation of present and programmed bike, pedestrian and transit mobility options is necessary. A system assessment of sidewalks, bikeways and existing transit routes should be documented. The site plan should also address how walking, bicycling and transit ridership will be encouraged through one or more of the following:

- Safe, adequately lit and well maintained pathways
- Shelters along sidewalks
- Bicycle Parking facilities
- Identifiable crosswalks
- Transit bus stops & transit stop amenities (i.e., bench, bus shelter, etc.)
- Phased traffic signals to accommodate pedestrian movements
- Removal of natural and/or built barriers that discourage walking
- Compliance with American's with Disabilities Act requirements
- Buffering between vehicular areas and sidewalks
- Linkage to existing or future walkway and/or bikeway network and transit route
- Implementation of the VOTRAN's **Transit Development Guidelines**

5. GENERAL ANALYSIS REQUIREMENTS AND SOFTWARE

A.M. and P.M. peak hour analysis will be undertaken for all locations in the study network for residential and office developments. For other developments a determination of either the A.M. or P.M. peak hour analysis, or both, will be made by the **CTE** during the methodology process.

- a. **Level of Service (LOS)** will be analyzed for all site-access intersections and the major road segments and intersections included in the network defined by the **IMPACTED ROADWAYS/INTERSECTIONS** Section. In addition, for all site access intersections where left-turns are greater than 25 vehicles in the peak hour, a left-turn lane shall be constructed and a turn-lane length analysis shall be conducted.
- b. Road analysis sections shall be developed based on acceptable engineering and planning practices as set forth in the Highway Capacity Manual (HCM) and the **FDOT Q/LOS Manual**. **LOS** will be evaluated on the basis of entire analysis sections.
- c. All analysis shall be undertaken for conditions during the 100th highest hour of the year.
- d. The use of the FDOT's 2-way peak hour generalized tables is permitted as an initial screening tool. If failure is estimated, then more detailed analysis may be undertaken using the procedures described below:
 - 1) For unsignalized intersections, the latest version of Highway Capacity Software (HCS) is the preferred software for analyzing delay and **LOS**.
 - 2) For signalized intersections, the latest version of **HCS** or **Synchro** software using the **HCS** methodology is required.
 - 3) Use the **FDOT's ARTPLAN** (interrupted flow road segment analysis), **HIGHPLAN** (uninterrupted flow roads (those with more than two-mile signal spacing)), **FREEPLAN**, and/or **HCS** depending on the characteristics of the study roadway for road link analysis. This should be discussed at the methodology stage. Refer to **FDOT's Site Impact Handbook** and **FDOT's Q/LOS** software website for further

- guidance.
- 4) The hard copy of the summary sheets and electronic files of the software inputs and results must be provided.
 - 5) Other analysis software may be required to address situations not addressed by the above provisions, or if requested by the applicant and approved by the **CTE** during the methodology step.
 - 6) If any analysis software is used as an alternative to the FDOT's 2-way peak hour generalized tables, detailed analysis of all signalized intersections within the analysis section is required.
 - 7) The following data shall be field verified and provided in the report including, but not limited to:
 - (a) Class of roadway (interrupted or uninterrupted)
 - (b) Road Maintaining Agency
 - (c) Area type
 - (d) LOS standard of the appropriate local jurisdiction
 - (e) Geometry, including lane widths and turn-lane lengths
 - (f) Heavy vehicle factor (i.e., percentage trucks)
 - (g) Directional factor (D Factor, not to be less than 0.52 for the future conditions analysis)
 - (h) Peak-hour factor (PHF, not to exceed 0.95 for the future conditions analysis)
 - (i) Values of the above parameters should be estimated in the future conditions analysis to reflect unconstrained demand conditions.
Signal density
 - (j) Existing signal timing and phasing can be obtained from the County Traffic Engineering Division (or applicable City Engineering Division). The existing signal timing, including its maximum and minimum settings, shall be used for the initial analysis of future conditions. Any signal timing changes outside of the existing minimum and maximum setting may be presented for County approval (or applicable City approval) as part of the mitigation strategy.
 - (k) Analysis section lengths shall be as defined in Volusia County/Volusia TPO annual level of service spreadsheet. If any portion of the analysis section falls within the five-mile travel distance, then the entire analysis section shall be analyzed.

6. TRIP GENERATION

Each traffic impact study will list all project land uses, applicable Institute of Transportation Engineers (ITE) land use code, building size(s) and/or dwelling units. The trips from/to the site shall be estimated using the trip generation rates or equations in the latest edition of **ITE's** manual **Trip Generation**. Other rates may be required by the **CTE**, or may be used if requested by the applicant and approved by the **CTE**. Use of other rates must be requested during the methodology step. If the petitioner can provide evidence of a prior use on the site, the **TIA** shall address the net increase in trips associated with the proposed land use. If the site was dormant during collection of the traffic count data the analysis is based upon, then the "prior vested" portion of the development traffic must be added as "background" traffic.

If a site specific trip generation study of the same type or similar land use should be proposed by the applicant, then the applicant will need to analyze a minimum of three (3) separate similar land use

sites approved by the **CTE**. The survey data will be collected for at least a continuous seventy-two (72) hour period between Monday 6:00 p.m. and Friday at 6:00 a.m., or as otherwise determined by the **CTE**. Legal holidays or other days specified by the **CTE** will be excluded. Selection of other trip generation study times will be made when it is determined by the **CTE** that collection of the data between the above times will not result in a reasonable estimation of the trip generation characteristics of the proposed land use. The data will include the following:

- Summary of traffic count data by fifteen (15) minute increments
- Average daily volume during a.m. and p.m. peak hours of the adjacent street
- The accuracy of the traffic counts will be verified by performing manual counts and comparing them to machine counts twice daily, once in the a.m. and once in the p.m. for each day of the traffic counts
- All data will be subject to review and acceptance. This review will be based on currently accepted traffic engineering principals

7. INTERNAL CAPTURE

The use of an internal capture factor will be allowed for certain types and sizes of mixed-use developments. Internal capture is allowed per the **ITE** acceptable methodologies. Allowable sources for internal capture rates are identified below; however, in no case will an internal capture of more than 20 percent (20%) of the gross project trip ends (or the internal capture rates or equations contained in the most recent version of **ITE's** manual ***Trip Generation***) be allowed, unless the **CTE** accepts a higher internal-capture percentage based on verifiable documentation (e.g. field studies of comparable sites).

- a. The internal capture rate from a previous traffic impact analysis of a similar land use approved by the **CTE**.
- b. The internal capture rates or equations contained in the most recent version of the **ITE Trip Generation Handbook**.
- c. A site specific capture study of the same type or similar development approved by the City/County. Such a site specific study will be conducted at three (3) separate similar land use sites. The survey data will be collected for at least a two consecutive hour period each day for three (3) days between Tuesday at 12:00 p.m. and Thursday at 8:00 p.m., or as otherwise determined by the **CTE**. Legal holidays or other days specified by the City/County will be excluded. Selection of other internal capture study times will be made when it is determined by the **CTE** that collection of the data between the above times will not result in a reasonable estimation of the internal capture characteristics of the proposed project.

The data will include a summary of internal capture data by fifteen (15) minutes increments during the peak hours of the adjacent street. All data will be subject to review and acceptance by the City/County. This review will be based on currently accepted traffic engineering principals.

8. PASSER-BY CAPTURE

The total gross external trips of the project traffic may be reduced by a passer-by factor to account for the project traffic that is already traveling on the adjacent roadway. Passer-by rates are developed for commercial development only. Passer-by estimation shall be based on the **ITE** methodologies or other methodologies that may be approved by **CTE**. The total passer-by capture shall not exceed 14 percent (14%) of the total background traffic on the adjacent roadway. In analysis of the site-access intersections with major roads, the passer-by trips shall be included and separately identified (i.e., evaluated based on the full passer-by, not the reduced passer-by to ensure driveways are designed correctly).

The passer-by capture percentage shall be computed as the sum of the number of trips entering plus exiting the site land uses claimed as captured divided by the number of background trips passing by the site on major roads directly abutting or passing through the site.

9. DISTRIBUTION & TRAFFIC ASSIGNMENT

The latest adopted base year Central Florida Regional Planning Model (CFRPM) is acceptable in determining the trip distribution percentages and number of trips assigned per roadway segment assignments. The model will reflect the roadway network as identified in the **Impacted Roadways/Intersections** and the **Analysis Scenarios** sections. The results of the model will be reviewed by City/County to ensure the existing and future travel patterns are reasonably simulated. Manual trip distribution and assignment may also be acceptable as long as it is reviewed and accepted by **CTE** and logically replicates the existing and future travel patterns. A map showing the traffic-percent distribution (out to 5%), total background and project traffic assignments and intersection movements will be provided. The traffic-percent distribution must be shown on all critical hurricane roadways.

10. TRAFFIC COUNTS

Approved FDOT or City/County-maintained counts may be used if they are less than one year old in high growth areas. New counts will be requested if there are recent improvements to the transportation system that may cause significant traffic pattern changes. Counts more than one year old will not be acceptable unless otherwise approved by **CTE**.

New traffic volume counts shall be conducted based on acceptable engineering standards, and shall include the classification of heavy vehicles. Provide segment traffic counts, by direction, for a minimum of forty-eight (48) consecutive hours between 12:00 p.m. Monday and 12:00 p.m. Friday. Legal holidays or other days as specified by the **CTE** shall be excluded. Friday, weekend, or holiday counts may be required for land uses active on weekends, as determined by the **CTE**. The data should include a summary of traffic volumes by direction in fifteen (15) minute increments. The a.m., p.m. and other peak hours should be identified as well as the peak hour-to-daily traffic ratio and peak hour directional split. The average daily traffic counts will be adjusted to annual average daily traffic (AADT) using appropriate FDOT seasonal adjustment factors and truck axle adjustment factors. The peak hour segment volume will be determined by applying the approved K-factor for that segment to the **AADT** volume. All data will be subject to review and acceptance.

Prior to approval of the methodology statement, other peak-season adjustment factors or adjustment methodologies that may result in different peak-season adjustment factors may be requested at the

discretion of the **CTE**.

Provide intersection turning movement counts (**TMC**) where it is deemed necessary by the **CTE**. These **TMC**'s shall be made on one (1) typical weekday (Tuesday, Wednesday or Thursday) from 7:00 a.m. to 9:00 a.m., 4:00 p.m. to 6:00 p.m., or as otherwise specified. Legal holidays or other days, as specified by the **CTE**, shall be excluded. Friday, weekend, or holiday counts may be required for land uses active on weekends, as determined by the **CTE**. The data should include a summary of traffic volumes in fifteen (15) minute increments, with a.m., p.m., and other peak hours being identified. All data will be subject to review and acceptance.

Mid-segment tube counts should be checked against turning-movement counts at near-by intersections. Generally, the mid-segment machine counts and turning-movement counts should not be significantly different unless the difference can logically be explained.

11. BACKGROUND TRAFFIC GROWTH/FUTURE TRAFFIC

The existing traffic counts shall be increased by a growth factor provided by the **CTE** up to the project's build-out date, which shall be reasonably specified, to account for increases in existing traffic due to other approved and pending, but not-yet-built, developments. The build-out date shall be provided by the developer/applicant. Background traffic-growth rates and background traffic may be based on the most recently approved **City/County Concurrency Management Program's Annual Report** (or a local jurisdiction's vested trip database) and will be provided by the **CTE**, **TE** staff member or local jurisdiction. Under no circumstances is a negative growth rate allowed. Minimum annual growth rates in all cases shall be two percent, unless otherwise approved by the **CTE**.

12. LOS STANDARDS

- a.) The **LOS** standards for all major road segments shall be consistent with the letter standards per the **FDOT** on SIS State Roads.
- b.) The **LOS** standards for all major road segments shall be consistent with the letter standards per the local jurisdictions adopted Comprehensive Plan on non-SIS State Roads and the County's latest standard on County Thoroughfare Roads per the adopted Comprehensive Plan (unless the local jurisdiction has adopted a higher **LOS** standard).
- c.) On major roadway corridors, the minor street **LOS** standard may be less than adopted to ensure the major corridor **LOS** standard is acceptable, unless otherwise approved by the **CTE**.
- d.) The overall intersection **LOS** standard is the same as the segment standard. Where different segment **LOS** standards apply to different legs of the intersection, the overall intersection **LOS** standard will be the *lowest* crossing road standards. For example, between LOS E and LOS D the lowest crossing standard would be LOS E.

13. PHASED DEVELOPMENTS

Developments with build-out dates more than five years in the future shall be analyzed in five-year phases. Developments which are contemplated to be phased should undertake transportation analyses that assess the total impacts of the full anticipated development levels for the entire “parent” tract. A parent tract is a tract of land that was or will be subdivided after October 29, 1976, for sale to separate individuals. The mitigation requirement for each phase of the development will then be pro-rated in proportion to the magnitude of the net external peak-hour trips generated by that phase. In lieu of pro-rating the complete parent tract, the local government may instead recommend that projects be subject to phasing and Monitoring & Modeling requirements to ensure that the impacts of the development are occurring as expected. If concurrency approval for only one phase is secured, then payment or construction of needed mitigative improvements associated with that phase only will be required. The TIA supporting concurrency approval for the subsequent phases will remain valid through the horizon year of the TIA, but the cost of the mitigation requirement will be indexed to the year in which the mitigation improvements or payments are made, using the cost indexing procedures of Volusia County’s (or applicable City’s) transportation impact fee ordinance.

In the event a transportation concurrency certificate of capacity for a parent tract expires, an updated TIA will be undertaken for the entire parent parcel development as a part of the subsequent parcel concurrency review. To establish the mitigation requirement for the unapproved phases, the mitigation requirement for the total parent tract, as updated, will be reduced by the mitigation already provided for by the previously approved phases (indexed to current value). The difference will then be allocated to the remaining unapproved portions of the site in proportion to the net external trips generated by each remaining phase.

14. MITIGATION OF IMPACTS

If a major roadway segment is below its adopted **LOS** standard, then the developer shall propose a solution to mitigate the transportation impacts of the proposed site. The following options are provided to developers for mitigation of transportation impacts:

Restore to adopted standard – Identify an improvement at an impacted location that restores level of service to the adopted standard for the “future year with development traffic” condition.

Equal mitigation (Same location) – Identify improvements that offset the impacts of a development at impacted locations. Each improvement shall, at a minimum, result in no degradation in the delay per vehicle on each lane group at deficient intersections and/or travel speed along deficient roadways (on segments that use speed as criteria for the **LOS** standards) that existed (considering background growth and committed roadways) prior to addition of the development traffic. Impacts on such facilities shall require construction of all necessary improvements to correct the deficient condition in accordance with the **TIA** guidelines.

Equal mitigation improvements will be deemed acceptable if capacity is added (through the addition of general purpose through-lanes, auxiliary turn-lanes, and/or signal phasing or timing changes that are accepted by the City/County) that restores or improves the delay and **V/C** ratio to the level it was in the “**base scenario**.” The “**base scenario**” is defined as the analysis of existing traffic, plus background traffic (derived from growth rates, vested trips, or combination of both) on the model that

includes the roadway network identified in the **Impacted Roadways/Intersections** and the **Analysis Scenarios** sections.

The developer shall only be responsible for the equal mitigation improvement; however, for informational purposes only, if equal mitigation improvements are identified at any deficient location(s), then additional improvements that may be needed to bring the entire deficient location(s) back to the **LOS** standard, shall also be identified and reported separately.

The design and construction of any mitigation improvements shall be in accordance with City, Volusia County or FDOT standards as applicable.

The analysis of intersections to demonstrate the adequacy of an improvement to achieve equal mitigation must be based on a consistent, traffic-signal timing strategy (e.g. minimizes delay, balance **V/C** or delay, subject to **V/C** maximums) and must follow the steps below:

- a. Analyze total future traffic on existing geometry (future scenario). For this analysis, signal timings may be optimized within the limits of the existing timing plan or may be adjusted manually within the limits of the existing timing plan. If the **LOS** standard is met, no further analysis is required. If the **LOS** standard is not met, further analysis to identify appropriate mitigation is required.
- b. The next analysis is to evaluate the “base scenario” condition. For this scenario, signal timing optimization within the limits of the existing timing plan or manually adjusted timings within the limits of the existing timing plan is required. The choice of signal-timing methodology in this step must be carried consistently into the next step. From the analysis, an overall Intersection Signal Delay is reported by the software.
- c. The next analysis is to evaluate total future traffic on an improved intersection concept (future scenario with mitigation). The same signal-timing strategy used in paragraph b. (above) is required. If the overall Intersection Signal Delay, and delay by movement are equal or less than in the base scenario, the improvement is considered to be adequate to offset the impacts of the development.

Any changes to existing conditions, including traffic-signal timing or phasing changes shall be noted on the intersection capacity analysis worksheets and in the conclusions of the report. Arterial analysis worksheets for the base and improved network conditions must also be submitted.

Alternate Location Mitigation – If the developer presents evidence acceptable to the **DRC** or the City/County Commission/Council that the mitigation improvements required by sections a. or b. above are not cost feasible in relation to the development proposed, mitigation strategies at alternative locations may be proposed and may be accepted by the **DRC** or the City/County Commission/Council. At a minimum, the proposed improvements should meet the following criteria:

- a. The locations proposed for improvement must be within the impacted area and must be at or near deficiency,
- b. The improvement must be other than simply a signal timing or phasing change,
- c. Mitigation must, at the minimum, improve the overall vehicle-hours of delay, intersection capacity utilization, and/or speed of the alternative location by the equivalent amount of the reduced vehicle-hours of delay, intersection capacity utilization, and/or speed at the primarily impacted location(s),
- d. The improvements must not already be, or be in the process of being, a condition of approval of another development,

- e. All applicable analysis requirements for the primary location(s) shall apply to the analysis of the alternative location(s).

Proportionate Share Mitigation – If the developer submits evidence acceptable to the **DRC** or City/County Commission/Council that the required equal mitigation is not cost feasible in relation to the development proposal, the developer may propose a proportionate-share payment as mitigation, which must be approved by the **DRC** or City/County Commission/Council.

The proportionate share payment shall be calculated as follows:

- a. Identify all needed improvements to bring all deficient locations in the study network back to the **LOS** standard,
- b. Submit an engineer-certified cost estimate of the required improvements as approved by the City/County,
- c. Calculate the proportionate-share cost of those improvements per the following formulae:

For road segments:

$$\text{Proportionate share cost}^1 = \frac{\text{Project traffic}}{\text{Increase in capacity created by the improvement}} \times \text{Total cost of improvement (Indexed to future year of construction)}$$

¹ Refer to local jurisdictions proportionate share ordinance based upon project location.

If other unforeseen situations arise, they will be dealt with on a case-by-case basis.

- d. The above values shall be in units of peak hour, two-way values. Cost values shall include design, right-of-way, maintenance of traffic, construction, and construction observation/administration costs. However, costs of major utility upgrades or the costs of other activities that are advantageous to accomplish with the road construction but that do not relate to providing transportation capacity or services should not be included.

Circumstances where the local government is **required to accept** proportionate share mitigation include:

Where improvements to maintain the adopted level of service on all roadway locations impacted by the proposed development are specifically identified for funding in the 5-year schedule of capital improvements in the capital improvements element of the local plan or the long-term concurrency management system or if such contributions or payments to such facilities or segments are reflected in the 5-year schedule of capital improvements in the next regularly scheduled update of the capital improvements element (F.S. 163.3180 (16)(b)1).

Circumstances where the local government may **choose to not accept** Equivalent Mitigation or Proportionate Share mitigation include, but are not limited to:

- a. Situations where all of the needed improvements to offset development impacts or maintain the adopted level of service standard are not in the five-year **CIE**,
- b. Situations where the proposed improvements are not compatible with the long-range transportation plan,
- c. Situations where severe transportation congestion may be caused and remain un-cured if the development were to proceed,
- d. Situations where severe or undesirable environmental or social impacts may result,
- e. Situations where granting of impact fee credits for the costs of the improvements might disrupt the orderly scheduling of impact fee funded capital improvements.

Generally, the proportionate share funds from a development will be used by the developer to implement an improvement that is agreed upon by the City/County and agencies responsible for the road to be improved and other impacted roadways, to be of substantial benefit to the impacted roadway network. If needed improvements are scheduled in the **CIE**, then the City/County will accept payment of the proportionate share.

15. APPEAL PROCESS AND SCHEDULE

If a petitioner desires to appeal any portion of the requirements of this procedure, the appeal shall be in accordance with the applicable section of the local government's land development process (e.g., City/County Zoning Ordinance or **LDC**).

16. VARIANCE

Any deviation or variance requested shall be in accordance with the applicable section of the local government's land development process (e.g., City/County Zoning Ordinance or **LDC**).

TRANSPORTATION IMPACT ANALYSIS SUBMISSION CHECKLIST

	DESCRIPTION	INFORMATION INCLUDED			
		YES	NO	N/A	Remarks ¹
TRANSPORTATION IMPACT ANALYSIS REPORT DATA	4 Printed TIA Copies Signed and Sealed by Professional Engineer				
	1 Electronic version of the TIA & all analysis computer files				
	Site Location relative to surrounding roadway network (map)				
	Description of proposed land uses				
	Proposed Build-out schedule				
	Study area boundaries including all Thoroughfare Road segments and intersections within appropriate radius (map)				
	Existing Traffic Volumes				
	Existing roadway segment analysis				
	Existing intersection analysis				
	List scheduled improvements within first three years of County, FDOT, and/or City Capital Improvement Programs				
	Proposed development trip generation/internal capture/pass by capture				
	Proposed development trip distribution and assignment (map)				
	Future Background Traffic Volume Estimates				
	Projected future roadway segment analysis				
	Future Total Peak-Hour(s) Traffic Volume Estimates (Background + Vested + Project Trips)				
	Projected future Peak-Hour(s) roadway intersection analysis including proposed turn lanes and signals				
	Projected Future Roadway Concurrency Analysis				
	Conclusions and Recommended Improvements				
	Site access recommendations				
	Concurrency mitigation strategy				
APPENDIX DATA	Methodology Documentation & Conceptual Site Plan				
	Traffic Count Data & Inventory of Existing Road Conditions				
	Confirmation of Scheduled Improvements (Copy of Appropriate CIE)				
	Existing Conditions Analysis Worksheets (HCS Printouts)				
	Background Traffic Growth Worksheets				
	Trip Generation, Internal Capture, Pass-By Capture Worksheets				
	Future Conditions Analysis Worksheets (HCS Printouts)				
	Turn Lanes Analysis Worksheets (Queue Length)				
	Signal Warrant Analysis				
	Multi Way STOP Warrant Analysis				

1 – Remarks: Justify “NO” and “N/A”

Submitted By: _____ Printed Name: _____

Date: _____

APPENDIX

A-1 Definitions

Annual Average Daily (AADT) refers to a basic traffic parameter for determining the level of service for motorized vehicles along a roadway. It is the total volume passing a point or segment of a roadway facility, in both directions, for one year, divided by the number of days in the year.

Annual Average Weekday (AAWDT) is the total volume passing a point or segment of a highway facility, in both directions, for weekdays only for one year, divided by the number of weekdays in the year...

Average Daily Traffic (ADT) is the average number of vehicles that pass a specified point during a 24-hour period.

Average Peak Hour Volume refers to the average of peak season and off-peak season turning movements. *Most typically the 100th highest hour which is considered to be the primary planning analysis hour in Florida. (Refer to FDOT's Q/LOS Handbook)*

Alternative Mode Analysis refers to the evaluation of bicycle, pedestrian and transit features and services within the study area, and identification of the developments proposal for improvements to those if applicable.

Arterial Road refers to a roadway providing service which is relatively continuous and of relatively high traffic volume, long trip length, and high operating speed.

ARTPLAN is FDOT's arterial planning software sometimes used for calculating level of service and service volume tables for interrupted flow roadways.

Background Traffic means and refers to the projected traffic generation from previously approved but incomplete projects.

Note: FDOT's Site Impact Handbook defines Background Traffic as an estimate of future traffic within the vicinity of the proposed development, without the site development traffic, but with existing traffic adjusted for expected growth, and addition of traffic from major vested projects.

Capacity refers to the availability of a public service or facility to accommodate users, expressed in an appropriate unit of measure, such as average daily trip ends of two way peak hour trips. It means the maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions. *Sometimes, capacity is referred to as "service volume" due to its reliance on the local government's adopted level of service.*

Captured Trips refer to trips not generated by a proposed project which are passing trips already on the roadway on which the proposed project is to be located.

Concurrency is an evaluation of whether a transportation facility or service has adequate capacity to accommodate the trips generated from a proposed development. *Concurrency*, as used in growth management, is the requirement of s. 163.3180, FS, that public facilities and services needed to support development shall be available at the same time the impacts of such development will occur.

Concurrency Management System refers to the procedures and/or process that the local government will utilize to assure that development orders and permits are not issued unless the necessary facilities and services are available concurrent with the impacts of development (*Specific Authority 163.3177(9), (10) FS. Law Implemented 163.3177, 163.3178 FS. History–New 3-6-86, Amended 10-20-86, 11-22-89, 4-2-92, 3-23-94, 5-18-94, 3-21-99, 2-25-01.*)

Collector Road refers to a roadway providing service which is of relatively moderate traffic volume, moderate trip length, and moderate operating speed. Collector roads collect and distribute traffic between local roads or arterial roads (*Specific Authority 163.3177(9), (10) FS. Law Implemented 163.3177, 163.3178 FS. History–New 3-6-86, Amended 10-20-86, 11-22-89, 4-2-92, 3-23-94, 5-18-94, 3-21-99, 2-25-01.*)

Critical Roadways are identified by the volume to capacity ratio (v/c). If the v/c ratio is ≥ 1.0 on an emergency evacuation route or if the v/c ratio is ≥ 1.1 on a non-emergency evacuation route then it considered a critical roadway segment (*Approved by the TPO on June 24, 2008*).

Critical Signalized Intersection refers to a signalized intersection with the lowest volume to capacity ratio (v/c), typically the one with the lowest effective green ratio (g/C) for the through movement.

Cycle Length (C) is the time it takes a traffic signal to go through one complete sequence of signal indications.

De minimis “The Legislature finds that a de minimis impact is consistent with this part. A de minimis impact is an impact that would not affect more than 1 percent of the maximum volume at the adopted level of service of the affected transportation facility as determined by the local government. No impact will be de minimis if the sum of existing roadway volumes and the projected volumes from approved projects on a transportation facility would exceed 110 percent of the maximum volume at the adopted level of service of the affected transportation facility; provided however, that an impact of a single family home on an existing lot will constitute a de minimis impact on all roadways regardless of the level of the deficiency of the roadway. Further, no impact will be de minimis if it would exceed the adopted level-of-service standard of any affected designated hurricane evacuation routes. Each local government shall maintain sufficient records to ensure that the 110-percent criterion is not exceeded.” (*Per FS 163.3180 - Concurrency*)

DOT Guidelines refers to the Florida Department of Transportation (FDOT) Quality/Level of Service Handbook published in 2002 by the Florida Department of Transportation, all as subsequently amended and updated.

Existing Traffic refers to the average annual daily traffic and two way peak hour traffic volumes. *Most typically the 100th highest hour which is considered to be the primary planning analysis hour in Florida. (See Q/LOS Handbook)*

Evacuation Routes as identified in the currently Adopted Volusia County Comprehensive Plan, pursuant to Chapter 163, FS, and consist with the Transportation Element.

FREEPLAN is FDOT's freeway planning software for calculating level of service and service volume tables.

Generalized Level of Service Volume Tables is the maximum service volumes based on area wide roadway traffic and control variables and presented in tabular form.

Growth Rate is the rate of which traffic increases or decreases over a given period of time based on historic traffic count information and land use.

HIGHPLAN is FDOT's software for calculating levels of service and service volume tables for two-lane highways and multilane highways.

Highway Capacity Manual (HCM) is the Transportation Research Board (TRB) document on highway capacity and quality of service.

ITE refers to the Institute of Transportation Engineers. ITE Trip Generation Rates are published by the Institute of Transportation Engineers (ITE) for traffic engineers and transportation planners for site level planning and analysis.

Internal Capture are trips that remain on a proposed development's site due to the presence of non-residential and residential land uses which in combination reduce impact on the surrounding roadway network.

Internal Capture Rate is the percentage of the total number of trips from a site that are contained within on-site circulation systems only.

K-30 is the proportion of AADT occurring during the 30th highest hour of the design hour.

K-100 is the proportion of AADT occurring during the 100th highest hour of the design hour.

K-FACTOR is the ratio of the demand traffic volume in the 30th highest hour of the year to AADT.

Level of Service (LOS) is a quantitative stratification of the quality of service of a service or facility into six letter grade levels with "A" describing the highest quality and "F" describing the lowest quality; a discrete stratification of a quality of service continuum. With regard to traffic and transportation, the measure of the functional and operational characteristics of a roadway based upon traffic volume in relation to road capacity.

Areawide LOS refers to a standard that may be established for facilities with similar functions serving common origins and destinations within one or more designated transportation concurrency management areas, pursuant to *Rule 9J-5.0055(5), FAC*, and must be maintained as a basis for the issuance of development orders and permits.

Local Road means a roadway providing service which is of relatively low traffic volume, short average trip length or minimal through traffic movements. (*Specific Authority 163.3177(9), (10) FS. Law Implemented 163.3177, 163.3178 FS. History–New 3-6-86, Amended 10-20-86, 11-22-89, 4-2-92, 3-23-94, 5-18-94, 3-21-99, 2-25-01.*)

Link refers to the portion of a major thoroughfare between two (2) major intersections, or between a major intersection and the end of the thoroughfare, or between a major intersection or end of the thoroughfare and the city limits.

Near Critical Roadways are roadways with a v/c ratio > 0.90 and < 1.0 on an emergency evacuation route or a v/c ratio > 0.90 and < 1.1 on a non-emergency evacuation route. The roadway segment is considered to be near capacity and flagged for analysis and monitoring to ensure that a development's trips do not make a roadway fail or reach "critical" status. (*Approved by the TPO on June 24, 2008*)

Major City/County Roadway is a roadway not on the State Highway System whose roadway, traffic and control characteristics are similar to those classified as state minor arterials.

Transportation Planning Organization (TPO) is the organization designated as being responsible, together with the state, for conducting the continuing, cooperative, and comprehensive planning process under 23 USC 134 and 49 USC 1607. It is the forum for cooperative transportation decision-making. *Florida follows federal requirements, see s. 339.175, FS.*

Peak Direction is the course of the higher flow of traffic.

Peak Hour Traffic is hours of which traffic volumes are the highest during a 24-hour period, usually the highest volume in the am (between 7am and 9 am) and in the pm (between 4 pm and 6pm)

Peak Hour Factor (PHF) is the ratio of the hourly volume to the peak 15-minute flow rate for that hour; specifically $\text{hourly volume} / (4 \times \text{peak 15-minute volume})$.

Peak Season is the 13 consecutive weeks with the highest daily volumes for an area.

Peak Season Weekday Average Daily Traffic is the average daily traffic for Monday through Friday during the peak season.

Peak to Daily Ratio is the ratio of the highest 1 hour volume of a day to the daily volume.

Passer by Factor is the percentage of a development's total traffic that is considered already on the road network and merely stops at the development in passing.

Roadway Functional Classification refers to the assignment of roads into categories according to the character of service they provide in relation to the total road network. Basic functional categories include limited access facilities, arterial roads, and collector roads, which may be subcategorized into principal, major or minor levels. Those levels may be further grouped into urban and rural categories. (*Specific Authority 163.3177(9), (10) FS. Law Implemented 163.3177, 163.3178 FS. History–New 3-6-86, Amended 10-20-86, 11-22-89, 4-2-92, 3-23-94, 5-18-94, 3-21-99, 2-25-01.*)

Signal Density is the number of signalized intersections per mile.

Signal Type is the kind of traffic signal (actuated, pre-timed or semi-actuated) with respect to the way its cycle length, phase plan, and phase times are operated.

Signalized Intersection is a place where 2 roadways cross and have a signal controlling traffic movements.

Signalized Intersection Spacing is the distance between signalized intersections.

Threshold is the breakpoints between level of service differentiations.

Transportation Impact Analysis (TIA) is a study conducted to evaluate the impacts of a proposed development on the transportation system and identify possible mitigation strategies.

Traffic volume is the number of vehicles passing a point on a highway during a specific time period.

Trip Generation Standards refers to the book entitled trip generation, 8th Edition, prepared by the ITE in 2007, and as amended or revised from time to time including more recent editions.

Turning Movement Counts (TMC) are traffic counts that are at a specific intersection broken out by direction and movement on the links, and used for intersection analysis.

SIS refers to the Strategic Intermodal System (SIS) relates to statewide and interregional significant transportation facilities and services that provide for the smooth and efficient transfer of both passengers and freight, including but not limited to interstates, ports, airports, and railways. (*Strategic Intermodal System (SIS) as established pursuant to Sections 339.61-.64, F.S.*)

Vested Trips are trips from an approved development that are distributed on the road network and treated as existing as a means to monitor background traffic growth and preserve capacity for that development.

A-2

INTERGOVERNMENTAL COORDINATION PROCESS

(As approved by the VCMPO on Jan 27, 2009)

If a Transportation Impact Analysis (TIA) is required and all or a portion of the project trips are projected to cause a new LOS deficiency or contribute to an existing LOS deficiency on a roadway in a neighboring jurisdiction then an electronic copy of the TIA must be provided to the affected jurisdiction(s) for review and comment. If an impact occurs on a roadway maintained by any other jurisdiction(s) the respective maintenance jurisdiction(s) shall also be provided an electronic copy of the TIA for review and comment.

Comments from the affected jurisdiction(s) shall be submitted in a timely manner, to the City/County that is considering the development approval, within 30 days from the day of receipt of the TIA. Upon final approval of the development for which the TIA was prepared, an electronic copy of the approved TIA shall be submitted to the Volusia County MPO.

Cross-Jurisdictional Impacts: If the City/County that is considering the development approval determines that the proposed development causes or contributes to a LOS deficiency located in an affected jurisdiction(s) and said impact is not classified as *de minimis*, the City/County considering said development will coordinate with the affected jurisdiction(s) to mitigate the impacts via the steps below: *Per 163.3180(6) F.S., if the impact on the deficient roadway consumes one percent or less of the roadway's adopted service volume and the roadway is not over 110% of capacity on a non-evacuation route, then the impact can be considered de minimis and will not be subject to mitigation. No de minimis designations shall be made on evacuation routes over 100% of capacity.*

- a. The City/County shall ensure that the local jurisdiction(s) in which the LOS deficiency exists is notified in writing or via electronic mail. The notification shall include a copy of the proposed development's TIA and a full description of the LOS deficiency. Additionally, if impacts occur on a roadway not maintained by the City/County considering the proposed development for approval, the respective maintenance jurisdiction(s) shall be notified in writing or via electronic mail.
- b. If necessary, a meeting shall be held between all affected parties to discuss necessary mitigation solutions and funding strategies.
- c. The developer and/or the City/County considering approval of the development shall be responsible for any mitigation unless the affected jurisdiction(s) agree to support the mitigation through a formal agreement in accordance with the mitigation measures enumerated in, but not limited to, the Volusia TPO TIA Guidelines.
- d. The developer shall be required to: 1) pay proportionate fair-share for the development's impacts, or 2) determine a reasonable mitigation solution agreeable to all parties, and implement such mitigation. If the City/County and/or the jurisdiction that maintains the roadway in which the LOS deficiency exists does not have funding in its five-year CIE to mitigate the existing LOS deficiency that requires a capital improvement and does not desire to amend its CIE to include the funding for the necessary mitigation project, then the developer will work towards an acceptable alternative mitigation project with the local jurisdiction approving concurrency of the site as well as the affected jurisdiction(s).
- e. Upon final agreement and approval of the development for which the TIA was prepared, an electronic copy of all formal agreements (i.e. proportionate fair-share, inter-local agreements, memorandum of understanding (MOU) or others) shall be submitted to the Volusia TPO.

A-3 ACRONYMNS

(AADT)	<u>Annual Average Daily Traffic</u>
(CFRPM)	<u>Central Florida Regional Planning Model</u>
(CTE)	<u>City/County Traffic Engineer</u>
(DO)	<u>Development Order</u>
(DRC)	<u>Development Review Committee</u>
(FDOT)	<u>Florida Department of Transportation</u>
(HCM)	<u>Highway Capacity Manual</u>
(HCS)	<u>Highway Capacity Software</u>
(ITE)	<u>Institute of Transportation Engineers</u>
(LDC)	<u>Land Development Code</u>
(LDM)	<u>Land Development Manager</u>
(LOS)	<u>Level of Service</u>
(MM)	<u>Methodology Memorandum</u>
(MOU)	<u>Memorandum of Understanding</u>
(TPO)	<u>Transportation Planning Organization</u>
(PHF)	<u>Peak-hour factor</u>
(Q/LOS)	<u>Quality Level of Service</u>
(TIA)	<u>Transportation Impact Analysis</u>
(TIP)	<u>Transportation Improvement Plan</u>
(TMC)	<u>Turning Movement Counts</u>
(V/C)	<u>Volume to Capacity</u>

Fernanda Place
TRAFFIC IMPACT ANALYSIS METHODOLOGY
(April 18th, 2014)

PURPOSE:

The purpose of this document is to outline the proposed methodology for the Concurrency Approval for the Fernanda Place Development per the requirements set forth by the City of Deltona & Volusia County. The following seven (7) section summarizes the project's Traffic Impact Analysis Methodology:

- 1- Site Location and Access
- 2- Primary Impact Area
- 3- Data Collection / Existing Conditions
- 4- Minimum Acceptable Level of Service
- 5- Development of Future Conditions
- 6- Trip Distribution
- 7- Assessment of Roadways / Intersections

SECTION 1: SITE LOCATION AND ACCESS

The proposed Fernanda Place Development will be located along east of Howland Boulevard, approximately between Clarion Street to Goldenhills Street, in the City of Deltona, Florida. Access to the development is proposed to be via two (2) full access along Howland Boulevard.

SECTION 2: PRIMARY IMPACT AREA

The Project's study area limits are determined based on the Volusia County Traffic Impact Analysis (TIA) Guidelines (Adopted November 24, 2009). The guidelines specifies the study area to be identified as follows:

- For Projects generates more than 300 two-way peak hour external trips, analysis shall be conducted for roadways where the project's traffic consumes more than (5%) of the facility's two-way peak hour maximum service volume (MSV). In addition, all Volusia County's Critical and Near-Critical Roadway segments within five (5) mile radius of the project shall be considered in the primary impact area

Tables 1 demonstrates the test for significance conducted for the Fernanda Place. The Level of Service 2011 Critical / Near Critical State & County Roadways is attached to this methodology.

SECTION 3: DATA COLLECTION / EXISTING CONDITIONS

Daily, AM & PM peak hour traffic volumes will be assembled for the study roadway segments and intersections in order to establish existing traffic conditions. Roadway counts for all study roadways will be obtained from the latest data maintained by the City of Deltona, Volusia County, & FDOT. AM & PM Peak hour turning movement counts will be collected from the field for a single weekday

condition and will be provided in the report. The existing condition analysis will evaluate the current operational characteristics of the study roadways identified within the Primary Impact Area. For the purposes of this study, GMB proposes to monitor the roadway traffic volumes of the following locations:

Roadway	From / To	Critical / Near Critical
Howland Blvd	Providence Blvd. to Elkcaml Blvd.	Critical
	Courtland Blvd. to Project Entrance	
	Project Entrance to Ft. Smith Blvd.	
Providence Blvd.	Elkcaml Blvd. to Ft Smith Blvd.	Critical
	Normandy Blvd. to Anderson Dr.	Critical
Dirksen/DeBary/Doyle	Providence Blvd. to Garfield Rd.	Near Critical

In addition, the following intersections are proposed to be analyzed in this study:

1. Howland Boulevard & Courtland Boulevard
2. Howland Boulevard & Learning Lane/Clarion Street
3. Howland Boulevard & Fish Hawk Road
4. Howland Boulevard & Fort Smith Boulevard

SECTION 4: MINIMUM ACCEPTABLE LEVEL OF SERVICE

The level of service capacities and adopted standards used in this concurrency evaluation for county roads will be consistent with the Volusia County Traffic Impact Analysis Guidelines Methodology. Similarly, level of service capacities and adopted standards for city roadways will be consistent with Policy T1-4.3 of the City of Deltona Transportation Element. All maximum service volumes will be obtained from the Volusia County 2013 Average Annual Daily Traffic & Historical Counts.

SECTION 5: DEVELOPMENT OF FUTURE CONDITIONS

The project is proposed to be evaluated for the existing year of 2014 and a future YR 2016. The development of traffic conditions are to be developed by adding the background traffic (non-project) to the development traffic. The background traffic volumes are proposed to be generated for the future conditions by using historical traffic growth rates for the study roadways. It should be noted that in order to provide conservative analysis, a minimum of 1% growth rate will be utilized. In addition, any approved or committed developments will be incorporated into this analysis as background traffic. GMB is respectfully requesting that the approved and committed development programs be provided by the City of Deltona as part of the pre-application process.

The project traffic volumes for the proposed development will be generated using the trip generation rates/equations outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition). Table 2 demonstrates the proposed trip generation for this project. The total traffic volumes to be evaluated as part of this traffic study will be the sum of the background and project traffic volumes.

SECTION 6: TRIP DISTRIBUTION

The project traffic trip distribution will be established using the latest Central Florida Regional Planning Model (v5.1) utilizing the existing and committed network. See attached the model plot for the future YR 2016 project distribution.

SECTION 7: TRANSPORTATION ASSESSMENT

As a result of the trip generation, trip distribution, and trip assignment previously mentioned, GMB Engineers & Planners will evaluate the adjacent transportation system to determine the necessary improvements and timing requirements to accommodate the project for the existing YR 2014, & Build-Out YR 2016 traffic conditions. The assessment of roadway conditions will be conducted for the PM peak hour and daily conditions. In addition, GMB Engineers & Planners will determine the necessary Mitigation Plan, if any is required to accommodate the project.

Attachments:

Table 1 – Roadway Significance

Table 2 – Trip Generation Summary

Central Florida Regional Planning Model (CFRPM) Model Plot

Site Plan

Level of Service 2011 Critical / Near Critical State & County Roadways

Table 1
Fernanda Place
Test for Significance Project Impact (5%) - With Critical & Near Critical Roads

Roadway / Segment	No. of Lanes	Critical / Near Critical	Adopted LOS	MSV	PM Peak Project Traffic		
					Dist%	Volume	Sig (%)
Howland Boulevard							
Providence Blvd. to Elkcarn Blvd.	2	Critical	E	1,230	16.26%	54	4.39%
Newmark Dr. to Courtland Blvd.	4		E	3,410	35.65%	118	3.46%
Courtland Blvd. to Project Entrance	4*		E	3,410	39.24%	129	3.78%
Project Entrance to Ft. Smith Blvd.	4*		E	3,410	60.76%	201	5.89%
Ft Smith Blvd. to SR 415	4*		E	3,410	33.60%	111	3.26%
SR 415							
Acorn Lake Rd to Howland Blvd.	2		D	2,170	10.83%	36	1.66%
Howland Blvd. to Enterprise-Osteen Rd.	2		D	2,170	32.74%	108	4.98%
Enterprise-Osteen Rd. to Seminole Co.	2		D	2,190	29.89%	99	4.52%
Fort Smith Boulevard							
Courtland Blvd. to Howland Blvd.	3*		E	1,330	12.70%	42	3.16%
Howland Blvd. to SR 415	3*		E	1,020	11.37%	38	3.73%
Doyle Road							
Providence Blvd. to Garfield Rd.	2	Near Critical	E	1,230	9.52%	31	2.52%
Courtland Boulevard							
Howland Blvd. to India Blvd.	2		E	1,020	1.34%	4	0.39%
Providence Blvd.							
Elkcarn Blvd. to Ft Smith Blvd.	2	Critical	E	1,020	0.20%	1	0.10%
Normandy Blvd. to Anderson Dr.	2	Critical	E	1,020	0.02%	0	0.00%

Sources: GMB Engineers & Planners, Inc.
2012 FDOT Quality/LOS Handbook
2013 Volusia County Traffic Counts

April-14

Notes:

* Funded for widening FY 13/14 (Volusia County Road Program, Impact Fee Zone 3 - Southwest Volusia)

Table 2
Fernanda Place
Trip Generation Summary

AM Peak

ITE Code	Land Use	Size / Units	Daily Trips	Total Trips		
				AM Peak Hour		
				Total	Enter	Exit
210	Single Family	356 / DU	3,378	259	65	194
Totals:			3,378	259	65	194

PM Peak

ITE Code	Land Use	Size / Units	Daily Trips	Total Trips		
				PM Peak Hour		
				Total	Enter	Exit
210	Single Family	356 / DU	3,378	330	208	122
Totals:			3,378	330	208	122

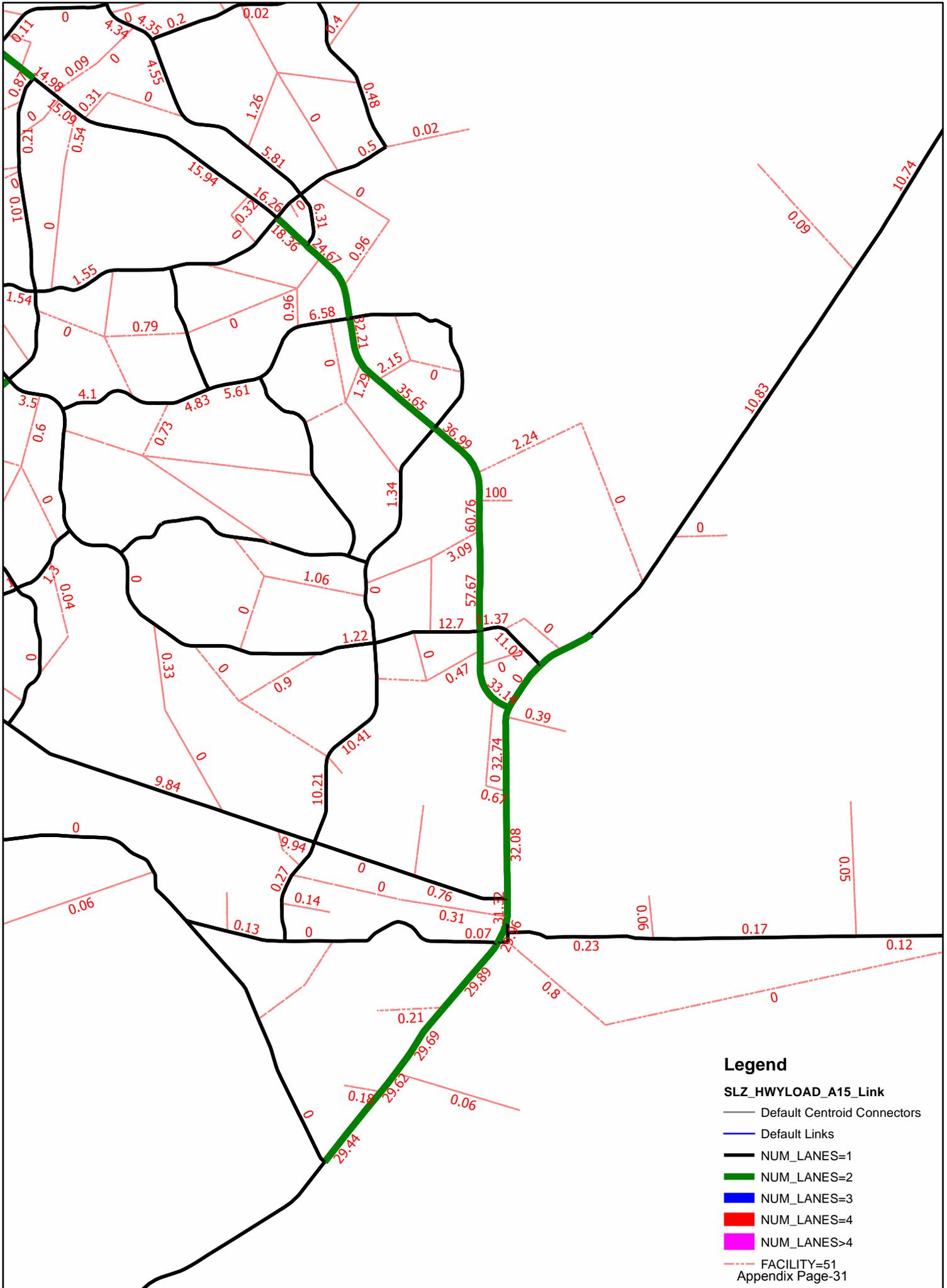
GMB Engineers and Planners, Inc.

April 2014

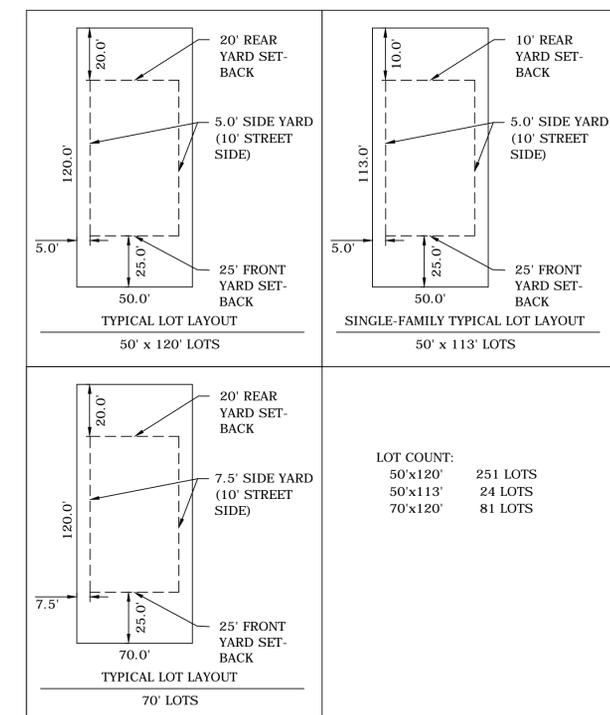
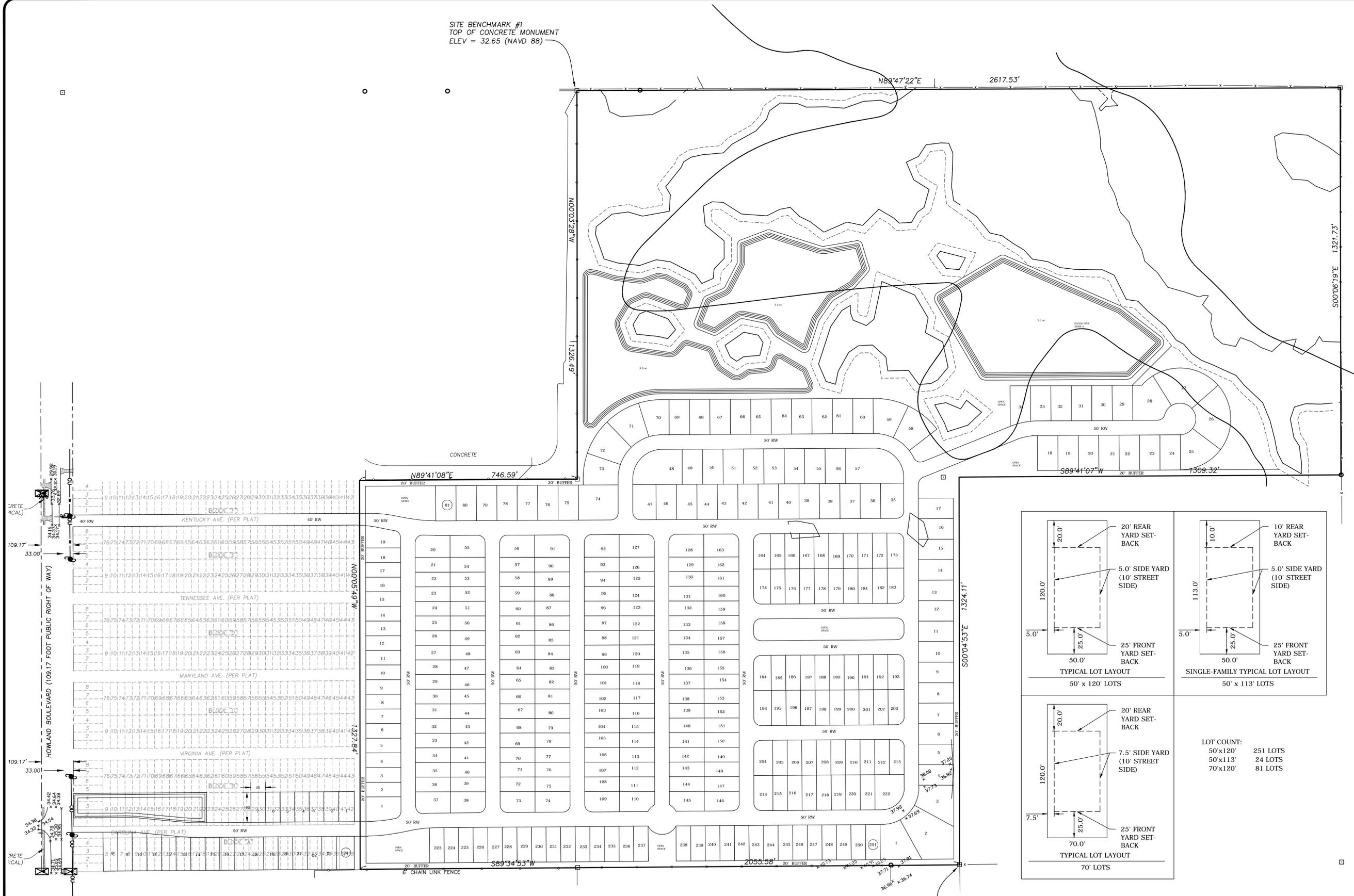
Notes:

*Trip generation rates and equations are based on the
 Institute of Transportation (ITE) Trip Generation Manual 9th Edition*

Year 2016 CFRPM5.1 - Fernanada Place Project Distribution



SITE BENCHMARK #1
TOP OF CONCRETE MONUMENT
ELEV = 32.65 (NAVD 88)



LOT COUNT:
 50'x120' 251 LOTS
 50'x113' 24 LOTS
 70'x120' 81 LOTS

SITE BENCHMARK #2
TOP OF CONCRETE MONUMENT
ELEV = 32.17 (NAVD 88)

REVISIONS	DATE	BY

DATE: _____
 DAVID L. EVANS, P.E. #4658

EVANS ENGINEERING, INC.
 LAND PLANNING PERMITTING SERVICES
 719 IRMA AVENUE
 ORLANDO, FLORIDA 32803
 (407) 872-1515
 www.evanseng.com
 CERTIFICATE OF AUTHORIZATION NO. 00006788

PINDER PLACE
 FOR
 ELEVATION DEVELOPMENT
 CITY OF DELTONA
 FLORIDA

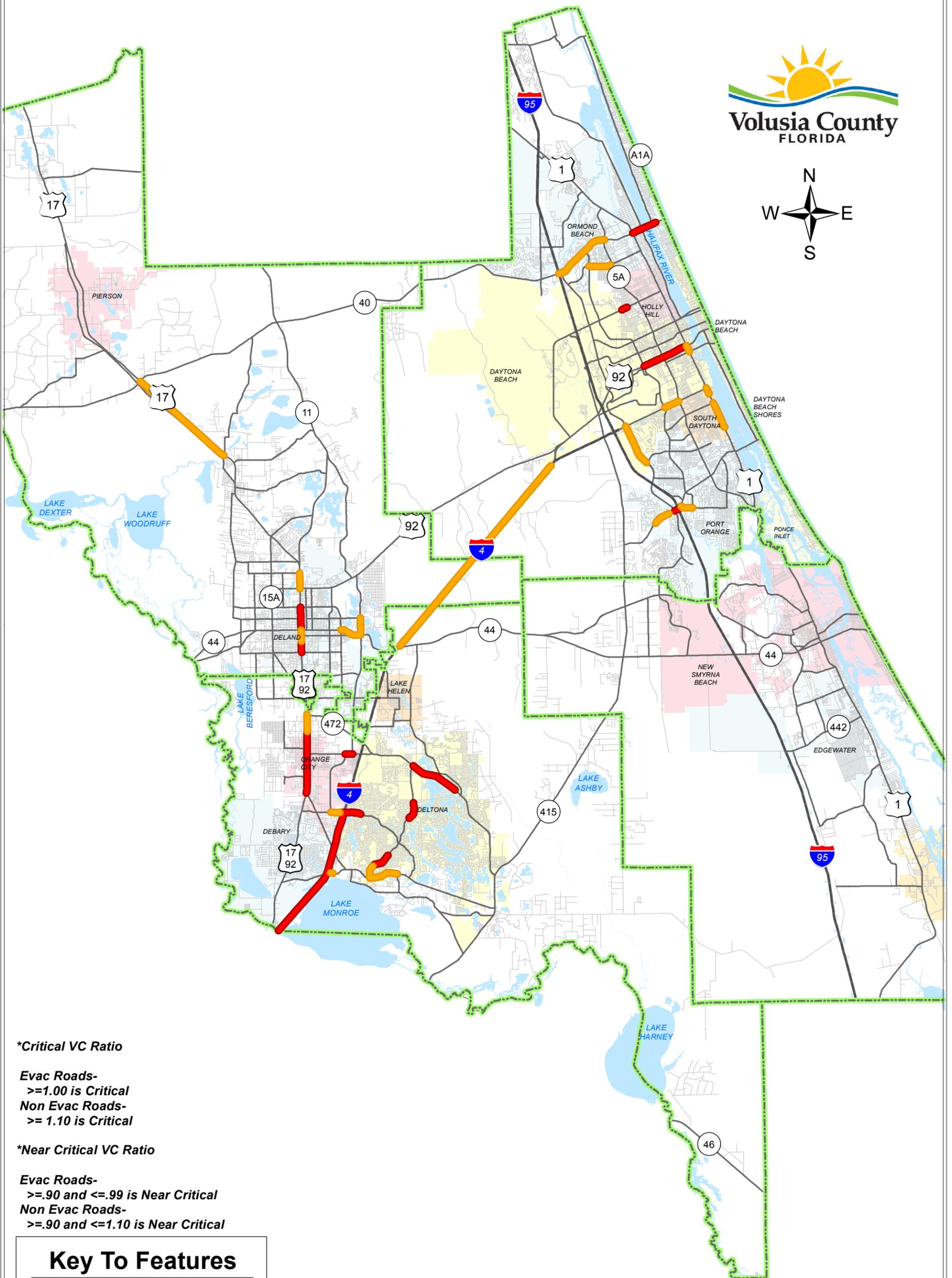
CONCEPT #4
 SITE PLAN

DRAWN: TV
 CHECKED: DLE
 DATE: JANUARY 2014
 SCALE: 1"=150'
 JOB #: 24802
 SHEET #:

1.0
 Appendix Page-32

Level of Service 2011

Critical / Near Critical* State and County Roadways



***Critical VC Ratio**

Evac Roads-
 ≥ 1.00 is Critical
 Non Evac Roads-
 ≥ 1.10 is Critical

***Near Critical VC Ratio**

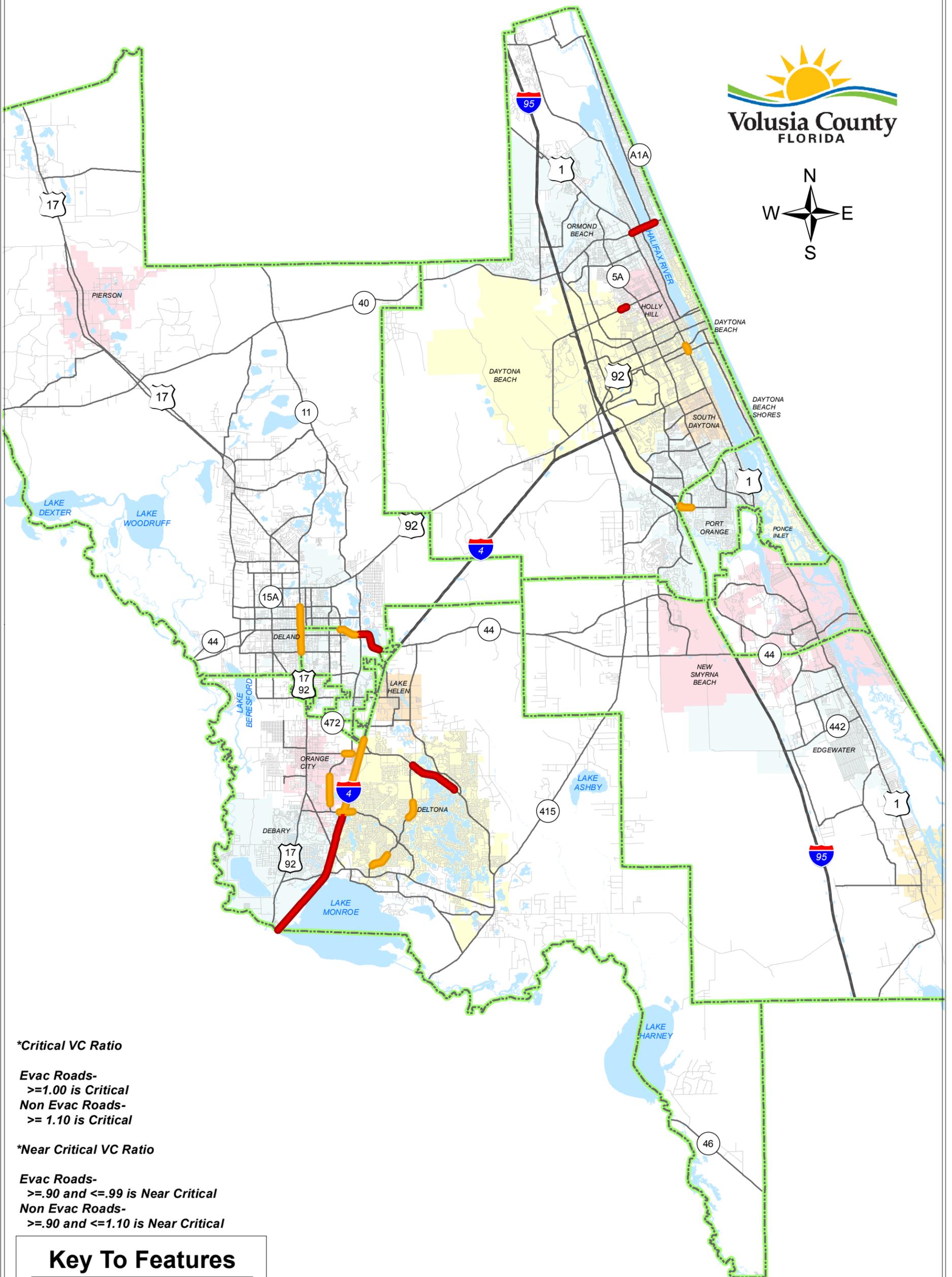
Evac Roads-
 $\geq .90$ and $\leq .99$ is Near Critical
 Non Evac Roads-
 $\geq .90$ and ≤ 1.10 is Near Critical

Key To Features

- Critical
- Near Critical
- - - Impact Fee Zones

**Revised Methodology Documents:
- Critical / Near-Critical Map**

Level of Service 2013 Critical / Near Critical* State and County Roadways



***Critical VC Ratio**

Evac Roads-
 ≥ 1.00 is Critical
 Non Evac Roads-
 ≥ 1.10 is Critical

***Near Critical VC Ratio**

Evac Roads-
 $\geq .90$ and $\leq .99$ is Near Critical
 Non Evac Roads-
 $\geq .90$ and ≤ 1.10 is Near Critical

Key To Features

- Critical
- Near Critical
- - - Impact Fee Zones

Appendix “B”

**Traffic Counts, Volusia County
Information, SF, & Synopsis Reports**

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2013 LOS Capacity	
I-4	SR 46 to Volusia Co.	0266-S	Yes	Yes	FDOT	Yes	1.90	6	65	E+W	UA FWIS 6L + AUX	Rural Principal Arterial - Interstate	103,000	112,500	112,000	113,000	111,000	108,000	115,000	109,500	103,000	107,500	C	113,000	0.95	C	10,170	
I-4	Seminole Co. to Dirksen Dr.	484	Yes	Yes	FDOT	Yes	3.58	6	65	E+W	UA FWIS 6L	Rural Principal Arterial - Interstate	94,000	111,500	115,500	119,500	115,000	107,500	111,500	102,500	106,500	108,000	C	93,000	1.16	D	8,370	
I-4	Dirksen Dr. to Saxon Blvd.	9906	Yes	Yes	FDOT	Yes	2.79	6	70	E+W	UA FWIS 6L	Urban Principal Arterial - Interstate	82,000	97,500	96,600	95,356	92,578	94,700	95,400	93,600	93,900	96,400	C	93,000	1.04	D	8,370	
I-4	Saxon Blvd. to SR 472	1003	Yes	Yes	FDOT	Yes	3.15	6	70	E+W	UA FWIS 6L	Urban Principal Arterial - Interstate	70,000	83,500	86,500	89,000	86,000	83,500	86,500	79,500	88,000	88,500	C	93,000	0.95	C	8,370	
I-4	SR 472 to Orange Camp Rd.	485	Yes	Yes	FDOT	Yes	2.12	6	70	E+W	UA FWIS 6L	Urban Principal Arterial - Interstate	60,000	57,500	59,500	61,500	58,000	75,000	76,000	70,500	77,500	77,000	C	93,000	0.83	C	8,370	
I-4	Orange Camp Rd. to SR 44	497	Yes	Yes	FDOT	Yes	2.56	6	70	E+W	UA FWIS 6L	Urban Principal Arterial - Interstate	52,500	62,000	59,000	61,000	58,000	61,500	65,000	62,000	55,500	60,500	C	93,000	0.65	B	8,370	
I-4	SR 44 to US 92 Connector	486	Yes	Yes	FDOT	Yes	10.31	4	70	E+W	UA FWIS 4L	Urban Principal Arterial - Interstate	47,500	49,500	53,500	54,500	56,000	56,000	56,000	54,000	55,000	55,000	C	61,500	0.89	C	5,540	
I-4	US 92 Connector to I-95	491	Yes	Yes	FDOT	Yes	3.52	4	70	E+W	UA FWIS 4L	Urban Principal Arterial - Interstate	35,500	36,500	37,500	42,500	47,500	45,500	43,000	43,000	40,000	40,000	C	61,500	0.65	B	5,540	
I-95	N. of Volusia/Flagler Co. Line	292-F	Yes	Yes	FDOT	Yes		6	70	N+S	UA FWIS 6L	Rural & Urban Principal Arterial - Interstate	60,600	63,000	65,000	-	57,700	63,200	64,700	62,500	63,200	65,100	C	93,000	0.70	B	8,370	
I-95	Flagler Co. Line/Old Dixie to US 1	496	Yes	Yes	FDOT	Yes	5.00	6	70	N+S	UA FWIS 6L	Rural & Urban Principal Arterial - Interstate	62,500	58,500	58,500	58,500	53,000	66,000	67,000	60,500	64,500	69,500	C	93,000	0.75	C	8,370	
I-95	US 1 to SR 40	495	Yes	Yes	FDOT	Yes	5.55	6	70	N+S	UA FWIS 6L	Rural & Urban Principal Arterial - Interstate	60,500	60,000	60,000	60,000	55,000	68,500	69,000	62,500	66,500	63,500	C	93,000	0.68	B	8,370	
I-95	SR 40 to LPGA Blvd.	534	Yes	Yes	FDOT	Yes	2.64	6	70	N+S	UA FWIS 6L + AUX	Urban Principal Arterial - Interstate	84,500	70,500	80,500	73,000	79,000	79,500	68,000	76,000	69,500	70,000	C	113,000	0.62	B	10,170	
I-95	LPGA Blvd. to US 92	494	Yes	Yes	FDOT	Yes	3.56	6	65	N+S	UA FWIS 6L	Urban Principal Arterial - Interstate	74,500	75,500	80,000	74,000	68,000	70,000	70,500	74,500	71,500	71,500	C	93,000	0.77	C	8,370	
I-95	US 92 to Beville Rd./I-4	494	Yes	Yes	FDOT	Yes	1.26	6	65	N+S	UA FWIS 6L + AUX	Urban Principal Arterial - Interstate	78,000	91,000	119,000	56,000	57,500	70,000	70,500	74,500	71,500	71,500	C	113,000	0.63	B	10,170	
I-95	Beville Rd./I-4 to SR 421 (Dunlawton Av)	492	Yes	Yes	FDOT	Yes	4.57	4	70	N+S	UA FWIS 4L	Urban Principal Arterial - Interstate	46,500	49,500	49,500	56,000	57,500	52,500	51,000	44,500	42,500	45,000	C	61,500	0.73	B	5,540	
I-95	SR 421 (Dunlawton Ave.) to SR 44	133	Yes	Yes	FDOT	Yes	6.99	4	70	N+S	UA FWIS 4L	Urban Principal Arterial - Interstate	40,082	41,000	40,400	40,119	36,377	37,400	38,000	36,800	36,900	36,600	C	61,500	0.60	B	5,540	
I-95	SR 44 to SR 442 (Indian River Blvd.)	503	Yes	Yes	FDOT	Yes	4.84	4	70	N+S	UA FWIS 4L	Rural & Urban Principal Arterial - Interstate	30,500	34,000	28,500	33,500	34,000	32,000	32,000	31,000	31,000	32,500	C	61,500	0.53	B	5,540	
I-95	SR 442 (Indian River Blvd.) to Brevard Co	0436-B	Yes	Yes	FDOT	Yes	11.45	4	70	N+S	RUA FW 4L	Rural Principal Arterial - Interstate	24,500	27,500	31,500	27,000	24,500	26,000	24,500	30,500	30,000	26,500	B	43,000	0.62	B	4,510	
US 1	N. of Volusia/Flagler Co. Line	0263-F			FDOT	Yes		4	65	N+S	TA UFH 2W 4L D WL	Rural Principal Arterial - Other	12,235	13,600	17,100	15,135	13,680	12,100	11,600	11,200	10,700	10,700	C	49,600	0.22	B	4,460	
US 1	Flagler Co. to I-95	536			FDOT	Yes	1.53	4	60	N+S	UA UFH 2W 4L D WL	Urban Principal Arterial - Other	15,400	17,100	18,300	19,900	16,800	15,200	15,400	15,100	13,400	14,300	D	65,600	0.22	B	5,900	
US 1	I-95 to Airport Rd.	351		Yes	FDOT	Yes	2.81	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	20,600	22,500	23,000	23,000	22,500	21,500	21,500	20,500	19,400	20,200	D	39,800	0.51	C	3,580	
US 1	Airport Rd. to Nova Rd.	100		Yes	FDOT	Yes	1.13	4	55	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	24,000	34,500	30,000	31,000	29,000	25,500	25,500	26,000	22,500	25,500	D	39,800	0.64	C	3,580	
US 1	Nova Rd. to SR 40	1019		Yes	FDOT	Yes	1.83	4	55	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	20,000	19,600	19,800	18,800	18,200	17,000	16,800	16,300	16,400	16,600	D	39,800	0.42	C	3,580	
US 1	SR 40 to Hand Ave.	5142		Yes	FDOT	Yes	0.84	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	30,000	26,500	27,000	25,000	23,500	22,500	23,000	21,500	19,000	20,300	D	39,800	0.51	C	3,580	
US 1	Hand Ave. to LPGA Blvd.	1018		Yes	FDOT	Yes	2.00	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	30,000	29,000	28,500	28,500	27,000	26,000	26,000	26,000	26,000	21,500	24,000	D	39,800	0.60	C	3,580
US 1	LPGA Blvd. to SR 430 (Mason Ave.)	1018		Yes	FDOT	Yes	1.47	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	30,000	28,500	28,500	28,500	27,000	26,000	26,000	26,000	21,500	24,000	D	32,400	0.74	D	2,920	
US 1	SR 430 (Mason Ave.) to Fairview/Main St	5074		Yes	FDOT	Yes	0.54	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	29,500	28,500	30,000	30,000	29,000	29,500	28,500	27,000	27,000	27,500	D	32,400	0.85	D	2,920	
US 1	Fairview/Main St. to US 92/ISB	5071		Yes	FDOT	Yes	0.66	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	29,000	32,000	32,500	29,500	29,000	28,000	27,000	24,000	23,500	26,000	D	32,400	0.80	D	2,920	
US 1	US 92/ISB to Orange Ave.	5070		Yes	FDOT	Yes	0.30	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	36,000	35,000	32,000	30,000	30,000	29,000	28,000	28,000	26,000	29,000	D	32,400	0.90	D	2,920	
US 1	Orange Ave. to Bellevue Ave.	5066		Yes	FDOT	Yes	0.72	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	36,000	35,000	32,500	30,500	30,500	29,500	28,500	28,000	29,500	28,000	D	39,800	0.70	C	3,580	
US 1	Bellevue Ave. to SR 400/Beville Rd.	452		Yes	FDOT	Yes	1.05	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	41,000	39,000	33,500	34,000	32,500	31,500	30,500	32,500	30,000	29,500	D	39,800	0.74	C	3,580	
US 1	SR 400/Beville Rd. to Bellewood Ave.	5063		Yes	FDOT	Yes	0.27	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	35,500	35,000	33,000	30,500	30,000	28,000	26,000	28,000	27,500	26,000	D	39,800	0.65	C	3,580	
US 1	Bellewood Ave. to Big Tree Rd.	5062		Yes	FDOT	Yes	0.45	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	35,500	34,000	31,500	29,500	30,000	28,000	27,500	26,500	24,500	27,000	D	39,800	0.68	C	3,580	
US 1	Big Tree Rd. to Reed Canal Rd.	5061		Yes	FDOT	Yes	1.17	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	37,500	35,500	33,000	30,000	31,500	29,500	29,000	27,500	25,000	26,500	D	39,800	0.67	C	3,580	
US 1	Reed Canal Rd. to SR 421 (Dunlawton Av)	213		Yes	FDOT	Yes	1.18	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	34,000	33,500	29,500	31,000	27,500	26,000	25,500	24,500	24,500	24,500	E	39,800	0.62	C	3,790	
US 1	SR 421 (Dunlawton Ave.) to Commonwealth	5057		Yes	FDOT	Yes	1.37	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	25,000	24,500	23,500	22,500	22,800	20,500	20,100	20,500	19,600	20,300	E	39,800	0.51	C	3,790	
US 1	Commonwealth to Nova Rd.	152		Yes	FDOT	Yes	1.23	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	23,000	21,000	20,500	17,000	15,800	15,200	15,800	14,100	13,800	13,900	D	39,800	0.35	C	3,580	
US 1	Nova Rd. to Art Center Ave.	13		Yes	FDOT	Yes	3.19	4	45	N+S	UA UFH 2W 4L D WL	Urban Principal Arterial - Other	25,500	22,500	23,500	22,000	21,500	20,900	20,100	19,400	19,600	20,500	D	65,600	0.31	B	5,900	
US 1	Art Center Ave. to Turnbull Bay Rd.	5159		Yes	FDOT	Yes	2.24	4	55	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	27,000	26,000	29,000	24,000	23,500	11,600	22,500	23,500	22,500	23,500	D	39,800	0.59	C	3,580	
US 1	Turnbull Bay Rd. to Canal St. (Bus. SR 4)	5155		Yes	FDOT	Yes	1.34	4	40	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	36,000	31,000	30,000	28,000	27,500	26,000	23,500	22,500	24,500	22,000	D	39,800	0.55	C	3,580	
US 1	Canal St. (Bus. SR 44) to 10th Ave.	5154		Yes	FDOT	Yes	1.52																					

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2013 LOS Capacity
SR A1A - Ocean Shore Blvd.	S. 23rd St. to Volusia Co. Line	0010-F		Yes	FDOT	Yes	2.00	2	45	N+S	UA UFH 2W 2L U WL	Urban Principal Arterial - Other	7,600	7,300	6,000	5,500	4,600	6,000	5,000	4,700	4,600	5,100	D	24,200	0.21	B	2,170
SR A1A - Ocean Shore Blvd.	Flagler Co Line to High Bridge Rd	368		Yes	FDOT	Yes	1.26	2	55	N+S	UA UFH 2W 2L U WL	Urban Principal Arterial - Other	11,400	10,500	16,300	17,100	17,300	15,100	15,700	15,500	15,300	15,800	D	24,200	0.65	C	2,170
SR A1A - Ocean Shore Blvd.	High Bridge Rd to Ormond Mall	368		Yes	FDOT	Yes	6.42	2	55	N+S	UA UFH 2W 2L U WL	Urban Principal Arterial - Other	11,400	10,500	16,300	17,100	17,300	15,100	15,700	15,500	15,300	15,800	D	24,200	0.65	C	2,170
SR A1A - Ocean Shore Blvd.	Ormond Mall to Neptune Ave	174		Yes	FDOT	Yes	1.69	2	40	N+S	UA UFH 2W 2L U WL	Urban Principal Arterial - Other	21,500	17,600	16,500	16,600	17,500	16,400	15,800	18,500	15,100	15,400	D	24,200	0.64	C	2,170
SR A1A - Ocean Shore Blvd.	Neptune Ave to SR 40 (Granada Blvd.)	5125		Yes	FDOT	Yes	0.70	2	35	N+S	UA UFH 2W 2L U WL	Urban Principal Arterial - Other	22,500	17,400	18,400	18,100	17,100	17,900	16,800	15,600	12,300	14,000	D	24,200	0.58	C	2,170
SR A1A - Atlantic Ave. North	SR 40 to Harvard Dr.	5124		Yes	FDOT	Yes	1.70	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	20,500	19,700	19,100	19,800	17,700	19,500	16,500	16,600	17,600	16,400	D	39,800	0.41	D	2,920
SR A1A - Atlantic Ave. North	Harvard Dr. to SR430/Seabreeze Blvd.	5121		Yes	FDOT	Yes	2.53	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	18,900	21,000	20,000	24,000	20,000	18,500	17,000	17,100	16,400	17,800	D	39,800	0.45	D	2,920
SR A1A - Atlantic Ave. North	SR 430/Seabreeze Blvd. to SR430/Oakr	5117		Yes	FDOT	Yes	0.12	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	16,500	17,700	16,700	24,300	16,600	17,900	19,800	20,800	17,100	15,200	D	39,800	0.38	D	2,920
SR A1A - Atlantic Ave. North	SR 430/Oakridge Blvd. to US 92/ISB	5115		Yes	FDOT	Yes	0.90	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	15,300	16,000	15,400	21,500	23,500	17,400	17,800	15,200	16,500	17,300	D	39,800	0.43	D	2,920
SR A1A - Atlantic Ave. South	US 92 to Silver Beach Ave.	5112		Yes	FDOT	Yes	0.69	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	13,200	14,600	13,300	15,400	13,300	12,800	12,200	11,200	12,000	12,700	D	39,800	0.32	C	2,920
SR A1A - Atlantic Ave. South	Silver Beach Ave. to Florida Shores	436		Yes	FDOT	Yes	2.34	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	18,000	16,000	19,500	18,900	10,500	11,400	10,100	10,700	10,400	12,500	D	39,800	0.31	C	2,920
SR A1A - Atlantic Ave. South	Florida Shores to Van Ave.	5179		Yes	FDOT	Yes	1.29	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	14,400	15,600	13,900	14,900	16,900	11,800	16,100	13,800	11,400	12,800	D	39,800	0.32	C	2,920
SR A1A - Atlantic Ave. South	Van Ave. to SRA1A/Dunlawton Ave.	477		Yes	FDOT	Yes	1.05	4	35	N+S	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	23,500	17,400	18,800	13,000	16,700	15,800	15,500	13,700	11,200	12,500	D	39,800	0.31	C	2,920
SR A1A - Dunlawton Ave.	SR A1A/Atlantic Ave. to US 1	427		Yes	FDOT	Yes	1.25	4	35	E+W	UA SSAC2 2W 4L D WL	Urban Principal Arterial - Other	28,000	28,500	29,000	29,500	30,000	27,000	24,500	27,000	26,000	26,000	E	39,800	0.65	D	3,040
SR 5A - Nova Rd.	US 1 to Wilmette Ave.	459		Yes	FDOT	Yes	1.00	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	10,600	11,800	15,900	14,700	14,000	13,400	12,800	12,800	12,300	12,400	D	39,800	0.31	C	3,580
SR 5A - Nova Rd.	Wilmette Ave. to SR 40	518		Yes	FDOT	Yes	0.51	6	45	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	21,500	21,500	24,500	26,000	24,500	23,000	23,000	24,000	23,500	23,500	D	59,900	0.39	C	5,390
SR 5A - Nova Rd.	SR 40 to Hand Ave.	510		Yes	FDOT	Yes	1.15	6	45	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	19,000	23,500	29,000	29,500	29,000	27,500	26,500	24,000	28,500	27,500	D	59,900	0.46	C	5,390
SR 5A - Nova Rd.	Hand Ave. to LPGA Blvd.	528		Yes	FDOT	Yes	2.06	6	45	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	20,500	25,000	31,000	31,000	30,500	29,000	29,000	28,000	28,500	26,000	D	59,900	0.43	C	5,390
SR 5A - Nova Rd.	LPGA Blvd. to SR 430/Mason Blvd	366		Yes	FDOT	Yes	1.47	6	45	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	24,500	32,500	31,500	31,000	32,500	30,000	29,500	27,500	27,000	25,500	D	59,900	0.43	C	5,390
SR 5A - Nova Rd.	SR 430/Mason Ave. to US 92/ISB	5088		Yes	FDOT	Yes	1.22	6	45	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	34,000	36,000	35,000	35,000	32,000	33,500	32,000	30,000	30,000	31,000	D	59,900	0.52	C	5,390
SR 5A - Nova Rd.	US 92/ISB to Bellevue Ave.	5090		Yes	FDOT	Yes	1.07	6	45	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	38,000	41,000	38,500	38,000	38,000	34,500	35,000	32,000	32,000	33,000	D	59,900	0.55	C	5,390
SR 5A - Nova Rd.	Bellevue Ave. to SR 400/Beville Rd.	348		Yes	FDOT	Yes	1.00	6	50	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	38,000	40,000	39,000	38,000	37,000	34,500	35,000	34,000	33,000	33,000	D	59,900	0.55	C	5,390
SR 5A - Nova Rd.	SR 400/Beville Rd. to Big Tree	363		Yes	FDOT	Yes	0.70	6	50	N+S	UA SSAC1 2W 6L D WL	Urban Principal Arterial - Other	28,500	30,000	30,000	28,000	29,000	27,500	28,500	27,000	25,500	26,500	D	59,900	0.44	C	5,390
SR 5A - Nova Rd.	Big Tree to Madeline Ave.	363		Yes	FDOT	Yes	1.61	5	50	N+S	UA SSAC1 2W 5L D WL	Urban Principal Arterial - Other	28,500	30,000	30,000	28,500	29,000	27,500	28,500	27,000	25,500	26,500	D	49,850	0.53	C	4,490
SR 5A - Nova Rd.	Madeline Ave to SR 421/Dunlawton Ave	1017		Yes	FDOT	Yes	1.30	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	23,000	25,000	26,000	26,000	26,500	26,500	27,000	26,500	25,500	26,000	D	39,800	0.65	C	3,580
SR 5A - Nova Rd.	SR 421/Dunlawton Ave. to Spruce Creek	1016		Yes	FDOT	Yes	1.08	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	23,500	23,500	25,500	24,500	24,500	25,000	25,500	23,500	25,000	24,500	D	39,800	0.62	C	3,580
SR 5A - Nova Rd.	Spruce Creek Rd. to US 1	458		Yes	FDOT	Yes	1.44	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	10,500	16,400	17,400	16,900	17,100	16,700	16,900	16,800	16,300	16,800	D	39,800	0.42	C	3,580
SR 11	CR 304 (in Flagler Co.) to SR 40	0009-F			FDOT	Yes	2.42	2	60	N+S	RUA UFH 2W 2L U 0L	Rural Principal Arterial - Other	3,100	3,100	3,000	3,200	2,600	2,400	2,200	2,000	2,200	2,100	C	6,300	0.33	B	590
SR 11	SR 40 to CR 15A	527			FDOT	Yes	9.19	2	60	N+S	RUA UFH 2W 2L U 0L	Rural Principal Arterial - Other	2,700	3,200	3,000	3,100	2,700	2,600	2,600	2,700	2,700	2,800	C	6,300	0.44	B	590
SR 11	CR 15A to US 17	4			FDOT	Yes	2.45	2	55	N+S	UA UFH 2W 2L U WL	Urban Principal Arterial - Other	6,900	7,200	7,200	6,800	6,900	6,400	6,000	6,100	6,000	6,300	D	24,200	0.26	B	2,170
SR 15A	US 17 to Glenwood Rd.	466	Yes		FDOT	Yes	1.11	4	50	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	11,000	11,600	10,900	11,400	10,600	10,800	10,700	10,300	10,200	10,600	C	37,900	0.28	C	3,420
SR 15A	Glenwood Rd. to CR 92	465	Yes		FDOT	Yes	1.20	4	50	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	13,700	15,000	13,700	15,100	13,800	14,000	13,800	13,800	13,100	13,600	C	37,900	0.36	C	3,420
SR 15A	CR 92 to Plymouth Ave.	537	Yes	Yes	FDOT	Yes	0.83	4	50	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	21,000	24,000	23,000	23,500	22,500	22,000	22,000	22,000	18,900	21,500	C	37,900	0.57	C	3,420
SR 15A	Plymouth Ave. to SR 44/New York Ave.	463	Yes	Yes	FDOT	Yes	1.01	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	26,000	26,000	27,000	26,000	26,800	25,500	23,500	21,800	23,000	23,000	C	37,900	0.61	C	3,420
SR 15A	SR 44/New York Ave. to Beresford Ave.	474	Yes		FDOT	Yes	1.00	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	27,500	25,500	24,500	24,500	23,500	22,500	22,500	21,500	21,000	22,000	C	37,900	0.58	C	3,420
SR 15A	Beresford Ave. to New Hampshire Ave.	6	Yes		FDOT	Yes	0.59	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	28,000	22,500	24,000	22,000	21,000	22,000	19,200	21,000	20,500	21,000	C	37,900	0.55	C	3,420
SR 15A	New Hampshire Ave. to US 17/92	1005	Yes		FDOT	Yes	1.17	4	45	N+S	UA SSAC1 2W 4L D WL	Urban Minor Arterial	20,000	22,000	22,500	22,000	21,000	21,000	19,100	19,700	19,000	20,500	C	37,900	0.54	C	3,420
SR 40	W. of the St. Johns River	0050-L	Yes	Yes	FDOT	Yes		2	45	E+W	RDA UFH 2W 2L U WL	Rural Principal Arterial - Other	8,400	8,800	8,700	8,300	7,200	7,500	7,100	6,800	6,400	7,300	C	16,400	0.45	B	1,550
SR 40	Lake County to Emporia Rd.	533	Yes	Yes	FDOT	Yes	0.86	2	55	E+W	RDA UFH 2W 2L U WL	Rural Principal Arterial - Other	7,600	7,300	7,600	8,700	7,600	7,700	6,800	7,000	6,800	6,300	C	16,400	0.38	B	1,550
SR 40	Emporia Rd. to US 17	344	Yes	Yes	FDOT	Yes	5.58	2	55	E+W	RDA UFH 2W 2L U WL	Rural Principal Arterial - Other	6,600	6,900	7,500	8,300	7,200	7,000	6,500	6,500	6,600	5,900	C	16,400	0.36	B	1,550

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2013 LOS Capacity
SR 430 - Mason Ave.	SR 483/Clyde Morris Blvd. to SR 5A/Nova Rd.	5197		Yes	FDOT	Yes	0.99	4	35	E+W	UA SSAC2 2W 4L U 0L	Urban Minor Arterial	21,500	21,000	19,600	20,300	20,300	20,100	18,200	18,200	17,800	18,200	D	24,300	0.75	D	2,190
SR 430 - Mason Ave.	SR 5A/Nova Rd. to US 1	5197		Yes	FDOT	Yes	1.08	4	35	E+W	UA SSAC2 2W 4L U 0L	Urban Minor Arterial	21,500	21,000	19,600	20,300	20,300	20,100	18,200	18,200	17,800	18,200	D	24,300	0.75	D	2,190
SR 430 - Mason Ave.	US 1 to Beach St.	5197		Yes	FDOT	Yes	0.30	4	35	E+W	UA SSAC2 2W 4L D WL	Urban Minor Arterial	21,500	21,000	19,600	20,300	20,300	20,100	18,200	18,200	17,800	18,200	D	24,300	0.66	D	2,920
SR 430 - Oakridge Blvd. - EB	Beach St. to Peninsula Dr	5194			FDOT	Yes	0.70	2	40	E+W	UA SSAC1 1W 2L D WL	Urban Minor Arterial	6,300	6,900	6,700	6,400	7,000	5,800	6,000	5,500	5,300	5,600	D	23,880	0.23	C	2,150
SR 430 - Oakridge Blvd. - EB	Peninsula Dr to SR A1A/Atlantic	5195			FDOT	Yes	0.28	2	40	E+W	UA SSAC1 1W 2L D WL	Urban Minor Arterial	4,500	5,300	4,600	5,300	5,500	5,500	4,800	4,700	3,600	4,100	D	23,880	0.17	C	2,150
SR 430 - Seabreeze Bridge - WB	Beach St. to Peninsula Dr	5196		Yes	FDOT	Yes	1.01	2	40	E+W	UA SSAC1 1W 2L D WL	Urban Minor Arterial	11,000	11,500	10,000	10,500	11,000	11,000	9,900	17,800	18,000	18,000	D	23,880	0.75	C	2,150
SR 430 - Seabreeze Bridge - WB	Peninsula Dr to SR A1A/Atlantic	5191		Yes	FDOT	Yes	0.29	2	30	E+W	UA SSAC2 1W 2L D WL	Urban Minor Arterial	5,500	6,200	4,800	5,900	6,500	6,300	5,000	5,300	4,300	4,900	D	19,440	0.25	C	1,400
SR 441 - Peninsula Dr.	US 92/ISB to Silver Beach Ave.	5187			FDOT	Yes	0.65	2	35	N+S	UA SSAC1 2W 2L U WL	Urban Minor Arterial	11,200	12,200	12,100	11,100	10,600	9,900	9,400	8,700	9,400	9,300	D	17,700	0.53	C	1,600
SR 441 - Peninsula Dr.	Silver Beach Ave. to Florida Shores	5187			FDOT	Yes	2.34	2	35	N+S	UA SSAC1 2W 2L U WL	Urban Minor Arterial	11,200	12,200	12,100	11,100	10,600	9,900	9,400	8,700	9,400	9,300	D	17,700	0.53	C	1,600
SR 441 - Peninsula Dr.	Florida Shores to SR A1A/Dunlawton	5188			FDOT	Yes	2.42	2	40	N+S	UA SSAC1 2W 2L U WL	Urban Minor Arterial	6,400	7,000	7,100	6,700	6,600	6,100	6,000	5,600	5,300	5,400	D	17,700	0.31	C	1,600
SR 442 - Indian River Blvd.	I-95 to Air Park Rd.	170		Yes	FDOT	Yes	2.09	4	55	E+W	TA SSAC1 2W 4L D WL	Rural Minor Arterial	9,379	9,700	10,000	9,647	8,972	9,200	9,300	8,900	9,500	9,920	C	35,500	0.28	C	3,060
SR 442 - Indian River Blvd.	Air Park Rd. to US 1	5190		Yes	FDOT	Yes	1.69	4	45	E+W	UA SSAC1 2W 4L D WL	Urban Minor Arterial	16,400	18,800	20,200	17,300	17,800	16,800	17,700	16,400	16,100	16,800	D	39,800	0.42	C	3,580
SR 472	US 17/92 to CR 4101/MLK Blvd	472			FDOT	Yes	2.31	4	60	E+W	UA UFH 2W 4L D WL	Urban Principal Arterial - Other	19,200	20,100	21,400	20,800	18,900	19,200	20,200	19,700	20,100	21,000	D	65,600	0.32	B	5,900
SR 472	CR 4101/MLK Blvd to I-4 (end of state rd)	535			FDOT	Yes	1.10	4	60	E+W	UA SSAC1 2W 4L D WL	Urban Principal Arterial - Other	23,500	27,000	28,000	27,000	25,500	24,000	24,500	22,000	24,500	24,000	D	39,600	0.60	C	3,580
SR 483 - Clyde Morris Blvd.	SR 430 (Mason Ave.) to US 92/ISB	5182			FDOT	Yes	1.20	4	45	N+S	UA SSAC1 2W 4L U WL	Urban Principal Arterial - Other	21,500	22,000	20,500	20,500	18,400	17,700	18,300	20,000	18,100	18,900	D	37,800	0.50	C	3,400
SR 483 - Clyde Morris Blvd.	US 92/ISB to Aviation Ctr Pkwy/Bellevue	5193			FDOT	Yes	1.20	4	45	N+S	UA SSAC1 2W 4L U WL	Urban Principal Arterial - Other	34,000	34,000	34,000	32,000	31,500	26,500	31,000	30,500	27,000	26,000	D	37,800	0.69	C	3,400
SR 483 - Clyde Morris Blvd.	Aviation Ctr Pkwy/Bellevue to SR 400/B	5193			FDOT	Yes	0.98	4	45	N+S	UA SSAC1 2W 4L U WL	Urban Principal Arterial - Other	34,000	34,000	34,000	32,000	31,500	26,500	31,000	30,500	27,000	26,000	D	37,800	0.69	C	3,400
6th St.	Derbyshire Rd. to SR 5A/Nova Rd	11			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	3,480	3,580	3,470	3,640	2,970	2,610	2,820	2,980	2,780	2,710	E	13,640	0.20	C	1,020
8th St.	Derbyshire Rd. to SR 5A/Nova Rd	21			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	4,270	3,670	3,670	3,950	3,330	3,090	2,850	2,790	2,530	-	E	13,640	-	-	1,020
13th St.	Derbyshire Rd. to SR 5A/Nova Rd	31			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	2,990	2,610	2,250	2,520	2,360	1,900	2,060	2,090	1,600	1,700	E	13,640	0.12	C	1,020
Adelle Ave.	Beresford Ave. to New Hampshire Ave.	43			County	No	0.50	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	2,930	3,120	2,970	3,540	2,310	2,850	2,290	2,530	2,410	2,650	E	13,640	0.19	C	1,020
Adelle Ave.	New Hampshire Ave. to SR 15A	41			County	No	0.50	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	700	660	650	780	590	300	270	320	320	330	E	13,640	0.02	C	1,020
Air Park Rd.	Park Ave. to Ragis Rd.	52			County	Yes	0.87	2	40	N+S	UA UFH 2W 2L U 0L	n/c	1,030	1,470	1,410	920	2,080	2,030	1,700	2,030	2,100	2,270	E	24,975	0.09	B	2,240
Air Park Rd.	Ragis Rd. to SR 442	50			County	Yes	0.55	2	40	N+S	UA UFH 2W 2L U 0L	n/c	710	1,000	910	1,440	1,740	1,430	1,840	1,470	1,840	2,060	E	24,975	0.08	B	2,240
Airport Rd. (OB)	Tymber Creek Rd. to Pineland Tr.	60			County	Yes	2.05	2	35	E+W	UA UFH 2W 2L U 0L	Urban Collector	6,390	6,310	4,930	5,590	4,910	5,630	5,290	5,020	5,680	5,230	E	24,975	0.21	B	2,240
Airport Rd. (OB)	Pineland Tr. to Sunshine Blvd.	62			County	Yes	1.40	2	45	N+S	UA UFH 2W 2L U 0L	Urban Collector	5,650	5,520	4,780	4,970	4,380	4,490	4,460	4,400	5,040	4,670	E	24,975	0.19	B	2,240
Airport Rd. (OB)	Sunshine Blvd. to US 1	63			County	Yes	0.30	2	35	E+W	UA UFH 2W 2L U 0L	Urban Collector	8,050	7,830	6,330	6,700	7,380	7,190	6,640	6,780	7,640	7,090	E	24,975	0.28	C	2,240
Airport Rd. (PO)	Williamson Blvd to Pioneer Tr.	64			County	Yes	2.50	2	45	N+S	UA UFH 2W 2L U WL	Urban Collector	3,310	5,000	5,290	5,330	5,430	5,410	5,440	6,000	6,160	6,040	E	33,300	0.18	B	2,990
Airport Rd. (NSB)	Pioneer Tr. to Luna Bella Ln	67			City	Yes	3.30	2	45	N+S	UA UFH 2W 2L D WL	n/c	-	-	-	-	-	2,730	2,690	3,110	3,300	3,320	E	34,965	0.09	B	3,140
Airport Rd. (NSB)	Luna Bella Ln to SR 44	68			City	Yes	3.30	2	45	N+S	UA UFH 2W 2L D WL	n/c	-	-	-	-	-	2,730	1,040	2,250	2,610	2,770	E	34,965	0.08	B	3,140
Amelia Ave.	US 92 to Plymouth Ave.	77			County	Yes	0.85	2	35	N+S	UA NSSRC2 2W 2L U WL	Urban Collector	7,010	7,030	6,960	6,960	7,710	7,920	7,340	6,610	6,080	6,700	E	14,040	0.48	D	1,270
Amelia Ave.	Plymouth Ave. to Minnesota Ave.	75			County	Yes	0.50	2	30	N+S	UA NSSRC2 2W 2L U WL	Urban Collector	13,080	13,850	11,950	12,920	12,030	12,620	11,570	10,610	10,230	10,590	E	14,040	0.75	D	1,270
Amelia Ave.	Minnesota Ave. to Ohio Ave.	74			County	Yes	0.15	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	12,570	13,500	11,650	12,500	11,680	12,300	11,440	10,310	10,260	10,380	E	13,640	0.76	D	1,020
Amelia Ave.	Ohio Ave. to SR 44	73			County	Yes	0.15	4	30	N+S	UA NSSRC2 2W 4L U 0L	Urban Collector	13,150	13,390	12,420	12,300	11,080	11,900	10,810	10,380	10,580	10,650	E	22,820	0.47	D	2,060
Amelia Ave.	SR 44 to Voorhis Ave.	71			City	No	0.25	4	30	N+S	UA NSSRC2 2W 4L U 0L	Urban Collector	10,840	11,010	10,610	9,750	8,950	9,570	9,260	8,590	8,920	9,660	E	22,820	0.42	C	2,060
Amelia Ave.	Voorhis Ave. to Beresford Ave.	70			City	No	0.75	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	8,250	8,580	8,390	7,670	6,770	7,280	6,650	7,000	7,070	6,940	E	13,640	0.51	D	1,020
Anderson Dr./Cloverleaf Blvd.	Cloverleaf Blvd. to Providence Blvd.	85			City	No	1.00	2	35	N+S	UA NSSRC2 2W 2L U 0L	n/c	3,200	3,260	3,250	2,943	-	-	-	-	-	-	E	13,640	-	-	1,020
Ariel Rd.	Beacon Light Rd. to US 1	91			County	No	1.20	2	35	E+W	TA NSSRC2 2W 2L U 0L	Rural Local	650	730	680	590	530	530	500	560	540	540	E	10,220	0.05	C	920
Arredondo Grant Rd.	Spring Garden Ranch Rd. to James St.	100			County	Yes	0.60	2	30	E+W	RUA UFH 2W 2L U 0L	Rural Major Collector & Urban Collector	790	590	1,180	1,090	980	1,130	1,050	1,100	1,140	1,020	C	6,300	0.16	B	590
Arredondo Grant Rd.	James St. to SR 11	101			County	Yes	2.00	2	35	E+W	RUA UFH 2W 2L U 0L	Rural Collector	2,840	230	590	550	460	460	450	510	580	600	C	6,300	0.10	B	590
Atlantic Ave. (DBS)	SR A1A/Dunlawton Ave. to Phillis Ave.	115		Yes	County	Yes	0.40	4	35	N+S	UA NSSRC2 2W 4L D WL	Urban Collector	13,670	13,010	17,620	14,180	11,530	12,400	14,380	9,170	13,680	13,050	E	30,420	0.43	C	2,740
Atlantic Ave. (DBS)	Phillis Ave. to Marcelle Ave.	113		Yes	County	Yes	0.75	2	35	N+S	UA NSSRC2 2W 2L D WL	Urban Collector	11,270	11,340	13,370	11,280	9,360	10,110	12,930	8,250	11,990	11,760	E	14,740	0.80	D	1,330

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2Way 2013 LOS Capacity
Big Tree Rd.	Magnolia Ave. to Kenilworth Ave.	195			County	Yes	0.45	2	35	E+W	UA NSSRC2 2W 2L D WL	Urban Collector	9,850	13,710	12,120	13,530	11,640	11,180	11,310	10,850	10,160	9,290	E	14,740	0.63	D	1,330
Big Tree Rd.	Kenilworth Ave. to US 1	196			County	Yes	0.55	2	35	E+W	UA NSSRC2 2W 2L D WL	Urban Collector	10,020	9,190	8,400	9,450	9,260	8,190	7,010	7,270	6,790	6,570	E	14,740	0.45	C	1,330
Bill France Blvd.	Clyde Morris Blvd. to Mason Ave.	202			City	No	0.38	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Collector	5,550	7,330	6,830	7,850	7,050	5,750	5,850	5,230	4,970	5,140	E	37,970	0.14	C	3,410
Bill France Blvd.	Mason Ave. to Dunn Ave.	201			City	No	0.63	4	40	N+S	UA NSSRC1 2W 4L D WL	Urban Collector	9,600	11,150	10,580	11,820	11,290	8,930	8,930	7,960	7,790	7,950	E	37,970	0.21	C	3,410
Bill France Blvd.	Dunn Ave. to US 92	200			City	No	0.60	4	35	N+S	UA NSSRC2 2W 4L U WL	Urban Collector	12,450	16,110	13,740	15,020	13,920	10,260	11,410	10,250	10,750	11,270	E	28,900	0.39	C	2,600
Blackburn Rd.	CR 3 to Emporia Rd	211			County	No	1.25	2	35	N+S	RUA UFH 2W 2L U 0L	Rural Minor Collector	590	680	680	750	660	730	560	550	550	550	C	6,300	0.09	B	590
Blackwelder Rd.	Lake Winona Rd. to SR 11	221			County	No	3.25	2	35	E+W	RUA UFH 2W 2L U 0L	Rural Local	210	270	400	420	200	240	190	180	180	170	C	6,300	0.03	B	590
Blue Lake Ave.	Plymouth Ave. to Minnesota Ave.	237			County	Yes	1.00	2	40	N+S	UA NSSRC1 2W 2L U 0L	Urban Collector	4,270	4,900	3,960	7,690	5,460	5,090	5,100	5,780	5,380	5,200	E	13,640	0.38	C	1,230
Blue Lake Ave.	Minnesota Ave. to SR 44	236			County	Yes	0.55	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	2,760	3,430	3,650	5,320	4,230	3,920	3,760	4,330	4,190	4,060	E	13,640	0.30	C	1,020
Blue Lake Ave.	SR 44 to Voorhis Ave.	235			County	Yes	0.25	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	2,660	3,290	2,900	3,760	3,000	3,260	3,200	3,480	3,520	3,370	E	13,640	0.25	C	1,020
Blue Lake Ave.	Voorhis Ave. to Beresford Ave.	234			County	Yes	0.75	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	3,600	4,160	3,710	4,690	4,140	3,950	3,940	4,180	4,310	4,010	E	13,640	0.29	C	1,020
Blue Lake Ave.	Beresford Ave. to Taylor Rd.	232			County	Yes	1.05	2	45	N+S	UA NSSRC1 2W 2L U 0L	Urban Collector	4,000	4,860	4,840	6,260	5,280	4,970	4,890	5,200	5,730	5,440	E	13,640	0.40	C	1,230
Blue Lake Ave.	Taylor Rd. to Orange Camp Rd.	231			County	Yes	1.05	2	45	N+S	UA NSSRC1 2W 2L U WL	Urban Collector	4,040	4,550	3,440	5,440	4,290	4,190	4,130	4,110	4,250	3,980	E	17,050	0.23	C	1,540
Blue Springs Av (West)	Sparkman Dr to Lawton Dr	239			County	No	0.60	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	-	-	-	7,260	6,940	7,710	6,120	5,830	5,410	5,080	E	13,640	0.37	C	1,020
Brownlee Rd.	Raulerson Rd. #1 to Raulerson Rd.	240			County	No	1.70	2	35	N+S	RUA UFH 2W 2L U 0L	n/c	190	210	210	250	140	100	260	140	180	180	C	6,300	0.03	B	590
Captain Dr.	Lake Helen-Osteen Rd. to Snow Dr	DLT-15.000			City	No	0.50	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Local	4,370	4,630	4,700	6,113	4,912	-	-	-	-	-	E	13,640	-	-	1,020
Captain Dr.	Snow Dr to Courtland Blvd.	DLT-15.010			City	No	1.00	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Local	2,620	2,190	2,240	3,562	3,340	-	-	-	-	-	E	13,640	-	-	1,020
Cardinal Blvd.	SR 421/Dunlawton Ave. to Marcelle Ave	260			County	No	0.15	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	4,770	2,590	2,780	3,370	4,530	4,630	4,830	5,090	5,160	4,740	E	13,640	0.35	C	1,020
Cardinal Blvd.	Marcelle Ave to Major St.	261			County	No	2.00	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	1,530	-	430	1,120	1,100	940	940	790	870	730	E	13,640	0.05	C	1,020
Carter Rd.	SR 11 to Marsh Rd.	270			County	No	1.75	2	40	E+W	UA NSSRC1 2W 2L U 0L	n/c	1,440	1,590	1,540	1,340	1,400	1,470	1,540	1,400	1,460	1,420	E	13,640	0.10	C	1,230
Cassadaga Rd.	W. Volusia Bthwy. to Macy Ave.	280			County	Yes	1.80	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	2,340	2,490	2,410	2,380	1,670	2,170	2,100	1,970	2,190	2,010	E	13,640	0.15	C	1,020
Catalina Blvd.	Howland Blvd. to Sixma Rd.	DLT-20.020			City	No	0.50	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Local	9,560	11,560	12,750	15,790	12,089	-	-	-	-	-	E	13,640	0.86	E	1,020
Catalina Blvd.	Sixma Rd. to Lake Helen-Osteen Rd.	DLT-20.030			City	No	0.40	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Local	8,440	9,700	10,120	9,401	10,733	-	-	-	-	-	E	13,640	0.72	D	1,020
Clara Ave.	Beresford Ave. to New Hampshire Ave.	303			County	No	0.50	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	2,870	2,690	2,490	2,840	2,390	1,350	1,910	2,070	2,040	2,270	E	13,640	0.17	C	1,020
Clara Ave.	New Hampshire Ave. to SR 15A	301			County	No	0.50	2	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	1,630	1,710	1,570	1,800	1,780	1,410	1,540	1,640	1,640	1,850	E	13,640	0.14	C	1,020
Clifton Rd.	Lake Winona Rd. to SR 11	311			County	No	1.70	2	30	E+W	RUA UFH 2W 2L U 0L	Rural Local	150	140	180	250	180	200	180	190	160	170	C	6,300	0.03	B	590
Clyde Morris Blvd.	SR 40 to Hand Ave	348			County	Yes	0.80	4	35	N+S	UA NSSRC2 2W 4L D WL	Urban Principal Arterial - Other	15,160	16,050	16,380	18,450	12,060	12,220	13,030	12,340	11,940	11,230	E	30,420	0.37	C	2,740
Clyde Morris Blvd.	Hand Ave. to LPGA Blvd.	343			County	Yes	1.50	4	50	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	13,960	15,090	15,640	17,500	11,790	11,970	13,000	14,070	13,560	12,280	E	37,970	0.32	C	3,410
Clyde Morris Blvd.	LPGA Blvd. to Bill France Blvd.	341			County	Yes	1.25	4	50	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	18,110	15,930	15,920	17,890	12,700	12,660	13,690	13,450	12,880	12,290	E	37,970	0.32	C	3,410
Clyde Morris Blvd.	Bill France Blvd. to Mason Ave.	338			County	Yes	0.60	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	13,330	14,470	14,390	16,700	12,420	12,610	13,630	13,140	12,310	11,990	E	37,970	0.32	C	3,410
Clyde Morris Blvd./SR 483	SR 430/Mason Ave. to US 92	5182			FDOT	Yes	1.20	4	45	N+S	UA SSAC1 2W 4L U WL	Urban Principal Arterial - Other	21,500	22,000	20,500	20,500	18,400	17,700	18,300	20,000	18,100	18,900	D	37,800	0.50	C	3,400
Clyde Morris Blvd./SR 483	US 92 to Beville Rd.	5193			FDOT	Yes	2.00	4	45	N+S	UA SSAC1 2W 4L U WL	Urban Principal Arterial - Other	34,000	34,000	34,000	32,000	31,500	26,500	31,000	30,500	27,000	26,000	D	37,800	0.69	C	3,400
Clyde Morris Blvd.	Beville Rd. to Big Tree Rd.	337			County	Yes	0.90	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	26,000	25,670	25,470	28,340	24,640	23,350	23,290	24,600	22,880	21,790	E	37,970	0.57	C	3,410
Clyde Morris Blvd.	Big Tree Rd. to Madeline Ave.	335			County	Yes	1.00	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	23,870	25,290	25,040	27,880	22,640	21,970	23,010	24,200	22,260	20,800	E	37,970	0.55	C	3,410
Clyde Morris Blvd.	Madeline Ave. to Willow Run Blvd.	333			County	Yes	1.30	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	24,820	24,800	24,690	27,290	25,290	21,200	22,130	22,750	21,460	20,000	E	37,970	0.53	C	3,410
Clyde Morris Blvd.	Willow Run Blvd. to SR 421/Dunlawton Ave	332			County	Yes	0.65	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	23,150	22,890	22,760	24,710	19,550	19,810	19,890	21,310	19,060	18,420	E	37,970	0.49	C	3,410
Clyde Morris Blvd.	SR 421/Dunlawton Ave to Taylor Rd.	330			County	Yes	0.95	2	40	N+S	UA NSSRC1 2W 2L U WL	Urban Minor Arterial	11,980	11,440	11,390	12,670	8,730	10,300	10,530	10,060	9,900	9,190	E	17,050	0.54	C	1,540
Commonwealth Blvd.	Spruce Creek Rd. to Orange Ave.	360			County	No	0.55	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Local	4,810	6,010	5,900	6,410	6,620	5,210	5,380	5,250	5,450	5,220	E	13,640	0.38	C	1,020
Commonwealth Blvd.	Orange Ave. to US 1	361			County	No	0.35	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Local	6,420	4,130	3,730	4,120	3,970	3,460	3,590	3,670	3,540	3,530	E	13,640	0.26	C	1,020
CR 3	US 17 to Washington Ave	386			County	Yes	2.20	2	35	N+S	RDA UFH 2W 2L U 0L	Rural Local	1,120	1,130	1,200	1,320	1,250	1,220	1,200	1,040	1,100	1,060	C	12,300	0.09	B	1,160
CR 3	Washington Ave. to Emporia Rd	384			County	Yes	1.20	2	30	N+S	RDA UFH 2W 2L U 0L	Rural Local	2,020	1,990	2,070	2,320	1,740	1,980	1,870	1,850	1,680	1,660	C	12,300	0.13	B	1,160
CR 3	Emporia Rd to SR 40	382			County	Yes	3.40	2	45	N+S	RDA UFH 2W 2L U 0L	Rural Local	950	890	980	1,100	760	880	760	700	680	720	C	12,300	0.06	B	1,160
CR 3	SR 40 to Lake Winona Rd.	380			County	Yes	5.04	2	35	N+S	RDA UFH 2W 2L U 0L	n/c	940	910	1,050	1,150	770	680	690	670	610	680	C	12,300	0.06	B	1,160
CR 3	Lake Winona Rd. to Ponce																										

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2Way 2013 LOS Capacity	
Dirksen/DeBary/Doyle	Providence Blvd. to Garfield Rd.	485			County	Yes	1.20	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Minor Arterial	14,300	13,910	12,340	13,250	11,660	11,570	10,670	11,700	12,400	11,890	E	13,640	0.87	C	1,230	
Dirksen/DeBary/Doyle	Garfield Rd. to Saxon Blvd.	530			County	Yes	1.50	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Minor Arterial	9,950	10,260	10,030	10,760	9,120	9,670	7,590	9,420	9,580	9,220	E	13,640	0.68	C	1,230	
Dirksen/DeBary/Doyle	Saxon Blvd. to Courtland Blvd.	531			County	Yes	2.55	2	45	E+W	UA NSSRC1 2W 2L U 0L	Urban Minor Arterial	9,190	9,380	9,170	9,020	8,180	8,870	8,720	7,880	8,020	7,800	E	13,640	0.57	C	1,230	
Dirksen/DeBary/Doyle	Courtland Blvd. to SR 415	533			County	Yes	1.50	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Minor Arterial	6,150	5,770	5,730	6,700	5,830	6,370	5,800	6,020	5,950	5,680	E	13,640	0.42	C	1,230	
Dunn/George Engram/Fairview/Ma	Tomoka Farms Rd. to Williamson Blvd.	716			County	Yes	0.75	2	40	E+W	UA NSSRC1 2W 2L U WL	n/c	-	-	-	-	-	-	-	1,220	1,660	1,800	E	17,050	0.11	C	1,540	
Dunn/George Engram/Fairview/Ma	Williamson Blvd. to Bill France Blvd.	717			County	Yes	1.00	2	40	E+W	UA NSSRC1 2W 2L U WL	n/c	-	-	-	-	-	6,140	6,150	5,910	6,530	6,760	E	17,050	0.40	C	1,540	
Dunn/George Engram/Fairview/Ma	Bill France Blvd. to Clyde Morris Blvd.	718(DB-54)			County	Yes	0.85	2	35	E+W	UA NSSRC2 2W 2L U WL	n/c	13,776	13,512	16,618	19,622	13,264	12,430	12,740	11,350	11,530	11,350	E	14,040	0.81	D	1,270	
Dunn/George Engram/Fairview/Ma	Clyde Morris Blvd. to Nova Rd.	719(DB-46)			County	Yes	1.00	4	40	E+W	UA NSSRC1 2W 4L D WL	n/c	14,080	13,440	13,190	13,780	13,770	11,410	11,590	10,550	10,400	10,150	E	37,970	0.27	C	3,410	
Dunn/George Engram/Fairview/Ma	Nova Rd. to US 1	720			County	Yes	1.20	4	35	E+W	UA NSSRC2 2W 4L D WL	Urban Principal Arterial - Other	12,130	12,210	11,760	12,880	11,330	11,790	12,090	10,430	10,310	10,230	E	30,420	0.34	C	2,740	
Dunn/George Engram/Fairview/Ma	US 1 to Beach St	631			County	Yes	0.40	2	30	E+W	UA NSSRC2 2W 2L U WL	Urban Principal Arterial - Other	6,270	5,960	5,640	6,200	5,590	5,500	5,670	5,570	5,060	5,380	E	14,040	0.38	C	1,270	
Dunn/George Engram/Fairview/Ma	Beach St. to Peninsula Dr.	1170			County	Yes	0.60	2	30	E+W	UA NSSRC2 2W 2L U WL	Urban Principal Arterial - Other	10,700	7,530	7,080	7,650	7,050	6,220	6,710	6,980	6,300	6,560	E	14,040	0.47	C	1,270	
Dunn/George Engram/Fairview/Ma	Peninsula Dr. to SR A1A	1171			County	Yes	0.35	2	30	E+W	UA NSSRC2 2W 2L U WL	Urban Minor Arterial	10,420	6,750	6,250	6,770	6,640	5,360	5,870	6,010	5,700	5,540	E	13,640	0.41	D	1,020	
Elkcam Blvd.	Normandy Blvd. to Ft. Smith Blvd.	DLT-45.000			City	No	1.50	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	11,870	12,570	-	10,153	5,142	-	-	-	-	-	7,500	E	13,640	0.55	D	1,020
Elkcam Blvd.	Ft. Smith Blvd. to Providence Blvd.	DLT-45.010			City	No	1.00	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	8,530	8,990	-	7,158	4,805	-	-	-	-	-	6,130	E	13,640	0.45	D	1,020
Elkcam Blvd.	Providence Blvd. to Montecito Ave.	DLT-45.020			City	No	1.05	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	12,890	13,360	-	11,751	11,772	-	-	-	-	-	10,080	E	13,640	0.74	D	1,020
Elkcam Blvd.	Montecito Ave. to Howland Blvd.	DLT-45.040			City	No	1.00	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	12,140	12,590	-	5,591	10,554	-	-	-	-	-	9,930	E	13,640	0.73	D	1,020
Elkcam Blvd.	Howland Blvd. to Lake Helen-Osteen Rd	DLT-45.050			City	No	0.15	2	35	E+W	UA NSSRC2 2W 2L D WL	Urban Collector	13,280	13,980	-	6,068	13,768	-	-	-	-	-	10,530	E	14,740	0.71	D	1,330
Elkcam Blvd.	Lake Helen-Osteen Rd to Courtland Blvd	DLT-45.060			City	No	0.70	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	11,180	11,960	-	4,736	8,571	-	-	-	-	-	6,900	E	13,640	0.51	D	1,020
Elkcam Blvd.	Courtland Blvd. to Riverhead Dr.	DLT-45.080			City	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	620	680	-	592	943	-	-	-	-	-	480	E	13,640	0.04	C	1,020
Emporia Rd.	SR 40 to Peterson/Blackburn	560			County	Yes	3.00	2	40	N+S	RUA UFH 2W 2L U 0L	Rural Minor Collector	840	790	920	1,030	800	850	860	690	720	690	C	6,300	0.11	B	590	
Emporia Rd.	Peterson/Blackburn to US 17	564			County	Yes	1.45	2	40	E+W	RUA UFH 2W 2L U 0L	Rural Minor Collector	1,390	1,330	1,540	1,640	1,210	1,420	1,880	1,280	1,230	1,320	C	6,300	0.21	B	590	
Enterprise Ave. (NSB)	Pioneer Tr. to Halleck St.	570			County	Yes	0.10	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	7,410	7,480	7,400	7,110	7,500	7,210	7,640	7,460	7,000	7,740	E	13,640	0.57	D	1,020	
Enterprise Rd.	US 17/92 to Harley Strickland Blvd.	586			County	Yes	0.50	4	35	N+S	UA NSSRC2 2W 4L D WL	Urban Minor Arterial	23,070	22,530	24,250	23,270	23,090	23,210	22,160	22,090	20,900	19,330	E	30,420	0.64	D	2,740	
Enterprise Rd.	Harley Strickland Blvd. to Saxon Blvd.	585			County	Yes	0.50	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	23,530	23,030	24,860	25,370	24,100	25,340	23,250	23,670	22,790	20,710	E	37,970	0.55	C	3,410	
Enterprise Rd.	Saxon Blvd. to Highbanks Rd.	584			County	Yes	1.55	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	21,340	21,140	20,510	23,720	23,150	24,490	23,470	23,460	23,750	21,590	E	37,970	0.57	C	3,410	
Enterprise Rd.	Highbanks Rd. to Deltona Blvd.	582			County	Yes	0.50	4	35	N+S	UA NSSRC2 2W 4L D WL	Urban Minor Arterial	14,560	14,390	14,090	15,750	14,720	14,990	12,530	15,330	14,620	14,110	E	30,420	0.46	D	2,740	
Enterprise Rd.	Deltona Blvd. to Main St.	581			County	Yes	1.10	2	35	N+S	UA NSSRC2 2W 2L U WL	Urban Collector	6,270	6,290	6,310	6,860	5,990	6,100	7,030	7,800	7,150	7,270	E	14,040	0.52	D	1,270	
Enterprise-Osteen Rd.	Providence to Garfield Rd	600			County	Yes	1.50	2	30	E+W	TA NSSRC2 2W 2L U 0L	Rural Local	2,830	2,840	2,970	2,790	2,580	2,480	2,570	2,690	2,470	2,470	E	10,220	0.24	C	920	
Enterprise-Osteen Rd.	Garfield Rd to Reed Ellis Rd.	601			County	Yes	1.70	2	35	E+W	TA NSSRC2 2W 2L U 0L	Rural Local	1,930	1,910	1,960	2,020	1,870	1,840	1,750	1,850	1,690	1,690	E	10,220	0.17	C	920	
Enterprise-Osteen Rd.	Reed Ellis Rd. to SR 415	602			County	Yes	2.50	2	35	E+W	TA NSSRC2 2W 2L U 0L	Rural Local	1,320	1,330	1,270	1,350	1,150	1,210	1,050	1,160	1,080	1,160	E	10,220	0.11	C	920	
Euclid Ave.	Grand to Falio Rd.	610			County	No	0.25	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	1,680	1,670	1,570	1,860	1,200	1,220	1,190	1,190	1,080	1,150	E	13,640	0.08	C	1,020	
Euclid Ave.	Fatio Rd. to Woodward Ave.	611			County	No	0.25	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	1,520	1,770	1,640	1,950	1,370	1,380	1,340	1,360	1,270	1,330	E	13,640	0.10	C	1,020	
Euclid Ave.	Woodward Ave. to SR 15A	612			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	3,130	2,990	2,860	3,400	2,300	2,390	2,270	2,310	2,300	2,290	E	13,640	0.17	C	1,020	
Euclid Ave.	SR 15A to Adelle Ave.	613			County	No	0.75	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	3,210	3,000	2,790	3,310	2,500	2,740	2,520	2,440	2,510	2,430	E	13,640	0.18	C	1,020	
Euclid Ave.	Adelle Ave. to US 17/92	614			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	2,360	2,096	1,850	2,140	2,080	1,940	2,180	2,150	2,200	2,150	E	13,640	0.16	C	1,020	
Eustace Ave.	Catalina Blvd. to Providence Blvd	DLT-55.010			City	No	0.85	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	4,310	4,610	-	3,639	4,199	-	-	-	-	-	3,480	E	13,640	0.26	C	1,020
Flagler Ave. (NSB)	N. Causeway to Peninsula Ave.	640			FDOT	Yes	0.40	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	6,630	5,610	8,310	7,960	8,270	8,820	9,100	8,560	9,500	-	E	13,640	-	-	1,020	
Flagler Ave. (NSB)	Peninsula Ave. to Atlantic Ave.	641			City	Yes	0.40	2	20	E+W	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	9,790	9,420	4,740	4,500	4,740	5,120	5,420	5,050	4,130	-	E	13,640	-	-	1,020	
Florence St.	Derbyshire Rd. to SR 5A/Nova Rd.	650			County	Yes	0.30	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	5,420	5,520	5,600	6,210	5,890	4,980	5,520	5,450	5,570	5,430	E	13,640	0.40	D	1,020	
Florence St.	SR 5A/Nova Rd. to US 1				City	No	1.40	2	25	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	-	-	-	-	-	-	-	-	-	-	E	13,640	-	-	1,020	
Fort Florida Rd.	Highbanks Rd. to Ft. Florida Point Rd.	661			City	No	1.75	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	790	1,080	1,190	1,130	950	1,150	970	1,090	1,080	1,170	E	13,640	0.09	C	1,020	
Fort Florida Rd.	Ft. Florida Point Rd. to Barwick Rd.	662			City	No	2.25	2	35	N+S & E+W	TA NSSRC2 2W 2L U 0L	Rural Minor Collector	790	410	400	380	270	230	260	640	770	730	E	10,220	0.07	C	920	
Fort Florida Rd.	Barwick Rd. to US 17/92	660			City	No	0.60	2	35	E+W	TA NSSRC2 2W 2L U 0L	Rural Minor Collector	1,140	1,140	1,130	1,130	1,040	980	960	1,340	1,350	1,260	E	10,220	0.12	C	920</	

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2Way 2013 LOS Capacity
Harley Strickland Blvd.	Enterprise Rd. to Veteran's Memorial Pk	841			City	No	1.35	2	35	E+W	UA NSSRC2 2W 2L U WL	n/c	10,290	11,420	11,460	13,760	12,190	12,110	12,770	12,390	11,850	11,760	E	14,040	0.84	D	1,270
Hazen Rd.	Mercers Fernery Rd. to Plymouth Ave.	852			County	Yes	1.50	2	35	N+S	UA NSSRC2 2W 2L U OL	n/c	790	680	850	880	620	630	590	720	700	800	E	13,640	0.06	C	1,020
Hazen Rd.	Plymouth Ave. to SR 44	850			County	Yes	1.00	2	40	N+S	UA NSSRC1 2W 2L U OL	n/c	1,120	1,190	1,370	1,480	1,190	1,130	1,130	1,050	1,240	1,250	E	13,640	0.09	C	1,230
Highbanks Rd.	Fort Florida Rd. to Westside Connector	860			City	No	1.75	2	40	E+W	UA NSSRC1 2W 2L U OL	Urban Collector	2,200	1,930	1,950	1,980	2,100	2,260	1,880	1,810	1,840	2,120	E	13,640	0.16	C	1,230
Highbanks Rd.	Westside Connector to US 17/92	861			City	No	1.00	2	35	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	10,550	10,810	10,850	10,550	9,700	10,380	9,600	10,010	9,840	9,860	E	13,640	0.72	D	1,020
Highbanks Rd.	US 17/92 to Enterprise Rd.	863			City	No	1.45	2	40	E+W	UA NSSRC1 2W 2L U OL	Urban Collector	8,060	7,360	7,420	7,990	7,420	7,070	6,800	7,360	7,370	7,380	E	13,640	0.54	C	1,230
Highbridge Rd.	Walter Boardman Ln. to John Anderson	871			County	Yes	1.60	2	30	E+W	TA NSSRC2 2W 2L U OL	Rural Major Collector	2,400	2,340	2,010	2,010	1,950	2,370	2,130	1,830	2,100	1,750	E	10,220	0.17	C	920
Highbridge Rd.	John Anderson Dr. to SR A1A	872			County	Yes	0.20	2	30	E+W	TA NSSRC2 2W 2L U OL	Rural Major Collector	1,910	1,950	1,580	1,610	1,560	1,920	1,730	1,520	1,780	1,490	E	10,220	0.15	C	920
Hill Ave./Jacobs Rd.	US 92 to Plymouth Ave.	950			County	Yes	0.85	2	40	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	4,160	4,340	4,910	5,770	5,580	5,100	6,190	5,870	5,190	5,820	E	13,640	0.43	C	1,230
Hill Ave.	Plymouth Ave. to Minnesota Ave.	885			City	Yes	0.50	2	30	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	4,520	4,730	4,980	5,590	4,410	4,700	4,340	5,240	5,020	4,890	E	13,640	0.36	C	1,020
Hill Ave.	Minnesota Ave. to SR 44	883			City	Yes	0.50	2	30	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	3,910	4,020	4,380	4,680	3,690	3,800	3,810	4,060	4,010	3,800	E	13,640	0.28	C	1,020
Hill Ave.	SR 44 to Voorhis Ave.	882			County	Yes	0.25	2	30	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	2,290	2,540	2,760	2,870	2,230	2,290	2,400	2,530	2,780	2,540	E	13,640	0.19	C	1,020
Hill Ave.	Voorhis Ave. to Beresford Ave.	881			County	Yes	0.75	2	30	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	1,960	2,150	2,310	2,450	2,050	2,080	2,130	2,310	2,370	2,200	E	13,640	0.16	C	1,020
Hill Ave.	Beresford Ave. to Taylor Rd.	878 - NEW			County	Yes	1.00	2	30	N+S	UA NSSRC2 2W 2L U OL	n/c	-	-	-	-	-	-	-	430	480	550	E	13,640	0.04	C	1,020
Hontoon Rd.	Old New York Ave. to Botts Landing Rd.	891			County	No	1.15	2	40	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	3,140	3,520	3,330	3,570	2,990	2,930	2,930	3,050	2,840	2,820	C	13,640	0.21	C	1,090
Hontoon Rd.	Botts Landing Rd. to end of road	890			County	No	2.00	2	35	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	760	1,080	980	1,060	850	780	920	870	790	840	C	13,640	0.06	C	470
Howland Blvd.	I-4/SR 472 to Wolf Pack Run	901			FDOT	Yes	0.40	4	45	E+W	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	26,180	29,420	34,200	31,910	29,950	28,290	30,330	30,490	29,890	27,480	E	37,970	0.72	C	3,410
Howland Blvd.	Wolf Pack Run to Catalina Blvd.	903			County	Yes	1.15	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	21,920	26,100	30,200	28,610	26,660	25,260	27,640	28,010	27,440	25,280	E	37,970	0.67	C	3,410
Howland Blvd.	Catalina Blvd. to Providence Blvd.	905			County	Yes	0.35	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	17,100	19,850	23,670	22,660	20,700	19,640	21,390	22,110	21,930	20,070	E	37,970	0.53	C	3,410
Howland Blvd.	Providence Blvd. to Elkcam Blvd.	906			County	Yes	2.10	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Minor Arterial	12,670	14,380	14,610	16,590	14,620	13,380	15,390	16,890	14,140	15,150	E	13,640	1.11	F	1,230
Howland Blvd.	Elkcam Blvd. to Lake Helen-Osteen Rd.	908			County	Yes	0.30	4	45/40	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	15,520	16,610	18,200	17,460	16,020	15,250	15,030	15,300	15,620	14,220	E	37,970	0.37	C	3,410
Howland Blvd.	Lake Helen-Osteen Rd. to Newmark Dr.	909			County	Yes	0.70	4	40	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	18,660	19,200	21,180	20,690	17,810	16,330	19,340	20,350	20,990	19,330	E	37,970	0.51	C	3,410
Howland Blvd.	Newmark Dr. to Courtland Blvd.	911			County	Yes	1.15	4	45	N+S	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	14,650	14,960	16,580	16,820	14,860	13,640	16,250	16,640	16,990	15,600	E	37,970	0.41	C	3,410
Howland Blvd.	Courtland Blvd. to Ft Smith Blvd.	913			County	Yes	1.80	2	45	N+S	UA NSSRC1 2W 2L U WL	Urban Minor Arterial	9,160	9,300	11,280	12,690	11,160	11,570	12,820	13,280	12,920	11,770	E	17,050	0.69	C	1,540
Howland Blvd.	Ft Smith Blvd. to SR 415	915			County	Yes	0.65	2	45	N+S	UA NSSRC1 2W 2L U WL	Urban Minor Arterial	7,750	7,770	8,220	11,730	11,870	11,580	12,770	12,650	12,180	12,530	E	17,050	0.73	C	1,540
India Blvd.	Fort Smith Blvd. to Humphrey Blvd.	DLT-90 000			City	No	2.06	2	35	E+W	UA NSSRC2 2W 2L U OL	n/c	6,560	6,120	-	6,106	3,750	-	-	-	-	3,520	E	13,640	0.26	C	1,020
Indian Lake Rd.	Tiger Bay Rd. to US 92	935			County	No	0.80	2	40	N+S	TA NSSRC1 2W 2L U OL	Rural Local	-	5,650	5,890	7,250	6,340	5,380	5,020	6,090	5,550	5,180	E	13,640	0.38	C	1,120
Jimmy Ann Dr.	LPGA Blvd. to Clyde Morris Blvd.	962			City	No	0.30	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	8,120	7,170	7,430	8,330	8,660	7,890	8,470	7,520	7,650	7,680	E	13,640	0.56	C	1,230
Jimmy Ann Dr.	Clyde Morris Blvd. to Mason Ave.	960			City	No	0.15	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	7,680	5,650	5,730	4,760	4,700	4,460	4,900	4,380	4,000	4,070	E	13,640	0.30	C	1,230
John Anderson Dr.	Highbridge Rd. to Lynnhurst	974			County	Yes	7.40	2	35	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	4,960	5,300	4,420	5,180	3,430	4,080	3,880	3,590	3,960	4,570	E	13,640	0.34	C	1,020
John Anderson Dr.	Lynnhurst to Halifax Dr	972			County	Yes	0.85	2	30	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	6,710	6,970	6,150	6,890	5,550	5,220	5,390	5,520	6,730	E	13,640	0.49	D	1,020	
John Anderson Dr.	Halifax Dr. to Neptune	971			City	Yes	1.00	2	25	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	5,020	5,360	4,510	5,070	3,690	3,550	3,620	3,610	3,950	-	E	13,640	-	-	1,020
John Anderson Dr.	Neptune to SR 40	970			City	Yes	1.00	2	25	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	8,340	6,780	6,460	7,120	5,430	5,550	5,110	5,060	5,930	-	E	13,640	-	-	1,020
John Anderson Hwy.	Walter Boardman Lane to Flagler Co.	990			County	Yes	1.00	2	5 NB / 30 S	N+S	TA NSSRC1 2W 2L U OL	Rural Minor Collector	1,440	1,480	1,060	1,060	1,110	1,040	960	1,000	1,140	900	E	13,640	0.07	C	1,120
Josephine St/10th St.	Old Mission Rd. to Tatum Blvd.	1000			County	Yes	0.30	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	4,400	6,050	6,310	6,370	5,610	6,370	6,000	5,810	5,860	5,910	E	13,640	0.43	D	1,020
Josephine St/10th St.	Tatum Blvd. to US 1	1002			City	Yes	1.80	2	35	E+W	UA NSSRC2 2W 2L U WL	Urban Collector	3,250	7,460	6,930	6,920	6,870	7,400	7,310	7,350	7,140	-	E	14,040	0.00	-	1,270
Kathy Dr. (N. Penin.)	John Anderson Dr. to SR A1A	1011			County	No	0.44	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Local	250	550	400	390	430	420	470	420	460	470	E	13,640	0.03	C	1,020
Kennedy Pkwy (Old SR 3)	US 1 to Park Entrance	1020			Federal	No	4.00	2	55	E+W	RUA UFH 2W 2L U OL	Rural Major Collector	1,140	1,090	950	830	1,000	930	1,040	700	660	-	C	6,300	-	-	590
Kicklighter Rd.	Macy Ave. to Lake Helen-Osteen/Prevat	1051			County	Yes	0.75	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Local	1,270	1,550	1,520	1,640	1,760	1,770	1,930	2,080	1,810	1,690	E	13,640	0.12	C	1,020
Lake George Rd.	Bream Dr. to US 17	1062			County	No	3.90	2	30	E+W	RUA UFH 2W 2L U OL	Rural Local	1,430	1,220	940	1,080	990	1,010	780	860	820	740	C	6,300	0.12	B	590
Lake Helen-Osteen Rd.	Kicklighter Rd. to Captain Dr.	1076			County	Yes	1.40	2	40	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	7,820	7,760	7,810	8,290	6,290	7,310	7,020	7,030	6,570	6,750	E	13,640	0.49	C	1,230
Lake Helen-Osteen Rd.	Captain Dr. to Catalina Blvd.	1073			County	Yes	0.40	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	7,920	8,050	8,090	8,610	6,700	6,990	7,390	7,410	7,090	6,840	E	13,640	0.50	C	1,230
Lake Helen-Osteen Rd.	Catalina Blvd. to Haulover Blvd.	1072			County	Yes	0.50	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	9,640	9,430	9,490	10,130	9,560	9,430	10,200	10,320	9,740	9,570	E	13,640	0.70	C	1,230
Lake Helen-Osteen Rd.	Haulover Blvd. to Elkcam Blvd.	1071			County	Yes	1.75																				

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2013 LOS Capacity
Mason Ave.	Fentress Blvd. to Bill France Blvd.	1191			County	Yes	0.50	2	40	E+W	UA NSSRC1 2W 2L D WL	Urban Minor Arterial	12,080	12,470	11,660	11,550	10,700	10,680	10,580	9,320	9,760	8,460	E	17,900	0.47	C	1,620
Mason Ave.	Bill France Blvd. to Jimmy Ann Dr.	1193			County	Yes	0.30	4	40	E+W	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	14,530	14,240	13,750	13,830	13,250	12,140	12,900	11,750	12,520	11,660	E	37,970	0.31	C	3,410
Mason Ave.	Jimmy Ann Dr. to SR 483/Clyde Morris E	1194			County	Yes	0.50	4	40	E+W	UA NSSRC1 2W 4L D WL	Urban Minor Arterial	15,590	15,140	14,650	16,230	13,510	13,150	13,530	12,120	12,330	11,940	E	37,970	0.31	C	3,410
Maytown Rd.	New Smyrna Blvd. to Pell Rd.	1196			County	No	5.60	2	50	E+W	RDA UFH 2W 2L U 0L	Rural Minor Collector	-	3,720	3,450	3,370	3,120	3,360	3,120	3,350	3,270	3,120	C	12,300	0.25	B	1,160
Maytown Rd.	Pell Rd. to Beacon Light Rd.	1198			County	No	12.90	2	45	E+W	RUA UFH 2W 2L U 0L	Rural Minor Collector	-	1,200	1,110	720	660	670	650	730	600	700	C	6,300	0.11	B	590
Maytown Rd./Halifax Ave. (OH)	Beacon Light Rd. to US 1	790			County	Yes	1.10	2	35	E+W	RDA UFH 2W 2L U 0L	Rural Minor Collector	1,900	1,960	1,770	1,990	1,380	1,650	1,650	1,770	1,680	1,620	C	12,300	0.13	B	1,160
McBride Rd.	US 17 to Lake George Rd.	1200			County	No	3.00	2	35	N+S	RUA UFH 2W 2L U 0L	Rural Local	330	350	380	380	270	290	310	300	220	220	C	6,300	0.03	B	590
McGregor Rd.	Westside Con./Fatio to Spring Garden A	1210 - NEW			County	Yes	0.70	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	-	-	-	-	-	-	-	1,600	1,600	1,570	E	13,640	0.12	C	1,230
McGregor Rd.	Spring Garden Ave. to US17/92	1211			County	Yes	1.40	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	4,930	5,800	5,440	5,580	4,990	4,730	4,600	8,110	8,850	6,250	E	13,640	0.46	C	1,230
Mercers Fernery Rd.	Glenwood Rd. to SR 15A	1221			County	Yes	1.45	2	35	E+W	UA NSSRC2 2W 2L U 0L	n/c	990	1,010	2,340	2,380	830	910	860	980	950	1,010	E	13,640	0.07	C	1,020
Mercers Fernery Rd.	SR 15A to US 17	1223			County	Yes	1.25	2	35	E+W	UA NSSRC2 2W 2L U 0L	n/c	1,150	1,300	1,470	1,530	1,170	1,350	1,370	1,580	1,520	1,470	E	13,640	0.11	C	1,020
Midway Ave.	Williamson Blvd. to US 92	1230			County	Yes	2.00	4	40	E+W	UA NSSRC1 2W 4L D WL	Urban Collector	3,020	3,110	2,840	3,210	3,310	2,420	2,530	2,380	2,440	2,630	E	37,970	0.07	C	3,410
Minnesota Ave. (DeLand)	Grand Ave. to SR 15A	1245			County	Yes	1.35	2	35	E+W	UA NSSRC2 2W 2L U 0L	n/c	1,790	1,740	1,860	1,950	2,230	2,670	2,670	2,850	2,850	2,800	E	13,640	0.21	C	1,020
Minnesota Ave. (DeLand)	SR 15A to US 17/92	1247			County	Yes	1.25	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	1,780	1,790	1,840	1,990	1,110	1,240	1,090	1,100	900	970	E	13,640	0.07	C	1,020
Minnesota Ave. (DeLand)	Amelia Ave. to Hill Ave	1249			County	Yes	0.75	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	2,360	2,270	1,690	1,850	1,970	2,280	2,170	2,300	2,110	2,060	E	13,640	0.15	C	1,020
Minnesota Ave. (DeLand)	Hill Ave. to Blue Lake Ave.	1250			County	Yes	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	3,060	2,780	2,070	2,230	2,630	2,840	2,680	2,770	2,650	2,520	E	13,640	0.18	C	1,020
Minnesota Ave. (DeLand)	Blue Lake Ave. to Kepler Rd.	1251			County	Yes	0.85	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	4,340	3,890	3,370	3,550	4,270	4,500	3,530	4,530	4,170	4,000	E	13,640	0.29	C	1,230
Minnesota Ave. (Orange City)	Sparkman Ave. to US 17/92	1241			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	1,790	1,900	2,040	2,280	2,090	1,860	1,810	1,930	1,950	2,090	E	13,640	0.15	C	1,020
Minnesota Ave. (Orange City)	US 17/92 to Leavitt Ave.	1242			County	No	0.50	2	25	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	1,180	1,510	1,520	1,700	1,500	1,400	1,470	1,360	1,390	1,410	E	13,640	0.10	C	1,020
Minnesota Ave. (Orange City)	Leavitt Ave. to SR 472	1243			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	1,380	960	1,320	1,430	1,430	1,340	1,430	1,170	1,180	1,230	E	13,640	0.09	C	1,020
New Hampshire Ave.	SR 15A to Adelle Ave.	1270			County	No	0.15	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	2,650	2,730	2,550	2,610	2,080	2,110	2,210	2,280	2,260	2,470	E	13,640	0.18	C	1,020
New Hampshire Ave.	Adelle Ave. to Clara Ave.	1271			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	3,220	3,320	3,050	3,200	2,550	2,540	2,480	2,630	2,780	2,760	E	13,640	0.20	C	1,020
New Hampshire Ave.	Clara Ave. to US 17/92	1272			County	No	0.25	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	3,500	3,500	3,200	3,390	2,580	2,640	2,640	2,790	2,850	2,830	E	13,640	0.21	C	1,020
Newmark Dr.	Ft Smith Blvd. to Humphrey Blvd.	DLT-100.000			City	No	1.60	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	8,770	8,700	-	8,066	7,061	-	-	-	-	6,060	E	13,640	0.44	D	1,020
Newmark Dr.	Humphrey Blvd. to Howland Blvd	DLT-100.020			City	No	0.90	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	7,440	7,010	-	7,046	6,452	-	-	-	-	6,370	E	13,640	0.47	D	1,020
Newmark Dr.	Howland Blvd. to Courtland Blvd.	DLT-100.040			City	No	0.75	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	2,490	2,540	-	6,875	1,434	-	-	-	-	1,110	E	13,640	0.08	C	1,020
New York Ave. (Orange City)	Westside Pkwy/Hamilton Ave. to Sparkm	1281			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	3,500	4,030	4,340	4,730	4,490	3,750	3,850	4,230	3,880	3,990	E	13,640	0.29	C	1,020
New York Ave. (Orange City)	Sparkman Ave. to Carpenter Ave	1283			County	No	0.30	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	4,880	5,390	5,160	5,700	5,350	4,560	4,770	5,230	4,990	4,850	E	13,640	0.36	C	1,020
New York Ave. (Orange City)	Carpenter Ave. to US 17/92	1284			County	No	0.25	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	5,970	6,400	6,320	6,500	6,030	5,300	5,580	6,090	5,640	5,770	E	13,640	0.42	D	1,020
New York Ave. (Lake Helen)	Summit Ave. to Lakeview Dr.	1285			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	1,080	1,110	1,100	1,160	910	850	920	900	970	890	C	13,640	0.07	C	470
Normandy Blvd.	Graves (old Howland) to Rhode Island A	DLT-105.000			City	No	1.25	2	45	N+S	UA NSSRC1 2W 2L U 0L	Urban Collector	6,360	6,710	-	6,786	4,411	-	-	-	-	7,100	E	13,640	0.52	C	1,230
Normandy Blvd.	Rhode Island Ave. to Elkcam Blvd.	DLT-105.000			City	No	0.50	2	30	N+S	UA NSSRC2 2W 4L D WL	Urban Collector	6,700	7,550	-	6,439	4,893	-	-	-	-	6,890	E	30,420	0.23	C	2,740
Normandy Blvd.	Elkcam Blvd. to Saxon Blvd	DLT-105.030			City	No	1.00	4	35	N+S	UA NSSRC2 2W 4L D WL	Urban Collector	13,940	14,930	-	13,100	10,694	-	-	-	-	7,530	E	30,420	0.25	C	2,740
Normandy Blvd.	Saxon Blvd. to Deltona Blvd	DLT-105.050			City	No	0.70	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	13,630	14,370	-	12,775	10,996	-	-	-	-	10,230	E	13,640	0.75	D	1,020
Normandy Blvd.	Deltona Blvd. to Tivoli Dr.	DLT-105.070			City	No	1.10	3	30	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	13,740	14,360	-	12,843	11,929	-	-	-	-	9,560	E	13,640	0.70	D	1,020
Normandy Blvd.	Tivoli Dr. to Providence Blvd	DLT-105.090			City	No	0.90	3	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	9,560	10,360	-	12,069	8,305	-	-	-	-	6,850	E	13,640	0.50	D	1,020
Normandy Blvd.	Providence Blvd. to Saxon Blvd	DLT-105.120			City	No	1.00	2	35	N+S	UA NSSRC2 2W 2L D WL	Urban Minor Arterial	9,240	10,040	-	8,662	8,148	-	-	-	-	7,020	E	14,740	0.48	D	1,330
Normandy Blvd.	Saxon Blvd. to Ft Smith Blvd	DLT-105.140			City	No	0.75	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	12,400	13,310	-	7,640	11,232	-	-	-	-	10,720	E	13,640	0.79	E	1,020
Ohio Ave. (LH)	Macy Ave. to Lakeview Dr.	1320			County	Yes	0.20	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	640	730	710	790	690	610	710	640	730	680	C	13,640	0.05	C	470
Old Dixie Hwy	I-95 to Old Kings Rd.	1334			County	Yes	0.60	2	45	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	8,500	8,360	8,380	8,230	7,720	7,250	7,750	7,480	7,430	7,260	E	13,640	0.53	C	1,230
Old Dixie Hwy	Old Kings Rd. to Walter Boardman Ln.	1333			County	Yes	0.55	2	45	E+W	TA NSSRC1 2W 2L U 0L	Rural Major Collector	4,450	4,420	3,750	3,870	3,300	3,490	3,210	3,080	3,390	2,990	E	13,640	0.22	C	1,120
Old Dixie Hwy	Walter Boardman Ln. to Pine Tree Dr.	1332			County	Yes	5.10	2	45	N+S	TA NSSRC1 2W 2L U 0L	Rural Major Collector	3,160	3,170	2,480	2,620	2,090	2,340	2,240	1,890	2,060	1,810	E	13,640	0.13	C	1,120
Old Dixie Hwy	Pine Tree Dr. to Ingelsia	1330			County	Yes	0.50	2	35	N+S	UA NSSRC2 2W 2L U 0L	Rural Major Collector & Urban Minor Arterial	2,280	2,270	2,240	2,280	2,040	1,970	2,170	1,710	1,690	1,710	E	13,640	0.13	C	1,020
Old Kings Rd.	Flagler Co. to Old Dixie Hwy.	1340			County	Yes	0.60	2	50	N+S	UA NSSRC1 2W																

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2Way 2013 LOS Capacity	
Pioneer Tr.	Enterprise Ave. to Jungle Rd	1474			County	Yes	0.50	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	7,270	8,810	8,850	9,410	8,600	8,870	8,380	8,220	7,300	7,280	E	13,640	0.53	D	1,020	
Pioneer Tr.	Jungle Rd to Canal St.	1475			County	Yes	0.25	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	2,630	2,310	2,120	2,080	2,390	2,630	1,910	1,940	2,120	2,420	E	13,640	0.18	C	1,020	
Wallace Rd.	Canal St to SR 44	1955			County	Yes	0.25	3	35	N+S	UA NSSRC2 2W 2L D WL	Urban Collector	-	8,300	7,610	8,750	8,020	8,260	7,700	7,550	7,540	7,600	E	14,740	0.52	D	1,330	
Mission Dr.	SR 44 to Old Mission Rd.	1261			County	Yes	0.75	4	40	N+S	UA NSSRC1 2W 4L D WL	Urban Collector	13,380	14,040	14,920	15,200	14,310	14,190	12,420	14,180	11,730	11,780	E	37,970	0.31	C	3,410	
Old Mission Rd./Mission Rd.	Old Mission Rd. to Josephine St.	1354			County	Yes	0.75	4	40	N+S	UA NSSRC1 2W 4L D WL	Urban Collector	9,860	12,570	12,470	13,630	12,250	12,570	12,270	11,920	11,390	11,580	E	37,970	0.30	C	3,410	
Old Mission Rd.	Josephine St. to Park Ave	1353			County	Yes	1.70	2	35	N+S	TA NSSRC2 2W 2L U 0L	Urban Collector	7,040	7,530	7,430	8,040	7,530	7,250	6,920	7,230	6,280	6,360	E	10,220	0.62	D	920	
Old Mission Rd.	Park Ave. to SR 442	1351			County	Yes	2.00	2	45	N+S	TA NSSRC1 2W 2L U 0L	Rural Minor Collector	4,380	4,880	4,640	5,480	4,400	4,380	4,190	4,250	3,920	4,030	E	13,640	0.30	C	1,120	
Plantation Oaks Blvd.	Old Dixie Highway				County	No	1.92	0		E+W	UA NSSRC2 2W 2L U WL	n/c	-	-	-	-	-	-	-	-	-	-	E	14,040	Built NOT Open			
Plaza Dr. (N. Penin.)	John Anderson Dr. to SR A1A	1481			County	No	1.00	2	30	E+W	UA NSSRC2 2W 2L U 0L	n/c	200	240	240	200	200	190	280	370	230	370	E	13,640	0.03	C	1,020	
Plymouth Ave.	Grand Ave. to Hazen Rd.	1490			County	Yes	1.00	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	1,260	1,290	1,440	1,710	1,360	1,280	1,150	1,080	1,030	1,020	E	13,640	0.07	C	1,230	
Plymouth Ave.	Hazen Rd. to SR 15A	1491			County	Yes	0.75	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	4,370	4,550	4,860	5,480	5,520	5,790	5,830	5,760	5,120	5,560	E	13,640	0.41	C	1,230	
Plymouth Ave.	SR 15A to Stone St.	1493			County	Yes	0.50	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	10,020	9,460	10,010	10,540	10,180	9,970	10,320	10,050	9,380	9,070	E	13,640	0.66	D	1,020	
Plymouth Ave.	Stone St. to Clara Ave	1495			County	Yes	0.50	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	11,090	9,920	10,590	11,050	10,280	10,780	10,460	10,490	10,040	9,560	E	13,640	0.70	D	1,020	
Plymouth Ave.	Clara Ave. to US 17/92	1497			County	Yes	0.20	2	35	E+W	UA NSSRC2 2W 2L U WL	Urban Collector	13,320	11,530	12,110	12,980	12,200	12,340	11,990	12,110	11,460	10,910	E	14,040	0.78	D	1,270	
Plymouth Ave.	US 17/92 to Amelia Ave	1498			County	Yes	0.20	2	30	E+W	UA NSSRC2 2W 2L U WL	Urban Collector	9,900	8,850	9,150	9,760	-	-	-	-	-	-	-	E	14,040	-	-	1,270
Plymouth Ave.	Amelia Ave. to Garfield Ave.	1500			County	Yes	0.20	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	7,360	6,460	7,040	7,480	7,100	6,960	7,090	6,440	5,850	5,850	E	13,640	0.43	D	1,020	
Plymouth Ave.	Garfield Ave. to Blue Lake Rd./Jacobs D	1502			County	Yes	0.75	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	6,650	5,600	5,900	6,660	6,250	6,170	6,370	5,900	5,270	5,410	E	13,640	0.40	D	1,020	
Ponce DeLeon Blvd.	CR 3 to US 17	1511			County	Yes	0.85	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Local	2,560	3,000	3,440	3,880	2,590	2,890	2,400	2,500	2,260	2,350	E	13,640	0.17	C	1,020	
Prevatt Ave.	SR 44 to Lake Pearl Dr.	1523			County	Yes	1.80	2	55	N+S	TA NSSRC1 2W 2L U WL	Rural Major Collector	3,690	4,000	3,930	4,310	3,610	4,960	4,130	4,630	4,230	4,470	E	15,600	0.29	C	1,400	
Prevatt Ave.	Lake Pearl Dr. to Kicklighter Rd	1520			County	Yes	1.50	2	40	N+S	UA NSSRC1 2W 2L U WL	Urban Collector	4,540	4,420	4,360	4,670	3,940	5,020	4,500	4,800	4,390	4,570	C	17,050	0.27	C	1,360	
Providence Blvd.	Howland Blvd. to Elkcam Blvd.	1542			County	Yes	1.70	2	35	N+S	UA NSSRC2 2W 2L U WL	Urban Minor Arterial	8,820	9,440	12,930	14,270	12,870	12,200	10,940	11,990	10,790	11,290	E	14,040	0.80	D	1,270	
Providence Blvd.	Elkcam Blvd. to Ft Smith Blvd.	1541			County	Yes	0.80	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	14,100	14,810	16,210	17,680	15,820	15,160	13,630	14,680	13,460	13,070	E	13,640	0.96	E	1,020	
Providence Blvd.	Ft Smith Blvd. to Tivoli Dr.	1539			County	Yes	0.05	4	35	N+S	UA NSSRC2 2W 4L D WL	Urban Minor Arterial	21,070	22,350	21,480	24,150	20,380	20,830	17,850	19,250	17,390	17,020	E	30,420	0.56	D	2,740	
Providence Blvd.	Tivoli Dr. to Saxon Blvd.	1538			County	Yes	0.80	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	10,270	10,550	11,030	12,210	9,400	9,950	9,800	9,600	9,000	8,510	E	14,740	0.58	D	1,330	
Providence Blvd.	Saxon Blvd. to Normandy Blvd	1535			County	Yes	0.70	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	11,680	12,110	11,080	12,320	9,490	9,080	8,930	9,860	9,310	8,900	E	13,640	0.65	D	1,020	
Providence Blvd.	Normandy Blvd. to Anderson Dr.	1534			County	Yes	0.80	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	15,990	16,800	15,310	17,090	13,440	14,460	12,950	14,410	13,510	13,150	E	13,640	0.96	E	1,020	
Providence Blvd.	Anderson Dr. to Doyle Rd	1530			County	Yes	0.55	2	35	N+S	UA NSSRC2 2W 2L U 0L	Urban Minor Arterial	13,530	13,760	13,250	14,630	11,680	11,670	10,900	12,270	12,020	11,780	E	13,640	0.86	E	1,020	
Raulerson Rd. # 1	US 17 to Brownlee Rd.	1550			County	No	1.20	2	35	E+W	RUA UFH 2W 2L U 0L	Rural Local	240	310	310	330	300	310	310	250	250	280	C	6,300	0.04	B	590	
Raulerson Rd.	US 17 to Bunnell Rd./CR 305	1552			County	No	1.70	2	30	E+W	RUA UFH 2W 2L U 0L	Rural Local	540	440	470	500	350	320	380	250	300	300	C	6,300	0.05	B	590	
Reed Canal Rd.	Clyde Morris Blvd. to SR5A/Nova Rd.	1561			County	Yes	0.80	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	8,490	7,430	7,640	8,070	6,100	5,850	5,890	5,810	6,040	5,870	E	13,640	0.43	D	1,020	
Reed Canal Rd.	SR5A/Nova Rd. to Sauls St.	1562			County	Yes	0.65	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	14,040	11,160	11,230	11,690	11,110	10,200	9,960	9,490	9,600	8,960	E	13,640	0.66	D	1,020	
Reed Canal Rd.	Sauls St. to US 1	1564			County	Yes	0.90	2	35	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	11,010	10,390	10,460	10,860	8,780	9,280	8,850	8,570	8,080	8,000	E	13,640	0.59	D	1,020	
Reed Ellis Rd.	Enterprise-Osteen Rd. to SR 415	1571			County	Yes	2.10	2	45	E+W	TA NSSRC1 2W 2L U 0L	n/c	1,700	1,650	1,660	1,450	1,470	1,510	1,470	1,510	1,510	1,640	E	13,640	0.12	C	1,120	
Retta St.	Grand Ave. to US 17	1580			County	Yes	0.15	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Collector	850	910	860	880	860	890	840	750	730	770	E	13,640	0.06	C	1,020	
Reynolds Rd.	US 17 to SR 11	1590			County	Yes	4.40	2	35	E+W	RUA UFH 2W 2L U 0L	Urban & Rural Local	1,630	1,570	1,420	1,320	1,360	1,450	1,410	1,160	1,250	1,240	E	6,300	0.20	B	2,030	
Rhode Island Ave.	Westside Connector to Sparkman Ave	1598			County	Yes	1.00	2	35	E+W	UA NSSRC2 2W 2L D WL	n/c	-	-	-	-	-	-	4,520	5,360	5,140	5,780	E	14,740	0.39	C	1,330	
Rhode Island Ave.	Sparkman Ave to Carpenter Ave	1599			County	Yes	1.00	2	35	E+W	UA NSSRC2 2W 2L D WL	n/c	-	-	-	-	-	-	6,360	7,000	6,480	6,890	E	14,740	0.47	C	1,330	
Rhode Island Ave.	Carpenter Ave to US 17/92	1600			County	Yes	1.00	2	35	E+W	UA NSSRC2 2W 2L D WL	n/c	-	-	-	-	-	-	6,540	7,080	6,280	6,350	E	14,740	0.43	C	1,330	
Rhode Island Ave.	US 17/92 to Veteran's Memorial Pkwy	1601			City	No	2.80	2	40	E+W	UA NSSRC1 2W 2L U 0L	Urban Collector	6,710	8,110	8,240	9,010	8,040	7,060	7,280	8,990	8,790	8,650	E	13,640	0.63	C	1,230	
Rhode Island Ave.	Veteran's Memorial Pkwy. to Normandy				County	Yes	1.80	0		E+W	UA NSSRC1 2W 2L U 0L	n/c	-	-	-	-	-	-	-	-	-	-	E	13,640	-	-	1,230	
Riley Pridgen Rd.	Peterson Rd. to SR 40	1610			County	No	2.55	2	35	N+S	RUA UFH 2W 2L U 0L	Rural Local	320	870	910	1,080	410	430	490	480	450	450	C	6,300	0.07	B	590	
River Dr.	John Anderson Dr. to SR A1A	1621			County	No	0.50	2	30	E+W	UA NSSRC2 2W 2L U 0L	Urban Local	400	330	360	420	230	270	270	310	290	340	E	13,640	0.02	C	1,020	
Riverside Dr. (NSB)	SR 44 (N. Causeway) to SR A1A (S. Ca	1635			City	No	0.20	2	25	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	3,060	4,200	4,040	3,670	4,160	3,850	2,600	3,640	3,800	-	E	13,640	-	-	1,020	
Halifax/Riverside Dr. (PO)	Dunlawton Ave. to Commonwealth Ave	804			City	No	1.55	2	25	N+S	UA NSSRC2 2W 2L U 0L	Urban Collector	1,320	1,230	1,400													

Volusia County 2013 Average Annual Daily Traffic & Historical Counts

Road Name	Limits (From - To)	Count Station Number	2013 SIS Facility	Cycle 10-2 2013 Evacuation Route	Roadway Maintaining Agency	2013 Roadway on County's Thoroughfare	Distance (in miles)	2013 No. of Lanes	Posted Speed	Direction	2013 Facility Type	2000 Federal Functional Classification	2004 AADT	2005 AADT	2006 AADT	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2013 Vol. Co. Allowable LOS	DAILY 2013 LOS Capacity	DAILY 2013 V/C Ratio	DAILY 2013 LOS	PEAK 2Way 2013 LOS Capacity	
Sugar Mill Dr.	Pioneer Tr. to SR 44	1781			County	Yes	1.30	2	45	N+S	UA NSSRC1 2W 2L U OL	n/c	2,580	3,240	3,130	2,760	2,370	2,520	2,450	2,370	2,450	2,760	E	13,640	0.20	C	1,230	
Summit Ave.	SR 44 to Main St.	1791			County	Yes	2.20	2	50	N+S	UA NSSRC1 2W 2L U OL	Urban Minor Arterial	4,640	3,000	2,980	3,180	4,690	4,660	5,630	5,280	4,780	4,430	E	13,640	0.32	C	1,230	
Surfside Dr.	John Anderson Dr. to SR A1A	1801			County	No	0.35	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Local	410	430	340	370	370	330	450	350	340	300	E	13,640	0.02	C	1,020	
Taylor Rd. (CO)	Tomoka Farms Rd. to Spruce Creek Blvd	1810		Yes	County	Yes	0.70	2	45	E+W	UA NSSRC1 2W 2L U WL	Urban Principal Arterial - Other	7,620	8,390	8,670	8,520	7,460	5,800	7,510	7,170	6,890	7,110	E	17,050	0.42	C	1,540	
Taylor Rd. (CO)	Spruce Creek Blvd. to Crane Lake Blvd.	1811		Yes	County	Yes	1.10	2	50	E+W	UA NSSRC1 2W 2L U WL	Urban Principal Arterial - Other	11,140	12,400	12,770	12,460	10,860	10,700	10,610	9,790	9,660	9,570	E	17,050	0.56	C1,540	1,540	
Taylor Rd. (CO)	Crane Lake Blvd. to Summertree Rd.	1812		Yes	County	Yes	0.75	2	50	E+W	UA NSSRC1 2W 2L U WL	Urban Principal Arterial - Other	15,500	18,890	19,390	18,660	16,670	13,880	14,280	14,570	14,300	14,010	E	17,050	0.82	C	1,540	
Taylor Rd. (CO)	Summertree Rd. to Williamson Blvd.	1813		Yes	County	Yes	0.20	4	45	E+W	UA NSSRC1 2W 4L D WL	Urban Principal Arterial - Other	16,980	20,590	20,960	20,330	-	16,340	14,630	15,190	14,600	13,700	E	37,970	0.36	C	3,410	
Taylor Rd. (CO)	Williamson Blvd. to I-95 (at Dunlawton A	1814		Yes	County	Yes	0.15	5	45	E+W	UA NSSRC1 2W 5L D WL	Urban Principal Arterial - Other	30,510	37,390	38,740	37,180	33,230	33,660	36,960	36,170	38,000	35,490	E	47,560	0.75	C	4,280	
Taylor Rd. (PO)	Dunlawton Ave. to Clyde Morris Blvd.	1823			County	Yes	0.55	2	35	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	11,590	14,160	14,300	12,910	13,480	12,880	12,860	12,980	12,840	12,270	E	13,640	0.90	E	1,020	
Taylor Rd. (PO)	Clyde Morris Blvd. to Hensel Rd	1824			County	Yes	0.50	4	45	E+W	UA NSSRC1 2W 4L D WL	Urban Collector	18,850	21,300	21,810	19,460	19,670	19,620	18,590	19,530	19,350	18,280	E	37,970	0.48	C	3,410	
Taylor Rd. (PO)	Hensel Rd. Spruce Creek Rd.	1826			County	Yes	1.00	4	45	E+W	UA NSSRC1 2W 4L D WL	Urban Collector	15,180	17,420	18,110	14,980	16,620	15,720	15,270	15,600	15,050	14,330	E	37,970	0.38	C	3,410	
Taylor Rd. (DL)	US 17/92 to Stratford Dr.	1816			County	Yes	0.80	2	35	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	5,680	5,770	5,500	5,680	6,590	6,240	5,820	5,740	6,090	5,690	E	13,640	0.42	D	1,020	
Taylor Rd. (DL)	Stratford Dr. to Blue Lake Ave.	1818			County	Yes	0.95	2	50	E+W	UA NSSRC1 2W 2L U WL	Urban Collector	4,290	4,520	4,130	4,280	5,490	5,180	4,710	4,750	5,070	4,780	E	17,050	0.28	C	1,540	
Taylor Rd. (DL)	Blue Lake Ave. to Martin Luther King Blt	1819			County	Yes	0.80	2	50	E+W	UA NSSRC1 2W 2L U WL	Urban Collector	3,800	4,280	3,960	4,120	5,180	4,790	4,590	4,730	4,960	4,810	E	13,640	0.35	C	1,230	
Taylor Rd. (NSB)	Glencoe Rd. to Mission Rd	1821			County	No	0.75	2	30	E+W	UA NSSRC2 2W 2L U OL	n/c	1,550	1,770	1,450	1,590	1,550	1,340	1,480	1,550	1,500	1,590	E	13,640	0.12	C	1,020	
Tivoli Dr.	Saxon Blvd. to Providence Blvd	DLT-125.020			City	No	0.85	2	30	N+S	UA NSSRC2 2W 2L U OL	Urban Collector	12,590	12,890	-	12,272	13,736	-	-	-	-	-	11,070	E	13,640	0.81	E	1,020
Tomoka Farms Rd.	LPGA Blvd. (north end) to Dunn Ave.	1849			County	Yes	1.90	2	40	N+S	UA UFH 2W 2L U OL	n/c	3,730	4,040	4,090	3,630	3,700	3,390	3,810	3,770	4,000	-	E	24,975	-	-	2,240	
Tomoka Farms Rd.	Dunn Ave. to US 92	1848			County	Yes	1.90	2	40	N+S	UA UFH 2W 2L U OL	n/c	1,840	1,830	1,890	2,470	2,660	3,080	3,350	4,380	5,070	E	24,975	0.20	B	2,240		
Tomoka Farms Rd.	US 92 to Shunz Rd.	1847			County	Yes	3.02	2	40	N+S	UA UFH 2W 2L U OL	Urban Minor Arterial	6,170	6,410	6,740	6,560	7,200	6,110	5,920	5,300	5,780	6,030	E	24,975	0.24	B	2,240	
Tomoka Farms Rd.	Shunz Rd. to Townwest Blvd	1845			County	Yes	1.50	2	50	N+S	UA UFH 2W 2L U OL	Urban Minor Arterial	4,980	5,840	6,160	4,960	5,470	4,910	5,470	5,870	5,780	6,210	E	24,975	0.25	B	2,240	
Tomoka Farms Rd.	Townwest Blvd to Taylor Rd.	1844			County	Yes	1.45	2	50	N+S	UA UFH 2W 2L U OL	Urban Minor Arterial	5,770	6,480	6,800	5,030	6,550	5,500	5,970	5,870	5,720	6,150	E	24,975	0.25	B	2,240	
Tomoka Farms Rd.	Taylor Rd. to Pioneer Tr.	1843		Yes	County	Yes	2.80	2	50	N+S	UA UFH 2W 2L U OL	Urban Minor Arterial	8,140	8,520	8,650	9,050	9,590	7,910	9,180	9,330	8,810	9,790	E	24,975	0.39	C	2,240	
Tomoka Farms Rd.	Pioneer Tr to SR 44	1840		Yes	County	Yes	2.20	2	50	N+S	RDA UFH 2W 2L U OL	Rural Minor Arterial	5,840	5,310	5,550	5,260	6,740	5,000	4,700	4,510	5,110	5,260	C	12,300	0.43	B	1,160	
Town West Blvd	Tomoka Farms Rd. to Williamson Blvd	1850			City	No	1.59	2	40	E+W	UA NSSRC1 2W 2L D WL	n/c	-	-	-	-	-	14,200	3,240	3,570	3,920	4,370	E	17,900	0.24	C	1,620	
Tumbull Bay Rd.	Pioneer Tr. to Williams Rd.	1863			County	Yes	2.90	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	2,870	3,120	3,130	3,290	3,020	3,210	3,340	2,950	2,900	2,860	E	13,640	0.21	C	1,230	
Tumbull Bay Rd.	Williams Rd. to Industrial Park Ave.	1865			County	Yes	1.20	2	45	N+S	UA NSSRC1 2W 2L U OL	Urban Collector	3,580	4,130	3,640	4,030	3,810	3,140	3,350	3,080	3,100	3,140	E	13,640	0.23	C	1,230	
Tumbull Bay Rd.	Industrial Park Ave. to US 1	1867			County	Yes	0.85	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	4,940	4,810	4,550	4,790	4,560	4,510	4,720	4,090	3,890	3,910	E	13,640	0.29	C	1,020	
Tymber Creek Rd.	Broadway Ave./US 1 to Airport Rd	1883			County	Yes	4.20	2	40	N+S	TA NSSRC1 2W 2L U OL	n/c	1,380	1,440	2,090	2,350	1,450	1,580	1,820	1,750	1,780	1,850	E	13,640	0.14	C	1,120	
Tymber Creek Rd.	Airport Rd. to Tymber Run	1882			County	Yes	0.90	2	40	N+S	UA NSSRC1 2W 2L U WL	Urban Collector	8,960	8,980	8,980	9,930	7,290	8,440	8,240	8,000	8,280	7,870	E	17,050	0.46	C	1,540	
Tymber Creek Rd.	Tymber Run to SR 40	1881			County	Yes	0.50	2	40	N+S	UA NSSRC1 2W 2L U WL	Urban Collector	13,910	13,910	13,990	15,090	13,020	13,470	12,320	12,880	13,400	12,670	E	17,050	0.74	C	1,540	
Tymber Creek Rd.	SR 40 to Riverbend Rd.	1880			County	Yes	0.45	2	30	N+S	UA NSSRC2 2W 2L U WL	n/c	1,020	1,030	840	930	820	670	740	770	680	740	E	13,640	0.05	C	1,020	
Van Ave.	Peninsula Dr. to SR A1A	1890			County	No	0.20	2	25	E+W	UA NSSRC2 2W 2L U OL	n/c	520	620	580	700	660	500	420	630	630	550	E	13,640	0.04	C	1,020	
Volco Rd.	Cow Creek Rd. to Beacon Light Rd.	1920			County	Yes	2.50	2	30	N+S	RUA UFH 2W 2L U OL	n/c	320	290	260	230	240	150	220	270	220	230	C	6,300	0.04	B	590	
Volco Rd.	Beacon Light Rd. to 35th St.	1921			County	Yes	1.40	2	45	N+S	TA NSSRC1 2W 2L U OL	Rural & Urban Local	360	420	370	330	390	410	400	460	420	480	E	13,640	0.04	C	1,120	
Volco Rd.	35th St. to US 1	1922			County	Yes	0.50	2	35	E+W	UA NSSRC2 2W 2L U OL	Urban Local	1,690	1,780	1,640	1,470	1,410	1,820	1,420	1,860	1,840	1,930	E	13,640	0.14	C	1,020	
Voorhis Ave.	US 17/92 to Amelia Ave.	1931			County	Yes	0.20	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	5,090	5,230	5,000	5,300	4,130	4,030	3,780	3,940	3,670	3,560	E	13,640	0.26	C	1,020	
Voorhis Ave.	Amelia Ave. to Hill Ave.	1933			County	Yes	1.00	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	3,190	3,440	3,430	3,860	3,240	3,260	3,000	3,060	3,000	2,780	E	13,640	0.20	C	1,020	
Voorhis Ave.	Hill Ave. to Blue Lake Ave.	1934			County	Yes	0.50	2	35	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	3,150	3,390	3,200	3,760	3,100	3,130	2,960	3,030	3,070	2,790	E	13,640	0.20	C	1,020	
Voorhis Ave.	Blue Lake Ave. to SR 44	1935			County	Yes	0.50	2	35	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	3,350	3,390	3,420	3,770	3,200	3,500	3,130	3,340	3,280	3,110	E	13,640	0.23	C	1,020	
Walter Boardman Ln.	Old Dixie Hwy. to Highbridge Rd.	1960			County	Yes	1.20	2	30	E+W	TA UFH 2W 2L U OL	Rural Major Collector	3,180	3,330	2,740	2,830	2,590	2,920	2,630	2,390	2,730	2,270	E	24,975	0.09	B	2,240	
Wayne Ave. (NSB)	Halleck St. to US 1	1970			County	Yes	1.00	2	30	E+W	UA NSSRC2 2W 2L U OL	Urban Collector	6,030	6,030	6,380	6,200	6,400	6,400	6,430	6,390	5,970	6,010	E	13,640	0.44	D	1,020	
Westside Parkway (new/Fatio)	ex. termini south of SR 44 to Beresford A	1979			County	Yes	1.00	2	40	N+S	UA NSSRC1 2W 2L U OL	n/c	160	130	190	190	-	90	110	80	120	80	E	13,640	0.01	C	1,230	
Westside Parkway (Fatio Rd.)	Beresford Ave. to McGregor Rd.	1978			County	Yes	2.00	2	40	N+S	UA NSSRC1 2W 2L U OL	Urban Local	1,430	1,570	1,570	1,650	1,640	1,500	1,370	1,450	1,470	1,460						

Roadway Count Summary

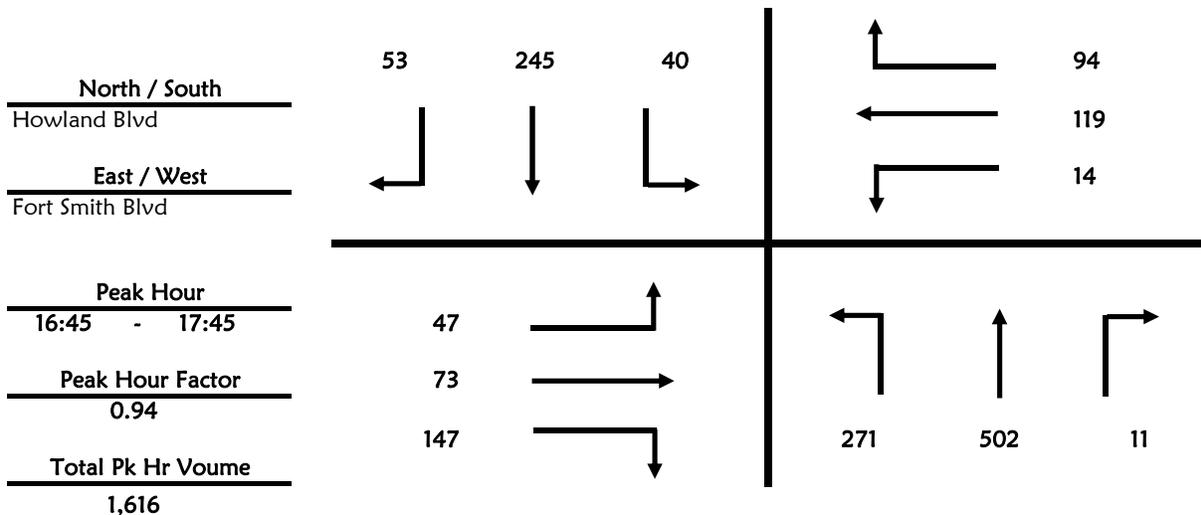
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Blvd & Fort Smith Blvd
Date April 15, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	55	96	8	10	63	15
16:15 - 16:30	45	86	4	5	58	11
16:30 - 16:45	55	130	5	16	65	11
16:45 - 17:00	71	121	0	10	61	12
17:00 - 17:15	82	123	6	13	72	7
17:15 - 17:30	61	118	3	6	43	17
17:30 - 17:45	57	140	2	11	69	17
17:45 - 18:00	66	105	4	10	63	6
	492	919	32	81	494	96

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	12	19	46	4	19	13
16:15 - 16:30	10	22	45	2	21	9
16:30 - 16:45	15	22	47	2	28	15
16:45 - 17:00	19	21	40	4	36	22
17:00 - 17:15	9	19	30	6	19	15
17:15 - 17:30	11	12	37	0	30	29
17:30 - 17:45	8	21	40	4	34	28
17:45 - 18:00	7	13	40	2	31	18
	91	149	325	24	218	149



Roadway Count Summary

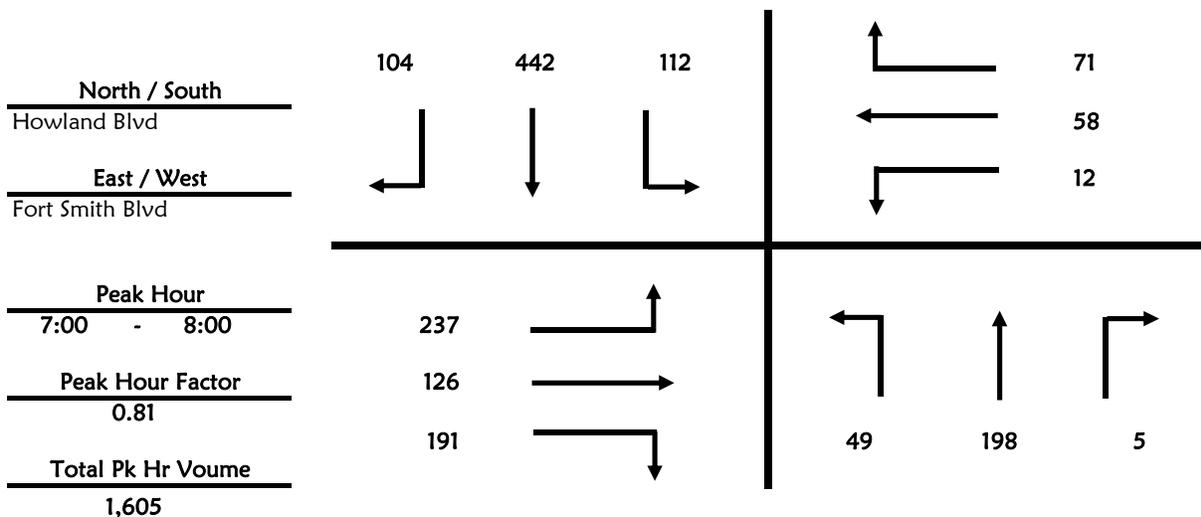
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Blvd & Fort Smith Blvd
Date April 15, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	9	55	3	20	118	22
7:15 - 7:30	11	54	1	33	119	49
7:30 - 7:45	13	55	0	37	129	25
7:45 - 8:00	16	34	1	22	76	8
8:00 - 8:15	23	38	1	15	81	23
8:15 - 8:30	33	36	0	10	98	19
8:30 - 8:45	33	49	4	9	91	15
8:45 - 9:00	23	32	0	8	60	9
	161	353	10	154	772	170

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	81	36	43	4	14	21
7:15 - 7:30	93	45	51	1	19	21
7:30 - 7:45	38	25	62	3	13	18
7:45 - 8:00	25	20	35	4	12	11
8:00 - 8:15	25	19	46	2	9	9
8:15 - 8:30	19	20	41	1	10	14
8:30 - 8:45	10	16	32	1	5	7
8:45 - 9:00	9	17	31	3	9	7
	300	198	341	19	91	108



Roadway Count Summary

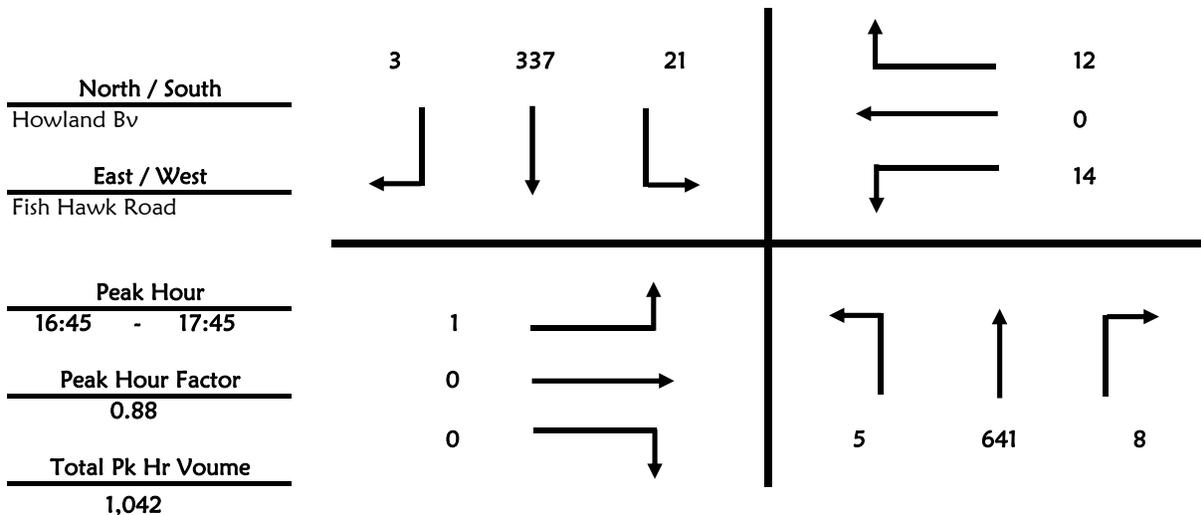
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Bv & Fish Hawk Road
Date April 15, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	118	4	8	81	0
16:15 - 16:30	1	124	2	2	72	1
16:30 - 16:45	0	158	3	7	105	0
16:45 - 17:00	3	144	5	8	85	0
17:00 - 17:15	0	155	3	5	88	0
17:15 - 17:30	1	163	0	2	68	1
17:30 - 17:45	1	179	0	6	96	2
17:45 - 18:00	0	141	0	4	83	2
	7	1,182	17	42	678	6

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	10	0	5
16:15 - 16:30	2	0	2	4	0	2
16:30 - 16:45	0	0	0	3	0	6
16:45 - 17:00	0	0	0	1	0	5
17:00 - 17:15	0	0	0	2	0	3
17:15 - 17:30	0	0	0	4	0	0
17:30 - 17:45	1	0	0	7	0	4
17:45 - 18:00	1	0	1	0	0	0
	4	0	3	31	0	25



Roadway Count Summary

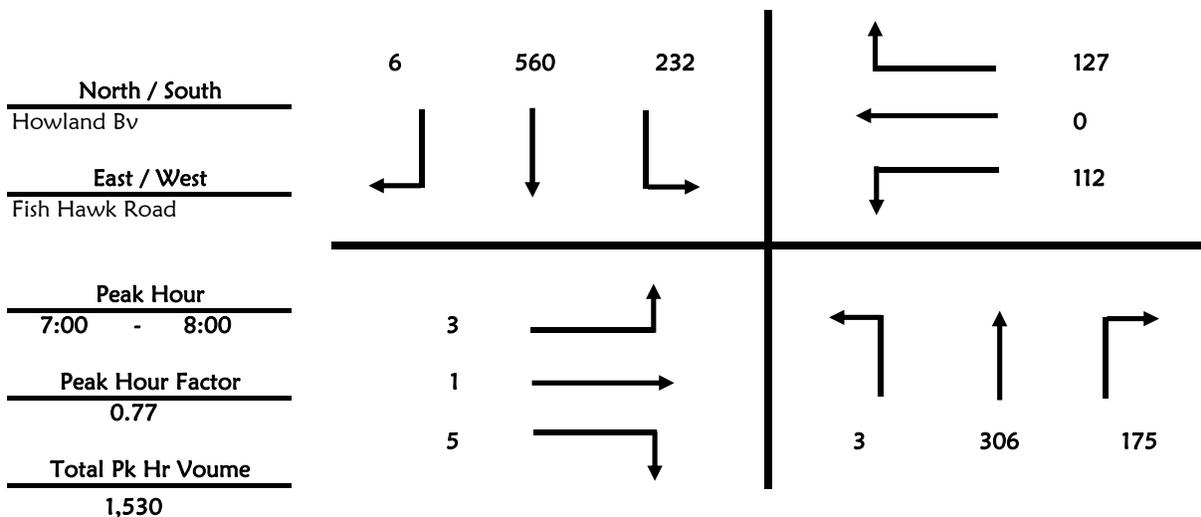
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Bv & Fish Hawk Road
Date April 15, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	49	65	94	141	2
7:15 - 7:30	1	86	70	84	140	3
7:30 - 7:45	1	109	27	32	165	1
7:45 - 8:00	0	62	13	22	114	0
8:00 - 8:15	0	58	14	23	119	1
8:15 - 8:30	1	80	5	11	135	0
8:30 - 8:45	0	81	4	5	108	0
8:45 - 9:00	0	48	5	3	78	0
	4	573	203	274	1,000	7

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	1	29	0	44
7:15 - 7:30	1	0	3	54	0	54
7:30 - 7:45	1	0	1	17	0	17
7:45 - 8:00	0	1	0	12	0	12
8:00 - 8:15	0	0	0	11	0	16
8:15 - 8:30	0	0	1	6	0	8
8:30 - 8:45	1	0	0	0	0	5
8:45 - 9:00	0	0	1	1	0	3
	4	1	7	130	0	159



Roadway Count Summary

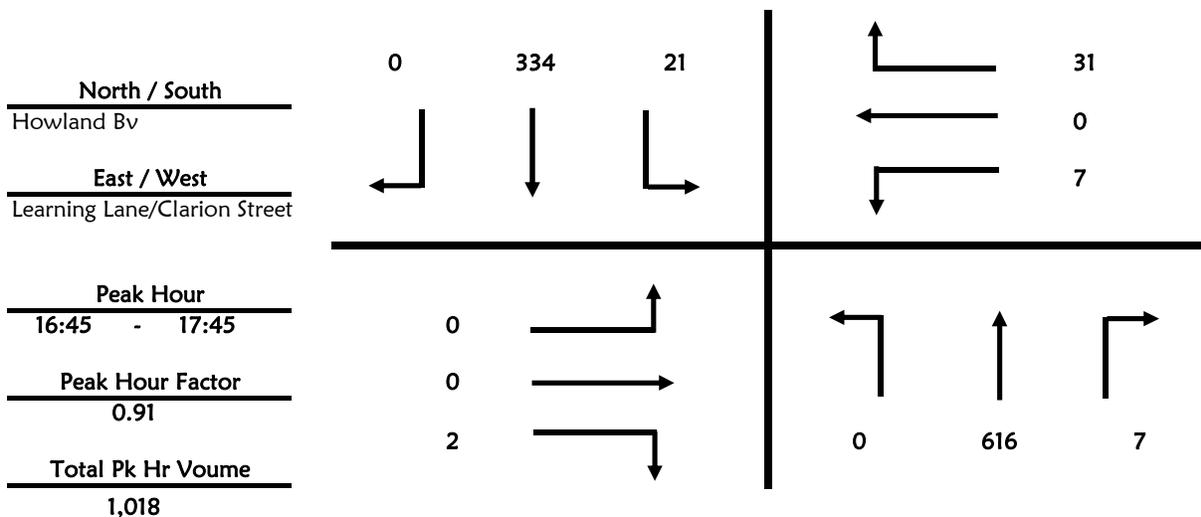
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Bv & Learning Lane/Clarion Street
Date April 15, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	112	3	3	67	0
16:15 - 16:30	0	121	3	5	71	0
16:30 - 16:45	2	165	3	2	89	0
16:45 - 17:00	0	143	4	3	77	0
17:00 - 17:15	0	145	0	7	95	0
17:15 - 17:30	0	158	3	8	70	0
17:30 - 17:45	0	170	0	3	92	0
17:45 - 18:00	0	128	0	0	81	0
	3	1,142	16	31	642	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	2	0	11
16:15 - 16:30	0	0	0	2	0	4
16:30 - 16:45	0	0	0	4	0	5
16:45 - 17:00	0	0	1	2	0	7
17:00 - 17:15	0	0	0	1	0	8
17:15 - 17:30	0	0	0	3	0	4
17:30 - 17:45	0	0	1	1	0	12
17:45 - 18:00	0	0	1	1	0	2
	0	0	3	16	0	53



Roadway Count Summary

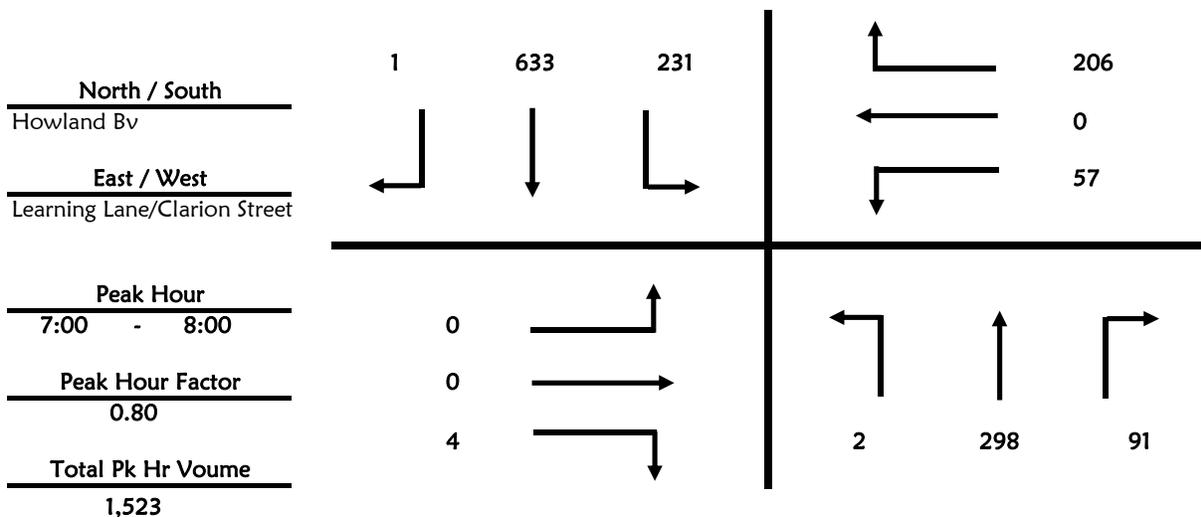
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Bv & Learning Lane/Clarion Street
Date April 15, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	68	15	35	208	0
7:15 - 7:30	0	93	30	56	176	1
7:30 - 7:45	0	84	36	111	146	0
7:45 - 8:00	0	53	10	29	103	0
8:00 - 8:15	0	50	5	6	123	1
8:15 - 8:30	0	65	0	3	110	0
8:30 - 8:45	0	81	1	0	93	0
8:45 - 9:00	0	52	0	1	76	0
	2	546	97	241	1,035	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	3	0	10
7:15 - 7:30	0	0	2	7	0	52
7:30 - 7:45	0	0	1	19	0	80
7:45 - 8:00	0	0	1	28	0	64
8:00 - 8:15	0	0	2	3	0	7
8:15 - 8:30	0	0	2	2	0	4
8:30 - 8:45	0	0	1	0	0	2
8:45 - 9:00	0	0	0	2	0	0
	0	0	9	64	0	219



Roadway Count Summary

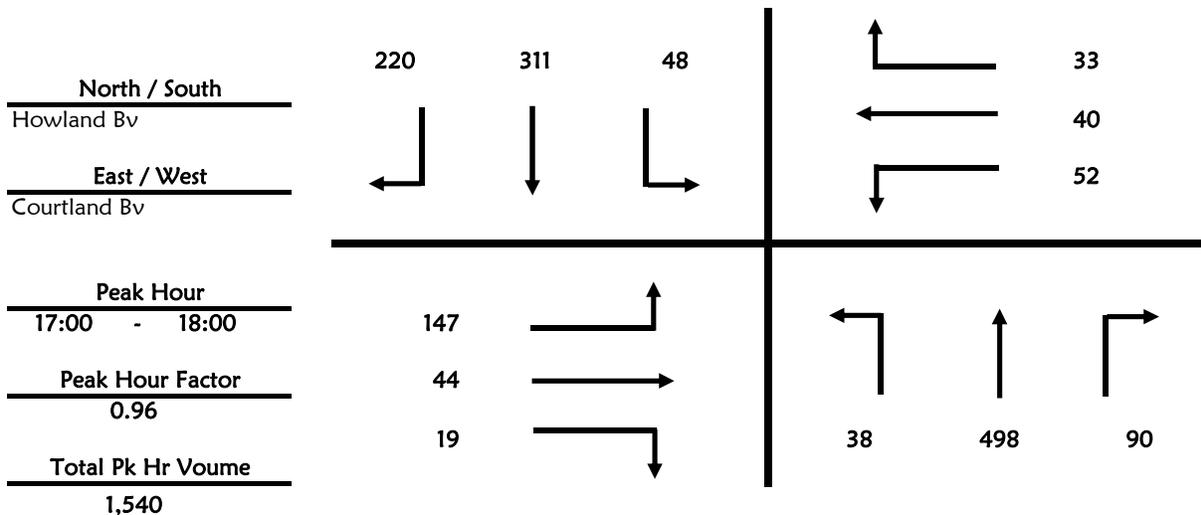
GMB Engineers & Planners, Inc.

County Volusia **City** Deltona
Intersection Howland Bv & Courtland Bv
Date April 15, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 14-062.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	8	108	16	7	61	45
16:15 - 16:30	5	96	16	7	61	44
16:30 - 16:45	6	127	18	10	78	41
16:45 - 17:00	18	119	22	10	61	43
17:00 - 17:15	9	129	18	15	86	43
17:15 - 17:30	9	134	22	13	73	59
17:30 - 17:45	12	129	27	8	81	62
17:45 - 18:00	8	106	23	12	71	56
	75	948	162	82	572	393

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	50	23	8	10	16	9
16:15 - 16:30	33	14	3	10	13	5
16:30 - 16:45	45	12	7	12	13	10
16:45 - 17:00	28	14	3	16	10	10
17:00 - 17:15	30	11	7	10	11	9
17:15 - 17:30	32	11	6	13	14	10
17:30 - 17:45	45	7	5	13	7	6
17:45 - 18:00	40	15	1	16	8	8
	303	107	40	100	92	67



COUNTY: 79
 STATION: 7049
 DESCRIPTION: HOWLAND BLVD., PROVIDENCE BLVD. TO ELKCAM BLVD. (H
 START DATE: 07/23/2013
 START TIME: 0700

TIME	DIRECTION: E					DIRECTION: W					COMBINED TOTAL	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL		
0000	8	7	6	4	25	4	6	2	2	14	39	
0100	5	6	5	6	22	1	7	3	2	13	35	
0200	8	6	9	4	27	4	1	1	1	7	34	
0300	3	2	9	10	24	2	1	1	0	4	28	
0400	7	7	16	27	57	0	1	1	8	10	67	
0500	29	40	55	62	186	5	3	6	9	23	209	
0600	87	101	136	112	436	15	16	24	26	81	517	
0700	127	191	200	194	712	34	47	57	58	196	908	
0800	155	154	148	128	585	64	62	70	65	261	846	
0900	88	112	115	123	438	64	55	66	51	236	674	
1000	101	94	102	103	400	64	52	56	78	250	650	
1100	79	105	113	88	385	81	76	110	88	355	740	
1200	91	99	102	107	399	67	75	77	55	274	673	
1300	85	93	91	116	385	77	93	74	82	326	711	
1400	76	98	104	79	357	72	95	66	74	307	664	
1500	64	73	78	69	284	84	87	68	88	327	611	
1600	75	82	92	84	333	100	108	119	99	426	759	
1700	89	81	90	73	333	115	137	166	158	576	909	
1800	96	103	69	66	334	131	108	129	106	474	808	
1900	67	70	61	79	277	82	66	77	68	293	570	
2000	32	54	51	37	174	87	71	65	42	265	439	
2100	37	50	47	39	173	38	52	61	52	203	376	
2200	38	33	29	14	114	37	23	9	18	87	201	
2300	12	21	19	14	66	19	14	14	8	55	121	
24-HOUR TOTALS:					6526						5063	11589

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	740	800	261	715	966
P.M.	1200	399	1715	592	1715	932
DAILY	715	740	1715	592	715	966

TRUCK PERCENTAGE 2.96 9.66 5.88

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
E	6	4922	1405	39	71	4	3	50	6	2	12	2	4	0	0	193	6526
W	54	3763	757	172	68	28	7	46	78	9	10	8	63	0	0	489	5063

2013 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7900 VOLUSIA COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.95 PSCF
1	01/01/2013 - 01/05/2013	1.02	1.07
2	01/06/2013 - 01/12/2013	1.02	1.07
3	01/13/2013 - 01/19/2013	1.02	1.07
4	01/20/2013 - 01/26/2013	1.00	1.05
5	01/27/2013 - 02/02/2013	0.99	1.04
* 6	02/03/2013 - 02/09/2013	0.97	1.02
* 7	02/10/2013 - 02/16/2013	0.96	1.01
* 8	02/17/2013 - 02/23/2013	0.95	1.00
* 9	02/24/2013 - 03/02/2013	0.94	0.99
*10	03/03/2013 - 03/09/2013	0.93	0.98
*11	03/10/2013 - 03/16/2013	0.93	0.98
*12	03/17/2013 - 03/23/2013	0.92	0.97
*13	03/24/2013 - 03/30/2013	0.93	0.98
*14	03/31/2013 - 04/06/2013	0.95	1.00
*15	04/07/2013 - 04/13/2013	0.96	1.01
*16	04/14/2013 - 04/20/2013	0.97	1.02
*17	04/21/2013 - 04/27/2013	0.98	1.03
*18	04/28/2013 - 05/04/2013	0.99	1.04
19	05/05/2013 - 05/11/2013	0.99	1.04
20	05/12/2013 - 05/18/2013	1.00	1.05
21	05/19/2013 - 05/25/2013	1.01	1.06
22	05/26/2013 - 06/01/2013	1.02	1.07
23	06/02/2013 - 06/08/2013	1.03	1.08
24	06/09/2013 - 06/15/2013	1.03	1.08
25	06/16/2013 - 06/22/2013	1.04	1.09
26	06/23/2013 - 06/29/2013	1.05	1.11
27	06/30/2013 - 07/06/2013	1.05	1.11
28	07/07/2013 - 07/13/2013	1.06	1.12
29	07/14/2013 - 07/20/2013	1.06	1.12
30	07/21/2013 - 07/27/2013	1.06	1.12
31	07/28/2013 - 08/03/2013	1.05	1.11
32	08/04/2013 - 08/10/2013	1.05	1.11
33	08/11/2013 - 08/17/2013	1.04	1.09
34	08/18/2013 - 08/24/2013	1.04	1.09
35	08/25/2013 - 08/31/2013	1.03	1.08
36	09/01/2013 - 09/07/2013	1.03	1.08
37	09/08/2013 - 09/14/2013	1.03	1.08
38	09/15/2013 - 09/21/2013	1.03	1.08
39	09/22/2013 - 09/28/2013	1.02	1.07
40	09/29/2013 - 10/05/2013	1.02	1.07
41	10/06/2013 - 10/12/2013	1.01	1.06
42	10/13/2013 - 10/19/2013	1.00	1.05
43	10/20/2013 - 10/26/2013	1.00	1.05
44	10/27/2013 - 11/02/2013	1.01	1.06
45	11/03/2013 - 11/09/2013	1.01	1.06
46	11/10/2013 - 11/16/2013	1.02	1.07
47	11/17/2013 - 11/23/2013	1.02	1.07
48	11/24/2013 - 11/30/2013	1.02	1.07
49	12/01/2013 - 12/07/2013	1.02	1.07
50	12/08/2013 - 12/14/2013	1.02	1.07
51	12/15/2013 - 12/21/2013	1.02	1.07
52	12/22/2013 - 12/28/2013	1.02	1.07
53	12/29/2013 - 12/31/2013	1.02	1.07

* PEAK SEASON

18-FEB-2014 08:46:30

830UPD

5_7900_PKSEASON.TXT

Appendix “C”

Signal Timings

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

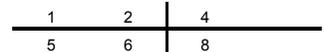
LOCATION: <u>Howland Blvd & Pine Ridge HS</u>	ISOLATED: <input checked="" type="checkbox"/>	DATE: <u>5/10/2012</u>
<u>Deltona</u>		
SIGNAL #: <u>335</u>	CO-ORD: <input type="checkbox"/>	Design By: <u>M. Rodriguez</u>
System #: <u>-</u>		

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8	
DIRECTION	SBL	NB	-	EB	NBL	SB	-	WB	
TURN TYPE	PERM/PROT	-	-	-	PERM/PROT	-	-	-	
MIN GREEN	5	17		7	5	17		7	
EXTENSION	3	3		3	3	3		3	
CLEARANCE	4.5	4.5		4.0	4.5	4.5		4.0	
ALL RED	2.0	2.0		3.0	2.0	2.0		3.0	
WALK	-	7		7	-	7		7	
FDW	-	18		20	-	18		20	
MAX 1	25	35		30	25	35		30	
MAX 2	45	45		45	45	45		45	
MAX 3	45	-		-	-	-		45	
ADJUST	10	-		-	-	-		10	
RECALL	-	MIN		-	-	MIN		-	
DETECTOR	NON-LOCK	LOCK		NON-LOCK	NON-LOCK	LOCK		NON-LOCK	
FLASH	-	YELLOW		RED	-	YELLOW		RED	
SET	1	-		-	-	-		1	
CLEAR	2	-		-	-	-		2	
BASE DAY	1	2	3	4	5	6	7		
									Crosswalk Length
MON #1	TIME 00:01-06:30	06:30-08:30	08:30-00:00						P2
	PLAN FREE / MAX 1	FREE / MAX 2	FREE / MAX 1						
TUES#1	TIME 00:01-06:30	06:30-08:30	08:30-00:00						56 Feet
	PLAN FREE / MAX 1	FREE / MAX 2	FREE / MAX 1						
WED #1	TIME 00:01-06:30	06:30-08:30	08:30-00:00						P4
	PLAN FREE / MAX 1	FREE / MAX 2	FREE / MAX 1						
THU #1	TIME 00:01-06:30	06:30-08:30	08:30-00:00						68 Feet
	PLAN FREE / MAX 1	FREE / MAX 2	FREE / MAX 1						
FRI #1	TIME 00:01-06:30	06:30-08:30	08:30-00:00						P6
	PLAN FREE / MAX 1	FREE / MAX 2	FREE / MAX 1						
SAT #2	TIME 00:01-00:00								60 Feet
	PLAN FREE								
SUN #3	TIME 00:01-00:00								P8
	PLAN FREE								
CONTROLLER TYPE	CONDITION OF OVERHEAD			OK		PROM NUMBER			P8
1880 EL	OVERHEAD STREET NAMES			YES					68 Feet
PHASES:	8Φ	ILLUMINATED STREET NAMES			NO		92R09		SIGNAL OWNER ⁴
CABINET TYPE	V	PRE-EMPTION			NO		IP ADDRESS		County
CABINET DATE	07/1995	PRE-EMPTION TYPE			N/A		-		LED YES

REMARKS:

Omit PH 1 when PH 2 is Active
 Omit PH 5 when PH 6 is Active



COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: Howland Blvd & Courtland Blvd
Deltona

ISOLATED: X

DATE: 5/16/2012

SIGNAL #: 318

CO-ORD:

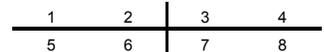
Design By: M. Rodriguez

System #: -

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8	
DIRECTION	WBL	EB	NBL	SB	EBL	WB	SBL	NB	
TURN TYPE	PERM/PROT	-	PERM/PROT	-	PERM/PROT	-	PERM/PROT	-	
MIN GREEN	5	7	5	6	5	7	5	6	
EXTENSION	3	3	3	4	3	3	3	4	
CLEARANCE	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0	
ALL RED	2.5	2.5	3.0	3.0	2.5	2.5	3.0	3.0	
WALK	-	10	-	10	-	10	-	10	
FDW	-	18	-	23	-	18	-	23	
MAX 1	20	35	20	20	20	35	20	20	
MAX 2	-	-	-	-	-	-	-	-	
MAX 3	-	-	-	-	-	-	-	-	
ADJUST	-	-	-	-	-	-	-	-	
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	-	-	-	-	-	-	-	-	
BASE DAY	1	2	3	4	5	6	7		
									Crosswalk Length
MON #1	TIME	00:01-00:00							P2
	PLAN	FREE							
TUES#1	TIME	00:01-00:00							62 Feet
	PLAN	FREE							
WED #1	TIME	00:01-00:00							P4
	PLAN	FREE							
THU #1	TIME	00:01-00:00							69 Feet
	PLAN	FREE							
FRI #1	TIME	00:01-00:00							P6
	PLAN	FREE							
SAT #2	TIME	00:01-00:00							59 Feet
	PLAN	FREE							
SUN #3	TIME	00:01-00:00							P8
	PLAN	FREE							
CONTROLLER TYPE		CONDITION OF OVERHEAD			New / 11-2009		PROM NUMBER		
3000E		OVERHEAD STREET NAMES			NO				80 Feet
PHASES:	8Φ	ILLUMINATED STREET NAMES			YES		8216A 3.7.3		SIGNAL OWNER ⁴
CABINET TYPE	V	PRE-EMPTION			NO		IP ADDRESS		County
CABINET DATE	-	PRE-EMPTION TYPE			N/A		-		LED YES

REMARKS:



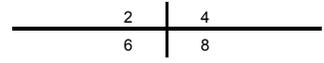
COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: Ft. Smith Blvd & Howland Blvd
Deltona **ISOLATED:** **DATE:** 5/25/2012
SIGNAL #: 267 **CO-ORD:** **Design By:** M. Rodriguez
System #: -

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8	
DIRECTION	-	NB	-	EB	-	SB	-	WB	
TURN TYPE	-	-	-	-	-	-	-	-	
MIN GREEN		17		7		17		7	
EXTENSION		3		3		3		3	
CLEARANCE		4.5		4.0		4.5		4.0	
ALL RED		2.0		2.5		2.0		2.5	
WALK		7		7		7		7	
FDW		19		22		19		22	
MAX 1		35		20		35		20	
MAX 2		35		35		35		35	
MAX 3		45		-		45		60	
ADJUST		10		-		10		10	
RECALL		MIN		-		MIN		-	
DETECTOR		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		
MON #1	TIME	00:01-06:30	06:30-20:00	20:00-00:00					Crosswalk Length
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					
TUES #1	TIME	00:01-06:30	06:30-20:00	20:00-00:00					P2
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					64 Feet
WED #1	TIME	00:01-06:30	06:30-20:00	20:00-00:00					P4
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					76 Feet
THU #1	TIME	00:01-06:30	06:30-20:00	20:00-00:00					P6
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					61 Feet
FRI #1	TIME	00:01-06:30	06:30-20:00	20:00-00:00					P8
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					75 Feet
SAT #2	TIME	00:01-06:30	06:30-20:00	20:00-00:00					P8
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					75 Feet
SUN #3	TIME	00:01-06:30	06:30-20:00	20:00-00:00					P8
	PLAN	FREE / MAX 1	FREE / MAX 2	FREE / MAX 1					75 Feet
CONTROLLER TYPE		CONDITION OF OVERHEAD			OK		PROM NUMBER		P8
1880 EL		OVERHEAD STREET NAMES			YES		92R07		75 Feet
PHASES:	8Φ	ILLUMINATED STREET NAMES			NO		IP ADDRESS		SIGNAL OWNER ⁴
CABINET TYPE	V	PRE-EMPTION			NO		IP ADDRESS		County
CABINET DATE	03/1991	PRE-EMPTION TYPE			N/A		-		LED YES

REMARKS:



Appendix “D”
SYNCHRO Intersection Summary Sheets

YR 2016 AM peak hour (57)
 3: Howland Blvd. & Fort Smith Blvd.

8/22/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	236	125	189	12	57	72	48	200	5	115	449	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.95	
Frt	1.00	0.91		1.00	0.92		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1695		1770	1706		1770	1856		1770	3437	
Flt Permitted	0.66	1.00		0.51	1.00		0.38	1.00		0.60	1.00	
Satd. Flow (perm)	1222	1695		944	1706		716	1856		1122	3437	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	291	154	233	15	70	89	59	247	6	142	554	132
RTOR Reduction (vph)	0	85	0	0	58	0	0	2	0	0	47	0
Lane Group Flow (vph)	291	302	0	15	101	0	59	251	0	142	639	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.8	13.8		13.8	13.8		13.2	13.2		13.2	13.2	
Effective Green, g (s)	13.8	13.8		13.8	13.8		13.2	13.2		13.2	13.2	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.33	0.33		0.33	0.33	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	421	584		325	588		236	612		370	1134	
v/s Ratio Prot		0.18			0.06			0.14			c0.19	
v/s Ratio Perm	c0.24			0.02			0.08			0.13		
v/c Ratio	0.69	0.52		0.05	0.17		0.25	0.41		0.38	0.56	
Uniform Delay, d1	11.3	10.4		8.7	9.1		9.8	10.4		10.3	11.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	0.8		0.1	0.1		0.6	0.4		0.7	0.6	
Delay (s)	16.1	11.2		8.8	9.3		10.3	10.8		10.9	11.7	
Level of Service	B	B		A	A		B	B		B	B	
Approach Delay (s)		13.3			9.2			10.7			11.5	
Approach LOS		B			A			B			B	

Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↖	↖	↑↑	↖
Volume (vph)	3	1	5	111	0	126	3	310	173	231	575	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.87		1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1623		1770	1583		1770	3539	1583	1770	3539	1583
Flt Permitted	0.65	1.00		0.75	1.00		0.35	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	1217	1623		1403	1583		644	3539	1583	844	3539	1583
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	4	1	6	144	0	164	4	403	225	300	747	9
RTOR Reduction (vph)	0	5	0	0	131	0	0	0	152	0	0	6
Lane Group Flow (vph)	4	2	0	144	33	0	4	403	73	300	747	3
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	11.6	11.6		11.6	11.6		24.1	19.0	19.0	29.3	21.6	21.6
Effective Green, g (s)	11.6	11.6		11.6	11.6		24.1	19.0	19.0	29.3	21.6	21.6
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.41	0.33	0.33	0.50	0.37	0.37
Clearance Time (s)	7.0	7.0		7.0	7.0		6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	242	322		279	314		364	1153	515	546	1311	586
v/s Ratio Prot		0.00			0.02		0.00	0.11		c0.07	c0.21	
v/s Ratio Perm	0.00			c0.10			0.00		0.05	0.20		0.00
v/c Ratio	0.02	0.01		0.52	0.10		0.01	0.35	0.14	0.55	0.57	0.01
Uniform Delay, d1	18.8	18.7		20.8	19.1		10.1	14.9	13.9	8.8	14.6	11.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		1.6	0.1		0.0	0.2	0.1	1.1	0.6	0.0
Delay (s)	18.8	18.7		22.5	19.2		10.1	15.1	14.0	9.9	15.2	11.6
Level of Service	B	B		C	B		B	B	B	A	B	B
Approach Delay (s)		18.8			20.7			14.7			13.7	
Approach LOS		B			C			B			B	

Intersection Summary

HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	234	45	47	253	53	30	57	388	64	27	594	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1721		1770	1761		1770	3539	1583	1770	1863	1583
Flt Permitted	0.69	1.00		0.68	1.00		0.11	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)	1287	1721		1276	1761		204	3539	1583	894	1863	1583
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	285	55	57	309	65	37	70	473	78	33	724	126
RTOR Reduction (vph)	0	43	0	0	24	0	0	0	45	0	0	74
Lane Group Flow (vph)	285	69	0	309	78	0	70	473	33	33	724	52
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	19.5	9.4		19.5	9.4		40.5	36.6	36.6	38.5	35.6	35.6
Effective Green, g (s)	19.5	9.4		19.5	9.4		40.5	36.6	36.6	38.5	35.6	35.6
Actuated g/C Ratio	0.22	0.11		0.22	0.11		0.47	0.42	0.42	0.44	0.41	0.41
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	8.0	8.0	3.0	4.0	4.0
Lane Grp Cap (vph)	344	185		343	190		165	1488	665	424	762	647
v/s Ratio Prot	0.10	0.04		c0.10	0.04		c0.02	0.13		0.00	c0.39	
v/s Ratio Perm	0.09			c0.10			0.18		0.02	0.03		0.03
v/c Ratio	0.83	0.37		0.90	0.41		0.42	0.32	0.05	0.08	0.95	0.08
Uniform Delay, d1	31.3	36.1		32.0	36.2		18.0	16.9	14.9	13.8	24.8	15.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	1.3		25.5	1.4		1.8	0.5	0.1	0.1	21.4	0.1
Delay (s)	46.4	37.3		57.5	37.7		19.8	17.4	15.0	13.9	46.3	15.8
Level of Service	D	D		E	D		B	B	B	B	D	B
Approach Delay (s)		43.8			52.5			17.4			40.7	
Approach LOS		D			D			B			D	

Intersection Summary

HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↑↑	↔	↔	↔	↔
Volume (veh/h)	0	0	4	57	0	204	2	309	90	229	631	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	4	60	0	215	2	325	95	241	664	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						6						
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1421	1571	333	1148	1477	163	665			420		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1421	1571	333	1148	1477	163	665			420		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	53	100	75	100			79		
cM capacity (veh/h)	60	86	663	128	98	853	920			1136		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	4	275	2	163	163	95	241	443	222
Volume Left	0	60	2	0	0	0	241	0	0
Volume Right	4	215	0	0	0	95	0	0	1
cSH	663	584	920	1700	1700	1700	1136	1700	1700
Volume to Capacity	0.01	0.47	0.00	0.10	0.10	0.06	0.21	0.26	0.13
Queue Length 95th (ft)	0	63	0	0	0	0	20	0	0
Control Delay (s)	10.5	20.6	8.9	0.0	0.0	0.0	9.0	0.0	0.0
Lane LOS	B	C	A				A		
Approach Delay (s)	10.5	20.6	0.0				2.4		
Approach LOS	B	C							

Intersection Summary

Average Delay	4.9
Intersection Capacity Utilization	41.1%
ICU Level of Service	A
Analysis Period (min)	15



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	14	479	0	5	976
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	521	0	5	1061
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1062	260			521	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1062	260			521	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			99	
cM capacity (veh/h)	217	738			1042	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	15	347	174	359	707	
Volume Left	0	0	0	5	0	
Volume Right	15	0	0	0	0	
cSH	738	1700	1700	1042	1700	
Volume to Capacity	0.02	0.20	0.10	0.01	0.42	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	10.0	0.0	0.0	0.2	0.0	
Lane LOS	A			A		
Approach Delay (s)	10.0	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			40.5%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕			↕
Volume (veh/h)	23	0	501	8	0	652
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	0	545	9	0	709
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			1067			
pX, platoon unblocked						
vC, conflicting volume	903	277			553	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	903	277			553	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	277	721			1013	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	25	363	190	236	472	
Volume Left	25	0	0	0	0	
Volume Right	0	0	9	0	0	
cSH	277	1700	1700	1013	1700	
Volume to Capacity	0.09	0.21	0.11	0.00	0.28	
Queue Length 95th (ft)	7	0	0	0	0	
Control Delay (s)	19.3	0.0	0.0	0.0	0.0	
Lane LOS	C					
Approach Delay (s)	19.3	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			28.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 3: Howland Blvd. & Fort Smith Blvd.

2016 PM Build Out (57)
 8/22/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	72	145	14	118	98	268	520	11	43	249	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.95	
Frt	1.00	0.90		1.00	0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1676		1770	1736		1770	1857		1770	3443	
Flt Permitted	0.62	1.00		0.61	1.00		0.56	1.00		0.38	1.00	
Satd. Flow (perm)	1146	1676		1145	1736		1035	1857		701	3443	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	77	154	15	126	104	285	553	12	46	265	59
RTOR Reduction (vph)	0	124	0	0	84	0	0	2	0	0	33	0
Lane Group Flow (vph)	59	107	0	15	146	0	285	563	0	46	291	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.1	7.1		7.1	7.1		16.1	16.1		16.1	16.1	
Effective Green, g (s)	7.1	7.1		7.1	7.1		16.1	16.1		16.1	16.1	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.44	0.44		0.44	0.44	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	224	328		224	340		460	825		311	1531	
v/s Ratio Prot		0.06			c0.08			c0.30			0.08	
v/s Ratio Perm	0.05			0.01			0.28			0.07		
v/c Ratio	0.26	0.33		0.07	0.43		0.62	0.68		0.15	0.19	
Uniform Delay, d1	12.3	12.5		11.9	12.8		7.7	8.0		6.0	6.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.6		0.1	0.9		2.5	2.3		0.2	0.1	
Delay (s)	13.0	13.1		12.0	13.7		10.2	10.4		6.2	6.2	
Level of Service	B	B		B	B		B	B		A	A	
Approach Delay (s)		13.1			13.6			10.3			6.2	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	36.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Howland Blvd. & Fish Hawk Rd.

2016 PM Build Out (57)
8/22/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	0	0	14	0	13	5	657	8	22	346	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	7.0		6.5	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00			1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00			1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95			0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770			1770	1583		1770	3539	1583	1770	3539	1583
Flt Permitted	1.00			1.00	1.00		0.52	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	1863			1863	1583		968	3539	1583	643	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	2	0	0	16	0	15	6	747	9	25	393	5
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	5	0	0	3
Lane Group Flow (vph)	2	0	0	16	1	0	6	747	4	25	393	2
Turn Type	Perm			Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	2.3			2.3	2.3		24.4	19.2	19.2	24.4	19.2	19.2
Effective Green, g (s)	2.3			2.3	2.3		24.4	19.2	19.2	24.4	19.2	19.2
Actuated g/C Ratio	0.05			0.05	0.05		0.52	0.41	0.41	0.52	0.41	0.41
Clearance Time (s)	7.0			7.0	7.0		6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	91			91	77		595	1455	650	461	1455	650
v/s Ratio Prot					0.00		0.00	c0.21		c0.01	0.11	
v/s Ratio Perm	0.00			c0.01			0.00		0.00	0.02		0.00
v/c Ratio	0.02			0.18	0.01		0.01	0.51	0.01	0.05	0.27	0.00
Uniform Delay, d1	21.1			21.3	21.1		5.3	10.3	8.1	5.4	9.1	8.1
Progression Factor	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1			0.9	0.0		0.0	0.3	0.0	0.0	0.1	0.0
Delay (s)	21.2			22.2	21.2		5.3	10.6	8.1	5.5	9.2	8.1
Level of Service	C			C	C		A	B	A	A	A	A
Approach Delay (s)		21.2			21.7			10.5			9.0	
Approach LOS		C			C			B			A	

Intersection Summary

HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 9: Howland Blvd. & Courtland Blvd.

2016 PM Build Out (57)
 8/22/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	145	44	20	51	40	33	46	493	89	47	323	218	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1775		1770	1738		1770	3539	1583	1770	1863	1583	
Flt Permitted	0.58	1.00		0.71	1.00		0.47	1.00	1.00	0.44	1.00	1.00	
Satd. Flow (perm)	1080	1775		1329	1738		879	3539	1583	813	1863	1583	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	151	46	21	53	42	34	48	514	93	49	336	227	
RTOR Reduction (vph)	0	17	0	0	29	0	0	0	61	0	0	148	
Lane Group Flow (vph)	151	50	0	53	47	0	48	514	32	49	336	79	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases	2			6			8		8	4		4	
Actuated Green, G (s)	19.6	14.4		14.4	11.8		28.0	25.4	25.4	28.0	25.4	25.4	
Effective Green, g (s)	19.6	14.4		14.4	11.8		28.0	25.4	25.4	28.0	25.4	25.4	
Actuated g/C Ratio	0.27	0.20		0.20	0.16		0.38	0.35	0.35	0.38	0.35	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	8.0	8.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	339	350		277	280		368	1231	550	345	648	550	
v/s Ratio Prot	c0.03	0.03		0.01	0.03		0.00	0.15		c0.01	c0.18		
v/s Ratio Perm	c0.09			0.03			0.05		0.02	0.05		0.05	
v/c Ratio	0.45	0.14		0.19	0.17		0.13	0.42	0.06	0.14	0.52	0.14	
Uniform Delay, d1	21.4	24.2		24.2	26.4		14.4	18.2	15.8	14.3	18.9	16.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.3	0.3		0.2	1.0	0.2	0.2	0.9	0.2	
Delay (s)	22.3	24.4		24.6	26.7		14.5	19.1	16.0	14.5	19.9	16.5	
Level of Service	C	C		C	C		B	B	B	B	B	B	
Approach Delay (s)		23.0			25.8			18.4			18.2		
Approach LOS		C			C			B			B		
Intersection Summary													
HCM 2000 Control Delay			19.5	HCM 2000 Level of Service						B			
HCM 2000 Volume to Capacity ratio			0.49										
Actuated Cycle Length (s)			73.0	Sum of lost time (s)						28.0			
Intersection Capacity Utilization			53.4%	ICU Level of Service						A			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis
 11: Howland Blvd. & Learning Ln.

2016 PM Build Out (57)
 8/22/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	2	8	0	31	0	618	7	0	345	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	2	9	0	34	0	679	8	0	379	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						6						
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	747	1077	201	871	1081	340	402			687		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	747	1077	201	871	1081	340	402			687		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	96	100	95	100			100		
cM capacity (veh/h)	286	217	806	245	216	656	1153			903		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3			
Volume Total	2	43	0	340	340	8	0	253	149			
Volume Left	0	9	0	0	0	0	0	0	0			
Volume Right	2	34	0	0	0	8	0	0	23			
cSH	806	826	1700	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.00	0.05	0.00	0.20	0.20	0.00	0.00	0.15	0.09			
Queue Length 95th (ft)	0	4	0	0	0	0	0	0	0			
Control Delay (s)	9.5	12.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	A	B										
Approach Delay (s)	9.5	12.7	0.0				0.0					
Approach LOS	A	B										
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			33.7%		ICU Level of Service				A			
Analysis Period (min)			15									



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	9	648	0	16	654
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	10	704	0	17	711
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1095	352			704	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1095	352			704	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			98	
cM capacity (veh/h)	204	644			889	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	470	235	254	474
Volume Left	0	0	0	17	0
Volume Right	10	0	0	0	0
cSH	644	1700	1700	889	1700
Volume to Capacity	0.02	0.28	0.14	0.02	0.28
Queue Length 95th (ft)	1	0	0	1	0
Control Delay (s)	10.7	0.0	0.0	0.8	0.0
Lane LOS	B			A	
Approach Delay (s)	10.7	0.0		0.3	
Approach LOS	B				

Intersection Summary					
Average Delay			0.2		
Intersection Capacity Utilization			39.5%	ICU Level of Service	A
Analysis Period (min)			15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕	↔		↕
Volume (veh/h)	14	0	636	25	0	335
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	0	691	27	0	364
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			1040			
pX, platoon unblocked	0.95	0.95			0.95	
vC, conflicting volume	887	359			718	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	774	218			596	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	100			100	
cM capacity (veh/h)	318	747			927	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	15	461	258	121	243
Volume Left	15	0	0	0	0
Volume Right	0	0	27	0	0
cSH	318	1700	1700	927	1700
Volume to Capacity	0.05	0.27	0.15	0.00	0.14
Queue Length 95th (ft)	4	0	0	0	0
Control Delay (s)	16.9	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	16.9	0.0		0.0	
Approach LOS	C				

Intersection Summary					
Average Delay			0.2		
Intersection Capacity Utilization			28.4%	ICU Level of Service	A
Analysis Period (min)			15		

Appendix “E”
Intersection Analysis Summary Sheets
(AM & PM)

Table E-1 (1 of 2)
Fernanda Place
AM Peak 2016 Intersection Analysis Summary

Howland Blvd at Courtland Blvd			Background	Project			Passby Trips	AM Total
	Existing			In / Out	Dist.	Traffic		
EB								
Rate	Left	230	234			0	234	
1.00%	Thru	44	45			0	45	
	Right	46	47	I	1.28%	0	47	
WB								
Rate	Left	248	253			0	253	
1.00%	Thru	52	53			0	53	
	Right	29	30			0	30	
NB								
Rate	Left	43	44	O	35.77%	13	57	
1.00%	Thru	380	388	O	1.28%	0	388	
	Right	63	64			0	64	
SB								
Rate	Left	26	27			0	27	
1.00%	Thru	577	589	I	35.77%	5	594	
	Right	101	103			0	103	
Howland Blvd at Learning Lane/Clarion St								
	Existing		Background	In / Out	Dist.	Traffic	Passby Trips	AM Total
EB								
Rate	Left	0	0			0	0	0
1.00%	Thru	0	0			0	0	0
	Right	4	4			0	4	4
WB								
Rate	Left	55	56	I	0.64%	1	57	57
1.00%	Thru	0	0			0	0	0
	Right	200	204			0	204	204
NB								
Rate	Left	2	2			0	2	2
1.00%	Thru	289	295	O	37.31%	14	309	309
	Right	88	90	I	0.64%	0	90	90
SB								
Rate	Left	224	229			0	229	229
1.00%	Thru	614	626	I	37.31%	5	631	631
	Right	1	1			0	1	1
Howland Blvd at Fish Hawk Rd								
	Existing		Background	In / Out	Dist.	Traffic	Passby Trips	AM Total
EB								
Rate	Left	3	3	I	3.40%	0	3	3
1.00%	Thru	1	1			0	1	1
	Right	5	5			0	5	5
WB								
Rate	Left	109	111			0	111	111
1.00%	Thru	0	0			0	0	0
	Right	123	126	I	2.39%	0	126	126
NB								
Rate	Left	3	3			0	3	3
1.00%	Thru	297	303	I	56.26%	7	310	310
	Right	170	173			0	173	173
SB								
Rate	Left	225	230	O	2.39%	1	231	231
1.00%	Thru	543	554	O	56.26%	21	575	575
	Right	6	6	O	3.40%	1	7	7
Howland Blvd at Fort Smith Blvd								
	Existing		Background	In / Out	Dist.	Traffic	Passby Trips	AM Total
EB								
Rate	Left	230	234	I	12.11%	2	236	236
1.00%	Thru	122	125			0	125	125
	Right	185	189			0	189	189
WB								
Rate	Left	12	12			0	12	12
1.00%	Thru	56	57			0	57	57
	Right	69	70	I	11.83%	2	72	72
NB								
Rate	Left	48	48			0	48	48
1.00%	Thru	192	196	I	32.32%	4	200	200
	Right	5	5			0	5	5
SB								
Rate	Left	109	111	O	11.83%	4	115	115
1.00%	Thru	429	437	O	32.32%	12	449	449
	Right	101	103	O	12.11%	4	107	107

Table E-1 (2 of 2)

Fernanda Place

AM Peak 2016 Intersection Analysis Summary

Howland Blvd at North Project Entrance (1)				Project			Passby	AM
		Existing	Background	In / Out	Dist.	Traffic	Trips	Total
EB								
Rate	Left	0	0			0		0
1.00%	Thru	0	0			0		0
	Right	0	0			0		0
WB								
Rate	Left	0	0			0		0
1.00%	Thru	0	0			0		0
	Right	0	0	O	37.95%	14		14
NB								
Rate	Left	0	0			0		0
1.00%	Thru	470	479			0		479
	Right	0	0			0		0
SB								
Rate	Left	0	0	I	37.95%	5		5
1.00%	Thru	957	976			0		976
	Right	0	0			0		0
Howland Blvd at South Project Entrance (2)								
		Existing	Background	In / Out	Dist.	Traffic	Trips	AM
EB								
Rate	Left	0	0			0		0
1.00%	Thru	0	0			0		0
	Right	0	0			0		0
WB								
Rate	Left	0	0	O	62.05%	23		23
1.00%	Thru	0	0			0		0
	Right	0	0			0		0
NB								
Rate	Left	0	0			0		0
1.00%	Thru	491	501			0		501
	Right	0	0	I	62.05%	8		8
SB								
Rate	Left	0	0			0		0
1.00%	Thru	639	652			0		652
	Right	0	0			0		0

Table E-1 (1 of 2)

Fernanda Place

PM Peak 2016 Intersection Analysis Summary

Howland Blvd at Courtland Blvd			Existing	Background	Project			Passby Trips	AM Total
		In / Out			Dist.	Traffic			
EB									
Rate	Left	143	145			0		145	
1.00%	Thru	43	44			0		44	
	Right	18	19	I	1.28%	1		20	
WB									
Rate	Left	50	51			0		51	
1.00%	Thru	39	40			0		40	
	Right	32	33			0		33	
NB									
Rate	Left	37	38	O	35.77%	8		46	
1.00%	Thru	483	493	O	1.28%	0		493	
	Right	87	89			0		89	
SB									
Rate	Left	47	47			0		47	
1.00%	Thru	302	308	I	35.77%	15		323	
	Right	213	218			0		218	
Howland Blvd at Learning Lane/Clarion St									
			Existing	Background	Project			Passby Trips	AM Total
					In / Out	Dist.	Traffic		
EB									
Rate	Left	0	0				0		0
1.00%	Thru	0	0				0		0
	Right	2	2				0		2
WB									
Rate	Left	7	7	I	0.64%	1		8	
1.00%	Thru	0	0				0	0	
	Right	30	31				0	31	
NB									
Rate	Left	0	0				0	0	
1.00%	Thru	598	609	O	37.31%	9		618	
	Right	7	7	I	0.64%	0		7	
SB									
Rate	Left	0	0				0	0	
1.00%	Thru	324	330	I	37.31%	15		345	
	Right	20	21				0	21	
Howland Blvd at Fish Hawk Rd									
			Existing	Background	Project			Passby Trips	AM Total
					In / Out	Dist.	Traffic		
EB									
Rate	Left	1	1	I	3.40%	1		2	
1.00%	Thru	0	0				0	0	
	Right	0	0				0	0	
WB									
Rate	Left	14	14				0	14	
1.00%	Thru	0	0				0	0	
	Right	12	12	I	2.39%	1		13	
NB									
Rate	Left	5	5				0	5	
1.00%	Thru	622	634	I	56.26%	23		657	
	Right	8	8				0	8	
SB									
Rate	Left	20	21	O	2.39%	1		22	
1.00%	Thru	327	333	O	56.26%	13		346	
	Right	3	3	O	3.40%	1		4	
Howland Blvd at Fort Smith Blvd									
			Existing	Background	Project			Passby Trips	AM Total
					In / Out	Dist.	Traffic		
EB									
Rate	Left	46	47	I	12.11%	5		52	
1.00%	Thru	71	72				0	72	
	Right	143	145				0	145	
WB									
Rate	Left	14	14				0	14	
1.00%	Thru	115	118				0	118	
	Right	91	93	I	11.83%	5		98	
NB									
Rate	Left	263	268				0	268	
1.00%	Thru	487	497	I	32.32%	13		510	
	Right	11	11				0	11	
SB									
Rate	Left	39	40	O	11.83%	3		43	
1.00%	Thru	238	242	O	32.32%	7		249	
	Right	51	52	O	12.11%	3		55	

Table E-1 (2 of 2)

Fernanda Place

PM Peak 2016 Intersection Analysis Summary

Howland Blvd at North Project Entrance (1)				Project			Passby	AM
		Existing	Background	In / Out	Dist.	Traffic	Trips	Total
EB								
Rate	Left	0	0			0		0
1.00%	Thru	0	0			0		0
	Right	0	0			0		0
WB								
Rate	Left	0	0			0		0
1.00%	Thru	0	0			0		0
	Right	0	0	O	37.95%	9		9
NB								
Rate	Left	0	0			0		0
1.00%	Thru	635	648			0		648
	Right	0	0			0		0
SB								
Rate	Left	0	0	I	37.95%	16		16
1.00%	Thru	641	654			0		654
	Right	0	0			0		0
Howland Blvd at South Project Entrance (2)								
		Existing	Background	In / Out	Dist.	Traffic	Trips	AM
EB								
Rate	Left	0	0			0		0
1.00%	Thru	0	0			0		0
	Right	0	0			0		0
WB								
Rate	Left	0	0	O	62.05%	14		14
1.00%	Thru	0	0			0		0
	Right	0	0			0		0
NB								
Rate	Left	0	0			0		0
1.00%	Thru	624	636			0		636
	Right	0	0	I	62.05%	25		25
SB								
Rate	Left	0	0			0		0
1.00%	Thru	328	335			0		335
	Right	0	0			0		0

Appendix “F”
Volusia County Road Program



Volusia County Road Program

5 Year Schedule

FY 13/14 - FY 17/18

Year Costs in (\$1,000)

IMPACT FEE ZONE 3 - Southwest Volusia

Project	Section	Fund	Scope	FY 13/14			FY 14/15			FY 15/16			FY 16/17			FY 17/18		
				ENG	R/W	CON												
Doyle Road	Courtland Blvd to SR415	LAP	Paved Shldrs						1113									
Howland Blvd Widening	Courtland Blvd to N of SR415	BOND	4 LN			4236												
"	"	TRIP	"			5879												
"	3 Laning of Ft Smith east & west of Howland	CITY	"			540												
Debt Service for Bonds		IMPACT				300			300			300			300			300
Debt Service for Bonds		LOGT				1608			1608			1608			1608			1608

IMPACT FEE ZONE 4 - Northwest Volusia

Project	Section	Fund	Scope	FY 13/14			FY 14/15			FY 15/16			FY 16/17			FY 17/18		
				ENG	R/W	CON	ENG	R/W	CON	ENG	R/W	CON	ENG	R/W	CON	ENG	R/W	CON
Kepler Rd at SR44	Kepler N 1000/SR44 E to Lk Winnemissett	IMPACT	Intersection	400	2000				2979									
"	"	CIGP							821									
Orange Camp Rd Widening	MLK Blvd to W of I-4 incl frontage rd stubout	IMPACT	4 LN		774				420									
"	"	BOND	"	350					4270									
Debt Service for Bonds		IMPACT				392			392			392			392			392

BOND - Bond Funding
 CBIR - Community Budget Issue Request (State Funding)
 CIGP - County Incentive Grant Program (State Grant)
 CITY - Cost sharing with City
 DEV - Developer Funding
 FED GRANT - Federal Grant
IMPACT - Road Impact Fee Funding
 LAP - Local Agency Program (Federal Grant)
 LOGT - Local Option Gas Tax Funding
 ONE - One Cent Gas Tax Funding
 TRIP - Transportation Regional Incentive Program (State Grant)

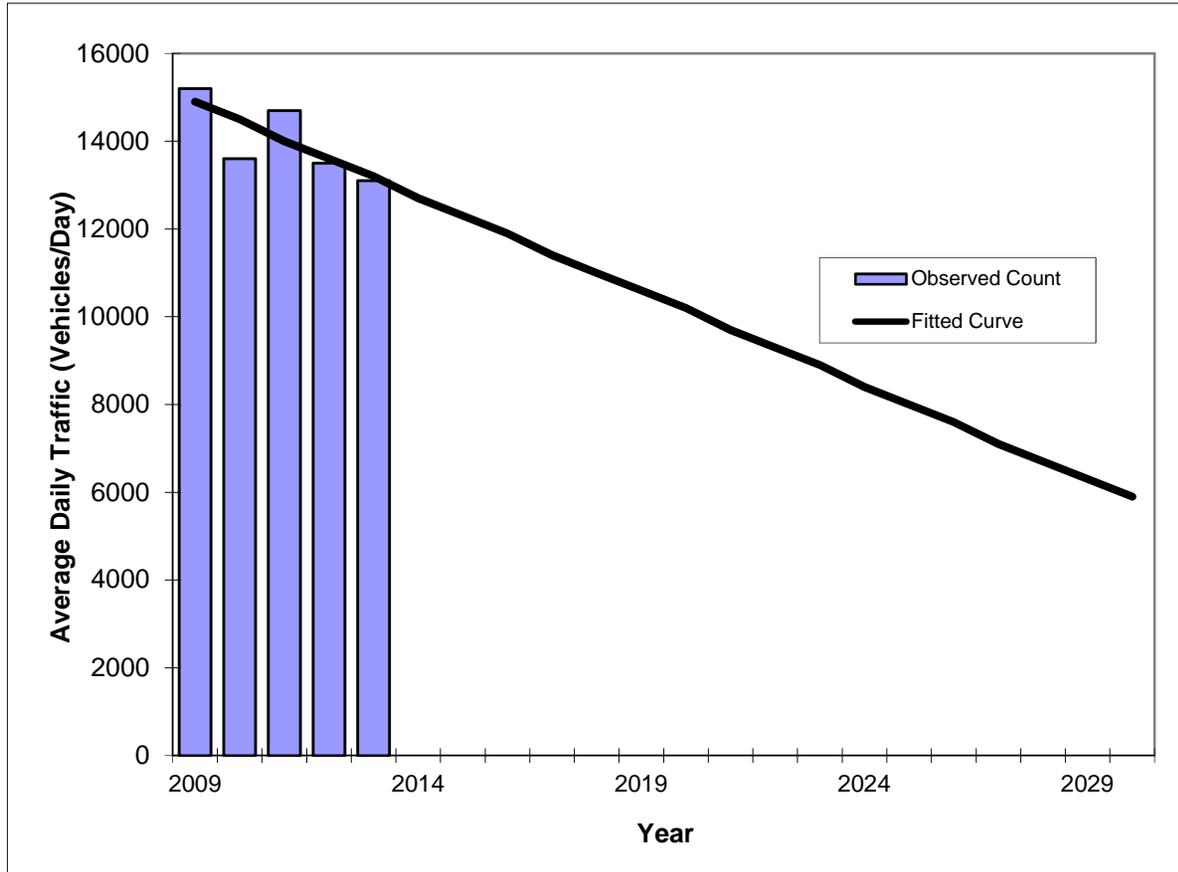
Appendix “G”

Historical Growth Rate Trends

TRAFFIC TRENDS

Providence -- Elkcam Blvd to Ft Smith Blvd

County:	Volusia
Highway:	Providence



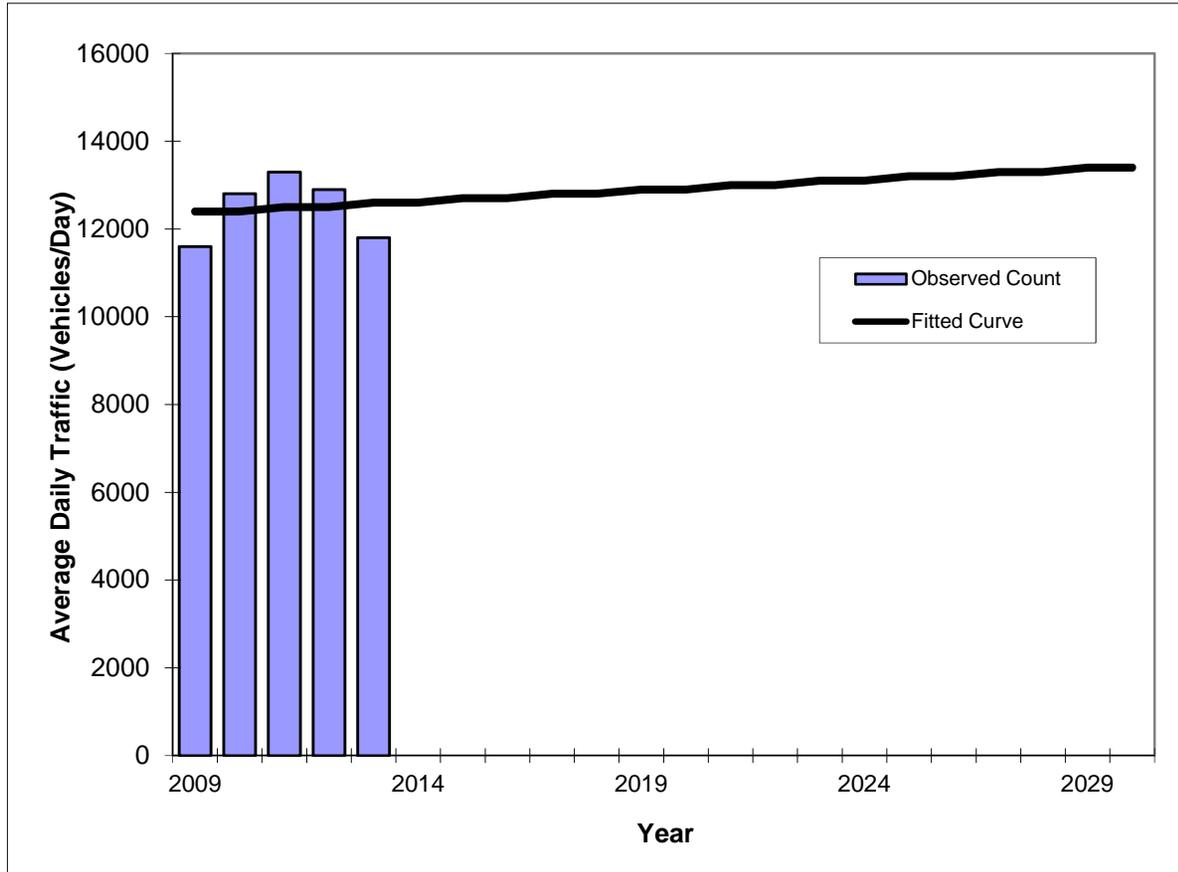
Year	Traffic (ADT)	
	Count*	Trend**
2009	15200	14900
2010	13600	14500
2011	14700	14000
2012	13500	13600
2013	13100	13200
2019	Opening	10600
2025	Mid Year	8000
2030	Design Year	5900

*Axle-Adjusted	
** Annual ADT Increase:	-430
Trend R-squared:	58.7%
Trend Annual Growth Rate	-2.9%
Growth Rate (2013 to Design Year)	-3.3%
Printed	02-May-14

TRAFFIC TRENDS

Howland Blvd. -- Courtland Blvd to Ft Smith

County:	Volusia
Highway:	Howland Blvd.



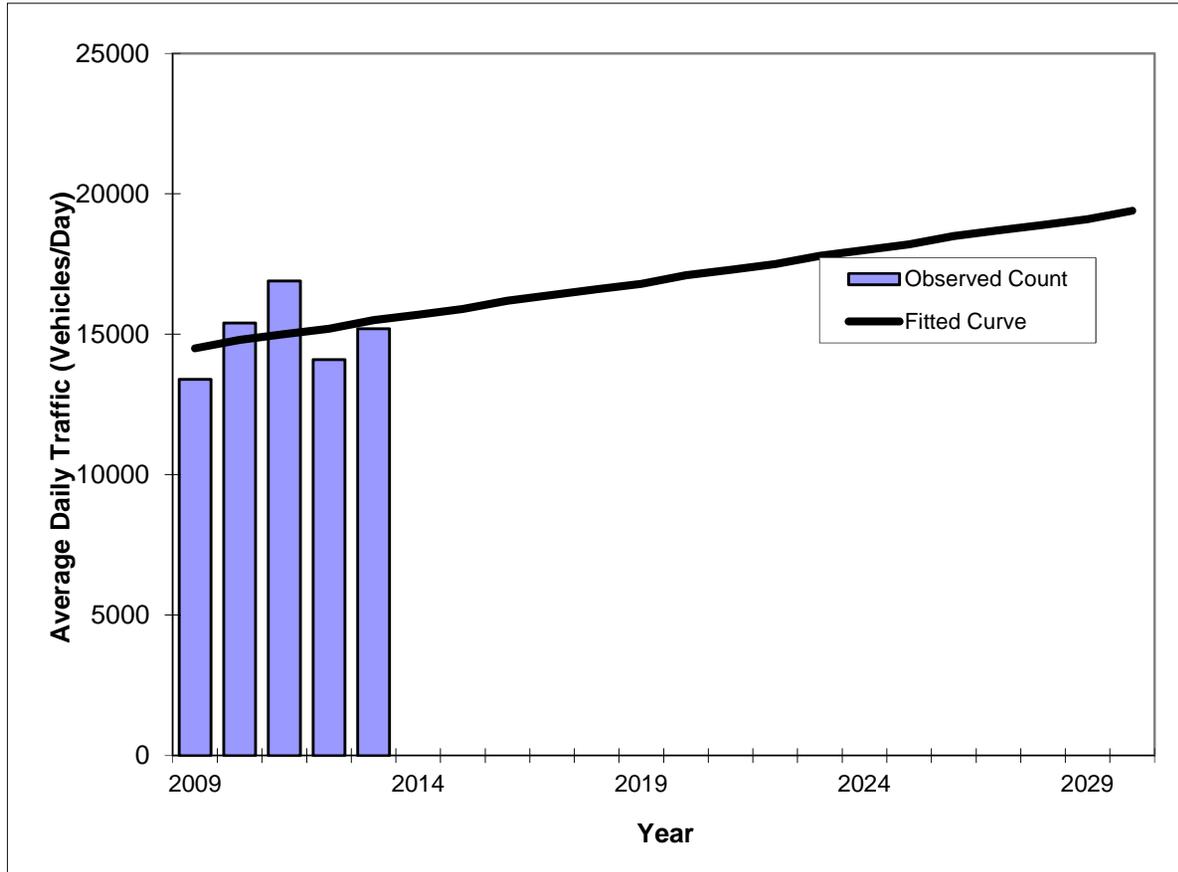
Year	Traffic (ADT)	
	Count*	Trend**
2009	11600	12400
2010	12800	12400
2011	13300	12500
2012	12900	12500
2013	11800	12600
2019	Opening	12900
2025	Mid Year	13200
2030	Design Year	13400

*Axle-Adjusted	
** Annual ADT Increase:	50
Trend R-squared:	1.1%
Trend Annual Growth Rate	0.4%
Growth Rate (2013 to Design Year)	0.4%
Printed	02-May-14

TRAFFIC TRENDS

Howland Blvd. -- Providence Blvd. to Elkcam Blvd.

County:	Volusia
Highway:	Howland Blvd.



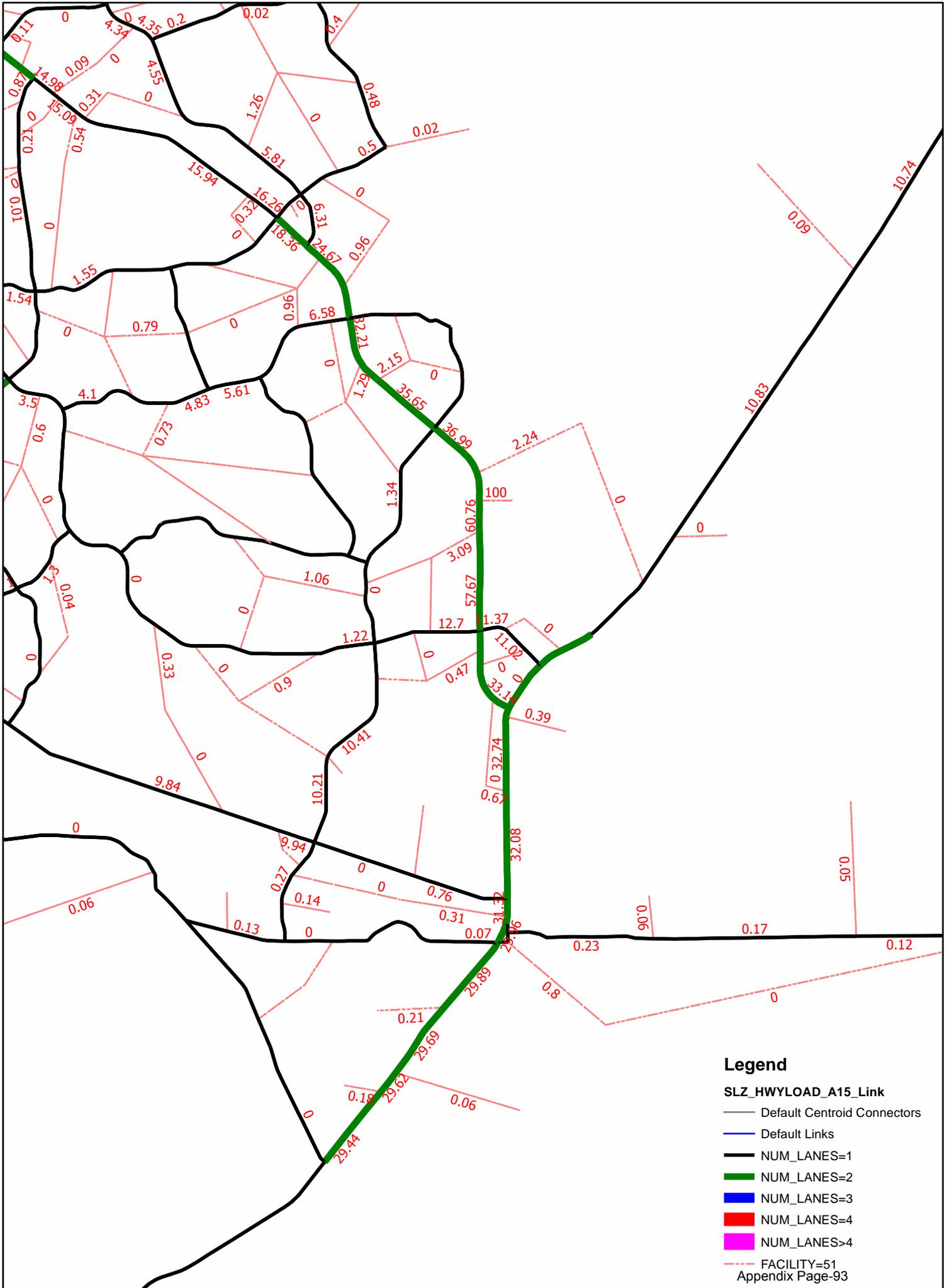
Year	Traffic (ADT)	
	Count*	Trend**
2009	13400	14500
2010	15400	14800
2011	16900	15000
2012	14100	15200
2013	15200	15500
2019	Opening	16800
2025	Mid Year	18200
2030	Design Year	19400

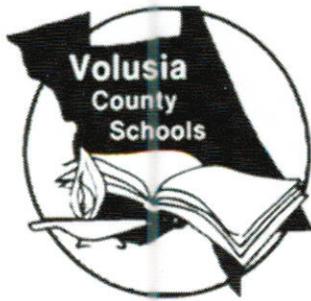
*Axle-Adjusted	
** Annual ADT Increase:	230
Trend R-squared:	7.4%
Trend Annual Growth Rate	1.7%
Growth Rate (2013 to Design Year)	1.5%
Printed	02-May-14

Appendix “H”

CFRPM Model Plot

Year 2016 CFRPM5.1 - Fernanada Place Project Distribution





FACILITIES SERVICES

3750 Olson Drive, Daytona Beach, Florida 32124
PHONE: 386/947-8786 FAX: 386/506-5056

School Board of Volusia County

Ms. Candace Lankford, Chairman
Mr. Stan Schmidt, Vice-Chairman
Mrs. Linda Costello
Mrs. Diane Smith
Mrs. Ida D. Wright

Dr. Margaret A. Smith
Superintendent of Schools

November 4, 2014

Mr. Ron Paradise
City of Deltona
2345 Providence Blvd
Deltona, FL 32725

**RE: Fernanda Place
School Capacity Case #14-06-09-001A
FKA Fernanda Landings 08-09-26-001-A**

Dear Mr. Paradise:

Pursuant to your request, school district staff has updated its records for the above referenced development proposal and reissued a Finding of Adequate School Capacity (attached) to reflect that the total permitted residential units on the two parcels will be 285 assuming that the land use amendment for the 22.8-acre parcel from Agricultural to Low Density Residential is approved.

The proposed comprehensive plan amendment does not change the finding of school adequacy in that the previous evaluation provided for the maximum density permitted by the land use. The following school capacity information is updated for information purposes:

Schools	14/15 SY Enrollment	% of Permanent Capacity	Planned Capacity On site	Students Generated by 285 SF Units
Pride Elem	547	72%	N	39
Heritage Middle	1197	108%	N	19
Pine Ridge High	1660	95%	N	28
Other				1

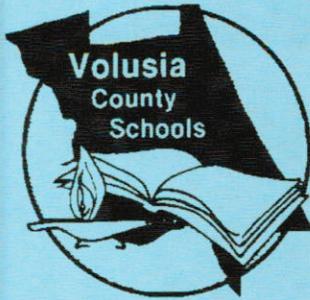
Please be advised that future development orders, such as site plans and subdivisions, are subject to school concurrency review. School capacity will be evaluated again at that time when the impact of development is specifically quantified and known.

Sincerely,


Saralee L. Morrissey, AICP

Director, Planning

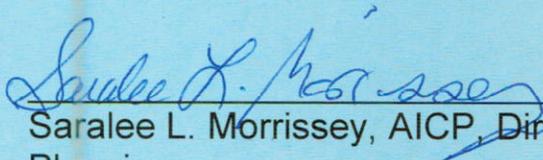
Cc: Dr. Margaret Smith, Superintendent, Ron Paradise, City of Deltona, Project File



Finding of Adequate School Capacity
Volusia County School Board

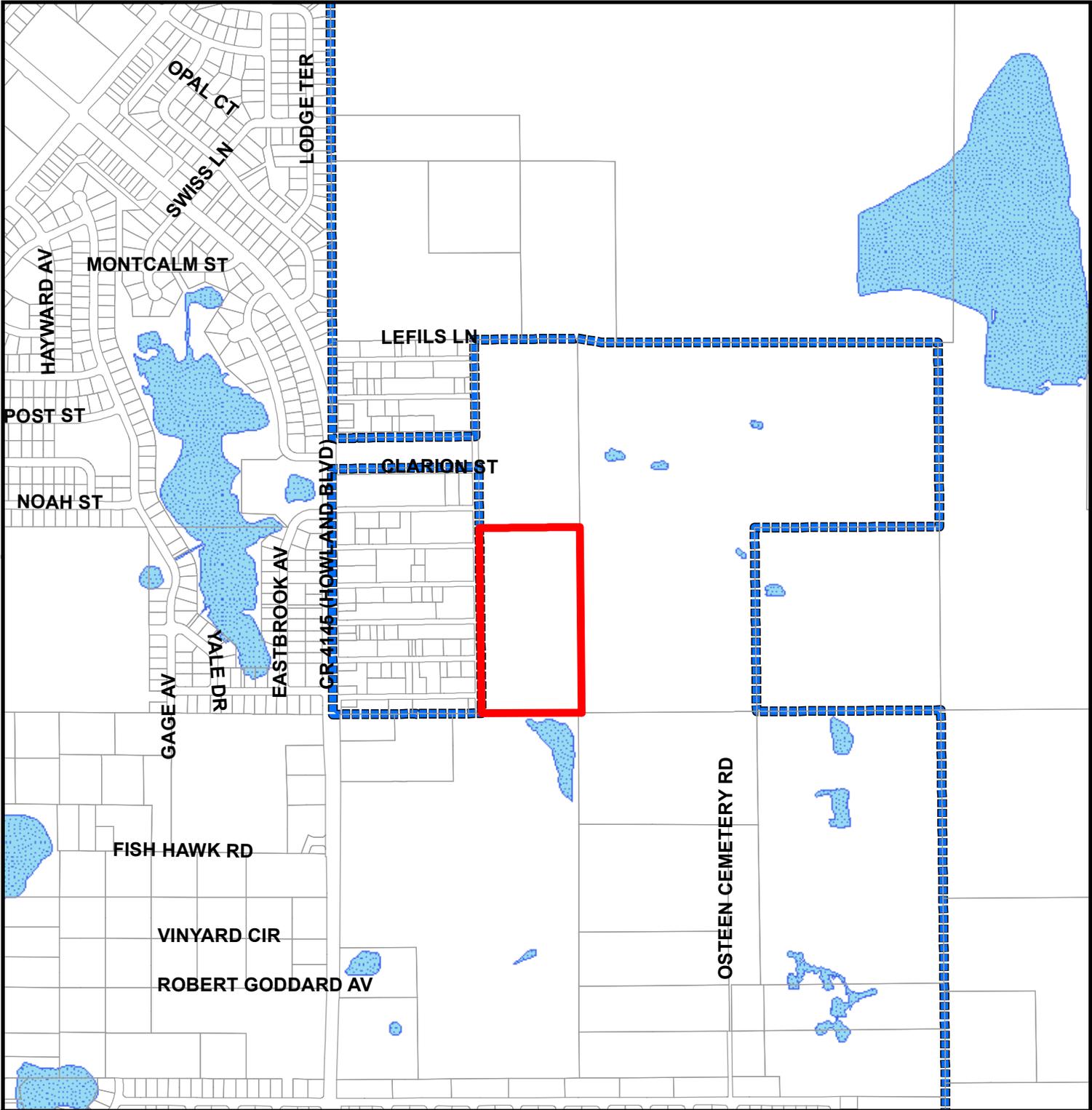
Project Information	
Project Name	Fernanda Place fka Fernanda Landing
VCSB Project #	14-06-09-001-A fka 08-09-26-001-A
Parcel ID Numbers:	8230-00-00-0020 8230-00-00-0050
Project Location:	North of Howland Blvd near Pride Elementary
Residential Units:	285 total – 240 allowed on parcel 0020 and 45 based on land use amendment for parcel 0050
Property Owner/Applicant:	Fernanda Investments, LLC
Notes: Additional review may be required at time of subdivision/site plan submittal(s).	

Based upon the Findings of Fact, pursuant to School Board Policy 612 and Section 206 of the County Charter, the school district has determined at this time that school capacity is adequate to serve the proposed increase in residential density. This Finding shall constitute competent substantial evidence that adequate public school capacity is likely to be available at the time it is required to serve the planned new development. Capacity is not being reserved with this Finding unless otherwise noted on this document. This Finding of Adequate School Capacity allows this subject project to continue through the Comprehensive Plan Amendment and/or rezoning process; however, may be subject to additional school capacity review in the future.


 Saralee L. Morrissey, AICP, Director
 Planning

November 4, 2014
 Issue Date*

* This updates and replaces the Finding of Adequate School Capacity for 300 units issued on June 30, 2014 and the Finding of Adequate School Capacity for 357 units issued on October 2, 2014.



LOCATION MAP
(3018320000050)

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PLANNING AND DEVELOPMENT SERVICES**

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DELTONA, FL 32725
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DRAWN BY: SHERRI CAMPBELL

LEGEND



City Boundary



Lakes

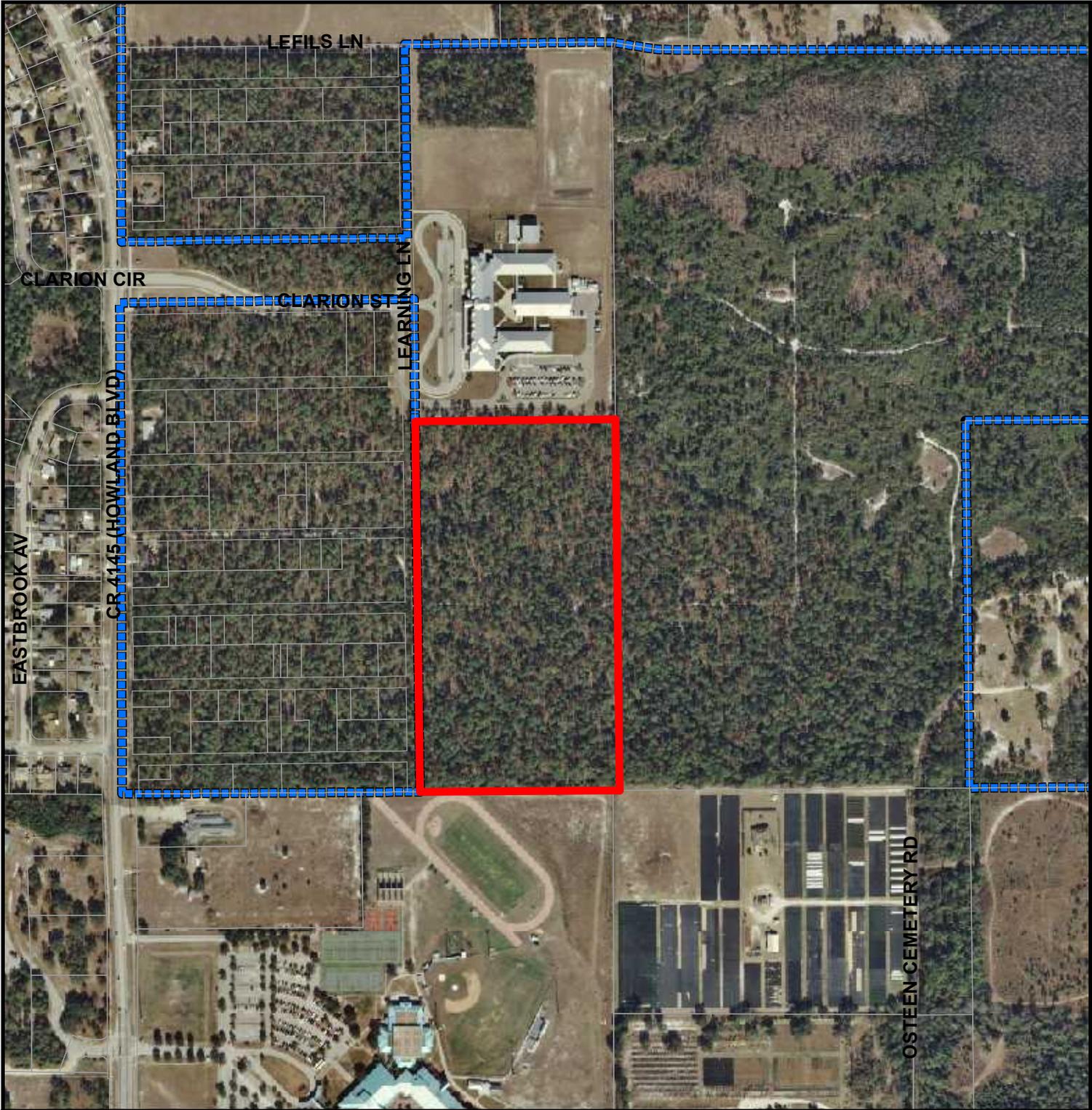


Subject Property

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AERIAL PHOTO
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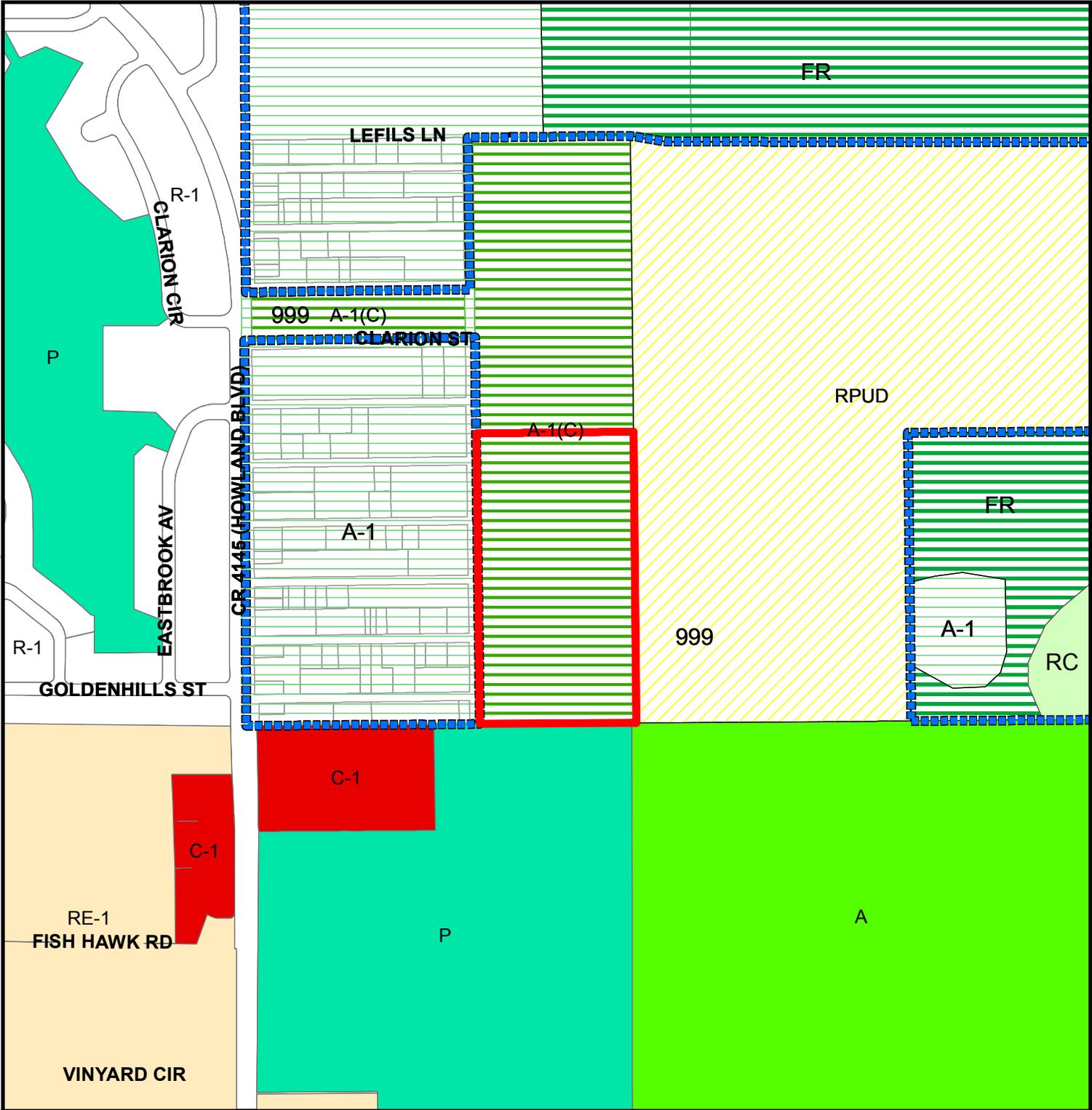
LEGEND

-  Subject Property
-  City Boundary

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ZONING MAP
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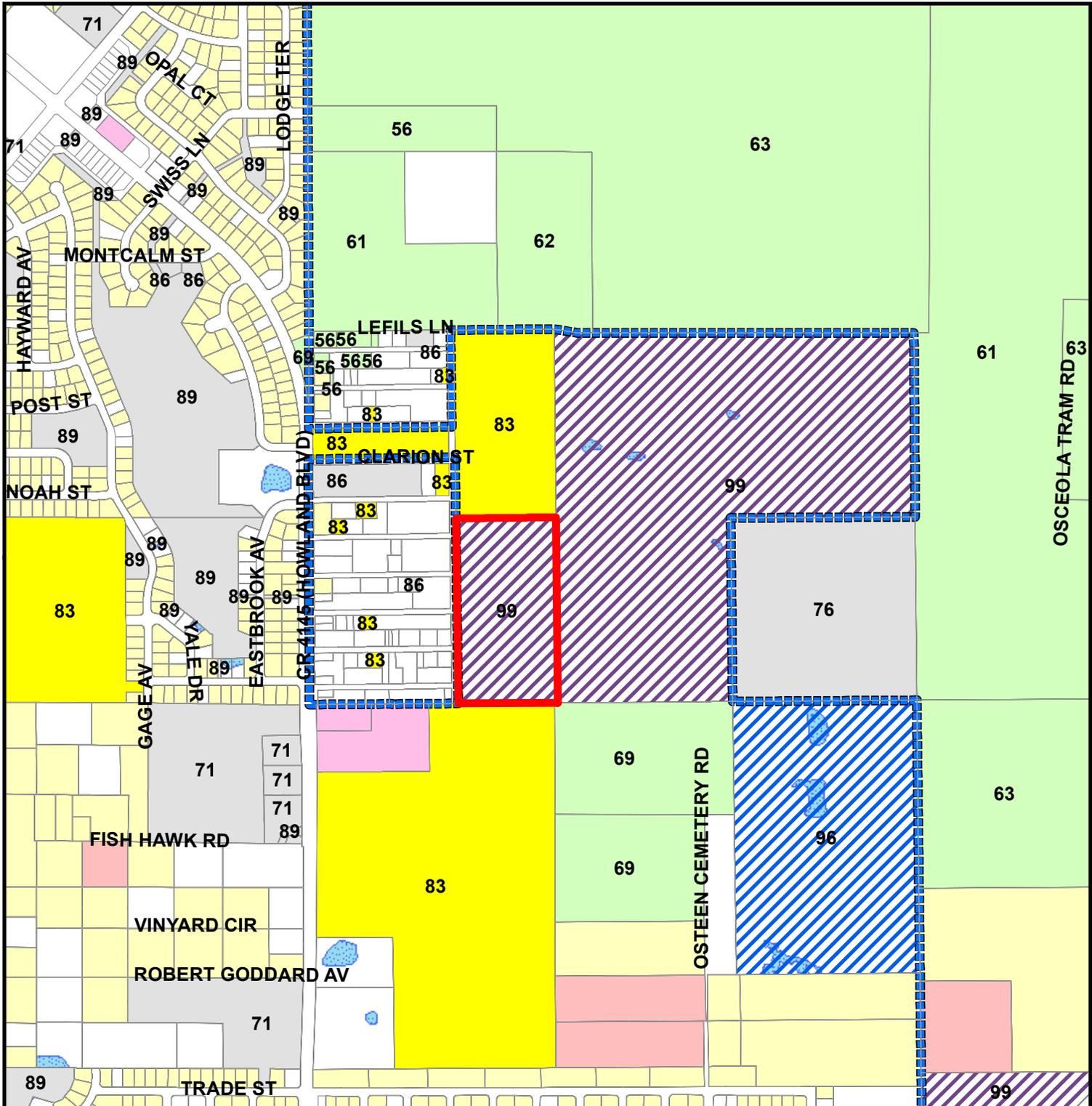
**LEGEND
County Zoning**

-  Subject Property
-  City Boundary
-  FORESTRY RESOURCE (FR)
-  AGRICULTURAL (A-1)
-  RESOURCE CORRIDOR (RC)

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EXISTING LAND USE MAP
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Legend

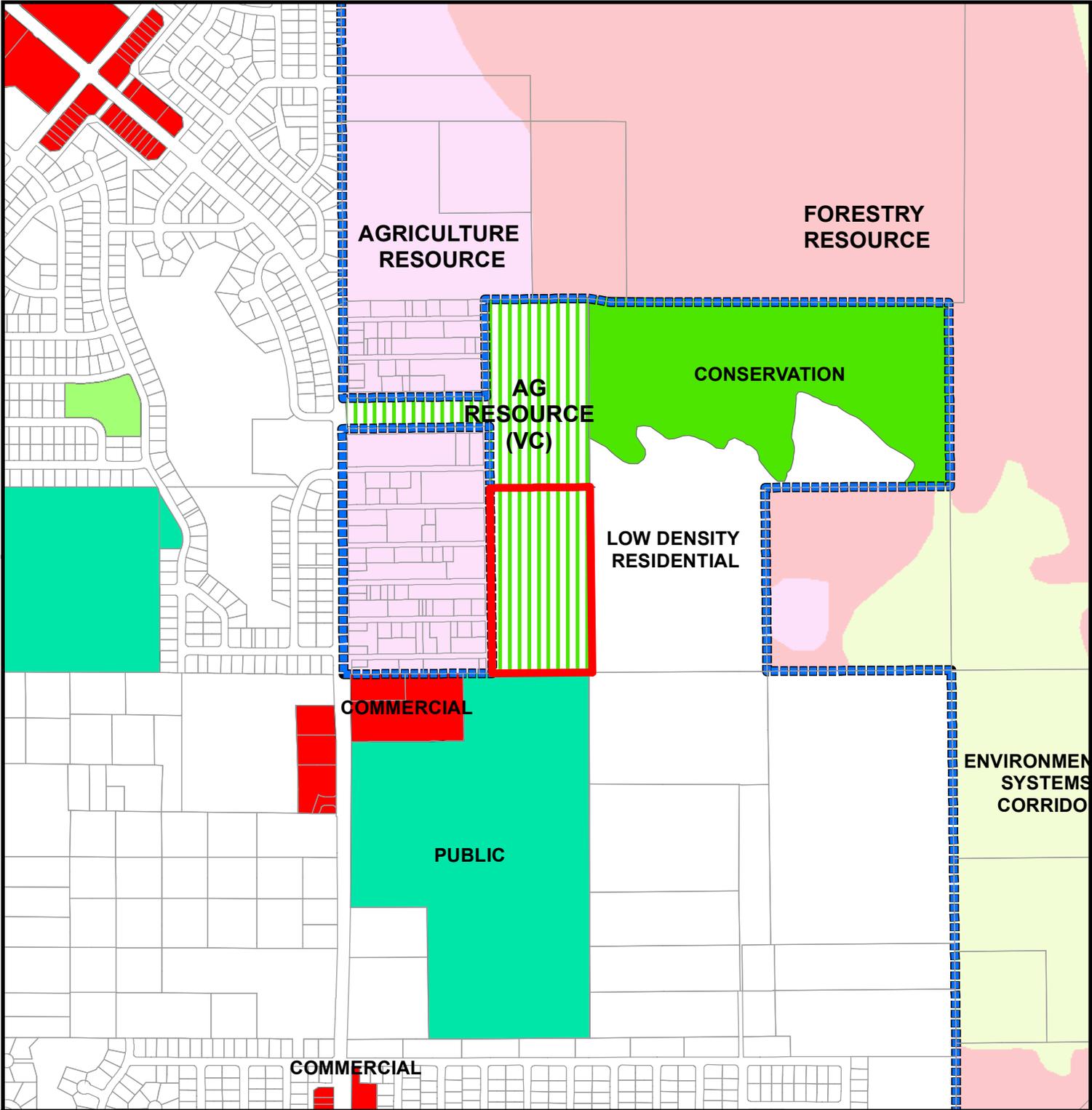
- | | |
|--------------------------------|------------------------------|
| 00. Vac Residence | 71. Churches |
| 01. Single Family Residence | 76. Mortuaries |
| 02. Mobile Home | 83. School Public |
| 12. Mixed Used | 86. County |
| 56. Timberland | 89. Municipal |
| 61. Pastures, Improved | 91. Utility |
| 62. Pastures, Semi Improved | 96. Waste Lands |
| 63. Pastures, Native | 99. Acreage not Agricultural |
| 69. Ornamentals/Retail Nursery | |

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- City Boundary
- Lakes
- Subject Property



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FUTURE LAND USE MAP
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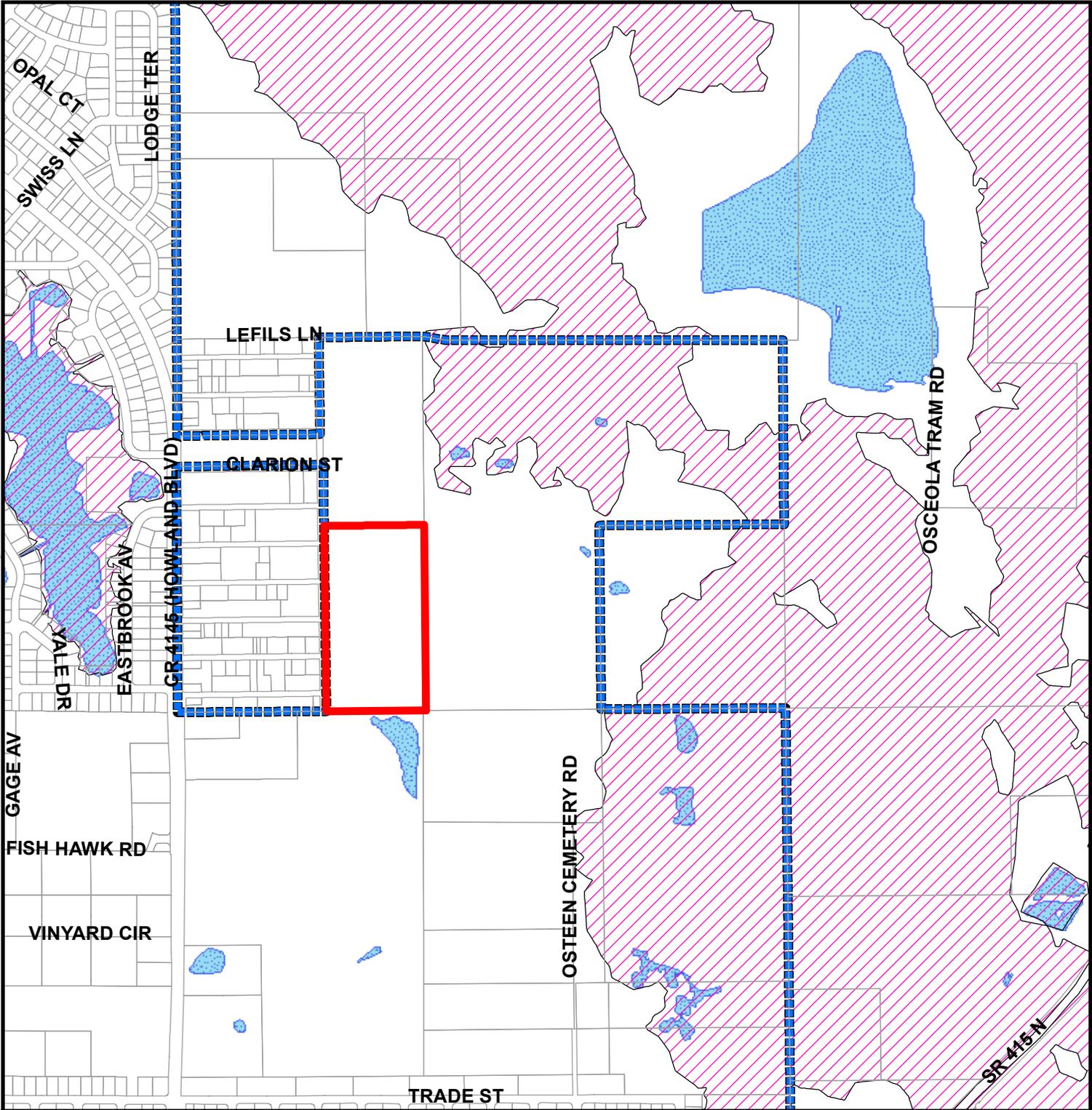
LEGEND

-  City Boundary
-  Subject Property

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FLOOD ZONE MAP
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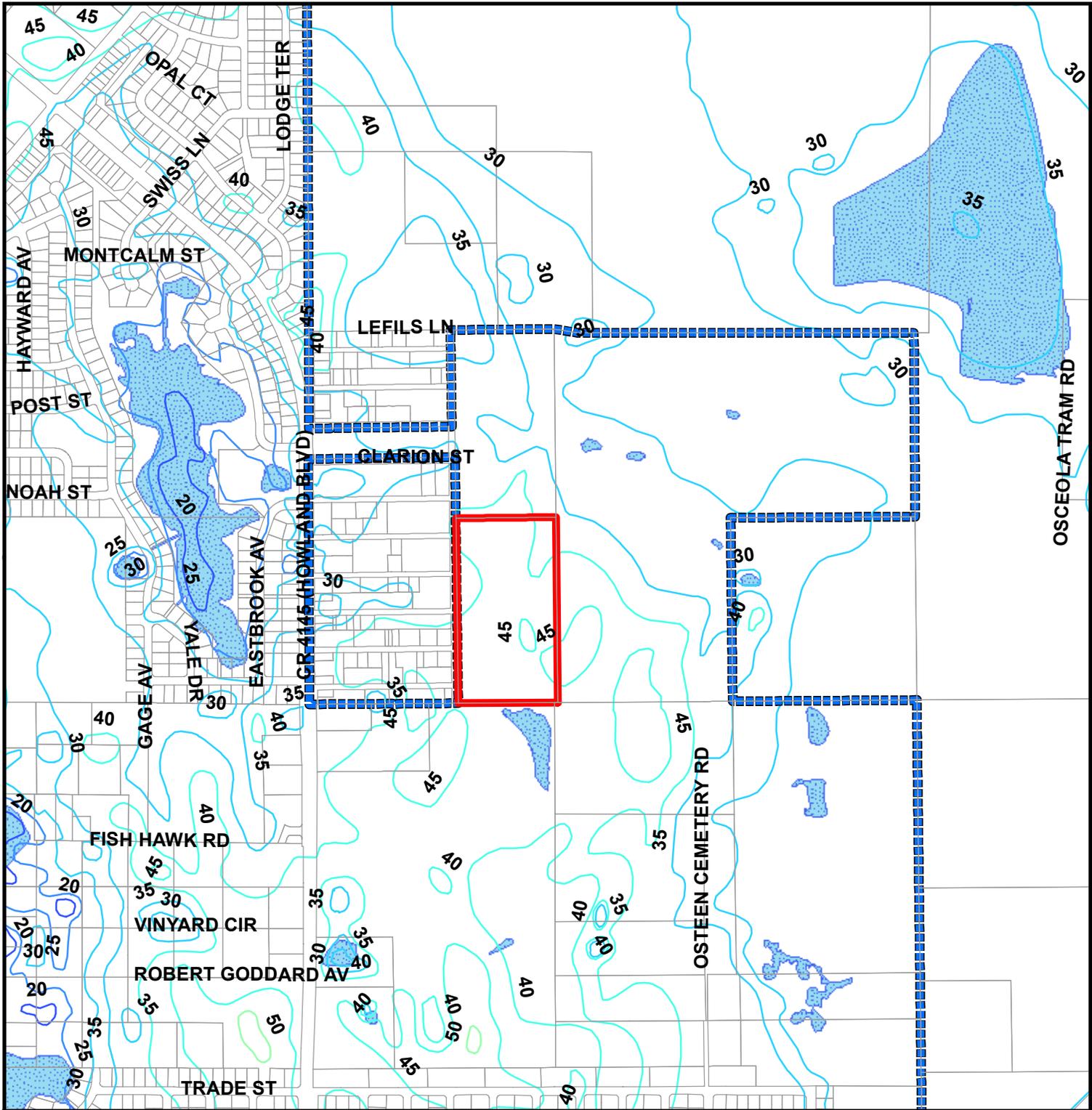
LEGEND

-  City Boundary
-  Lakes
-  Flood Zone
-  Subject Property

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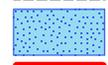
5 FOOT CONTOUR MAP
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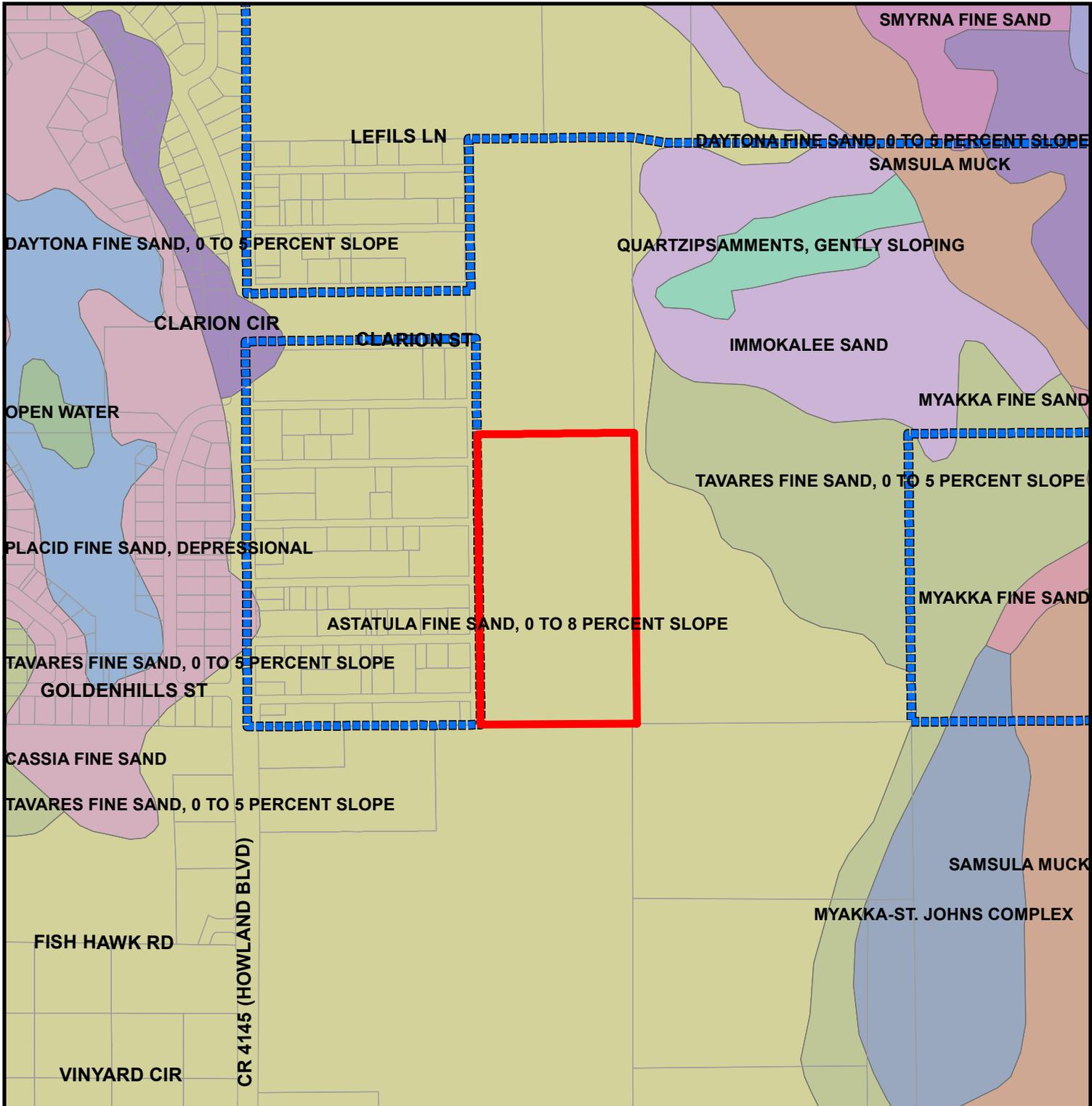
Legend

-  City Boundary
-  Lakes
-  Subject Property

NOT TO SCALE

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SOILS MAP
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**PREPARED BY CITY OF DELTONA
PLANNING AND DEVELOPMENT SERVICES**

**DELTONA MUNICIPAL COMPLEX
2345 PROVIDENCE BOULEVARD
DELTONA, FL 32725
PHONE: (386) 878-8600 FAX: (386) 878-8601**

DRAWN BY: SHERRI CAMPBELL

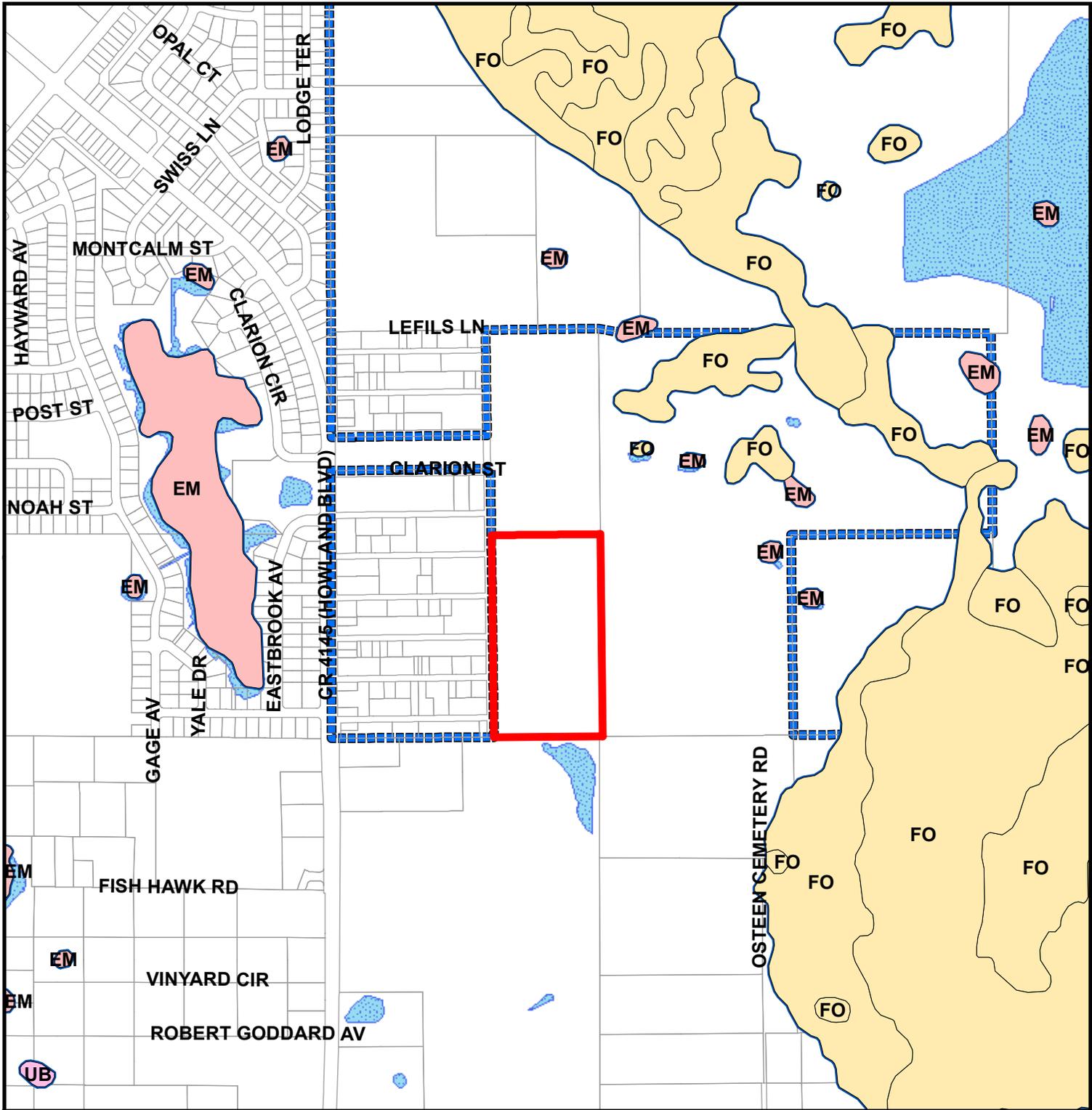
LEGEND

-  Subject Property
-  City Boundary
-  Lakes

NOT TO SCALE

GIS MAP DISCLAIMER:
THIS MAP IS NOT TO BE USED FOR TRANSFER
OF PROPERTY AND DOES NOT REPRESENT A SURVEY.
This map was created by the City of Deltona staff using data
gathered by the City and Volusia County. No decision involving a
risk of economic loss or physical injury should be made in reliance
of this map, nor should it be used as a substitute for a survey. The
information provided on this document should be used as a guide only.
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document.
Please report any inaccuracies to the City of Deltona GIS department
at 386-878-8609
Datum: State Plane, NAD83 HARN





NATIONAL WETLAND INVENTORY MAP
(30183200000050)

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LEGEND

-  AB: Aquatic Bed
-  EM: Emergent Wetland
-  FO: Forested
-  SS: Scrub-Shrub
-  UB: Unconsolidated Bottom
-  City Boundary
-  Lakes
-  Subject Property

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NOT TO SCALE



Dept. of Planning & Development
2345 Providence Boulevard
Deltona, FL 32725
(386) 878-8600, Fax (386) 878-8601

PROJECT NO.: CP14-001
ADDRESS: Howland Blvd
PROJECT NAME: Fernanda Place
(Do NOT write in this box—for office use only!)

CITY OF DELTONA APPLICATION FOR AMENDMENT TO THE COMPREHENSIVE PLAN

This is a request for change of land use designation from AG
to Low Density Residential with Proposed Density of 2.5 UPA or 57 Units on the property described below.

Property legal description: 30 18 32 E11.4 CHS of S 1/2 of Govt lot 4 per OR 4887 PG 3102
Per OR 5510 PG 4869-4870 Per OR 6693 PG 4410 Per OR 6860 Pg 0869
Per OR 6860 PG 0871 Per OR 6865 PG 0443

Tax Parcel Number(s): 30-18-32-00-00-0050
Size of Parcel: 22.8 Acres sq. ft/acres.

The existing use of property is: Vacant

Property address: Howland Blvd., Deltona, FL 32738

Applicant's Name: Sadique Jaffer, Fernanda Investments Day Phone: (407) 649-9888

Address: 27 N Summerlin Avenue

City/State/Zip: Orlando, FL 32801

E-mail: Sidjaffer@yahoo.com

Applicant Status: Property Owner Attorney for Owner
 Agent for Owner Contract Purchaser

If applicant does not own the property, provide the following:

Owner's Name: _____

Address: _____

City/State/Zip: _____ Day Phone: () _____

THE FOLLOWING ITEMS ARE TO BE SUPPLIED AT TIME OF SUBMISSION:

1. Application fee(s), plus consulting fees.
2. A CD of all Items submitted. (plans in pdf format documents in word)
3. 2 copies of legal description
4. 2 current surveys of property with legal description (no more than 2 years old)
5. Notarized "Authorization of Owner" (if applicant is other than owner or attorney for owner)
6. 3 copies of a Traffic Impact Analysis for Land Use requests that increase trips based on maximum density/intensity proposed. (May be waived by the Planning & Development Director or his Assignee)
7. Any other information requested by staff.

All submittals must be complete and fees paid before application will be accepted.

If this application is approved, all other City Ordinances shall be complied with and all applicable fees paid.

Comprehensive Plan Amendments are subject to the City of Deltona City Commission approval, Certification by the Volusia County Growth Management Commission, and approval by the Florida Department of Community Affairs. The amendment is not effective until after local and state reviews have been completed and final determinations rendered.

This request will be considered by the City Commission on Monday _____ 20 ____,
at City Hall, Commission Chambers, 2345 Providence Boulevard, Deltona, Florida at 7:00pm.

Applicant Conference on the _____ day of _____, 20____, or Conference
waived by the Applicant on the _____ day of _____, 20____.

X [Signature] - MARCELO MORALES 4/30/14
 Applicant's signature _____ Date _____

Application submission date: 05/05/14

Application accepted by: Catherine Kyp

Filing fee: 2,000 Check #: 115 Date paid: 05/05/14

October 27, 2014

Ron Paradise
CITY OF DELTONA
2345 Providence Blvd.
Deltona, Fl. 32725

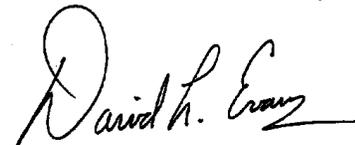
Fernanda Place – Comprehensive Plan Text Amendemnt
Parcel # 30-18-32-00-00-0050

Dear Ron:

A comprehensive plan amendment has been submitted for the proposed development in the City of Deltona. This comprehensive plan amendment includes change the future land use designation from Ag to LDR. At this time please modify this application to cap the proposed density to 2.0 dwelling units per acre.

If you have any questions regarding this request please contact this office.

Sincerely,
EVANS ENGINEERING, INC.



David L. Evans P. E.

cc: William Barfield