

**CONCEPT, FEASIBILITY &
MOBILITY STUDY REPORT**

FOR THE

**NORTHEAST CONNECTOR
EXPRESSWAY EXTENSION**

Orange and Osceola Counties, Florida

From US 192 to SR 50 & SR 520

Prepared for:



**CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY**

The logo for the Central Florida Expressway Authority is centered on the page. It consists of the organization's name in a bold, serif font, with 'EXPRESSWAY' in orange and the other words in black. The text is flanked by two horizontal orange bars, one above and one below.

Contract Number: 001209 CFX Project Number: 599-215

July 2019

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Appendix 1

Osceola County Comprehensive Plan North Ranch Element

North Ranch Element

Adopted by the Osceola County
Board of County Commissioners
September 21, 2015

DATE EFFECTIVE	INDEX	ORDINANCE NO.	AMENDMENT TYPE
10/22/15	CPA 14-0005	2015-73	SECTOR PLAN TEXT/MAP

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NORTH RANCH ELEMENT

GOAL: SMART GROWTH ON THE NORTH RANCH

The goal of the North Ranch Master Plan is to proactively plan for regionally significant economic opportunities and job centers, close transportation corridor gaps, and preserve environmental systems and agricultural lands at a landscape scale while minimizing public infrastructure investment. The plan will stimulate high value job growth in mixed use districts, reinforce the long-term economic sustainability of Osceola County, connect the larger region with the least County investment, and preserve, enhance, and restore large-scale natural systems. This Master Plan addresses the requirements of section 163.3245, F.S., and will be implemented through Detailed Specific Area Plans (DSAP) and other local government approvals.

OBJECTIVE 1: DEVELOPMENT FRAMEWORK AND URBAN FORM

Create a predictable development framework for the North Ranch Planning Area that focuses on the creation of new job centers in employment corridors served by multimodal transportation systems while protecting environmental and agricultural resources.

POLICY 1.1: *APPLICABILITY*

The North Ranch Planning Area consists of the land area depicted in Maps 1-5.

POLICY 1.2: *LONG-TERM MASTER PLAN*

The North Ranch Master Plan consists of a principles and guidelines element and unadopted data and analysis, and shall serve to guide future growth and development within the North Ranch Planning Area. The principles and guidelines element of the North Ranch Master Plan consists of the North Ranch Goals, Objectives, and Policies, Maps 1-5, and Tables 1-15 (North Ranch Element).

POLICY 1.3: *RELATIONSHIP TO OTHER COMPREHENSIVE PLAN POLICIES*

The North Ranch Element is intended to implement the County's policies for Mixed Use Districts, as set forth in the Comprehensive Plan's Future Land Use Element, within the North Ranch Planning Area. Where the North Ranch Element prescribes principles and guidelines on a subject that is also addressed elsewhere in the Osceola County Comprehensive Plan, the site-specific principles and guidelines of the North Ranch Element shall control. Otherwise, all policies within the Comprehensive Plan shall apply to the North Ranch Planning Area.

POLICY 1.4: *LAND USE ALLOCATIONS*

The Master Plan forms the basis upon which organizing elements are oriented to convey the overall urban form. Lands within the North Ranch Planning Area shall be planned for the generalized land uses shown in Table 1.

POLICY 1.5: *PLACE TYPES*

Development in the North Ranch Planning Area shall consist of seven place types. General characteristics of these place types are listed in Table 2.

Table 1. Planned Land Uses in the North Ranch Planning Area

Land Use	Acres	Percent
Conservation	38,566	29
Agriculture*	17,127	13
Reservoirs	7,104	5
Mixed-use land use**	70,192	53
Total	132,989	100

* Includes lands for potential Pennywash/Wolf Creek Reservoir

** Mixed-use land use includes net urban developable acres (45,625), greenways, trails, parks and open space (19,654 acres) and transportation rights-of-way for major roads and transit (4,913 acres)

Table 2. Development Place Types in the North Ranch Planning Area

Place Type	Characteristics
Urban Center	An Urban Center is the location for regional-scale commercial uses having a trade area extending outside the Mixed Use District. An Urban Center is generally served by one or more multimodal corridors and contains a diverse mix of commercial, office, business, residential, and public, park and civic uses. This type of Center has a structure and character resembling traditional downtowns. The buildings shall be sized to allow for a rich mixture of building types and sizes that can contribute to an Urban Center’s vitality and sustainability.
Employment Center	An Employment Center functions as a regional jobs center, as well as a principal work place for a Mixed Use District. An Employment Center contains high-intensity uses that are designed to meet the needs of a diversifying economy, while maintaining a pedestrian orientation and providing a high level of connectivity to adjacent residential neighborhoods and commercial centers. It is accessible to all modes of travel, to include region-serving facilities capable of providing access to other major employment and commercial centers in the region.

Place Type	Characteristics
Neighborhoods	<p>Neighborhoods consisting of Types 1 and 2 are the primary residential types within the County’s Mixed Use Districts. Since neighborhoods consume the greatest amount of developed acreage, they act as the background matrix within which other place types fit. The permeability of this matrix – achieved through the highly connected grid street pattern – allows for movement supportive of the Mixed Use District’s functional integrity. Type 2 Neighborhoods are dense residential areas where the focus is on attached housing types rather than detached housing types. The densities are intended to support transit, as well as adjacent commercial and employment centers. It can provide a transition – in terms of building form – between Employment, Urban and Community Centers and Type 1 Neighborhoods. It has a wide range of building types, such as townhouses, row houses, and apartments, and to a lesser extent patio homes, single-family homes, and cottages. Neighborhood Type 1 represents the predominant residential district type within the County’s Mixed Use Districts. The mix of housing types is oriented towards detached rather than attached units, and is served by a highly connected street system with sidewalks, and bikeways, with connections to transit facilities. Where Type 1 Neighborhoods abut large-scale conservation or agricultural areas, the highly connected streets and residential densities shall be designed to achieve compatibility with such areas.</p>
Community Center	<p>A Community Center contains vertical and/or horizontal mixed use, allowing for commercial, office, public, park, civic, and residential uses. The uses are specific to the civic and daily/weekly needs of the surrounding neighborhoods and the buildings and open spaces are sized to meet those needs. These centers are generally within a short travel distance for the majority of residents in the adjoining neighborhoods.</p>
Neighborhood Center	<p>A Neighborhood Center is an intrinsic part of a neighborhood and, as the name implies, is generally located at or near the neighborhood’s geographic center. A mix of uses is appropriate and desirable – commercial, office, civic, and parks. At a minimum, park land and civic uses are present. By providing a focal point for local activity, a Neighborhood Center helps to define the neighborhood and is typically located at or near the center of a Neighborhood pedestrian walkshed. This sense of place can be reinforced by locating Neighborhood Centers and elementary schools adjacent to one another. Structures are built to fit into the scale and design of the neighborhood.</p>
Special District	<p>A Special District serves one of two purposes. The first purpose is to set aside an area for activities providing an essential function, but which should not or cannot be mixed with other types of development because of their operations or expansive space needs. These include industrial operations, airports, correctional facilities, cemeteries, distribution centers, production facilities, and major public utilities. The second purpose is to accommodate an economic catalyst, including higher education campuses and research parks. Special Districts established for this second purpose shall be limited in number and in size, based on economic development targets identified in North Ranch Element Policy 1.10, so as not to undermine the economic viability of a District’s Employment Center or Urban Center.</p>

POLICY 1.6: 2080 DEVELOPMENT PROGRAM

The following development program (Table 3) shall guide and limit the planning and development of Mixed-Use Place Types for the North Ranch Planning Area on lands identified for urban development. All development within the North Ranch Planning Area shall be consistent with the Mixed Use District standards set forth in the Future Land Use Element.

Table 3. 2080 Development Program for the North Ranch Planning Area

2080 Land Use	Residential Units	Gross Square Feet	Rooms
Residential	182,600	—	—
Retail	—	30,335,482	—
Office	—	13,482,436	—
Industrial	—	23,968,776	—
Institutional	—	15,573,316	—
Hotel	—	—	20,390
Total	182,600	83,360,010	20,390

POLICY 1.7: DEVELOPMENT MIX BY PLACE TYPE

Uses and minimum/maximum net densities and intensities within place types in the North Ranch Planning Area shall be as shown in Table 4 and shall be consistent with the Mixed Use District standards set forth in the Future Land Use Element.

Table 4. Densities and Intensities by Place Type

Place Types	Nonresidential		Residential	
	Minimum Intensity (FAR)*	Maximum Intensity (FAR)*	Minimum Density (DU/acre)**	Maximum Density (DU/acre)**
Urban and employment centers	0.35	3.0	5/acre	100/acre
Special district	N/A	N/A	N/A	N/A
Type 1 Neighborhoods	0	1.0	5/acre	50/acre
Type 2 Neighborhoods	0	1.0	5/acre	100/acre
Community and neighborhood centers	0	2.0	5/acre	25/acre

* “Floor Area Ratio” as defined in North Ranch Element Policy 1.12.

** “Dwelling Units per acre” as defined in North Ranch Element Policy 1.12.

POLICY 1.8: 2080 POPULATION AND EMPLOYMENT

The North Ranch Planning Area shall seek to achieve a target jobs-to-housing ratio of 1.4:1 at buildout. The estimated population and residential units within the North Ranch Planning Area for the following planning periods are shown in Table 5. Total residential development at 2080 shall not exceed the

maximum established in Table 3. Land allocated in a CMP/DSAP for job-creating uses to be developed in the future shall be counted toward achievement of the target jobs-to-housing ratio, based upon the methodology prescribed by regulation in the Mixed Use District Development Standards pursuant to Policy 4.9.

Table 5. 2060 and 2080 Population and Residential-Unit Estimates for the North Ranch Planning Area

Planning Period	Population	Residential Units
By 2060	355,000	131,700
By 2080	493,000	182,600

POLICY 1.9: PRIMARY URBAN CENTER

One primary urban center or central business district (CBD) shall be oriented around the station where two proposed rail lines intersect. This center shall provide the highest development densities and intensities within a footprint of approximately one square mile extending one-half mile from the transit hub, containing higher intensity, mixed use development, including regionally oriented office, retail and civic use, and higher intensity residential development.

POLICY 1.10: TARGETED INDUSTRY CLUSTERS

To stimulate a diverse and dynamic range of economic development and primary employment opportunities, development within the North Ranch Planning Area shall target specific industry clusters and connect emerging and expanding job clusters between Central Florida and the Space Coast. Target industry clusters shall include:

- Life sciences and allied health services
- Information technology
- Tourism, entertainment, and recreation
- Chemical and plastics manufacturing
- Food production
- Defense and security
- Higher education

POLICY 1.11: HIGHER EDUCATION CAMPUS

Up to 320 acres shall be reserved proximate to the primary urban/employment center for a college or university campus, which shall be served by a passenger/light rail line station. The campus shall be designed to meet the needs of the ultimate higher-education users and support the targeted industry clusters that locate in the vicinity. Other locations or satellite campuses shall be permissible.

POLICY 1.12: INTENSITY / DENSITY

Net intensity (Floor Area Ratio) for non-residential use is defined as a ratio of the total amount of building square footage to developable land area occupied by non-residential use, net of rights-of-way, stormwater, parks, civic uses, and any other use.

Net density (Dwelling unit/acre) for residential use is defined as a ratio of the total number of residential dwelling units to developable land area occupied by residential use, net of rights-of-way, stormwater, parks, civic uses, and any other use.

POLICY 1.13: INTERIM USE OF LAND

Unless otherwise restricted in the North Ranch Element, legal land uses existing at the time of adoption of the North Ranch Master Plan shall be allowed to continue until such time as the site occupied by the particular use is developed or redeveloped consistent with the North Ranch Element and Mixed Use District policies.

POLICY 1.14: TRANSIT CORES IN PREMIUM TRANSIT STATION AREAS

Within the urban, employment, and community center place types, development shall be designed to achieve over time the standards in Tables 6 and 7 within one-quarter mile of a station for premium transit (commuter rail, light rail, bus rapid transit or a bus hub serving at least three fixed local bus routes with headways of less than 30 minutes).

Table 6. Minimum Net Residential Density Targets

Place Type	Commuter / Light Rail	BRT / Bus
Primary Urban Center (CBD)	55 DU/acre*	30 DU/acre
Urban and Employment Centers	40 DU/acre	20 DU/acre
Community Centers	12 DU/acre	10 DU/acre

*"Dwelling Unit/acre" as defined in North Ranch Element Policy 1.12.

Table 7. Minimum Net Intensity Targets

Place Type	Commuter / Light Rail	BRT / Bus
Primary Urban Center (CBD)	2.0 FAR*	1.5 FAR
Urban and Employment Centers	2.0 FAR	1.0 FAR
Community Centers	1.0 FAR	0.5 FAR

* "Floor Area Ratio" as defined in North Ranch Element Policy 1.12.

POLICY 1.15: TRANSIT NEIGHBORHOODS IN PREMIUM TRANSIT STATION AREAS

Within the urban, employment, and community center place types, development shall be designed to achieve over time the standards in Tables 8 and 9 between one-quarter and one-half mile from a station for premium transit (commuter rail, light rail, bus rapid transit or a bus hub serving at least three fixed local bus routes with headways of less than 30 minutes).

Table 8. Average Minimum Residential Density Targets

Place Type	Commuter / Light Rail	BRT / Bus
Primary Urban Center (CBD)	15 DU/acre*	10 DU/acre
Urban and Employment Centers	12 DU/acre	7 DU/acre
Community Centers	8 DU/acre	6 DU/acre

*"Dwelling Unit/acre" as defined in North Ranch Element Policy 1.12.

Table 9. Average Minimum Intensity Targets

Place Type	Commuter / Light Rail	BRT / Bus
Primary Urban Center (CBD)	2.0 FAR*	1.5 FAR
Urban and Employment Centers	2.0 FAR	1.0 FAR
Community Centers	1.0 FAR	0.5 FAR

* "Floor Area Ratio" as defined in North Ranch Element Policy 1.12.

POLICY 1.16: WORKFORCE HOUSING IN TRANSIT STATION AREAS

In order to promote a range of housing types and choices, Osceola County shall encourage the development of workforce housing within one-half mile of stations for premium transit (commuter rail, light rail, bus rapid transit or a bus hub serving at least three fixed local bus routes with headways of less than 30 minutes). Incentives may include increases in building height, density bonuses, waiver or reduction of mobility and impact fees, reduction of parking and setback requirements, reservation of infrastructure capacity without cost, expedited processing of applications for Concept Plans and Site Development Plans, and similar measures. In addition, granny flats and garage apartments will not be included in unit or density calculations. For purposes of this policy, "workforce housing" means housing that is affordable to natural persons or families whose total household income does not exceed 140 percent of the area median income, adjusted for household size.

OBJECTIVE 2: MULTIMODAL TRANSPORTATION

Foster sustainable economic development with a regional roadway grid and premium transit facilities in new or improved existing transportation corridors based on those identified by the East Central Florida Corridor Task Force and shown on Maps 2 and 5.

POLICY 2.1: MULTIMODAL TRANSPORTATION SYSTEM

The multimodal system, including framework street and fine-grained street hierarchy, network and design spacing, speed and design guidelines, etc., shall be developed consistent with adopted Osceola County Mixed-Use District regulations at the time of approval.

POLICY 2.2: TRANSPORTATION CORRIDOR PLANNING

The County deems new or improved existing transportation corridors to be in the public interest in order to promote and facilitate a connected network of multimodal transportation facilities and utilities

to serve local and regional needs in the future. The County will work in coordination with the Florida Department of Transportation (FDOT), Central Florida Expressway Authority (CFX), Osceola County Expressway Authority (OCX), Brevard and Orange counties, the landowner, and other regional partners on transportation facilities that cross county lines and on Evaluation Studies of the following corridor alternatives in the North Ranch Planning Area as recommended in the Final Report of the East Central Florida Corridor Task Force (dated Dec. 1, 2014):

- To enhance east-west travel to and from Northern Brevard County, Alternative D (a new multimodal corridor in Osceola and Orange counties);
- To enhance east-west travel to and from Central and Southern Brevard County, Alternative E (U.S. 192) and Alternative F (new multimodal corridor in Osceola and Brevard counties); and
- To enhance north-south travel between Orange and Osceola counties, Alternative I (new multimodal corridor in Osceola and Orange counties).

Limited-access facilities and rail alignments shown on Maps 2 and 5 within the corridor study areas identified by the East Central Florida Corridor Task Force and shown on Map 1 are conceptual and subject to review and approval in Evaluation Studies and subsequent planning, design, and permitting processes.

POLICY 2.3: AMENDMENT OF TRANSPORTATION ELEMENT MAP SERIES

Following completion of Evaluation Studies of new or improved existing transportation corridors in the North Ranch Planning Area, within one year the County shall consider amendments to the North Ranch Element and the Comprehensive Plan's Transportation Element map series to identify the general location for such corridors. Such corridors shall incorporate multiple modes and uses, innovative design, and advanced technologies. In making decisions about new or improved existing transportation corridors, the County shall utilize the 21 guiding principles recommended by the East Central Florida Corridor Task Force to achieve a balance with considerations of corridors, conservation, countryside, and centers.

POLICY 2.4: RIGHT-OF-WAY RESERVATION

Following adoption of amendments to the Comprehensive Plan's Transportation Map series to include the limited access facilities and multimodal corridors denoted in Maps 2 and 5 and their inclusion in the master plan of a local or regional transportation agency, right-of-way for these facilities shall be reserved by the landowner for future conveyance. Reservation means that land will not be committed to an irreversible land use that would preclude construction of planned transportation facilities and shall be by means of a subsequent written agreement with the County and/or other transportation agencies specifying right-of-way width consistent with Table 10 and other terms. The County will work with MetroPlan Orlando, Space Coast Transportation Planning Organization, and other regional partners to revise their long-range transportation plans and transit plans to incorporate the multimodal corridors. The approval of any CMP/DSAP shall require the reservation of right-of-way for the limited-access facilities and multimodal corridors located within Osceola County which are necessary to serve the CMP/DSAP.

POLICY 2.5: LIMITED-ACCESS FACILITIES AND FIXED TRANSIT LOCATIONAL STANDARDS

The limited-access facilities shall be located on the edge of centers and neighborhoods so as to minimize disruption to centers and neighborhoods. Fixed transit (commuter or light rail or bus rapid transit) shall be located to travel through and serve each center. When crossing Conservation Lands designated on Map 4 (Environmental Plan), limited-access facilities and fixed transit shall be co-located to the maximum extent feasible.

POLICY 2.6: ROADWAY AND TRANSIT DESIGN GUIDELINES

The design of transportation facilities in the North Ranch Planning Area and the reservation of right-of-way required by Policy 2.4 shall be consistent with the guidelines in Tables 10. Multimodal corridors shall be planned for maximum four lanes to the extent feasible based on the capacity of the gridded street network within the CMP/DSAP to contribute to distribution of vehicular traffic.

Table 10. Roadway Design Guidelines

Road Type	Typical Right-of-Way (feet)	Transit Envelope	Bicycle Treatment	Pedestrian Treatment
Limited Access Facilities	300 to 500	50 to 100 foot envelope (as needed)	Not allowed in right-of-way, parallel trail as needed	Not allowed in right-of-way, parallel trail as needed
Multimodal Corridor	120 to 180	30 to 50 foot envelope (as needed)	Bike lanes or adjacent bike paths	Sidewalks on both sides, intersection crosswalks

POLICY 2.7: TRANSPORTATION FACILITIES

The North Ranch Planning Area shall be served by a transportation network designed to optimize mobility and to support the Mixed Use District goals and policies in the Future Land Use Element. The network shall include the major transportation facilities identified in Table 11 and depicted on Map 5. Limited-access facilities shall be planned for four to six general-purpose lanes and two to four managed lanes. In order to promote transit and walkability, multimodal corridors and other framework streets shall be consistent with the size and capacity limits of the Mixed Use District Development Standards. Within centers and neighborhoods, a grid of interconnected parallel streets will provide additional capacity and alternative travel paths. Bus rapid transit (BRT) shall be composed of two dedicated bus lanes with stations in the road right-of-way. For purposes of the County’s mobility fee ordinance, development within the North Ranch Planning Area shall be considered transit-oriented development. The County shall not approve a CMP/DSAP within the North Ranch Planning Area unless the applicant demonstrates that transportation facilities will meet the system performance standards or mobility indicators required by Policy 4.10

Table 11. Major Transportation Facilities

Road Type	Location	Orientation	Transit
Limited Access 1	Osceola Parkway to SR 520	East-West	Premium transit
Limited Access 2	LA 1 to I-95	East-West	Premium transit
Limited Access 3	SR 528 to US 192	North-South	Premium transit
Limited Access 4	NE Connector to LA 2	East-West	Premium transit
Multimodal Corridor A	Western Centers	North-South	BRT or light rail in roadway ROW
Multimodal Corridor B	Western North-South Multimodal Corridor	North-South	Commuter or light rail in exclusive parallel ROW
Multimodal Corridor C	Eastern North-South Multimodal Corridor	North-South	Commuter or light rail in exclusive parallel ROW
Multimodal Corridor D	Eastern Centers	North-South	Commuter or light rail in exclusive parallel ROW
Deer Park Road	West of Agricultural Area	North-South	N/A
Nova Road	West of Agricultural Area	East-West	N/A
Multimodal Corridor E	Northern East-West Multimodal Corridor	East-West	Commuter or light rail in exclusive parallel ROW
Multimodal Corridor F	Southern East-West Multimodal Corridor	East-West	Commuter or light rail in exclusive parallel ROW
Multimodal Corridor G	North of Wolf Creek/Pennywash Agricultural Area	East-West	BRT or light rail in roadway ROW
Multimodal Corridor H	Between Wolf Creek / Pennywash Agricultural Area	East-West	BRT or light rail in roadway ROW
Multimodal Corridor I	South of Wolf Creek / Pennywash Agricultural Area	East-West	BRT or light rail in roadway ROW
Multimodal Corridor J	North of US 192	East-West	Commuter or light rail in exclusive parallel ROW
US 192	South Boundary	East-West	Commuter or light rail in exclusive parallel ROW

POLICY 2.8: CO-LOCATION OF COMPATIBLE LINEAR INFRASTRUCTURE

Compatible linear infrastructure shall be co-located with transportation facilities in the North Ranch Planning Area to the maximum extent feasible. The rights-of-way reserved and conveyed for new or improved existing transportation corridors shall be restricted to one or more transportation facilities as defined in section 334.03, F.S., telecommunications lines, electrical transmission and distribution lines, pipelines for liquefied or gaseous substances, and other compatible linear infrastructure.

OBJECTIVE 3: PUBLIC FACILITIES

The supply and delivery of safe and adequate public facilities shall accommodate existing and future development consistent with the Comprehensive Plan. An aspirational goal of the North Ranch Element is to be water-sustainable by employing significant conservation measures and development of sufficient on-site water supply sources to meet the needs of the North Ranch Planning Area.

POLICY 3.1: POTABLE WATER

Protection of the potable water supply and delivery of safe and adequate potable water service shall be provided consistent with the Comprehensive Plan's Potable Water Element and Water Supply Facilities Work Plan. The County shall not approve a CMP/DSAP within the North Ranch Planning Area unless the water supplier demonstrates that it has adequately permitted water source(s) and capacity at all necessary facilities to provide service to the development and certifies that adequate water sources and infrastructure shall be available no later than the date of issuance of building permits.

POLICY 3.2: WATER CONSERVATION

Water use shall be managed through water conservation measures required by the Comprehensive Plan, including but not limited to FLUE Policy 1.1.10, Potable Water Element Policy 1.3.1, and the Water Supply Facilities Work Plan, and through the Land Development Code. At a minimum, new construction shall meet Florida Water Star™ Silver standard or such other standard as required for all development throughout the Urban Growth Boundary, whichever is more stringent; utilize reclaimed water for irrigation when available for new development, with metering at point of service to allow a conservation rate structure and usage data; and use of lowest-quality water economically, technically, and environmentally suitable for its intended use. Development shall incorporate such conservation measures and techniques in effect and required by regulatory agencies and/or water suppliers on the date of Concept Plan and Site Development Plan approval.

POLICY 3.3: WASTEWATER

An effective system of wastewater collection, treatment, disposal and reuse to serve the North Ranch Planning Area shall be provided consistent with the Comprehensive Plan's Sanitary Sewer Element. The County shall not approve a CMP/DSAP within the North Ranch Planning Area unless the wastewater service provider demonstrates that it has adequately permitted treatment capacity at all necessary facilities to provide service to the development and certifies that adequate infrastructure shall be available no later than the date of issuance of building permits.

POLICY 3.4: STORMWATER

A comprehensive stormwater management system shall be provided consistent with the Comprehensive Plan's Stormwater Management Element to protect persons and property from flooding, prevent negative impacts to the natural groundwater aquifer and safeguard surface waters against the degradation of water quality to promote the public health, safety, and welfare. Surface water management systems shall incorporate the functions of the natural on-site system and shall be based upon the best management practices adopted by the water management district.

POLICY 3.5: SOLID WASTE

An effective system for the collection, transportation, recycling, storage, and disposal of solid waste generated in the North Ranch Planning Area shall be provided consistent with the Comprehensive Plan's Solid Waste Element. The County shall not approve a CMP/DSAP within the North Ranch Planning Area unless the solid waste service provider demonstrates that it has adequate capacity to collect, transport, recycle, store, and dispose of solid waste from the development and certifies that adequate infrastructure shall be available no later than the date of issuance of building permits.

POLICY 3.6: GREENWAYS, TRAILS, PARKS, RECREATION AND OPEN SPACE

Regional and community parks, recreational trails and facilities, and open space to improve the community's physical health, promote relaxation, and enhance the quality of life shall be provided consistent with the Comprehensive Plan's Parks and Recreation Element. Each CMP/DSAP shall plan, design, and address funding for the greenways and multi-use trail network within its boundaries, based on all relevant data and analysis used in preparation of the North Ranch Element and on detailed surveys that will be consistent with and facilitate connections for the Greenways and Trails System shown in Maps 2 and 5. Trail segments shall minimize impacts to conservation areas, wetlands and agricultural operations and will be implemented by phase in conjunction with CMPs/DSAPs. The final boundaries for greenways, trails, parks, and recreation facilities shall be identified through detailed surveys in connection with each CMP/DSAP.

POLICY 3.7: SCHOOLS

POLICY 3.7.1: SCHOOL LOCATIONS

Schools shall be strategically located in relation to neighborhoods and centers in order to serve residents and provide a focal point for the neighborhood and centers within which the school is located. Co-location with parks and civic spaces shall be encouraged. For planning purposes, student stations for public schools at 2080 are projected at 66,988.

POLICY 3.7.2: EDUCATIONAL FACILITIES

Each CMP/DSAP shall be analyzed for the impacts of future residential land uses on public schools and identify needed educational facilities based upon then-applicable pupil generation rates, standards of the applicable educational facilities plan (including ancillary facilities), and provisions set forth in the Interlocal Agreement Between the Board of County Commissioners of Osceola County, Florida; City of Kissimmee; City of St. Cloud; and the School Board of Osceola County, Florida, Relating to School Concurrence and the Planning and Coordination of Public School Facilities ("ILA"), as amended from time to time. Any needed educational facilities shall be included in the capital improvements program required by Policy 4.7 and the school board's five-year district facilities work plan.

POLICY 3.7.3: SCHOOL SITES

School sites designated in each CMP/DSAP shall meet the siting standards of the Comprehensive Plan, the ILA, and sections 333.03, F.S., and 1013.36, F.S., and shall be served by infrastructure as required by the ILA. If soil conditions on a school site require remediation in order to permit vertical construction, such remediation shall be included in the capital improvements program. Each CMP/DSAP shall address

the provision of infrastructure necessary for school sites within that CMP/DSAP.

POLICY 3.8: FINANCING

Public facilities in the North Ranch may be financed, constructed, owned, operated, or maintained by any governmental or private entity allowed by law, including but not limited to independent or dependent special districts established by ordinance, state rule, or special act of the Legislature; one or more property owners' associations; one or more homeowners' associations; or any combination thereof. Any such entity may finance public facilities through any means available by law.

POLICY 3.9: LANDSCAPE STANDARDS

With the exception of lands developed for golf course fairways and greens, and playing fields for sports activities, all landscaped areas within lands that are developed for multi-family and single-family attached residential, commercial, or industrial uses, as well as all public parks and common areas shall:

- (a) Select all plant material from the "Florida Friendly Landscaping™ Guide to Plant Selection and Landscape Design", its successor guide, or other regionally appropriate plant material guide approved by the County Manager;
- (b) Utilize Florida native plant material to the extent feasible in conjunction with appropriate soils and moisture regimes;
- (c) Group plantings in zones according to water requirements with separate irrigation zones for high water demand vegetation and drought-tolerant vegetation;
- (d) Avoid utilization of any invasive species listed by the Florida Exotic Pest Plant Council; and
- (e) Provide continuity of on-site and off-site open space and greenway systems (e.g., wildlife corridors or wetlands systems), where feasible.

OBJECTIVE 4: IMPLEMENTATION

Implement the North Ranch Master Plan with adopted procedures consistent with State law and the Comprehensive Plan in order to achieve the planning goals.

POLICY 4.1: URBAN GROWTH BOUNDARY

The County's Urban Growth Boundary (UGB) is expanded to include all of the property within the North Ranch Planning Area as shown in Map 3 and designated as a Mixed Use District on the County's Future Land Use Maps 1A, 1B, 2A, and 2B. Should a landowner seek to withdraw all or a portion of their property from the North Ranch Master Plan, the UGB shall be amended to exclude the subject property and the Mixed Use District future land use designation shall be amended to reflect a rural future land use designation.

POLICY 4.2: CONCEPTUAL MASTER PLANS / DETAILED SPECIFIC AREA PLANS

Urban development within the North Ranch Planning Area may only be authorized by approval of a CMP/DSAP. Each CMP/DSAP shall be consistent with the North Ranch Element and shall be prepared in accordance with section 163.3245, F.S., the Comprehensive Plan, and the Land Development Code, except adoption of a CMP shall not require amendment of the Comprehensive Plan. The principles and guidelines in this North Ranch Element shall be implemented for a specific project site through adoption

or approval of Conceptual Master Plans, Concept Plans and Site Development Plans, as required by the Land Development Code.

POLICY 4.3: *MAXIMUM SIZE OF CMPs/DSAPs*

The maximum size of a CMP/DSAP shall be 20,000 acres and the minimum size shall be 1,000 acres. The number of employment centers and/or urban centers for each CMP/DSAP shall not exceed two centers, and their supporting community and neighborhood centers and residential uses, and any special districts.

POLICY 4.4: *RELATIONSHIP TO NORTHEAST DISTRICT*

CMPs/DSAPs proposed prior to 2040 may be approved by the Board of County Commissioners only upon a finding that urban development within the North Ranch Planning Area will promote achievement of the County's economic and growth management goals and not impede development of the Northeast District. Such a finding shall be based upon data and analysis demonstrating (1) transportation infrastructure adequate to facilitate development of CMPs/DSAPs as regional job centers is planned and financed or in place; (2) the amount, character, and velocity of jobs created in the Northeast District demonstrates, through measurements such as its jobs/housing ratio, the likelihood of further success in job creation there; (3) the CMPs/DSAPs target non-residential uses to meet the North Ranch's economic development objectives and include supporting residential uses for an appropriate jobs/housing balance; (4) the CMPs/DSAPs shall be located along limited-access expressways and transit corridors in order to support their financial feasibility; and (5) the CMPs/DSAPs will facilitate economic connections to existing or emerging job centers that will further the County's economic development goals.

POLICY 4.5: *TRANSPORTATION SYSTEM OF FIRST CMP/DSAP*

If not already in place, prior to approval of the first CMP/DSAP: (1) the transportation infrastructure necessary to connect the CMP/DSAP to the Northeast District must be scheduled for construction by the appropriate transportation agency consistent with the time when needed; and (2) the right-of-way for fixed transit associated with the expressway must be reserved. If an alignment for the fixed transit right-of-way has not been identified at the time of review of the first CMP/DSAP, such right-of-way must be reserved following approval of an alignment by the pertinent transit agency. A limited-access facility included in the work program of FDOT, CFX, OCX, or any other transportation agency may be constructed within the North Ranch Planning Area without adoption of a CMP/DSAP, subject to receipt of all required local, state, and federal permits.

POLICY 4.6: *ADOPTION OF SUBSEQUENT CMPs/DSAPs*

Following adoption of the first CMP/DSAP, subsequent CMP/DSAPs shall be adopted only upon a finding by the Board of County Commissioners that substantial progress has been made to achieve the job creation objectives of the previously approved urban/employment centers, based upon data and analysis regarding previously approved CMP/DSAPs with respect to (1) jobs actually created; (2) the projected jobs/housing ratio for previously approved CMP/DSAPs as measured by the methodology prescribed by regulation in the Mixed Use District Development Standards pursuant to Policy 4.9; and (3) overall progress in attracting employers in target industries identified in Policy 1.10. Development of centers shall occur in an orderly manner based on the County's economic development strategies, sound public facility planning, and market conditions to facilitate logical and efficient extensions of infrastructure, and support planned and/or existing transportation facilities. More than one CMP/DSAP

may be implemented concurrently provided they are in geographically separate locations and address specific economic development objectives.

POLICY 4.7: CAPITAL IMPROVEMENT PLANS

Each CMP/DSAP shall include a capital improvements program for planned public facilities, with a five-year capital improvements schedule as required by section 163.3245(3)(b), F.S.

POLICY 4.8: CMP/DSAP PRE-APPLICATION CONFERENCE

Before filing an application for approval of a CMP/DSAP, the applicant shall request and the County shall convene a pre-application conference to identify the type and level of information required for purposes of review. In advance of the conference, the applicant shall provide preliminary information regarding the proposed CMP/DSAP, including the project location, the type and magnitude of land uses, preliminary site and environmental information, preliminary phasing and buildout dates, and specific methodology proposals. State and regional agencies (including the Florida Department of Transportation) and other local governments shall be invited to participate to facilitate intergovernmental coordination to address extrajurisdictional impacts from the future land uses. Within 14 days following the conference, the County shall document the issues identified and agreements reached by the participants, including a summary of assumptions and methodologies, which shall be provided to the applicant and all invited participants. Assumptions and methodologies agreed to at the pre-application meeting shall govern preparation and review of the CMP/DSAP unless subsequent changes to the project or information obtained during review make those assumptions and methodologies inappropriate.

POLICY 4.9: UNIFORM STANDARDS FOR REVIEW OF CMP/DSAP APPLICATIONS

Prior to convening the first pre-application conference for a CMP/DSAP in the North Ranch Planning Area, the County shall adopt a regulation, in the Mixed Use District Development Standards of the Land Development Code, setting forth uniform review standards for CMP/DSAP applications in the North Ranch Planning Area. The standards shall address the issues set forth in section 163.3245(3)(b), F.S., and shall include all forms, application content, and guidelines and standards necessary to implement the North Ranch Master Plan through individual CMP/DSAPs. In addition, the regulation shall prescribe a methodology for analyzing jobs/housing ratios consistent with the methodology utilized in the FDOT Central Florida Regional Planning Model. The regulation shall require that progress toward achieving the target jobs-to-housing ratio be assessed in conjunction with the periodic evaluation reports required by section 163.3191, F.S.

The regulation shall require the applicant to transmit copies of each CMP/DSAP application to the reviewing agencies specified in section 163.3184(1)(c), F.S., or their successors, and adjacent counties for review and comment as to whether the CMP/DSAP is consistent with the Comprehensive Plan and the North Ranch Element. Any comments from the reviewing agencies or adjacent counties shall be submitted in writing, within 30 days from the applicant's transmittal of the application, to the County and the state land planning agency. In preparation and adoption of the regulation, the County shall consult with state and regional agencies and interested local governments. The regulation shall be updated from time to time to reflect new or changed requirements of state law.

POLICY 4.10: *TRANSPORTATION SYSTEM STANDARDS OR INDICATORS*

The North Ranch Element generally identifies transportation facilities to serve the North Ranch Planning Area. Prior to convening the first pre-application conference for a CMP/DSAP in the North Ranch Planning Area, the County shall adopt a regulation, in the Mixed Use District Development Standards of the Land Development Code, establishing multimodal transportation system performance standards or mobility indicators to ensure that development within a CMP/DSAP will optimize mobility and support the Mixed Use District goals and policies in the Future Land Use Element. The standards or indicators shall be consistent with the Transportation Element. If a roadway level-of-service standard is adopted, it may allow for reductions from standard trip generation and travel demand modeling methodologies to account for the location of development in walkable, transit-supportive areas; greater availability and use of transit, bicycles, walking, and other alternative modes; and broader regional benefits on mobility. The regulation may include a multimodal areawide standard that takes into account these and similar considerations intended to create quality communities of a design that promotes travel by multiple transportation modes. The standards or indicators shall be developed in consultation with the Florida Department of Transportation.

OBJECTIVE 5: INTERGOVERNMENTAL COORDINATION

The County shall coordinate future development activities and provision of services with appropriate federal, state and local governments; regional agencies; districts; and municipalities.

POLICY 5.1: *TRANSPORTATION*

POLICY 5.1.1: *REGIONAL LIMITED-ACCESS FACILITIES*

The landowner and Osceola County shall work with state and regional agencies (FDOT, OCX, CFX, MetroPlan Orlando and Space Coast Transportation Planning Organization) and Brevard and Orange counties to plan, design, and construct the regional transportation network identified in the North Ranch Element. East-west and north-south multimodal transportation corridors serving the North Ranch Planning Area will be determined following Evaluation Studies of the new or improved existing corridors as recommended by the East Central Florida Corridor Task Force. In addition, standard roadway planning processes, such as long range transportation plan updates, feasibility studies, Project Development and Environmental (PD&E) Studies, and final designs will be utilized. As part of this effort, a funding mechanism will be identified, which could include federal, state, and local transportation revenues; developer contributions; mobility or impact fees; tolling; and other user fees. Planning processes will determine the phasing for construction. The landowner shall reserve right-of-way for limited-access facilities as provided in Policy 2.4. Land contributions shall receive dollar-for-dollar credit, based on fair market value, against mobility, impact, or other transportation-related fees.

POLICY 5.1.2: *REGIONAL TRANSIT NETWORK*

Osceola County will work in coordination with FDOT, MetroPlan Orlando, the Space Coast Transportation Planning Organization, regional and local transit agencies, and other regional partners in preparation of a regional passenger rail and transit plan to identify and set priorities for long-term passenger rail and transit investments in Osceola, Brevard, and Orange counties. The landowner and Osceola County shall work with federal, state, and regional transit agencies (e.g., Federal Transit Administration, FDOT, Lynx, and Space Coast Area Transit) to plan, design, and construct the regional transit network identified in the North Ranch Element. Standard transit planning processes, such as long-range transportation plan updates, feasibility studies, Alternatives Analysis Studies and final

designs, will be utilized. As part of this effort, a funding mechanism will be identified, which could include federal, state, and local transportation revenues; regional and county-wide revenues (such as sales taxes); developer contributions; mobility or impact fees; fare box revenues; and other user fees. Planning processes will determine the phasing for construction. The landowner shall reserve right-of-way for regional passenger rail and transit as provided in Policy 2.4 and Policy 4.5. Land contributions shall receive dollar-for-dollar credit, based on fair market value, against mobility, impact, or other transportation-related fees.

POLICY 5.1.3: FRAMEWORK AND LOCAL STREET NETWORK

Private developers shall be primarily responsible for planning, designing, funding, and constructing the local street network defined in CMPs/DSAPs and subsequent plan approval steps. Framework streets may be constructed with funding from mobility fees. If framework streets are constructed by a private developer, the developer shall receive dollar-for-dollar credit, based on fair market value, against mobility, impact, or other transportation-related fees.

POLICY 5.1.4: SUBREGIONAL TRANSIT NETWORK

Osceola County, regional and local transit agencies, and private developers shall be primarily responsible for planning, designing, funding, and implementing subregional transit service (e.g., fixed route bus service, demand responsive service). Potential routes that interconnect with the regional transit spines will be defined in CMPs/DSAPs and subsequent plan approval steps. Funding mechanisms and amounts will be determined cooperatively by Osceola County, subregional and local transit agencies, and private developers during the development and approval of CMPs/DSAPs and may include federal, state, and local transportation revenues; regional and county-wide revenues (such as sales taxes); developer contributions; mobility or impact fees; fare box revenues; and other user fees. Land contributions shall receive dollar-for-dollar credit, based on fair market value, against mobility, impact, or other transportation-related fees. Planning processes will determine the phasing for construction. Service will begin once deemed feasible by the transit operating agency.

POLICY 5.1.5: GREENWAYS AND TRAILS NETWORK

The landowner will work with adjacent landowners and regional, state, and federal agencies to identify off-site connections to trails, such as the Florida National Scenic Trail.

POLICY 5.2: COORDINATION IN PLANNING TRANSPORTATION CORRIDORS TO ADJACENT COUNTIES

In the evaluation of and planning for new or improved existing east-west or north-south transportation corridors in the North Ranch Planning Area to connect with transportation facilities in adjacent counties, Osceola County shall work in coordination with those counties and state and regional transportation agencies. If any such new or improved transportation facility would adversely affect lands held for conservation purposes in an adjacent county, Osceola County will work in coordination with the local government and any affected resource agency to identify, in advance of construction, measures that will minimize and mitigate those impacts. If any such new or improved transportation facility would adversely affect an approved development in an adjacent county, Osceola County shall work in coordination with the local government and affected landowners to identify, in advance of construction, measures that will address those effects.

POLICY 5.3: WATER SUPPLY DEVELOPMENT

The County shall coordinate with the St. Johns River Water Management District (SJRWMD), the South Florida Water Management District (SFWMD), and water suppliers for the development of water sources for the area within the adopted plan for the Central Florida Water Initiative (CFWI). The County shall also seek to incorporate the water needs, sources and water resource development, and water supply development projects identified in the North Ranch Master Plan into the regional water supply plan pursuant to section 373.709, F.S. The County also shall periodically identify water supply development projects, including traditional or alternative water supply development projects, to serve the North Ranch Planning Area and include them in the Ten-Year Water Supply Facilities Work Plan required by Potable Water Objective 1.6 and Intergovernmental Coordination Objective 1.5. Such projects shall be consistent with the adopted plan for CFWI or the most current regional water supply plan adopted by SJRWMD or SFWMD, as the case may be, or as proposed by the County pursuant to section 373.709(8)(b), F.S.

POLICY 5.4: UTILITIES

The County shall coordinate with the utility providers serving the North Ranch Planning Area, Toho Water Authority (TWA) and East Central Florida Services, Inc. (ECFS), to ensure adequate potable water, non-potable water, and wastewater treatment capacity are available when needed for development within each CMP/DSAP.

POLICY 5.5: EDUCATIONAL FACILITIES

The County shall coordinate with the School Board of Osceola County, Valencia College, the University of Central Florida, and other public and private educational institutions with respect to the planning, design, financing, and construction of educational facilities in the North Ranch Planning Area.

POLICY 5.6: OFF-SITE CONSERVATION LANDS

The County will coordinate with other governmental entities during the planning and review of CMP/DSAPs in order to conserve and protect publicly owned natural areas or permitted mitigation banks outside the North Ranch Planning Area, including but not limited to Tosahatchee Wildlife Management Area, Seminole Ranch Conservation Area, Hal Scott Preserve, Split Oak Mitigation Park, Bull Creek, Three Forks Conservation Area, River Lakes Conservation Area, the Ritch Grissom Wetlands (a/k/a Viera Wetlands), Triple N Ranch, and Quickdraw Mitigation Bank.

OBJECTIVE 6: CONSERVATION STRATEGY

Identify, conserve, manage, restore, and protect regionally significant natural resources during and after development in accordance with section 163.3245, F.S., the North Ranch Environmental Plan (Map 4) and the Conservation Element of the Osceola County Comprehensive Plan unless otherwise modified by the North Ranch Element.

POLICY 6.1: REGIONALLY SIGNIFICANT CONSERVATION LANDS

Lands identified for permanent preservation as conservation are shown in Map 4 (North Ranch Environmental Plan) as Central Wetland/Upland Mosaic, Landscape Linkages, Additional Wildlife Areas, Conserved Wetlands, and Econlockhatchee Protection Zone, and these lands are designated as "Conservation Lands" on Map 2 (North Ranch Framework Plan). These allocations of Conservation Lands are intended to protect regionally significant environmental resources on the North Ranch and are

identified in Table 12. The County finds that the Conservation Lands have long-term significant regional ecological value and intends that they should be considered by regulatory agencies in the future as compensatory mitigation for wetland, upland, and other impacts for purposes of Chapter 373 and 379 permitting. Additional environmental resources will be protected as addressed in the Comprehensive Plan’s Conservation Element and the North Ranch Element.

Table 12. Conservation Lands within the North Ranch Planning Area

Type of Land	Uplands	Wetlands	Water	Total
Central Wetland/Upland Mosaic*	9,897	7,840	15	17,752
Landscape Linkages*	1,430	484	3	1,917
Additional Wildlife Areas*	5,839	3,298	3	9,140
Conserved Wetlands*	1,784	7,674	2	9,460
Econlockhatchee Swamp Protection Zone*	277	20	0	297
Total (Acres)	19,227	19,316	23	38,566

*Upland, wetland, and surface water acreages based on 2009 land use data from SJRWMD.

POLICY 6.2: AGRICULTURAL LANDS

Lands identified for permanent preservation as agriculture are shown in Map 4 (Environmental Plan). It is recognized that these Agricultural Lands, due to their location and character, have habitat and other natural values that form a part of the regionally based Environmental Plan for the North Ranch Planning Area. These allocations of Agricultural Lands are intended to identify those lands intended to remain in long term agricultural production on the North Ranch as more specifically identified in Table 13.

Table 13. Agricultural Lands within the North Ranch Planning Area

Type of Land	Uplands	Wetlands	Water	Total
Agricultural Lands*	12,463	4,552	112	17,127

*Upland, wetland, and surface water acreages based on 2009 land use data from SJRWMD and include the site for the potential Pennywash/Wolf Creek Reservoir unless the reservoir is permitted by regulatory agencies.

POLICY 6.3: RESERVOIR RESOURCES

Lands identified as reservoirs are shown in Map 4 (Environmental Plan). These water resources, in addition to providing valuable water supply, provide benefits to fish and wildlife resources, and add a lentic habitat type to the Environmental Plan. These reservoir acres are intended to protect significant water resources on the North Ranch and are identified in Table 14.

Table 14. Reservoir Resource Acreage within the North Ranch Planning Area

Type of Land	Uplands	Wetlands	Water	Total
Taylor Creek Reservoir*	0	3,191	3,913	7,104
Potential Pennywash/Wolf Creek Reservoir**	0	2,841	2,707	5,548
Total (Acres)	0	6,032	6,620	12,652

*Acreage based on maximum operating level of 46.0 feet NGVD29. Wetland and surface water acreages based on analyses of anticipated vegetative community change by CH2M/PB Joint Venture (2009) and BDA.

**Will remain in agriculture unless a reservoir is permitted by state and federal agencies. Wetland and surface water acreages based on BDA analysis of anticipated post-reservoir vegetative community change.

POLICY 6.4: ENVIRONMENTAL LANDS WITHIN DEVELOPABLE ACREAGE

Lands that are not otherwise identified as conservation, agriculture, or reservoir resources on Map 4 and are identified as areas suitable for future development may contain areas of natural upland or wetland communities. These resources will be identified and protected as required by the Comprehensive Plan’s Conservation Element and will be incorporated into the lands identified as Greenways and Trails, Parks and Open Space consistent with the overall conservation and development strategy for the planning area in a manner that will supplement and contribute to the North Ranch Environmental Plan. Wetlands and uplands made subject to conservation easements shall be allowed to serve as mitigation for wetland and other impacts or species relocation consistent with Policy 6.19.

POLICY 6.5: RATIO FOR CONSERVATION EASEMENTS AND AGRICULTURAL RESTRICTIONS

For every acre of developable land area¹ within a CMP/DSAP, 0.508 acres of Conservation land and 0.238 acres of Agricultural land, as identified in Map 4 (Environmental Plan), must be placed into a conservation easement or agricultural easement.²

POLICY 6.6: PROCEDURES FOR CONSERVATION EASEMENTS AND AGRICULTURAL RESTRICTIONS

Any Conservation Lands or Agricultural Lands located within the geographic boundary of a CMP/DSAP shall be included in the lands to be protected as a result of approval of that CMP/DSAP. If additional Conservation Lands or Agricultural Lands are required to meet the ratios set forth in Policy 6.5 then such additional land will be preserved using the prioritization set out in Table 15. Accordingly, permanent protection of these lands may occur outside of a specific CMP/DSAP boundary (yet within the North Ranch Planning Area) so long as the ratios set forth above are achieved. To the extent a CMP/DSAP provides conservation or agricultural acreage beyond that required by Policy 6.5, subsequent CMP/DSAPs are entitled to a credit for the additional acreage provided in preceding CMPs/DSAPs.

Table 15. Prioritization of Conservation and Agricultural Lands

Priority	Conservation and Agricultural Lands	Acreage
	Conservation Lands	
1	Additional Wildlife Areas (north to south)	9,140
2	Central Wetland/Upland Mosaic (north to south)	17,752
3	Econlockhatchee Swamp Protection Zone (north to south)	297

¹ For purposes of this policy, “developable land area” includes all greenways, trails, parks and open space; transportation rights-of-way for major roads and transit; and the remaining net urban developable, or 72,100 acres.

² The conservation and agricultural ratio reflects the North Ranch Planning Area total conservation acres in comparison to the total developable land area (36,658/72,100 = 0.508) and the total Agricultural Lands (inclusive of Pennywash/Wolf Creek Acreage) in comparison to total developable land area (17,127/72,100 = 0.238). If authorized for construction, Pennywash/Wolf Creek acreage will be counted in the agricultural land preservation requirement.

Priority	Conservation and Agricultural Lands	Acreage
4	Landscape Linkages (south to north)	1,917
5	Conserved Wetlands	9,460
	Agricultural Lands	
6	Eastern Agricultural Lands (north to south)	11,579
7	Potential Pennywash/Wolf Creek Reservoir	5,548
	Total	55,693

POLICY 6.7: TIMING OF PERPETUAL PROTECTIONS

Conservation easements for Conservation Lands or agricultural easements for Agricultural Lands shall be effective before or concurrent with the effective date of the CMP/DSAP for which they are granted based on the formula in Policy 6.5. Any such easement may be based on rectified aerial photographs without the need for a boundary survey and may include a right of adjustment authorizing the grantor to modify portions of the protected area and substitute other lands in their place if the lands to be substituted (a) contain no less gross acreage than the lands to be removed; (b) have equivalent values in the proportion and quality of wetlands, uplands, and wildlife habitat; and (c) are contiguous to other protected lands. The adjustment shall be accomplished by recording an amendment to the easement as accepted by the grantee. In addition, any wetlands less than 25 acres in size that maintain a hydrologic connection to larger wetlands within Conservation lands, or are clustered in close proximity to larger wetlands within Conservation lands or to one another, to the extent that they are determined to be regionally significant at the time of permitting, shall be protected by a conservation easement consistent with Policy 6.7 and a Management Plan consistent with Policy 6.10.

POLICY 6.8: INTERIM LAND USE POLICIES FOR CONSERVATION AND AGRICULTURAL LANDS

Upon the effective date of the North Ranch Element and prior to recordation of the Land Protection Agreement required by Policy 6.9, uses within areas designated as Conservation shall be restricted to those uses currently occurring on the ranch. Ranching shall be subject to the Florida Department of Agriculture and Consumer Services’ Water Quality Best Management Practices for Cow/Calf Operations (2008). In designated Conservation Lands, the clear-cutting of wetlands or upland hardwood or long-leaf pine forest areas or the conversion of pasture areas to more intensive uses shall be prohibited.

Pursuant to section 163.3245(9), F.S., the right to continue existing agricultural or silvicultural uses or other natural resource-based operations, or to establish similar new uses, within areas designated as Agriculture shall continue after the effective date of the North Ranch Element until such lands become subject to the Land Protection Agreement. Ranching shall be subject to the Florida Department of Agriculture and Consumer Services’ Water Quality Best Management Practices for Cow/Calf Operations (2008).

POLICY 6.9: INTERIM DECLARATION OF RESTRICTIONS AND LAND PROTECTION AGREEMENT

Within one year after the effective date of the North Ranch Master Plan, the landowner shall prepare and submit a Declaration of Restrictions and Land Protection Agreement (“Land Protection Agreement”) for review and approval by the Board of County Commissioners. The Land Protection Agreement shall address the Conservation Lands and Agricultural Lands identified on Map 4 (Environmental Plan) and

shall designate them by rectified aerial photographs without the need for a boundary survey. The agreement shall be recorded, however, after recordation it shall be automatically null and void in the event that (a) all or any portion of the North Ranch Planning Area is removed from the Mixed Use District and Urban Growth Boundary without the landowner's consent prior to approval of the first CMP/DSAP; (b) the landowner records a legal instrument for the entire North Ranch Planning Area unilaterally relinquishing all rights to uses that were not in existence prior to the adoption of the North Ranch Element and requests that the County restore the prior Agricultural land use classification for the entire North Ranch Planning Area; or (c) after approval of the first or subsequent CMP/DSAP, the landowner records a legal instrument for the remainder of the North Ranch Planning Area unilaterally relinquishing all rights to uses that were not in existence prior to the North Ranch Element and requests that the County restore the pre-existing land use classifications to the remainder of the North Ranch Planning Area.

POLICY 6.9.1: RIGHTS ON PROTECTED CONSERVATION LANDS

The Land Protection Agreement shall set forth the landowners' rights to the following uses and activities, where compatible with the resource values of and management objectives for the particular Conservation Lands on which they would be located:

- Ranching subject to the Florida Department of Agriculture and Consumer Services' Water Quality Best Management Practices for Cow/Calf Operations (2008);
- Passive recreation, hunting camps/leases, and access to navigable waters for any purpose;
- Maintenance of necessary roads, stormwater systems, and ranch drainage facilities;
- Controlled burning;
- Wellheads and well fields and ancillary linear facilities in accordance with applicable regulatory criteria and consistent with the Comprehensive Plan;
- Maintenance of existing silviculture activities in accordance with best management practices; and
- Any use or activity compatible with the resource values of and management objectives for the particular Conservation Lands on which it would be located and not otherwise prohibited by the Osceola County Comprehensive Plan or the Land Protection Agreement.

POLICY 6.9.2: RESTRICTIONS ON PROTECTED CONSERVATION LANDS

The Land Protection Agreement shall prohibit the following activities in Conservation Lands:

- The clear-cutting of wetlands or upland hardwood or long-leaf pine forest areas;
- The conversion of pastures to more intensive uses; and
- Residential development.

POLICY 6.9.3: RIGHTS ON PROTECTED AGRICULTURAL LANDS

The Land Protection Agreement shall set forth the landowners' rights to the following uses and activities, where compatible with the resource values of and management objectives for the particular Agricultural Lands on which they would be located:

- Ranching subject to the Florida Department of Agriculture and Consumer Services' Water Quality Best Management Practices for Cow/Calf Operations (2008);
- The production of agricultural products in accordance with adopted best management practices;
- Ranch- and farm-related support activities and facilities, including but not limited to storing, processing, or transporting agricultural products;
- Row crop farming;
- Permanent planting, such as blueberries and citrus;
- Commercial activity directly serving agricultural pursuits within the North Ranch Planning Area and vicinity and limited to the service of agricultural pursuits;
- Silviculture activities in accordance with best management practices;
- Controlled burning;
- Passive recreation, hunting camps/leases, and access to navigable waters for any purpose;
- Maintenance of ranch and farm roads, drainage areas, and forested areas (including thinning and timbering consistent with best management practices);
- Land clearing for purposes of fire protection, road maintenance, and removal of diseased, damaged, or invasive exotic vegetation;
- Existing and future wellheads and well fields and ancillary linear facilities;
- Creation of water reservoirs for agricultural or non-agricultural consumptive uses, subject to receipt of SJRWMD, SFWMD and/or ACOE permits;
- Mining operations for dirt or shell done according to a management plan to leave a water amenity designed to enhance diversity of land cover types and wildlife;
- Existing and future unpaved roads necessary for ranch and farm operations;
- Agricultural stormwater management areas necessary for drainage, retention, detention, treatment, and/or conveyance of water from agricultural lands consistent with permits from SJRWMD or SFWMD for each such area;

- Ranch manager or ranch worker housing on unsubdivided land;
- Rodeo grounds; and
- Any use or activity compatible with the resource values of and management objectives for the particular Agricultural lands on which it is located and not otherwise prohibited by the Osceola County Comprehensive Plan or the Land Protection Agreement.

POLICY 6.9.4: RESTRICTIONS ON PROTECTED AGRICULTURAL LANDS

The Land Protection Agreement shall relinquish on Agricultural Lands the right to develop residential uses other than ranch manager and ranch worker housing on unsubdivided land and shall also prohibit all uses not allowed on lands with a future land use designation as Rural/Agricultural. In addition, the Land Protection Agreement shall prohibit the clear-cutting of wetlands and any upland hardwood or long-leaf pine forest areas within the riverine floodplain of the area identified for the potential Pennywash/Wolf Creek Reservoir, provided that this restriction shall expressly allow for the future permitting and construction of the reservoir.

POLICY 6.10: LAND AND HABITAT MANAGEMENT PLANS FOR CONSERVATION LANDS

In conjunction with the approval of each CMP/DSAP and in advance of actual physical development within any CMP/DSAP, a Land and Habitat Management Plan (“Management Plan”) shall be developed for the Conservation Lands to be protected in conjunction with that CMP/DSAP in order to secure and maximize the value of those Conservation Lands. Each Management Plan shall be submitted to the Board of County Commissioners for approval in conjunction with the associated CMP/DSAP; prior to approval, comment shall be solicited from the relevant water management district, the Department of Environmental Protection, and the Florida Fish and Wildlife Conservation Commission or their successor agencies.

Conservation Lands shall be subject to Management Plans for the purpose of wildlife preservation; maintenance of native species diversity; management of the natural environment; restoration of environmental resources, where warranted; and responsibility for long-term management. Each Management Plan shall identify Conservation Lands for cattle-grazing; hunting leases and camps; thinning of forested areas for habitat management; prescribed fire and controlled burning; the removal of exotic, damaged, or invasive plant species; and the landowner’s reserved rights in a manner that is consistent with the long-term development, conservation, and agricultural objectives of the North Ranch Element. Where necessary, the Management Plans will identify the most suitable transportation and utility crossings in a manner that minimizes impacts on conservation resources and uses, and identify areas appropriate for passive recreation access and use. The Management Plans shall incorporate lands used to mitigate impacts to wetlands and listed wildlife species and their habitat within the CMP/DSAP and on any other Conservation Lands to be protected in conjunction with that CMP/DSAP. The Management Plans shall identify the responsible party, whether the landowner, successors in interest, the grantee of a conservation easement, or any other person or entity, to manage the conservation areas consistent with the approved Management Plans. The Management Plan for each CMP/DSAP shall be incorporated into the conservation easement for the Conservation Lands to be protected in conjunction with that CMP/DSAP.

POLICY 6.11: RESERVED RIGHTS IN PROTECTED CONSERVATION LANDS

The Conservation Lands designated on Map 4 (Environmental Plan) shall have their developmental uses restricted in perpetuity by conservation easements that meet the objective of section 704.06, F.S., and are effective as required by Policy 6.7. Rights reserved to the grantor shall include those set forth in Policy 6.9.1 to the extent not inconsistent with the conservation objectives of a particular parcel of Conservation Lands and shall be set forth in the Management Plans and conservation easements, which shall replace and supersede the Land Protection Agreement as to lands addressed by each easement.

POLICY 6.12: PARTIES TO CONSERVATION EASEMENTS

Conservation easements for Conservation Lands shall be granted to Osceola County, at minimum. The County may require the inclusion of additional grantees consistent with the Management Plan for the parcel in question, including one or more of the following: the St. Johns River Water Management District, the South Florida Water Management District, the Florida Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission.

POLICY 6.13: MANAGEMENT OF CONSERVATION LANDS

Once protected by conservation easements, Conservation Lands shall be managed as “natural” areas of native uplands and wetlands consistent with the Management Plans required by Policy 6.10. The Additional Wildlife Areas have historically been used for cattle grazing, hunting leases and camps, silviculture activities, and similar uses as part of the surrounding agricultural operations but have not been developed into more intensive agriculture. Conservation easements and the Management Plans for such areas shall allow grantor (and its successors and assigns), to continue existing on-site uses in Additional Wildlife Areas without converting those areas to more intensive agricultural uses.

Water resource development is critical to the County and the region; thus, to the extent compatible with the resource values of and management objectives for the particular Conservation Lands on which they would be located, wellheads and well fields and ancillary linear facilities shall be allowed in such lands and incorporated into any Management Plans in accordance with applicable regulatory criteria and consistent with the Comprehensive Plan.

POLICY 6.14: ECONLOCKHATCHEE SWAMP

A Protection Zone is hereby established 250 feet landward of the eastern edge of the wetlands comprising the Econlockhatchee Swamp for the purpose of enhancing protection of the Econlockhatchee Swamp Preservation Area established by and consistent with NED Element Policies 1.5.1. and 1.5.2.

POLICY 6.15: WILDLIFE DATA

Consistent with Policy 4.8, an applicant for a CMP/DSAP shall coordinate with the Florida Fish and Wildlife Conservation Commission to address potential fish and wildlife resource issues and wildlife data collection methodology prior to submittal of the CMP/DSAP application.

An applicant for CMP/DSAP approval within the North Ranch Planning Area shall compile and submit baseline data for state or federally listed wildlife or plant species whose range includes the CMP/DSAP area under consideration when the area within the CMP/DSAP under consideration has suitable habitat for these species. Baseline data for such listed species will be based on Florida Fish and Wildlife

Conservation Commission and/or U.S. Fish and Wildlife Service survey methodologies. Baseline data for non-listed wildlife and plant species may consist of published information and data obtained through less formal means.

POLICY 6.16: *WETLANDS AND FLOODPLAINS*

Development shall minimize encroachment into wetland habitat areas by ensuring that public and private roads avoid crossing wetlands, or require that such crossings are sited at the narrowest point of a wetland allowing for an efficient transportation design while maintaining the continuity of identified wildlife corridors. No net reduction in floodplain storage shall be permitted within the 100-Year Floodplain of the Econlockhatchee Swamp or the St. Johns River (as adopted by FEMA). Otherwise, floodplains shall be managed consistent with the Comprehensive Plan's Conservation Element.

POLICY 6.17: *WILDLIFE CROSSINGS*

Osceola County and the landowner will collaborate with the Florida Fish and Wildlife Conservation Commission, the U.S. Fish and Wildlife Service, the Florida Department of Transportation, and applicable expressway authorities to establish standards and locations for wildlife crossings on public roads that cross wetlands and other potential wildlife corridors. Roads will provide such wildlife crossings for rivers, streams, and Conservation Lands. To facilitate these wildlife crossings, Osceola County shall require appropriately sized and number of crossings and fencing to direct species to the crossings.

POLICY 6.18: *ST. JOHN RIVER AND ECON SWAMP WATER QUALITY*

Osceola County will continue to coordinate with the water management districts on all development approvals in the North Ranch Planning Area to ensure the continued compliance with the water quality standards of the Econlockhatchee Swamp, an Outstanding Florida Water, and the St. Johns River.

POLICY 6.19: *WETLAND MITIGATION*

Wetland acreage and function within the North Ranch Planning Area shall be protected through compliance with Osceola County, state, and federal environmental permitting requirements. For purposes of permanent protection of Conservation Lands designated on Map 4 (Environmental Plan), the delineation of wetlands shall be based upon the jurisdictional determination by the governing agency.

Conserved Wetlands depicted on Map 4 (Environmental Plan) utilized for mitigation within the North Ranch Planning Area shall be made subject to conservation easements consistent with the requirements of the authorizing regulatory agency. These easements will be defined in a manner that serves as permitted mitigation for wetland or other impacts or species relocation, but in no event shall the conservation easement be granted later than required by Policy 6.7. The mitigation conservation easement area shall allow passive recreation facilities (walking and biking trails, boardwalks/catwalks, wildlife management shelters, footbridges, observation decks, and similar structures) and uses which meet the intent of section 704.06, F.S., and shall be subject to Management Plans.

POLICY 6.20: *MITIGATION OF IMPACTS*

To the extent authorized by federal, state or regional permitting agencies, Conservation Lands associated with the CMP/DSAP under consideration may be utilized for achieving any mitigation requirements.

POLICY 6.21: *TRANSPORTATION/UTILITY CORRIDORS*

Conservation Lands and Agricultural Lands may incorporate transportation and utility corridors as identified, designed, permitted and subsequently approved by governing regulatory authorities. At the time of recordation of conservation easements or agricultural easements, as the case may be, identified transportation/utility corridors shall be reserved, and the easements shall otherwise accommodate future transportation and utility corridors. Such transportation/utility corridors shall be designed and located in a manner that avoids or minimizes impacts to the identified Conservation Lands and is consistent with the Management Plans. Each corridor shall be restricted to rights of way for one or more transportation facilities as defined in section 334.03, F.S., and telecommunications lines, electrical transmission and distribution lines, pipelines for liquefied or gaseous substances, and other compatible linear infrastructure. In consultation with the Florida Fish and Wildlife Conservation Commission, rights of way for such facilities shall minimize impacts to wetlands and wildlife habitat and shall make adequate provision for the protection of wildlife movement. Conservation or Agricultural Lands traversed by transportation or utility corridors will not necessitate the preservation of additional lands to achieve the ratios set forth in Policy 6.5.

OBJECTIVE 7: AGRICULTURE

Ensure that the North Ranch Planning Area maintains sustainable agriculture through continued economically viable ranching and farming during and after development.

POLICY 7.1: *RESERVED AGRICULTURAL RIGHTS*

Areas designated as Agricultural Lands on Map 4 (Environmental Plan) shall have their developmental uses restricted in perpetuity by agricultural easements based on the procedures set forth in Policies 6.5, 6.6, and 6.7. Rights reserved to the grantor, including those set forth in Policy 6.9.3, shall be set forth in the agricultural easements, which shall replace and supersede the Land Protection Agreement as to lands addressed by each easement.

All areas of the North Ranch Planning Area, other than those designated as Conservation Lands or Agricultural Lands, shall retain the right to all agricultural or silvicultural uses or other natural resource-based operations or similar new uses allowed by law.

OBJECTIVE 8: RESERVOIR RESOURCES

Ensure that the North Ranch Planning Area maintains a sustainable alternative water supply during and after development through the use of reservoirs. Reservoirs provide an alternative water supply and function as breeding areas for amphibians, foraging areas for wading birds and reptiles, food chain support, habitat for aquatic- and wetland-dependent wildlife species, and floodwater storage. Such values contribute to the Environmental Plan.

POLICY 8.1: *TAYLOR CREEK RESERVOIR*

The Taylor Creek Reservoir consists of 7,104 acres (approximately 3,191 acres of wetlands and 3,913 acres of surface water), assuming the operating schedule is increased to its designed maximum operating level of 46 feet NGVD29. Management practices in effect upon the adoption of the North

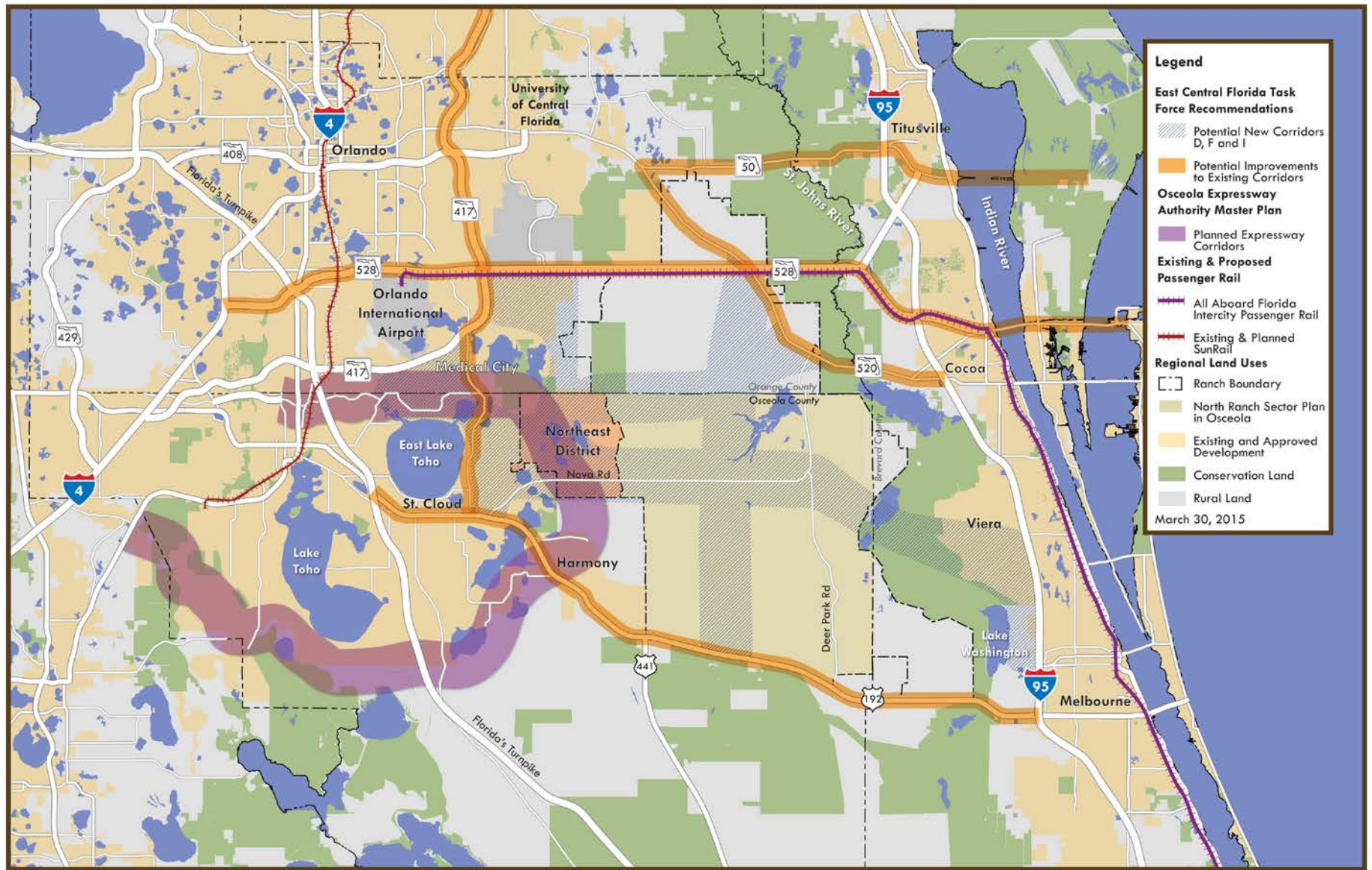
Ranch Element may continue at the landowner's discretion unless modified through consultation with the SJRWMD or other regulatory permitting agencies.

POLICY 8.2: *POTENTIAL PENNYWASH/WOLF CREEK RESERVOIR*

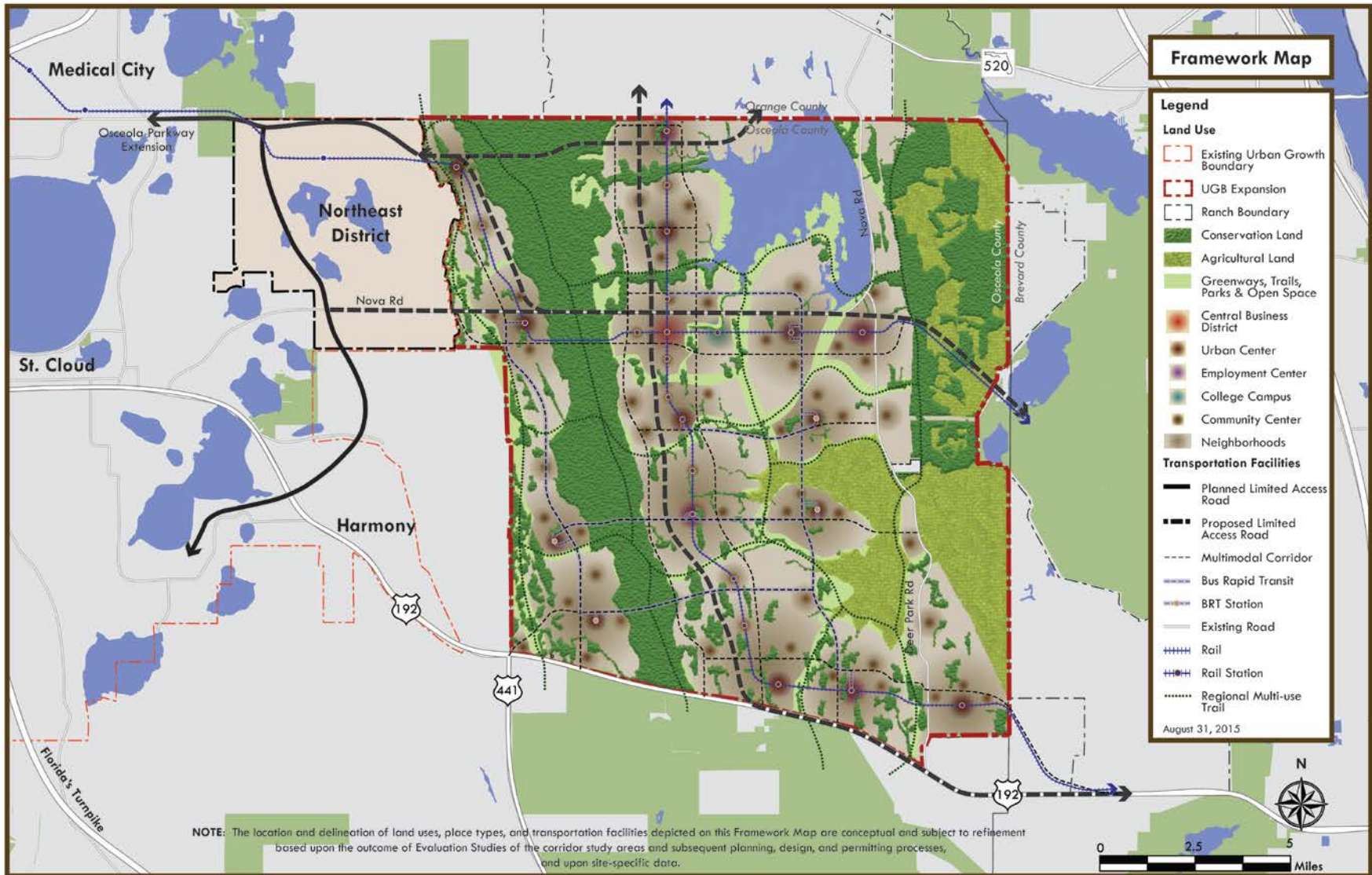
The location for a potential Pennywash/Wolf Creek Reservoir consists of 5,548 acres (approximately 3,838 acres of uplands, 1,632 acres of wetlands and 78 acres of surface water) that are planned to remain in agricultural usage; however, these lands may be utilized as a reservoir if one is approved by federal, state, and local regulatory agencies. Perpetual agricultural easements will be placed upon these lands in accordance with Policy 7.1 no later than the effective date of the final CMP/DSAP and shall prohibit the clear-cutting of wetlands or upland hardwood or long-leaf pine forest areas, unless a reservoir has been approved and constructed; however, any permanent protections placed upon these lands prior to approval and construction of a reservoir shall allow for future permitting and construction of the reservoir.

Inclusion of the Pennywash/Wolf Creek Reservoir in the regional water supply plan as a potential water source may contain a note that the extensive time frame for the North Ranch Master Plan is beyond the planning horizon of the regional water supply plan; the permissibility of the reservoir is currently unknown; a detailed environmental feasibility analysis of the reservoir will be needed in the future; and the inclusion of the reservoir in the regional water supply plan does not reflect any express or implied conclusion of the likelihood of approval of a permit for the construction of, or consumptive use of water from, the reservoir. Permissibility will be determined by agencies with jurisdiction. If a reservoir is constructed, the area is expected to consist of approximately 2,841 acres of wetlands and 2,707 acres of surface water. Water supply from the reservoir may be utilized for agricultural or non-agricultural consumptive uses as provided by SJRWMD permit.

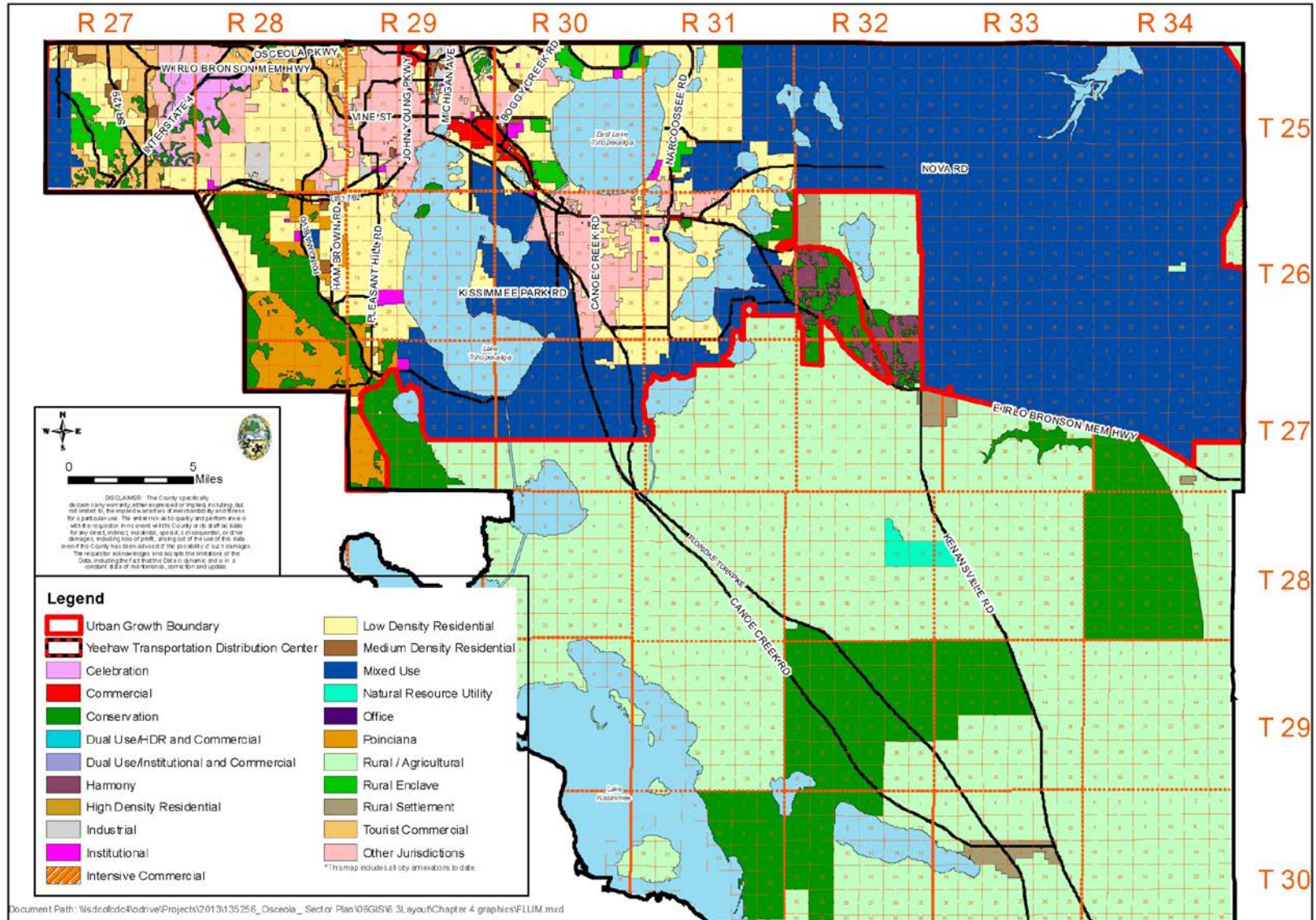
North Ranch Map 1. North Ranch Planning Area and Regional Context



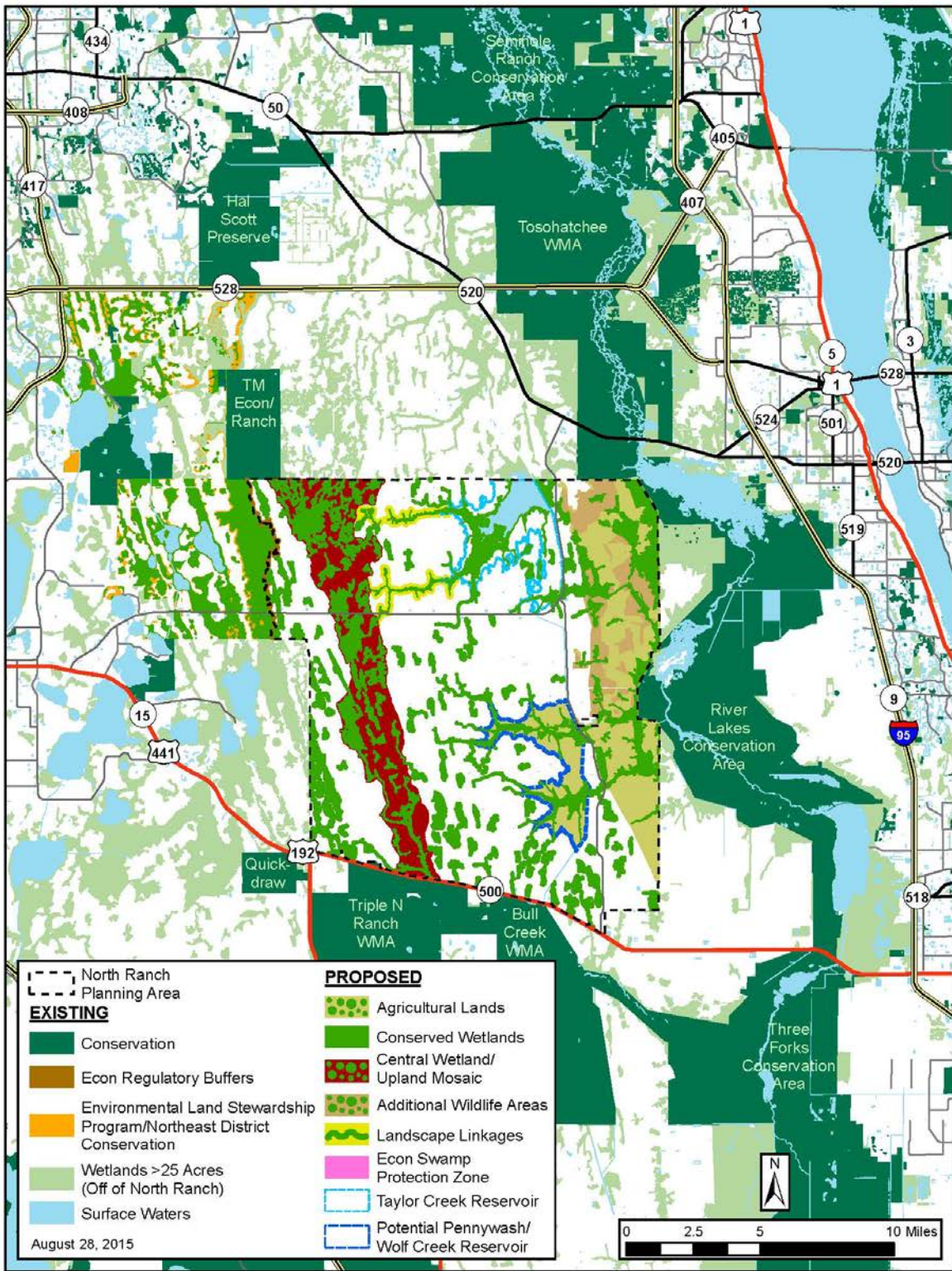
North Ranch Map 2. North Ranch Framework Plan



North Ranch Map 3. Future Land Use Map

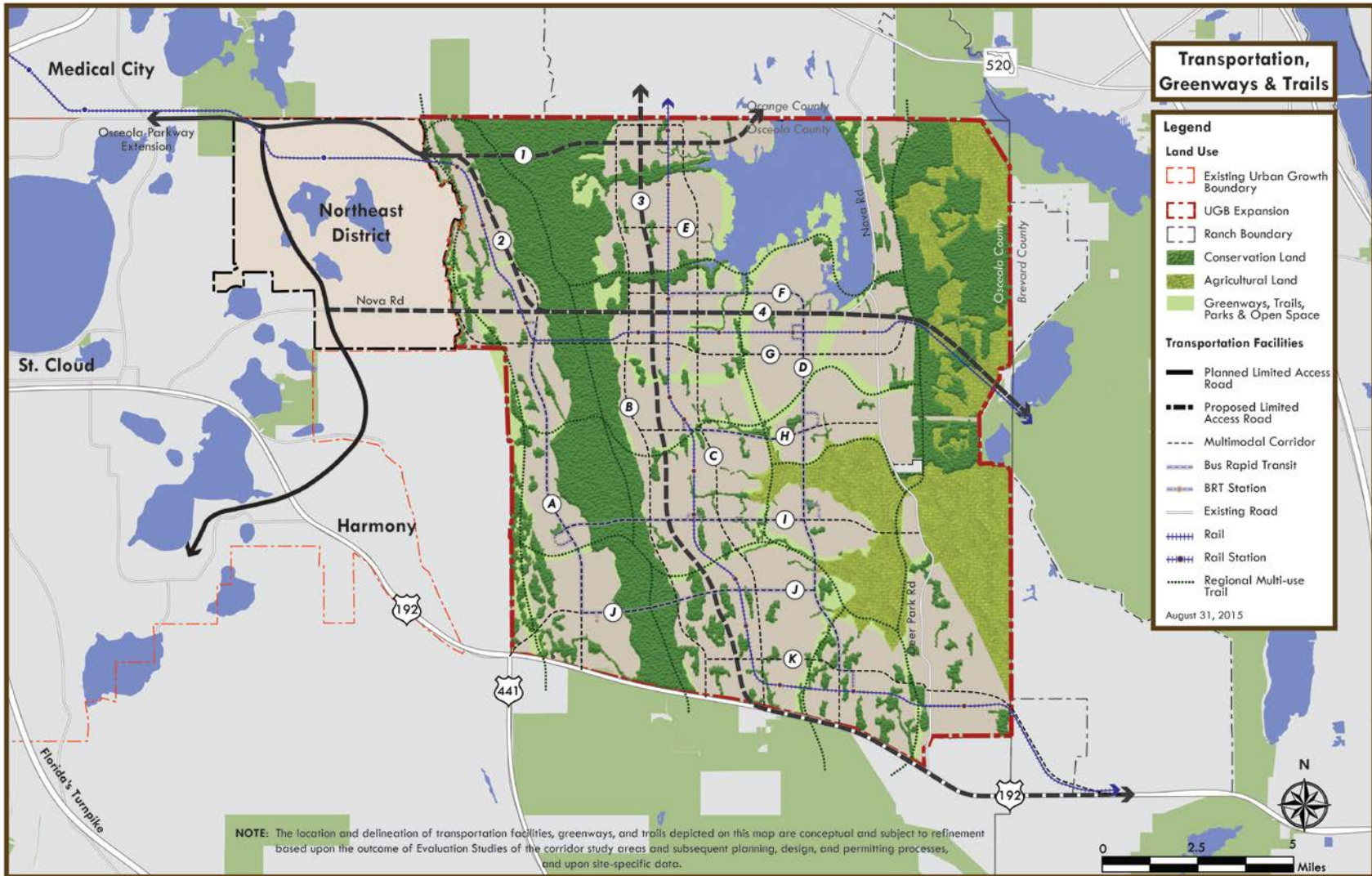


North Ranch Map 4. North Ranch Environmental Plan



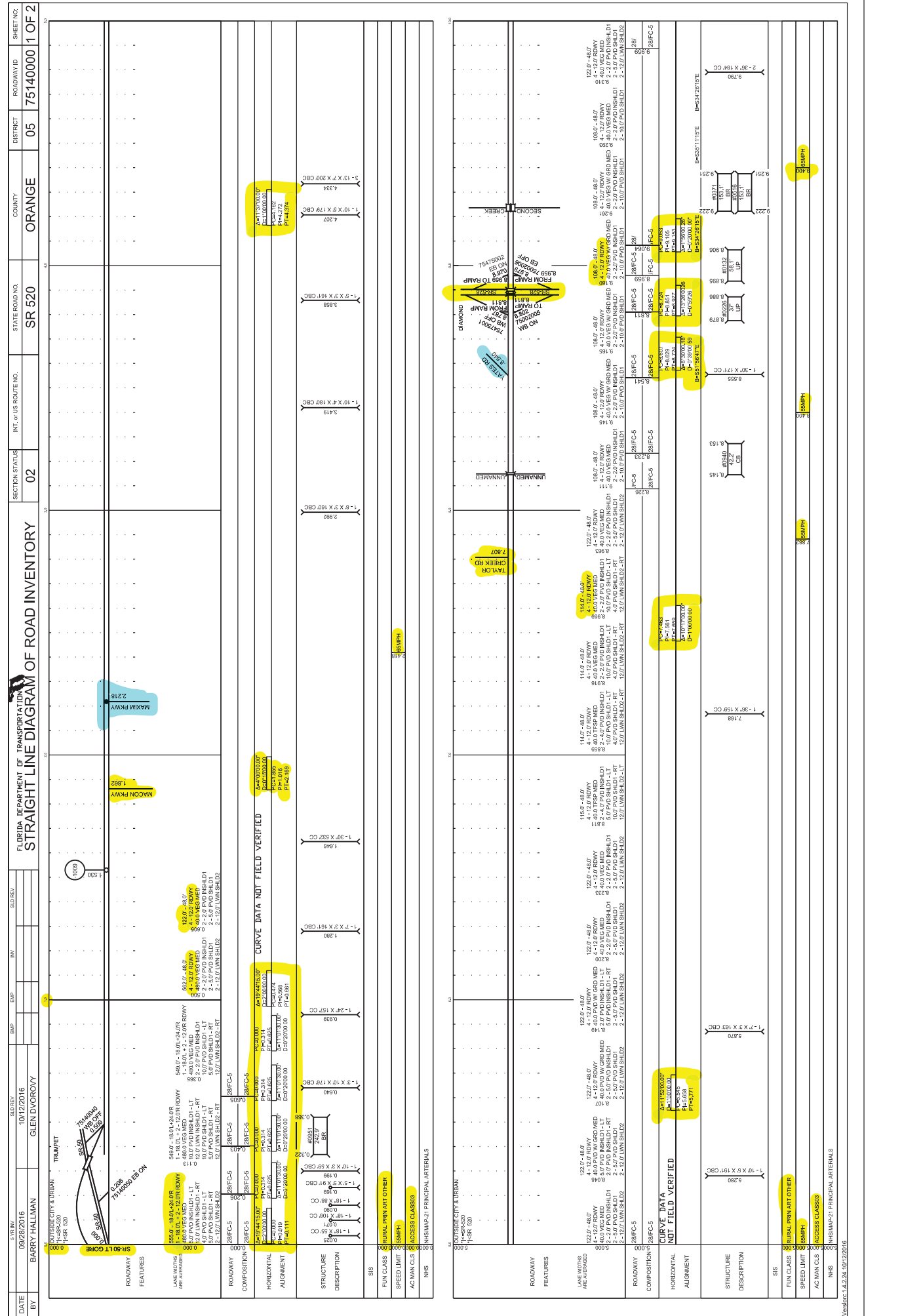
BN • 8/28/2015 • P:\ATG\2005061\2013025\2014Ranch\EnvironmentalPlan\OseolaSectorPlan\ArcGIS\OseolaSectorPlan_Transmitte05182015_A.mxd

North Ranch Map 5. North Ranch Transportation, Greenways, and Trails



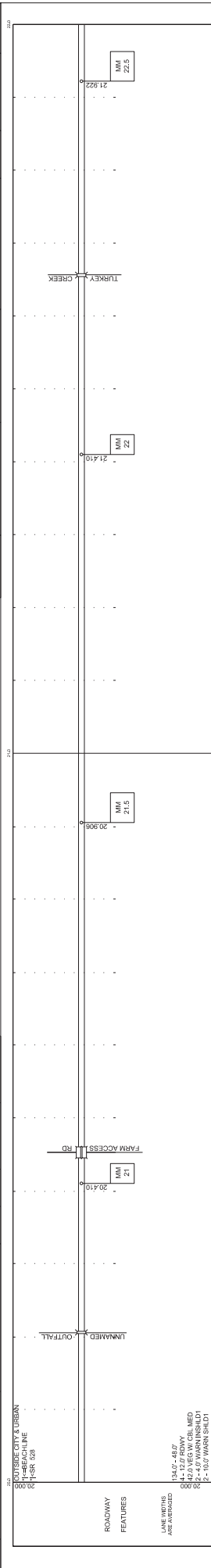
Appendix 2

FDOT Straight Line Diagrams

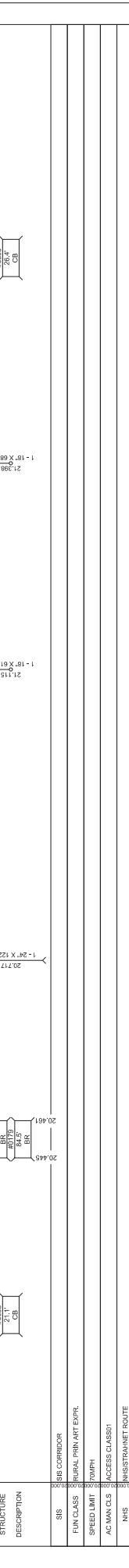


ROADWAY	COMPOSITION	HORIZONTAL ALIGNMENT	STRUCTURE DESCRIPTION	FUNCTION CLASS	SPEED LIMIT	ACCESS CLASS	NHS
SR 520	28FC-5	AS 17.41 15.00'	RURAL PRIN ART OTHER	RURAL PRIN ART OTHER	35 MPH	ACCESS CLASS33	NHS MAP 21 PRINCIPAL ARTERIALS
SR 520	28FC-5	AS 17.41 15.00'	RURAL PRIN ART OTHER	RURAL PRIN ART OTHER	35 MPH	ACCESS CLASS33	NHS MAP 21 PRINCIPAL ARTERIALS
SR 520	28FC-5	AS 17.41 15.00'	RURAL PRIN ART OTHER	RURAL PRIN ART OTHER	35 MPH	ACCESS CLASS33	NHS MAP 21 PRINCIPAL ARTERIALS

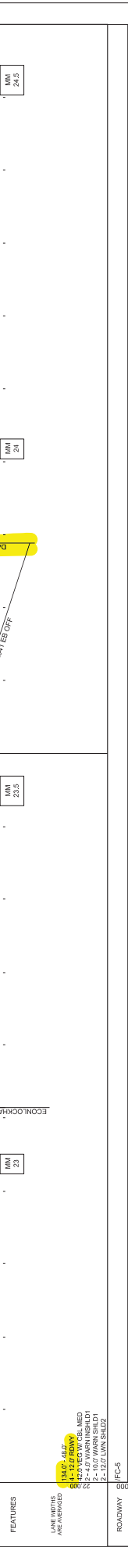
DATE	11/13/2012	SID/REV	12/12/2012	SR 482/SR 528	SECTION STATUS	02	STATE ROAD NO.	SR 482/SR 528	COUNTY	ORANGE	DISTRICT	05	ROADWAY ID	75002000	SHEET NO.	8 OF 10
BY	Elizbeth Nalson	Michael Register		FLORIDA DEPARTMENT OF TRANSPORTATION STRAIGHT LINE DIAGRAM OF ROAD INVENTORY												



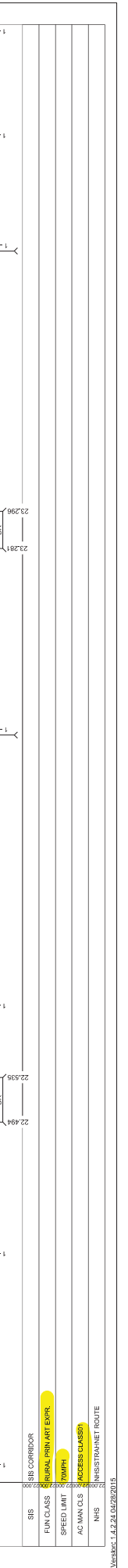
ROADWAY	FC-5
COMPOSITION	28FC-5
HORIZONTAL ALIGNMENT	FC-5
STRUCTURE DESCRIPTION	21.15
SIS	21.15
FUNCTION CLASS	RURAL PRIN ART EXPR
SPEED LIMIT	70MPH
ACCESS CLASS	AC MAN CLS
INSTRUMENT ROUTE	NHS



ROADWAY	FC-5
COMPOSITION	28FC-5
HORIZONTAL ALIGNMENT	FC-5
STRUCTURE DESCRIPTION	23.05
SIS	23.05
FUNCTION CLASS	RURAL PRIN ART EXPR
SPEED LIMIT	70MPH
ACCESS CLASS	AC MAN CLS
INSTRUMENT ROUTE	NHS



ROADWAY	FC-5
COMPOSITION	28FC-5
HORIZONTAL ALIGNMENT	FC-5
STRUCTURE DESCRIPTION	23.05
SIS	23.05
FUNCTION CLASS	RURAL PRIN ART EXPR
SPEED LIMIT	70MPH
ACCESS CLASS	AC MAN CLS
INSTRUMENT ROUTE	NHS



ROADWAY	FC-5
COMPOSITION	28FC-5
HORIZONTAL ALIGNMENT	FC-5
STRUCTURE DESCRIPTION	23.05
SIS	23.05
FUNCTION CLASS	RURAL PRIN ART EXPR
SPEED LIMIT	70MPH
ACCESS CLASS	AC MAN CLS
INSTRUMENT ROUTE	NHS



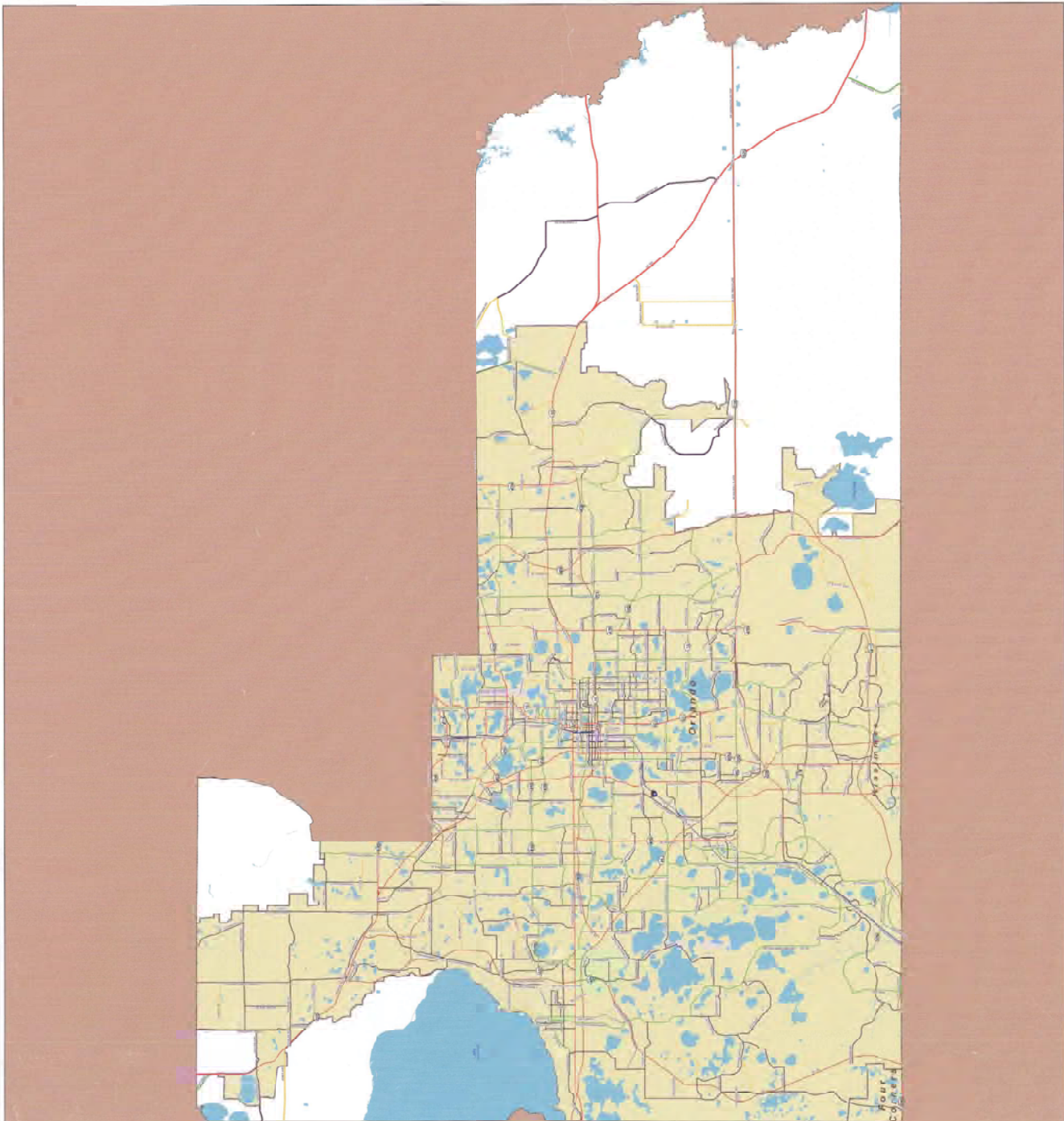
Appendix 3

FDOT District 5, 2010 Urban Area Boundary & Federal Functional Classification Maps

DISTRICT 5
2010 Urban Area Boundary &
Federal Functional Classification
Orange County, Florida

Legend

01 - Principal Arterial-Interstate	RURAL
02 - Principal Arterial-Expressway	RURAL
04 - Principal Arterial-Other	RURAL
06 - Minor Arterial	RURAL
07 - Major Collector	RURAL
08 - Minor Collector	RURAL
09 - Local	RURAL
11 - Principal Arterial-Interstate	URBAN
12 - Principal Arterial-Freeway and Expressway	URBAN
14 - Principal Arterial-Other	URBAN
16 - Minor Arterial	URBAN
17 - Major Collector	URBAN
18 - Minor Collector (Fed A/S)	URBAN
19 - Local	URBAN
2010 Adjusted Urban Area	
water	



Recommended By:

[Signature]
 MetroPlan Orlando Chairman
 05-13-14
 Date

[Signature]
 Florida Dept. of Transportation
 05-20-14
 Date

Approved By:

[Signature]
 Federal Highway Administration
 05/14/2014
 Date

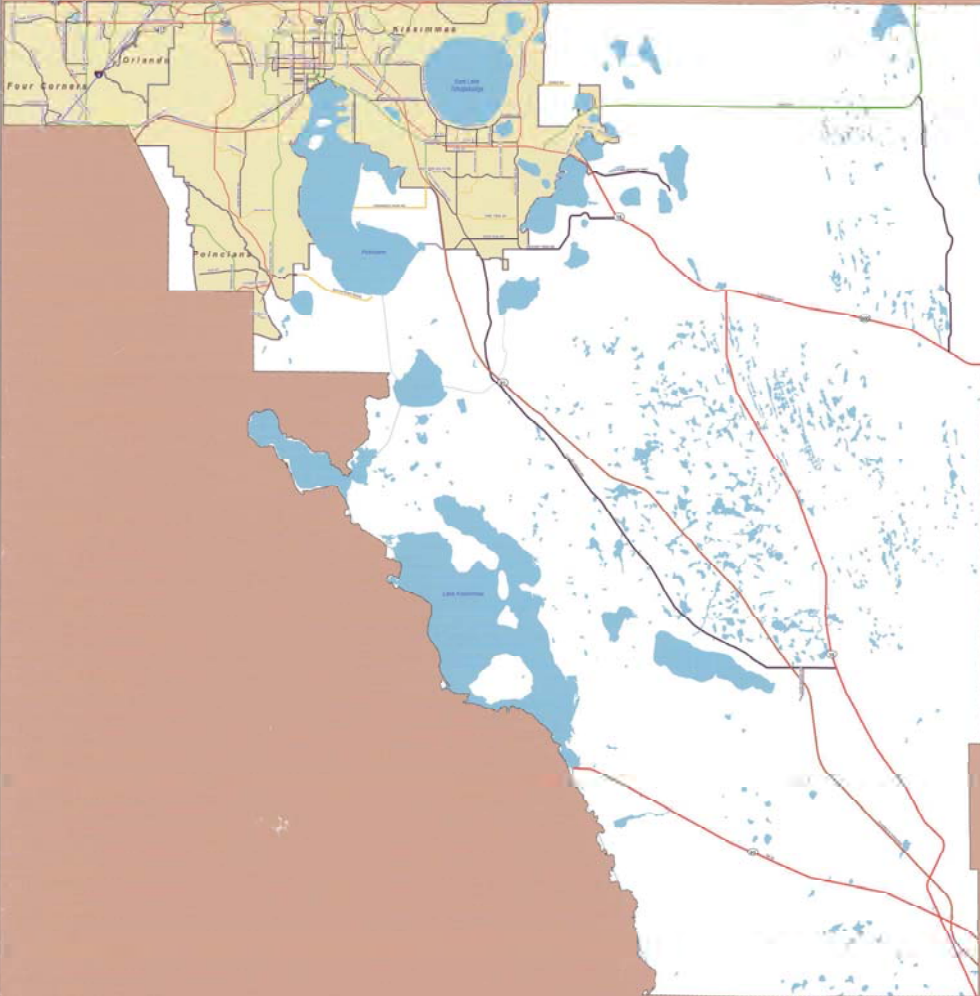


Date Prepared: 8/14/14

**DISTRICT 5
2010 Urban Area Boundary &
Federal Functional Classification
Osceola County, Florida**

Legend

- 01 - Principal Arterial-Interstate RURAL
- 02 - Principal Arterial-Expressway RURAL
- 04 - Principal Arterial-Other RURAL
- 06 - Minor Arterial RURAL
- 07 - Major Collector RURAL
- 08 - Minor Collector RURAL
- 09 - Local RURAL
- 11 - Principal Arterial-Interstate URBAN
- 12 - Principal Arterial-Freeway and Expressway URBAN
- 14 - Principal Arterial-Other URBAN
- 16 - Minor Arterial URBAN
- 17 - Major Collector URBAN
- 18 - Minor Collector (Fed Aid) URBAN
- 19 - Local URBAN
- 2010 Adjusted Urban Area
- Water



Recommended By:

[Signature]
MetroPlan Orlando Chairman 8-27-14
Date

[Signature]
Florida Dept. of Transportation 8-28-14
Date

Approved By:

[Signature]
Federal Highway Administration 8-28-14
Date



Date Prepared:
8/14/14

Appendix 4
FDOT Design Manual 2018
Standard Shoulder Widths

Table 210.4.1 Standard Shoulder Widths

Lane Type	# Lanes (One Direction)	Without Shoulder Gutter				With Shoulder Gutter			
		Outside		Median Or Left		Outside		Median Or Left	
		Full Width (feet)	Paved Width (feet)	Full Width (feet)	Paved Width (feet)	Full Width (feet)	Paved Width (feet)	Full Width (feet)	Paved Width (feet)
Travel Lanes	4-Lane or more	10	5	10	4	15.5	8	15.5	8
	3-Lanes	10	5	10	0	15.5	8	15.5	8
	1-Lane & 2-Lane	10	5	8	0	15.5	8	13.5	6
Aux. Lanes	ALL	10	5	8	0	11.5	4	11.5	4

Without shoulder gutter:

- (1) Consider 12-foot outside full width shoulder adjacent to travel lanes with high AADT or greater than 10% trucks.
- (2) Consider providing a minimum 10-foot median shoulder where continuous barrier wall or guardrail is present.
- (3) Provide a 7-foot outside paved shoulder when it is determined that the Helmeted Bicyclist Symbol and Bicycle Lane Arrow pavement markings will be placed on the shoulder. See **FDM 223.2.2**.
- (4) Shoulder widths for auxiliary lanes typically match those of the adjacent roadway; however, width may be reduced to 6-foot shoulder with 2-foot paved for right turn lanes when a bicycle keyhole is present.
- (5) For 1-lane, 2-lane, and 3-lane median or left shoulders:
 - (a) Pave 2-feet wide where turf is difficult to establish.
 - (b) Pave 4-feet wide: (1) in sag vertical curves, 100 feet minimum either side of the low point, and (2) on the low side of superelevated traffic lanes extending through the curves and approximately 300 feet beyond the PC and PT.
- (6) For RRR Projects, the following may be retained:
 - (a) existing 6-foot or greater full width shoulder
 - (b) existing 4-foot paved outside shoulder adjacent to travel lane
 - (c) existing 2-foot paved outside shoulder adjacent to auxiliary lane

With shoulder gutter:

- (1) Paved shoulders less than 6 feet in width with adjoining shoulder gutter must be the same type, depth and cross slope as the roadway pavement.
- (2) Shoulders must extend 4 feet beyond the back of shoulder gutter and have a 0.06 cross slope back toward the gutter.
- (3) Required shoulder widths for auxiliary lanes typically match those of the adjacent roadway.

Appendix 5
FDOT Design Manual 2018
Design Speed

Table 201.4.1 Design Speed

Limited Access Facilities (Interstates, Freeways, and Expressways)		
Area	Allowable Range (mph)	SIS Minimum (mph)
Rural and Urban	70	70
Urbanized	50-70	60
Arterials and Collectors		
Context Classification	Allowable Range (mph)	SIS Minimum (mph)
C1 Natural	55-70	65
C2 Rural	55-70	65
C2T Rural Town	25-45	40
C3 Suburban	35-55	50
C4 Urban General	30-45	45
C5 Urban Center	25-35	35
C6 Urban Core	25-30	30
Notes:		
(1) SIS Minimum Design Speed may be reduced to 35 mph for C2T Context Classification when appropriate design elements are included to support the 35 mph speed, such as on-street parking. (2) SIS Minimum Design Speed may be reduced to 45 mph for curbed roadways within C3 Context Classification. (3) For SIS facilities on the State Highway System, a selected design speed less than the SIS Minimum Design Speed requires a Design Variation as outlined in SIS Procedure (Topic No. 525-030-260) . (4) For SIS facilities not on the State Highway System, a selected design speed less than the SIS Minimum Design Speed may be approved by the District Design Engineer following a review by the District Planning (Intermodal Systems Development) Manager.		

Appendix 6

FDOT System Pavement Condition Forecast

FLORIDA DEPARTMENT OF TRANSPORTATION

ALL SYSTEM PAVEMENT CONDITION FORECAST

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = ORANGE -----																							
RDWYID	BMP	EMP	RW	SYS	TYP	SPD	DISTRESS	SURVEYED YEAR										FUTURE					
SR	US	G_BMP	G_EMP	LN	%T	ADT	RATINGS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2023		
INTERSECT AT (MP SIDE)	W_BMP	W_EMP	FW	FY-P	WKM	P	*****	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	(REG)		
CONTRACTOR (AGE_ONE YEAR)	W_BMP	W_EMP	RW	FY-F	WKM	F																	
ITMSEG-P																							
ITMSEG-F																							
75060000	2.004	2.653	C	1	4	40	CRACKING	4.0*	4.0*	4.4*	4.5*	4.4*	4.3*	4.0*	3.9*	0.0*		0.0*	0.0*	7.2			
50				4	5.0	50000	RIDE	2.9*	2.9*	3.5*	3.8*	3.5*	4.1*	4.0*	3.7*	4.2*		4.1*	4.2*	4.8*			
FERN CREEK AVE(2.1C)							LGD																
				(1977)			CRACKING	7.4	3.2*	5.5*	3.7*	3.5*	3.4*	5.2*	6.3*	6.7	6.0*	5.8*	6.9	6.8	4.5		
							RIDE	4.9*	4.7*	4.8*	4.5*	4.5*	4.4*	4.3*	4.3*	4.4*	4.5*	3.9*	4.2*	4.2*	3.7		
75060000	2.653	3.822	R	1	4	40	CRACKING	7.6	7.6	7.6	7.6	7.5	7.4	7.3	7.3	6.4*	6.4*	6.1*	7.3	8.2			
50				3	2.5	67000	RIDE	6.9	6.9	6.4*	6.5	6.8	6.5	6.3*	5.6*	6.6	6.3	6.2	5.0*	6.1			
BUMBY AVE(2.7C)							LGD																
				(1977)			CRACKING	7.9	3.6*	6.9	7.9	8.2	8.1	7.9	7.9	8.4	8.2	8.0	8.0	7.9	7.2		
							RIDE	5.9	6.2	6.4	6.5	6.3	6.3	6.1	5.9	6.1	6.0	6.3	6.6	6.2	5.8		
75060000	3.822	4.633	R	1	1	45	CRACKING	10.0	10.0	10.0	10.0	10.0	9.0	8.0	8.0	8.0	7.0	6.5	5.5*	5.5*			
50				3	2.5	67000	RIDE	8.9	8.9	8.3	8.3	8.2	8.8	8.1	8.3	7.6	6.8	6.5	6.7	6.5			
COLONIAL PROMENADE(3.9R)							FC95																
4117301	3.822	5.326	C	2004		0012	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		
PREFERRED MATERIALS, INC. (2006)							SPRIDE	8.1	8.1	8.0	8.0	8.1	8.0	8.1	8.1	8.0	8.0	8.0	8.1	8.0	8.1	8.0	
75060000	4.633	8.119	R	1	1	50	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	8.5	8.5	10.0	10.0	10.0	10.0	10.0			
50				3	5.0	49500	RIDE	8.2	8.1	8.1	8.2	8.2	8.0	7.5	7.3	7.9	7.9	7.9	7.9	7.9			
AMBER RD(5.7R)							FC125																
2392032	4.809	8.437	C	2008		0218	CRACKING	10.0	10.0	10.0			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		
LANE CONSTRUCTION CORPORAT(2011)							SPRIDE	8.0	8.0	7.8			8.5	8.4	8.4	8.3	8.0	8.3	8.2	7.9	7.9	7.7	
75060000	8.119	8.435	R	1	1	50	CRACKING	10.0	10.0	10.0	9.0	7.5	7.5	7.0	6.5	10.0	10.0	10.0	10.0	10.0			
50				2	2.5	55500	RIDE	8.2	8.2	8.0	8.1	8.3	8.0	7.8	7.6	8.3	8.6	8.4	8.1	8.0			
							FC125																
2392032	4.809	8.437	C	2008		0218	CRACKING	10.0	10.0	10.0	10.0			10.0	10.0	10.0	8.5	8.5	8.5	8.5	6.6		
LANE CONSTRUCTION CORPORAT(2012)							SPRIDE	8.3	8.3	8.2	8.1		8.0	8.0	8.0	8.0	8.1	8.0	8.1	8.0	8.1	8.0	8.0
75060000	8.435	9.467	R	1	1	50	CRACKING	10.0	10.0	10.0	9.0	7.5	7.5	7.0	6.5	10.0	10.0	10.0	10.0	10.0			
50				3	2.5	55500	RIDE	8.2	8.2	8.0	8.1	8.3	8.0	7.8	7.6	8.3	8.6	8.4	8.1	8.0			
CONSTANTINE DR R(8.5R)							FC125R																
2392033	8.439	9.480	C	2009		0218	CRACKING	10.0	10.0	10.0	10.0			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		
LIBERTY MUTUAL INSURANCE C(2012)							SPRIDE	7.9	8.1	8.0	7.9		8.4	8.2	8.1	8.0	7.9	7.7	7.7	7.7	7.7	7.1	
75060000	9.467	14.372	R	1	7	45	CRACKING	6.5	6.5	5.5*	5.5*	5.5*	5.5*	3.5*	3.5*		10.0	10.0	10.0	10.0			
50				3	5.0	38500	RIDE	8.1	8.2	8.1	8.1	8.7	8.0	7.9	7.4		8.7	8.5	7.9	7.8			
LAKE DOWNEY DR(9.8R)							FC125A																
2392034	9.467	14.372	C	2014		0218	CRACKING	10.0	10.0	9.0	8.0	8.0	6.5	6.5	6.5	6.5				10.0			
PRINCE CONTRACTING, LLC (2018)							SPRIDE	7.9	7.8	7.8	7.6	7.6	7.5	7.2	7.4	7.2							10.0
							RIDE	7.9	7.8	7.8	7.6	7.6	7.5	7.2	7.4	7.2					7.3		
75060000	14.372	16.139	R	1	7	55	CRACKING	6.5	6.5	5.5*	5.5*	5.5*	5.5*	3.5*	3.5*		10.0	10.0	10.0	10.0			
50				2	5.0	38500	RIDE	8.1	8.2	8.1	8.1	8.7	8.0	7.9	7.4		8.7	8.5	7.9	7.8			
BINDU ST(14.6R)							FC5M																
				(2018)			CRACKING	10.0	10.0	9.0	8.0	8.0	6.5	6.5	6.5	6.5				4.5*	10.0		
							RIDE	7.9	7.8	7.8	7.6	7.6	7.5	7.2	7.4	7.2				7.0	8.2		
2392037	14.372	16.806	C	2023		0218																	
75060000	16.139	19.595	R	1	1	45	CRACKING	6.5	6.5	5.5*	5.5*	5.5*	5.5*	3.5*	3.5*		10.0	10.0	10.0	10.0			
50				2	4.4	26505	RIDE	8.1	8.2	8.1	8.1	8.7	8.0	7.9	7.4		8.7	8.5	7.9	7.8			
COLUMBIA SCH RD(16.5R)							FC5A																
4306731	16.000	19.595	C	2015		0012	CRACKING	10.0	10.0	9.0	8.0	8.0	6.5	6.5	6.5	6.5	4.5*		10.0	10.0			
THE MIDDLESEX CORPORATION (2017)							SPRIDE	7.9	7.8	7.8	7.6	7.6	7.5	7.2	7.4	7.2	7.0					8.7	8.8
2392038	16.538	19.651	C	2024		0218																	
75060000	19.595	25.398	R	1	1	60	CRACKING	6.5	4.5*	4.5*		10.0	10.0	10.0	9.0	7.5	6.5	4.5*	4.5*	1.0*			
50				2	3.3	11500	RIDE	7.5	7.8	7.9		9.2	8.3	9.0	8.9	8.9	8.7	7.9	7.4				
PONCHO'S LN(21.3R)							FC5																
4155131	19.595	25.398	C	2006		0012	CRACKING	1.0*	1.0*	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	7.5	7.5	6.9		
RANGER CONSTRUCTION INDUST(2008)							SPRIDE	7.3	7.0	8.4	8.3	8.3	8.3	8.3	8.3	8.3	8.2	8.3	8.3	8.3	8.3	8.2	8.2
75060000	25.398	29.005	R	1	1	65	CRACKING	10.0	7.5	7.5	7.5	6.5	6.5	6.5	4.5*	3.5*		10.0	10.0	10.0	10.0		
50				2	4.7	10800	RIDE	8.0	8.1	8.4	8.3	7.9	7.8	7.1	7.1		8.7	8.6	7.8	7.8			
ST NICHOLAS AVE(25.7R)							FC5A																
4306732	25.405	29.005	C	2015		0012	CRACKING	10.0	9.0	9.0	8.0	8.0	6.5	6.5	4.5*	4.5*	4.5*		10.0	10.0			
THE MIDDLESEX CORPORATION (2017)							SPRIDE	7.7	7.6	7.5	7.3	6.9	7.1	7.0	6.5	6.5	6.4*					8.5	8.5

*** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2006, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 50 MPH.
 *** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2002, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 45 MPH.
 @ INDICATES G1 PROJECT LENGTH SHORTER THAN ROADWAY SEGMENT 1 MILE OR MORE.
 2023 FORECASTED BY SIMPLE LINEAR REGRESSION (REG).

FLORIDA DEPARTMENT OF TRANSPORTATION**ALL SYSTEM PAVEMENT CONDITION FORECAST**

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = ORANGE -----																						
RDWYID	BMP	EMP	RW	SYS	TYP	SPD	DISTRESS	SURVEYED YEAR			1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	FUTURE	
SR	US	G_BMP	G_EMP	LN	%T	ADT	RATINGS	1993	1994	1995												
INTERSECT AT (MP SIDE)	W_BMP	W_EMP	W_RW	FY-P	WKM-X-P	ASTYPE	=====	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2023	
CONTRACTOR (AGE_ONE YEAR)	W_BMP	W_EMP	W_RW	FY-F	WKM-X-F																(REG)	
ITMSEG-P																						
ITMSEG-F																						
75060000	25.398	29.005	L	1	1	65	CRACKING	7.5	7.5	7.5	7.5	6.5	6.5	4.5*	3.5*		10.0	10.0	10.0	10.0		
50				2	4.7	10800	RIDE	7.9	7.9	8.2	8.7	8.3	8.0	8.2	8.1		8.9	8.7	8.0	7.9		
							FC5A															
4306732	25.405	29.005	C	2015		0012	CRACKING	10.0	10.0	10.0	10.0	8.5	7.0	7.0	6.5	6.5	6.5	4.5*		10.0	10.0	
THE MIDDLESEX CORPORATION				(2017)			SPRIDE	7.9	7.6	7.3	7.0	6.7	6.6	6.5	6.2*	6.0*	6.1*		8.6	8.5		
75060000	19.595	25.398	L	1	1	60	CRACKING	9.0	7.5	7.0		10.0	10.0	10.0	9.0	7.5	6.5	4.5*	4.5*	1.0*		
50				2	3.3	11500	RIDE	8.0	8.1	8.6		9.3	8.0	9.0	8.9	8.8	8.7	8.4	7.0	6.7		
							FC5															
CHRISTMAS RD SW(23.4L)							0012	1.0*	1.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	7.5	6.9	
4155131	19.595	25.398	C	2006		0012	CRACKING	6.6	6.2*	8.2	8.2	8.2	8.2	8.2	8.1	8.2	8.0	8.2	8.2	8.2	8.1	8.1
RANGER CONSTRUCTION INDUST				(2008)			SPRIDE															
75060000	16.139	19.595	L	1	1	45	CRACKING	6.5	6.5	5.5*	5.5*	5.5*	5.5*	3.5*	3.5*		10.0	10.0	10.0	10.0		
50				2	4.4	26505	RIDE	8.2	8.0	8.0	8.1	8.0	7.9	7.6	7.6		8.7	8.4	7.9	7.8		
							FC5A															
CONNOR LAKE(16.3L)							0012	10.0	9.0	9.0	9.0	8.0	8.0	8.0	6.5	6.5	4.5*		10.0	10.0		
4306731	16.000	19.595	C	2015		0012	CRACKING	7.9	8.0	8.0	7.7	7.7	7.6	7.5	7.5	7.4	7.2		8.7	8.6		
THE MIDDLESEX CORPORATION				(2017)			SPRIDE															
2392038	16.538	19.651	C	2024		0218																
75060000	14.372	16.139	L	1	7	55	CRACKING	6.5	6.5	5.5*	5.5*	5.5*	5.5*	3.5*	3.5*		10.0	10.0	10.0	10.0		
50				3	5.0	38500	RIDE	8.2	8.0	8.0	8.1	8.0	7.9	7.6	7.6		8.7	8.4	7.9	7.8		
							FC5M															
SANDY CREEK LN(14.5L)							CRACKING	10.0	9.0	9.0	9.0	8.0	8.0	8.0	6.5	6.5	4.5*		10.0			
				(2018)			RIDE	7.9	8.0	8.0	7.7	7.7	7.6	7.5	7.5	7.4	7.2		7.9			
2392037	14.372	16.806	C	2023		0218																
75060000	9.467	14.372	L	1	7	45	CRACKING	6.5	6.5	5.5*	5.5*	5.5*	5.5*	3.5*	3.5*		10.0	10.0	10.0	10.0		
50				2	5.0	38500	RIDE	8.2	8.0	8.0	8.1	8.0	7.9	7.6	7.6		8.7	8.4	7.9	7.8		
							FC125A															
CULVER RD(10.0C)							0218	10.0	9.0	9.0	9.0	8.0	8.0	8.0	6.5	6.5						
2392034	9.467	14.372	C	2014		0218	CRACKING	7.9	8.0	8.0	7.7	7.7	7.6	7.5	7.5	7.4					10.0	
PRINCE CONTRACTING, LLC				(2018)			SPRIDE														7.5	
75060000	8.435	9.467	L	1	1	50	CRACKING	10.0	10.0	10.0	10.0	10.0	9.0	7.0	6.5	10.0	10.0	10.0	10.0	10.0	10.0	
50				3	2.5	55500	RIDE	8.5	8.4	8.3	8.2	8.6	8.3	7.7	7.6	8.1	8.6	8.2	7.4	7.9		
							FC125R															
CONSTANTINE ST(8.5C)							0218	10.0	10.0	10.0	10.0			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
2392033	8.439	9.480	C	2009		0218	CRACKING	7.9	8.1	8.0	7.9			8.3	8.1	8.2	8.0	7.7	7.2	6.7	5.7	
LIBERTY MUTUAL INSURANCE				(2012)			SPRIDE															
75060000	8.119	8.435	L	1	6	50	CRACKING	10.0	10.0	10.0	10.0	10.0	9.0	7.0	6.5	10.0	10.0	10.0	10.0	10.0	10.0	
50				3	2.5	55500	RIDE	8.5	8.4	8.3	8.2	8.6	8.3	7.7	7.6	8.1	8.6	8.2	7.4	7.9		
							FC125															
2392032	4.809	8.437	C	2008		0218	CRACKING	10.0	10.0	10.0	10.0			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
LANE CONSTRUCTION CORPORAT				(2012)			SPRIDE	8.1	8.3	8.2	8.1			8.1	8.1	8.2	8.1	8.2	8.2	8.2	8.2	10.0
75060000	4.633	8.119	L	1	1	50	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	8.5	7.5	10.0	10.0	10.0	10.0	10.0	10.0	
50				3	5.0	49500	RIDE	8.2	8.3	8.4	8.3	8.4	8.4	8.0	7.4	8.4	7.7	7.6	7.1	7.1		
							FC125															
COMMERCE BLVD(5.7L)							0218	10.0	10.0	10.0				10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
2392032	4.809	8.437	C	2008		0218	CRACKING	8.0	8.2	8.2				8.5	8.5	8.4	8.4	8.3	8.3	8.2	8.2	8.0
LANE CONSTRUCTION CORPORAT				(2011)			SPRIDE															
75060000	3.822	4.633	L	1	1	45	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	8.5	8.5	7.0	7.0	7.0	7.0	6.5		
50				3	2.5	67000	RIDE	8.8	8.5	8.5	8.3	8.5	8.2	7.9	7.7	7.3	7.3	7.1	7.4	7.2		
							FC95															
LOWELL AVE L(3.9L)							0012	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
4117301	3.822	5.326	C	2004		0012	CRACKING	8.3	8.3	8.2	8.2	8.2	8.2	8.3	8.2	8.2	8.1	8.1	8.0	7.7	7.7	
PREFERRED MATERIALS, INC.				(2006)			SPRIDE															
75060000	2.653	3.822	L	1	4	40	CRACKING	7.8	7.8	7.8	7.8	7.7	7.7	7.6	7.4	6.6	6.6	6.3*	9.1	8.3		
50				3	2.5	67000	RIDE	7.2	7.2	7.3	6.3*	6.0*	7.1	7.0	5.2*	6.4*	6.2	5.3*	5.5	6.8		
							LGD															
BUMBY AVE(2.7C)							0012	8.5	7.4	7.3	6.9	7.9	7.9	7.8	7.5	7.1	7.1	6.8	7.0	6.9	6.2	
4091761	0.010	3.807	C	2003		0012	CRACKING	6.2	6.2	5.6	6.0	5.8	5.9	5.8	5.8	5.8	6.4	6.3	6.4	6.2	6.2	
GILBERT SOUTHERN CORP				(2004)			RIDE															
75060000	1.006	2.004	L	1	7	40	CRACKING	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	7.5	10.0		
50				2	5.7	42500	RIDE	8.6	8.5	8.5	8.6	8.5	8.5	7.9	7.7	8.2	7.7	7.6	6.9	7.6		
							FC125M															
SR 527/MAGNOLIA AVE(1.1L)							0012	10.0	10.0	9.0	9.0	9.0	9.0	6.5	6.5	6.5	4.0*	4.0*	4.0*	10.0		
4324071	0.000	2.011	C	2016		0012	CRACKING	7.5	7.8	7.6	7.3	7.0										

FLORIDA DEPARTMENT OF TRANSPORTATION

ALL SYSTEM PAVEMENT CONDITION FORECAST

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = ORANGE -----

RDWYID	SR	US	BMP	G_BMP	EMP LN	RW	SYS	TYP	SPD	DISTRESS RATINGS	SURVEYED YEAR														FUTURE
											1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2023 (REG)	
INTERSECT AT (MP SIDE)											=====														
ITMSEG-P			W_BMP		W_EMP		FY-P		WKM																
CONTRACTOR (AGE_ONE YEAR)											2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2023 (REG)	
ITMSEG-F			W_BMP		W_EMP		FY-F		WKM																
75120001			0.000		0.348	C	1	1	45	CRACKING														10.0	
436						2	3.8	12000		RIDE														7.4	
ROADWAY 75020001(0.0R)										DGFC															
						(2005)				CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	8.5	8.5	8.5	8.5	
										RIDE	8.1	8.1	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.2	8.0	7.6	7.1	7.5	
75120003			0.000		0.152	C	1	6	45	CRACKING															
436						1	3.8	13500		RIDE															
421 FT W OF SHEELER(0.0C)																									
						(2007)				CRACKING			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.5	8.5
										RIDE						8.3	8.1	8.1	8.0	7.9					
75130000			0.000		1.006	C	1	1	35	CRACKING	10.0	10.0	10.0	10.0	9.0	9.0	9.0	7.5	7.5	7.5	7.5	7.5	7.5	7.0	
526						4	3.2	18200		RIDE	6.6	6.5	6.4*	6.3*	7.0	6.8	5.3*	5.3*	5.8*	5.7	5.4*	5.5	5.1*		
MILLS AVE(0.0C)										FC125R															
4220051			0.008		1.038	C	2010		0012	CRACKING	7.0	6.0*	5.0*	5.0*	3.0*	10.0	10.0	10.0	10.0	10.0	8.5	8.5	8.5	7.2	
HUBBARD CONSTRUCTION COMPA(2011)										RIDE	4.6*	4.1*	4.3*	4.3*	3.3*	6.3	6.1	6.2	6.0	6.1	5.5	5.6	5.6	5.0	
75130100			0.000		0.182	C	1	6		CRACKING															
526						4	3.2	12100		RIDE															
PRIMROSE AVE(0.0C)																									
										CRACKING						10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
										RIDE						5.9*	5.7*	5.7*	5.6*	5.5*	4.8*			10.0	
75140000			0.000		0.409	R	1	1	55	CRACKING	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0		
520						2	3.9	16800		RIDE	8.0	8.0	7.9	8.1	8.4	7.7	7.9	7.7	7.9	8.5	8.0	8.0	8.2		
SR-50 LT GORE(0.0C)										OGFC															
						(2008)				CRACKING	4.5*	3.5*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.4	
										RIDE	6.0*	5.9*	8.1	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.7	7.8	7.9	7.8	
75140000			0.409		8.231	R	1	1	65	CRACKING	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.5	5.5*	3.5*				
520						2	3.9	16800		RIDE	7.5	7.8	7.5	7.8	7.5	7.6	7.7	7.5	7.6	7.6	7.1				
MACON PKWY(1.9R)										FC5															
2392921			0.600		8.640	C	2002		0213	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	6.5	4.5*	4.5*	3.4	
WESTWIND CONTRACTING, INC.(2006)										SPRIDE	7.9	8.0	8.0	7.9	7.8	7.8	7.7	7.6	7.5	7.4	7.7	7.7	7.7	7.4	
4392331			0.409		8.550	C	2020		0012																
75140000			8.231		16.072	R	1	1	65	CRACKING	9.5	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.0*	5.0*	5.0*		
520						2	12.8	16400		RIDE	7.8	7.7	7.6	7.9	8.0	7.6	7.6	7.8	7.9	7.8	7.2	6.6	6.3*		
TAYLOR CREEK RD(13.5R)										FC5															
2392931			8.550		15.530	C	2005		0213	CRACKING			10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	6.5	6.5	5.1	
RANGER CONSTRUCTION INDUST(2008)										SPRIDE			8.3	8.2	8.2	8.1	8.1	8.1	8.0	7.9	8.1	8.0	8.0	7.8	
75140000			16.072		17.800	R	1	1	65	CRACKING	9.5	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.0*	5.0*	5.0*		
520						2	12.8	16400		RIDE	7.8	7.7	7.6	7.9	8.0	7.6	7.6	7.8	7.9	7.8	7.2	6.6	6.3*		
2392941			15.530		18.206	C	2004		0213	CRACKING			10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	7.5	6.8	
RANGER CONSTRUCTION INDUST(2007)										SPRIDE			7.5	7.7	7.6	7.6	7.6	7.6	7.6	7.5	7.3	7.2	7.1	7.1	
75140000			17.800		18.206	R	1	1	65	CRACKING	9.5	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.0*	5.0*	5.0*		
520						2	12.8	16400		RIDE	7.8	7.7	7.6	7.9	8.0	7.6	7.6	7.8	7.9	7.8	7.2	6.6	6.3*		
2392941			15.530		18.206	C	2004		0213	CRACKING			10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.4	
RANGER CONSTRUCTION INDUST(2008)										SPRIDE			7.5	7.2	7.2	7.2	7.2	7.2	6.7	6.9	6.9	6.8	6.7	6.4	
75140000			16.072		17.862	L	1	1	65	CRACKING	9.5	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.0*	5.0*	5.0*		
520						2	12.8	16400		RIDE	7.8	7.7	7.6	7.9	8.0	7.6	7.6	7.8	7.9	7.8	7.2	6.6	6.3*		
2392941			15.530		18.206	C	2004		0213	CRACKING			10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	7.5	7.1	
RANGER CONSTRUCTION INDUST(2007)										SPRIDE			7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.7	7.7	7.7	7.7	

*** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2006, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 50 MPH.
 *** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2002, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 45 MPH.
 "@" INDICATES G1 PROJECT LENGTH SHORTER THAN ROADWAY SEGMENT 1 MILE OR MORE.
 2023 FORECASTED BY SIMPLE LINEAR REGRESSION (REG).

FLORIDA DEPARTMENT OF TRANSPORTATION

ALL SYSTEM PAVEMENT CONDITION FORECAST

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = ORANGE -----																						
RDWYID	BMP	EMP	RW	SYS	TYP	SPD	DISTRESS	SURVEYED YEAR												FUTURE		
SR	US	G_BMP	G_EMP	LN	%T	AADT	RATINGS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2023	
INTERSECT AT (MP SIDE)	W_BMP	W_EMP	RW	FY-P	WKM-F	ASTYPE	=====	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	(REG)	
ITMSEG-P	W_BMP	W_EMP	RW	FY-F	WKM-F	ASTYPE	=====	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2023	
CONTRACTOR (AGE_ONE YEAR)	W_BMP	W_EMP	RW	FY-F	WKM-F	ASTYPE	=====	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	(REG)	
ITMSEG-F	W_BMP	W_EMP	RW	FY-F	WKM-F	ASTYPE	=====	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	(REG)	
75140000	8.245	16.072	L	1	1	65	CRACKING	9.5	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.5*	5.0*	5.0*	5.0*		
520				2	12.8	16400	RIDE	7.8	7.7	7.6	7.9	8.0	7.6	7.6	7.8	7.9	7.8	7.2	6.6	6.3*		
YATES RD(8.5L)																						
2392931	8.550	15.530	C	2005		0213	CRACKING			10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	7.5	7.5	6.1	
RANGER CONSTRUCTION INDUST(2008)																						
75140000	0.624	8.245	L	1	1	65	CRACKING	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.5	5.5*	3.5*				
520				2	3.9	16800	RIDE	7.5	7.8	7.5	7.8	7.5	7.6	7.7	7.5	7.6	7.6	7.1				
TAYLOR CREEK RD(7.8L)																						
2392921	0.600	8.640	C	2002		0213	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	7.5	6.5	6.5	5.7	
WESTWIND CONTRACTING, INC.(2006)																						
4392331	0.409	8.550	C	2020		0012	SPRIDE	8.0	8.1	8.2	8.1	8.0	8.0	7.9	7.9	7.9	7.8	8.1	8.0	8.0	8.0	
RANGER CONSTRUCTION INDUST(2008)																						
75140000	0.000	0.624	L	1	1	55	CRACKING	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	10.0	10.0	10.0			
520				1	3.9	16800	RIDE	7.6	7.6	7.3	7.5	7.4	7.3	6.9	6.8	8.3	8.2	8.2				
SR 50(0.0L)																						
							OGFC															
							CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	8.4	
							RIDE	8.0	8.1	8.0	8.1	8.0	7.9	7.8	7.7	7.6	7.5	8.0	7.9	7.4	7.4	
(2008)																						
75180000	0.000	0.106	C	1	6	35	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
437				2	5.8	14800	RIDE															
SR 439 / FRANKLIN ST(0.0R)																						
4220081	0.000	0.106	C	2009		0012	CRACKING	10.0	7.5	7.5	7.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RANGER CONSTRUCTION INDUST(2010)																						
75190000	3.211	5.501	R	1	1	55	CRACKING	9.0	8.0	8.0	8.0	8.0	7.5	4.5*	4.5*	3.5*	3.5*	1.0*		10.0		
423				2	9.9	52500	RIDE	8.4	8.3	8.1	7.7	8.1	7.7	7.4	7.3	7.1	7.3	7.1		7.7		
COLONIAL DR(3.2C)																						
4233561	3.448	6.453	C	2010		0226	CRACKING	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
THE MIDDLESEX CORPORATION(2012)																						
2394963	3.211	5.487	C	2018		0213	RIDE	7.8	7.9	7.9	7.8	7.7		8.0	7.9	7.8	7.9	8.1	8.0	7.8	7.8	
75190000	5.501	6.453	R	1	1	45	CRACKING	0.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.5	8.5	
423				2	6.4	52500	RIDE	7.5	8.9	8.8	8.9	8.8	9.0	8.7	8.3	8.7	8.7	8.5	8.0	7.4		
TRANSWORLD DR(5.6R)																						
2394962	5.609	6.400	C	2011		0002	CRACKING	7.5	7.0	6.0*	4.5*	4.5*		10.0			10.0	10.0	10.0	10.0	10.0	10.0
(2015)																						
							RIDE	7.7	7.6	7.5	7.3	7.3		8.0			8.0	7.7	7.6	7.7	7.1	
75190000	6.453	8.658	R	1	1	45	CRACKING	0.0*	0.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	
423				3	6.4	36000	RIDE	7.5	7.1	8.4	8.5	8.5	9.0	8.2	8.4	8.2	7.9	7.7	7.7	7.6		
LAKE FAIRVIEW PARK(6.6R)																						
4233561	6.453	8.663	C	2010		0226	CRACKING	8.0	7.0	6.5	6.5	6.5	4.5*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
THE MIDDLESEX CORPORATION(2012)																						
							RIDE	7.5	7.3	7.2	6.8	6.8	6.7	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.7	7.6
75190000	8.658	9.864	R	1	7	45	CRACKING	0.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.5	
423				2	9.5	37000	RIDE	7.5	8.5	8.3	8.4	8.3	8.4	8.0	7.9	7.9	7.9	7.7	7.0	7.1		
BONNIE BRAE ST(8.7R)																						
4324081	8.667	9.761	R	2016		0012	CRACKING	9.0	9.0	8.0	8.0	8.0	8.0	7.0	7.0	6.5	6.5	6.5		10.0		
ATLANTIC CIVIL CONSTRUCTOR(2018)																						
							SPRIDE	7.0	7.1	7.0	6.7	6.6	7.0	6.8	6.6	6.7	6.3	6.5		7.3		
75190000	8.658	9.864	L	1	7	45	CRACKING	0.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	
423				2	9.5	37000	RIDE	7.6	8.1	8.2	8.2	8.2	8.3	7.9	7.9	7.8	7.5	7.6	5.9*	6.6		
HANOVER AVE(8.8L)																						
4324081	8.667	9.864	L	2016		0012	CRACKING	9.0	9.0	8.0	8.0	8.0	8.0	7.0	7.0	6.5	6.5	6.5		10.0		
ATLANTIC CIVIL CONSTRUCTOR(2018)																						
							SPRIDE	6.6	6.7	6.5	6.3	6.1	6.4	6.3	6.0	6.0	6.2	5.9		6.9		
75190000	6.453	8.658	L	1	1	45	CRACKING	0.0*	0.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	
423				3	6.4	36000	RIDE	7.6	6.9	8.6	8.7	8.8	8.7	8.3	7.8	7.9	8.2	8.2	7.6	7.6		
EDGEWATER DR(7.2C)																						
4233561	6.453	8.663	C	2010		0226	CRACKING	8.0	7.0	6.5	6.5	6.5	6.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
THE MIDDLESEX CORPORATION(2012)																						
							RIDE	7.2	7.0	7.2	6.7	6.7	6.6	7.7	7.8	7.7	7.8	7.5	7.4	7.4	7.1	
75190000	5.501	6.453	L	1	1	45	CRACKING	0.0*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	8.0	
423				2	6.4	52500	RIDE	7.6	8.9	8.9	9.1	8.8	9.1	8.8	8.8	8.8	8.6	8.6	8.2	7.9		
HEATHERINGTON RD(5.9L)																						
2394962	5.609	6.400	C	2011		0002	CRACKING	7.5	7.0	6.5	4.5*	4.5*		10.0			10.0	10.0	10.0	10.0	10.0	10.0
(2015)																						
							RIDE	7.9	7.8	7.8	7.5	7.4		8.1			8.0	7.7	7.7	7.4	6.5	

*** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2006, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 50 MPH.
 ** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2002, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 45 MPH.
 @ INDICATES G1 PROJECT LENGTH SHORTER THAN ROADWAY SEGMENT 1 MILE OR MORE.
 2023 FORECASTED BY SIMPLE LINEAR REGRESSION (REG).

FLORIDA DEPARTMENT OF TRANSPORTATION

ALL SYSTEM PAVEMENT CONDITION FORECAST

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = ORANGE -----																					
RDWYID	BMP	EMP	RW	SYS	TYP	SPD	DISTRESS	SURVEYED YEAR												FUTURE	
SR	US	G_BMP	G_EMP	LN	#T	ADT	RATINGS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
INTERSECT	AT	(MP	SIDE)				=====														
ITMSEG-P	W_BMP	W_EMP	RW	FY-P	WKM	P		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2023
CONTRACTOR	(AGE_ONE	YEAR)			ASTYPE																(REG)
ITMSEG-F	W_BMP	W_EMP	RW	FY-F	WKM	F															
75002000	7.944	10.057	R	3	1	55	CRACKING	7.0	7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
528		8.4		3	7.6	62000	RIDE	7.7	7.8	7.9	7.8	9.0	8.5	8.2	8.6	8.8	8.6	8.3	7.8	7.6	
						FC2															
						(2017)	CRACKING	9.5	8.0	10.0	10.0	10.0	10.0	10.0	10.0		7.0		10.0	10.0	
							RIDE	7.9	7.7	8.1	8.2	8.1	8.2	8.2	8.2		7.6		8.3	8.2	
75002000	10.057	10.640	R	3	1	55	CRACKING	0.0*	0.0*	0.0*	0.0*		10.0	10.0	10.0	10.0	10.0	8.0	8.0	7.0	
528		10.5		2	7.3	83454	RIDE	8.3	8.0	8.0	7.7		8.5	8.9	8.9	8.7	8.5	8.2	7.9	7.7	
						OGFC															
						(2009)	CRACKING	6.0*	5.0*		10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.2
							RIDE	6.7	6.2*		8.2	8.1	8.1	8.1	8.0	8.0	7.9	8.3	8.2	8.2	8.2
75002000	10.640	11.458	R	3	1	65	CRACKING	10.0	10.0	10.0	10.0			10.0	10.0	10.0				10.0	10.0
528		11.1		3	7.3	83454	RIDE	8.4	8.1	8.4	8.1			9.1	9.1	8.9				8.1	8.2
						FC2															
						(2010)	CRACKING	10.0	10.0	9.0	7.5	10.0	10.0	10.0	10.0	9.0	7.5	7.5	6.5	6.5	3.8
							RIDE	8.3	7.7	7.3	8.0	8.1	8.1	8.1	8.0	8.0	7.3	8.2	8.1	8.5	8.2
75002000	11.458	12.014	R	3	1	70	CRACKING	10.0	10.0	10.0	10.0			10.0	10.0	10.0				10.0	10.0
528		11.9		3	7.3	83454	RIDE	8.4	8.1	8.4	8.1			9.1	9.1	8.9				8.1	8.2
						OGFC															
						(2016)	CRACKING	10.0	10.0	9.0	7.5	7.5	7.5	7.5	7.5	7.5	4.5*	10.0	10.0	10.0	10.0
							RIDE	8.3	7.7	7.3	7.9	7.8	7.5	7.6	7.6	7.4	7.4	8.6	8.6	8.6	8.6
75002000	12.014	13.962	R	3	1	70	CRACKING	10.0	10.0	10.0	10.0			10.0	10.0	10.0	8.0	9.5	10.0	9.5	
528		12.5		3	10.3	70500	RIDE	8.4	8.1	8.4	8.1			9.1	9.1	8.9	8.7	8.8	8.3	8.3	
						OGFC															
						(2010)	CRACKING	9.5	8.0	6.5		10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.1
							RIDE	8.3	8.2	8.2		8.5	8.4	8.3	8.4	8.3	8.2	8.2	8.2	8.1	7.9
75002000	13.962	14.895	R	3	1	70	CRACKING	10.0	10.0	10.0	10.0			10.0	9.0	8.0		10.0	10.0	10.0	
528		14.4		2	10.3	70500	RIDE	8.0	8.1	8.1	7.9			8.9	8.9	8.7		8.3	8.0	7.9	
						OGFC															
						(2008)	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.4
							RIDE	8.0	7.9	8.3	8.2	8.1	8.2	8.1	8.1	8.1	8.1	8.0	8.0	8.0	7.9
75002000	14.895	15.230	R	3	1	70	CRACKING	10.0	10.0	10.0	10.0			10.0	9.0	8.0	10.0	8.0	8.0	6.0*	
528		15.4		2	10.3	61500	RIDE	8.0	8.1	8.1	7.9			8.9	8.9	8.7	8.9	8.8	8.3	8.2	
						FC2															
						(2006)	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.6
							RIDE	7.4	7.6	7.8	7.8	7.8	7.9	7.7	7.6	7.7	7.7	7.8	7.9	7.8	7.8
75002000	15.230	16.200	R	3	1	70	CRACKING	10.0	10.0	10.0	10.0			10.0	9.0	8.0	10.0	8.0	8.0	6.0*	
528		15.7		3	10.3	61500	RIDE	8.0	8.1	8.1	7.9			8.9	8.9	8.7	8.9	8.8	8.3	8.2	
						OGFC															
						(2010)	CRACKING	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.1
							RIDE	7.4	7.6	7.7		8.6	8.6	8.6	8.6	8.6	8.5	8.3	8.2	8.2	7.9
75002000	16.200	17.286	R	3	1	70	CRACKING	4.5*	3.5*	5.5*	5.5*			10.0	10.0	10.0	10.0	8.0	8.0	6.0*	
528		16.7		2	10.3	21000	RIDE	8.2	8.6	8.4	8.0			9.1	9.2	9.1	8.9	8.8	8.3	8.2	
						OGFC															
						(2010)	CRACKING	6.0*	4.5*	4.5*		10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.1
							RIDE	8.3	7.7	8.2		8.5	8.5	8.5	8.5	8.5	8.3	8.3	8.2	8.2	8.0
75002000	17.286	20.435	R	3	1	70	CRACKING	4.5*	3.5*	5.5*	5.5*			10.0	10.0	10.0	10.0	8.0	8.0	6.0*	
528		17.8		2	10.3	21000	RIDE	8.2	8.6	8.4	8.0			9.1	9.2	9.1	8.9	8.8	8.3	8.2	
						OGFC															
						(2008)	CRACKING	6.0*	4.5*	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.4
							RIDE	8.3	7.7	8.2	8.1	8.2	8.2	8.3	8.3	8.3	8.1	8.4	8.3	8.2	8.2
75002000	20.435	24.815	R	3	1	70	CRACKING	4.5*	4.5*	4.5*	4.5*			10.0	10.0	10.0	10.0	9.5	8.0	6.5	
528		20.9		2	8.6	49504	RIDE	8.4	8.8	8.8	8.8			9.0	9.0	8.9	8.9	8.8	8.2	8.0	
						OGFC															
						(2009)	CRACKING	6.5	4.5*		10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.2
							RIDE	7.8	7.4		8.4	8.4	8.4	8.5	8.5	8.5	8.4	8.5	8.5	8.4	8.4

*** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2006, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 50 MPH.
 *** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2002, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 45 MPH.
 "@@ INDICATES G1 PROJECT LENGTH SHORTER THAN ROADWAY SEGMENT 1 MILE OR MORE.
 2023 FORECASTED BY SIMPLE LINEAR REGRESSION (REG).

FLORIDA DEPARTMENT OF TRANSPORTATION

ALL SYSTEM PAVEMENT CONDITION FORECAST

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = ORANGE -----																							
RDWYID	BMP	EMP	RW	SYS	TYP	SPD	DISTRESS	SURVEYED YEAR												FUTURE			
SR	US	G_BMP	G_EMP	LN	%T	ADT	RATINGS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2023		
INTERSECT	AT	(MP	SIDE)				=====															(REG)	
ITMSEG-P	W_BMP	W_EMP	RW	FY-P	WKM-F	ASTYPE		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2023		
CONTRACTOR	(AGE_ONE	YEAR)																					
ITMSEG-F	W_BMP	W_EMP	RW	FY-F	WKM-F																		
75002000	24.815	26.290	R	3	1	70	CRACKING	4.5*	4.5*	4.5*	4.5*				10.0	10.0	10.0	10.0	9.5	8.0	6.5		
528	25.3	26.8	2	8.6	49504		RIDE	8.4	8.8	8.8	8.8				9.0	9.0	8.9	8.9	8.8	8.2	8.0		
							OGFC																
			(2013)				CRACKING	6.5	4.5*		10.0	10.0	10.0		10.0	10.0	9.0	9.0	9.0	9.0	9.0	7.6	
							RIDE	7.8	7.4		8.4	8.4	8.4		8.1	7.7	7.7	7.7	7.7	7.7	7.7	7.3	
75002000	26.290	29.825	R	3	1	70	CRACKING	4.5*	4.5*	4.5*	4.5*				10.0	10.0	10.0	10.0	9.5	8.0	6.5		
528	26.8	30.3	2	8.6	49504		RIDE	8.4	8.8	8.8	8.8				9.0	9.0	8.9	8.9	8.8	8.2	8.0		
							OGFC																
			(2009)				CRACKING	6.5	4.5*		10.0	10.0	10.0		10.0	10.0	9.0	9.0	9.0	9.0	9.0	8.2	
							RIDE	7.8	7.4		8.4	8.4	8.4		8.3	8.4	8.4	8.3	8.5	8.4	8.4	8.4	
75002000	29.825	30.320	R	3	1	70	CRACKING	4.5*	4.5*	4.5*	4.5*				10.0	10.0	10.0	10.0	9.5	8.0	6.5		
528	30.3	30.8	2	8.6	49504		RIDE	8.4	8.8	8.8	8.8				9.0	9.0	8.9	8.9	8.8	8.2	8.0		
							OGFC																
			(2007)				CRACKING		10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.5	7.0	7.0	7.0	7.0	7.0	7.0	4.7
							RIDE		7.8	7.9	7.8	7.7	7.8	7.7	7.6	7.4	7.4	7.4	7.8	7.8	7.8	7.6	7.5
75002000	29.825	30.320	L	3	1	70	CRACKING	10.0	9.0	9.0	9.0				10.0	10.0	10.0	10.0	9.5	8.0	8.0		
528	30.3	30.8	2	8.6	49504		RIDE	8.0	7.9	7.9	7.9				8.9	8.9	8.8	8.8	8.8	8.2	8.2		
							OGFC																
			(2007)				CRACKING		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.5	
							RIDE		8.0	8.1	8.1	8.0	8.1	8.2	8.0	8.0	7.6	7.9	7.9	7.9	7.8	7.7	
75002000	26.400	29.825	L	3	1	70	CRACKING	10.0	9.0	9.0	9.0				10.0	10.0	10.0	10.0	9.5	8.0	8.0		
528	26.9	30.3	2	8.6	49504		RIDE	8.0	7.9	7.9	7.9				8.9	8.9	8.8	8.8	8.8	8.2	8.2		
							OGFC																
			(2009)				CRACKING	7.0	6.0*		10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	9.0	8.2	
							RIDE	8.2	8.0		8.5	8.4	8.4	8.5	8.5	8.4	8.3	8.6	8.6	8.6	8.5	8.5	
75002000	24.815	26.400	L	3	1	70	CRACKING	10.0	9.0	9.0	9.0				10.0	10.0	10.0	10.0	9.5	8.0	8.0		
528	25.3	26.9	2	8.6	49504		RIDE	8.0	7.9	7.9	7.9				8.9	8.9	8.8	8.8	8.8	8.2	8.2		
							OGFC																
			(2013)				CRACKING	7.0	6.0*		10.0	10.0			10.0	10.0	9.0	9.0	9.0	9.0	9.0	7.6	
							RIDE	8.2	8.0		8.5	8.4			7.9	7.6	7.6	7.6	7.6	7.6	7.6	7.3	
75002000	17.191	24.815	L	3	1	70	CRACKING	10.0	9.0	9.0	9.0				10.0	10.0	10.0	10.0	9.5	8.0	8.0		
528	17.7	25.3	2	8.6	49504		RIDE	8.0	7.9	7.9	7.9				8.9	8.9	8.8	8.8	8.8	8.2	8.2		
							OGFC																
			(2009)				CRACKING	7.0	6.0*		10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.2	
							RIDE	8.2	8.0		8.5	8.4	8.4	8.4	8.4	8.3	8.3	8.4	8.4	8.4	8.4	8.3	
75002000	15.266	17.191	L	3	1	70	CRACKING		10.0	10.0	10.0				10.0	9.0	9.0	9.0	9.0	7.5	7.5		
528	15.7	17.7	2	10.3	21000		RIDE		8.4	8.3	8.3				9.2	9.1	8.7	8.8	8.7	7.9	8.1		
							OGFC																
			(2010)				CRACKING	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.1	
							RIDE	7.5	7.6	7.7		8.4	8.4	8.4	8.4	8.4	8.3	8.3	8.3	8.2	8.2	8.1	
75002000	14.939	15.266	L	3	1	70	CRACKING	10.0	10.0	9.0	9.0				10.0	8.0	8.0	8.0	8.0	8.0	8.0		
528	15.4	15.7	2	10.3	61500		RIDE	8.2	8.2	8.0	8.0				8.9	8.8	8.6	8.6	8.6	8.1	7.9		
							FC2																
			(2006)				CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	7.5	7.5	7.5	6.9	
							RIDE	7.5	7.6	7.7	7.7	7.7	7.5	7.6	7.6	7.7	7.6	7.7	7.6	7.6	7.7	7.7	
75002000	14.123	14.939	L	3	1	70	CRACKING	10.0	10.0	9.0	9.0				10.0	8.0	8.0		10.0	10.0	10.0		
528	14.6	15.4	2	10.3	70500		RIDE	8.2	8.2	8.0	8.0				8.9	8.8	8.6		8.6	8.3	8.3		
							OGFC																
			(2008)				CRACKING	8.0	8.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.4	
							RIDE	8.2	8.2	8.2	8.1	8.2	8.3	8.2	8.2	7.9	7.9	7.9	8.2	8.2	8.2	8.1	
75002000	12.100	14.123	L	3	1	70	CRACKING	10.0	9.0	9.0	9.0				10.0	10.0	10.0	10.0	10.0	10.0	10.0		
528	12.6	14.6	3	10.3	70500		RIDE	7.9	8.0	8.4	8.3				9.0	9.0	8.8	9.1	9.0	8.4	8.4		
							OGFC																
			(2010)				CRACKING	10.0	8.0	8.0		10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	8.1	
							RIDE	8.4	8.3	8.1		8.5	8.5	8.5	8.4	8.4	8.3	8.1	8.1	8.1	8.0	7.7	

*** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2006, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 50 MPH.
 *** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2002, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 45 MPH.
 "@@ INDICATES G1 PROJECT LENGTH SHORTER THAN ROADWAY SEGMENT 1 MILE OR MORE.
 2023 FORECASTED BY SIMPLE LINEAR REGRESSION (REG).

FLORIDA DEPARTMENT OF TRANSPORTATION

ALL SYSTEM PAVEMENT CONDITION FORECAST

PAVEMENT IMPROVEMENT PROJECTS IN FM WPA TENTATIVE PLAN – 2019 - 2024, EXTRACTED ON 08/10/2018

SORT BY RDWYID MILEPOST R ASCENDING L DESCENDING

----- DISTRICT = 5 COUNTY = OSCEOLA -----																					
RDWYID	BMP	EMP	RW	SYS	TYP	SPD	DISTRESS	SURVEYED YEAR		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	FUTURE	
SR US	G_BMP	G_EMP	LN	WT	ADT	RATINGS	*****	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2023
INTERSECT AT (MP SIDE)	W_BMP	W_EMP	YEAR	FY-P	WKM-X-P	ASTYPE	*****	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	(REG)
CONTRACTOR (AGE_ONE YEAR)	W_BMP	W_EMP	RW	FY-F	WKM-X-F																
92030000	7.774	9.786	R	1	1	40	CRACKING	9.0	8.0	8.0	8.0	7.0	10.0	10.0	10.0	10.0	10.0	9.5	9.5	9.5	
500 192				3	9.4	42500	RIDE	8.0	8.2	7.6	7.9	7.9	8.5	8.5	8.1	7.8	7.4	7.6	7.0	6.9	
BUDDINGER AVE(7.8R)																					
4233611	7.774	9.786	C	2011		0226	CRACKING	8.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RANGER CONSTRUCTION INDUST(2013)																					
92030000	9.786	12.600	R	1	7	55	CRACKING	7.5	5.5*	5.0*	3.5*	3.0*	3.0*		10.0	10.0	10.0	9.5	9.5	8.0	
500 192				3	9.4	30000	RIDE	8.1	7.7	7.9	7.6	7.4	8.0		9.0	9.0	8.9	8.8	8.4	8.3	
EASTERN AVE(9.8R)																					
2396831	9.786	12.968	C	2015		0218	CRACKING	7.5	6.5	6.5	3.5*	1.0*	1.0*		10.0	10.0	10.0	10.0		10.0	
JR. DAVIS CONSTRUCTION COM(2018)																					
92030000	12.600	18.375	R	1	1	60	CRACKING	9.0	8.0	6.0*	4.0*	4.0*	4.0*	3.5*	4.0*	3.5*	10.0	10.0	10.0	10.0	
15 192				2	9.4	15000	RIDE	9.0	7.8	8.7	7.9	8.2	8.4	7.6	7.6	7.3	8.5	8.4	8.1	8.1	
BARBARA DR(13.6R)																					
2396731	12.468	18.133	C	2006		0213	CRACKING	9.0	9.0		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0
HUBBARD CONSTRUCTION COMPA(2010)																					
92030000	18.375	19.298	R	1	1	55	CRACKING	9.0	8.0	6.0*	4.0*	4.0*	4.0*	3.5*	4.0*	3.5*	10.0	10.0	10.0		
15 192				2	14.1	10215	RIDE	9.0	7.8	8.7	7.9	8.2	8.4	7.6	7.6	7.3	8.5	8.4	8.1		
ARTHUR J GALLAGHER(18.4R)																					
2396742	18.136	19.279	C	2004		0213	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	7.5	7.5	6.5	5.5*	5.5*	3.9
(2006)																					
4391221	18.375	19.298	C	2020		0012	RIDE	7.8	7.8	7.8	7.7	7.8	7.5	7.5	7.4	7.2	6.9	6.9	7.0	6.8	6.4
92030000	19.298	31.600	R	1	1	65	CRACKING	9.0	4.0*	3.5*	3.5*	3.0*	3.0*	1.5*	10.0	10.0	10.0	10.0	10.0	10.0	
500 192				2	13.4	7200	RIDE	9.0	8.1	8.8	8.1	8.0	8.2	7.6	8.9	8.9	8.7	8.6	8.2	8.1	
CYPRESS CREEK RANCH RD(21.8R)																					
2397531	24.765	31.624	C	2005		0213	CRACKING	9.0	9.0		10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.5	9.5	9.5	9.3
VEZINA, LAWERENCE & PISCIT(2009)																					
92030000	31.600	37.100	R	1	1	65	CRACKING	9.0	4.0*	3.5*	3.5*	3.0*	3.0*	3.0*	10.0	10.0	10.0	10.0	10.0		
500 192				2	13.4	7200	RIDE	9.0	8.1	8.8	8.1	8.0	8.0	7.7	8.8	8.8	8.7	8.6	8.3		
KEMPFFER RD(35.8R)																					
2396761	31.476	38.145	C	2004		0213	CRACKING		10.0	10.0	10.0	10.0	10.0	9.5	9.5	9.5	9.5	9.5	9.5	9.0	8.8
HEWITT CONTRACTING CO. INC(2007)																					
92030000	37.100	38.145	R	1	1	65	CRACKING	9.0	4.0*	3.5*	3.5*	3.0*	3.0*	3.0*	10.0	10.0	10.0	10.0	10.0		
500 192				2	16.2	8800	RIDE	9.0	8.1	8.8	8.1	8.0	8.0	7.7	8.8	8.8	8.7	8.6	8.3		
SAPLING RD(38.1R)																					
2396761	31.476	38.145	C	2004		0213	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	9.5	9.5	7.0	7.0	7.0	7.0	7.0	4.8
HEWITT CONTRACTING CO. INC(2007)																					
92030000	31.600	38.145	L	1	1	65	CRACKING	9.0	4.0*	3.5*	3.5*	3.0*	3.0*	3.0*	10.0	10.0	10.0	10.0	10.0	10.0	
500 192				2	13.4	7200	RIDE	9.0	8.1	8.8	8.1	8.0	8.0	7.7	8.8	8.8	8.7	8.6	8.3		
CR 419(35.8L)																					
2396761	31.476	38.145	C	2004		0213	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	9.5	9.5	9.5	9.0	9.0	9.0	9.0	8.3
HEWITT CONTRACTING CO. INC(2007)																					
92030000	19.298	31.600	L	1	1	65	CRACKING	9.0	4.0*	3.5*	3.5*	3.0*	3.0*	1.5*	10.0	10.0	10.0	10.0	10.0	10.0	
500 192				2	13.4	7200	RIDE	9.0	8.1	8.8	7.9	8.0	8.2	7.6	8.9	8.9	8.7	8.6	8.2	8.1	
TURN AROUND BAY RD(24.5L)																					
2397531	24.765	31.624	C	2005		0213	CRACKING	9.0	9.0		10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	9.0	9.5	9.0
VEZINA, LAWERENCE & PISCIT(2009)																					
92030000	18.375	19.298	L	1	1	55	CRACKING	9.0	8.0	6.0*	4.0*	4.0*	4.0*	3.5*	4.0*	3.5*	10.0	10.0	10.0		
15 192				2	14.1	10215	RIDE	9.0	7.8	8.7	7.9	8.2	8.4	7.6	7.6	7.3	8.5	8.4	8.1		
HARMONY SQUARE DR(19.0L)																					
2396742	18.136	19.279	C	2004		0213	CRACKING	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	7.5	6.5	6.5	5.7
(2006)																					
4391221	18.375	19.298	C	2020		0012	RIDE	7.7	7.9	7.9	7.7	7.9	7.9	7.8	7.8	7.6	7.4	7.7	7.6	7.5	7.4
92030000	12.600	18.375	L	1	1	60	CRACKING	9.0	8.0	6.0*	4.0*	4.0*	4.0*	3.5*	4.0*	3.5*	10.0	10.0	10.0	10.0	
15 192				2	9.4	15000	RIDE	9.0	7.8	8.7	7.9	8.2	8.4	7.6	7.6	7.3	8.5	8.4	8.1	8.1	
BRADLEY DR(13.0L)																					
2396731	12.468	18.133	C	2006		0213	CRACKING	9.0	9.0		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0
HUBBARD CONSTRUCTION COMPA(2010)																					

*** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2006, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 50 MPH.
 *** INDICATES PAVEMENT DEFICIENT (ANY RATING <=6); START 2002, RIDE RATING OF 6 NOT CONSIDERED DEFICIENT WHEN SPEED LIMIT < 45 MPH.
 @ INDICATES G1 PROJECT LENGTH SHORTER THAN ROADWAY SEGMENT 1 MILE OR MORE.
 2023 FORECASTED BY SIMPLE LINEAR REGRESSION (REG).

Appendix 7

FDOT Design Manual 2018

Length of Horizontal Curve

Minimum Border Width

Table 210.7.1 Minimum Border Width

Context Classification	Minimum Border Width (Feet)					
	Curbed and High-Speed Curbed Design Speed (mph)				Flush Shoulder Design Speed (mph)	
	25-40	45	50	55	25-45	≥ 50
C1 Natural	N/A	N/A	29	35	N/A	40
C2 Rural	N/A	N/A	29	35	N/A	40
C2T Rural Town	12	14	N/A	N/A	33	N/A
C3 Suburban	12	14	29	35	33	40
C4 Urban General	12	14	N/A	N/A	33	N/A
C5 Urban Center	12	N/A	N/A	N/A	N/A	N/A
C6 Urban Core	14	N/A	N/A	N/A	N/A	N/A

- (1) On low speed curbed roadways that have an adjacent bike lane, the required border width shown in the table may be reduced by 2 feet.
- (2) On existing roadways where R/W cannot be acquired or where the decision has been made to simply maintain and preserve the facility, the absolute minimum border under these conditions is 8 feet. No Design Variation is required for this condition.
- (3) On existing roadways where R/W is being acquired for other reasons, the minimum border width should be that used for new construction projects; however, the minimum length of wider border width must be a segment of sufficient length to provide reasonable continuity.

Appendix 8

FDOT Design Manual 2018

Length of Horizontal Curve

the horizontal curvature lead the vertical curvature; i.e., the horizontal curve is made longer than the vertical curve.

Flatter curvature with shorter tangents is preferable to sharp curves connected by long tangents; i.e., avoid using minimum horizontal curve lengths.

Table 210.8.1 provides the horizontal curve lengths to be used in establishing the horizontal alignment. Refer to **Table 210.8.3** for compound curves.

Table 210.8.1 Length of Horizontal Curve

Desired Length Based on Design Speed (mph)										
mph	25	30	35	40	45	50	55	60	65	70
feet	400	450	525	600	675	750	825	900	975	1050
Desired Length Based on Deflection Angle						(1) The desired horizontal curve length shall be the greater of the lengths based on design speed and length based on deflection angle. (2) When desirable horizontal curve length cannot be attained, provide the greatest attainable length possible, but not less than 400 feet.				
degrees	5°	4°	3°	2°	1°					
feet	500	600	700	800	900					

210.8.2.1 Existing Horizontal Curves

Evaluate existing curves against the values shown in **Table 210.8.2**. The review should include an on-site review for evidence of roadway departure or operational problems in the area of concern.

Appendix 9
Traffic Demand Model Development

4.4 Travel Demand Modeling

The traffic forecasts used to analyze the OCX Master Plan Projects for the CFX Concept, Feasibility and Mobility studies are based on an updated and improved travel demand model created specifically for this effort. The travel demand model was used to estimate the expected traffic based on input data such as socio-economic data (i.e. land use, population, employment) and transportation network data (e.g. number of lanes, facility types, trip rates). The primary forecasting tool used over the last 30 years in Florida has been the Florida Standard Urban Transportation Model Structure (FSUTMS). Within the FSUTMS, toll modeling originated by establishing specific toll amounts for appropriate network links and a coefficient to convert tolls to travel time impedance. FSUTMS is run from the Cube Voyager operating system.

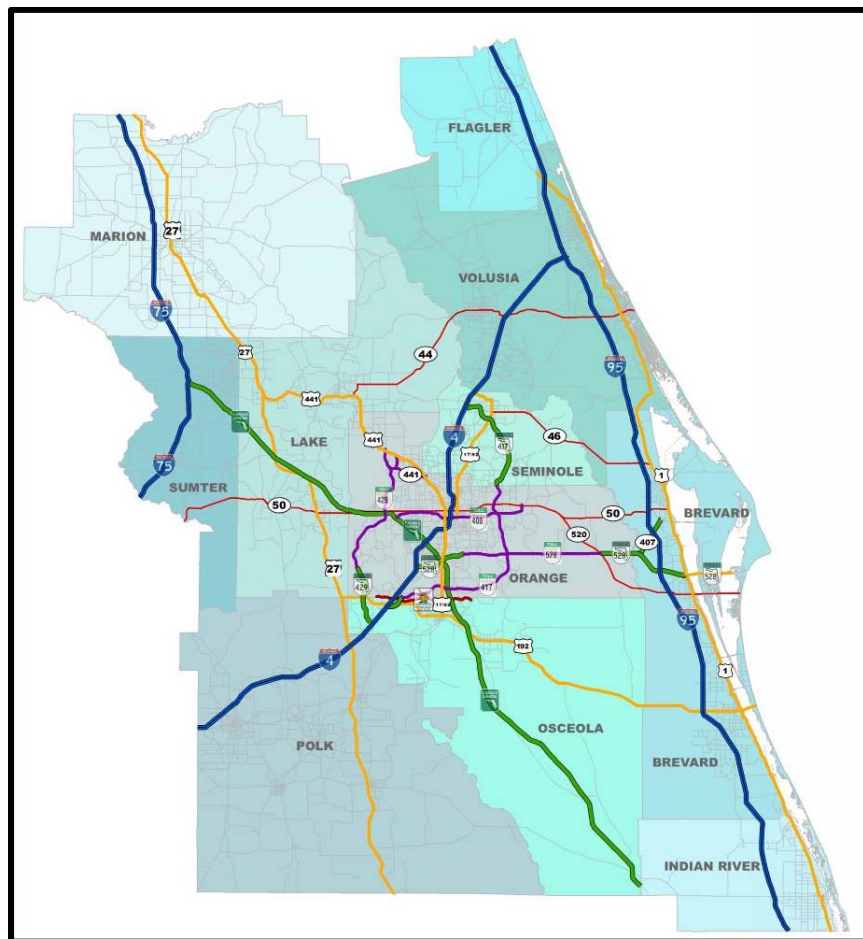
CDM Smith, the General Traffic and Earnings Consultant, had developed a travel demand model for a coverage area that includes the CFX system and areas of future expansion and influence. This previous model was based on the 2004 Orlando Urban Area Transportation System (OUATS) model and the 2005 Central Florida Regional Planning Model (CFRPM), version 5.0 and was updated to a base year of 2010. This daily model for the Central Florida region, was developed in the Cube Voyager platform and was designated CFX 1.0. Due to expansion of the CFX jurisdictional area and the need to study projects in this expanded area, CDM Smith updated the travel demand model to include a larger study area. This new model, herein referred to as the CFX 3.0 model, is developed specifically for forecasting analysis for the CFX System. The CFX 3.0 model is based on the Central Florida Regional Planning Model (CFRPM) version 6.1, in Cube Voyager, because of the larger study area and updated socio-economic data sets.

4.4.1 CFX 3.0 – Base Year Model (2015)

The CFX 3.0 model was developed using only the daily model from the CFRPM 6.1. The CFRPM 6.1 time of day model was not contemplated for use for the first version of this model. This first version of the CFX 3.0 model was developed for the purpose of evaluating the Osceola County Master Plan projects: Osceola Parkway Extension, Northeast Connector Parkway, Southport Connector Expressway, and the Poinciana

Parkway I-4 Connector projects for the Concept, Feasibility and Mobility Studies. The CFX 3.0 was validated for a 2015 base year with a concentration on the sub-area of Osceola County and south Orange County. This model covers all of Orange, Seminole, Osceola, Lake, Sumter, Marion, Volusia, Flagler, Polk, Brevard Counties, as well as connected portions of Indian River County. **Figure 4.4.1** contains a map showing the geographic extent of the CFX 3.0 and some of the more important (higher volume) roadways, including the CFX toll facilities, I-4, I-95, Florida’s Turnpike System, US Highways and State Routes. The future (or forecast) years for CFX 3.0 are 2025, 2035 and 2045. The CFX 3.0 model has a total of 5406 traffic analysis zones (TAZs) including the 56 external zones.

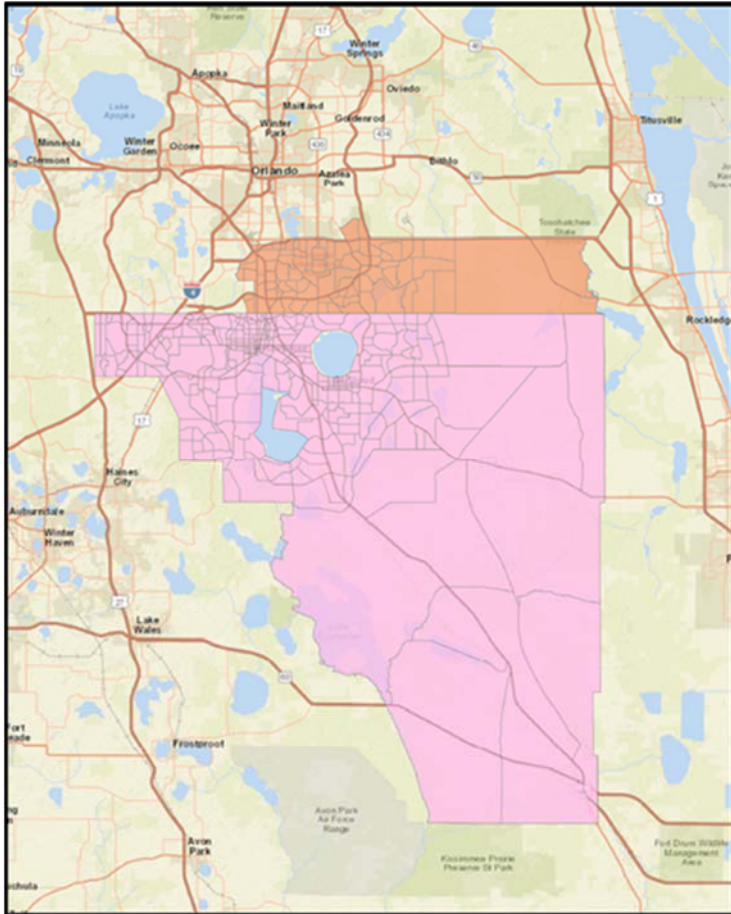
Figure 4.4.1 CFX 3.0 Model Area



4.4.1.1 Model Characteristics

The base model is the CFRPM Model version 6.1, which has a base-year socio-economic data set for 2015. For use in studying the OCX Master Plan projects several changes were made to the base year model before validation. The 2015 base year

Figure 4.4.2 Study Sub-Area



socioeconomic data for the CFX model was developed by utilizing the 2015 SE data set from the CFRPM model for all locations other than SE Orange County and Osceola County. For SE Orange County and Osceola County (Study Sub-area highlighted in **Figure 4.4.2**), Fishkind and Associates (FKA) was employed to develop population, dwelling units/households, school enrollment and employment control totals for the base year SE data sets. FKA was provided the disaggregated zonal structure (described in the next section) for the Study Sub-area and allocated population, school population and

employment using the methodology described in the FKA report¹. The base-year network was reviewed and improved to reflect 2015 existing conditions and include details about the CFX System and other toll roads. In addition, using a GIS, the network was compared to 2010 aerial photography and corrections made to various link characteristics, such as the number of lanes, facility type, area type and speed. Traffic counts in the base year were assembled and reviewed. These included counts from CFX, FDOT, county and municipal governments.

¹ Central Florida Expressway Travel Demand Model 2015 Base Year Analysis and Socioeconomic Data Forecast Analysis (2025, 2035, and 2045) for Osceola County Expressway Authority Master Plan Projects, Fishkind & Associates, August 23, 2017

4.4.1.2 Zonal Structure

The zonal structure from CFRPM 6.1 Model was used in its entirety for the CFX 3.0 model. For the purpose of evaluating the new corridors from the OCX Master Plan, traffic analysis zone disaggregation was needed as the project alignments and supporting roads were added. In Orange County, the southeast portion of the county was modified to incorporate the project alignments and new developments in the study area. Orange County TAZs ranging from 883 to 1077 in the CFRPM model were evaluated, 74 zones in all. After disaggregation there were 93 zones, a total of 19 new zones were added in this area of the county. In Osceola County, the entire county was evaluated with zones numbered 1101 to 1350, 250 zones in all. After disaggregation there were 349 zones, with 99 new zones added. A summary of the zone disaggregation is presented in **Table 4.4.1**.

Table 4.4.1 Zone Disaggregation Summary

	Old Zone Count	New Zone Count	New Zones Added
Orange Co.	74	93	19
Osceola Co.	250	349	99
Total	324	442	118

4.4.1.3 Socio-Economic Data

FKA developed socioeconomic estimates for the following components of the TAZ datasets for the traffic and revenue study:

1. Population and Dwelling Units
 - a. Single Family Dwelling Units and Population
 - b. Multi-Family Dwelling Units and Population
2. Hotel/Motel Units (includes Timeshare) and Hotel/Motel occupants
3. Employment
 - a. Industrial
 - b. Commercial
 - c. Service
4. Student Enrollment

In addition, FKA conducted an analysis of developments of regional impact (DRIs) which impact development patterns and the allocation of population and employment throughout the Study Sub-area.

The baseline analysis involved a detailed evaluation of each county’s property appraiser data by land use type intersected with the TAZs via geographic information system(GIS) shape files. FKA used Woods & Poole Economics data, the University of Florida Bureau of Economics and Business Research (BEBR), the Florida Department of Business and Professional Regulation licensure data, ESRI, and DataStory as the sources of its 2015 population control totals and base year hotel/motel population. The FKA base year control total for population in Orange County is 2.9% more than BEBR estimates and 1.3% higher than Woods & Poole estimates, as shown in **Table 4.4.2**. The FKA base year control total for population in Osceola County 5.1% higher than BEBR estimates and 2.0% higher than Woods & Poole estimates.

Table 4.4.2 2015 Population Control Totals

County	Countywide (2015)				Study Area (2015)	
	W&P	BEBR	FKA	ESRI	DataStory	Final - FKA
Orange	1,272,090	1,252,396	1,288,130	1,258,251		
Osceola	317,680	308,327	323,993	305,855	301,498	323,993
Orange (Study Area)*					104,318	106,795

*Orange Study Area – not entire County

Source: W&P: Woods & Poole 2016

Source: BEBR: University of Florida, BEBR Medium (Volume 49, Bulletin 174, January 2016)

Source: FKA: Fishkind and Associates, Inc.

Source: ESRI: ESRI BAO 2017

Source: DataStory: (ESRI TAZ Data) *partial county

FKA used Woods & Poole Economics data, ESRI, and DataStory as the sources of its 2015 employment control totals. The FKA base year control total for employment in the study portion of Orange County is 7.7% of Woods & Poole’s total Orange County employment estimate in 2015. FKA base year control total for employment in Osceola County is 2.49% more than Woods & Poole estimates as shown in **Table 4.4.3**. The FKA base year control total for population in Osceola County 5.1% higher than BEBR estimates and 2.0% higher than Woods & Poole estimates.

Table 4.4.3 2015 Employment Control Totals

Data Source	County	Employment (2015)				Percentages			
		Industrial	Commercial	Service	Total	Industrial	Commercial	Service	Total
W&P	Orange (Entire Cnty)	142,080	217,700	601,420	961,200	14.8%	22.6%	62.6%	100.0%
	Osceola	14,540	31,420	66,280	112,240	13.0%	28.0%	59.1%	100.0%
ESRI/ DataStory	Orange (Study Area)	25,101	12,443	21,957	59,501	42.2%	20.9%	36.9%	100.0%
	Osceola	11,912	30,853	59,423	102,188	11.7%	30.2%	58.2%	100.0%
FKA	Orange (Study Area)	30,954	15,344	28,109	74,407	41.6%	20.6%	37.8%	100.0%
	Osceola	14,902	32,202	67,930	115,034	13.0%	28.0%	59.1%	100.0%

Source: W&P: Woods & Poole 2016

Source: DataStory: DataStory (ESRI TAZ Data) for partial county

Source: FKA: Fishkind and Associates, Inc.

FKA verified existing school enrollments through county school board information, Florida Department of Education Public School data, supplemented by private school data and data for university enrollment within the Study Area. The 2015 school enrollment control totals are presented in **Table 4.4.4**.

Table 4.4.4 2015 School Enrollment Control Totals

Location	2015 Students
Orange- Study Area	26,240
Osceola County	78,547
Total	104,787

Source: ESRI (2015) and FKA

4.4.1.4 Network

The 2015 network was developed from the CFRPM 2015 network. First, the network was reviewed against the most recent transportation capital improvement plans to determine if certain projects were implemented in the time-period between 2010 and

2015. Using GIS and 2015 aerial imagery, the network facility types, speeds and capacities were checked, concentrating on expressway and arterial facilities, to ensure that the network was properly coded to match existing conditions. Adjustments were made to the link attributes in the study area, including operating speed and capacity. Traffic count data was assembled from CFX, FDOT, county and municipal governments and reviewed for consistent growth at the stations. Again, the review of count stations focused on arterial and higher facilities.

4.4.1.5 Toll Rates

The toll rates collected on CFX and other toll facilities, including Florida's Turnpike Enterprise and Osceola County facilities, in 2015 were reviewed for use in the modeling process. At most toll location there are two toll rates: one for customers paying through electronic toll collection (ETC), i.e., E-PASS or SunPass; and the other for customers paying with cash. More precisely, the toll rates used in the model are the weighted average of the ETC and cash toll rates, where the ETC participation rate is the weight. Truck volumes are relatively low on CFX facilities and therefore not included as a model feature.

4.4.1.6 Trip Generation

Several modifications were made to the trip generation model from CFRPM v. 6.1 to ensure a production-attraction balance at the county level. The Volusia Lifestyle Trip Generation Model was incorporated for the remainder of the CFRPM 6.1 model to produce school trips in the remaining 10 counties. In running the CFX 3.0, school trips were missing in all counties but Volusia County, accounting for approximately 5% of the total trip productions. CDM Smith made corrections in CFX 3.0. It was determined that with the incorporation of the Lifestyle Trip Generation Model, a lifestyle model characteristic was not populated in two hundred zones, so no trips were generated from those zones. CDM Smith corrected the missing characteristics in those zones. CDM Smith also reconstructed the Special Generator model by removing hard-coded trips between major attractions, such as trips between Walt Disney World and the Kennedy Space Center. CDM Smith used Streetlight Data, Inc. origin-destination (OD) surveys to adjust/update the trip productions and attractions in the Special Generator Model for three major attractions (Walt Disney World, Universal and SeaWorld) in Orlando.

In external trip models, the External to External (EE) and External to Internal (EI) were reviewed for count and growth rates. Based on a Streetlight Data Inc. OD Survey of external station locations, including Florida's Turnpike in Osceola County, I-95 in Indian River County, I-4 in Polk County and I-75 in Marion County, many EE Trips were reset to the travel patterns shown in the OD survey. The adjustments in the trip generation model produced reasonable results, consistent with current traffic movements, other regional models and with national averages.

4.4.1.7 Trip Distribution

The trip distribution model from CFRPM V 6.1 Model is a gravity model in which trips are distributed across TAZs based on the number of productions and attractions and the travel impedance, or generalized cost of travel, between origins and destinations (OD). The distribution step produces trip length frequency distributions (TLFD), which show the probability of trips at different trip lengths. CDM Smith found that the trip lengths were in many cases too long, creating illogical trip patterns between counties. CDM Smith adjusted friction factors in the CFX 3.0 model to make the model TLFDs replicate data from the National Household Transportation Survey. This was completed for each of the 11 counties and 6 trip purposes in the CFX 3.0 model and resulted in a significant improvement to the representation of intercounty movements.

The CFRPM 6.1 model also produced very high volumes on Interstate 4 at the Polk County/Osceola County line. CDM Smith reconstructed friction factors for Interstate 4 at the external station, because not enough trips from the Lakeland area were being attracted to the external station (heading to Tampa) and instead were being attracted to the Orlando Metro area. CDM Smith used data from Streetlight to reconstruct and calibrate the TLFD of Interstate 4 in Polk County.

Other updates to the trip distribution model include K-factor adjustments for Interstate 4, Interstate 95 and Florida's Turnpike to adjust trip patterns from Polk External Stations to Brevard and Indian River County Zones, Brevard and Indian River County External Stations to Polk County zones, as well as Polk County Internal-Internal Trips.

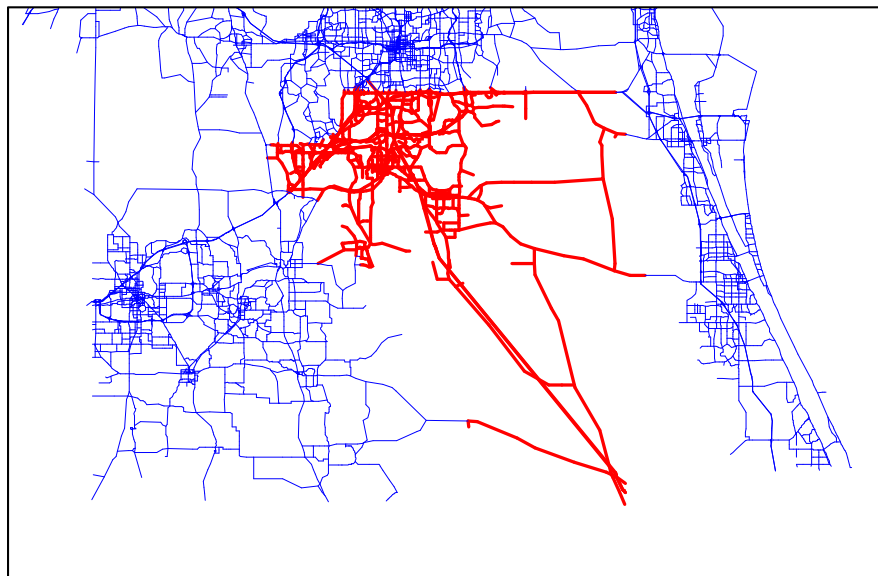
4.4.1.8 Mode Choice and Trip Assignment

The mode choice model from CFRPM 6.1 (a nested logit model) was reviewed and included in CFX 3.0 without update. This model separates (splits) the total number of trips into low occupancy vehicles (LOV), high occupancy vehicles and premium transit (fixed rail and express bus) classes. The trip assignment model from CFRPM 6.1 implements equilibrium assignment techniques using the Bureau of Public Roads (BPR) volume-delay function to estimate the effect of volume on link speeds and using CTOLL to estimate the effect of toll on travel impedance. CTOLL is the cost of the toll converted into a time impedance. The assignment model from CFRPM 6.1 was included in CFX 3.0 without changes.

4.4.1.9 Validation

The purpose of the CFX 3.0 model was to evaluate the viability of the OCX Master Plan projects. The validation of the CFX 3.0 model concentrated on a subarea including the South Orange County and Osceola County study area. The facilities highlighted in red in **Figure 4.4.3** were the facilities of focus for the validation effort. The main validation test for trip assignment is the ratio of model predicted volumes (base year) to traffic counts, known as volume/count (v/c) ratio.

Figure 4.4.3 CFX 3.0 Sub Area Model



As with the regional planning model, two ways to evaluate the goodness of fit are the ratio of model predicted volumes to counts (v/c ratio) and root-mean squared error (RMSE). **Table 4.4.5** contains a summary of the volume/count ratios and RMSE for various categories of links in the 2015 model, including expressway facilities (Facility types 11-17) and toll facilities (Facility types 91-98). In the global model, S.R. 429 had volumes higher than the counts, with an RSME of 155.09% and V/C ratio of 2.21, which is improved to a RSME of 95.12% and V/C ratio of 1.95 in the subarea model. This issue will need to be addressed in further refinements of this model.

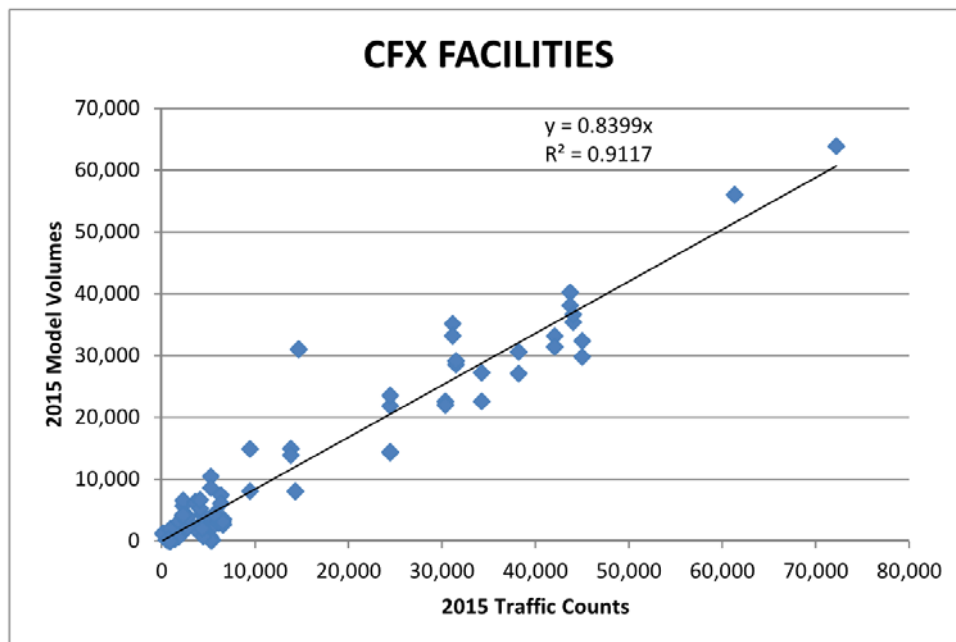
Table 4.4.5 CFX 3.0 Validation: High Capacity Facilities

	Volume/Count (v/c)	% RMSE
Expressway Facilities	1.24	27.42%
Toll Facilities	1.17	27.78%
Expressway Facilities in Subarea	1.03	11.18%
Toll Facilities in Subarea	1.12	26.32%

Source: Results_v64_new_counts_new_resultsv2.xlms

Figure 4.4.4 contains a graph showing the model predicted traffic volumes against traffic counts on CFX facilities in the Sub Area. The correlation between the two is very close ($R^2 = 0.8933$).

Figure 4.4.4 CFX Facilities Scatter Plot



4.4.2 CFX 3.0 Future Year Models

By starting with the CFX 3.0, the future year model retains all the updates and enhancements created for that model and with additional model improvements in the Study Area. The forecast years are set to 2025, 2035 and 2045, consistent with the requirements for the OCX Projects. The information for these years was, in general, taken from the data sets describing FY 2020, FY 2030 and FY 2040 in the CFRPM 6.1.

4.4.2.1 Socio-Economic Data – Base Forecast

The socio-economic data forecasts for 2025, 2035 and 2045 were based on the CFRPM 6.1 SE data forecasts from years 2020, 2030 and 2040. The assumption was that the forecasts were prepared by the local governments and MPO prior to the recent economic recession and using the data sets and moving the horizon out five years would be a conservative approach for the entire model. As previously referenced, special attention was given to the southeast portion of Orange County and all of Osceola County for the population, employment and school enrollment data (ZDATA1 and ZDATA2 files). Fishkind completed an independent socio-economic data forecast for these two counties in the model.

Based on adjusted 2015 socioeconomic data estimated by Fishkind, the socioeconomic data sets were forecast for the 2025, 2035 and 2045 horizon years. Fishkind first evaluated the historic growth rates in population, employment, and school enrollment since 1990. Considering the population growth rates over the last 25 years, Fishkind also employed two data sources: Bureau of Economic and Business Research and Woods & Poole, both of which provide estimates of population at a county control total level. The ranges of population forecasts are provided in Table 4.4.6.

Table 4.4.6 Population Forecasts

	County	2015	2025	2035	2045
FKA	Orange (Entire Co.)	1,288,130	1,591,844	1,839,786	2,034,767
	Osceola	323,993	436,348	537,245	634,366
Source: Fishkind and Associates, Inc.					
W&P	Orange	1,272,090	1,488,110	1,724,150	1,963,435
	Osceola	317,680	405,340	514,260	638,550
Source: Woods & Poole 2016					
BEBR	Orange	1,252,396	1,551,400	1,799,100	2,004,000
	Osceola	308,327	427,900	525,700	605,800
Source: University of Florida, BEBR Medium (Volume 49, Bulletin 174, January 2016)					

To determine the control total for the portion of Orange County identified in the study area, Fishkind also employed ESRI data, and DataStory, which has data at a TAZ level. Fishkind evaluated the data, converted to the zone structure for the CFX 3.0 model and determined a control total for the portion of Orange County in the study area. The population forecasts control totals for the study area are shown in Table 4.4.7. The compound average annual growth rates for population by county in the 30-year forecast period are 2.66% and 2.26% for partial Orange County and Osceola County, respectively.

Table 4.4.7 Population Control Totals for Study Area

	County	2015	2020	2025	2035	2045
FKA	Orange (Partial Co.)	106,795		151,181	193,563	234,908
	Osceola	323,993		436,348	537,245	634,366
Source: Fishkind and Associates, Inc.						
DataStory (ESRI)	Orange	104,318	123,544			
	Osceola	301,498	352,817			
Source: DataStory (ESRI TAZ Data)						

Employment control total forecasts were estimated in a similar fashion, using Woods & Poole, ESRI and DataStory sources. Woods & Poole data is the preferred employment data source because it includes full and part-time workers by place of work as well as sole proprietors, home employment, military and miscellaneous workers. The employment forecasts control totals for the study area are shown in **Table 4.4.8**.

Table 4.4.8 Employment Control Totals for Study Area

	County	2015	2025	2035	2045
FKA	Orange (Partial Co.)	74,403	102,576	129,397	154,687
	Osceola	115,035	156,213	192,114	227,612
Source: Fishkind and Associates, Inc.					
W&P	Orange (Entire County)	961,200	1,173,890	1,394,735	1,618,825
	Osceola	112,240	145,110	184,260	229,040
Source: Woods & Poole (2016)					

Employment/ Population (E/P) ratio is a good way to ensure consistency of employment growth in the forecast. The Woods & Poole data E/P ratio is slightly higher than the E/P ratio for ESRI and DataStory, which has lower ratios in the study area, specifically in Orange County. The E/P ratio forecast estimated by Fishkind is presented in **Table 4.4.9**. Osceola County functions as a bedroom community to the Central Florida employment hub, mostly in Orange County, so a lower E/P ratio is consistent with the economy.

Table 4.4.9 Study Area Employment to Population Ratios

	County	2015	2025	2035	2045
EMP/POP Ratio	Orange (Partial Co.)	69.7%	67.9%	66.9%	79.6%
	Osceola	35.5%	35.8%	35.8%	35.9%

School enrollment forecasts were completed by geocoding the existing 2015 enrollments for k-12 students for public and private schools in the study area, analyzing the county-specific detailed age profile forecasts, estimating future control totals for each county and allocating forecasted student enrollment based on each TAZs' share of student forecasts based on the 2015 percent allocation. The forecasts for school enrollment control totals are presented in **Table 4.4.10**.

Table 4.4.10 School Enrollment Control Total Forecasts

Location	2025 Students	2035 Students	2045 Students
Orange- Study Area	32,123	41,293	46,160
Osceola County	96,539	113,775	134,095
Total	128,662	155,068	180,255
Source: FKA			

With the control total forecasts developed, Fishkind used a land use allocation model to allocate the population and employment control total forecasts in the study area. Fishkind considered market characteristics including acres of developable vacant land, holding capacity of vacant land, developments of regional impact and other approved developments, utility and transportation access proximity, surrounding land use compatibility and other variables to determine the attractiveness of development. Historic development patterns, using the DataStory TAZ level allocation, was also considered in the future year allocations. For the market characteristics, Fishkind creates an implicit “Index of Attractiveness,” described as Super Zones of TAZs based on criteria likely to influence growth within the study area. The County control total forecasts were allocated to the super zones and checked for population shifts. This check ensures that not too much of the population or employment growth is shifted between the zones in the forecast periods. From there the super zones are disaggregated to the TAZ level for application in the model. The distribution of population forecast in 2015 – 2045 are shown in **Figure 4.4.8** for Orange County (portion) and **Figure 4.4.9** for Osceola County.

Figure 4.4.8 Total Population for Orange County (Sub Area): 2015 - 2045

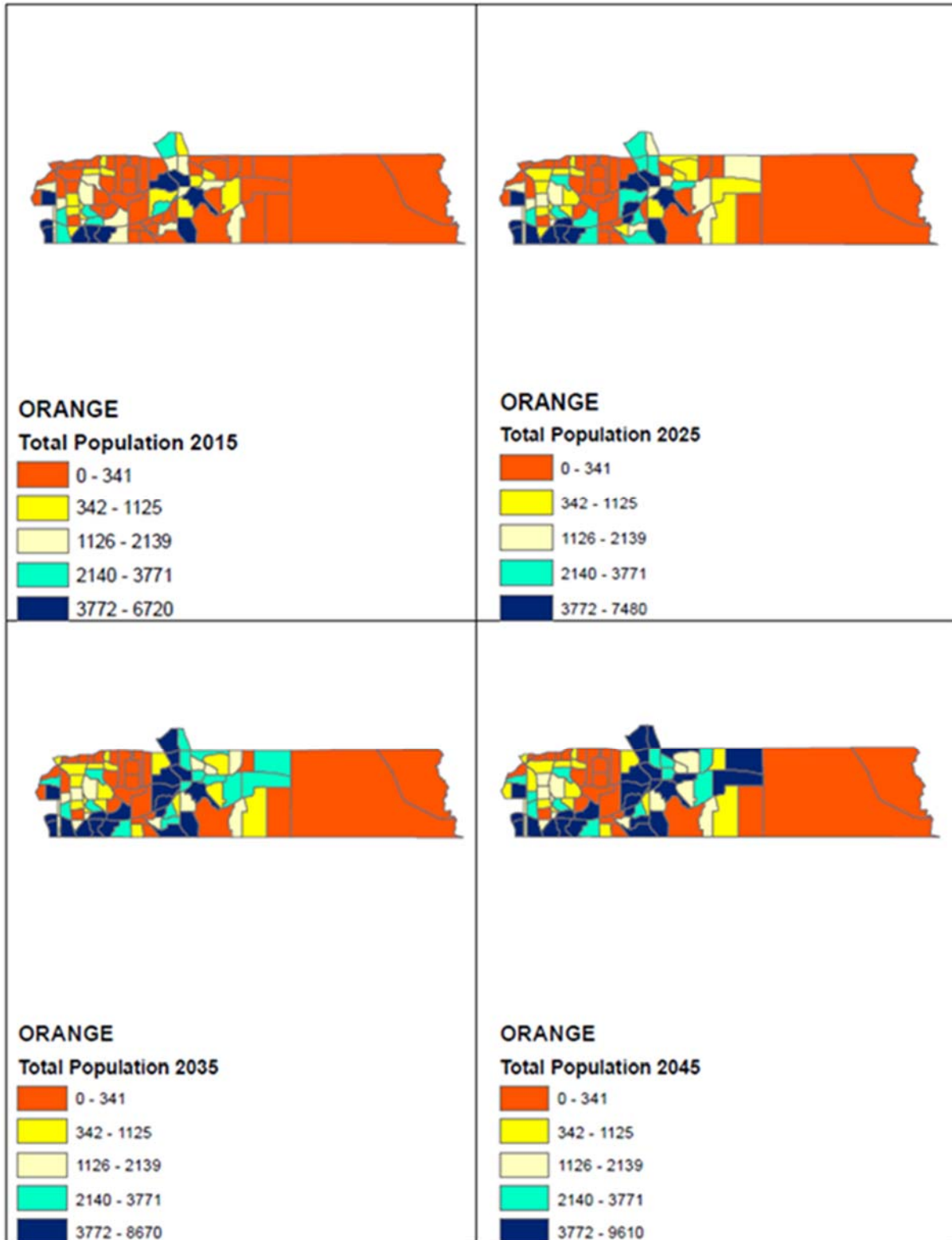
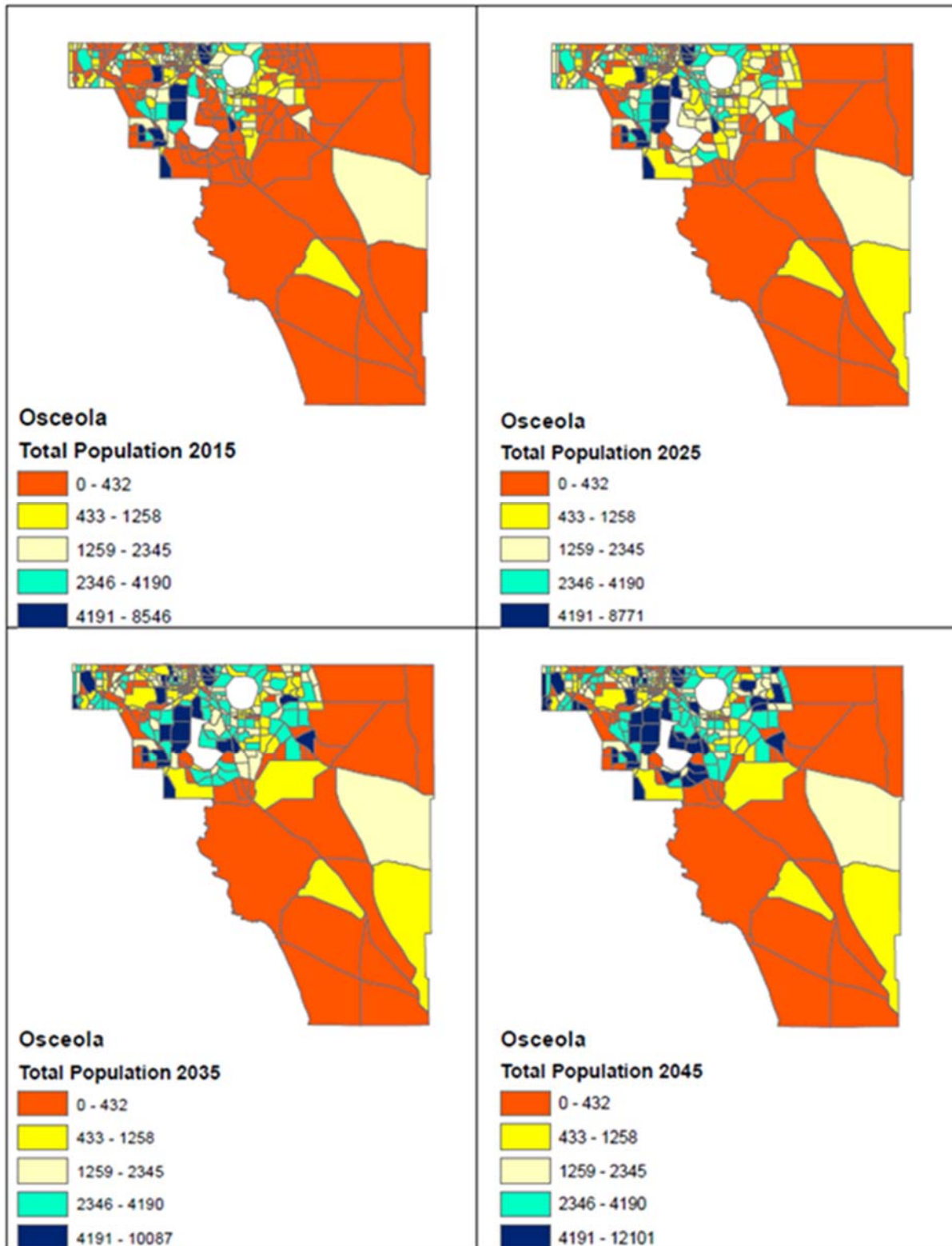


Figure 4.4.9 Total Population for Osceola County: 2015 - 2045



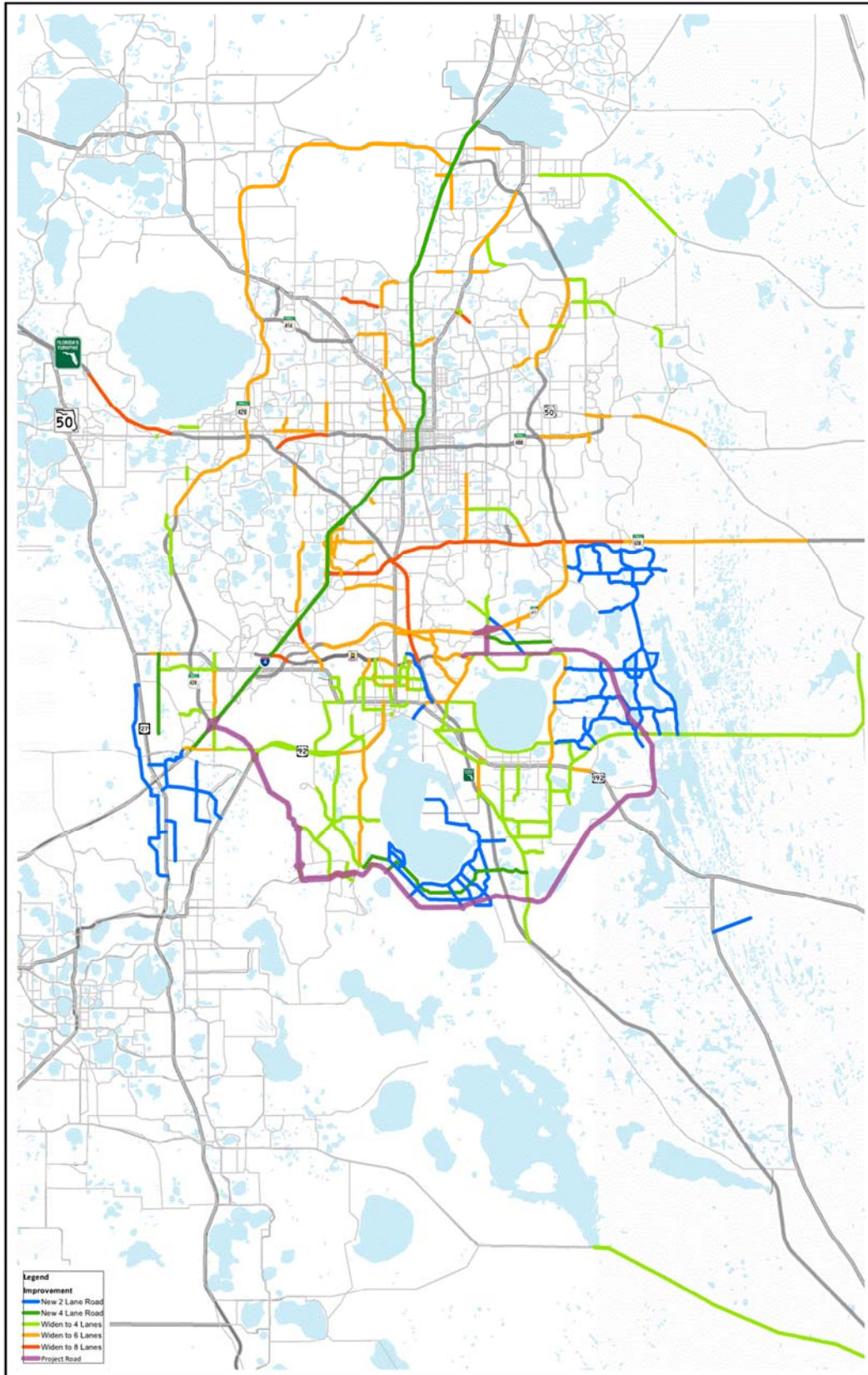
4.4.2.2 Socio-Economic Data – Low and High Land Use Forecasts

In addition to this normal growth (base year forecast), Fishkind developed a low-side and high-side forecast of socioeconomic data. These variations in land use and development take into consideration the probability of slow growth or housing booms in the 30-year horizon. Using 45 years of Florida population growth, Fishkind reviewed the history and created a frequency distribution with respect to the annual percentage change in population growth. Based on the frequency distribution and median growth rates, Fishkind recommended an adjustment to the existing forecasted growth rate of an additional 30% on the high side and a reduction in the existing forecasted growth of 20% on the low side.

4.4.2.3 Network – Future Year Base Network (2025, 2035, 2045)

The future year networks in the model contain the transportation improvements identified in the CFX, FDOT and county work programs, as well as the improvements included in the cost feasible plan from the LRTP for year 2040. In addition to these improvements, additional network links were added, specifically in the high growth areas and the study area. As discussed in Section 1.2.2, to ensure proper loading and distribution of trips on the OCX Master Plan study corridors, there was significant TAZ disaggregation in the study area, specifically along the four study corridors. This zone disaggregation includes significant future roadway networks to support the study corridors and surrounding future development. For several of the study corridors, the TAZ structure in the surrounding area consisted of a handful of zones. The number of zones in Osceola County increased by over 40%, or an additional 99 zones, and the portion of Orange County increased by 26% or 19 zones. These zones are supported in part by a network of “development” roads or roads not considered in the LRTP or County transportation plans. The 2045 network improvements are highlighted in **Figure 4.4.7**, with the development roads mainly highlighted in blue. The 2025 and 2035 base networks were created from the 2045 network, and are based on improvements in the 2020 and 2030 networks from the CFRPM 6.1 model. The development roads were included in both the 2025 and 2035 base networks. While the No-Build alternative does not contain the OCX Master Plan projects, it does, include the other improvements and development roads.

Figure 4.4.7 2045 Network Improvements



4.4.2.4 Networks – Future Year Design and Revenue Networks

The traffic forecasts used for design are developed so that the projects would be adequately sized to serve customers through their useful life (30 years). The traffic forecasts used for revenue estimation are, on the other hand, created so that the projects would be able to produce the forecasted revenue, especially in the opening years. The traffic forecasts prepared for design purposes are therefore somewhat different from (higher than) the traffic forecasts prepared for revenue-estimation purposes. While the basic assumptions (including overall level and location of future socio-economic activity and toll amounts/values of time) are the same, the network assumptions near the project are somewhat different.

As such, a design network and a revenue network were developed for use in the design traffic and revenue traffic forecasts. The design networks were developed to maximize the amount of traffic on the OCX projects, so competitor roads are constrained. The revenue networks were developed to maximize local street utilization (i.e. planned improvements, higher speeds and capacities) and dampen the use of the toll facility.

To “maximize” traffic on the project facilities in the design network, future improvements were limited to the 2025 LRTP network in Osceola County. More specifically, any improvements identified in Osceola County after 2025 were removed from the 2035 and 2045 networks. In addition, the following 2025 improvements were removed from all the design networks:

- Boggy Creek Road from Simpson Rd to Narcoossee Road: 2 to 4 lanes
- Cyrils Drive from Narcoossee Road to Absher Road: 2 to 4 lanes
- Simpson Rd from Osceola Parkway to Boggy Creek Rd: 2 to 4 lanes
- Lakeshore Blvd from Boggy Creek to Narcoossee Rd: 2 to 4 lanes
- US 192 from Partin Settlement Rd to Brown Chapel Rd: 4 to 6 lanes
- Narcoossee Road from Boggy Creek Road to US 192: 4 to 6 lanes
- Reaves Road from Poinciana Blvd to Pleasant Hill Rd: 2 to 4 lanes
- Poinciana Blvd from Crescent Lakes Way to Pleasant Hill Road: 2 to 4 lanes
- Lake Wilson Rd from Sinclair Rd to Osceola Polk Line Rd (CR 532): 2 to 4 lanes
- Osceola Polk Line Rd (CR 532) from I-4 to Old Lake Wilson Rd: 4 to 6 lanes

4.4.2.5 Toll Rates

Future-year tolls in the project-specific model reflect current toll amounts and agency policies concerning future toll rate adjustments. The Build alternatives for the OCX Master Plan projects were evaluated with and without tolls. For the analysis, the toll rate was set to \$0.18 per mile in 2018 for design traffic, consistent with the toll rate established for the Wekiva Parkway (S.R. 429). Toll rates were escalated at 1.5% per year according to the CFX Customer First Toll Policy.

4.4.2.6 Screen lines

A final measure of success in validation is the volume of traffic crossing the screen lines within the study area. Eleven screen lines were established in the model study area and v/c ratios are evaluated. **Table 4.4.11** contains a summary of 2015 traffic counts, 2015 model-predicted traffic volumes, and volume to count ratios for each of the screen lines. The table also contains the 2045 volumes for the screen lines and compound annual average growth rates. The screen lines are shown in **Figure 4.4.8**.

Table 4.4.11 Screen-Line Counts and Forecasts

Screen Line	2015			2045	
	Count	Volume	V/C	Volume	CAAGR
1	87,135	98,746	13.33%	163,355	1.7%
2	34,400	37,792	9.86%	90,105	2.9%
3	89,400	84,580	-5.39%	124,280	1.3%
4	88,881	80,947	-8.93%	162,475	2.3%
5	54,096	53,079	-1.88%	86,203	1.6%
6	118,000	136,319	15.52%	310,613	2.8%
7	106,246	93,387	-12.10%	246,506	3.3%
8	140,703	140,995	0.21%	282,295	2.3%
9	147,700	168,999	14.42%	325,155	2.2%
10	249,305	266,849	7.04%	504,555	2.1%
11	62,900	64,656	2.79%	126,928	2.3%
Total	1,178,766	1,226,349	4.04%	2,422,470	2.3%

There is a good fit between model volumes and actual counts on these screen lines with v/c ratios all between +/- 15%. The table also contains model forecasts for the same locations under the No-Build conditions in the 2045 forecast year. Forecasted traffic growth rates are similar to population and employment growth rates in the study area.

Figure 4.4.8 Screen lines for OCX Projects

