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### 3. Alternatives Considered

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### 3.1 Study Area Development

The analysis to define the study area for the Wekiva Parkway was performed by FDOT and the Expressway Authority using land suitability mapping (LSM). The LSM incorporated the traditional factors of constraints and opportunities including regulatory constraints such as wetlands, floodplains, public parks and recreations areas (Section 4(f)), archaeological and historic sites (Section 106 and Section 4(f)), as well as threatened and endangered species (Section 7). Other constraints associated with cultural, natural and social environment components were also mapped.

The driving principle in developing the study area was to define a range of reasonable alternatives for the Wekiva Parkway in light of the project's purpose and need. The screening included added focus on social and cultural considerations and the natural environment, particularly those features that are unique to the specific areas and resources.

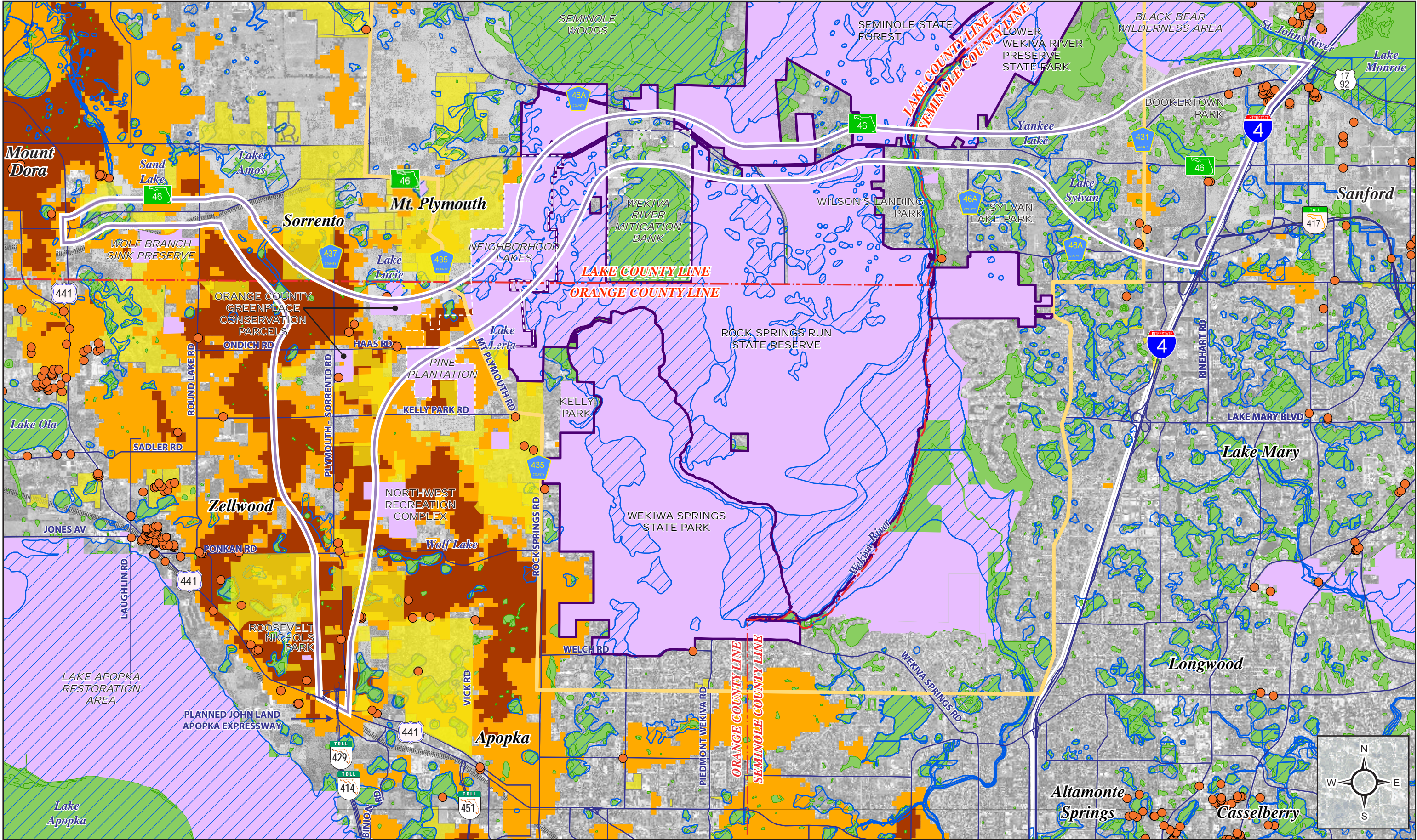
The assessments for the study area were presented to the Task Force and Coordinating Committee for input. Other stakeholders and the public were offered numerous opportunities to provide comment and input to the purpose and need and the study area evaluations. The deliberations on the study area focused on meeting the transportation needs and providing protection to the Wekiva River Basin area. The geographic location of the study area was culled based on two factors:

- 1) Consistency with the Purpose and Need,
- 2) Exclude areas that would involve higher levels of impacts while providing less potential benefits.

**Exhibit 3-1** provides a composite constraints map that formed the basis for defining the study area. Specific areas of note include the extensive coverage of public recreation lands, expansive wetlands adjacent to the Wekiva River, large tracts of high recharge areas, and several neighborhoods and communities. Additional mapping and detailed discussion of the development of the study area is included in **Appendix G**.

After the study area was defined, the Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study began with a comprehensive data collection effort within and adjacent to the study area. Controlled aerial photography of the study area (flown in April, 2005) was used for base mapping. Along with property parcel lines/ numbers, street names, geographic features and other identifiers, the data collected on such items as the locations of community facilities, public lands, known or potential historic sites, wetlands, floodplains, wildlife habitat, potential contamination sites, and others were put on the base map. Avoidance or minimization of impact to these facilities and sensitive areas, as well as homes and businesses, to the greatest extent possible was the primary focus in the development of conceptual alignment alternatives.





LEGEND

- Wekiva Parkway Study Area
- Public Conservation/Park & Recreation Lands

- Existing and Planned Neighborhoods (Orange and Lake Counties)
- Wekiva River Protection Area
- Wetland

- Potential Historic Sites
- Recharge Rate 12- 20 in/yr
- Recharge Rate > 20 in/yr

- Floodplains
- State Park Boundary

Exhibit 3-1  
Composite Constraints Map



This section of the *Environmental Assessment* summarizes the No Build Alternative and the various Build Alternatives, and describes the process whereby the alignment alternatives for the proposed Wekiva Parkway and SR 46 Realignment were developed and analyzed. Coordination activities with local and state governmental agencies, as well as many other stakeholders, and various public involvement efforts have been extensive. This section provides information on the numerous initial and viable alternative concepts in Orange, Lake, and Seminole Counties and indicates how those alternatives were assessed and evaluated for potential impacts to private property, public lands, residences, businesses, community facilities, historic sites, wetlands, floodplains, wildlife habitat, etc.

## 3.2 No Build Alternative

The No Build Alternative assumes that a major new expressway project is not provided within the project study area. Only those projects for which funding was committed (at the time of the traffic analysis) in the Expressway Authority's 2030 Expressway Master Plan, METROPLAN ORLANDO's 2025 Long Range Transportation Plan Update, and the Lake-Sumter MPO 2025 Long Range Transportation Plan were assumed to be provided to meet the transportation need. The results of the No Build Alternative analysis form the basis of the comparative analysis with the viable Build Alternatives presented later in this section.

The benefits of the No Build Alternative include the absence of long term impacts such as residential displacements and natural environmental intrusion, as well as short term impacts associated with actual construction of a major new expressway. However, long term benefits associated with serving future traffic demand and improved safety will not be realized with the No Build Alternative. Also, improved wildlife habitat connectivity in east Lake County and reduced vehicle-wildlife conflicts will not be achieved. As discussed in *Section 2.2* of this document, many of the existing roadways within the project study area are currently operating at less than desirable service levels, and operating/safety conditions are projected to worsen in the future as congestion would increase under the No Build Alternative. This expected level of service deterioration is depicted in **Exhibit 3-2** which shows projected 2032 (design year) No Build conditions on roadways within the study area.

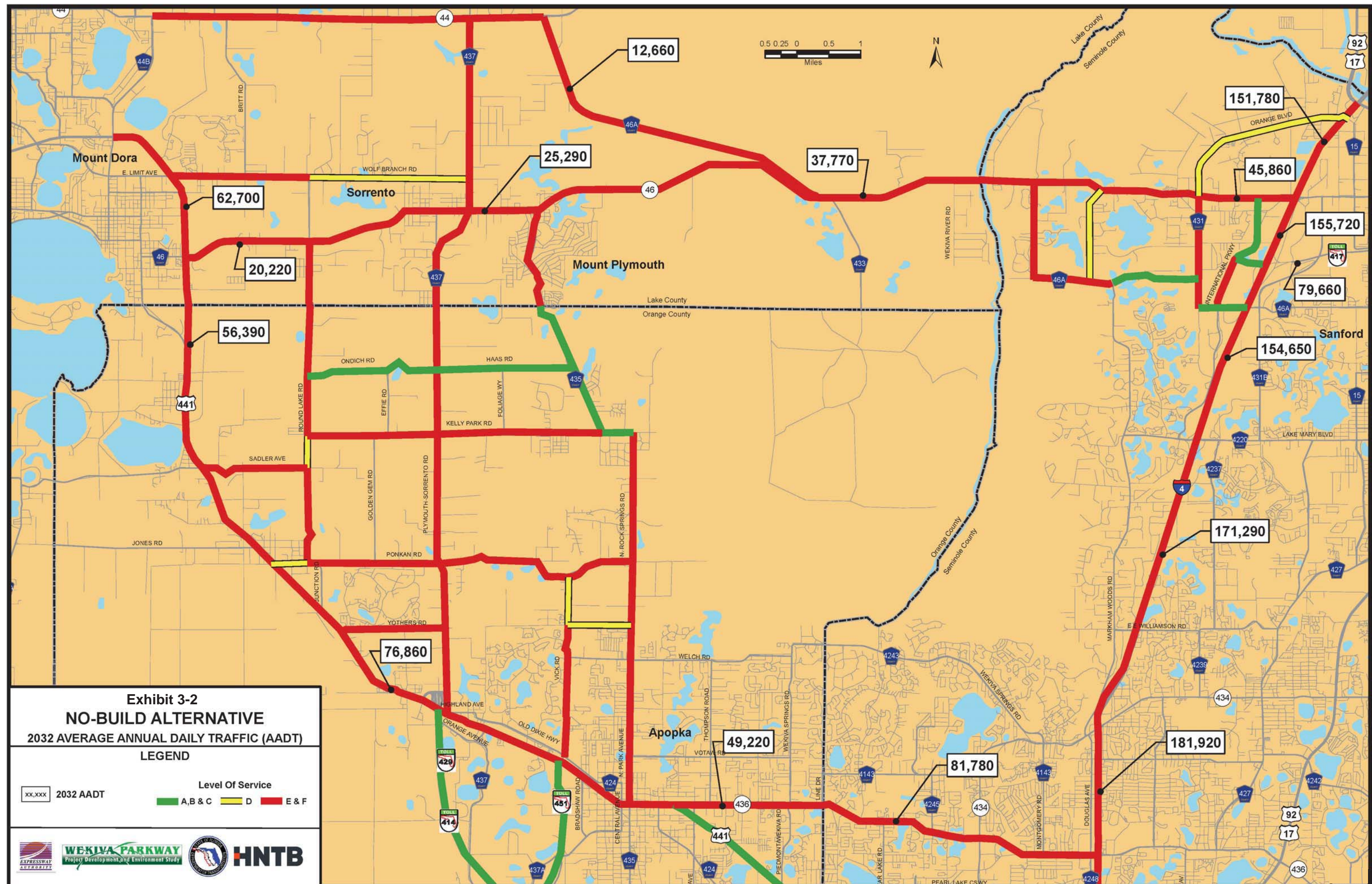
As Exhibit 3-2 shows, nearly all roadways in the study area would be operating at level of service E or F conditions in 2032 under the No Build Alternative. The updated final *SR 429–Wekiva Parkway/SR 46 Realignment PD&E Study Traffic Report* (HNTB, March 2010) states “the No Build Alternative does not meet the transportation needs within the study area. This alternative does not relieve traffic congestion along SR 46 or along US 441.”

Some distinct advantages and disadvantages associated with the No Build Alternative are listed below.

### *Advantages*

- No expenditure of funds for right of way acquisition, engineering, design or construction;
- No impact to the adjacent natural, physical, and human environments;
- No impedance to traffic flow during construction; and
- No disruption to existing land uses due to construction related activities.







### *Disadvantages*

- No connectivity of regional beltway system in northwest metropolitan area;
- Increase in traffic congestion, resulting in unacceptable levels of service and an increase in road user costs;
- Increase in vehicle crashes associated with increased traffic volumes and congestion on an inadequate roadway network;
- No improvement in wildlife habitat connectivity, as well as an increase in vehicle-wildlife conflicts;
- Increase in carbon monoxide levels and other air pollutants caused by an increase in traffic congestion;
- Increase in maintenance costs due to aging roadway and structure deterioration;
- Increase in emergency service response time due to heavy congestion; and
- Increase in evacuation time during severe weather emergencies as a result of heavy congestion on inadequate roadways.

The No Build Alternative shall remain a viable alternative throughout the study and the public involvement process. The final selection of the Preferred Alternative will not be made until after all the public hearing comments have been evaluated.

## 3.3 Transportation System Management

Transportation System Management (TSM) Alternatives are defined as low capital cost transportation improvements designed to maximize the utilization and efficiency of the existing transportation system through improved system management. The various forms of TSM activities include:

- Traffic signal improvements;
- Intersection/interchange improvements;
- Widening of parallel arterials;
- Ridesharing programs;
- HOV lanes;
- Reversible flow roadway systems;
- Transit;
- Intelligent Transportation System (ITS); and
- Ramp to ramp auxiliary lanes.

Although the implementation of TSM strategies would certainly aid in localized operation of the existing roadways, the projected traffic volumes for the design year 2032 require substantial capacity enhancements to maintain or improve the existing levels of service. Therefore, the TSM Alternative is not considered a viable alternative and no further evaluation of the TSM Alternative will be conducted during this study.